Exhibit 1

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel,)
W.A. DREW EDMONDSON, in his)
capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
et al.)
)
Plaintiffs,)
)
vs.) CASE NO. 05-CV-329-GKF-PJC
)
)
TYSON FOODS, INC., et al.,)
)
)
Defendants.)

TRANSCRIPT OF PROCEEDINGS
SEPTEMBER 24, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME I, A.M. SESSION

APPEARANCES:

For the Plaintiffs: MR. W.A. DREW EDMONDSON
Richardson Law Firm
312 W. Broadway
Muskogee, OK 74401

PROCEEDINGS

SEPTEMBER 24, 2009:

THE CLERK: We're here in the matter of the State of Oklahoma, et al. v. Tyson Foods, Inc., et al., Case No. 05-CV-329-GKF. Will the parties please enter their appearance.

MR, BULLOCK: Lewis Bullock for the State of Oklahoma.

MS. FOSTER: Kelly Foster for the State of Oklahoma.

MR. NANCE: Bob Nance for the State of Oklahoma.

MR. RIGGS: David Riggs for the State of Oklahoma.

MR. BAKER: Fred Baker for the State of Oklahoma.

MR. PAGE: Good morning, Your Honor, David Page for the State of Oklahoma.

MR. EDMONDSON: Drew Edmondson for the State of Oklahoma.

MS. XIDIS: Claire Xidis for the State of Oklahoma.

MR. GARREN: Richard Garren. Good morning, Your Honor.

MS. MOLL: Good morning, Your Honor. Ingrid Moll for the State of Oklahoma.

MS. GENTRY: Sharon Gentry for the State.

MR. BLAKEMORE: Bob Blakemore for the State of Oklahoma.

MR. SANDERS: Your Honor, Bob Sanders for Cal-Maine Foods, and in the back we have Bob Redemann, also counsel and

1 It is difficult to understand how the integrators can
2 even argue, with all of the control that they have over the
3 operations, that they are not responsible for the safe disposal
4 of the litter that's generated as a result of these operations.
5 These defendants, in a multibillion-dollar industry,
6 are aware of these problems and have been for decades. They
7 are aware of their contributions to the degradation of this
8 watershed. They have known that the impacts are cumulative in
9 both the soil and the water, and they have continued to place
10 the burden of compliance on their contract growers.
11 Your Honor, at the conclusion of the State's case, we
12 will ask that remedial action be taken in order to protect the
13 Illinois River Watershed and hopefully to reverse the
14 eutrophication of Lake Tenkiller and to restore it to the
15 condition that it began in a half a century ago.
16 We will ask the Court to prohibit land application of
17 poultry waste in the Illinois River Watershed on land having a
18 soil test phosphorus level of greater than 65 pounds per acre
19 and require application in accordance with other applicable
20 laws.
21 We will ask this Court to require the defendants to
22 transport poultry waste out of the Illinois River Watershed in
23 accordance with the law.
24 We will ask this Court to prohibit land application
25 of poultry waste generated in the IRW on land having a soil

test phosphorus level of greater than 65 pounds per acre or in any nutrient-vulnerable groundwater in Oklahoma or in any other scenic river or in a nutrient-limited watershed or in a nutrient surplus area flowing into Oklahoma.

We will ask this Court to require an investigation of remedial actions, such as buffer strips, drinking water wells, public water supplies, bank stabilization, manmade wetlands and aeration of Lake Tenkiller with all such costs of investigation to be borne by these defendants.

We will ask this Court to require implementation of appropriate remedial actions with all such costs of implementation also to be borne by these defendants.

Your Honor, the Illinois River Watershed is special. It is a unique asset to the State of Oklahoma and to the nation. It is designated as worthy of special protection as a scenic river by the statutes of the state of Oklahoma. It is nationally recognized and it is one of only two such watersheds that are protected as scenic rivers within the state of Oklahoma.

The evidence will show that it is endangered and has already been degraded. We have the legal tools at our disposal to save it and to correct the damage that has been done. I submit we have not only the legal tools to do that, but we also have an obligation, a moral obligation as well.

In a real sense, this precious asset does not belong

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME II

TRANSCRIPT OF TRIAL PROCEEDINGS

SEPTEMBER 24, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

is, in that photo, but I can assure you that's not a poultry litter storage shed. Poultry litter storage sheds do exist in this watershed and have been built at an expense to farmers and they serve a very useful purpose, but they're substantial structures, Your Honor. The amount of poultry litter that comes out of a poultry house doesn't fit in whatever that little shed is there. And to the extent it's being represented to you that this is how poultry litter is stored before it is land-applied, that's simply not true.

Your Honor, now that I've chased the ghost of these photos of litter piles, let me return to what this case is really about. The state's claim is that the spreading of poultry litter as fertilizer under animal waste management plans issued by Oklahoma and Arkansas has caused and is continuing to cause pollution.

Now, Your Honor, Mr. Jorgensen told you last week that these animal waste management plans are the key to almost every claim in this case, and as usual Mr. Jorgensen was correct. Let's look at how these plans relate to the claims and the defenses that the court is going to have to wrestle with in case.

As the court knows, the state is bringing a

1 claim for alleged violation of RCRA, and the court has
2 decided in motion practice in this case that at some
3 point in time you could put down so much litter that
4 it would become a waste, and therefore, subject to
5 RCRA.
6 Now the task for the court is to decide at
7 what point in time is litter no longer being
8 beneficially used, and therefore, becomes a waste, and
9 at what point in time is it still being beneficially
10 used and not a waste for purposes of RCRA?
11 Well, I'll submit to Your Honor that that
12 analysis will vary based upon the circumstances of
13 every use of poultry litter, and there's probably not
14 a one-size-fits-all standard for the line crossing
15 between the use of poultry litter as a beneficial
16 fertilizer and what the state would like to refer to
17 as dumping of a solid waste.
18 The best way for this court and the parties
19 to make this distinction between when that line is
20 crossed on a field-by-field basis is the animal waste
21 management plan. In those documents, Your Honor, you
22 have the judgment of a soil scientist who has gone to
23 the specific farm, evaluated the use of poultry
24 litter, and made a decision as to whether there's
25 still beneficial use associated with the particular

1 application of poultry litter. And so certainly the
2 animal waste management plans are relevant to the
3 elements of the RCRA claim.
4 But it doesn't end there, Your Honor. The
5 state in four of its remaining causes of action have
6 pled intentional torts. The state is here pursuing
7 these defendants based upon a theory of intentional
8 torts and that's been well-established in the
9 pleadings in this case.
10 Well, as the court knows very well, there's a
11 standard of conduct required in order to establish an
12 intentional tort. I'd submit to Your Honor that a
13 farmer following a plan that is supposed to prevent
14 pollution surely cannot be found to have intentionally
15 caused pollution.
16 Your Honor, another element in which the
17 animal waste management plans are relevant is this
18 question of statutory authority or consent. Both
19 states, Arkansas and Oklahoma, recognize, as the court
20 knows, that a nuisance and trespass liability will not
21 lie if the actions that lead to that nuisance or
22 trespass liability are done under the authority of a
23 statute or consented to by the party bringing suit.
24 There's no question, Your Honor, that both
25 states have laws that authorize the use of litter as a

1 nutrient management plans. They stand as an obstacle
2 to every claim that they are pursuing.
3 Now, Your Honor, there's been some suggestion
4 throughout this case -- and we heard it somewhat again
5 today during opening -- that these plans are
6 irrelevant because they allow the use of poultry
7 litter on fields that have 65 pounds per acre of
8 phosphorus or greater. At one point in time,
9 Mr. Page, I think, mentioned that the threshold was
10 now 120 so I'm a little bit confused.
11 But, Your Honor, regardless of where the
12 state's position on that point is today, the problem
13 with this argument that poultry litter -- the problem
14 with this argument, Your Honor, is poultry litter is
15 more than just phosphorus and crops need more than
16 just phosphorus to grow. You don't have to be a
17 full-time farmer to know that if you want to grow
18 plants, whether in a field, a garden, or on our lawn,
19 you need a good fertilizer that contains not just
20 phosphorus, but nitrogen, potassium, and a host of
21 other nutrients. Your Honor, poultry litter has all
22 of these things. It has nitrogen and phosphorus and
23 other nutrients. It also has, Your Honor, things that
24 plants need, like carbon and calcium and magnesium.
25 The evidence in this case, Your Honor, will

1 discussing the basis for the application rates in this
2 plan. You'll recall that we saw earlier that
3 Mr. Reed's fields all contained more than 65 pounds of
4 phosphorus per acre.
5 The application rate is described by ODAFF as
6 1.8 tons of litter per acre. The reason for that
7 application rate is it will supply enough nitrogen to
8 produce 1.7 tons of Bermuda grass. So while the state
9 is in this courtroom, Your Honor, arguing that litter
10 should never be applied to a field that has the
11 phosphorus it needs, another part of the state is out
12 there telling farmers that they can put down litter
13 because it also contains the nitrogen that their crops
14 need to grow.
15 Once the evidence in this case is in, Your
16 Honor, it will be clear to the court that Oklahoma
17 farmers, and the defendants in this case as well, are
18 caught in a political tug of war between the Attorney
19 General, the legislature, and the officials at the
20 agencies that actually regulate poultry farms. The
21 evidence will show convincingly that farmers can and
22 do apply poultry litter because their crops need not
23 just phosphorus, but phosphorus, nitrogen, potassium,
24 and the other things that are in poultry litter.
25 Another thing that will be clearly shown by

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME III

TRANSCRIPT OF TRIAL PROCEEDINGS

SEPTEMBER 30, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

Q. And what was that opportunity? How did you get involved in that?

A. There was a request for an official opinion from the Attorney General to -- to assess the relationship between the integrators and the -- and those who grow the birds for them and to determine whether or not that relationship is, at least for tort purposes, whether or not that was an employer or employee relationship.

Q. Okay. And was the product of your work later issued in a formal opinion?

A. Yes. I created the draft and ultimately it was issued as a formal opinion.

Q. And to your knowledge, has that opinion ever been set aside by any court of competent jurisdiction?

A. To my knowledge, never.

Q. Okay. Mr. Tolbert, directing your attention now to the particular watershed that's at issue here today, the Illinois River Watershed and Lake Tenkiller, could you tell me, please, what interest, to your knowledge, does the State of Oklahoma, the body politic, have in the streams that are part of the Oklahoma portion of the Illinois River Watershed?

A. Well, beyond the interest that it has in

anything that's within the borders of Oklahoma and the interest to ensure it's protected, it has a specific interest, a property interest, in the definite streams in the watershed.

Q. Does the state have a possessory property interest in the waters in this watershed?

A. Yes, it does.

Q. And to your knowledge, does it have any statutory claim on those waters?

A. Yes. I think that the state's property interest in its waters is laid out in Title 60 of the Oklahoma statutes.

Q. Okay. And to your knowledge, does the state through its agencies manage and control the waters of the Illinois River Watershed at least in the Oklahoma portion?

A. Yes. It controls the -- it issues permits for the withdrawal of water. It issues permits for putting things into the water. It really manages every aspect of the water.

Q. In a pollution case -- and let me back up again.

You stated that you worked for the Department of Justice. Were you involved in pollution cases as a deputy attorney general?

Q. And is it common for defendants to be ordered to implement a remedy upon completion of that investigation?

A. Absolutely.

Q. Mr. Tolbert, could you tell me, please, when we use the term "scenic rivers," what does that mean as a term of art in the state of Oklahoma?

A. The state has by statute designated, set aside six rivers in the state as state scenic rivers, and it provides extra levels of protection to those rivers and they are specifically identified by law.

Q. Now --

MR. EDMONDSON: May I approach the witness, Your Honor?

THE COURT: You may, sir.

Q. *(BY MR. EDMONDSON)* May I hand you what's previously been marked as Exhibit 4124.

A. Thank you.

Q. Could you tell me, please, if you know, what that is?

A. Yes. This is a copy of a portion of the Oklahoma statutes, Title 82, Section 1452, it's the Scenic Rivers Act. And this is the act that -- that designates and lays out the protections for the state scenic rivers.

Q. Okay. You say a portion of the act. Can you tell -- are there portions missing?

A. No. I -- it looks like it's -- it looks like it's all here, yes.

Q. Thank you.

MR. EDMONDSON: Your Honor, I believe the court can take judicial notice of the statutes of the state, but we would move the admission of 4124.

THE COURT: I think you're right, we can take judicial notice of that.

MR. EDMONDSON: Okay.

THE COURT: We'll decline to admit it as an exhibit.

MR. HOPSON: No objection, Your Honor.

THE COURT: To its admission?

MR. HOPSON: If the --

THE COURT: No. I'm not going to clutter the record with statutes.

MR. EDMONDSON: Very good.

THE COURT: No.

Q. *(BY MR. EDMONDSON)* Can you tell us, Mr. Tolbert, which rivers in Oklahoma are so designated as scenic rivers?

A. Yes. There's the Illinois River, the Baron Fork, Flint Creek, which are all in the Illinois River

Watershed, and there's also the Upper Mountain Fork and Lee and Little Lee Creeks.

Q. May I invite your attention to Demonstrative Exhibit 139. Can you tell me, please, if you can, whether the rivers you just named are indicated on that demonstrative exhibit?

A. Yes, they are.

Q. And which are which?

A. The -- if you start at the north, you have Flint Creek, the Illinois River, the Baron Fork, Lee and Little Lee, and then the Upper Mountain Fork down there in the lower right-hand corner.

Q. That's the part shaded in yellow?

A. Yes, that's correct. I should have said that.

Q. Very good. And let me now invite your attention to Demonstrative Exhibit 110.

Can you tell me, please, if you know what that is?

A. That is a map showing the Illinois River Watershed.

Q. Could you tell me, please, when the legislature designates a scenic river, what do they mean by that? What are they talking about?

A. Well, they start with the fact that it's

scenic. I mean, the name itself tells you a little bit about it. What the -- in fact, if it's all right, could I read from the statute? I think it says it better than I could say it.

THE COURT: Yes, sir.

A. The statute says that, "The Oklahoma legislature finds that some of the free-flowing streams and rivers of Oklahoma possess such unique natural scenic beauty, water conservation, fish, wildlife, and outdoor recreational values of present and future benefits to the people of the state, that it is the policy of the legislature to preserve these areas for the benefit of the people of Oklahoma. For this reason, they are hereby designated certain scenic river areas to be preserved as part of Oklahoma's diminishing resource of free-flowing rivers and streams."

Q. Thank you. May I ask you to, please, at this time direct your attention to Demonstrative Exhibit 112.

Can you tell me, please, if you know what that is?

A. That is a photograph of the Illinois River.

Q. And do you know of your own knowledge whether that is a particular location depicted in that

A. They are. In particular, they are designated as outstanding resource waters.

Q. And is Lake Tenkiller given any special protection under these water quality standards?

A. Lake Tenkiller, in addition to all the other standards that protect it, is specifically designated as high-quality water.

Q. And, again, are those under state law, federal law, or both?

A. Those are -- those standards are federal law having been approved by the EPA.

Q. Let me hand you, if I could, Mr. Tolbert, what's been identified as Exhibit 5108.

Can you tell me, please, what that is?

A. Yes. This is a copy of the water quality standards that were promulgated and have been promulgated by the Oklahoma Water Resources Board.

Q. And are those standards promulgated pursuant to law?

A. Yes. By law, the Water Resources Board is charged with developing these standards and then they're promulgated as regulations and become law.

Q. And do those water quality standards apply to rivers within the Illinois River Watershed?

A. Absolutely.

MR. EDMONDSON: Your Honor, we would move the admission of Exhibit 5108.

THE COURT: Again, this is a part of the Oklahoma Administrative Code; correct?

THE WITNESS: Yes, Your Honor, it is.

THE COURT: Very well. I'll decline to admit statutes and regulations. Obviously, we can take judicial notice of those.

MR. EDMONDSON: Thank you, Your Honor.

Q. *(BY MR. EDMONDSON)* Is the Illinois River Watershed an important recreational destination in Oklahoma?

A. Absolutely. It is one of the critical -- I mean, one of the most important recreational watersheds in Oklahoma.

Q. And how have the streams in the Illinois River Watershed historically been used for recreation?

A. Well, people do all the things like you to do in water. They swim and they fish and they canoe. Really, it's the only place that you can take a long canoe trip. You can take -- you can canoe for days in Oklahoma on the Illinois River, which is unique in Oklahoma. It is the most recreated river in the state.

Q. Let me hand you what's been identified as

MR. HOPSON: No objection.

THE COURT: Very well. Exhibit 5765 is admitted.

Q. *(BY MR. EDMONDSON)* Mr. Tolbert, has the Illinois River been recognized outside the state of Oklahoma as a recreational area worthy of attention?

A. Absolutely.

Q. May I invite your attention to Demonstrative Exhibit 115.

Could you tell me, if you know, what that is?

A. I can. It is an article from Southern Living that focused on the Illinois River.

Q. And to your knowledge, what is Southern Living?

A. Southern Living is a national magazine that -- that celebrates the southern part of the United States, and I think this article came out in 19 -- in 2003.

Q. Okay. What about Lake Tenkiller; has it also been used for recreation?

A. Oh, absolutely.

Q. And in what way has Lake Tenkiller been used for recreation?

A. Well, people swim and fish and boat. They also -- historically they would scuba dive in the

river, in the lake.

Q. Let me hand you what's -- let me hand you Oklahoma Exhibit 5815 and ask you if you know what this is?

A. Yes, I do.

Q. And what is that?

A. This is a map of Tenkiller Lake -- or Tenkiller Ferry Lake, which I suppose is the proper nomenclature for it. And it comes from a publication of the Oklahoma Water Resources Board, the Oklahoma Water Atlas.

MR. EDMONDSON: Okay. Your Honor, we'd move the admission of Exhibit 5815.

THE COURT: Any objection?

MR. HOPSON: No objection.

THE COURT: Very well. 5815 is admitted.

And being a student of history, I always wondered why was it named Tenkiller Ferry Lake?

THE WITNESS: I think that even before there was a lake, it was wide enough to require a ferry to move across, and that's why.

THE COURT: Thank you.

Q. *(BY MR. EDMONDSON)* How many people typically visit the Illinois River Watershed for recreational

river, in the lake.

Q. Let me hand you what's -- let me hand you Oklahoma Exhibit 5815 and ask you if you know what this is?

A. Yes, I do.

Q. And what is that?

A. This is a map of Tenkiller Lake -- or Tenkiller Ferry Lake, which I suppose is the proper nomenclature for it. And it comes from a publication of the Oklahoma Water Resources Board, the Oklahoma Water Atlas.

MR. EDMONDSON: Okay. Your Honor, we'd move the admission of Exhibit 5815.

THE COURT: Any objection?

MR. HOPSON: No objection.

THE COURT: Very well. 5815 is admitted.

And being a student of history, I always wondered why was it named Tenkiller Ferry Lake?

THE WITNESS: I think that even before there was a lake, it was wide enough to require a ferry to move across, and that's why.

THE COURT: Thank you.

Q. *(BY MR. EDMONDSON)* How many people typically visit the Illinois River Watershed for recreational

purposes?

A. Something on the order of 400,000 people a year.

Q. And to your knowledge, with jurisdiction over the Scenic Rivers Commission, Oklahoma Water Resources Board, does their visitation typically involve contact with the water?

A. Yes. The reason to go there is because there's water.

Q. Either deliberately or accidentally?

A. Either deliberately or not, but absolutely. It's part of the appeal on a warm summer day is to go down to the river and to get on it, to swim in it, to enjoy it.

Q. Let me hand you what's been identified as Oklahoma Exhibit 5107.

Could you tell me, please, if you know, what that is?

A. I do. This is a copy of a report from the Secretary of the Environment's office that we call the Senate Bill 972 report. Its formal name is the coordinated watershed restoration and protection strategy for Oklahoma's impaired scenic rivers.

Q. And in what year was that report issued?

A. January of 2003.

Q. *(BY MR. EDMONDSON)* Mr. Tolbert, could you tell me whether the waters of the Illinois River Watershed are used for drinking water?

A. Yes, they are.

Q. May I please invite your attention to Demonstrative Exhibit 119.

Could you tell me, please, if you know what that is?

A. Yes. This is a map of wells and water supply intakes within the Illinois River Watershed.

Q. And what is demonstrated by which dots, if you can tell me?

A. Oh. Yes. The -- you can see -- it's a little bit fuzzy on my screen. If you could -- you can see that the areas along the stream there that are identified with red triangles are public water supply intakes and then the black dots represent water wells.

Q. Do you know whether there are also public water supplies in Lake Tenkiller?

A. Yes.

Q. And what are the nature of those public water supplies?

A. Those are -- they serve community drinking water sources and they draw water from the -- from the lake itself.

MR. EDMONDSON: Could we have Demonstrative Exhibit 3, please?

Q. *(BY MR. EDMONDSON)* And if you can, please identify what's shown on that demonstrative exhibit.

A. I can. Those are individual public water supply drinking water intakes that identify the different users of that water. You can see that the City of Tahlequah, you can see that rural water districts, you can see that resorts all use the water from this watershed.

Q. Okay. Are there other municipalities indicated on there besides Tahlequah?

A. Yes. I mean, there is -- there is -- there's water that's used -- I mean, it's a rural water district but it serves the residents of the area, Adair Rural 5. I'm trying to see if I can see anything else that is a municipality, and I don't believe I do.

Q. How is water quality in the Illinois River Watershed important to public water supplies?

A. Well, I mean, in sort of the most basic way, the higher the quality of the water, the better it is for the drinking water. And if there are problems with the water, it is more expensive and more difficult to clean it up and it can create

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4 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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6 **MILES TOLBERT**

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
capacity as ATTORNEY GENERAL)
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Plaintiffs,)
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vs.) CASE NO. 05-CV-329-GKF-PJC
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TYSON FOODS, INC., et al.,)
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Defendants.)

TRANSCRIPT OF PROCEEDINGS
SEPTEMBER 30, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME IV, P.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
Attorney General
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State of Oklahoma
313 N.E. 21st St.
Oklahoma City, OK 73105

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Q. To your knowledge, what activities do they have pertaining specifically to the water?
A. Well, the -- the regulatory program is intended to protect the water, and that's certainly, I think, at the core of what they're doing in relation to the water.
Q. Do they do testing of water?
A. They don't -- no, I don't believe that they do.
Q. If the -- if, in fact, the statutes and regulations governing the Department of Agriculture, if they provide that in no event shall surface application of waste result in runoff to the water, how would the Department of Agriculture know whether that's happening?
A. Well, they would --
MR. HOPSON: Objection, Your Honor.
THE COURT: Overruled.
THE WITNESS: They would be dependant on their sister agencies, agencies like the Water Board, to help assess the quality of the water in the basin.
Q. (By Mr. Edmondson) Do they have field inspectors?
A. Yes.
Q. Do you know how many field inspectors they have?
A. No, I don't.
Q. Do you know whether the field inspectors inspect the water?
A. I don't believe they do, but I couldn't tell you for

Q. Why have they done that?
A. Because the bacteria levels exceed the standards, and there is a risk that that imposes to human health.
Q. Let me hand you what's been identified as Plaintiff's Exhibits 5707 and 5938. Can you tell me, please, if you know what these are?
A. Yes. 5707 is a poster or warning that was developed by the Department of Environmental Quality to advise people who would use the scenic river watersheds of the dangers that the bacteria creates and how they might try to minimize that.
5938 is a more general warning that applies to bacteria-laden rivers elsewhere in the state, in the state more generally.
MR. EDMONDSON: We would offer those exhibits, Your Honor.
THE COURT: 5707 and 5938.
MR. HOPSON: No objection, Your Honor.
THE COURT: 5707 and 5938 are admitted.
Q. (By Mr. Edmondson) Mr. Tolbert, does the Oklahoma Department of Agriculture register any of those poultry operations?
A. Yes.
Q. Do they, in fact, issue permits?
A. No, they don't.
Q. What do they do?

A. What they do is they -- you use the term yourself, they register them, that you don't ask the permission of the Department to operate; what you do is you come to the Department and register the fact that you are operating a poultry-feeding operation.

Q. Is there an Animal Waste Management Plan requirement pursuant to that registration?

A. Yes, there is.

Q. Is requirement with an Animal Waste Management Plan a requirement of the Act?

A. Well, I guess I should say that you need to have applied for an Animal Waste Management Plan. And you can register without one, but you do need to -- once you get one, you need to comply with that plan under the Act.

Q. How long have these animal waste management plans been required, if you know?

A. Roughly ten years.

Q. Were they required in 2003?

A. Yes.

Q. And that was your first year as Secretary of the Environment?

A. That's correct.

Q. Do you know from your own knowledge or review of government reports what percent of poultry operations within the state of Oklahoma had agricultural waste management plans?

A. Would it be possible for me to have a copy of the exhibit?

Q. I'm going to bring all those to you right now. In fact, I'm going to bring you not only the statute and the regulations, I'm also going to bring you a copy of the underlying standards, nutrient management standards that have been adopted by Oklahoma at 3916.

I think we've finally got it, and I think everybody has finally got a copy. Here you go, Mr. Tolbert. I think you have everything now. If you don't, just let me know.

Let's start, sir, just taking a look at the regulations which are at Defendants' Exhibit 3029, and I'd ask you to direct your attention to Section 35:17-5-1.

And would you agree that, according to the State of Oklahoma, the purpose of these rules is to assist in ensuring the beneficial use of poultry waste while preventing adverse effects to the waters of the State of Oklahoma?

A. That is its announced purpose.

Q. Is it your understanding that's the actual purpose?

A. I think that, you know, the question is whether or not the word "preventing" is intended to mean completely eliminating. And I don't -- I think that it's clear that the purpose of the regulation was to protect the environment. I just don't know about the word "preventing."

Q. You agree that that's a valid purpose as set forth in this

Oklahoma law, don't you?
A. Yes.
Q. And do you agree that under this law, every grower has to have an Animal Waste Management Plan; isn't that correct?
A. No, I believe every grower has to apply for an Animal Waste Management Plan.
Q. Well, is there any grower right now in the Illinois River Watershed that doesn't have an Animal Waste Management Plan?
A. Last I checked, only about 80 percent of them, and that's just in Oklahoma. It's not the case in Arkansas.
Q. And are you telling me that there are growers right now who are in a violation of the law?
A. No, as I -- I meant to say, if I didn't, that the law requires that you apply for a plan, and so it's possible to have applied for it but not yet received it. In fact, that's about where 20 percent of them are today.
Q. With that exception that you just noted for us, it does require generally under this law that every poultry operation have an Animal Waste Management Plan; is that correct?
A. With that exception in Oklahoma.
Q. That plan includes best management practices; is that correct?
A. As I understand it, yes.
Q. That means that every one of these growers that now has a plan has an individualized plan, pasture by pasture and field

by field, that governs their application of poultry litter; is that correct?

A. I believe that's correct, yes.

Q. And Oklahoma also regulates the individuals who apply litter as well, correct?

A. Correct.

Q. Will you agree with me, before we get too far into the documents, that existing Oklahoma law doesn't currently provide that growers or anybody else is limited to the agronomic rate in applying poultry litter?

A. I'd say that existing Oklahoma law does not limit the growers as such to agronomic rates.

Q. Let me ask the question again. Existing law, including the law that you have in your hand, does not limit the application of poultry litter to agronomic rate, correct?

MR. EDMONDSON: Objection. Asked and answered.

THE COURT: Overruled. I want to understand what "as such" means.

THE WITNESS: What I meant is that the -- what I understand to be the whole tenor of this trial is whether or not the law requires that application cease above agronomic rates. And if the Court were to find that, that would be the Court interpreting the law to be that.

So the response to your question is that, no, you will not find anywhere in -- I believe in this regulation or in

the statute itself where it says poultry growers are limited to agronomic rates.

Q. (By Mr. Hopson) So your understanding is that the relief being sought in this courtroom is different than what's being provided for under the two statutes and regulations I just handed to you; is that right?

A. I understand it to be more specific than what is provided for in this.

Q. You think that these regulations are less specific; is that your testimony?

A. Yes. I believe it is less specific.

Q. Okay. Let's look at this and see how specific it is. Let's start with the definition of Animal Waste Management Plan, which is in Section 10-9.1 of Defendants' Joint Exhibit 3024. Okay. Could we get that up on the screen. Thank you.

And that is -- an Animal Waste Management Plan, Mr. Tolbert, means a written plan that concludes a combination of conservation and management practices designed to protect the natural resources of the state as required by the State Department of Agriculture, etcetera. Do you agree?

A. That's absolutely what it says.

Q. Do you agree that it references in here Section 7 of the Act as the source of what's in an Animal Waste Management Plan, correct?

A. That is what it says, absolutely.

Q. Let's turn to 10.9 -- I'm sorry, 10-9.7, and let's look at the very first paragraph of that. And I think you'll agree that this is consistent with your understanding, Mr. Tolbert; but if it's not, you tell me. Oklahoma law, by statute, requires all poultry-feeding operations shall utilize Best Management Practices and shall meet the conditions and requirements established by subsection B of this section and rules promulgated by the State Board of Agriculture.

Sounds to me like that's a mandatory provision of law, right, Mr. Tolbert?

A. That is clearly a mandatory provision of law.

Q. Let's turn over, then, and see what these mandatory provisions of law provide. If we go to the very next page, you see subsection B, which is the criteria for best management practices; is that correct, sir?

A. That's absolutely what it says.

Q. It says the criteria for Best Management Practices shall be promulgated by rules by the board and shall include the following. Again, that's mandatory language, right?

A. Yes.

Q. One of them is there shall be no discharge of poultry waste to the waters of the state. Is that one of the mandatory requirements of Best Management Practices?

A. It is.

Q. Is it also a requirement of Best Management Practices

under subsection 4 that poultry waste handling, treatment, management and removal shall not create an environmental or public health hazard?

A. Yes.

Q. Is it also a requirement that poultry waste handling, treatment, management and removal shall not result in the contamination of waters of the state?

A. Yes.

Q. Let's look -- and, again, I don't want to beat a dead horse, but this all looks pretty mandatory to me. Right? This is a command of the Legislature about what these Best Management Practices shall contain?

A. I think that's fair to say, yes.

Q. Let's look at subsection C. Subsection C says, "Every poultry-feeding operation shall have an Animal Waste Management Plan which shall include, at a minimum..."

Do you see that under Subsection C?

A. Yes.

Q. Let's look around a little bit and see what's required as a minimum in Animal Waste Management Plans. The first thing I'd like to direct your attention to under Subsection 5 is that land application rates of poultry waste shall be based on the available nitrogen and phosphorus content of the poultry waste and shall provide controls for runoff and erosion as appropriate for site conditions.

You would agree with me that that language also, that "shall" language continues to be mandatory, correct?
A. I do understand it that way, yes.
Q. Look at subsection 6 right below it. This is a provision, as I'm sure you understand, Mr. Tolbert, that sets forth what the procedures in the Animal Waste Management Plan must ensure. And I'll just read the first one, and you tell me if I read it correctly.
"The procedures documented in the Animal Waste Management Plan must ensure that the handling and utilization of poultry waste complies with the following requirements."
I take it you would continue to agree with me that the Legislature is not setting forth guidelines here but is setting forth mandatory requirements; is that correct?
A. Yes, I think that's the correct reading.
Q. One of the mandatory requirements under subsection C is that poultry waste shall only be applied to suitable land at appropriate times and rates; is that correct?
A. Yes.
Q. Also under subsection C, the Legislature of the State of Oklahoma has mandated that discharge or runoff of waste from the application site is prohibited. Right, sir?
A. I do see that, yes.
Q. And the very next thing commanded by the Legislature of the State of Oklahoma is that the timing and rate of

applications shall be based on assimilation capacity of the soil profile, assuming usual nutrient losses, expected precipitation, and soil conditions. Is that correct?

A. That's absolutely what it says.

Q. We can go on here. There's some other provisions. But let's put that aside just for a minute, and let's look quickly at the regulations.

Do you have the regulations I put in front of you, sir? They're marked as Defendants' Exhibit 3029.

A. I do.

Q. You do have it, Mr. Tolbert, or did I neglect to give it to you?

A. I have it, and I thought I said I did.

Q. Let's go ahead and let's look at the definitions for a moment and see how the Department of Agriculture, pursuant to this statute, has defined an Animal Waste Management Plan.

They define it in their -- in the regulations, I should say, as Animal Waste Management Plan means a written plan that includes a combination of conservation and management practices designed to protect the natural resources of the state as required by State Department of Agriculture, pursuant to the provisions of Section 10-9.7 at Title 2 of Oklahoma Statutes.

That's a reference to the provision of the statute you and I just looked at together, right, Mr. Tolbert?

A. Yes.
Q. Excuse me, sir. And it goes on to provide in this definitional section who's going to prepare these Animal Waste Management Plans; that is, it goes on to define who the specific people are who are going to do this, according to the Department of Agriculture; is that right?
A. Yes.
Q. And what does it tell us? Give my throat a break. Please read for me what it tells us about who will prepare the plan.
A. Sure. It says, "The plan shall be prepared by the USDA, NRCS or an entity approved by the State Department of Agriculture."
Q. Let me ask you this: Do you know that there are additionally standards that have been adopted by the State of Oklahoma under these regulations? Are you aware of that?
A. Standards for what?
Q. Well, let me ask you the more specific question. That was a very bad question. Let me ask you if you have Defendants' Exhibit 3916 in front of you. And if not, I will get you or anybody else who wants one a copy.
A. I don't have a copy.
Q. Then let me pass out some copies here.
MR. HOPSON: May I approach, Your Honor?
THE COURT: You may, sir.
MR. HOPSON: Your Honor, would you like a copy as

well?

THE COURT: Please.

Q. (By Mr. Hopson) I'm just going to look at the first page here for a minute. I've heard this referred to as Code 590. Have you heard that reference, Mr. Tolbert?

A. Yes, I'm familiar with that reference.

Q. What I understand this to be is a more detailed form of guidance about what should be contained in an Animal Waste Management Plan; is that correct?

A. Yes.

Q. This Code 590, if you look down at the bottom right-hand corner, is not a general document; it says "NRCS, OK," which I take it means this has been adopted by the State of Oklahoma, correct?

A. I believe what that represents is that it's been adopted by the NCRS, which is a federal agency, for its operations in Oklahoma.

Q. Thank you. But this specifically applies in Oklahoma. This isn't a national document; is that correct?

A. I don't think -- I don't -- I couldn't -- my sense is -- my understanding of the document is that it does not vary substantially across the country, but this would appear to be however Oklahoma-specific the standard is.

Q. Is it, then, sir, an Oklahoma-specific standard?

A. Yes, I understand it to be.

Q. Okay. Let me ask you to do this. Just nail down this Oklahoma-specific standard issue by going back to the statute, which is Defendants' Exhibit 3024, and back to the section that you and I looked at, which is 10-9.7, and this time, sir, I want you to look at subsection E. And, actually, Mr. Tolbert, if you'll look at subsection D and E, this is of the statute, correct?

A. Yes.

Q. The Legislature of the State of Oklahoma has specified the standards that are going to be applied in subsection D for nonnutrient-limited watersheds and in subsection E for nutrient-limited watersheds; is that correct?

A. Yes.

Q. Let's focus on subsection E, since that's the primary focus of this case. And it says, "Every poultry-feeding operation located in a nutrient-limited watershed," and it goes on to say, "shall perform an annual soil test." And you understand that to be the law, right, sir?

A. I do.

Q. They also have to, in the next sentence of this statutory provision, test the poultry waste every year, right?

A. That's what it says. Absolutely.

Q. And it says, "Soil and poultry waste testing shall be performed to determine," and I'm going to jump down to subsection C, it says, "application rate based upon current

United States Department of Agriculture Natural Resources Conservation Service waste utilization standards, unless the State Department of Agriculture approves other standards."

A. Yes.

Q. So in light of this provision, sir, would you agree with me that these are Oklahoma standards in Defendants' Exhibit 3916, not federal standards?

A. They are federal standards that operations in Oklahoma are required to comply with.

Q. That's true. And the answer to my question is, they've been adopted in the statute by the legislature of Oklahoma, right?

A. The requirement has been adopted. It may be hair splitting, but yes. I think it's clear that the statute provides under state law, unless the Department of Agriculture provides for some other standard, that this standard, this federal standard, is what it is that should govern.

THE COURT: Do you know whether or not the State Department of Agriculture has adopted another standard?

THE WITNESS: I don't believe that they have.

Q. (By Mr. Hopson) Let me ask you this before we delve in more deeply to the nutrient standards for a moment. Have you taken the opportunity to look at the extent to which Oklahoma has withdrawn any Animal Waste Management Plans that have been issued in the Illinois River Watershed?

A. I haven't.
Q. Okay. Can you confirm for me that the State of Oklahoma is continuing to this date to issue Animal Waste Management Plans in the Illinois River Watershed?
A. I don't know that the State issues the plans; but, yes, I can confirm that people continue to be registered with plans.
Q. Who do you think issues the plans, sir?
A. Well, as I understand it, the plans are issued under an arrangement with the NRCS.
Q. Doesn't Oklahoma statute create the Animal Waste Management Plan program?
A. It creates the requirement for an Animal Waste Management Plan.
Q. Have you seen Animal Waste Management Plans?
A. I have.
Q. You have?
A. I have.
Q. Have you seen that they're actually issued, on the front page, by the State of Oklahoma?
A. I would be happy to review one.
Q. Okay. Can you get out the Ricky Reed Animal Waste Management Plan.
While they're digging through their boxes, let me just ask you a couple of other things.
You notice that the -- you were here for opening

statement, I believe.
A. I was here for just five minutes.
Q. Just a few minutes of it. Well, a point was made in opening statement that the State of Oklahoma has many, many powers to enforce its laws and standards, including criminal and civil law.
And you would agree with me that the Oklahoma law we're looking at, the Registered Poultry Feeding Operations Act, has both civil and criminal provisions in it to enforce it; isn't that correct?
A. Yes, that's my understanding.
Q. Okay. Do you know whether any criminal action has ever been brought under the provisions of the Registered Poultry Feeding Operations Act?
A. I'm not aware of any, no.
Q. Given your concerns about poultry litter, is that something you pressed for when you were serving as the Secretary for the Environment?
A. Pressed for criminal prosecutions?
Q. I'll let you say enforcement in general. Did you press for more enforcement?
A. Well, the decision about enforcement, it's a decision that is committed to the Secretary of Agriculture, and I can't say that I pressed him to do more.
Q. You never even made a phone call to him asking him to do

more; is that right?
A. That's right.
Q. You do understand, sir, because I know you've looked at the law and you're careful, that this is a statute that requires considerable recordkeeping, specifically in Subsections 10, 11 and 12; isn't that right?
A. I would need to look at 10, 11 and 12.
Q. Why don't you take a second and look at 10, 11 and 12.
And, again, I'm not going to ask you detailed questions about this, but I just ask you to note that there are some general recordkeeping provisions. The State is required to keep records of violations, and there's a violation point system in subsection 12, 10-9.12.
A. There are definitely some recordkeeping requirements, and I do see the point system you're referring to.
Q. Under this violation point system, if you'll read along with me in Section B1a, Mr. Tolbert, "Violations involving the greatest harm to the natural resources of the state, ground or surface water quantity or quality, public health or the environment shall receive the most points and shall be considered significant violations."
Can you confirm for me that there are records in the state of Oklahoma that should tell us how many significant violations there have been of this Act?
A. I would need to review the recordkeeping requirements.

You're saying that's what's included in 9-10?
Q. Let me see if I can skip ahead. Can you identify for me a single significant violation of this Act in the Illinois River Watershed since the statute was enacted?
A. No, I don't think I can identify an individual one.
Q. Did I understand you correctly to say in your direct testimony that you think that the inspections or enforcement of this statute are somehow underfunded by the State of Oklahoma?
A. I don't think I said that. I think there was a question about how many inspectors there were, and I said I didn't know.
Q. You understand, don't you, sir, that at the end of the day, the question about how many inspectors are going to operate under this statute as opposed to a child welfare statute or any other statute is up to the Legislature of the State of Oklahoma, right?
A. Broadly, yes. I mean, the Legislature will determine the budget of the agency, and there will be some discretion within that about how to allocate those resources.
Q. So to the extent that anyone in this courtroom believes that there's underfunding of inspections or enforcement under this statute, the Oklahoma Legislature can cure that problem; isn't that correct?
A. Yes.
Q. Let me, if --
MR. HOPSON: Your Honor, if I may approach? Get back

to the Animal Waste Management Plan.

THE COURT: You may.

Q. (By Mr. Hopson) Let me show you what's been marked as Defendants' Exhibit 3480. And for what it's worth, sir, I'm just going to represent to you, if you haven't seen this before, that this is on State's records and that this is an Animal Waste Management Plan.

Do you notice on the front page of this Animal Waste Management Plan there are two agencies, or I should say an agency and a subagency identified? They are the Agricultural Environment Management Services. Tell us what that is, Mr. Tolbert.

A. That is the division within the Oklahoma Department of Agriculture which has responsibility for the enforcement of this Act.

Q. And underneath it, the Oklahoma Department of Agriculture, Food and Forestry -- shorthand, we can call it the Department of Agriculture?

A. That's correct.

Q. You know that the people who actually go out in the field and write these plans may, in fact, be trained under NRCS standards, they may be NRCS employees, but when they write these plans under Oklahoma's law, they do so under contract with the Department of Agriculture, right?

A. Would you ask the question again.

Q. The people who write these plans do so as contract employees for the Department of Agriculture?
A. That's what I understand.
Q. Okay. Let's get back to the nutrient management standards. If we can have Defendants' Exhibit 3916 put up on the screen.
These are the specific standards, at the end of the day, that govern the application of poultry litter in the Illinois River Watershed and in the rest of Oklahoma, correct?
A. These are some of the specific standards, yes.
Q. Let's look at these. These were specifically adopted by Oklahoma, weren't they?
A. Yes. They were required to be complied with by Oklahoma law.
Q. Well, they're not just required to be. The piece of paper in your hand is an Oklahoma regulation. Do you see the references on there to Oklahoma State University? I know that that's a great university, but it's not the one that governs national standards for application of nutrient management, right?
A. You're referring to the extension fact sheet?
Q. Yes.
A. Yes.
Q. So this is an Oklahoma-specific regulation, right, sir?
MR, BULLOCK: Can we have a copy of that, please?

Q. Do you see, as we look at this table, that it refers in here to full-rate applications, split-rate applications, and half-rate applications? Do you see that, sir?
A. Yes.
Q. And do you understand that that refers to the rate, the amount per acre application of poultry litter?
A. That's my understanding.
Q. And if you weren't sure about that -- not to be tricky -- on the very next page, it will tell you that full rate is 200 pounds per acre when surface applied. Right?
A. Yes.
Q. So a half rate would be half of that?
A. Presumably.
Q. Right. And the split rate would be the full rate, but two different applications split in time; is that your understanding?
A. That is not my understanding, but I'm not familiar with the concept.
Q. Well, I'll withdraw the question.
The point about table 9 is, sir, that the State of Oklahoma has made a decision here about certain factors that should be considered in determining how much poultry litter can be applied to a field; isn't that right?
A. Yes, it's decided that these factors should be considered.
Q. One of the factors that should be considered is the soil

test phosphorus index; isn't that correct?
A. That's correct.
Q. Another factor that should be considered is the slope of the field or pasture in which the litter is being applied, right?
A. Yes.
Q. The other thing Oklahoma has said we should consider is the depth of the soil; isn't that right?
A. Yes.
Q. And you know because of some of the testimony you gave on direct, I know you understand that the depth of the soil is significant, because the deeper the soil there is, the more likely that phosphorus is going to bind to the soil rather than move through the soil; isn't that correct?
A. That's my understanding.
Q. And that's the same reason that there's a special rule about putting poultry litter down on rocky fields, correct?
A. Yes.
Q. Because the phosphorus does not bind as well to a rocky soil as it would to a more loamy or sandy soil?
A. It would be more inclined to move in the event of rainfall.
Q. Right. So that's why the State of Oklahoma has decided to look at soil depth as one of the factors in determining how much litter should be applied on any given field, right, sir?

A. I think that's a reasonable interpretation.
Q. Okay. Let's turn the page, and if you look with me on the next page, which is 590.22, or -22, you will agree with me that the State of Oklahoma has also declared that there are certain situations in which there should be no manure application; isn't that right?
A. Yes, I see that.
Q. And one of the areas is areas within 100 feet of a perennial stream, correct?
A. Yes.
Q. I think, again, we can both agree the reasons for that are pretty obvious; isn't that correct?
A. Yes.
Q. And another factor limiting the application of poultry litter is you should not put poultry litter within 50 feet of an intermittent stream; isn't that correct?
A. That's correct.
Q. And you should not apply poultry litter to fields with a greater-than-15-degree slope, right?
A. That's correct.
Q. And you should not apply poultry litter to soils with less than 10 inches of depth; is that right?
A. That's correct.
Q. And I'm not going to read them all, but it goes on to talk about you shouldn't apply it on soils that are flooded, frozen,

snow-covered, water-saturated. These are the standards that the State of Oklahoma has adopted for the application of poultry litter, right, Mr. Tolbert?

A. These are some of the standards, yes.

Q. These standards get -- these are the standards that get incorporated into Animal Waste Management Plans; is that right?

A. Yes. The ones we've been through were some of those standards.

Q. Are you telling me that there's some factors that you think are missing in this exhibit, Defendants' Exhibit 3916, other factors that should be incorporated?

A. Well, there's obviously all the factors that are in the whole exhibit, and we've only talked about some of them.

Q. Sure.

A. And then what else are you asking?

Q. I want you to tell me what factors you think are missing, what other factors should be considered besides the ones we just looked at on page 590-20 and 21.

A. All of the legal factors.

Q. I'm not talking about legal factors, sir. I'm talking about factors you can put into an Animal Waste Management Plan and direct a farmer how to apply poultry litter.

Do you think that this document we just looked at, the Natural Resources Conservation Services Nutrient Management Services for Oklahoma looks at all the right factors?

A. Well, I haven't read it in its entirety. But I would say that -- I don't think that it pretends to look at all of the legally required factors.

Q. You know what this document pretends? Why don't we look at what the document says. Let's turn back to page 590-21. And let's cull up table No. 9.

Did you testify on direct that you think that the application of poultry litter in the Illinois River Watershed should be limited to agronomic rate?

A. Yes.

Q. Well, if you look at table No. 9, you will note that the State of Oklahoma, in its current law, does not limit the application of poultry litter to agronomic rate; isn't that correct?

A. In this table. The State of Oklahoma, in its current law, prohibits the application -- requires as a Best Management Practice that the application of poultry litter not contaminate the waters of the state.

Q. Says that right in the poultry act, doesn't it?

A. It does.

Q. Okay. And this is -- this is adopted pursuant to the poultry act, correct?

A. That's absolutely correct.

Q. It reflects a decision by people in the State of Oklahoma, including the Legislature of the State of Oklahoma, about the

rate at which poultry litter should be applied to fields within nutrient-limited watersheds, right?
A. Both the prohibition against contamination and this reflect part of that decision.
Q. A decision that Oklahoma could make today is rather than saying thou shall not apply poultry litter at fields above 300 STP, they could write in there 65 STP, couldn't they?
A. Yes, and that would control what happens in Oklahoma.
Q. Could -- State of Oklahoma could do that tomorrow, sir, right?
A. Legislature is not in session.
Q. Doesn't need an act of the Legislature, does it, Mr. Tolbert?
A. You mean could it be done by state regulation?
Q. Yes.
A. Then it would be need to be passed as an emergency rule. And all I meant to say when you say "tomorrow" is that it couldn't be done immediately. But, yes, it could be done.
Q. How many days do you think it would take?
A. To get that done?
Q. Yeah.
A. To -- I think you'd wind up in the next legislative session. It could be done within a matter of months.
Q. Less time than it would take to prosecute this lawsuit?
A. Yes, but it wouldn't reach into Arkansas.

Q. Well, Arkansas does have a -- its own act, doesn't it?
A. Yes.
Q. And do you disagree -- let me go back to this for a minute before we go to Arkansas. Do you disagree with the table 9 that we're looking at; do you think it should say no application above 65 STP?
A. In all cases, in all watersheds?
Q. In nutrient-limited watersheds, just like it says in table 9.
A. I don't know why it is you would allow application in the event that it's not doing the crops any good.
Q. Who have you asked about this, sir? Have you asked the Secretary of Agriculture why he's allowing this?
A. No, I think it's provided for in the statute.
Q. Well, have you petitioned the Oklahoma Legislature to modify this?
A. No.
Q. And the reason you haven't is because they won't, right?
A. I don't know that they would, and I don't know that it's necessary.
Q. The standards here in title -- excuse me, table 9 reflect a policy judgment by the State of Oklahoma, don't they?
A. As does the whole Act and the whole set of regulations, yes.
Q. Couldn't agree with you more. You disagree with a policy

decision that's been made by the State of Oklahoma and reflected in its law, right?
A. As to whether or not it could be -- it shouldn't be limited to -- in this table to agronomic rates?
Q. Yes.
A. Yes, I believe the law reaches otherwise. I believe the law otherwise reaches it.
Q. I didn't ask if the law otherwise reaches it. I asked you if you disagree with the law of Oklahoma as it currently stands today.
A. In table 9 and not in the statutes and the rest of the regulations?
Q. Yes.
A. Yes, I'd like to have that -- that would be something that I would vote to change.
Q. Let me ask you this, sir. You referenced Arkansas. Arkansas does have regulations in place right now, doesn't it?
A. Yes.
Q. And those regulations, unlike the regulations in the state of Oklahoma, also govern the application of commercial fertilizer to farm fields; isn't that correct?
A. Yes.
Q. What happens with these Code 590 standards that we're looking at here is these are not just handed to every farmer and poultry grower in Oklahoma and said, figure it out, right?

They're adopted and written into specific plans, right?
A. They're written in -- absolutely. There are specific plans produced based on those standards.
Q. Those plans are individualized; isn't that right, sir?
A. Yes.
Q. They go field by field, pasture by pasture?
A. As I understand it, yes.
Q. And you have no reason to doubt that the plan writers honestly and faithfully and to the best of their ability incorporate the standards set forth in Code 590, correct?
A. I have no reason to doubt that.
Q. Getting back to the issue of enforcement for a minute. You have no personal knowledge, sir, of any grower under contract with any defendant sitting here at this table, or at least represented by their counsel here at this table, who has violated the terms of the terms of their Animal Waste Management Plan or nutrient management plan governing the use of poultry litter in the IRW, right?
A. I have no personal knowledge, no.
Q. And you have no personal knowledge of any grower under contract with any of these defendants who has violated the laws or regulations of Arkansas or Oklahoma with respect to the handling, storage or application of litter; is that correct?
A. I have no personal knowledge, no.
Q. You can agree with me, sir, that as the law of Oklahoma

stands today, the application of poultry litter in nutrient-limited watersheds is not limited to agronomic rate, correct?
A. It is not expressly limited to agronomic rates.
Q. Talking about this Arkansas regulation for a minute. Can we cull up Defendants' Joint Exhibit 5977.
I don't know if we'll need this, sir, but I'm going to hand you a copy.
MR. HOPSON: If I may approach, Your Honor?
THE COURT: You may, sir.
THE WITNESS: Thank you.
Q. (By Mr. Hopson) This is the familiar document from your first day of office, right, Mr. Tolbert?
A. Yes, it is.
Q. You didn't know your first day in office was going to be so momentous, did you?
A. I'd hoped it was, but I didn't think it would turn out quite like this.
Q. Sir, let me just ask you, see if I can get through this quickly: Oklahoma was talking to the State of Arkansas, through its public officials, about adopting litter regulation in 2003, right?
A. That's right.
Q. You were part of the discussion; is that correct?
A. That's fair, yes.
Q. And in the course of those discussions, negotiations,

communications, the State of Arkansas provided you copies of some draft legislation relating to the subject matter we're discussing in this courtroom today, right?
A. Yes.
Q. And you had an opportunity to review it?
A. Yes.
Q. But as I understand it -- and you correct me if I'm wrong -- you don't specifically recall whether you did review the legislation attached here; is that correct?
A. Let me see what the legislation is.
Q. Sure.
A. I recall reviewing a set of proposed statutes for the State of Arkansas, and I couldn't tell you whether or not it was the version that was circulated on January 24th of 2003.
Q. That's good. I appreciate that clarification. At some point, you looked at some draft legislation?
A. That's correct.
Q. At some point, you were given the opportunity by the State of Arkansas to communicate any comments, thoughts, suggestions and the like regarding that draft legislation?
A. I certainly had that opportunity.
Q. Did you undertake that opportunity? Did you take it?
A. Well, I don't recall specifically what it is that we communicated to Arkansas. We had discussions with them, I believe, after the adopted regulations, but I can't recall

as its assumptions, correct?
A. Yes.
Q. Let me talk to you briefly, since you've talked a little about poultry litter, if we can talk about some other sources. And I'll try to move through this relatively quickly. And let me just begin by asking you this: You did testify at the preliminary injunction hearing, sir, right?
A. Yes, I did.
Q. And I take it, I'm confident, your testimony at that time was truthful and accurate to the best of your ability?
A. To the best of my ability, absolutely.
Q. I'll try to skip over some of that stuff quickly, then, since it's on the PI record. You understand, Mr. Tolbert -- you're a thoughtful guy -- that regardless of what you think is the most significant source or least significant source, there are lots of sources of phosphorus and bacteria in this watershed; isn't that true?
A. Yes.
Q. Some of them would be cattle, people, wildlife, for example?
A. Yes, those are all sources.
Q. Okay. And you know, sir, that throughout your tenure as the Secretary of the Environment, there's been no law or regulation that prohibits cattle, specifically beef cattle, from actually accessing the waters of Illinois River and its

tributaries?

A. I think that's correct, there's no law.

MR. HOPSON: Your Honor, I saw you glance at the clock, so --

THE COURT: We've got plenty of time to spend together. I promised the court reporters who are trying to get the daily copy to you by midnight that I would cease so they can get that daily copy to you. Look forward to tomorrow. We'll be in recess.

(Whereupon the evening recess was had.)

REPORTER'S CERTIFICATE

I CERTIFY THAT THE FOREGOING IS A TRUE AND CORRECT TRANSCRIPT OF THE PROCEEDINGS IN THE ABOVE-ENTITLED MATTER.

S/Terri Beeler
Terri Beeler, RMR,FCRR
United States Court Reporter

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 1, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME V, A.M. SESSION

17

18

APPEARANCES:
19

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336?

MR. JORGENSEN: Your Honor, we submitted a brief early this morning laying out the cases, but if you've already had a chance to examine that, then that would be fine.

THE COURT: I can't say that I did. I've just been handed it, so I'll take it look at that.

Mr. Hopson, you may proceed.

MR. HOPSON: Thank you, Your Honor.

FURTHER CROSS EXAMINATION

BY MR. HOPSON:

Q. Good morning, Mr. Tolbert.

A. Good morning.

Q. When we took our break yesterday, I believe that you had just confirmed for me that there is currently, in Oklahoma, no law or regulation prohibiting beef cattle or any other kind of cattle from access to the waters of the Illinois River; is that correct?

A. Yes.

Q. And you have said, and I'm sure you believe, that that fact, the access that cattle have not only to the river but to riparian areas, presents problems for the river in terms of both phosphorus and bacteria; is that correct?

A. Yes.

Q. And one of the problems that this presents in the Illinois River or anyplace else that cattle have access to the river is

that cattle can and do defecate directly into the river, correct?
A. That is one of the problems.
Q. One of the other problems is that cattle disturb vegetation in the soils in the riparian areas of these rivers, including the Illinois River, correct?
A. That's correct, soils with phosphorus in them.
Q. Exactly. And all soils, sir, do have phosphorus in them; isn't that correct?
A. I can imagine that's true. I couldn't confirm that.
Q. They also cause erosion of the river banks, and erosion as well can be a source of phosphorus in the river; is that true, Mr. Tolbert?
A. It can be a way of transmitting phosphorus to the river.
Q. And it transmits phosphorus because it's releasing the phosphorus that would otherwise be bound up in the soils when those soils go into the moving waters; is that basically what you understand?
A. I think that's basically what I understand.
Q. Let me ask you this: Let me see if we can really expedite this, if I can ask my people to put up this exhibit that was shown in direct examination. I don't have a number for it, but I bet Cara has a number. Demonstrative Exhibit No. 19.
A. I don't believe -- I'm sorry.
Q. Go ahead, Mr. Tolbert.

be substantial overlap, sort of multiple counting.
Q. (By Mr. Hopson) Putting aside the substantial overlap, you would agree that every one of these shown in this demonstrative is either a source or a mechanism for transport of phosphorus to the Illinois River and its tributaries?
A. I would say yes.
Q. Let's talk for a minute about waste water treatment facilities. I understand -- and correct me if I'm wrong -- that there are nine waste water treatment facilities that have discharge permits in the Illinois River Watershed; is that right?
A. I would have told you seven; two in Oklahoma and five in Arkansas. It's possible that there's some that I don't recall.
Q. Well, I'm not going to make this a memory test for you. Let's just agree that there are a number of waste water treatment plants, both in Oklahoma and on the Arkansas side of the border. Is that correct?
A. Fair enough. Yes.
Q. When I say it is has a discharge permit, it has a discharge permit from the EPA or a designated agency under the State regime; is that correct?
A. Yes.
Q. And those discharge permits, as I understand it, permit those waste water treatment plants, those publicly owned treatment works, to discharge water into the Illinois River and

its tributaries 24 hours a day, seven days a week, 52 weeks a year; is that correct?
A. That's basically right.
Q. And among the things that those waste water treatment plants discharge is phosphorus?
A. That's correct.
Q. And you know from your experience as the Secretary of the Environment, this was a issue that you looked at and worked on while you were the Secretary of the Environment; isn't that correct?
A. Yes.
Q. And you have said, I believe, and perhaps some of the documents that have been admitted address it, there have been reductions in the phosphorus discharges of some or all of these waste water treatment plants; isn't that correct?
A. That's correct.
Q. But despite these discharge -- lowering the discharge limitations, Mr. Tolbert, each of these waste water treatment plants continues to discharge phosphorus directly into the river; isn't that right?
A. The river or its tributaries?
Q. That's correct.
A. I believe that's correct.
Q. In fact, they continue to discharge tens of thousands of pounds of phosphorus every year, right up to today; isn't that

is that commercial fertilizer contains the same nutrients, including phosphorus, as animal fertilizers or animal manure; isn't that right?

A. Commercial fertilizers tend to be balanced, unlike poultry waste.

Q. But my question is: They do contain the same nutrients?

A. In different proportions, but yes.

Q. Regardless of their proportions, the application of commercial fertilizer can cause the same challenges for water quality in terms of runoff of nutrients; is that not correct?

A. They can, yes.

Q. Right. There's currently, as I understand it, no law or regulation in the state of Oklahoma controlling runoff of commercial fertilizers into the waters of the state; is that correct?

A. I think that's right, yes.

Q. That means, to the extent that there is any overapplication of fertilizer in any nursery or golf course, that could cause and contribute to the levels of phosphorus in the Illinois River and its tributaries?

A. To the extent that there are golf courses in the watershed, yes.

Q. That's a good question. Are there golf courses in the watershed?

A. I think there is only one golf course on the Oklahoma

Q. Let's put this aside for a moment, Mr. Tolbert. I want to ask you if it's true that there's a process under the Clean Water Act by which one specifically attempts to identify and quantify the contributions of different sources to a challenged watershed like the Illinois River Watershed.
A. An impaired watershed?
Q. Yes, an impaired watershed.
A. Yes. It's called the TMDL process.
Q. Define for His Honor, Judge Frizzell, what the TMDL process is.
A. That's a process under the Clean Water Act where -- where a study is done that looks at impaired streams and identifies the sources of problems, identifies reduction goals to meet impairments. Am I going too long?
Q. No, that's fine.
A. And it's then used as a planning tool.
Q. Let's see if I can restate that in terms for us nonenvironmental experts. I think basically, correct me if I'm wrong, a TMDL is done to identify significant sources of the pollutant of concern in a particular water body such as the Illinois River?
A. I think that's part of why it's done, yes.
Q. It's done, in part, to identify the reasons why the watershed is impaired; is that right?
A. That's right.

Q. Now, I would like to see if we can get -- hang on a second. Let me just ask you if, in fact, the Secretary of the Environment, you, back in 2003, told the Legislature that the State of Oklahoma was going to begin a TMDL process for the Illinois River Watershed?
A. I think that's included in Senate Bill 972 report from that year.
Q. Was that, sir, for phosphorus or bacteria or both?
A. I don't recall.
Q. In fact, as we sit here today, no TMDL has been done for the Illinois River; is that correct?
A. That's my understanding.
Q. Well, since -- from 2003 to the present, how many years were you the Secretary of the Environment?
A. 2003 to 2008, so five years.
Q. And the responsibility for doing the TMDL study rests, I believe, with the Oklahoma DEQ; is that correct?
A. That's correct.
Q. And the Oklahoma DEQ is one of the larger agencies whose activities are coordinated by the Office of the Secretary of the Environment, is it not?
A. That's correct.
Q. So when you reported to the Legislature and the governor back in 2003 that a TMDL study was going to be done, you certainly had an honest expectation that that TMDL study was

as the case might be.

Have you talked to Steve Thompson about why the TMDL has not been done?

A. I may have spoken with him once about it. I don't recall.

Q. Hasn't Mr. Thompson told you that he believes that the current water quality standards that you testified yesterday -- about yesterday are biased towards point sources?

A. Biased towards point sources?

Q. I'll withdraw the question. I'll ask you a different one.

Hasn't Mr. Thompson told you that his agency, the DEQ, is not going to do a TMDL study for the Illinois River until the water quality criterion are changed?

A. I don't recall him ever saying that.

Q. Let's go back to general TMDLs for a minute. You do agree that if a TMDL had been done -- assuming it was a good, thoughtful, thorough, analytical study -- it could shed some light on the issues in this courtroom, could it not?

A. It could certainly shed some light.

Q. You do know, sir, that TMDL studies have been done for other watersheds in the state of Oklahoma, do you not?

A. Yes.

Q. And in particular, TMDL studies have been done for bacteria; is that not correct?

A. Yes.

adopted by the Legislature, right? Because the statute adopts these standards. So I don't believe it's statutory. In other words, the Tenth Circuit nor I can go to the law books and find it. So this needs to be admitted. The objection is sustained. Go ahead.

MS. MOLL: We move it into evidence, Your Honor.

THE COURT: All right. Any objection?

MR. EDMONDSON: No objection, Your Honor.

THE COURT: Very well. And the number again, Mr. Sanders?

MR. SANDERS: It's Defendants' Joint Exhibit 3916.

THE COURT: Defendants' 3916 is admitted.

Q. (By Mr. Sanders) All right. We just looked at the first sentence under the nitrogen application standard. That is an agronomic rate for the use of nitrogen; is that correct?

A. Yes.

Q. And if you look at the next bullet point, which is phosphorus application, there is no agronomic rate standard there; is that correct?

A. In that paragraph, no. All it does is it sets a maximum.

Q. Well, instead of setting a agronomic need, as it does for nitrogen, the phosphorus section refers you to table 9, as you discussed with Mr. Hopson yesterday; is that correct?

A. Yes, and those have the maximum allowed rates.

Q. And so for the phosphorus application, you look to various

criteria and formula to determine the maximum rate; is that correct?
A. Yes.
Q. But for nitrogen, the Code 590 establishes the maximum rate as the agronomic limit; is that correct?
A. That would appear to be the case.
Q. All right. Oklahoma is free to adopt more stringent standards for phosphorous application if it wants to; is that correct?
A. Of course.
Q. And during the last four years that this case has been pending, the State of Oklahoma has not adopted a more stringent regulation for phosphorus application; is that correct?
A. I think the only legislation that's been pending about this is legislation that would seek to have the Animal Waste Management Plan be declared to be definitive as to compliance with the law. And that was rejected.
Q. But the specific question is that during the four years that this case has been pending, Oklahoma has not adopted a more stringent standard than the Code 590 standard for phosphorus application; is that correct?
A. That's correct, subject to all the other limitations in the law, yes.
Q. All right. And Oklahoma, as you know, in this lawsuit is asking His Honor to impose an agronomic limit for phosphorus;

and the agricultural interest in the Legislature, both Republican and Democrat, that -- they adopted this, right?

THE WITNESS: Yes, but it is only one of the things they adopted.

THE COURT: But they specifically adopted it. The plaintiffs here, you, because you're still in the caption of this -- I'm sorry, Mr. Strong is. You were. The plaintiff is asking this Court to specifically overrule this and adopt a agronomic -- not even a agronomic rate; they're saying anything over 120 soil test phosphorus, all right? Agronomic rate is 65, right?

THE WITNESS: Yes.

THE COURT: But the plaintiff is saying ignore 65, Judge. In the opening statement, they're saying impose a limit of 120.

THE WITNESS: I thought --

THE COURT: That would overrule this legislative choice, correct?

THE WITNESS: No. I mean --

THE COURT: How so? Because I don't understand.

THE WITNESS: And it's obviously -- boy, it would be nice if everything were as simple as it could be. But there are -- when the Legislature passed the Act, it identified specific requirements for Best Management Practices, and those are separate from the Animal Waste Management Plan. There's

Q. But it is true, is it not, that the portion of Barren Fork Creek that runs through Adair County, Oklahoma is not subject to enforcement by the Scenic Rivers Commission?
A. Yes. That doesn't mean it's not a scenic river, but it means that the Scenic Rivers Commission doesn't oversee it, just like it doesn't oversee Upper Mountain Fork, doesn't oversee the Lee and Little Lee Creeks.
Q. That Adair County portion of the Barren Fork Creek was pulled out of enforcement as a result of legislative action in Oklahoma; is that true?
A. That's my understanding.
Q. And that was action that was fomented by and sponsored by then State Representative Larry Adair of Adair County, who at one time was Speaker of the House?
A. I couldn't help you there.
Q. Just one other area I'd like to talk to you about. Let's assume that you end up getting what you -- what I think that the State wants in this case regarding a potential moratorium on the spreading of chicken litter. It is true that the State of Oklahoma does not regulate the application of commercial fertilizer; is that not true?
A. I think that's correct.
Q. If, in fact, there was no chicken litter available for all of the 40-acre farmers with 30 head of cattle in Adair and Delaware Counties, Oklahoma and Cherokee County, Oklahoma,

don't you suppose that they would not let their pastures die and that they would come back in with commercial fertilizer?

A. I'm sure that -- I mean, if what is being sought is not a moratorium, but the application in agronomic rates -- at an agronomic rate, then what I would assume would happen would be that they would put down what their crop needs, what it takes to keep the pastures from dying.

Q. Let's get this clear, then. Is it true, then, based on the testimony you just gave, that the State of Oklahoma has forgone its initial request in this case that there be a moratorium on the spreading of chicken litter in Illinois River Basin?

A. What I understand to be the relief that the State is seeking as the final order of the Court is that poultry litter only be applied at agronomic rates.

Q. Thank you.

THE COURT: Any other questions from any defendant? Mr. Bullock?

MR. BULLOCK: I think I'll let the General do it rather than tag team him.

THE COURT: All right.

REDIRECT EXAMINATION

BY MR. EDMONDSON:

Q. Mr. Tolbert, dealing with those last questions first. Do you know, from your studies and your experience, whether in

appendices, and that's objected to. 5661 includes the appendices, and that's where the objection was missed.

Let me just say if, on the narrower one, you say it's hearsay, then it doesn't become not hearsay by adding the appendices.

MR. BULLOCK: So, I could go into arguing that, but it appears to me that -- well, there are duplicates in both lists, Judge. I have here a list of 200 of the defense exhibits where we specifically said they were duplicates of others. I know there are others.

I recall doing Dr. Harwood's exhibits, and there were multiple -- defendants had put in multiple duplicates of it. I worked hard to try to be sure that the same objection I made to one was made on the iteration of it.

Now, I don't know that I did that. But it appears to me that the rule needs to be, if we're to get through this, that the exhibit number that you offer is either objected to on the pretrial order or it isn't.

THE COURT: No, I'm sorry, I said the rule yesterday. It's your job to make sure that there are no duplicates. If an objection has been interposed as to that exhibit, I'm going to credit either one of you, goose or gander, with that objection.

The objection imposed as to 5107 applies -- applies to 5661. The objection is sustained. 5661 is no longer

Watershed, are you?
A. No, I'm not suggesting that.
Q. You know as you sit on that stand, grass, whether it's bermuda grass or fescue or what have you, contains a certain amount of phosphorus to grow, isn't that right?
A. Yes.
Q. And that's, in fact, the basis, the whole idea of agronomic rate, right, Mr. Tolbert?
A. That's correct.
Q. So there is going to be a certain amount of phosphorus in cattle manure, regardless of whether those cattle graze on a field that's been fertilized with poultry litter, fertilized with commercial litter or fertilized with nothing; isn't that correct?
A. I don't think I could say that there would be the same amount. I think in a phosphorus-rich environment, you may very well have greater levels of phosphorus in the grass.
Q. You believe that grass grown in a phosphorus-rich environment will have more phosphorus in it; is that right?
A. As I said, I don't know. I believe that may be the case.
Q. You don't know?
A. I don't know.
Q. Okay. One last thing. You made a reference, I believe, but, you know, my notes are far from perfect -- you made a reference to the fact that the reasons the modeling wasn't done

A. I do recall that discussion.
Q. Would you agree that the regulations and statutes that were imposed in Arkansas upon litter users and farmers represent the policy choice or an expression of the policy choice of the Legislature in the state of Arkansas?
A. I think that would be fair to say.
Q. Are you testifying that the regulations in Arkansas are inadequate?
A. Yes, I would testify to that.
Q. Even though you are not an expert with regard to those regulations?
A. Yes.
Q. Do you make any representation to the Court that you are sufficiently knowledgeable that you can tell us in what way those regulations are inadequate?
A. I can shed light on that.
Q. Is that because they don't limit the application of poultry litter to agronomic need?
A. They don't have any upper limit to the application to poultry litter at all.
Q. Do those regulations apply to commercial fertilizer?
A. They do.
Q. Do they tend to limit the application of fertilizer -- commercial fertilizer to certain fields under certain circumstances?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME VI - PM

TRANSCRIPT OF TRIAL PROCEEDINGS

OCTOBER 1, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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GERALD HILSHER

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EDWARD FITE, III

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Direct Examination by Mr. Garren 639

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meetings?

A. I wouldn't say many of our meetings.

Q. Some?

A. But some, yes.

Q. Mr. Archie Schaffer from Tyson's has attended some of your meetings?

A. I remember he's attended one.

Q. That was when they gave you that great big blown-up check; right?

A. Maybe twice.

Q. All right. If the Scenic Rivers Commission chose to do it, given the power and the regulatory power you have over concessionaires, people who rent rafts and canoes, you could shut them down, could you not?

A. No. I don't think we could shut them down on a whim. I think we would have to shut them down for --

Q. Good cause?

A. -- some good cause.

Q. And you've never done that?

A. Not during my experience, we have not.

Q. And you've been on the commission for over ten years?

A. Yes, sir.

Q. During that period of time, you've never said to the concessionaires, guys, I'm sorry, but we got to shut you down this weekend because people might get sick? Have you done that?

A. No.

Q. All right. And as a matter of fact, I think I saw your deposition that you issue about -- you have outstanding about 3900 permits?

A. 3900 permits was a limit stated in our regulations.

Q. All right. And is that the number that are outstanding?

A. I think we were back down to 3900, but there was a time when the commission voted to go in excess of 3900.

Q. And just for record purposes -- I think we all understand what that means -- but that means the concessionaires up and down Highway 10 would not be able to have more than 3900 rafts or canoes on the river at any point in time?

A. Yes.

Q. You hesitated.

A. Well -- well, the permit goes to a flotation device. So they could have 3900 licensed flotation devices in their inventory. But what typically

waste to have been applied on that property?

A. Yes.

Q. And what was the purpose of that?

A. Rainfall simulator demonstration by Oklahoma State University and then some work by the University of Arkansas.

Q. All right. Do you know what the source of the feed is that is provided to the cattle that are run on your property?

A. Yes.

Q. And generally what is that?

A. Either cattle cubes or hay.

Q. All right. And is hay brought into your property at any time for feeding those cattle?

A. Yes.

Q. And do you know the source of that hay at any time?

A. Excuse me?

Q. Do you know the source of that hay?

A. Yes.

Q. And can you tell the court what you know the source to be?

A. Be from areas where poultry waste has been land-applied.

Q. How do you know that?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME VII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 5, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

7 **EDWARD FITE, III**

8 Continued Direct Examination by Mr. Garren 764
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$500,000?

A. Be over half a million dollars.

Q. And the State of Oklahoma provides how much of that?

A. 321,000.

Q. And --

A. Through appropriations.

Q. Tell His Honor, as far as the staff is concerned, everybody on the staff answers to Ed Fite; correct?

A. Yes, sir.

Q. And the staff would consist of how many people and what are their jobs?

A. Until a week ago, we had three full-time rangers year-round, administrative manager, the operations manager, two individuals within the maintenance department full-time, an education outreach coordinator, and additional office staff.

In the summer months, we have on the order of approximately 20 seasonal employees that work up to 999 hours per year, and those range from seasonal rangers, maintenance staff, individuals that float the river and pick up trash on a daily basis, so forth.

Q. And tourism is about 100,000 a year floating the river, forgetting Lake Tenkiller?

A. No, sir. There's probably on the order of half a million people that come to the Illinois River.

Q. About 250,000 for one reason or another?

A. That float the river?

Q. Yes, sir.

A. We -- we went to a flat fee this last summer, and it appeared from a windshield observation that our use was up. But generally I've always said that somewhere between one hundred and fifty and one hundred and eighty thousand people will float the river.

Q. And that number has remained relatively stable over the years; is that true, Ed?

A. Yes.

Q. Now, there was some discussion with Mr. Hilsher about Barren Fork Creek and whether you have jurisdiction over Barren Fork Creek.

Barren Fork Creek all the way through Adair County, which would be the bulk of its flow in Oklahoma, is no longer subject to your administration; is that true?

A. Let me clarify for you, if I may, kind of the history of Barren Fork.

The Barren Fork Creek from its confluence

operations up in those areas in the IRW, are there not, sir?

A. There will be stakeholders that will have cattle, yes.

Q. And the exotic question of, where does this stream begin, if it starts simply as a ditch through somebody's property and then becomes a fifth-order stream and then a fourth, that's still going to be -- there's still cattle in those areas, aren't there?

A. There are stakeholders that have cattle, yes.

Q. All right. What is your testimony about the urban growth in northwest Arkansas over the last 15, 20 years?

Are you aware, Ed, that at one point in time a few years ago this was the sixth-fastest growing metropolitan statistical area of the United States?

A. Yes. I was going to answer your question that when I went to work for the commission in the early 1980s, there were approximately 200,000 people in the 1.1 million-acre Illinois River basin. Today there's approaching 600,000.

Q. Okay. And the major -- well, the judge already knows that.

Let's try to tell the nursery story in one

1 watersheds. Yet, if only poultry litter is
2 restricted, farmers/ranchers will simply substitute
3 one course of phosphorus for another and thus the
4 problem will continue."
5 Want the other two paragraphs?
6 Q. Yes, if you would, please.
7 A. "This issue has certainly caused many hours
8 of debate in Arkansas between state officials and
9 farmers/ranchers. However, those officials understood
10 the necessity for the new rules and persevered in
11 their final development.
12 "Our recent action has already fueled a great
13 amount of local controversy among Oklahoma
14 farmers/ranchers. However, the proposed rule would
15 actually benefit our farmers/ranchers by creating a
16 'safe harbor' or 'firewall' from lawsuits and provide
17 guidance pertaining to the use of all nutrients in
18 these sensitive watersheds."
19 Q. Now, Ed, what became of that request?
20 Anything ever done?
21 A. That's a question that
22 representative -- excuse me -- that Terry Peach would
23 need to answer.
24 Q. Okay. But commercial fertilizer is still
25 unregulated in the state of Oklahoma, is it not?

A. Yes.

Q. And you know that Arkansas regulates it, doesn't it? In nutrient-sensitive areas, the Arkansas regulations regulate the use of commercial fertilizer; correct?

A. Yes.

Q. All right, sir. Those are my questions. Thanks a lot.

THE WITNESS: Thank you.

THE COURT: Further cross-examination? Mr. Green.

MR. GREEN: Good morning, Your Honor.

THE COURT: Good morning, sir.

CROSS-EXAMINATION

BY MR. GREEN:

Q. Good morning, Mr. Fite. My name is Tom Green. I'm one of the attorneys representing Tyson Foods.

MR. GARREN: Your Honor.

THE COURT: Yes, sir.

MR. GARREN: During my examination, we had a different Tyson attorney making objections to my direct the whole time and now we have a tag-team event on the cross-examination. Isn't that improper? Shouldn't the same attorney that's going to be making

Q. *(BY MR. GREEN)* Now, sir, if I understood your testimony correctly last Thursday, you told the court and the rest of us that you've never used poultry waste on the land that you own on your farm; is that right?

A. That's correct, yes.

Q. And I think that you said that the one time -- and I missed whether it was one time or more than one time -- but the time or times that you applied any commercial fertilizer to your fields, that commercial fertilizer contained only nitrogen and not phosphorus; is that right?

A. That's incorrect.

Q. Okay. Can you help me to understand what it is you did say about commercial fertilizer?

A. In the 1980s -- excuse me -- early 1990s, based on a soil profile of my property and a farm plan, I found that I needed 190 pounds of nitrogen to the acre, 24 pounds of phosphorus, and about 48 pounds of potassium. If you do a run-out on that, it should equal somewhere on the order of 39-4-11 would be your mixture.

And when I looked at the prospect of using poultry waste, I found that that was not an option because I needed 190 pounds of nitrogen to the acre,

and that would equate to approximately 3 tons of poultry waste to the acre, which would mean I would overapply approximately 160 pounds of phosphorus and about 100 pounds of Potassium.

So I went to the local co-op. They tried to sell me 46-0-0. They tried to sell me 11-11-11, 17-17-17, 13-13-13, and I finally went to the back and showed them how to mix 39-4-11.

Q. All right, sir. And that's the only time that you've --

A. No, sir. I have half-rated 46-0-0 in the mid 1990s to fields that were not sampled.

Q. So since the mid 1990s, have you applied any phosphorus to your fields?

A. None.

Q. Now, do I understand correctly that the field that the sampling team was interested in was a field where you allow someone you've leased that field to graze 20 rodeo bulls?

A. Correct. Yes.

Q. And I don't know that we've heard this yet in this case, but let me represent to you that we're going to hear in this case frequently that cattle on average drop about 60 pounds of waste to the ground every single day.

THE COURT: I don't think Mr. Fite is intimidated by much.

THE WITNESS: I just thought he wanted to look at my good looks.

MR. GREEN: Stipulate.

THE WITNESS: Stimulated? Oh, no, we've got to get out of here.

Q. (By Mr. Garren) Mr. Fite, do you know whether or not, based upon your personal observations, travel and experience in the watershed, poultry waste is tilled into the soil when it's applied?

A. It is not.

Q. You were questioned about 400,000 recreators being within the Illinois River Watershed. Those are not all floaters; is that correct?

A. That's correct.

Q. So can you kind of categorize some of the recreators or list them for the judge that you're trying to include in that number.

A. Approximately 150- to 180,000 are going to be potential floaters that will utilize the river by inner tube, kayak, canoe, or raft. The remaining numbers would be swimmers, fisherman, campers, day users, hunters, equestrian tours, mountain bike rides, motorcycle poker runs. Did I say hunting? Hunting. And foliage tours in the fall. Spring

foliage tours. Church baptisms. Church retreats. Groups like Alcohol Anonymous, Narcotics Anonymous, groups like that coming to some of the places along the river. We have New Life Ranch. Heart of the Hills Salvation Army camp. Camp Egan. Camp Lutherhoma. A number of church outcamps that bring children to the Basin annually for spiritual enhancement and recreation.

You have many, many universities that come to the Illinois River to study everything from geography to water quality to other issues from Northeastern State University, Tulsa University, Oklahoma State University, OU. Have Cameron, Murray State, University of Arkansas, Arkansas State. The list goes on and on. But there is approximately 4- to 500,000 people that use the river for one purpose or another.

Q. They're not all taking restroom breaks inside the river, are they?

A. No.

MR. GARREN: No other questions, Your Honor.

MR. ELROD: Your Honor, for humanitarian reasons, I have no further questions.

THE COURT: Any other recross?

MR. GREEN: I've got a couple.

THE COURT: Mr. Green.

MR. GREEN: Very quickly.

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 5, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME VIII, P.M. SESSION

17

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APPEARANCES:

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Oklahoma City, OK 73105

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banned or limited in any way the amount of commercial fertilizer that can be used in the watershed?

A. No.

Q. And I believe that we already confirmed, but let me pin it down. To the best of your knowledge, sir, the State of Oklahoma has not banned the application of poultry litter in the Illinois River Watershed; is that not correct?

A. That is correct.

Q. Has the State of Oklahoma, to the best of your knowledge, in the last ten years, done anything to adopt standards more restrictive than the NRCS standards for the application of litter in the IRW?

MR. GARREN: Foundation again, Your Honor.

MR. GREEN: Pardon?

MR. GARREN: Foundation.

THE COURT: Overruled.

THE WITNESS: The Oklahoma Scenic Rivers Commission has. The agencies with jurisdiction have not.

Q. (By Mr. Green) Now, are you in a position to confirm that you understand that the State would have authority to adopt more restrictive standards than those set forth in the NRCS if it wanted to?

A. Yes.

Q. Let me ask you this, sir. Is it true that for the last ten years and continuing up until this very day, in nutrient-

need to be referred to Dan Parrish at the Department of Agriculture, Food and Forestry.

Q. (By Mr. Green) Mr. Fite, sitting here today, do you know whether or not the State has ever revoked an Animal Waste Management Plan?

A. No, I do not know.

Q. Do you know whether the State has ever sought to limit the number of waste management plans that can be issued?

MR. GARREN: Your Honor, this is outside the scope of the Scenic Rivers Commission's authority and responsibilities.

THE COURT: Sustained.

MR. GREEN: I am just trying to explore this "humanly possible" concept, Your Honor.

MR. GARREN: He's not talking about a human. None of his questions have asked about a human. He's asked about the State.

THE COURT: Let me see if I can cut to the heart of it. Do you know any of the answers with respect to these Animal Waste Management Plans? Is that within your authority?

THE WITNESS: No, sir.

THE COURT: Go ahead.

Q. (By Mr. Green) Let me try this question, sir. To the best of your knowledge, has the State compelled point-source discharges to reduce their phosphorus discharge levels to meet the 0.37 milligrams-per-liter goal?

A. Presently, no.
Q. In your view, would it have been humanly possible for the State of Oklahoma to do all these things which you have acknowledged in answer to these last few questions that it has not done?
MR. GARREN: Objection again, Your Honor. This obviously calls for agencies, State agencies, governing bodies, not humans necessarily to do what he's asking to be done.
THE COURT: Overruled.
THE WITNESS: All wastewater treatment plants in the Illinois River basin must meet a 1 milligram per liter phosphorus standard. The 0.037 milligram per liter phosphorus criteria that you mentioned becomes fully effective on June 30, 2012.
Q. (By Mr. Green) Maybe you misunderstood my question. I took you through a series of questions where you acknowledged that the State has not undertaken certain activity or certain action. Do you recall these questions that I just asked you --
A. Yes.
Q. -- in the last few minutes?
And my question to you now is: Would it have been humanly possible for the State to have taken that action which you have acknowledged it has not?
MR. GARREN: Same objection, Your Honor.
THE COURT: Overruled.

Q. And you had some concerns about the ability of those facilities to handle all the human wasteload from the recreators, didn't you?
A. Yes.
Q. And, in fact, the individuals weren't even taking advantage of those particular restroom facilities, were they?
A. They were pretty poor facilities.
Q. So is it fair to say that one of your missions when you came into office was to upgrade the restroom facilities along the river?
A. Yes.
Q. In fact, without those facilities, many recreators relieved themselves within the waters and also on the stream banks of the river, correct?
A. Yes.
MR. GARREN: Objection, form. No foundation.
THE COURT: Overruled.
Q. (By Ms. Longwell) Is it fair to say that approximately 400,000 or more people actually recreate in the Illinois River area annually?
A. Yes.
Q. And with regards to the people who actually recreate on the river, those individuals spend a significant portion of their day on the river, correct?
A. Those individuals that are floating.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
OCTOBER 6, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME IX, A.M. SESSION

APPEARANCES:

For the Plaintiffs:

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studies by the Corps of Engineers and the Water Resources Board that found the same conditions.

Q. In the next paragraph down beginning "land use analysis," would you explain to the Court what the dramatic changes in land use were that caused concern in this report.

A. There were significant increases in the number of animals that were produced in the basin both in confined animal feeding operations as referred to here, primarily poultry operations. And there was evidence that forest land continues to be cleared for pasture and hay production.

Q. We've had some discussion about the words CAFO in this case. Let me make sure we understand the sense in which you were using it here. Were you talking about confine animal operations generally, or what is legally a CAFO point source.

A. I'm sorry, I was talking about confined animal operations generally.

Q. You mentioned that land uses -- land use changes resulted in a net increase in the amount of nutrients entering the watershed primarily through animal feed. What animal feed was entering the watershed at this time?

A. There would have been feed brought in for the production of poultry and some additional feed for swine,

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 6, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

A. Yes.

Q. Okay. And do you relate any current and historical watershed pollution to any particular defendant in this case? Is that -- is that embraced within the opinions that you expect to give?

A. No, not to any particular defendant.

Q. Okay. Now, when did you come to understand that you would be asked to appear here as an expert and provide the court and the parties with expert testimony?

A. I can't give you an exact date. We have known since we were asked to provide -- since the commission was asked to provide information to both parties that there was the possibility that some of us might be asked to appear before, but I can't tell you exactly when I knew for sure that I would be asked to appear in court.

Q. Was it -- can we at least limit it to this year? I mean, can you confirm for me that it was this year in contrast to last year?

A. I -- I just don't -- I'm sorry. I just don't remember that.

Q. Okay. And who was it that communicated with you about your appearing as an expert in this courtroom in this trial?

water quality in lakes, evaluate what problems exist throughout, both with the chemical and physical properties of the water. Also in the biological communities, evaluate what impacts those problems would have on the use of that water for whatever its designated uses are, and then to recommend solutions to address those water quality problems.

Q. And do those solutions relate back to the best management practices?

A. In some cases, yes.

Q. Will you be offering any opinions that the waters at present in the Illinois River Watershed suffer from excess nutrients?

A. Yes.

Q. Will you seek to quantify that?

A. No. I don't believe we'll -- we have talked about discussing any numerical --

Q. Will you seek to relate any excess nutrients to any of the defendants in this case?

A. To any defendant in particular do you mean?

Q. Any defendant in particular in this case.

A. No, sir.

Q. Let me show you, if I may, Defendants' Joint Exhibit 640, which is the Comprehensive Basin Management Plan for the Illinois River Basin in

already in?

THE COURT: Right. He's objecting to the reference to some undisclosed other literature.

MR. NANCE: Okay.

Q. *(BY MR. NANCE)* Let's just narrow it to your personal observations and research in the watershed in the early 1990s and ask you if in recent years at that time, it became apparent that the ground and surface waters resources of the Illinois River Basin had been subject to degradation?

A. Yes.

Q. And did the water quality data that existed at that time indicate that phosphorus, nitrogen, bacteria, and turbidity commonly exceeded stream guidelines and standards to maintain their designated uses?

A. Yes.

Q. Was it clear in the early 1990s, as it says later in this first paragraph, that the sources of pollution are numerous, but nonpoint source from animal operations has the greatest potential for contamination?

A. Yes.

Q. Would you just briefly, Ms. Phillips, describe the water quality degradation that the

watershed was suffering in the early 1990s?

A. In the early 1990s, there were increasing concentrations of -- of phosphorus and nitrogen in the watershed compared to earlier studies that were being manifested in complaints from citizens in the watershed and then observed in water quality data in the form of decreased water clarity, there was increasing evidence of hypolimnetic anoxia in the lake, and there were certain times when there were elevated turbidities in the river, all of which exceeded the guidelines for water quality at that point in time.

Q. Okay. Was part of the degradation in water quality in the watershed at that time what we would call "eutrophication"?

A. Yes.

MR. NANCE: Let's look at the next paragraph, if we could, please. For the benefit of court and counsel, this is the next paragraph down on page 31, left-hand column.

Q. *(BY MR. NANCE)* Take a look, please, at that paragraph and let me ask you if it accurately simply describes the condition of eutrophication?

A. Yes.

Q. How does eutrophication affect the amount of

with a 30 to 40 percent reduction in phosphorus, you would achieve a status quo; in other words, the lake wouldn't continue to degrade as it had as evidenced from the historical studies that were evaluated for this project.

Q. So would the 30 to 40 percent reduction have kept the lake the way it was in 1996?

A. Approximately.

Q. Approximately. What was the basis for the 70 to 80 percent current total phosphorus loading reduction?

A. The 70 to 80 percent current total phosphorus loading would be the loading reduction that would be required to shift the lake's status from a primarily eutrophic system to a mesotrophic system.

Q. Is the eutrophication that was found by this study in Lake Tenkiller a strictly natural thing?

A. Eutrophication is a natural phenomenon. As lakes age, they accumulate nutrients and sediment from their watersheds, but the rate of eutrophication that was documented in Tenkiller between the time that it was impounded and the study was determined to be excessive.

Q. Okay. Just in general terms, do the state's water quality standards establish what the state

1 considers to be natural eutrophication -- a natural
2 level of eutrophication?
3 A. Yes.
4 Q. Okay. And is it fair to say that what was
5 found in 1996 was worse than the --
6 MR. GREEN: Objection; leading.
7 MR. ELROD: Object.
8 THE COURT: Sustained.
9 Q. *(BY MR. NANCE)* What was the concern about
10 the ability to reach the 70 to 80 percent reduction?
11 A. There was concern that in order to reach the
12 70 to 80 percent reduction, there would have to be
13 dramatic shifts in land use in the watershed, perhaps
14 removal of a significant portion of the agricultural
15 community, and a shift back to the natural forested
16 conditions of the watershed.
17 THE COURT: Mr. Nance, if you'll indulge
18 me, I need to make a seventh-grade football game.
19 We'll resume at 9:30 tomorrow morning.
20 MR. NANCE: Yes, Your Honor.
21 *(The proceedings were recessed)*
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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.

Plaintiffs,

vs.

TYSON FOODS, INC., et al.,

Defendants.

CASE NO. 05-CV-329-GKF-PJC

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
OCTOBER 10, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XI, A.M. SESSION

APPEARANCES:

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XII - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 7, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

beef cattle primarily during the winter months.

One of the things that we found is that without these areas they tend to find sheltered places which many times were close to the stream. This is a structure that allows for feeding in a contained area where the waste can then be -- up to three months' worth of waste can be stored until such a time as it could be appropriately applied.

Q. Okay. And what do you mean when you say "heavy-use areas"?

A. A heavy-use area is an area where livestock tend to congregate and it has been graded and stabilized in such a manner that it reduces the runoff of nutrients, sediments, and bacteria.

Q. Is the cubic yard unit there because there's earth-moving involved?

A. No. The cubic yard there is talking about gravel that's -- that's provided. There is earth-moving that's involved, it's often necessary with these to create a level surface, but this is talking about the gravel.

Q. All right. Thank you. Demonstrative No. 154 is pasture management. Would you tell the court what you mean when you talk about pasture management?

A. These are practices to improve the quality of

pasture that's being used for grazing land in such a manner that it reduces the potential for runoff from that pasture.

Q. Okay. And how does cross-fencing do that?

A. Cross-fencing breaks a larger unit of pasture into smaller units. One of the things that typically happens is without -- without a cross-fencing situation cattle may congregate in certain areas of the pasture because they like the type of grass there or there's shade or it's closer to the stream. Cross-fencing encourages them to more fully utilize the available pasture and thereby reduces the likelihood that any one area of the pasture is going to be overgrazed and potentially contribute to runoff.

Q. And pasture planting, what's that?

A. Pasture planting is the practice by which we repair those areas that have been historically overgrazed and thereby reducing the potential for runoff from those areas.

Q. Okay. Septic system upgrade, Demonstrative No. 155, may be pretty self-explanatory, but just tell us briefly what it is.

A. This is the practice by which we replace inadequately operating or designed septic systems in

the watershed. These are not new septic systems, but this is replacement of older systems.

Q. All right. Ms. Phillips, does the Oklahoma Conservation Commission, and you individually, have experience in evaluating the effectiveness of these sorts of best management practices?

A. Yes.

Q. Where have you done that, please?

A. That's been done in a number of watersheds, but where we have specific results are in the Battle Branch watershed, the Peach Eater Creek watershed, and the Beatty Creek watershed, which we've talked about previously.

Q. Okay. Briefly tell us about the design of the study in Peach Eater and Beatty.

A. The design of the study is a paired watershed design, which is a design that was developed by EPA for the purposes of evaluating the effectiveness of these types of practices. It consists of a control watershed and a treatment watershed. Obviously, the control watershed is the watershed that's kind of your background, and the treatment watershed is the watershed where you implement best management practices.

Prior to the time that you implement

was signing on for this ordeal when he took the job.

At the outset, if I may, I'd like to just ask about some of the documents that you have introduced or have been introduced through you. There were a whole lot of them and they were pretty substantial and pretty thick. And the judge has not obviously had a chance to do more than just look at them very superficially, but you're pretty very familiar with all the documents that have been admitted, aren't you?

A. Yes.

Q. And do any of the reports that you have admitted or any of the documents that have been admitted that you have sponsored identify any specific poultry-grower's farm or litter-application site as a source of pollution or contamination of Lake Tenkiller or its tributaries?

A. No.

Q. Do any of these reports that have been admitted make any findings or set forth any conclusions regarding any of the specific defendants named in this lawsuit?

A. No. Not to my knowledge.

Q. Are any of the findings and conclusions that are set forth in this lawsuit -- or in any of these reports that have been admitted limited to poultry

litter applied by growers that grow birds for these defendants as opposed to litter that may have been applied by or for cattle ranchers or hay farmers that do not have any contract with these defendants?

A. No.

Q. Now, yesterday you talked to me about your promotions at the commission and you have been -- you've risen rather quickly through the ranks to become head of your section, haven't you? Probably --

A. It doesn't feel very quickly.

Q. In -- no offense, Judge -- in courtroom time, based on the length that this trial takes, it's pretty quick, though, for an administrative agency to achieve what you have achieved in that period of time, isn't it?

A. I suppose so.

Q. I mean, you started out as a plan writer, which is kind of the entry-level position, and now you're the director of that section; right?

A. Actually, I believe a water quality monitoring specialist would be an entry-level position.

Q. So you were one above entry-level when you started?

A. Yes, sir.

Q. *(BY MR. TUCKER)* Has the basin plan, the last draft you've seen, was it an essentially completed draft?

A. The -- I believe that I'm confused now about what you were talking about. I thought that you were talking about the draft TMDL.

Q. Yes.

A. But you just mentioned the draft basin management plan.

Q. I'm sorry. I meant to say "TMDL."

A. Okay. How long has the draft TMDL been completed?

Q. Yes.

A. The last draft TMDL that I saw was sometime last year.

Q. Who decides when the TMDL is ready to be accepted as a final?

A. Ultimately, the Environmental Protection Agency.

Q. Who in Oklahoma decides?

A. It begins with the Department of Environmental Quality.

Q. Do you know what status the approval is of the TMDL in Oklahoma?

A. No, I don't.

Q. Do you know why it has been delayed for so long?

A. No, I don't.

Q. The basin study was in 1999, which was ten years ago. Was the TMDL actually underway at that time?

A. Yes, it was.

Q. So ten years later we don't have a TMDL for the Illinois River Basin?

A. Yes.

Q. In that period of time, have TMDLs been started and completed for other river basins in Oklahoma?

A. Yes.

Q. Do you know whether the TMDL's issuance or approval has been delayed because of the issues in this lawsuit?

A. I can't say why it's been delayed. I don't know the answer to that.

Q. Do you have a copy of Exhibit 640 in front of you?

A. Yes, I do.

Q. I just want to ask you about a couple of things that were not brought out that I'd like to call to the court's attention that are in some of the areas

Q. Then your Exhibit 640 says, "This is important because beef cattle management is such that cattle often have direct access to streams."

Have you seen that personally in your contact with the river?

A. Yes, I have.

Q. Is that uncommon to see cows in the stream -- or stream of the Illinois or its tributaries?

A. It's not uncommon.

Q. Then 640 goes on to say, "Thus, cattle may acted as a point source and deposit the nutrients directly into the stream, while poultry waste accesses the stream mainly through overland flow."

We think in terms of point sources as being outfalls or discharges from sewer treatment plants. So would you explain just so we'll know what you meant when you say that cattle act as a point source?

A. That was probably a colloquial and improper use of the word "point source." But what I meant was --

THE COURT: But a point source nonetheless?

A. Yes. But that they could be an easy identified source of nutrients.

Q. *(BY MR. TUCKER)* Well, I would say you made

Q. Then your Exhibit 640 says, "This is important because beef cattle management is such that cattle often have direct access to streams."

Have you seen that personally in your contact with the river?

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Q. Then 640 goes on to say, "Thus, cattle may acted as a point source and deposit the nutrients directly into the stream, while poultry waste accesses the stream mainly through overland flow."

We think in terms of point sources as being outfalls or discharges from sewer treatment plants. So would you explain just so we'll know what you meant when you say that cattle act as a point source?

A. That was probably a colloquial and improper use of the word "point source." But what I meant was --

THE COURT: But a point source nonetheless?

A. Yes. But that they could be an easy identified source of nutrients.

Q. *(BY MR. TUCKER)* Well, I would say you made

your point.

If we can turn to -- well, actually down at the bottom of that, that last paragraph, you say in 1999 that "the installation of best management practices to reduce the transport of waste to the waterways is probably the best short-term approach." Is that right?

A. I'm sorry. You lost me on --

Q. The next to the last --

A. Oh, yes. I see.

Q. And best management practices, while that may mean different things to different people, it means about the same thing to everybody, doesn't it?

A. Yes, it does.

Q. Okay. Roman numeral vii in your report -- did I get my I's mixed up here? V with three I's --

A. Yes.

Q. It's no wonder that numbering system didn't survive.

The paragraph below "on-site waste disposal."

A. Yes.

Q. "The majority of human population in the watershed relies on septic systems to dispose of residential wastes. 1990 census estimates suggest that over 27,000 septic systems are in place in the

three main Oklahoma counties in the watershed. Previous work in small subwatersheds in the basin, Battle Branch" -- now, that's one of the areas you've talked about, isn't it?

A. Yes, it is.

Q. -- "suggested only about 25 percent of the on-site waste disposal systems meet state requirements."

Now, as we look on over to the next page, ix, at the top of the page, you say, carrying over, "Extrapolation to the whole watershed suggests the potential for 75% of rural households to have substandard systems."

A. Yes.

Q. Now, that's a real potential for -- I guess that's a nonpoint source source?

A. Yes.

Q. Unless there's an overflow, which I guess it would become a point source?

A. It would still be categorized as a nonpoint source.

Q. And obviously the more people that move into the basin, the more possibility that is to be an issue; right?

A. If those people have -- have septic systems

that are not installed according to state guidelines.

Q. Then at Roman numeral xiv, you talk about the effectiveness of nonpoint source control programs, and you point out that control has been completed on only one watershed, and that's your 319 demonstration project on the Battle Branch; right?

A. Yes.

Q. And there, you spent a hundred-thousand dollars?

A. Approximately, yes.

Q. And that dealt with a 5,970-acre watershed?

A. Yes.

Q. And that project demonstrated that BMPs could reduce nonpoint-source pollution?

A. Yes.

Q. And it demonstrated that landowners would participate, 84 percent of the folks participated; is that right?

A. Yes.

Q. Now, that was a totally voluntary program; right?

A. Yes, it was.

Q. Now, you understand that with regard to the application of poultry litter and its use in Oklahoma, whether it is on a cattle pasture, a hay farm, a sod

A. Yes.

Q. Or today.

The next paragraph, the first sentence, which I'd like it call to the court's attention, "Recent studies suggest a lesser known but perhaps even greater problem in the river and its tributaries is bank erosion." Is that correct?

A. Yes.

Q. And we've talked about bank erosion as simply -- among the other things, that's part of the aging process of a stream, isn't it?

A. It can be.

Q. And when forests are cleared and turned into farmland or turned into development or turned into whatever, then that accelerates the opportunity for bank erosion?

A. Yes, it does.

Q. And all soil contains some phosphorus?

A. Yes.

Q. And, In fact, we actually mine phosphorus, not in Oklahoma, but phosphorus is mined?

A. Yes.

Q. The amount of soil that enters a river definitely has an effect on the amount of phosphorus that can get in the river?

You've talked about all these various things that could cause phosphorus to be in soil?

A. Yes.

Q. And we can think of a field that might be four miles away from a perennial stream that may be just as flat as the floor of this courtroom that has phosphorus on it from the application of cow poop or commercial fertilizer or might even be natural fertilizer -- or natural phosphorus, might be from poultry litter.

What you're saying here is that the greatest problem in the river really, though, and its tributaries is when the stream bank erodes and the soil right there at the stream gets into the water?

A. I'm saying that there -- at this time there had been some recent studies that suggested that that was a significant contributor to phosphorus loading more so than had been previously calculated or estimated.

Q. And even a greater problem I believe is the way you described it, isn't it?

A. Yes.

Q. And have there been later studies that discredited those earlier studies, or is that still pretty much the thought, that stream bank erosion is a

pretty big deal?

A. There have -- it is still believed that stream bank erosion is a significant problem in the watershed and a significant potential contributor to nutrient loading. But there have not been follow-up studies that calculated the relative contribution of stream bank erosion on a watershed-wide basis.

Q. I understand that. We're just talking about your general conclusions in your report right now, the general facts that you were setting out.

Now, if you look at page 15 of your report, the category there is the Illinois River cooperative river basin resource base report.

Now, that had to do with some cooperative things this went two together between the State of Oklahoma and the State of Arkansas; is that right?

A. Yes.

Q. And that report, which is one of the things you compiled for this 1999 compilation, included some recommendations in a report for things that should be done in the future. Do you see that last sentence on page 15, additional recommendations made in the report?

A. Yes.

Q. Of course, it lists some other things, too,

1 originally from the poultry industry) in grass into a
2 more readily available form to algae compounding the
3 problem."
4 So as I understand what you're saying there
5 is that the way -- what happens when cattle -- when
6 cattle eat the grass and they process the grass and
7 then they excrete phosphorus, it's excreted in a
8 different form that makes algae happier than the form
9 it's in when it's basically plain chicken litter?
10 A. Yes. You could be a technical writer.
11 Q. Well, if you were to ask the judge about some
12 of the briefs I've written, he'd probably disagree
13 with you. But thank you.
14 I guess what I'm asking is, that means that
15 the phosphorus that's applied by the -- in the chicken
16 litter changes its form when it's deposited by the
17 cattle?
18 A. In the process of being eaten in the form of
19 grass and through the cattle's digestive system and
20 then secreted, yes, it can be in a different form
21 than -- than when it was deposited as chicken litter.
22 Q. Okay. Then you say at the last sentence
23 there that, "Due to the magnitude of the potential
24 source of nutrients from cattle, efforts to reduce
25 nutrient transport to the streams should focus not

only on the poultry industry, but also on the cattle industry." Right?

A. Yes.

Q. The poultry industry is now regulated; is that correct?

A. Yes.

Q. And the application of poultry litter is now regulated?

A. Yes.

Q. The cattle industry, however, is purely voluntary under your CREP programs; is that correct?

A. Yes.

Q. I mean, it's a point we all know, but the cattle industry is not present in this lawsuit?

A. Yes.

MR. NANCE: Your Honor, I object.

THE COURT: Overruled.

Q. *(BY MR. TUCKER)* If we can turn to page 89, the third sentence of your first paragraph, starting out "people disagree."

A. Yes.

Q. "People disagree on just what constitutes an adequate plan, who must have an animal waste plan, and what level of compliance to the plan should be expected, and whether or not there should be

THE COURT: Overruled.

A. At that time, they were discussing how to address those issues and deal with those disagreements, yes.

Q. *(BY MR. TUCKER)* And the legislature did address them and the Department of Agriculture did impose regulations?

A. Yes.

Q. And the regulations that were imposed under the authority of the legislature were limited to poultry operations and did not extend to beef cattle operations?

A. Yes.

Q. Would you agree that Delaware and Adair County in Oklahoma, if not number one and number two, are certainly very large producers of swine in Oklahoma? Let me ask it another way.

A. Yeah.

Q. Are there lots of swine producers in the Illinois River Basin? Is "lots" too big a word?

A. "Lots" is too big of a word for me.

Q. Okay. Are there a number of swine producers?

A. There are a number of swine producers.

Q. And, of course, we talked in your report --

restricted?

A. Yes.

Q. Do you know in Arkansas whether the application of commercial fertilizer is restricted along with the application of poultry litter?

A. Yes. According to the Arkansas regulations that I've read, it is.

Q. So to that extent, the regulations in Arkansas are more stringent than those in Oklahoma?

A. To that extent, yes.

Q. Going back to your Exhibit 5881, which is the 2007 report -- it's the thin one --

A. Okay.

Q. -- I just want to present some information to the court from your 2007 report, November 2007.

In the list of figures which is contained on the table of contents page, which is the first full page of the document --

A. Yes.

Q. -- doesn't even have a Roman numeral -- it's page 3, I guess. Figure 2, you point out that the area is not suitable for row crop production, but then you state, "Poultry production offers agricultural producers an additional source of income with the added benefit that poultry litter is an excellent

fertilizer resulting in pastures that can support additional head of cattle."

Now, it's an additional source of income why, because they can sell it? Or is it an additional source of income because it enables them to support additional heads of cattle or both?

A. I think that it can be interpreted either way to be both. There is the potential that they could sell the litter and it also provides them the opportunity to raise additional cattle.

Q. And both of those are true.

Do you know the difference between the number of animal units that can be carried on fertilized pasture as opposed to unfertilized pasture in this watershed? Is that outside your area of knowledge?

A. That's outside my area of knowledge.

Q. Well, you didn't look a lot like a farmer.

A. Well, there would be somebody else that could better discuss that than I could.

Q. If we could look down at page -- page 7 -- or page 6 of your report, page 6, there's a photograph there. Beneath that photograph, which shows a lush pasture, your last sentence is -- you restate the same thing. This is the figure that you were talking about, this is an example, the additional pasture that

can support additional head of cattle?

A. Yes. It's offered that way, yes.

Q. Now, as I look at that picture, that looks like a pretty flat pasture.

A. Yes.

Q. I don't see any severe slopes. Do you?

A. No. Not in the picture, no.

Q. And if there were slopes, that would be something that might be a part of the best management practices in Oklahoma, wouldn't it?

A. Yes.

Q. Okay. If we could turn to page 7, the paragraph just below the photograph, that starts out "upon cleanout."

A. Yes.

Q. "The main benefit of litter becomes its use as fertilizer. The litter has nutrient value for forages and bedding material (rice hulls or wood shavings), provides organic matter that helps improve soil quality. Contract growers remove the litter from each house and then it is spread by state-licensed spreaders, often within the area it was produced, to produce grass and forage for cattle." Is that correct?

A. Yes.

Q. And that's the beneficial use that poultry litter is put to when it is applied to the ground; is that right?

A. Yes.

Q. Now, I'm going to -- so I don't have to come back to this and we don't have to waste your time looking for this document a second time, I'm going to kind of a jump to another topic and then we'll get back on track here.

But there's a photograph of a litter storage shed.

A. Yes.

Q. And you talked about some of the things that would be encouraged under your CREP grants or litter storage sheds?

A. Not under the CREP grant. The CREP grant only applies to practices that are implemented specifically within the riparian zone.

Q. Then I misunderstood. But you were recommending storage sheds?

A. Yes. Our -- one of the BMPs that we recommend for the watershed is these litter storage sheds.

Q. Do you know if Oklahoma regulation requires that litter either be covered or in a shed?

A. It's still -- yes.

Q. And when you talk to farmers, you get some pretty good complaints about how much commercial fertilizer costs, don't you?

A. Yes.

Q. And then you say, "However, at the same time, landowners in the watershed will continue to try to buy local litter for use where soil tests allow."

Doesn't that mean that where they can apply the litter is being restricted by the regulations?

A. Yes.

Q. Then you go on on the next page to say that, "Soil tests prohibit litter application in many areas of the Arkansas portion of the watershed."

A. Yes.

Q. Okay. A minute ago --

MR. TUCKER: I can't read this gentleman's writing. Can I be excused just for one second, Your Honor?

(Discussion held off the record)

Q. *(BY MR. TUCKER)* A moment ago you said that farmers are recognizing the value of litter beyond its nutrient value and we talked about the other uses of it.

What did you specifically mean by "beyond its

nutrient value"?

A. Many soils throughout Oklahoma have been depleted of organic matter, and the addition of litter when it's incorporated into those soils can improve the organic matter content of the soil.

Q. And that's a good thing?

A. Yes.

Q. And actually when you increase the organic matter content of the soil, aren't you kind of acting to set the stage for a lower level of erosion?

A. You can, yes.

Q. I mean, that's one of the reasons you get erosion, is when soil becomes poor and doesn't have enough organic matter in it, then we get what happened in the panhandle during the Dust Bowl?

A. That can definitely contribute to additional soil erosion, yes.

Q. Just to kind of put some dollar values on these fertilizer costs that we're talking about in 2007, that's, of course, before oil spiked last summer?

A. Yes.

Q. Oil -- I guess time flies. Summer before last. That was the year it spiked, wasn't it?

A. Yes.

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **SHANON PHILLIPS**

8 Continued Direct Examination by Mr. Nance 1336
Cross-Examination by Mr. Tucker 1391
9 Cross-Examination by Ms. Longwell 1459

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XIII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 8, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

measurements where you have the bulk of your information. So the bulk of your information from your staged discharge relationship is based on flows that are contained within the channel.

Q. And when you've got a mixture of storm water coming from urban areas and runoff from pasturelands flowing down through the river channel in a flood situation, you can't really separate the phosphorus from one -- one from the other, can you? That's guesswork, is it not?

A. When the phosphorus is in the river, it doesn't have a logo on it that tells you where it came from, no.

Q. Okay. Thank you, ma'am. I appreciate you being patient with me.

A. Sure.

THE COURT: Further cross? Mr. Green.

MR. GREEN: Good morning, Your Honor.

THE COURT: Morning.

CROSS-EXAMINATION

BY MR. GREEN:

Q. Good morning, Ms. Phillips.

A. Good morning.

Q. Probably appropriate to pick up right where Mr. Elrod left off. And in that respect, I would ask

Q. And then if you continue down in subsection E, you will see that it states under subparagraph C, that, "There should be an application rate based upon current United States Department of Agriculture National Resources Conservation Service Waste Utilization Standards, unless the State Department of Agriculture approves other standards."

Do you see that?

A. Yes, I see it.

Q. Now, coming -- you know, before you came to court today, did you understand that the Oklahoma state Department of Agriculture could approve other standards?

A. I understood that that was a possibility.

Q. Okay. Now, with respect to your concerns that you expressed yesterday, you were asked a specific question by counsel towards the end of your examination as to your preferred outcome from this litigation. Do you recall that?

A. Yes.

Q. And you gave us, I believe, three answers or three components to your preferred outcome, and one was a reduction in the land application of poultry litter; is that right?

A. Yes.

Q. Now, with respect to your desire to see a reduction in the land application of poultry litter, have you communicated with the Secretary of Agriculture to ask him or his department to make the land application rates more restrictive?

A. Have I personally --

Q. Have you personally?

A. I don't speak very often directly to the Secretary of Agriculture.

Q. Would you be prohibited from speaking to him in any sense of that word?

A. I am the director of a division, but I must answer to my executive director of my agency.

Q. Okay. Have you talked to your executive director of your agency and said, I think you ought to communicate with the Secretary of Agriculture and suggest that the land application rates in the Animal Waste Management Plans be made more restrictive? Have you done that, ma'am?

A. Yes, we have.

Q. Okay. And do you know for a fact that that's been communicated?

A. I don't know for a fact what's been communicated. I'm not involved in their direct discussions very often.

Q. Do you know for a fact that the plans have not been made more restrictive?

A. I know that the plans have not been made more restrictive.

Q. So is it your hope and expectation that His Honor, in connection with the outcome of this case, will make those plans more restrictive?

A. It is my hope that -- I'm not certain what the best way to reduce the impacts -- to reduce the application rates of poultry litter is. I don't know that I can say that I hope that that would be the most appropriate way to do so.

Q. You don't think it would be an appropriate way to reduce the land application of poultry litter in the IRW by making the application rates in the Animal Waste Management Plans more restrictive?

MR. NANCE: Your Honor, it's irrelevant in that the Secretary of the Agriculture is not a party to this case and is not going to have any injunction issue to him, one way or the other, however this case ends up.

THE COURT: Overruled. He's asking about the state. It's a fair question.

Go ahead.

A. I think that that's one way that it could

1 happen.
2 Q. *(BY MR. GREEN)* Okay, ma'am. Let me just put
3 up for a minute some of these slides on remediation,
4 ask you a few questions about that, and then I'll be
5 done.
6 First one is Demonstrative 152.
7 MR. GREEN: Can I have that up?
8 Q. *(BY MR. GREEN)* And it's on the screen, but,
9 please, if you want to --
10 A. No, that's fine.
11 Q. -- get a copy.
12 This demonstrative, in your testimony about
13 this demonstrative, does not apply to chickens; is
14 that right?
15 A. No, it applies to chickens.
16 Q. It applies to chickens and fencing off
17 chickens?
18 A. It applies to fencing off areas that could be
19 affected by the application of poultry waste.
20 Q. Well, do you contemplate fencing off
21 chickens? Are you worried about --
22 A. Chickens are already fenced off.
23 Q. Okay. Now, to your knowledge, are any of the
24 cattle that you want to exclude from riparian areas
25 owned by any of these specific defendants?

A. Yes.

Q. Okay. To your knowledge, ma'am, are any of the pastures that you believe should be planted or improved with planting in the IRW owned by any of the specific defendants in this case?

A. Not to my knowledge.

Q. And to your knowledge, are any of the pastures which you want cross-fencing installed owned by any of these specific defendants in this case?

A. Not to my knowledge.

Q. Okay.

MR. GREEN: May I have the last demonstrative?

Q. *(BY MR. GREEN)* This was the demonstrative about septic system upgrades.

A. Yes.

Q. Do you recall that yesterday?

A. Yes.

Q. Just a couple of final questions.

To your knowledge, were any -- or are any of the septic tanks that you feel ought to be upgraded installed or maintained -- were they installed or maintained by any of the defendants in this case?

A. No.

Q. And to your knowledge, do any of the

Q. Let me ask you if stream bank erosion is a natural process?

A. Yes, it is.

Q. Are the soils in the Illinois River Watershed, at a background or a natural level, high in nutrients?

A. No.

Q. Okay. Have you done -- has your agency done analysis of nutrients in stream banks that are either eroding or in danger of eroding into water?

A. Yes.

Q. Have your agency found elevated levels of nutrients in some of those stream banks?

A. Yes.

Q. Is the degree to which those nutrients are elevated due to excess nutrients that have been transported to the stream bank area from upland areas?

A. Yes.

MR. GREEN: Objection.

MR. TUCKER: We're talking about causation. Go ahead, sir.

MR. GREEN: What would be the foundation for that? I mean, I object to that.

THE COURT: Sustained. And she's not

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

7 **SHANON PHILLIPS**

8 Cross-Examination by Mr. Elrod 1470
Cross-Examination by Mr. Green 1492
9 Redirect Examination by Mr. Nance 1510
Recross-Examination by Mr. Green 1544
10 Recross-Examination by Mr. Elrod 1545

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J. BERTON FISHER, PH.D.

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Direct Examination by Mr. Page 1560

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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

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4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
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11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 8, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XIV, P.M. SESSION

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APPEARANCES:

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For the Plaintiffs: MR. W.A. DREW EDMONDSON
21 Attorney General
MS. KELLY FOSTER
22 Assistant Attorney General
State of Oklahoma
23 313 N.E. 21st St.
Oklahoma City, OK 73105

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MR. MCDANIEL: None.

THE COURT: Very well. 2490 is admitted.

Q. (By Mr. Page) Would you please explain Exhibit 2490 to the Court, please.

A. Yes. Exhibit 2490 is a representation of what's called a digital elevation model. It's a representation of topography, the land forms as they exist within the boundary of the Illinois River Watershed, which is given in black.

Q. The areas that are at higher elevation are in grape or red colors, so you go from darker red to lighter red to yellow to darker green to lighter green to almost a white. And in that progression from very intense tones or hot-warm tones to cool tones, you travel from higher elevations to lower elevations.

The graphic also shows the drainage that is developed within the Illinois River Watershed such that it shows that the Illinois River and its tributaries, main tributaries flow from the northeast off to the southwest into Lake Tenkiller, where they're impounded by the dam.

Q. Does this information on this digital elevation map have any importance to the fate and transport of materials that are land applied to fields in the IRW?

A. Yes. It shows, one, the direction of water flow;

THE COURT: Any objection?

MR. MCDANIEL: Without waiving our position, Your Honor, that this was disclosed to us as a demonstrative for today, that being said, no objection to admission of 2491.

THE COURT: Very well. 2491 is admitted.

MR. PAGE: I apologize to defense counsel for that confusion.

Q. (By Mr. Page) Dr. Fisher, would you please identify what we see on Exhibit 2491.

A. Certainly. What we're seeing on Exhibit 2491 is the outlying boundary, of course, of the Illinois River Watershed. Then the surface of that watershed is expressed by the digital elevation model. There's some shading in that.

And with respect to that surface, it's colored according to its use, and there's a key in the lower central portion of the figure that speaks to that. But from looking at this, the blue is water; the dark green is forest; the light yellow, yellow-green color are open spaces, pasture; and the red areas are developed, or we call them urban areas.

Q. How would you characterize this watershed in terms of land use?

A. It's dominantly a rural watershed. Has about equal

abundance of -- just shy of 50 percent each of pasture and forest and has some minor urban areas within the watershed that are marked in red that comprise a little less than ten percent of the total land surface.

Q. Where are the majority of the urban land uses in the watershed?

A. The majority of the urban land uses are along the extreme northeastern fringe in the Springdale, Rogers, Fayetteville hearth, right along the northeastern border of the watershed. In the central-northern portion is Siloam Springs along the 412 corridor. Then in the southwestern portion of the watershed along the edge is the city of Tahlequah.

Q. Do you know how many people reside in the IRW?

A. In 2000, about 280,000 people.

Q. Do you know how many reside today?

A. About -- I think I looked at that the other day; about 340,000, I believe.

Q. Can surface activity affect pollutants in surface water?

A. Absolutely can.

Q. How so?

A. The activity that takes place on the surface determines what's present on that surface to be picked up by rain and runoff and carried off into surface streams.

Q. What type of sediments typically carry particles from waste disposal of the defendants' waste?
A. Fine-grain materials will be the predominant container of contaminants from poultry waste.
Q. Are there a significant amount of -- how would you -- let me back up. How would you characterize the sediments in the streams of the IRW?
A. The sediments in the streams in the IRW are the coarse gravels and boulders typically filled with chert materials that are derived from erosion of local soils, erosion of the karst mantle that the photographs we were showing earlier.
Q. Are there fine-grain sediments that travel in the IRW?
A. Yes. There are certainly fine-grain sediments that travel in the IRW, as evidenced by the last three photographs showing muddy water. But for the most part, they're not retained in streams. They may be present in streams, but they're moving through on to Lake Tenkiller.
Q. Is it your testimony, sir, that fine-grain sediments move off of streams -- excuse me, off of lands into streams, but primarily travel into Lake Tenkiller?
A. That's correct.
Q. Let me ask you to turn to the next slide, sir. Before we get there, how would you characterize the

sediments in Lake Tenkiller?
A. The sediments in Lake Tenkiller that overlay the prior surface of the Illinois River are the fine-grain muds.
Q. What does that tell you about fate and transport in the IRW, if anything?
A. Well, it says that fine-grain muds that are generated within the Illinois River Watershed are carried to Lake Tenkiller and sedimented into the lake onto the lake bottom.
Q. Turn your attention, sir, to Oklahoma Exhibit 6923 STOK0039378. What is that, sir?
A. This is a picture of Little Osage Creek, upstream of a bridge crossing. It shows presence of -- that are typical of Ozark streams, these gravels and small boulders that fill -- that comprise the stream bottom sediments.
Q. Who took this picture?
A. This picture was taken by Brian Bennett.
Q. Who did he work for at the time?
A. He worked for CDM at the time. He was working collecting sediment samples.
Q. Have you ever been to this location, sir?
A. Many times.
Q. Does it accurately depict the items photographed?

A. It does.

MR. PAGE: Your Honor, I move admission of Oklahoma Exhibit 6923 STOK0039378.

THE COURT: Any objection?

MR. MCDANIEL: No objection.

THE COURT: The document is admitted.

Q. (By Mr. Page) Dr. Fisher, would you please describe for the Court what we're viewing in this photograph.

A. What we're viewing in this photograph is flow from the foreground away from us. There's a gravel bar, a point bar there. We can see that this is a -- not at high-flow conditions. It's not muddy. We can also see that the bottom of the stream is paved with very coarse material, gravels and small boulders.

Q. Do you see many fine sediments in this area?

A. No. In fact, it's quite difficult to find accumulations of fine sediments within the streams, the drainage courses in the Illinois River Watershed.

Q. Now, do fine sediments pass this way, so to speak?

A. They do. During periods of high flow, this would be carrying muddy water.

Q. Let's turn to the next photograph, sir. Dr. Fisher, we've put before you Oklahoma Exhibit 6923 STOK0040856. Could you briefly describe that for the record, sir.

A. Yes. This photograph was taken by me. This a grab

that those materials, in his testimony, contained -- are phosphorus particles in both dissolved and particulate forms, and that they're part of the runoff. That's been part of his testimony that we just heard.

THE COURT: The Tenth Circuit, in its decision, talked -- referred to the branch of science known as fate and transport. As Mr. McDaniel points out, this is part of the picture. It's not a complete fate and transport analysis. Someone else had an objection?

MR. EHRICH: I did, Your Honor. Dale Ehrich for Cargill. All this amounts to, Your Honor, is water may run downhill. This a million-acre watershed. This may be part of the foundation; it may not be. That's all this amounts to.

THE COURT: There has to be more. The objection is sustained.

MR. PAGE: Your Honor, may I make just one point here as kind of an offer of proof. I believe if Dr. Fisher was allowed to answer, he would say that this is indicative of the transport of materials in poultry waste, that the sediment analysis, the observations that he's just described, how poultry waste is suspended in waters, both dissolved and particulate -- I mean, it's almost so obvious, like Mr. Ehrich points out, is that when the rain comes down --

A. Well, the investigators were given the geographic coordinates as well as maps -- really it was an air photo with identified points on the air photo, and investigators were assigned to a given sector and, in a very studied way, went about making careful observations of each of these locations to determine whether or not it had activity and then to come to a consideration of whether it was an active house or not.

Q. What was the goal of the investigators when you sent them with the questionnaire?

A. The goal of the investigators was to see -- directly observe these barns, if possible; to record information concerning activity and to come to a decision as to whether or not the location was actively growing birds.

Q. How many investigators were employed?

A. I think, all tolled, about a dozen.

Q. What were the qualifications of these investigators?

A. All of these investigators were off-duty Tulsa policemen, mainly detectives. And the person who was in charge of running them was at the time the chief of detectives in Tulsa.

Q. Before they began their investigation, were they given any training?

A. They were given training by me. We reviewed the air photos. I took them around and showed them what poultry

this is the number of broilers sold within that year.

The next column over are layers, which since the layers live longer and stay in barns longer, that's inventory plus sold.

Pullets are listed as inventory plus sold. Pullets are young chickens waiting to become layers.

Turkeys are, well, turkeys. This is inventory plus sold, because they generally stay a lot longer than broilers. On the far right-hand side is the number total poultry.

Now, this was generated prior to receiving the numbers from the defendants in the interrogatory responses. And it gives me -- gave me some confidence to review the numbers they reported, and note that my number for 2002, which is the year that overlapped, is within about 10 percent of their 2002 number, so it seems to be a reasonably reliable method for apportioning poultry into the watershed.

Q. Do you see any trends in Table 3?

A. Yes, absolutely. The trend in Table 3 is the number of poultry that exist within -- existed within the Illinois River Watershed have increased from about 12 million in about 1950 to about 152 million, roughly, in 2002.

Q. Do you know the date when Lake Tenkiller dam closed?

A. Lake Tenkiller closed the dam in about 1954.
Q. When would sediments from the watershed begin accumulating in Lake Tenkiller?
A. Instantly.
Q. Upon dam closure?
A. Upon dam closure.
Q. Has there been -- how would you describe the factor increase of poultry in the IRW since dam closure?
A. Well, in terms of numbers, for total poultry, going from around 18 -- well, 19 million to 152 million; about a factor of almost 8.
Q. Sir, let's look at the next exhibit, please. Dr. Fisher, we've put before you Oklahoma Exhibit 2489. Would you identify that for the record, sir.
A. Yes, this is Figure 1 from my report.
Q. And the information used is the same information we just looked at in the previous exhibit?
A. Yes, it's the information that was presented in Table 1.
MR. PAGE: Your Honor, I move admission of Oklahoma Exhibit 2489.
THE COURT: Any objection?
MR. MCDANIEL: Yes, Your Honor. And for purposes of the record, I would incorporate my argument in objection to Exhibit 2529, which was the table from

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XV - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 13, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

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4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
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)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 13, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XVI, P.M. SESSION

17

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APPEARANCES:

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MS. KELLY FOSTER
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State of Oklahoma
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PROCEEDINGS

OCTOBER 13, 2009:

THE COURT: Mr. Jorgensen.

MR. JORGENSEN: Good afternoon, Your Honor. May I have just 30 seconds?

THE COURT: You may.

MR. JORGENSEN: Your Honor, the parties have conferred over lunch and have confirmed that the document you are working off is the right document. That should be happy news for everyone, because I noticed you've been making notes on it as you've been going.

The confusion flows from the fact that Cargill and the State had a deal as to reducing the confidentiality restrictions on a few of the documents that are in there, and that's what led to the clerical error.

So the question is how to fix it that is the most convenient for you. We could refile the whole thing, which -- or we could file just a couple of pages at the end that say, here's the exhibits on which confidentiality has changed. But everybody agrees it has nothing to do with the exhibits you are dealing with now or today or this week. These are exhibits that would come up down the road.

THE COURT: Well, my preference is to have one

single final pretrial order. I think all of you, as lawyers, understand the importance of that. What I'm concerned about now is perhaps changes that alter the pretrial order that I've been making rulings based upon up until now.

MR. JORGENSEN: I believe everybody agrees that none of the rulings that you have made -- the documents we're talking about where some edits need to be made, none of them have been yet addressed by the Court.

MS. XIDIS: I believe that's correct, and this wouldn't affect anything going backwards. I think it's our position that it probably makes sense to get you a complete corrected list with those "As" incorporated therein, and we could do that later today.

THE COURT: Do the changes only go to the exhibit list?

MS. XIDIS: Yes.

MR. JORGENSEN: Only to that one exhibit list, the State's exhibit list with our objections on it, that one attachment.

THE COURT: Well, if it's restricted to the plaintiff's exhibit list, then what you could file is a superseding exhibit list and just state at the outset that this supersedes the previous plaintiff's exhibit list which was submitted in error or something to that

effect. Does that make sense?

MS. XIDIS: I think we could do a joint submission of a replacement exhibit list later today, Your Honor.

THE COURT: Good.

MS. HILL: Theresa Hill on behalf of the Cargill defendants. At lunch, we also discussed these Cargill documents that the designations of confidentiality have changed. Those affect the plaintiff's exhibit list. They also affect the Cargill exhibit list.

So if we may, we would also like the opportunity to file a supplemental Cargill exhibit list. Cargill has their own exhibit list in addition to the defendants' joint exhibit list that reflects the new confidentiality designations on those documents.

THE COURT: That will not affect anything that we've already done?

MS. HILL: It will not affect anything that we've already done thus far.

THE COURT: Let's just make sure that we've got final lists because, obviously, those lists supersede everything that has been done in the case up until now, and we have to make absolutely certain that we have a single document there.

MS. HILL: Thank you, Your Honor.

THE COURT: Any objection?

MR. MCDANIEL: No objection.

THE COURT: That exhibit is admitted.

Q. (By Mr. Page) What are we looking at, Dr. Fisher?

A. Well, here's -- this is the floor of the poultry house, the same one, the same poultry house at the same time that the prior photograph was put in place. And this photograph focuses on the litter and poultry feces that are on the floor. This is pretty typical. There's certainly feathers that are present in the waste. The top is -- it has a crust on it, much -- in its own way, much like the crust in the bottom of a parakeet cage, although very large parakeets here. So it's a crusty material.

And then the litter itself is particulate. It's made of wood shavings or rice hulls. In this case, I believe it's wood shavings. So it's a particulate kind of material that is used to absorb liquids from the poultry manure.

Q. Have you made a study of the physical attributes of poultry waste that's generated in the IRW?

A. I have.

MR. PAGE: May I approach the witness, Your Honor?

THE COURT: You may, sir.

disclosed opinion. What's happening here is counsel is putting up a series of photographs from discrete sites and asking his opinion to repeat his general causation opinions which, you know, shade into these site-specific opinions which aren't disclosed.

If he had an opinion about this location and the last location, it should have been in the report.

THE COURT: Agreed. He's testified as to what generally happens, so to that extent it's asked and answered. To the extent that he disclaimed any site-specific opinions previously, he can't get into them now. The objection is sustained as to site-specific.

MR. PAGE: Thank you, Your Honor.

Q. (By Mr. Page) Dr. Fisher, did you ever determine whether it was necessary to do a site-specific analysis of the fate and transport characteristics of poultry waste in the IRW?

A. I did.

Q. What did you determine?

A. Because the wastes were all similar and the behavior of that waste under the influence of rainfall and gravity is all similar or the same, the waste is fungible, its behavior is fungible, there's no reason to do a site-specific analysis of fate and transport in the Illinois River Watershed. If the waste is put on the ground, it

will end up in the streams.
Q. Let's go to the next exhibit. I've put before you Exhibit 6924 0KPL0009480. Dr. Fisher, would you briefly identify this for the record.
A. It's a photograph taken by one of the investigators.
Q. And have you been to this site?
A. I have.
Q. Is this, in fact, the same site we were looking at in the last photo?
A. It is.
MR. PAGE: Your Honor, I move admission of Oklahoma Exhibit 6924 OKPL0009480.
THE COURT: Any objection?
MR. BASSETT: No objection, Your Honor.
THE COURT: Very well. The exhibit is admitted.
Q. (By Mr. Page) Dr. Fisher, let me put now before you -- let me ask a quick question. With regard to 6924, what was the date that picture was taken?
A. This photograph was taken on the 15th of July of 2005.
Q. And based on your investigation, had any changes occurred at this location in the two-month period between the photograph on May and then in July?
MR. BASSETT: Objection, Your Honor, lack of foundation.

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
OCTOBER 14, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XVII, A.M. SESSION

APPEARANCES:

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Oklahoma City, OK 73105

PROCEEDINGS

OCTOBER 14, 2009:

THE COURT: Now, what of our two logistic problems? First of all, with regard to the pretrial order, has that been solved?

MS. XIDIS: Good morning, Your Honor. We just received sign-off on the document from the defendants this morning, and we should be filing that here in a few moments, and we'll bring a courtesy copy over to the Court.

THE COURT: Do I need a courtesy copy if what was stated to me yesterday was accurate, that that which I have in this notebook is the exhibit list together with the objections that ought to have been filed?

MS. XIDIS: Your Honor, the addition that's been made and what we're filing this morning is these Cargill Exhibit "As," which I think as we go forward and get into forthcoming testimony in the coming weeks, you will want to have that in your notebook.

THE COURT: So it does differ somewhat.

MS. XIDIS: Yes.

THE COURT: The problem is, you'll need to flag for me, because I've been marking this pretrial order. In your exhibit list, I've got markings, and what you're suggesting is that I have to go through by page by page

now and determine -- basically transfer all my markings on this exhibit list to the new one, all right.

So what you need to do is mark for me -- tab it, flag it -- and this is the problem when you don't have a final pretrial order before you start the trial. You just have to do it. From having tried 250 jury trials, you have to have a pretrial order before you start a trial, a final pretrial order.

So what you need to do is flag for me with tabs any and all changes to that which I have here. All right?

MS. XIDIS: I'll be happy to do that, Your Honor.

THE COURT: Now, as to the other matter.

MR. JORGENSEN: On that matter, would you rather have just a couple of pages that you can stick on the end of what you've currently got with the changes that the State and Cargill have made, or would you rather have it flagged the way you just mentioned?

THE COURT: I'd rather have the entire exhibit list the way it should have been filed originally, and then flag it, please.

MR. JORGENSEN: Thank you, sir.

THE COURT: Now with regard to the other matter.

MR. PAGE: May it please the Court, Your Honor,

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FOR THE NORTHERN DISTRICT OF OKLAHOMA

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Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 14, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

with increasing phosphorus.

Q. Okay. And is that surprising, that the correlations are different between phosphorus and these three different constituents, zinc, copper, and arsenic?

A. No, it's not surprising. Though, arsenic is -- has a fairly complex chemistry and so finding it being a little ill-behaved is not -- is not surprising, number one.

Number two, among the constituents, it is the one at the lowest concentration of these within poultry waste, and so finding more scattered in that is not surprising either.

The degree of scatter in the copper and zinc values with respect to phosphorus is quite low and what you'd anticipate because phosphorus in poultry waste is at about 20,000 parts per million or milligrams per kilogram and copper and zinc are at about 400.

So these are showing me that poultry waste is the source, or the most likely source, because I simply couldn't make these concentrations with cattle waste by mixing it with soil at these ratios.

THE COURT: Do these elements leach similarly?

THE WITNESS: No. They have some dissimilar behavior.

THE COURT: Is that reflected by the different linear angles?

THE WITNESS: Yes, it is. In some of the details on the graph, Your Honor, suggest that the copper is somewhat leeched in the deeper parts of the soil and there seems to be a hint of a change in slope. Copper is much more soluble and aged soils will tend to be depleted in copper, ones that have experienced a lot of leaching. Zinc will tend to be left behind.

So, in fact, finding high levels of copper like this that have not been -- been greatly leached away from the -- or they've not been greatly changed in their ratio from what they are in poultry waste suggests that there's an ongoing supply, at least with respect to the process of removal of copper from the system.

THE COURT: Go ahead.

MR. PAGE: Thank you, Your Honor.

Q. *(BY MR. PAGE)* Dr. Fisher, was this analysis that you performed, did it assist you in your fate and transport evaluation with regard to poultry waste being land-applied in the IRW?

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Q. Okay. And why did you perform that evaluation, sir?

A. I performed that evaluation to look at the relationship between material; that is, edge-of-field-type materials, that are being generated within the IRW, water at this very surface, to see how it related to the compositions of groundwaters.

Q. And why would that be important?

A. Well, the origin of the groundwaters is the surface water, it's rainwater, so-called meteoric recharge. The rainwater when it interacts with the land surface will pick up constituents in solution from the land and then infiltrate into the groundwater.

Q. So is it your opinion, sir, that an edge-of-field sample is representative of the type of water that's entering into the groundwater?

A. Yes. It would be my opinion that the edge-of-field samples are -- reflect the kinds of waters that are entering the shallowest portion of the groundwater.

Q. Okay, sir. Would you please continue with your explanation of Exhibit 2502?

A. Exhibit 2502 contains four plots. On those plots -- let's look at the upper left-hand plot. It's

here. We don't have an objection to him testifying about his analysis, he did it as sediments, but there's been no data and discussion to connect the two.

MR. PAGE: Your Honor, this is exactly -- his whole four days of testimony lead to this conclusion based on the geology --

THE COURT: No.

MR. PAGE: -- the waste disposal practices, the amount of waste, and then each of the tracking of these different key constituents through the different compartments into Lake Tenkiller.

I think it defies logic to suggest that Dr. Fisher has not performed a fate-and-transport analysis. It's very traditional in environmental studies and that's exactly why you --

THE COURT: That's an overstatement. This is not a traditional fate-and-transport analysis and that's absolutely clear here.

Go ahead, Mr. McDaniel.

The question is, can he -- because you admit he can opine, and did without objection, that the phosphorus deposition historically within Lake Tenkiller tracks poultry populations. He did, in fact, state on page 54 of his opinion, as you say,

is developed within the study.
Q. Is it appropriate to approach a study and do whatever is necessary to justify that conclusion?
A. You're going to test hypotheses. You're not doing things to justify a specific conclusion.
Q. That wouldn't be an appropriate methodology, would it?
A. No.
Q. Isn't it true that for your environmental consulting work, you've spent the bulk of your time for the past 13 years supporting the work of lawyers?
A. That would be accurate.
Q. In fact, as a private consultant, 95 percent of your work has been involved in legal matters?
A. I think I testified to that at my deposition.
Q. All right. You mentioned this a little bit on your direct examination, but you worked for five years as an employee of a law firm here in Tulsa, right?
A. Let's see. I started work for Gardere & Wynne in the fall of 1995 and then left in the summer of 2004, so I'm not sure it was a full five years. It was four years -- four years and change.
Q. You said '95 to 2004, is that what --
A. No, that would be inaccurate. I had worked for Gardere & Wynne from the fall of 1995 through the summer

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
OCTOBER 15, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XIX, A.M. SESSION

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the differences between these different lake sediment samples and the control soils?
A. I did.
Q. What did you find?
A. I found that the lake sediment showed contamination compared to the control soils.
Q. Did that help you determine source of contamination, sir?
A. Yes.
Q. How did it help you?
A. Well, it helps me. It says that the source of contamination is increasing through time.
Q. Does it indicate that there is a contamination or just simply natural soils accumulated?
A. It has to be contamination. The black diamond that plots on this plot immediately to the right of the control soil point, that is -- that is from the base of LKSED-1, that core penetrated sediments, alluvial sediments, that were what comprised the surface of the ground at Lake Tenkiller at the time the dam was closed. So that would be also a sample of control or background concentration. And it correlates very well. It looks like the control soils.
Q. So -- and dam closure was what date, sir?
A. About 1954.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 15, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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"QUESTION: Was that before the time the Attorney General hired outside counsel to prosecute this case?"

And your answer was "yes." Correct?

A. That's correct. But that doesn't reflect the question you asked me. You asked me if I knew if the State of Oklahoma had decided to hire a specific outside counsel, as I recall your question, and I didn't know that.

Q. All right. Well, fair enough. But at the time you were -- the testimony that I read from your deposition is correct -- your correct understanding of the timing of your first involvement in the case; correct?

A. Yes.

Q. All right. Now, what Mr. Page asked you to do was to help him gather some information and to help with a presentation to the Attorney General's Office in the hopes that Mr. Page and Mr. Miller could win the contract to be the attorneys in this lawsuit; right?

A. Well, I don't know what their hopes were, I mean, that would be an assumption on my part. But certainly the point of making a presentation would seem to be that.

Tenkiller, you knew that a lawsuit was being contemplated against poultry companies; yes or no?

A. No.

Q. At the time you were on that boat taking samples with Mr. Page, you knew that the primary target of the investigation was the poultry industry, yes or no?

A. Well, that's not necessarily a "yes" or "no" question, Mr. McDaniel. I would say the following -- I will give you a "yes" or "no" answer and then explain.

I would say that yes, the poultry industry would appear at first blush to be the source of excess phosphorus in the Illinois River Watershed. There is a forest of trees that had been killed in the service of reports pertaining to phosphorus from poultry in the Illinois River Watershed.

MR. MCDANIEL: I move to strike as nonresponsive, Your Honor. I just --

THE COURT: Sustained. Go ahead.

Q. *(BY MR. MCDANIEL)* Now, you actually accompanied Mr. Page and Mr. Miller to make a pitch at the Oklahoma Attorney General's Office; right?

A. I think that mischaracterizes what my role was. I accompanied them to assist them with factual

matters, things of my special knowledge, during their presentation to representatives of the Attorney General's Office.

Q. And you helped create that presentation, didn't you?

A. That's correct.

Q. And this meeting was on about January 23rd, 2004?

A. Well, I sure don't remember that. But if it was in January of 2004 -- well, I don't know. I really don't recall that.

Q. All right.

A. I don't recall a January meeting.

Q. Were you identified at that meeting with representatives of the Attorney General's Office as a proposed member of the Illinois River Watershed litigation management team?

A. I may well have been. I don't recall specifically, but I wouldn't be surprised if that were true.

Q. The other members of the proposed Illinois River litigation management team were all attorneys; correct?

A. I don't recall.

Q. Was there any other experts specifically

identified at that meeting as a proposed member of the Illinois River litigation management team?

A. I frankly don't recall. There may have been.

Q. Now, this work that you did collecting information, research, reviewing aerial photographs, assisting with preparation of this presentation, accompanying the attorneys to Oklahoma City for the presentation, you did all this work without being compensated; correct?

A. That's correct.

Q. Did you know at the time that if Mr. Page and Mr. Miller landed the contract with the Attorney General, that then you would be hired to work on the project?

A. In terms of did I know that, no, I didn't know that.

Q. Was it your expectation that you would be hired?

A. My expectation would be that it was a possibility of being hired.

Q. Okay. Is that why you did all the work working this case up for free?

A. Well, working -- didn't really work the case up for free. But with respect to the presentation material, that would be one of the reasons that I

are compounds or materials that are examined in those studies.

Q. That was not my question.

My question was, there are no scientific studies or literature discussing using these four compounds as some sort of fingerprint for identifying the impact of the land application of poultry litter at remote locations? There is no such article, is there?

A. Okay. I'm unaware of one that specifically says that. However, I'd hasten to explain that this is a standard method of geochemical investigation and source identification in environmental studies and looking at the fate and transport of materials in the environment.

MR. MCDANIEL: I move to strike that answer after he responded by saying he was not aware of one, Your Honor.

MR. PAGE: Your Honor, I think that was an appropriate response because the question changed in both askings. I think it's appropriate for the witness to be able to clarify the terminology used by counsel.

THE COURT: I agree. Mr. McDaniel's objection is overruled. He answered the question and

to; right?

A. Field plots and whole-field studies.

Q. Right. But you cannot identify any other scientists that has tried to use these four compounds as a fingerprint in environmental media for identifying the impact of poultry litter, for instance, in sediments?

MR. PAGE: Your Honor, I'd like to object. I'm not sure I understand what the word "fingerprint" was used -- how it's being used by Mr. McDaniel. Certainly, Dr. Fisher did not use that terminology, that I recall, in his direct examination.

THE COURT: Overruled.

Go ahead. Do you remember the question Mr. McDaniel asked?

THE WITNESS: Not specifically, Your Honor. If he could repeat that, it would be useful.

Q. *(BY MR. MCDANIEL)* Sure. I'll give you something as close to it as I can.

You cannot identify any other scientist who has purported to develop a methodology for identifying poultry litter impact; for instance, on sediments, based upon phosphorus, arsenic, zinc, and copper other than yourself?

A. I'm only aware of scientists who have

1 examined some of those constituents to track the
2 migration of poultry waste in the environment.
3 Q. You took samples in the Illinois River
4 Watershed -- excuse me. The plaintiffs took samples
5 in the Illinois River Watershed in 2005, '06, '07, and
6 '08; correct?
7 A. I think that's correct, yes.
8 Q. And you analyzed the results of those samples
9 that were related to your area of testimony; right?
10 A. I looked at -- I think I actually probably
11 looked at all the sample results at one time or
12 another.
13 Q. Well, when did you reach the conclusions that
14 are set forth in your expert report?
15 A. Well, I reached the conclusions that are set
16 forth in my expert report as a consequence of my
17 review of literature and my review of the materials
18 that are present. I think that the study design was
19 set up such that we were looking at materials that
20 might be present in a number of waste streams,
21 including poultry litter. So that's why, for example,
22 you measure things like total phosphorus. Poultry
23 litter has huge concentrations. There's a lot of it
24 generated.
25 MR. MCDANIEL: Your Honor -- Your Honor,

and stream sediment samples? That's among the material you considered; correct?

A. Yes. And lake sediment samples.

Q. All right. And in your analysis -- tell me if I'm wrong -- in your analysis, these edge-of-field samples -- what you're calling and the plaintiffs call edge-of-field samples, they're important; correct?

A. All the samples were important.

Q. Well, these are particularly important. Because under your theory, this is the pathway via which poultry litter contaminants must pass in order to travel from a land-application site to reach surface water; is that true?

A. Well, if you look at pathway analysis in the -- if you're doing fate and transport, the first thing you look at is pathway analysis. There's another path, which would be an air path. I examined that early on, decided that that was fairly localized, and didn't look at that. So the runoff path is the primary pathway.

Q. Okay. Now, I noticed -- and you testified quite a bit about some of this edge-of-field data, these samples, and you plotted them on some of the figures you used to support your opinions; right?

A. Okay. I plotted edge-of-field sample results

on XY plots. Is that what your question is?

Q. Well, you have offered, and the court has accepted, a number of figures that you created where you plotted the results from the edge-of-field sampling that was performed by the plaintiffs in this case.

A. That's correct.

Q. And you offered those as support for your opinions; correct?

A. That's correct.

Q. All right. But you actually played a pretty important role in the edge-of-field sampling effort; right?

A. I played a role in it.

Q. You wrote the standard operating procedure for collecting samples?

A. Yes. In consultation with others.

Q. And you took quite a few samples yourself; right?

A. I did.

Q. Now, isn't the idea behind an edge-of-field sample that what you're trying to do is you're trying to catch runoff from a field where you believe poultry litter's been used in order to determine the extent to which poultry litter is affecting the storm water

runoff from that field?

A. Okay. Sounds like something I'd say. You're trying to collect the samples from areas where you believe poultry litter has been applied, recently or not, to look at the array of chemistries that are generated and then to compare those chemistries to what you know about the chemistry of poultry litter. So I guess the answer to your question is yes.

Q. Okay.

A. I'm sorry. I need to reason that through.

Q. Nonetheless, I'm grateful for the answer.

To accomplish -- well, the operative point being here is an edge-of-field sample is designed or intended to be runoff from the target field. Do you agree?

A. Well, the edge-of-field sample, the -- certainly the intent is to get it from the target field.

Q. All right. To obtain a reliable edge-of-field sample, the water actually collected as the sample must have actually originated from that field. Do you agree with that?

A. Well, to look at the population as a whole, it must have immigrated from some field. You would hope that it came from the field that you believe it

an agricultural field that has not ever received poultry litter, you will still find some degree of phosphorus and metals in the runoff water?

A. Right. But you'll find them to be inconsistent with poultry litter.

MR. MCDANIEL: Well, I move to strike that, Your Honor. That wasn't my question.

THE COURT: Sustained.

Q. *(BY MR. MCDANIEL)* All right. Now, even if there had never been a pound of poultry litter used on any pasture in this watershed ever, the soils would still contain detectable levels of phosphorus compounds and metals; correct?

A. As in control soils?

Q. Can you answer my question the way it was asked?

A. Well, I'm just trying to understand what you're saying.

My control samples were from soils that had not, to my knowledge, ever received poultry litter. So do they contain phosphorus, copper, zinc, arsenic? And the answer is yes, they do, at very low levels.

Q. And you agree that surface water and groundwater would still contain detectable -- let me back up. Let me rephrase this. Let me ask you just

Q. The fact that they occur is not significant, you just said that; right?

A. The fact that they only occur is not going to be significant. They would have to be compared to something else.

Q. In the streams in this watershed and in the lake in this watershed, the sediments in both places, even if there had never been poultry litter land-applied in this watershed, you would not be surprised to find detectable levels of phosphorus, arsenic, copper, and zinc; correct?

A. Yeah. I'll be happy to answer your question yes, but I fail to see the significance of that.

MR. MCDANIEL: Move to strike.

THE COURT: Sustained.

Doctor, we really will be here a long, long time if we're arguing over and trying to anticipate the rationale or motivation for Mr. McDaniel's every question.

As I say, Mr. Page will have an opportunity to ask questions on redirect, and if you can contain yourself to the scope of the question asked, it would be very much appreciated.

The motion is sustained.

THE WITNESS: Yes, Your Honor. I

A. Well, and trackways in the field, what the field looked like.

Q. Are litter trucks the only things that ever go into a field with tires on them?

A. No.

Q. All right. Let's look at the next photo.

How many of these fields did you describe as a litter-applied field because of, for instance, tire tracks?

A. Not that many. This was early on. Probably maybe half a dozen.

Q. How many of these -- and I want you to specifically identify for me the edge-of-field samples that were deemed by you to have been taken beside a field where litter had been applied where the evidence of litter application was tire tracks. Which ones?

A. Well, I can't give you a full accounting of that. There are probably several of those. They would be in the series. They would occur in the series that would be edge-of-field 1 through 12 because those were the passive samplers before we had investigations to specifically identify litter-applied fields.

So these would be largely in areas -- they would have been not necessarily put in just on tire

tracks. They would also have been put in Oklahoma certainly in areas where there had been historical litter application.

Q. All right. These edge-of-field samples you just described generally for me, they're not treated any differently in your database from any other edge-of-field sample, are they?

A. No.

Q. And these edge-of-field samples you just described for me are part and parcel of the opinions you've rendered before this court for the last three and a half days; right?

A. That's correct.

Q. Let's go to the next page of the exhibit, please, Exhibit DJX118-002.

THE COURT: Going back just on one point, your first statement was you deemed this field to have been litter-applied because of the vegetative pattern, I believe was your words. You talked about the tall grass?

THE WITNESS: No, sir, not just the tall grass. In areas where there's been historically a substantial amount of litter application, what you observe are monospecific stands of grass; that is, one or a few species of grass, the grass grows really

Q. Now, your database -- or your data set, I should say, upon which you have based your opinions, it includes samples from these passive collectors; right?

A. Yes, it does. Some.

Q. Now, the target fields where the runoff was supposed to be coming from, no one, prior to you issuing your report, did an investigation on how that land had been used historically other than your efforts to identify previous land applications of poultry litter; correct?

A. That's accurate.

Q. You didn't interview the landowners; right?

A. No. Considering some of the -- no, no.

Q. You didn't investigate the extent to which commercial fertilizer had been used on any of these sites; right?

A. I mean, commercial -- well, there was no investigation of commercial fertilizer since they're a minor part of the phosphorus balance in the watershed.

MR. MCDANIEL: Move to strike, Your Honor.

THE COURT: Sustained.

Q. *(BY MR. MCDANIEL)* Just so I can reask the

question, there was no investigation to determine whether or not there was a history of commercial fertilizer use on any field that was a target of an edge-of-field sample?

A. That's correct.

Q. Now, isn't it true, Dr. Fisher, that for the vast majority of these -- and I'm calling them -- if I say "target field," are you and I speaking the same language?

A. Well, why don't you tell me what you mean by "target field."

Q. Fair enough. What I mean is, if you're taking -- or when you decided, or whomever decided, we want an edge-of-field sample, the objective was to capture runoff from a field where you believed poultry litter had been applied, that was the general concept; true?

A. That's correct.

Q. Okay. That field is what I'm calling "the target field," okay? So can we agree on that?

A. We can.

Q. All right. Now, isn't it true, Dr. Fisher, that in the vast majority of the cases for these edge-of-field samples, the plaintiff's sampling teams could not set foot on the target field?

A. I think that would be correct, yes.

Q. By and large, you either couldn't get permission or you didn't know the owner or you were told to take a hike or any number of reasons, and these samples had to be collected from public-access areas?

A. That's correct.

Q. Okay. For instance, the right-of-way on roads out in the watershed?

A. As close to the field as possible, that's correct.

Q. So these edge-of-field-sample target fields, there weren't any samples taken on that land, were there?

MR. PAGE: Objection, Your Honor. That's not the characterization. That mischaracterizes the testimony of the witness.

MR. MCDANIEL: It was a fresh question.

THE COURT: It was a proper question. Overruled.

A. Okay. The samples were not taken on the field, if you mean within the private-access area.

Q. *(BY MR. MCDANIEL)* All right. I appreciate that I may have asked an unclear question. So let me

A. Yes, it is.

Q. Okay. Let's just -- let's be clear so the court knows what we're talking about.

Now, I assume you know a little bit about raising cattle. At least you've driven around for 60 different trips in the watershed and you've seen cattle?

A. I've seen cattle, yes, sir.

Q. Okay. And you understand that people that raise cattle occasionally choose to feed cattle supplements for their diet; right?

A. I know that salt licks are used. I know that feeds -- when cattle are fed they're sometimes given a -- you know, fed commercial feeds that supplement.

Q. Have you -- in your travels around the watershed, have you seen those mineral licks or supplement-feeding stations out in the pasture or in loafing areas?

A. I've seen evidence of hay-feeding. I don't recall many salt licks, although I wouldn't dispute that they're present.

Q. All right. These target fields for the edge-of-field samples, there was no investigation conducted with regard to the extent to which cattle, horses, or any other livestock were being fed

A. Yeah. This would be appropriate. I'm familiar with this particular location, and water moves off the field into this site.

Q. All right. Now -- but you can't testify from your own personal knowledge, Dr. Fisher, that the water that's visible in this photograph came from that field, can you?

A. Well, I can testify that I've seen water moving from the field to this place.

Q. Okay. That wasn't my question, was it?

A. Okay.

Q. Can you testify that the water visible at this moment of sampling in this photograph, in fact, all came from that field?

A. Well, I'm not sure this is the moment of sampling. There's no sampler taking a sample. This is a picture of a pond of water next to a field. In some instances, samples are collected when it's raining and it's uncomfortable. Sometimes the pictures at the location may not have been taken simultaneously with sampling. People could have come back to take them under better conditions.

Q. There were a lot of these samples that are being called "edge-of-field samples" that were taken out of bar ditches; right?

A. They're edge-of-field samples that were collected in ditches accumulating water from target fields.

Q. Roadside bar ditches; right?

A. They're edge-of-field samples.

Q. Roadside bar ditches; right? Yes or no?

MR. PAGE: Your Honor, I believe that question's been asked three times.

THE COURT: I don't believe so. Overruled.

A. They've been collected from drainage features.

Q. *(BY MR. MCDANIEL)* Roadside bar ditch; correct?

A. I would identify this as a roadside sample.

Q. Let's look at the next one, Defendants' 114-004 and STOK40328.

What are we looking at?

A. We're looking at a road, an accumulation of water at the edge of the road, and a field sloping toward us.

Q. Now, to what extent has the water visible in this photograph been affected chemically or physically by the dirt road?

MR. PAGE: Your Honor, I don't think

Q. -- for the plaintiff's program?

A. Yes, it is.

Q. In the area where these pastures are, cattle are grazing and people are raising hay and so forth, the road network in those areas is predominantly dirt roads in the Illinois River Watershed, isn't it?

A. They're improved dirt roads, but yes, they are.

Q. All right. And according to you then, it's okay if they collected samples from water that was actually ponded on top of a dirt road?

A. If there are drainage indications from the field, yes.

Q. And for your purposes, you did not require the samplers to take samples only when they could see the water actually flowing off the target field at the time of sample; correct?

A. That's correct.

Q. Let's go to the next photograph so we're clear, Dr. Fisher.

In the DJX114, it is photo 07, and if you're looking at the State's Exhibit No. 6923, it's STOK39143.

A. Yes.

Q. All right. We're on the same page?

litter in that field as recorded by still photographs and videos and investigator notes. That's why this sample was taken. I was able to get very near the edge of the field and capture material in that drainage that's in the foreground.

Q. All right. And these mounds there, they're from what, a pond construction or --

A. Yes. They're from -- I'm sorry. I jumped ahead of you.

Q. Or do you know?

A. I don't know what they're from, but they're dirt, they're soil. This was collected -- this sample was collected not because there was dirt in the field, but rather there was affirmative evidence of poultry litter having been spread in that field shortly before this.

Q. How close in time to the sampling was this photograph taken?

A. Well, I can't tell you exactly. This probably would -- if I'm right -- and this would be my recollection -- this would have been at very close to the time of sampling, if not at the time of sampling, but I'd have to review the records. I think there's something like 25,000 photographs that were taken.

Q. I'm going to ask Ms. Ferguson if she can zoom

in so you can identify what the brown four-legged objects are in the photograph. Sorry.

What does that appear to be?

A. Well, they're cattle.

Q. Okay. Don't want to make assumptions.

Any other photographs in this stack that you either have personal knowledge of it or you took the photo? And I'm excluding, of course, the one with you with the posthole diggers.

A. Okay. Those are the two that I -- I think there are two that I identified, Mr. McDaniel. Let me make sure I've looked at them all.

Okay. I've reviewed eleven photographs. Is that your count, Mr. McDaniel?

Q. I think so. Any others?

A. No.

Q. Now, Dr. Fisher, is it or is it not your view that one would need to sample the water just as it's flowing off the field in order to have any confidence that what you're getting is really just runoff from the field?

A. If it was really just runoff from the field, you would want to sample it as close to the field as possible knowing that it only contained runoff from the field, if you were doing a -- if you were

in so you can identify what the brown four-legged objects are in the photograph. Sorry.

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Okay. I've reviewed eleven photographs. Is that your count, Mr. McDaniel?

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A. No.

Q. Now, Dr. Fisher, is it or is it not your view that one would need to sample the water just as it's flowing off the field in order to have any confidence that what you're getting is really just runoff from the field?

A. If it was really just runoff from the field, you would want to sample it as close to the field as possible knowing that it only contained runoff from the field, if you were doing a -- if you were

conducting something that was purely a site-specific investigation.

Q. Now, the photos, with the exception of the one that -- the next to the last one we put on the screen where you could see the water pretty well rushing down that ditch and the one we just looked at with the cattle, the rest of the photos we looked at you would agree that water pretty much is ponded and just sitting there?

A. Well, what's visible in the photographs appears to be ponded water. I think -- no, I'm sorry. Did I identify -- I did identify STOK0039327 as a photograph I took?

Q. But you said that doesn't depict the sampling location; right?

A. That's correct. I just wanted to be complete on your last question.

Q. Okay. If it's not the sampling site, I don't want to worry with it.

A. I'd agree that there's -- water is ponded by the road.

Q. Okay. And I think you told me that for your purposes, as one of the co-drafters of the standard operating procedure, it is not necessary that the water actually be moving in a direction off of the

MR. MCDANIEL: Is that sufficient for Your Honor?

THE COURT: Yes.

MR. MCDANIEL: Thank you.

Q. *(BY MR. MCDANIEL)* Now, this method that you described multiple times through your direct testimony, your source identification method that you used to look at phosphorus, arsenic, copper, and zinc in poultry litter, what you did is you looked at the concentrations of these in poultry litter, then you compared them to concentrations of these same compounds in other materials like soil, edge-of-field water, sediments; correct?

A. Yes. As well as in control soils and in cattle waste and wastewater-treatment plant waste.

Q. All right. If I call -- phosphorus, arsenic, copper, and zinc, if I call them the constituents of concern, or COCs, will that be okay with you? I think I've heard you call it that in your direct but --

A. Yeah. I think the constituent of concern here is phosphorus.

Q. Okay. Then strike that. We'll be more precise about it.

But these constituents you used for your analysis -- phosphorus, arsenic, copper, and zinc --

they each have their own fate and transport characteristics? I think you confirmed that for the court earlier

A. That's correct.

Q. They move and interact with environmental media differently; agreed?

A. Yes. And I've testified to that.

Q. All right. Whatever the ratios of these constituents are at the source, you would not expect them to stay the same as they move through different environmental media like soils and water; right?

A. You'd expect them to be -- look like the source near the source, and you would expect them to change as you predict from their differential mobility as they were transported away from the soils.

Q. All right. Let's talk about the litter samples you used in your analysis.

Now, how many individual samples -- and when I say "individual," I recognize they were composited. But how many litter samples did you have that you used in your analysis?

A. I used, as I recall, 25 samples.

Q. All right. How many of these samples were from broiler chickens versus pullets, hens, Cornish, or turkeys?

true and accurate copy of your errata?

A. It appears to be.

Q. Now, at what point in time did you discover the error on your table 10?

A. Yeah. I can't recall whether it was before or after -- I think it was before my deposition but I can't recall specifically. It was around -- around the time of my deposition and certainly after this had been given to defendants.

MR. MCDANIEL: May I approach the witness, Your Honor?

THE COURT: You may.

Q. *(BY MR. MCDANIEL)* All right. Dr. Fisher, what I've handed you is a demonstrative that I prepared, or asked someone kindly to prepare.

What I've endeavored to do is I've endeavored to put both sets of your numbers on here, and what I've tried to do is your original report numbers in red in strike-through font and your new numbers in black.

Can you take a moment and tell me if I've accurately represented these two sets of numbers on this demonstrative?

A. Yes, you have.

Q. But relying on the chemical composition of

1 litter reflected in the table 10 of your May report,
2 you offered the opinion under oath that the chemical
3 ratio analysis proves that poultry litter constituents
4 can be identified in sediments; correct?
5 A. I did.
6 Q. Now, even though you've changed virtually
7 every number on your table 10, your opinion expressed
8 in your expert report has not changed at all, has
9 it?
10 A. No, absolutely not. And there's a reason.
11 Q. Now, as part of your ratio analysis method,
12 you decided to compare the composition of poultry
13 litter to cattle manure in wastewater from sewage
14 treatment plants; correct?
15 A. That's correct.
16 Q. Now, you based your analysis of cattle manure
17 on ten samples?
18 A. I believe there were eleven, but along those
19 lines, yes.
20 Q. Okay. Now, at the time you formed your
21 opinions and wrote your report, you didn't know where
22 these samples came from, did you?
23 A. At that time, no, I did not.
24 Q. And at the time you wrote your report, you
25 didn't know how many herds of cattle had been sampled,

Q. And you had a two-day deposition. I'm sure you remember that; right?

A. Very definitely.

Q. All right. And you came in to that deposition on the first day, the state's lawyer there with you, Mr. Garren, announced at the beginning of your deposition that you were reworking your opinion No. 18 and that you would bring a replacement set of pages to the second day of your deposition. Do I have that right?

A. That's correct.

Q. All right. Now, why did you tell the court that you provided us these corrections before your deposition?

A. Well, it was before I was deposed on them.

Q. Okay. That's it?

A. Yeah. As I recall the deposition, Mr. Garren requested that we reserve -- that you all reserve questions on table 12 and opinion 18 as it related to this until such time that is there was a corrected table and opinion available.

Q. All right. Let's talk about this -- now, table 12 is part of your opinion No. 18 as you've so labeled it in your report; right?

A. Yes, it is.

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 19, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XXI, A.M. SESSION

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APPEARANCES:

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Q. All right. Let's look at some examples of the magnitudes of changes you made to correct the errors in your original report. Let's look under poultry litter. And as I go through this, I'm just going to look at the means rather than all the individual numbers.

So let's look at the mean zinc-to-phosphorus ratio for poultry litter. Now, you changed that. It was originally 0.085, and you changed that to 0.0253?

A. That's correct.

Q. All right. And that's about -- something over 300 percent change; do you agree?

A. About a factor of three, correct.

Q. Let's look at the mean copper-versus-phosphorus ratio for poultry litter. That changed from 3.370 to 0.0213, right?

A. That's correct.

Q. That's -- I calculated that as a change of nearly 16,000 percent.

A. That's a big change.

Q. Let's look at the mean arsenic-to-phosphorus ratio for poultry litter. You changed it -- in your original report, it was 0.799, and in this revision you changed it to 0.0012, right?

A. That's correct.

Q. And I calculated that as over 66,000 percent

change.

MR. PAGE: Your Honor, may I interrupt?

THE COURT: Yes.

MR. PAGE: I have a little confusion here. I'm comparing the numbers in the demonstrative to the errata table, which is Oklahoma Exhibit 2525, and they're not the same numbers, so I'm not sure whether this demonstrative is -- actually takes the information from the errata or not.

MR. MCDANIEL: They are different, Your Honor, and I'm not comparing them to the errata table. I'm comparing it to Defendant's Exhibit 5659 that he provided at the deposition. So look at that Table 12, Mr. Page. Hopefully you'll find agreement.

MR. PAGE: You're not asking questions about what his errata was; you're asking questions concerning an exhibit that was given to him at his deposition?

MR. MCDANIEL: Right.

MR. PAGE: Thank you. Excuse me, Your Honor.

MR. MCDANIEL: May I proceed, Your Honor?

THE COURT: You may, sir.

Q. (By Mr. McDaniel) I'm not sure I got the answer to the last question, so I want to double-check that, if you don't mind, Dr. Fisher.

The change from the arsenic-to-phosphorus ratio

for poultry litter changed from .799 to 0.0012. And you agree with me that that's over a 66,000 percent change?
A. I agree -- I haven't calculated it. I agree with you it's a very large change.
Q. For cattle waste, the mean zinc-to-phosphorus ratio changed from 0.004 to 0.0199, right?
A. That's correct.
Q. And that's about a 500 percent change?
A. It's a very large change.
Q. All right. The mean copper-to-phosphorus ratio for cattle waste changed from 0.029 to 0.0032, about a 900 percent change?
A. It's a very large change.
Q. All right. For wastewater treatment plant effluent, the mean zinc-to-phosphorous ratio changed from 0.000004 to 0.0864, right?
A. That's correct.
Q. I calculated that as something over a 2 million percent change; do you agree?
A. It's a very large change.
Q. The mean for copper-to-phosphorus ratio for wastewater changed from 0.000022 to 0.0079, almost a 36,000 percent change. Agree?
A. It's a very big change.
Q. The mean total arsenic-to-phosphorus ratio for

wastewater changed from 0.000060 to 0.0060. That's a 10,000 percent change. Agree?
A. It's a very large change. That one I would agree with.
Q. Even on your corrected Table 12, the range of values for these ratios you report for the three substances varies over a fairly wide range?
A. Excuse me. I didn't understand the question.
Q. Let me ask it again, then. On the corrected Table 12 that you gave us at your deposition --
A. Yes.
Q. -- the values for the ratios for the three substances you analyzed, poultry waste, cattle waste, sewage treatment plant effluent, the values you report vary over a fairly wide range; would you agree?
A. I'm trying to -- I'm still trying to understand your question. Let me see if I can understand. The demonstrative that you gave me provided the data for the original ratios as reported in the incorrect table. And you compared those to the ratios reported to you and given to you on September 4th.
Q. That's not my question.
A. Okay.
Q. So if that's what you --
A. I'm trying to understand what your question is, I'm

sorry.
Q. I'm now talking about the correction Table 12 you gave us on September 4th, just that one. The corrected numbers -- your corrected numbers still reflect a fairly wide range of values for each one of the substances you analyzed.
A. Comparing what to what?
Q. Well, if you just look at poultry waste, if you look at the maximum and minimum values, and then you look at cattle waste and you look at the maximum and minimum values, and you look at poultry treatment plant effluent, the maximum and minimum, there's a fairly wide range. That's my question. Do you understand?
A. There's a range between the minimum and the maximum.
Q. But it's fairly wide?
A. (No response.)
Q. Let me give some examples.
A. I'm trying to understand what you mean by "fairly wide."
Q. Fair enough. Let's look at the arsenic-to-phosphorus ratio for wastewater . And if you look at the range between the maximum and minimum, there's about a 2600 percent difference across that range?
MR. PAGE: Your Honor, I object. I don't think

there was a ratio calculated between the maximums and the bottom.

THE COURT: There's not, but he's trying to compare the maximums and minimums here.

MR. PAGE: My objection just was to the term "ratio." I don't think Dr. Fisher did a ratio of those two examples, if I heard the question correctly.

THE COURT: Well, he's talking about the arsenic-to-phosphorus ratios. Which is a reference to the individual number, correct?

MR. PAGE: Yes, Your Honor.

THE COURT: Overruled. Go ahead.

Q. (By Mr. McDaniel) I honestly don't recall if you answered. I think he objected before you gave an answer. Can you answer the question, Dr. Fisher?

A. There is a -- it ranges from a minimum value here for those samples of .004 to a maximum value of .0103.

Q. That's about a 2600 percent variance across the range of values. Agreed?

A. I haven't calculated a percentage, but just divide one into the other. So it's something like 25.

Q. Hundred?

A. Well, 25 times. It is a factor of 25.

Q. So that would be 2500 percent, if you want to express it as percent, right?

A. If you wanted to express that as percent, that would be correct.
Q. I do. All right. Let's look at the next demonstrative that we've marked as 112.
MR. MCDANIEL: May I approach the witness, Your Honor?
THE COURT: You may.
Q. (By Mr. McDaniel) What I've endeavored to do, Your Honor -- or excuse me, Dr. Fisher, with this demonstrative is this is your Opinion 18, the text of your Opinion 18. And what we've done is the base document was your original report, and then I went in there and took your corrections submitted to us on September 4th and noted those corrections.
Where you deleted text, we've marked it in red strike-through. Where you've added text, we marked it in yellow highlighting. So I want to take just a minute -- or a few minutes and go through this so we can see how the errors you made affected your discussion of Opinion 18. Let's look at the first paragraph.
Q. You say, "Crossplots of total phosphorous, total zinc, total copper and total arsenic that compare poultry waste, cattle waste and wastewater treatment plant effluent are provided in Figure 8. Cattle waste is chemically distinguishable from poultry waste. Cattle

waste contains substantially less" -- and your original report says ten times less, and you changed it to "16 times less total phosphorus," right?
A. That's correct.
Q. -- "per unit mass than poultry waste, and contained no detectable arsenic. Further, cattle waste contained much less total zinc" -- and you added "22 times less," and total copper, you added "approximately 115 times less than poultry waste, and the ratio" -- and you struck out "total copper to total zinc" and you flipped that to say "total zinc to total copper," right?
A. That's correct.
Q. So you changed it from saying, "the ratio of total copper to total zinc in cattle waste," now it says, "total zinc to total copper in cattle waste is" -- and you originally said it was smaller. And in your revision, now you say it's larger, correct?
A. That's correct.
Q. All right.
-- "4.6 times than the ratio of total copper to total zinc." That's what you said originally. Now you say, "total zinc to total copper found for poultry waste," right?
A. That's correct.
Q. Now, I know that sounded confusing, but originally

you said the total copper to total zinc in cattle waste was smaller than the total copper to total zinc for poultry waste.

Now you're saying the total zinc to total copper in cattle waste is larger than the total zinc to total copper found in poultry waste, right?

A. That would be exactly correct, because it's a reciprocal relationship.

Q. Next, "Wastewater treatment plant effluent is also chemically distinguishable from poultry waste. Compared to poultry waste, the wastewater treatment plant effluent is depleted in" -- and your original report said, "zinc, copper and arsenic with respect to phosphorus, and is depleted in copper with respect to zinc compared to poultry waste." That was your original statement, right?

A. That's correct.

Q. Now, in this revision, you changed that to say, "Compared to poultry waste, wastewater treatment plant is depleted in copper approximately 2.7 times less, but enriched in zinc 3.4 times more and arsenic 4.9 times more with respect to total phosphorus," right?

A. That's correct, based on those revisions.

Q. Let's go to the next paragraph. "Data concerning the ratios total zinc to total phosphorus, total copper to total phosphorus, total arsenic to total phosphorus

and total zinc to total copper in poultry waste, cattle waste and wastewater treatment plant effluent are given in Table 12. The ratio of zinc to phosphorus in poultry waste ranged between" -- you said 0.022 to 1 and 0.130 to 1 with an average value of 0.085 to 1. That was your original, correct?

A. That's correct.

Q. And you completely changed those numbers. Maybe I'll try to make this record not any more laborious. The range of ratios and the average ratio changed, correct?

A. That's correct.

Q. All right. In comparison, the ratio of zinc to phosphorus in cattle waste changed. And, again, the range changed and the average changed, right?

A. That's correct.

Q. Then you say, "while in wastewater treatment plant effluent, unfiltered, the ratio of zinc to phosphorus changed from" -- or excuse me, "ranged from" -- and you give the range and an average value of .000004 to 1, and then you report the new range, and now you say the average is 0.0864 to 1, correct?

A. That's correct.

Q. All right. Now, this last sentence in this paragraph. "with respect to phosphorus, then, on average, zinc is approximately" -- you originally said,

"22 times more abundant in poultry waste than cattle waste," correct?
A. That's correct.
Q. With these changes, you now change that to say, "With respect to phosphorus, then, on average, zinc is approximately 1.26 times more abundant in poultry waste than cattle waste," right?
A. That's correct.
Q. And you said -- you continued that it was more than 19,000 times more abundant in poultry waste than in wastewater treatment plant effluent, right?
A. That's correct, that's what I said.
Q. When you changed it, you changed from "19,000 and more abundant," you changed that to "3.4 times less abundant in poultry waste than in wastewater treatment plant effluent," right?
A. That's correct.
Q. The next paragraph. "The ratio of copper to phosphorus in poultry waste" -- and you give a range, and your original average was 3.370 to 1, correct?
A. That's correct.
Q. And you give us the new range, and now you say the average is 0.0253 to 1, right?
A. That's correct.
Q. All right. The same thing -- you say, "In

comparison, the ratio of copper to phosphorus in cattle waste" -- and you give the range originally, and the average was 0.029 to 1, right?
A. Yes.
Q. And then you changed those reported new values, and now you say the average is 0.0032 to 1, right?
A. That's correct.
Q. All right. Then you say, "While in wastewater treatment plant effluent, unfiltered, the ratio of copper to phosphorus ranged from" -- and you gave an original range and an average of 0.000022, correct?
A. That's correct.
Q. So you changed that to report your new values, and now you say the average is 0.0079 to 1, correct?
A. That's correct.
Q. All right. Now, the next sentence, you say, "With respect to phosphorus, then, on average, copper is approximately" -- and you originally said, "115 times more abundant in poultry waste than cattle waste and more than 151,000 times more abundant in poultry waste than in wastewater treatment plant effluent," correct?
A. That's correct.
Q. And you change that. Now you say, "With respect to phosphorus, then, on average, copper is approximately" -- and you changed "115" to "6.6 times more abundant in

poultry waste than in cattle waste and more than" -- and you changed "151,000" to "2.8 times more abundant in poultry waste than in wastewater treatment plant effluent," right?

A. That's correct.

Q. Let's go to the next paragraph. You state, "The ratio of arsenic to phosphorus in poultry waste ranged between" -- and you gave your original numbers and an average value of 1.317 to 1, and you changed that range of values and you reported a new average of 0.0012 to 1, correct?

A. That's correct.

Q. All right. Next sentence. "In comparison, no arsenic was detected in cattle waste, while in wastewater treatment plant effluent, unfiltered, the ratio of arsenic to phosphorus ranged from" -- and you give the numbers with an average of 0.000060 to 1, and then you change the range of values and change the average to 0.0060 to 1, right?

A. That's correct.

Q. Okay. Next sentence. "With respect to phosphorus, then, arsenic is approximately" -- and you originally said, "13,400 times more abundant in poultry waste than in wastewater treatment plant effluent," correct?

A. That's correct.

Q. In your revision, you changed that to read, "With respect to phosphorus, then, arsenic is approximately" -- and instead of 13,400, you said, "4.9 times more abundant in" -- and you flipped the relationship. Now you say, "more abundant in wastewater treatment plant effluent than poultry waste," right?
A. Yes.
Q. All right. Last paragraph. "The ratio of zinc to copper in poultry waste ranged between" -- and you report the range and give an average of 1.317 to 1, and you change that, the range of values, and you changed the average to 1.3174 to 1, right?
A. That's correct.
Q. "In comparison, the ratio of zinc to copper in cattle waste ranged from" -- and you give the values with an average of 6.102 to 1, and you report your new values with an average of 6.102 to 1, right?
A. I report an extra level of 6.1021 to 1.
Q. Then it continues, "while in wastewater treatment plant effluent, unfiltered, the ratio of zinc to copper ranged from" -- and you give your values with an average of 9.76 to 1, and in the new one, you changed the values slightly, and you report the average of 9.7617 to 1, right?
A. That's correct.

Q. Okay. Now, the last sentence you say -- in the original, you said, "With respect to copper, then, on average, zinc is approximately 4.6 times more abundant in poultry waste than cattle waste and 7.4 more times more abundant in poultry waste than in wastewater treatment plant effluent," right?
A. That's what I wrote, yes.
Q. That was your original. Now, with the revision, you say, "With respect to copper, then, on average, zinc is approximately 4.6 times more abundant in cattle waste than poultry waste." You flip those two, right?
A. That's correct.
Q. Then you say, "7.4 more times more abundant in wastewater treatment plant effluent than poultry waste." Again, they're flipped, right?
A. That's correct, Mr. McDaniel.
Q. Now, even though your data changed and the math changed these ratios, drastically reversing them in some cases, your opinion didn't change one bit, right, sir?
A. No, it does not.
Q. In fact, sir, you simply forced your conclusions into this data, didn't you?
A. No, sir, I did not.
Q. Now, after your deposition, you submitted an errata, right?

and see if I have accurately reflected the changes by striking out your original text in red font and reflecting your new numbers in yellow highlighting.
A. You have, Mr. McDaniel.
Q. Let's look at the changes you made between what you gave us at your deposition and what you included in the errata. If we start up at poultry waste, you made three changes under the total arsenic to total phosphorus ratio, right?
A. That's correct.
Q. Down under wastewater treatment plant effluent, for the total zinc to total phosphorus, every one of those numbers changed, right?
A. That's correct.
Q. Under wastewater treatment plant effluent, total zinc to total copper ratio, every one of those numbers changed, correct?
A. Yes, they did.
Q. In some instances, some of those ratios -- total zinc to total copper, some of those nearly doubled or more than doubled, the ratios?
A. That's correct.
Q. Now, when did you, Dr. Fisher, determine that the changes you advised us of and testified about under oath at your deposition were incorrect?

A. That would have been clearly between the time I gave it to you and the time I submitted the final, but it would have been not long after the deposition. But I had to be sure that the numbers actually reflected the data in Figure 8.

Q. Now, this wasn't -- this set of errors, this wasn't just cut and paste errors this time, was it?

A. There was a change in the data value. In the case of arsenic, there's a value that the minimum has changed. So there's a change in one data value there for poultry waste, then there's a change, it appears, in the zinc value for poultry waste -- I mean for wastewater treatment plant effluent.

Q. These changes in these values, that required you to change the text in your Opinion 18 one more time, didn't it?

A. Yes, it did.

MR. MCDANIEL: May I approach, Your Honor?

THE COURT: You may.

Q. (By Mr. McDaniel) I've handed you what we've marked -- or are identifying as our Demonstrative 114. Here again, I've taken the text of your Opinion 18. The base document is what you told us on September 4th was your full final opinion, and the changes reflect those recorded in your September errata.

A. That would have been clearly between the time I gave it to you and the time I submitted the final, but it would have been not long after the deposition. But I had to be sure that the numbers actually reflected the data in Figure 8.

Q. Now, this wasn't -- this set of errors, this wasn't just cut and paste errors this time, was it?

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So let's go through these. And I don't want to make it any more laborious, so let's just hone right in on some of the changes.

The first paragraph, the sentence that says, "Cattle waste contains substantially less, approximately 16 times less, total phosphorus per unit mass than poultry waste and contained no detectable arsenic," you changed that to say, "Cattle waste contained substantially less, on average approximately 16 times less, on a wet weight basis and 4.6 times less on a dry weight basis, total phosphorus per unit mass than poultry waste and contained no detectable total arsenic," right?

A. That's correct.

Q. The next sentence. Originally, you said, "Further, cattle waste contains much less total zinc, approximately 22 times less, than total copper, approximately 115 times less than poultry waste and the ratio of total zinc to total copper in cattle waste is larger, approximately 4.6 times, than the ratio of total zinc to total copper found for poultry waste." That was the corrected opinion, right?

A. That was what I provided you on the 4th of September.

Q. Then in your errata, you deleted -- every time you quantified how much less total zinc and copper, you

deleted that and you added the statement -- let me just read it. I'm sorry, I'm making this more messy than it needs to be. You changed it to say, "Further, cattle waste contains much less total zinc" -- you deleted 22 times less, "and total copper," you deleted 115 times less, "than poultry waste, and the ratio of total zinc to total copper in cattle waste is larger" -- you deleted 4.6 times -- "than the ratio of total zinc to total copper found in poultry waste" -- and you added 6.1 versus 3.1, right?

A. That's correct.

Q. Let's skip a sentence. And you say, "Compared to poultry waste" -- in 9/4 -- excuse me, on September 4, your corrections stated, "Compared to poultry waste, wastewater treatment plant effluent is depleted in copper with respect to" -- excuse me -- "is depleted in copper approximately 2.7 times less but enriched in zinc approximately 3.4 times more, and arsenic approximately 4.9 times more with respect to Total P." Right?

A. That's correct.

Q. All right. In your errata, you change that to say, "Compared to poultry waste, wastewater treatment plant effluent is depleted in copper" -- you deleted the 2.7 and added -- "with respect to phosphorus" -- you deleted the "but," and you said, "enriched in zinc" -- you

deleted "3.4 times more" -- "and arsenic," and you deleted "4.9 times more" -- "with respect to phosphorous," and then you add "and is depleted in copper with respect to zinc compared to poultry waste," right?

A. That's correct.

Q. In the next paragraph, you changed the values and the averages that were reflected in the changes in Table 12 in your discussion, right?

A. That is correct.

Q. Let's go down to the last sentence. In the correction you gave us on September 4th, you said, "With respect to phosphorus, then, on average, zinc is approximately 1.26 times more abundant" -- and you changed that to "1.3," right?

A. That's correct.

Q. -- "more abundant in poultry waste than in cattle waste, but more than 3.4 times less abundant in poultry waste than in wastewater treatment plant effluent." That's how it read on 9/4, correct?

A. That's right.

Q. You changed that to say that "With respect to phosphorus, then, on average, zinc is approximately 1.3 times more abundant in poultry waste than cattle waste and more than 6.3 times" -- and instead of "less," you said "more abundant," correct?

A. Yes.
Q. -- "in" -- instead of "poultry waste and wastewater treatment plant effluent," you flipped that around to now say, "wastewater treatment plant effluent than in poultry waste," right?
A. Yes, that's what I wrote.
Q. The next paragraph, you noted the change in values. And let's go to the next paragraph after that, starting with, "The ratio of arsenic to phosphorus in poultry waste." You changed the values to reflect the new values in your Table 12, right?
A. Yes.
Q. All right. Let's go to the last sentence. Originally, you said, "With respect to phosphorous, then, arsenic is approximately 4.9 times more abundant in wastewater treatment plant effluent than in poultry waste," right?
A. That's correct.
Q. And you changed that to now say, "six times more abundant in poultry waste than in wastewater treatment plant effluent." I think that should have been highlighted in yellow.
Did you, in fact, in your 9/27 errata flip the relationship between wastewater treatment plant effluent and poultry waste in this paragraph?

A. I believe so, yes.
Q. Let's go to the next paragraph. You changed the values as reflected in the revisions to Table 12, so let's come down to the last sentence. "With respect to copper, then, on average, zinc is approximately 4.6 times more abundant in cattle waste than poultry waste." You changed that to "poultry waste than cattle waste" in your errata, right?
A. Yes.
Q. You flipped those two, right?
A. One second, Mr. McDaniel. That's correct.
Q. Instead of being 7.4 times more abundant in wastewater treatment plant effluent than poultry waste, you changed that to 17.2 times more abundant, right?
A. That's correct.
Q. So here again, for the third time, you've given us your Opinion 18, you've made significant changes to your analysis of these three substances: Poultry litter, cattle waste, and wastewater treatment plant effluent, right?
A. Yes.
Q. In some cases, you completely flipped the relative magnitudes of some of the concentrations?
A. Certainly flipped the descriptions, yes.
Q. Yet your opinion has not changed or wavered one bit,

has it, Dr. Fisher?
A. It has not. May I explain?
Q. Isn't it true, Dr. Fisher, that you are simply forcing your opinions into this data?
A. Absolutely not.
Q. Three times you've submitted to us a report with a purported final Opinion 18 to support your conclusions, and two of those times it was wrong?
A. Two of the times, Table 12 contained errors. However, the data in Figure 8 had not changed, and the differences between cattle waste, poultry waste and wastewater treatment plant effluent remained independent of the values I assigned. So if I can explain those differences --
Q. Mr. Page can ask you if he wants to.
A. Okay.
Q. Let's change topics now. Everyone is relieved, I suppose. Let's look at Oklahoma Exhibit 2503.
MR. MCDANIEL: May I approach the witness, Your Honor?
THE COURT: You may.
Q. (By Mr. McDaniel) Oklahoma Exhibit 2503, that is the Figure 24 from your report, right?
A. Yes.
Q. All right. This red line extending between these

that potentially could corroborate the opinion.
Q. Now, you didn't show the -- you didn't show the regression lines for each of the individual sample types, did you?
A. I did not.
Q. All right.
MR. MCDANIEL: May I approach, Your Honor?
THE COURT: You may.
Q. (By Mr. McDaniel) I'm going to hand -- I've handed you two demonstratives that I want to look at. Let's see. The first one would be, for the record, Demonstrative 189. The second one would be Demonstrative 190.
Let's go ahead and look at the first one, please. This is -- what I've done here, Dr. Fisher, is I've taken your data on your figure, but plotted regression lines for each of the different types of samples -- in other words, plotted the well samples with well samples, the springs with the springs, geoprobes with the geoprobes -- and reflected by color coding the regression lines to match each sample.
The way this one is set up here, the geoprobes are lavender, springs are blue, the edge of fields are orange and the wells are dark blue, almost look black on here.

Do these regression lines -- can you -- for the purposes of your testimony, can you accept that those appear to be correct?

A. Well, I see they're displayed as individual regression lines. I don't know whether they're correct or not.

Q. Do they appear to be reasonable to you?

A. Well, with respect to trying to put regressions through limited numbers of data items, you're pretty hard pressed to do that. So I'm sure -- well, I'm not sure, but these could easily be regression lines computed for the data as you have represented it.

Q. All right. Well, assume with me, if the R^2 for the phosphorus versus copper for the groundwater samples is .0166 as it's represented on the demonstrative, that would suggest that phosphorus and copper are not correlated in groundwater, correct?

A. Well, that limited analysis would make that suggestion, yes.

Q. If you assume with me that the R^2 for phosphorus versus copper for the geoprobe samples was 0.0677 as represented on the demonstrative, that would suggest that phosphorus and copper are not correlated in the shallow geoprobe samples, right?

A. Again, it is limited data set, given the -- well, it

just says that there's not -- really not enough information to tell.

Q. These are your samples that you had to work with, right?

A. Well, the groundwater system is a continuum, and you treat it as a continuum, not as individual component.

Q. Your analysis was based on the samples that are plotted on the figure, correct?

A. That's correct.

Q. All right. If you assume with me that the R^2 for phosphorus versus copper for the spring samples was .4434, that would suggest that these parameters are also not very well correlated in the spring samples; do you agree?

A. Well, it would suggest that there's a stronger correlation than displayed by the others. I'm just looking at the regression line. It doesn't pass through the bulk of the information.

Q. A .4434 R^2 is not suggestive of a very strong correlation, is it?

A. No.

Q. Let's look at the next demonstrative, and this is dissolved phosphorus versus dissolved zinc. Taken the data from your figure, but disaggregated it so I could plot the separate types of samples and their regressions

for geoprobes, groundwater, springs. And does it appear to you that the regressions appear at least reasonable?
A. Hard to tell. The one for springs looks kind of strange.
Q. Well, assume with me for purposes of your questions they are correct. If the R^2 for phosphorus versus zinc for the groundwater samples is .0259, that would suggest that phosphorus and zinc are not correlated in the groundwater samples. Agree?
A. I would agree.
Q. If the R^2 for the phosphorus versus zinc for the geoprobe samples is .0029, that would suggest that these parameters are not correlated in the geoprobe samples. Agree?
A. It's a suggestion based upon a limited number of data.
Q. If the R^2 for phosphorus versus zinc for the spring samples is .0702, that would suggest also that phosphorus and zinc are not very well correlated in the spring samples, right?
A. Given this analysis of a limited number of data items, yes.
MR. MCDANIEL: This is a break point, Your Honor.
THE COURT: Very well. We'll recess for lunch.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXII - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 19, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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J. BERTON FISHER, PH.D.

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contaminated. But I think the -- that's not completely true.

I think the criterion was the elevated levels of copper, arsenic, zinc varying in concert with the phosphorus.

Q. All right. At the time you submitted your report and gave your deposition, you were not in a position to identify by sample location which samples were contaminated by poultry litter or which samples were not?

A. And when I gave the deposition, I did not identify specific locations that were contaminated by poultry litter.

Q. All right. That was not the nature of the analysis you undertook. You did a population analysis; correct?

A. That is correct.

MR. MCDANIEL: Your Honor, I will pass the witness subject to potential recross.

THE COURT: You all want to arm wrestle for it?

MR. ELROD: I won't be very long at all, Your Honor.

THE COURT: Very well.

MR. GEORGE: That's what sealed the deal

chemical process. It also depends upon the physical circumstances of the waste deposition.

Q. Okay. For the sake of my question, I'm assuming freshly-deposited manure.

If your answer suggests, well, over time a cow pie may change, that's not my question. My question is, as deposited, the phosphorus is liberated and easier to transport than it was when it was bound in the tissue of the plant. Can you agree with that simple proposition?

A. It's -- well, might still depend. Because it would depend upon -- if the cow pie is just deposited independent of the chemical nature of the phosphorus that's present in the cow pie, there's nothing -- there's no agency to transport the phosphorus.

Q. Okay. That wasn't my question.

A. Okay. I'm trying to understand your question and answer it. You need to specify the conditions of deposition and the conditions of transport, then I could probably answer that question yes or no.

THE COURT: He's just generally asking if it's easier to transport without getting into the specifics of where the cow pie is laid, etcetera.

A. Okay. It would be more soluble than it is

when it's in grass form.

Q. *(BY MR. MCDANIEL)* All right. And when I was referring to "easier to transport," what I meant was that the phosphorus in the cow manure potentially could more easily be moved by rain and runoff than the phosphorus bound up in the grass would be. Do you agree with that?

A. Potentially -- potentially could be, yes.

Q. All right. So do you agree that cattle can convert good phosphorus in the tissue of a plant into a pollutant and thereby accelerate the transport of phosphorus off of a pasture?

A. Well, it's not a pollutant if it's not been superabundant in the grass.

Q. Okay. But cattle can convert phosphorus into a more soluble form and thereby accelerate the transport of soluble phosphorus off of a pasture?

A. I would agree that cattle can -- can convert the phosphorus into a more soluble form.

Q. Do you agree that if cattle can get to water, they tend to go there?

A. Okay. I can make the observation that I have seen cattle in water.

Q. So you don't know what their behavioral tendencies are; is that what you're telling us?

A. Well, I know that they like shade and I know that they'll go into wet and cool areas sometimes.

Q. So will you agree with me, Dr. Fisher, that cattle can actually play a part in phosphorus being transported off of a field, particularly if they can get close to or in the water where they can defecate?

A. Okay. Let's see. If you're asking me, could cattle play a role in transporting phosphorus from a field, the answer is yes.

Q. This role that cattle could play in transporting grass phosphorus to the water, that's something you didn't consider in forming your opinions, did you?

A. Oh, I did.

Q. You didn't undertake to evaluate the extent to which this transport mechanism was influencing runoff from pastures, did you?

A. Okay. I did not make any evaluation of relative rate of transport.

Q. All grass has phosphorus in it whether the field was fertilized with poultry litter or not; right?

A. Yes, it would have been.

Q. And grass will only take up the phosphorus that it needs, so it will have the same concentration

Q. *(BY MR. MCDANIEL)* I'm going to provide you -- Dr. Fisher, this is the January 23rd, 2008, deposition. That's where the testimony's from. Go to page 65. All right. It's page 65.

A. Yes.

Q. Just giving the court an opportunity to catch up.

THE COURT: All right.

Q. *(BY MR. MCDANIEL)* Line 24:

"QUESTION: Okay. And how many cattle calves were there in the watershed in 2002 according to your analysis?

"ANSWER: In this analysis, 291,583."

Do you agree with that?

A. I agree that that's what I said, yes.

Q. Okay. Let's talk a little bit about cattle.

Do you agree, based upon your personal knowledge, that there's a significant cattle industry in the Illinois River Watershed?

A. I agree with my personal knowledge that I've seen cattle within the Illinois River Watershed.

Q. You don't agree that the cattle industry has a significant presence in the Illinois River Watershed?

A. I don't know what you mean by the term

Q. You're not aware of there being there any problem with superabundance of phosphorus concentration in the grasses in the Illinois River Watershed, are you?

A. I've not made a study of that.

Q. Okay. So when cattle eat the grass, they digest it, and they put the phosphorus back out in their waste; right?

A. That's correct.

Q. And as it moves through the cow's digestive system, that good phosphorus in the grass changes such that phosphorus is liberated and easier to transport once deposited in cow manure. Do you agree with that?

A. I'm not sure I -- you have to define the -- maybe the architecture of the cow pie here.

Q. When phosphorus moves through a cow's gut -- excuse me. When the grass moves the cow's gut, the phosphorus changes form, does it not?

A. Yes.

Q. And in that transformation, phosphorus is liberated into a form that is easier to transport; right?

A. It depends.

Q. Depends on what?

A. Well, it depends on -- it's not just a

chemical process. It also depends upon the physical circumstances of the waste deposition.

Q. Okay. For the sake of my question, I'm assuming freshly-deposited manure.

If your answer suggests, well, over time a cow pie may change, that's not my question. My question is, as deposited, the phosphorus is liberated and easier to transport than it was when it was bound in the tissue of the plant. Can you agree with that simple proposition?

A. It's -- well, might still depend. Because it would depend upon -- if the cow pie is just deposited independent of the chemical nature of the phosphorus that's present in the cow pie, there's nothing -- there's no agency to transport the phosphorus.

Q. Okay. That wasn't my question.

A. Okay. I'm trying to understand your question and answer it. You need to specify the conditions of deposition and the conditions of transport, then I could probably answer that question yes or no.

THE COURT: He's just generally asking if it's easier to transport without getting into the specifics of where the cow pie is laid, etcetera.

A. Okay. It would be more soluble than it is

when it's in grass form.

Q. *(BY MR. MCDANIEL)* All right. And when I was referring to "easier to transport," what I meant was that the phosphorus in the cow manure potentially could more easily be moved by rain and runoff than the phosphorus bound up in the grass would be. Do you agree with that?

A. Potentially -- potentially could be, yes.

Q. All right. So do you agree that cattle can convert good phosphorus in the tissue of a plant into a pollutant and thereby accelerate the transport of phosphorus off of a pasture?

A. Well, it's not a pollutant if it's not been superabundant in the grass.

Q. Okay. But cattle can convert phosphorus into a more soluble form and thereby accelerate the transport of soluble phosphorus off of a pasture?

A. I would agree that cattle can -- can convert the phosphorus into a more soluble form.

Q. Do you agree that if cattle can get to water, they tend to go there?

A. Okay. I can make the observation that I have seen cattle in water.

Q. So you don't know what their behavioral tendencies are; is that what you're telling us?

A. Well, I know that they like shade and I know that they'll go into wet and cool areas sometimes.

Q. So will you agree with me, Dr. Fisher, that cattle can actually play a part in phosphorus being transported off of a field, particularly if they can get close to or in the water where they can defecate?

A. Okay. Let's see. If you're asking me, could cattle play a role in transporting phosphorus from a field, the answer is yes.

Q. This role that cattle could play in transporting grass phosphorus to the water, that's something you didn't consider in forming your opinions, did you?

A. Oh, I did.

Q. You didn't undertake to evaluate the extent to which this transport mechanism was influencing runoff from pastures, did you?

A. Okay. I did not make any evaluation of relative rate of transport.

Q. All grass has phosphorus in it whether the field was fertilized with poultry litter or not; right?

A. Yes, it would have been.

Q. And grass will only take up the phosphorus that it needs, so it will have the same concentration

of phosphorus in the tissue of the plant regardless of what it was fertilized with. Do you agree with that statement?

MR. PAGE: I'll object to the form. There's no foundation that Dr. Fisher -- he hasn't testified as to the makeup of phosphorus in plants on direct.

THE COURT: Sustained.

Q. *(BY MR. MCDANIEL)* Do you agree that the mechanism we discussed about cattle being a transport mechanism to move phosphorus from pasture to water, that this can occur even without poultry litter?

A. I would agree that cattle can walk around on fields, yeah. They can move phosphorus. If they can access water, they could move into water, that's correct.

Q. All right. Even if poultry litter had not been applied in the grazing areas? I just want to make sure your answer contemplated my question.

A. Solely considering manure phosphorus, yeah, that would be correct.

Q. Now, as far as you know, if the court enjoined the use of poultry litter in the Illinois River Watershed tomorrow, would cattle still be eating the same amount of grass?

MR. PAGE: Your Honor, I think this calls for speculation on the part of the witness. I'll object.

THE COURT: Overruled.

A. When you say -- see if I can understand the question.

If there was no poultry waste spread within the Illinois River Watershed tomorrow, would tomorrow cattle still eat the same amount of grass per cow? Is that what you're saying?

Q. *(BY MR. MCDANIEL)* Not quite.

A. No. Okay.

Q. My question was is, if the use of poultry litter was terminated tomorrow, no more litter in the watershed by order of this court, is that going to change what the cattle are going to do in that watershed, Dr. Fisher?

A. Yeah. Ultimately, that should change the carrying capacity of the watershed for cattle; that is, removing that nitrogen. If you remove that nitrogen input and didn't replace it with a different nitrogen input, then the amount of grass that could be raised would be decreased to the extent you would might require supplemental feeding of hay or cattle feeds to maintain the same number of cattle within

that watershed.

MR. MCDANIEL: May I approach, Your Honor?

THE COURT: You may.

Q. *(BY MR. MCDANIEL)* All right. Dr. Fisher, I've handed you what we've marked as Defendant's 5666. Identify this for the record, please.

A. Okay. This is an e-mail that was sent to me -- I'm sorry -- it was sent originally from Dan -- from Shanon Phillips to Dan Butler, and then it was sent from -- I'm sorry -- well, then there was an e-mail list at the bottom. Then there's an e-mail attached to it from Shanon Phillips to Larry Hight, both of which are identified with the subject line "Reference streams for Illinois River Watershed." And then that last -- both e-mails, as far as I can tell, were sent to me by Larry Hight.

Q. All right. And this was among the materials you produced to us as being part of the information you reviewed during the course of your work; correct?

A. This was in my file and clearly I received this.

Q. Does it appear to be a true and correct copy of the e-mail you received from Mr. Hight?

A. Yeah. I would have to go check my electronic

A. Okay. No.

Q. *(BY MR. MCDANIEL)* Based upon your figures that you've produced, you cannot discern any basis for allocating poultry production or poultry litter production among the defendants for the year 1970?

A. There's no chemical basis to do that.

Q. Now, your poultry production chart, which was offered during your direct testimony, Exhibit 2489, the same is true for that chart, you can't allocate that among defendants? She's showing it on the screen, Dr. Fisher.

A. No. These are population numbers for poultry.

Q. These 2005 litter production numbers that you propounded here, you can't provide us any basis for extrapolating those percentages backwards for any years over the history of the Illinois River Watershed, can you?

A. Well, that's not completely true. You could do that with the bird-count numbers that were presented by the defendants.

Q. But you haven't done that? As of the time you wrote your report and gave your deposition, you had not done that?

A. I had not.

Q. And Broken Bow is considered by some of plaintiff's consultants as a water body suitable for drawing comparisons to Lake Tenkiller. Are you aware of that?

A. I believe that's -- that's correct. That was not part of my work.

Q. And Broken Bow watershed has some poultry production; is that right?

A. Broken Bow watershed, Little Mountain Fork definitely does. Mainly in Arkansas, some in Oklahoma.

Q. Okay. Now, you didn't perform your sediment phosphorus versus poultry production analysis on either of these other two lakes, did you?

A. I didn't do that analysis, no, sir.

Q. And as of the -- excuse me. You did not include in your report any discussion of any testing of your theory against data from any other lake and watershed with a poultry-grower?

A. I did not.

Q. And you referred in your testimony many times over the -- I hate to say this -- last two weeks -- feels that way, doesn't it? -- you've said several times -- you've used the word "pollution."

But the fact is, Dr. Fisher, as of the time

you submitted your report and gave your deposition, you could not give this court any numerical limit for what you deemed to be phosphorus pollution in edge-of-field runoff?

A. I don't believe I stated one in my deposition because the edge-of-field runoff shows variable degrees of pollution, from none to some.

Q. But at the time you wrote your report and gave your deposition, you were incapable of articulating a numeric criteria that would define pollution in edge-of-field runoff?

A. Could you show me in the deposition where I said that?

Q. Sure. Turn to page 460 of your September 4th, 2008. Are you there?

A. Yes, I am.

Q. All right. Line 6:

"QUESTION: Okay. So to be clear, you do not have a specific phosphorus level in edge-of-field runoff samples that is used by you as a pollution criteria?

"ANSWER: Pollution criteria, meaning in your mind?

"QUESTION: Well, the difference between saying it's polluted or not polluted with phosphorus,

you don't have a number you can tell me?

"ANSWER: I've never developed such a number, and there's -- it's not part of my opinion as to whether or not there's a number of that nature."

That was your testimony; correct?

A. That's correct.

Q. All right. As of the time you submitted your report and gave your deposition, you could not define a numerical criteria for pollution by phosphorus in geoprobe samples; correct?

A. I believe that's correct, yes.

Q. And as of the time you submitted your report and gave your deposition, you could not define any numerical criteria for pollution of groundwater by phosphorus?

A. I'm not sure about that one, and I don't know if I differentiated geoprobes from groundwater.

Q. But in your report, you did not articulate any numerical criteria for defining pollution of groundwater by phosphorus?

A. I don't recall. And I'm looking at the deposition, if that's all right.

Q. Can you state whether it's in your report, Dr. Fisher?

A. There's no -- there's no criteria -- numeric

criteria stated in my report for pollution of groundwater.

Q. Okay. We can move on then.

Now, Dr. Fisher, to the extent you've been permitted to give opinions about poultry litter as a source of phosphorus pollution in the Illinois River Watershed, you have not segregated your opinions to differentiate between the pollution you believe originates in Arkansas versus Oklahoma?

A. I have not.

Q. In the opinions you expressed in your report, you've not drawn any distinctions between litter applied by poultry-growers on their land and litter applied by ranchers and hay farmers who purchase litter from a grower or a third-party broker; right?

A. I have not. It's all the same process.

Q. Now, as of the time you submitted your report and gave your deposition, you could not offer an opinion, to a reasonable degree of scientific certainty, by edge-of-field sample location whether or not that specific sample was contaminated by poultry litter?

A. I can only describe patterns of contamination. Since I did not set a numeric criterion, I couldn't say that a particular sample was

criteria stated in my report for pollution of groundwater.

Q. Okay. We can move on then.

Now, Dr. Fisher, to the extent you've been permitted to give opinions about poultry litter as a source of phosphorus pollution in the Illinois River Watershed, you have not segregated your opinions to differentiate between the pollution you believe originates in Arkansas versus Oklahoma?

A. I have not.

Q. In the opinions you expressed in your report, you've not drawn any distinctions between litter applied by poultry-growers on their land and litter applied by ranchers and hay farmers who purchase litter from a grower or a third-party broker; right?

A. I have not. It's all the same process.

Q. Now, as of the time you submitted your report and gave your deposition, you could not offer an opinion, to a reasonable degree of scientific certainty, by edge-of-field sample location whether or not that specific sample was contaminated by poultry litter?

A. I can only describe patterns of contamination. Since I did not set a numeric criterion, I couldn't say that a particular sample was

from the waypoint number that's given here, even though the frame number is the same.

Frame 687 may not be unique; however, the latitude and longitude matches.

Q. So based upon that information, Dr. Fisher, can you confirm for us that this photograph was a photograph that you took at the location of edge-of-field 09?

A. Yes. Along with some others, which I might need to look at, but yeah. Yes, sir.

MR. GEORGE: I move for introduction of Defendants' Joint Exhibit 118-STOK0047586.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: That exhibit is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, this photograph depicts the area in which an edge-of-field sample was collected; is that correct?

A. It's one of a group of pictures that depict that area. Since an edge-of-field 09 is a fairly steep hill that slopes down to -- or a ditch, there would be a panorama that I would have taken.

Q. And, Dr. Fisher, do you see in the background of the photograph that's been admitted into evidence a pasture on which cattle are grazing?

A. I do.

Q. So do you agree that the evidence that we have available confirms that cattle were grazing in the area in which edge-of-field 09 samples were collected?

A. That's correct.

MR. GEORGE: May I approach, Your Honor?

THE COURT: You may.

MR. GEORGE: Your Honor, I've placed in front of the witness what should be the second photograph in that folder that was provided to the court. That is marked Defendants' Joint Exhibit 118-STOK0047587.

Q. *(BY MR. GEORGE)* Dr. Fisher, is this one of the other photographs that is recorded in your field notebook that you were mentioning a moment ago?

A. Yes. It's annotated as "detail."

Q. And what does this photograph show generally?

A. This is a photograph of the area in which a hole had been excavated and a passive sampler had been installed.

Q. Do you know if there were any samples collected from the edge-of-field 09 location that were not collected using the passive sampler shown in this

photograph?

A. I don't believe that there were.

MR. GEORGE: Your Honor, I move for introduction of Defendants' Joint Exhibit 118-STOK0047587.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: Very well. That exhibit is admitted.

MR. GEORGE: Your Honor, may I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you an exhibit that has been marked Defendants' Joint -- I'm sorry -- Oklahoma Exhibit 6923-STOK0047579, and it's actually a collection of four photographs.

Have you had a moment to look through them, Dr. Fisher?

A. I've looked through them, yes.

(Discussion held off the record)

Q. *(BY MR. GEORGE)* And you'll see at the bottom of each of these photographs there's a reference to "site EOF06."

A. Yes.

Q. All right. Can you turn in your field

notebook, Dr. Fisher, to the page with the Bates number at the bottom that is 19424?

A. Yes.

Q. Do you see a reference on that page to edge-of-field location No. 6?

A. I do.

Q. And is that your handwriting, Dr. Fisher?

A. That is.

Q. Okay. And you'll see there are four separate frames, photographs, that are referenced in that field notebook; correct?

A. Yes.

Q. Okay. And can you confirm for us that they correspond to the frames or photo numbers that are shown on the exhibit that I've placed in front of you?

A. They are.

Q. So based upon that, Dr. Fisher, can you confirm for us that you took these photos or were present when these photos were taken at edge-of-field location 6?

A. I believe I took these photographs.

MR. GEORGE: Your Honor, I'd move for introduction of Oklahoma Exhibit 6923-STOK0047579.1 through .4.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: That exhibit is admitted. That's marked as one exhibit?

MR. GEORGE: It is, Your Honor.

THE COURT: Very well.

Q. *(BY MR. GEORGE)* If you look at the first frame of the photographs, Dr. Fisher, do you see once again that we are collecting samples near a pasture on which cattle are grazing?

A. I do.

Q. Turn to the second page, please. The photograph on page 2 is once again a photograph of one of these passive samplers; correct?

A. Yes, it is.

Q. Okay. Do you know if there were any samples collected from edge-of-field 06 that were not collected using a passive sampler?

A. If -- I don't know that for a fact. I'd have to return to my notes. But I don't believe so.

Q. Okay. Do you see on the photograph on page 2 that there's dirt or some sort of debris on the surface of the passive sampler?

A. Yes.

Q. And is that from the actual installation?

A. Right. That's -- that's installing it and

then taking the photograph.

Q. Okay. Turn to the third page of the photographs, Dr. Fisher. This is another shot of the fence line with the pasture in the background.

Does this photograph that is page 3 of the exhibit show the approximate location in which the passive sampler was installed?

A. Yes, it does.

Q. Okay. If you'll turn to the fourth page, this is a closer, again, zoomed in, if you will, photograph of where the passive sampler was collected in reference to the fence line of the pasture; is that right?

A. That's correct.

Q. Do you see the material that's on the ground directly above the passive sampler on the inside of the fence line?

A. I do.

Q. And just since we're creating a written record here, Dr. Fisher, what is that material?

A. Okay. And I believe it's present in the prior photograph as well. That's cattle manure.

Q. Okay. So with respect to edge-of-field sampling location 06, you will agree we have documented cattle manure in close proximity to the

passive sampler used at that location; correct?

A. I have documented it, yes.

MR. GEORGE: Your Honor, the next exhibit I'm going to go to is a folder that's in POF01-15. May I approach the witness?

THE COURT: You may, sir.

MR. GREEN: If Your Honor please, we have a disconnect out here in the electronics that they're trying to fix.

(Discussion held off the record)

MR. GEORGE: The number for the record and for Mr. Tucker is Defendants' Joint Exhibit 118-STOK0038342.

Q. *(BY MR. GEORGE)* Did I read that correctly, Dr. Fisher?

A. Yes, you did.

Q. Okay. And, Dr. Fisher, the photograph that I've placed in front of you references an edge-of-field location at the bottom caption of the photograph; correct?

A. It does. It's just by identifying a frame number.

Q. And if you could turn once again in your field notebook to page 19441. Let me know when you get there.

A. I'm there.

Q. The frame number on the photograph that's been placed in front of you is 549; correct?

A. That is correct.

Q. Okay. And do you see that frame number referenced in your field notebook on the page I've directed you to?

A. I do.

Q. Can you confirm for us that what we're looking at, based upon your field notes and the photograph, is a photograph that you took of the edge-of-field 15 sampling location?

A. It is.

MR. GEORGE: I'd move for introduction, Your Honor, of Defendants' Joint Exhibit 118-STOK0038342.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Now, Dr. Fisher, with respect to this photograph, do you agree that it shows a puddle or depression of water alongside a dirt road?

A. It does.

Q. Do you know, Dr. Fisher, of your own personal knowledge or from reference to any of the materials in

front of you how long after a rainfall this photograph was taken?

A. I might have to take a look at the information here. This was collected at 9:23 a.m. on the 2nd of June of 2005. It would have rained early that morning or late that night.

Q. And how -- I'm sorry. How do you know that it would have rained early that morning or late that night?

A. Well, that's the reason I would have headed out into the field, is there was active rainfall in the Illinois River Watershed.

Q. Okay. Did you apply to your edge-of-field work any specific time horizon as to how far after a rainfall you would collect an edge-of-field sample?

A. Since it's very difficult to define the end of a rainfall at a given location, it would be the -- I don't think it was written in the protocol. I'd have to look at the protocol. But it would be -- within 24 hours is the standard and typically much less.

Q. And do you know with respect to this particular edge-of-field location in the photograph of edge-of-field location 15, whether the water at this location was collected either an hour or 24 hours

after a rainfall?

A. Well, I don't know. Given it looks like it's clear, it's at 9:23 in the morning, it's probably within less than ten hours of the rainfall, assuming it's like overnight, but I'd have to look at my notes. I mean, clearly it looks clear but that can be deceiving.

Q. So the answer is, you don't know with respect to this location?

A. Not as I sit here. I would have that available there.

Q. Dr. Fisher, based upon the photograph that's in front of you, do you observe any flowing water at edge-of-field 15 location?

A. I don't see any current water movement in this picture.

Q. Okay.

MR. GEORGE: Your Honor, I'm going to move to the photograph that is labeled in the folder "edge-of-field 16." May I approach the witness?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* And, Dr. Fisher, if you could turn in your field notebook to the page that is Bates-numbered 19443.

A. Yes.

Q. Do you see in the field notebook recorded in your handwriting a reference to edge-of-field 16 and frame number 551?

A. I do.

Q. Okay. And is that referenced photograph the one that I've placed in front of you that has been marked Defendants' Joint Exhibit 118-STOK0040328?

A. It is.

MR. GEORGE: I'd move for introduction of that exhibit, Your Honor.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Now, in your field notes, Dr. Fisher, beside edge-of-field 16 you refer to this as a ditch; is that correct?

A. I do.

Q. Okay. Do you agree that what is shown in the photograph that has now been moved into evidence at edge-of-field 16 is water that is standing or collected in a ditch?

A. Well, I don't know whether it's standing or not, but it's certainly collected in a ditch.

Q. Okay. Can you observe from the photograph any flow at edge-of-field 16 at the time this

photograph was taken?

A. I can't observe any flow in the photograph at 6:05 in the morning.

Q. And once again, Dr. Fisher, with respect to the edge-of-field 16 location that's shown in this photograph, do you know how long after the rainfall the sample was collected from this location?

A. Not specifically as I sit here. The rainfall would have occurred the night before. That's why I would be out early in the morning.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 17. May I approach the witness?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what has been marked as Defendants' Joint Exhibit 118-STOK0040330.

You see the reference on this photograph to edge-of-field 17?

A. I do.

Q. And the reference to the frame number of 552 for the photograph?

A. I see that.

Q. Do you still have your field notebook open to the same page we were last on?

A. I do.

Q. And do you see once again in your handwriting the reference to edge-of-field 17, frame 552?

A. I do.

Q. Can you confirm for us, Dr. Fisher, that the exhibit that I've placed in front of you is a photograph that you took at edge-of-field 17?

A. It is.

Q. All right.

MR. GEORGE: I'd move for introduction of Defendants' Joint Exhibit 118-STOK0040330.

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

MR. GARREN: Your Honor, can I have a clarification?

You've got a 118 and we've got a 118-A and it's three pages. This indicates 118 is a multiple-page document. So it's probably not your multiple page document, is it?

MR. GEORGE: Can I see what you're looking at?

(Discussion held off the record)

MR. GEORGE: Your Honor, I believe we've resolved the confusion.

THE COURT: Thank you, sir.

Q. *(BY MR. GEORGE)* Once again, Dr. Fisher, if

you consult your field notebook, you referred to the area in which edge-of-field sample 17 was collected as a ditch, did you not?

A. That is correct.

Q. And do you see in the photograph that there is standing water alongside a dirt road?

A. Okay. I see there's water alongside a dirt road. I don't see any evidence in the photograph that the water's flowing.

Q. You anticipated my next question, Dr. Fisher.

A. Well, I'm sorry.

Q. That's okay.

A. I should have waited.

Q. Do you also see in the photograph that there are tire tracks indicating that vehicles have driven through the water standing along the side of the road at edge-of-field 17?

A. I do.

Q. Do you know, Dr. Fisher, with respect to the sample collected at edge-of-field 17 shown in this photo how long after a rainfall that sample was collected?

A. It's -- not specifically as before it's collected at 6:23 in the morning. I also note it's going to be the morning after a nighttime rainfall.

MR. GEORGE: Your Honor, we're going to move to the folder that's edge-of-field 18 for the court's reference. May I approach?

THE COURT: Yes.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as the Defendants' Joint Exhibit 118-STOK0040332.

Do you see this photograph references edge-of-field 18 and a photo frame of 553?

A. I do.

Q. Okay. Could you turn in your field notebook, Dr. Fisher -- actually, I think it's on the same page, 19443.

Do you see a reference in your own handwriting in your field notebook to edge-of-field 18 and a frame 553 for a photograph?

A. I do.

Q. Can you confirm for us, Dr. Fisher, based upon that information, that the exhibit that I've placed in front of you is a photograph that you took of the edge-of-field 18 sampling location?

A. It is.

MR. GEORGE: Move for introduction, Your Honor, Defendants' Joint Exhibit 118-STOK0040332.

MR. PAGE: No objection.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, the photograph at edge-of-field 18 shows that once again this sample was collected from an area where there is water alongside a dirt road; is that correct?

A. That's correct.

Q. And you'll see there's a pastor in the -- or pasture -- not pastor; my apologies -- in the background of the photograph?

A. I do.

Q. Okay. And if we look at the right-hand corner of that photograph, do you observe some animals?

A. I believe I do.

Q. Okay. And for the record, what animals are present at this location?

A. Those appear to be cattle.

Q. Okay. So once again, Dr. Fisher, edge-of-field location 18 is a location that is near a pasture where cattle are grazing; is that correct?

A. That's correct.

Q. Do you see any indication in the photograph that I've placed in front of you of flowing water at the time this photograph was taken?

A. I do not.

Q. Do you know, Dr. Fisher, how long after the end of a rainfall event the photograph was taken and the sample was collected from edge-of-field 18?

A. I don't know specifically how long after the rainfall event, but this has a little more complex history.

MR. GEORGE: Your Honor, we're going to move to 19. May I approach?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as Defendants' Joint Exhibit 118-STOK0040334.

Do you see on this photograph a reference to edge-of-field location 19?

A. I do.

Q. And also a reference to photo frame 554?

A. I see that reference.

Q. Do you still have your field notebook open to the same page?

A. I do.

Q. And do you see, Dr. Fisher, in your own handwriting a reference to edge-of-field location 19 and frame 554?

A. I do.

Q. Can you confirm for us, Dr. Fisher, based

upon that information, that you took the photograph that I've placed in front of you?

A. I did.

Q. Okay. And you took that photograph at the location that's been referred to as edge-of-field 19; correct?

A. I did.

MR. GEORGE: Move for introduction, Your Honor, of Defendants' Joint Exhibit 118-STOK0040334.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, do you see once again that in your field notebook you refer to the location of edge-of-field 19 as a ditch?

A. I do.

Q. Okay. And do you agree what is shown in the photograph is representative of a ditch?

A. Well, ditches come in many forms but it's a ditch.

Q. You don't quarrel with the fact that the water collected at edge-of-field 19 was collected from a ditch; correct?

A. I do not.

Q. Okay. Dr. Fisher, do you see any indication

in the photograph that I've placed in front of you that there was flowing water at edge-of-field 19 at the time the sample was collected?

A. I don't see any indication on this but I do recall this sample. I think there's waters flowing from right to left gently but there's no indication in the photo.

Q. Just so we're clear, flowing from right to left would be flowing along the path of the ditch?

A. Along the path of the ditch, that's correct.

Q. And once again, Dr. Fisher, do you agree that the water collected at edge-of-field 19 was collected from water located alongside a dirt road?

A. Oh, it is. That's correct.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 21. May I approach?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, do you see in the photograph that I've placed in front of you the legend that references site edge-of-field 21?

A. I do.

Q. And do you also see the reference to the photograph frame 558?

A. I see that.

Q. Could you turn in your field notebook to the

page that's Bates-numbered 19444?

A. Yes.

Q. And do you see, Dr. Fisher, in your own handwriting a reference to edge-of-field location 21 and frame 558?

A. I do.

Q. Based upon that information, can you confirm that the exhibit that I've placed in front of you is a photograph that you took of the location of edge-of-field 21?

A. It is.

MR. GEORGE: Move for introduction, Your Honor, of Defendants' Joint Exhibit 118-STOK0040342.

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Now, Dr. Fisher, in the photograph that I've placed in front of you of edge-of-field 21, there appears to be a little wider than normal, in terms of what we've seen so far, water body shown in the photograph. Do you agree?

A. Yes.

Q. How would you describe that? Is that a slough? Ditch?

A. It's a -- it's a drainageway. Maybe that's the most general term. It's flowing -- or it flows

from the background of the photograph toward the foreground of the photograph.

Q. Okay. Now, at the time the photograph was taken, based upon the visual image that's in front of us, can you tell if there was actual flowing water?

A. Not from this visual image.

Q. Okay. Do you see in the background of the photograph -- if you look along the length of the ditch all the way back between the tree line, do you see any animals?

A. Yes, I do.

Q. And what do you see?

A. I see cattle.

Q. Okay. So can you confirm for us -- I'm sorry. Strike that.

Do you also see, Dr. Fisher, at the foreground of the photograph right along the fence line a lot of depressions in the ditch area in the soil and mud?

A. I do.

Q. Okay. And do you have any understanding or personal knowledge as to what may have caused all of those depressions?

A. I do.

Q. And what would that be?

A. Those would be cattle footprints.

Q. Okay. So based upon the information that's available to us, Dr. Fisher, you'll agree that the site from which edge-of-field sample 21 was collected is a site that has both cattle present in the pasture and has cattle frequenting the actual sampling area; correct?

A. Cattle have been in the actual sampling area, that's correct, and there are cattle in the pasture.

Q. Same question I've asked several times, Dr. Fisher: With respect to the sample that was collected from this location, do you know how far after a rainfall the sample was collected?

A. Not specifically. Rainfall would have been the night before.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 22. May I approach?

THE COURT: You may, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you a photograph that's marked for the record as Defendants' Joint Exhibit 118-STOK0040344.

Do you see on the photograph, Dr. Fisher, a reference to edge-of-field 22?

A. I do.

Q. And do you also see a reference to the

photograph frame 559?

A. I do.

Q. Do you have your field notebook open to the same page we were last on?

A. I do.

Q. Okay. And do you see, Dr. Fisher, in your own handwriting a reference to edge-of-field 22, photo frame 559?

A. I do.

Q. Can you confirm for us, based upon that information, that what I've placed in front of you, Dr. Fisher, is a photograph that you took at edge-of-field location 22?

A. It is.

Q. Okay.

MR. GEORGE: I'd move for introduction, Your Honor, of Defendants' Joint Exhibit 118-STOK0040344.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, it appears that the edge-of-field 22 sampling location is one from which water was collected out of a ditch. Do you agree?

A. That's correct, yes.

Q. Okay. And at the time this photograph was taken and the sample was collected, was there flowing water at this location based upon what you can observe?

A. Based upon the visual record, I can't tell.

Q. And do you see once again, Dr. Fisher, in the background pasture that is on the far side or the backside of this particular location cattle present?

A. Yes, I can.

Q. So once again, Dr. Fisher, do you agree that the sample collected from the edge-of-field 22 location is -- was collected from an area where cattle-grazing was occurring?

A. It's collected from an area where there are cattle congregated. It would be a pasture that they probably grazed there.

MR. GEORGE: Your Honor, I see that we are after five, and this is as good a stopping point or breaking point for me as any. I'll indulge the court's desire.

THE COURT: Very well. We will be adjourned until tomorrow morning.

(The proceedings were recessed)

front of you how long after a rainfall this photograph was taken?

A. I might have to take a look at the information here. This was collected at 9:23 a.m. on the 2nd of June of 2005. It would have rained early that morning or late that night.

Q. And how -- I'm sorry. How do you know that it would have rained early that morning or late that night?

A. Well, that's the reason I would have headed out into the field, is there was active rainfall in the Illinois River Watershed.

Q. Okay. Did you apply to your edge-of-field work any specific time horizon as to how far after a rainfall you would collect an edge-of-field sample?

A. Since it's very difficult to define the end of a rainfall at a given location, it would be the -- I don't think it was written in the protocol. I'd have to look at the protocol. But it would be -- within 24 hours is the standard and typically much less.

Q. And do you know with respect to this particular edge-of-field location in the photograph of edge-of-field location 15, whether the water at this location was collected either an hour or 24 hours

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXIII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 20, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **J. BERTON FISHER, PH.D.**

8 Continued Cross-Examination by Mr. George 2578

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Tuesday, October 20, 2009

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THE COURT: Before we begin, Mr. George, let me ask: The State of Oklahoma has filed two bench briefs, one last night and one the night before, and I'm certainly familiar with the principle contained in the bench brief last night, that if a document is submitted for the purpose of demonstrating notice and/or actual or constructive knowledge, it doesn't constitute hearsay, the hearsay rule doesn't apply.

In real life, what are we talking about here? What's the focus here, Ms. Moll, just so I'll know what you're addressing this to when it comes?

Go ahead.

MS. MOLL: Good morning, your Honor.

THE COURT: Good morning.

MS. MOLL: The issue of documents that go to notice and/or knowledge will come up, I believe, tomorrow in the context of specific documents that will be introduced once we play some of the video depositions. There are various documents where that issue comes up.

And just to give the court and the defendants a heads-up, I believe that tonight we'll also be filing a bench brief with regard to -- and I'll try to

be as brief as I can, Your Honor.

THE COURT: No. You do a good job of that. Go ahead.

MS. MOLL: -- on the issue of documents introduced as party admissions, so that exception to the hearsay rule.

THE COURT: All right. But in terms of notice, are we talking about notice that phosphorus can have adverse consequences? Is that generally what we're talking about?

MS. MOLL: I believe so. There are various symposia documents that will be introduced, for example, tomorrow if we -- if we get there, and so that issue will come up. There's also, as you're familiar, the Poultry Water Quality Handbook --

THE COURT: Right.

MS. MOLL: -- which may be deemed a party admission, at least as to some. So that's why we would be filing the bench brief tonight, just by way of example.

THE COURT: Great. Thank you very much.

MS. MOLL: Thank you.

THE COURT: Mr. George.

MR. GEORGE: Thank you, Your Honor.

CONTINUED CROSS-EXAMINATION

BY MR. GEORGE:

Q. Dr. Fisher, good morning.

A. Good morning, Mr. George.

Q. Do you still have in front of you your field notebook that we spent some time with in the afternoon yesterday?

A. I do.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 23. It should in the materials that were provided to the court, if the court still has those. May I approach the witness?

THE COURT: You may, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as Defendants' Joint Exhibit 118-STOK0040346. It's a photograph.

Do you see on the photograph, Dr. Fisher, a reference to edge-of-field 23 and a reference to photo frame 561?

A. I do.

Q. And could you turn in your field notebook to page 19445?

A. Okay. I'm there.

Q. Okay. And do you see, Dr. Fisher, in your own handwriting a notation to edge-of-field 23 and a

photograph that is described as frame 561?

A. I do.

Q. Based upon that information, can you confirm for us that the exhibit that I've put before you, Dr. Fisher, is a photograph that you took at the edge-of-field 23 location at the time a sample was collected?

A. It is.

MR. GEORGE: I'd move for admission of Defendants' Joint Exhibit 118-STOK0040346.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, with respect to this particular photograph and this location, do you agree that what is shown is water that has collected alongside a dirt road?

A. I do.

Q. Based upon the photograph, can you make any observation as to the flow of water at the time this sample was collected?

A. I believe this water may be flowing, as it's raining at the time this sample is collected.

Q. You believe it is raining at the moment this photograph was taken?

A. Yeah. I can see what appear to be raindrop strikes in the standing water -- in that water, the water pool there in the road.

Q. I'll confess I did not notice that, Dr. Fisher. Would you describe what is depicted in this photograph as a heavy rain?

A. It's just actively raining. It's -- the fact that I can see means it's not a superheavy rain.

Q. Can you observe in the depression where the water was presumably collected from any movement laterally or vertically in terms of flow?

A. Okay. I can't -- in this, as I'm looking at this image, I do know where flow had come from at this site, but I don't see any direct evidence of flow in the photograph.

Q. Thank you.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 24. May I approach the witness?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as Defendants' Joint Exhibit 118-STOK0040348.

Do you see on that photograph a reference to edge-of-field 24 as a site and a photograph frame of 562?

A. I do.

Q. Could you turn in your field notebook -- and actually I believe it's on the same page we were on -- page 19445? Do you have that page in front of you?

A. I do.

Q. Okay. Do you see in your own handwriting, Dr. Fisher, a reference to edge-of-field 24 and a photograph frame of 562?

A. I do.

Q. Can you, based upon that information, confirm that the photograph that I've placed in front of you is a photograph that you took at the edge-of-field 24 location at the time a sample was collected?

A. It is.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 118-STOK0040348.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* It's hard to tell on this photograph, Dr. Fisher, because the legend is covering at least the area in which the water appears, but based upon the photograph, can you confirm for us that this site is once again a site at which water was

collected alongside a dirt road?

A. It is.

Q. Is it raining in this photograph?

A. This photograph is taken about eleven minutes after the prior photograph. I can see something that looks like a little raindrop but I don't see a lot of raindrop splashes.

Q. Once again --

A. The water is covered up by the legend, I'm afraid.

Q. I'm sorry. I didn't mean to interrupt you.

A. I'm sorry too.

Q. Once again, you would agree that the photograph does not depict a heavy rainfall at the time it was taken?

A. No. There had been rainfall earlier.

Q. Okay. Based upon the observations in the photograph, Dr. Fisher, can you detect any flowing water at the time this photograph was taken and the sample was collected?

A. Yeah. Looking at the photograph, I don't see any direct indicators of flow at the time the photograph was taken.

Q. Thank you.

MR. GEORGE: Your Honor, we're going to

move to edge-of-field 25. May I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you a photograph that's been marked as Defendants' Joint Exhibit 118-STOK0040350.

Do you see on the photograph a reference to edge-of-field 25 and photo frame 563?

A. I do.

Q. Okay. And do you have your field notes still in front of you?

A. I do.

Q. On the same page that we've been working off of, do you see in your own handwriting a reference to edge-of-field 25, frame 563?

A. I do.

Q. Okay. Based upon that information, can you confirm for us, Dr. Fisher, that the photograph I've put in front of you is a photo that you took at the edge-of-field 25 site at the time a sample was collected?

A. It is.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 118-STOK0040350.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, do you agree that this photograph shows an area that would be fairly described as a ditch?

A. Yes. A ditch adjacent to this field, yes.

Q. And do you see in the left-hand corner of this exhibit what appears to be a concrete culvert?

A. I do.

Q. What's the purpose of a culvert?

A. A culvert will carry this drainage water beneath the road.

Q. Does the presence of that culvert indicate that water would be flowing beneath the road from lands on the other side of the road and being joined with water in this ditch?

A. What the records -- I'm pretty sure that the water in this particular drainage ditch flows to the left just looking at this picture. I have to review my notes, but I believe that this site actually flows across or -- Fly Creek is to the right, but this is a little local high that's flowing toward us.

Q. Can you tell from the photograph, Dr. Fisher, if it was raining at the time the sample was collected from edge-of-field 25?

A. There seems to be a raindrop on the lens in the lower left-hand corner; that's that flare. I don't see -- it looks -- it's rained very recently given the atmospheric conditions. I remember this day and this location.

Q. Based upon the visual information available in the photograph, can you detect flowing water at this location?

A. Yeah, I know water was flowing this day. I can't see it in the photograph, but I was there and I remember this -- this sample.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 27. May I approach?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as Defendants' Joint Exhibit 118-STOK004360.

Do you see on the photograph before you the reference to edge-of-field 27 and photo frame 568?

A. I do.

Q. And if you consult your field notebook the same page that's opened, page 19445, do you see in your own handwriting a reference to edge-of-field 27, frame 568?

A. I do.

Q. Based upon that information, Dr. Fisher, can you confirm for us that the photograph that I've placed in front of you is a photograph that you took of the edge-of-field 27 location at the time a sample was collected?

A. It is.

MR. GEORGE: Your Honor, I'd move for admission of Defendants' Joint Exhibit 118-STOK004360.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, do you agree with me that once again we're looking at a photograph of water pooled alongside a dirt road?

A. I do.

Q. Can you tell from the photograph whether or not it was raining at the time the sample was collected?

A. It was a little later in the day. I think it's clearing and it's not raining at this time.

Q. Based upon information in front of you in the photograph, can you detect any flowing water at the edge-of-field 27 location at the time the sample was collected?

A. Okay. It's kind of a dark photograph. I

don't see any indicator of flow at this time.

MR. GEORGE: Your Honor, we're going to edge-of-field 28. May I approach?

THE COURT: Yes, sir.

Q. *(BY MR. GEORGE)* I'm sorry, Dr. Fisher. Can we go back for a moment --

MR. GEORGE: I apologize to the court as well.

Q. *(BY MR. GEORGE)* -- to the photograph of edge-of-field 27?

MR. GEORGE: If we could put that on the screen, and perhaps zoom in on the sort of middle left portion of the photograph.

Q. *(BY MR. GEORGE)* And, Dr. Fisher, if you can perhaps look at either the screen or the photograph in front of you, do you see the animals on the pasture behind this particular location?

A. I do.

Q. Okay. And can you identify what those animals are?

A. Those are cattle.

Q. Okay. So based upon that information, Dr. Fisher, do you agree that there were cattle grazing on the pasture near edge-of-field 27 at the time the sample was collected?

A. I do.

Q. All right. Now let's go to the photograph that I've placed in front of you, which has been marked Defendants' Joint Exhibit 118-STOK0040370.

Do you see the reference on the photograph to edge-of-field 28 and photo frame 573?

A. I do.

Q. Do you have your field notebook? Could you turn to the next page, which is 19446?

A. Yes.

Q. And do you see, Dr. Fisher, in your handwriting a notation of edge-of-field 28 and a reference to photo frame 573?

A. I do.

Q. Based upon that information, can you confirm for us, Dr. Fisher, that the exhibit that I've put in front of you is a photograph that you took at edge-of-field 28 at the time a sample was collected?

A. It is.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 118-STOK0040370.

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Is it raining at the time

this sample was collected based upon the information before you in the photograph, Dr. Fisher?

A. No. This is collected just after noon on the same day, June 5th of '05.

Q. And do you agree that the photograph depicts that once again a sample was collected from water pooled alongside a dirt road?

A. I do.

Q. And based upon the visual information available in the photograph, can you detect any flow of water at this location at the time the photograph was taken and the sample was collected?

A. Based upon this photograph, I cannot tell that there is any flow.

MR. GEORGE: Your Honor, we're going to go to edge-of-field 30. May I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked as Defendants' Joint Exhibit 118-STOK0040374.

Do you see on the photograph a reference to edge-of-field 30 and photo frame 575?

A. I do.

Q. If you could consult your field notebook, the same page we've been working from, do you see in your

own handwriting a reference to edge-of-field 30, frame 575?

A. I do.

Q. Based upon that information, Dr. Fisher, can you confirm for us that the photograph that I've placed in front of you is a photograph that you took at edge-of-field 30 at the time a sample was collected?

A. It is.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 118-STOK0040374.

MR. PAGE: No objection.

THE COURT: The document is admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, can you tell from the photograph whether it was raining at the time this sample was collected?

A. It was not raining at the time this sample was collected just after noon on the 5th of June.

Q. And do you agree with me that the photograph shows that once again edge-of-field 30 is a location at which a sample was collected from water pooled alongside a dirt road?

A. Yes.

Q. Based upon the visual information in the

photograph, can you observe any flowing water at the time this sample was collected?

A. Based on the visual information in the photograph, I cannot.

MR. GEORGE: Your Honor, we're going to move to edge-of-field spread 23. May I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you what's been marked Defendants' Joint Exhibit 118-STOK0039143.

Are you familiar -- I'm sorry. Do you see the reference on the photograph to spread 23 as a location?

A. Yes.

Q. Are you familiar with that location?

A. I have to look it up. I'm -- I think I'm familiar with this location. This is -- as I recall, this is near a Tyson complex.

Q. Okay. Dr. Fisher, I simply asked if you were familiar with it.

A. Okay. I'm sorry. Yeah, I am.

Q. Okay. And I believe you testified on direct, or perhaps on cross-examination, that at some point in time during your work in this case, you have reviewed as part of your analysis all of the photographs from

the edge-of-field sampling locations; is that true?

A. That's correct.

Q. Okay. And did you undertake the same review with respect to field notebooks that may have been compiled by people other than yourself who collected edge-of-field samples?

A. Yes.

Q. Do you recall, Dr. Fisher, if you collected the sample at edge-of-field spread 23?

A. I don't recall.

MR. GEORGE: May I approach, Your Honor?

THE COURT: You may.

MR. GEORGE: For the record, I've placed a document that I intend to use to refresh the witness' recollection that is Bates-labeled STOK0000382 which is a portion of a field notebook.

Q. *(BY MR. GEORGE)* Do you recognize this field notebook, Dr. Fisher?

A. Yes, I do.

Q. Okay. And can you tell me, if you know, who would have compiled the notes that are shown in this field notebook?

A. This looks like it's Jeremy Berblinger and -- well, Jeremy Berblinger's name is on here, but since he's referred to in the third person on here, it could

be Brian Bennett.

Q. Who do those two gentlemen work for you?

A. They work for CDM.

Q. And was CDM -- I'm sorry. Were CDM employees involved in collecting some of the edge-of-field samples that were used in your analysis?

A. Yes.

Q. And so CDM employees were in the field and kept field notebooks as to their observations at the time samples were collected; is that fair?

A. They did.

Q. Do you see on the right-hand column of this sheet there's a reference that begins with 0755, which I assume is a time? Do you see that?

A. I do.

Q. Okay. And the notation reads: "Jeremy talks to Bert Fisher" -- I can't --

A. Yes. I'm sorry.

Q. Can you read that? I'm sorry. I'm having a hard time making it out.

A. It says, "Jeremy talks to Bert Fisher and" -- I can't tell what that is; I'd have to look at the original. Maybe it's -- I don't know what it says.

Q. Okay. The part I'm interested in is really

the next sentence. Could you read that?

A. Yeah. "Bert collected edge-of-field at spread 36 and at spread 23."

Q. Okay. And is that consistent with your recollection, Dr. Fisher, that you collected an edge-of-field sample from spread 23?

A. Well, this certainly jogs my memory that I did, yes.

Q. Okay. Do you know whether or not the photograph that I've placed in front of you with respect to this location was one that you took yourself?

A. I believe that this would be one I took myself.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 118-STOK0039143.

MR. PAGE: No objection, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, can you tell from the photograph if it was raining at the time the sample was collected from edge-of-field spread 23?

A. From observing the photograph, it looked like it had rained earlier. It was not currently raining.

Q. Do you agree with me that this photograph

shows that once again a sample was collected from water pooled alongside a dirt road?

A. I do.

Q. Based upon the information and the visual content of the photograph, can you detect in the photograph any flowing water at the time the sample was collected?

A. From the appearance of the photograph, I don't see any evidence of water flowing.

MR. GEORGE: Your Honor, we're going to move to edge-of-field 30. May I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you two photographs that have been marked Defendants' Joint Exhibit 118-STOK0039020 and then the following is the same reference, only the last two digits are 84.

Do you see a reference on these two photographs to edge-of-field site spread 30? Actually, you can see it on the second photograph.

A. I do.

Q. Are you familiar with this location?

A. I've been to the location.

Q. Okay. Would these two photographs have been photographs that you would have reviewed as part of

your analysis and work in this case?

A. Yes.

Q. Do you know whether or not, Dr. Fisher, you actually took these two photographs?

A. I am pretty sure I did not take either of these photographs.

Q. All right. Do you see on the second photograph there's a gentleman who's actually collecting a sample?

A. I do.

Q. And who is that gentleman?

A. That's Jeremy Berblinger.

Q. A CDM employee?

A. Yes.

Q. Now, based upon your personal knowledge of this particular site, do these photographs accurately depict the conditions present at the site based upon what you observed?

A. Yes.

Q. And these would have been photographs that you reviewed as part of your work in this case; correct?

A. Yes.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit STOK0039020.

THE COURT: Any objection?

MR. PAGE: No, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* Dr. Fisher, if we look at the first photograph, which is Bates number ending in 20 -- do you have that in front of you?

A. I do.

Q. -- do you see the area just beyond in the photograph the culvert on the inside of the fence line?

A. I do.

Q. Okay. And do you see that it is once again sort of a depressed area with the soil disturbed?

A. Yes.

Q. Okay. And would the disturbance in that photo be consistent with what we discussed yesterday as evidence of cattle trampling in the area?

A. It would be consistent with cattle walking in that area.

Q. Okay. And you see in the back of the photograph, in the background, there's actually a pictured of a cow on this pasture; correct?

A. Yes.

Q. All right. Then if you turn to the second photograph, which is the photograph ending in Bates

number 84, this is a photograph taken at the time the sample was being collected; correct?

MR. PAGE: Your Honor, may I just note for the record that I don't believe the second photograph, which is 39084, has been offered into evidence yet.

THE COURT: That's correct.

MR. GEORGE: Thank you, Mr. Page.

I neglected to included it in my offer, Your Honor. I apologize. I move for introduction of Defendants' Joint Exhibit 118-STOK0039084.

THE COURT: Any objection?

MR. PAGE: No objection.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* I don't know if I got an answer to my question, Dr. Fisher. Is this a photograph that shows the conditions at the time the sample was being collected?

A. It looks that way, yes. It's collecting a sample.

Q. I'm sorry. Do you see again in the background the presence of more than one cow this time but several cows?

A. I do.

Q. Okay. So based upon the information before

you, can you agree with me that this location is one where a sample was collected near a pasture where cattle were grazing?

A. It is.

Q. You can actually see, can you not, Dr. Fisher, cattle manure on the surface of the pasture?

A. I can.

MR. GEORGE: Your Honor, we're going to move to edge-of-field CP-1-A. May I approach?

THE COURT: You may.

Q. *(BY MR. GEORGE)* Dr. Fisher, I've placed in front of you an exhibit that's been marked Defendants' Joint Exhibit 118-STOK0053936.

You see on the photograph there's a reference to this location, site CP-1-A? Do you see that?

A. I do.

Q. Are you familiar with this location?

A. I am.

Q. Okay. And do I understand correctly that this is Mr. Fite's property?

A. It is.

Q. Okay. What is the significance or the intended meaning of the nomenclature "CP" in the reference to this sampling site?

concentration of phosphorus in the sediments at Lake Tenkiller?

A. Outside the context of the mass balance work, no.

Q. Okay.

MR. GEORGE: Can we go to Tyson Demonstrative -- or Defendant's Demonstrative 117.7?

Q. *(BY MR. GEORGE)* And, Dr. Fisher, Mr. McDaniel questioned you about these demonstratives, and you'll recall that he went location by location in the lake and showed changes if you connect the dots in phosphorus concentrations. Do you recall that?

A. I do.

Q. Okay. And the location that I've put on the screen in front of you is LKSED-03. You're familiar with that location?

A. I am.

Q. And you'll agree that that location shows in the very recent years of data there is a dramatic decline in the concentration of phosphorus in the sediments?

A. In the surficial sediments, there's a decline in the phosphorus.

MR. GEORGE: Can we go to Demonstrative

117.9, which is LKSED-4?

Q. *(BY MR. GEORGE)* You see the same pattern in declining phosphorus concentrations in those surficial, as you described it, sediments that have been deposited in recent years at this location, do you not?

A. It appears at two upgradient sites, which would include LKSED-4 or riverine, there appears to be a diminution in the concentration of phosphorus in the upper two samples compared to the third sample down, third centimeter down, that's correct.

Q. And, Dr. Fisher, you described these two locations as upgradient. That means they're closest to the river but furthest from the dam; is that right?

A. They're closer to the river and further from the dam. So LKSED-4 would be furthest from the dam. LKSED-3 would be next furthest from the dam.

Q. Okay. Now, Dr. Fisher, you're aware, are you not, that in the last five years there have been substantial reductions in the concentration of phosphorus being discharged in wastewater-treatment plant from northwest Arkansas cities?

A. There's been a reduction in the mass flux of phosphorus from those plants.

Q. I'm sorry. My question wasn't mass flux; my

1 question was concentration.
2 You're aware there has been a reduction --
3 substantial reduction in the concentration of
4 phosphorus in wastewater-treatment plant discharges
5 from northwest Arkansas cities in the last five years?
6 A. From some, yes.
7 Q. Okay.
8 MR. GEORGE: Your Honor, may I approach?
9 THE COURT: You may. Mr. George, you
10 may wish to find a good stopping point at some point
11 here.
12 MR. GEORGE: Absolutely, Your Honor. In
13 fact, I think I am very near to being done.
14 Q. *(BY MR. GEORGE)* Now, Dr. Fisher, I've --
15 *(Discussion held off the record)*
16 Q. *(BY MR. GEORGE)* Dr. Fisher, I've handed to
17 you a copy of an exhibit that I've marked Oklahoma
18 Exhibit 6923-STOK0055232, and it is a lab report
19 relating to a collection of samples that include
20 edge-of-field CP-1-A and 1-B.
21 You're familiar with this document, aren't
22 you, Dr. Fisher?
23 A. Yes, I am.
24 Q. This would have been one of the many lab
25 reports you reviewed as part of your analysis that

A. That's correct.

Q. Why are they reported on the same lab report; do you know?

A. I don't know. These problems -- well, I don't know what it is, why they would be reported on the same lab report. I can guess but that would be speculation.

Q. Do you agree with me that --

A. No. Actually, I can tell you why.

Q. You're not sure why?

A. No, I am now.

Q. Okay. You are. Go ahead and tell me then.

A. If I look at the final page, which is STOK0055247, they were submitted on the same chain of custody.

Q. Fair enough. Okay. Now, turning back to the second page, which is STOK55246, do you agree that the chemical analysis shows us that one of the edge-of-field samples collected from Mr. Fite's property had seven or eight times more total phosphorus in it than the phosphorus coming out of the Springdale wastewater-treatment plant?

A. Okay. Well, I can agree with you on some factor here, but you need to tell me which of the variables --

Q. Well, let's compare total phosphorus --
A. Okay.
Q. -- edge-of-field CP-1-A --
A. Okay.
Q. -- with total phosphorus Springdale wastewater-treatment plant.
A. Edge-of-field CP-1-A has a total phosphorus concentration of 0.957 milligrams per liter, or about 1, and the Springdale wastewater-treatment plant has a concentration of 0.148 milligrams per liter, or about .15.
Q. You agree that's about seven or eight times higher than the concentration in the wastewater-treatment plant?
A. Well, I'm making that computation. It's certainly higher. It's more than -- it's going to be between 6 and 7.
Q. Thank you.
MR. GEORGE: Your Honor, I move for introduction of Oklahoma Exhibit 6923-STOK0055232.
THE COURT: Any objection?
MR. PAGE: Your Honor, a couple of observations. The first page is 55232, then it skips to 55246. I note that the date received was 4/1/08 on the second page, yet it seems like Mr. Burgesser's

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

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4 STATE OF OKLAHOMA, ex rel.)
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6 et al.)
)
7 Plaintiffs,)
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8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
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TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 OCTOBER 20, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XXIV, P.M. SESSION

17

18

APPEARANCES:

19

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For the Plaintiffs: MR. W.A. DREW EDMONDSON
21 Attorney General
MS. KELLY FOSTER
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in the watershed?
A. I've spent a lot of time in the watershed. I think that's a fair assessment.
Q. Would it be fair to say that Detective Steele and his team collectively spent thousands of hours in the watershed?
A. I could to look at their records. They spent a lot of time in the watershed.
Q. At least hundreds of hours, wouldn't you think?
A. Yes.
Q. On direct by Mr. Page, you testified that you looked at, as a source of data, animal waste management plans and nutrient management plans. Do I have that correct?
A. That's one source, yes, sir.
Q. And isn't it true that in your report and deposition where you set forth your work and your conclusion, you nowhere express an opinion that any of the operations that you observed or that the Steele investigators observed and passed on to you is there an opinion that these operations are somehow inconsistent with the terms of a -- an Animal Waste Management Plan? It's not in your report, is it?
A. I've offered no such opinion.
Q. And the same is true with respect to nutrient management plans; you've offered no opinions that the

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

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Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXV - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 21, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 I N D E X

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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APPEARANCES:

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For the Plaintiffs: MR. W.A. DREW EDMONDSON
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Q. And how much after that did you arrive at the agency?
A. I was there on July 7th.
Q. When you became assistant director of the Water Quality Division, what did you do?
A. I worked, number one, as the go-to person when the director was out of the office, and that dealt with anything from personnel to whatever else came up. In addition, I continued to do legal duties for the division for drafting rules, working on legislation, helping to put together forms for the new programs that we were putting in place. Also, I was involved pretty heavily in reviewing CAFO applications at that time as well.
Q. And what do you do now as Deputy General Counsel?
A. Now I'm the second attorney for the building. I work with all divisions, not just the water quality group. I'm involved in every division of the agency. I do general agency work, like drafting of contracts, etcetera, personnel matters. Then I also still have responsibility for rural writing for the agency, and I've been put into the legislative work at the agency as well.
Q. Briefly, what does the Water Quality Division of ODAFF do?
A. Water Quality Services was -- or is responsible for regulating animal waste issues in the state related to

environmental laws.
Q. Before you came to work with the agency in 1997, what regulation, if any, did ODAFF have over the poultry industry?
A. Only a brief reference to poultry operations with wet -- with wet systems, wet litter systems. They, in some cases, were defined as a CAFO, so they might be included in the CAFO definition. But as far as your dry litter-type operations, we didn't have any state mechanism, state law at that time.
Q. Are you familiar with Governor Keating's Animal Waste Task Force that existed in the late 1900s?
A. Yes.
Q. Before the Registered Poultry Feeding Act was enacted, did ODAFF make any effort to determine whether it could have any regulation over, for instance, dry litter operations?
A. Sometime during the late summer or fall of 1997, the agency -- our agency had -- at that time, Dennis Howard requested an Attorney General's opinion asking if our jurisdictional authority over the environment and animal nonpoint source would allow us to promulgate rules that regulated dry litter-type operations.
Q. Did you ultimately get an Attorney General's opinion on that topic?

A. We did ultimately get an opinion, yes.
Q. As a result of that opinion, did ODAFF take any action?
A. We began doing rules. We drafted a set of rules that we called commercial poultry operations, put together that set of rules sometime in late 1997. They were done as emergency rules, so they were effective immediately upon signature by the governor.
Q. In late 1997, how much did ODAFF know about the poultry industry in Oklahoma, particularly in terms of the number of operators and the disposition of the waste?
A. We didn't really have a handle on how many operations were in the state. We didn't know how many people grew poultry in the state. We didn't have any idea as to exactly how much litter was generated or anything about that at that time.
Q. Could you tell the Court what your involvement was with Governor Keating's Animal Waste Task Force?
A. When I arrived July 7th, one of my first assignments was to make a presentation regarding some of the CAFO rules to the task force the following week. So almost immediately, I began attending those meetings. I spoke at a few, but when I wasn't speaking, most of the time I was there observing what took place during them.
Q. What was the purpose of that task force, in general

terms?
A. In general terms, it was the task force on animal waste and water quality, and it was essentially a group of individuals appointed by the governor to look at the issues related to swine CAFOs primarily, poultry operations as well, and also some other types of operations and their relationship or their impacts on water quality.
THE COURT: One quick question, because there was a document placed before the court earlier this morning regarding the -- either an Animal Waste Management Plan or Nutrient Management Plan. It specifically said as to the poultry feeding operation, this is a CAFO.
Do you consider poultry -- because this has been an issue here as to whether or not it could be properly referred to, these type of operations, as CAFOs before a jury. And there's been argument on both sides.
Do you, at ODAFF, consider these as CAFOs?
THE WITNESS: Pursuant to state law, the dry litter operations would only be a CAFO if we designated them as such.
THE COURT: So some are and some aren't?
THE WITNESS: Typically, most aren't.
THE COURT: Most are not.

THE WITNESS: They're not -- they're registered poultry feeding operations by definition rather than that.

THE COURT: That's what I understood. What's the basic distinction?

THE WITNESS: The basic distinction is the CAFO law typically deals with liquid waste, not always, but for -- in this day and age, there aren't as many liquid waste poultry operations as there used to be. I believe -- and this is just off the top of my head, but we only had ten or so poultry operations that are licensed as CAFOs within the last few years.

THE COURT: Thank you very much. I figured you'd be the person to ask that.

Mr. Nance, go ahead.

MR. NANCE: Yes, sir.

Q. (By Mr. Nance) To what extent were representatives of the poultry industry involved in the Animal Waste Task Force?

A. One of the members of the task force was a poultry grower, and he was a grower here from Oklahoma. Then on the side when they were discussing poultry issues, there were several representatives of integrators at the meetings.

Q. Could you tell the Court who those representatives

were and who they represented?
A. The ones I remember specifically because I got to know them a little bit, were Preston Keller, who was there with Tyson, and Claud Rutherford was with Simmons at that time.
Q. Did Mr. Keller ever have any other and later role in the administration of the act that was ultimately passed?
A. Yes. Once the act was passed, we put together a poultry rules advisory committee, and one of the designated positions on that was a representative of the integrators, and Preston Keller was the integrator representative at that time.
Q. To what extent was pollution from phosphorus an issue before the task force and later the legislature?
A. I'm sorry. Could you repeat.
Q. Sure. To what extent was pollution from phosphorus an issue with the task force and then later with the legislature?
A. It was an issue that was discussed heavily at those task force meetings. It was kind of an emerging issue at that time, the phosphorus issues. There had been some studies back over the past years prior to that before I arrived at the agency that seemed to point towards poultry as a potential source for those types of problems, for phosphorus issues in lakes, etcetera.

And then -- so that kind of became one of the big focuses of that task force is they started looking for solutions to those issues. And then the legislature kind of picked that up and ran with it when the 1998 session began where they were looking a little bit into those recommendations from that task force to develop some legislation.

Q. What role did you play in the enactment of the Oklahoma Registered Poultry Feeding Operations Act?

A. The Department frequently, every session, acts as technical advisors. If they have questions about how something ought to work or what does this do to some other area of law that you all are working within, we're always available.

We have a legislative liaison full time on our staff, and typically he brings over the people that may be the subject matter, people that know the most about a particular topic.

During that spring of '98, I recall being at the Capitol three to four days a week, virtually every single week that entire session.

Q. What animal waste-related bills were before the legislature in the '98 session?

A. Well, the two major ones that came out of that session were Senate Bill 1170 and Senate Bill 1175. 1175

description as well as driving directions, a map, identifying where the barns are located on a particular piece of property. And who the integrator is for that facility, as well as an environmental history of the individual applying for the registration that's looking to be registered under it.

THE COURT: What do you mean "environmental history"? What does that mean?

THE WITNESS: Environmental history is basically do you have any environmental citations against you for any type of violations or have you received any -- many in the industry -- many industries give out awards for outstanding environmental work. So it was intended to include both good or bad environmental history.

Q. (By Mr. Nance) We've heard talk before you got here about Animal Waste Management Plans. Would you tell the Court basically what the role of an Animal Waste Management Plan is under the regulatory system?

A. The Animal Waste Management Plan is a document that assists the grower in knowing what to do with their litter after -- once it's removed from the barns.

It usually involves sampling of the litter analysis -- litter analysis of what's exactly in it. It usually involves information from soil analyses. It also involves Best Management Practices listed. And it's also

1 site-specific in that it incorporates everything from the
2 statutes and the rules, but it also may incorporate
3 particular issues that are associated with that
4 individual's property, like is it a bordering stream or
5 something to that effect.
6 Q. For the benefit of the Court, we just put that
7 definition up from 10-9.1(B)(1).
8 Let's talk, Ms. Gunter, about some of the
9 requirements for an Animal Waste Management Plan.
10 MR. NANCE: Gina, if you could put up 10-9.7(C).
11 Q. (By Mr. Nance) Just tell us in general terms,
12 Ms. Gunter, what an Animal Waste Management Plan is
13 supposed to include.
14 A. Well, generally, it's supposed to include how you're
15 going to handle and utilize the poultry waste. It
16 addresses any storage issues you may have for the poultry
17 waste. It identifies you can't land apply it when the
18 ground is saturated or during rainfall events or when
19 it's frozen. And it contains references that it can only
20 be applied to suitable land at appropriate times and
21 rates. Those kinds of methods for calculating some of
22 the application rates and stuff are included in the
23 plan. And it also has a listing of items that are
24 prohibited by the act and shouldn't be performed with the
25 application.

Q. And how much after that did you arrive at the agency?
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Q. What animal waste-related bills were before the legislature in the '98 session?

A. Well, the two major ones that came out of that session were Senate Bill 1170 and Senate Bill 1175. 1175

was a revamping of the Concentrated Animal Feeding Operations Act, mainly dealing with swine issues. And the Senate Bill 1170 was the -- what we know today as the Registered Poultry Feeding Operations Act, the Poultry Waste Transfer Act, and also the Poultry Waste Applicator Certification Act.

Q. Were those three acts in one bill, 1170?

A. Yes, they were all three contained in Senate Bill 1170.

Q. Was capturing information about the poultry industry in Oklahoma part of the purpose of that act?

A. Yes.

Q. After the act was passed, did ODAFF promulgate rules under it?

A. Yes, we did.

Q. What was your role in the rule-making process?

A. I had primary responsibility for developing the rules, gathering the information that needed to go in those rules, reviewing the statute to make sure we were -- that we were in line with the statute.

Q. Under the Poultry Waste Transfer Act, did the integrators have some role that they played?

A. Not under the Poultry Waste Transfer Act. They had some educational requirements that were also contained in that bill where they -- the legislature, I think, had

talked to poultry representatives, and they had decided to assist with the educating of all of the growers that were going to be getting registered under this, that they tendered some money towards funding part of that education in those early years.

MR. NANCE: Your Honor, we have handed up what's been labeled as an exhibit, but it's a copy of Bill 1170 that has those three acts in it. I understood you did not necessarily want statutes admitted as evidence, but we've handed it to you for your convenience. We'll admit it if you like.

THE COURT: I don't think so. Just make reference. And obviously statutes are one of those things that the Court can take judicial notice of.

MR. NANCE: Right. As I thought.

Q. (By Mr. Nance) Ms. Gunter, we're going to walk through the way the ODAFF enforces this act, and I'm going to ask you a series of questions about it. And from time to time, we may have reference to particular portions of the act.

MR. NANCE: And, Gina, if you could put up the operator definition at 10-9.1(B)(15).

Q. (By Mr. Nance) Could you tell the Court, Ms. Gunter, who an operator is under this act.

A. Generally speaking, it's the person that does the

work on site of raising the poultry. The daily management functions is how the statute refers to it.
Q. Could you tell the Court how the Department interprets a poultry feeding operation. What is an operation under the act?
A. A poultry feeding operation is a facility that confines birds for 45 days or more in any 12-month period. Generally, vegetative growth is not kept in the confinement area. For example, there's no grass in the barns where the animals are being kept. And the facility produces ten or more tons of -- more than ten tons of poultry waste per year.
Q. Under the act, must one of these operations register with ODAFF?
A. Yes.
Q. If someone wanted now to make a new operation, would they have to register with ODAFF?
A. Yes.
Q. What kind of information would they have to supply ODAFF to properly register under the act?
A. Generally, basic information on who they are, who the owner is. If that's different from the operator, then a listing of both the owner and the operator. Then the other information would include mailing address, physical location of the facility, both the legal

description as well as driving directions, a map, identifying where the barns are located on a particular piece of property. And who the integrator is for that facility, as well as an environmental history of the individual applying for the registration that's looking to be registered under it.

THE COURT: What do you mean "environmental history"? What does that mean?

THE WITNESS: Environmental history is basically do you have any environmental citations against you for any type of violations or have you received any -- many in the industry -- many industries give out awards for outstanding environmental work. So it was intended to include both good or bad environmental history.

Q. (By Mr. Nance) We've heard talk before you got here about Animal Waste Management Plans. Would you tell the Court basically what the role of an Animal Waste Management Plan is under the regulatory system?

A. The Animal Waste Management Plan is a document that assists the grower in knowing what to do with their litter after -- once it's removed from the barns.

It usually involves sampling of the litter analysis -- litter analysis of what's exactly in it. It usually involves information from soil analyses. It also involves Best Management Practices listed. And it's also

1 site-specific in that it incorporates everything from the
2 statutes and the rules, but it also may incorporate
3 particular issues that are associated with that
4 individual's property, like is it a bordering stream or
5 something to that effect.
6 Q. For the benefit of the Court, we just put that
7 definition up from 10-9.1(B)(1).
8 Let's talk, Ms. Gunter, about some of the
9 requirements for an Animal Waste Management Plan.
10 MR. NANCE: Gina, if you could put up 10-9.7(C).
11 Q. (By Mr. Nance) Just tell us in general terms,
12 Ms. Gunter, what an Animal Waste Management Plan is
13 supposed to include.
14 A. Well, generally, it's supposed to include how you're
15 going to handle and utilize the poultry waste. It
16 addresses any storage issues you may have for the poultry
17 waste. It identifies you can't land apply it when the
18 ground is saturated or during rainfall events or when
19 it's frozen. And it contains references that it can only
20 be applied to suitable land at appropriate times and
21 rates. Those kinds of methods for calculating some of
22 the application rates and stuff are included in the
23 plan. And it also has a listing of items that are
24 prohibited by the act and shouldn't be performed with the
25 application.

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21 rates. Those kinds of methods for calculating some of
22 the application rates and stuff are included in the
23 plan. And it also has a listing of items that are
24 prohibited by the act and shouldn't be performed with the
25 application.

Q. What does it say in regard to runoff or waste from the application site?
A. It says specifically in (6)(C) that discharge or runoff of waste from the application site is prohibited.
Q. Does ODAFF interpret the prohibition of discharge or runoff of waste from the application site to prohibit discharge or runoff of the waste itself as it's applied or the constituents of the waste?
A. Whatever is left of the waste, whether it's constituents or whether they dump a bucketful off the property. It would be considered either way.
Q. Are there any particular constituents of poultry waste that are of significant concern to ODAFF?
A. The big one that we're statutorily required to be very concerned about is phosphorus. We're also going to look at the nitrogen value of the waste and anything else that's detected in that waste that could potentially be an issue.
Q. Is the legal prohibition on discharge or runoff of waste from the application site a requirement of an AWMP, even if it's not specifically written in the plan document?
A. Well, it's actually higher than the AWMP because it's statutory.
Q. There's been some discussion in this case about

would that grower be complying with the act?
A. No.
Q. Would that grower be complying with the requirements of a plan?
A. No, because just generally incorporated with it -- I mean, you're not supposed to have discharge or runoff. That's the overarching theme of all of this.
Q. Whose responsibility is it under the act to ensure that there is no discharge or runoff from the application site?
A. It's the grower's or the applicator.
Q. Does the act require operators to keep records of the disposition of their waste?
A. Yes.
Q. Is that it -- Section 10-9.7(C)(7). So if an operator is using litter on his or her own property, do they have to list that, record that somehow?
A. Yes. You have to record your land application.
Q. And if the waste is given away to some other person, do they have to make a record of that?
A. Yes. You're required to keep records of who you've transferred it to, whether by sale or gift.
Q. And if it's sold or given away, is there any requirement to inform whoever is taking it away what the nutrient value of it is?

industry as the appropriate ways to deal with that particular issue. It includes maintenance, management issues, all kinds of things, prohibitions in some case.

All of that sort of stuff can become part of the deal to try to minimize -- reduce or minimize, I think, is how the statute words it -- prevent or reduce, I'm sorry, established by the Department.

Q. Are there certain Best Management Practices in the act itself?

A. Yes. There's some listed.

MR. NANCE: Gina, if you could put up 10-9.7(B), please.

Q. (By Mr. Nance) What do these statutory Best Management Practices say about discharge of poultry waste from the site?

A. There should be no discharge of poultry waste to waters of the state, can't create an environmental or public health hazard. It can't -- it needs to be isolated from anything that could be a transporter to the waters of the state. Waters of the state can't come directly in contact with the poultry that are being confined. And then in a nutshell, anything that's handling or treatment or management that's appropriate for that individual site.

Q. Ms. Gunter, these days, who writes Animal Waste

Management Plans?
A. Several folks, actually. The true Animal Waste Management Plans generally were drafted by NRCS, and they still are to some extent, but not real widespread. They've moved on to other types of plans that they draft.
And the Department, back a number of years ago, hired a couple of contract guys that are just part-time individuals that used to work for NRCS that are now -- that now draft Animal Waste Management Plans under a contract through the Department.
Q. You say "a true Animal Waste Management Plan." Are there other kinds of management plans out in the agricultural world?
A. Well, the terminology changes a lot. The Animal Waste Management Plan, I think, at one time, from NRCS's standpoint -- and that's the federal agency -- evolved into a Nutrient Management Plan, which evolved into a Comprehensive Nutrient Management Plan. So there's -- there was the whole term of "conservation plan" out there as well. But generally, our statutes still use -- our state statutes still uses the term Animal Waste Management Plan.
THE COURT: When you say the NRCS still does, to some extent, draft Animal Waste Management Plans, but not

completed, we are -- we are not even allowed to keep a copy of that plan. Initially we make several copies, send them to NRCS, and NRCS sends them both to the grower, and then it's the grower's obligation to get a copy of their plan to us.

Q. Was there some confusion in your deposition about which arrangement worked for Animal Waste Management Plans?

A. Yes, there was early -- a year ago, I guess that was.

Q. And have we since learned that the strictly state Animal Waste Management Plan is, at least now, being written, for the most part, by contractors of ODAFF?

A. By the two guys that are --

Q. The two guys?

A. Yes.

Q. Who establishes the criteria for Animal Waste Management Plans?

A. The criteria for Animal Waste Management Plans, generally speaking, according to the -- we use the NRCS standard for nutrient limited watersheds, etcetera. I'm talking about Code 590. But also apparently the format that the Animal Waste Management Plans follow that are drafted by our contract folks right now are -- is based on Midwest plan service documents.

Q. Is that a commercial document or format --
A. They do a lot of different technical publications on different types of issues, yes.
Q. Does the content of the act and the rules also figure into that?
A. Yes.
Q. Is the Illinois River Watershed a nutrient-limited watershed in the state of Oklahoma?
A. Yes, it is.
Q. When did it become to be considered a nutrient-limited watershed?
A. I believe the date was July 1, 2006.
Q. Is at least part of the Illinois River Watershed considered a nutrient-vulnerable groundwater area?
A. Yes.
Q. You mentioned a minute ago Code 590, which is an NRCS publication. Could you tell the Court what role that document takes in preparing Animal Waste Management Plans.
A. Well, that document is the primary document that the State of Oklahoma relies on for putting these plans together for growers. They're going to set forth -- it sets forth a lot of the BMPs that are in addition to what's in the statute. It sets forth rates of application that can be performed that are incorporated

into those AWMPs based on soil sampling, based on litter analysis, based on location, various items.
Q. Does the Code 590 document have a maximum soil test phosphorus number up to which some land application is to be allowed in a nutrient-limited watershed?
A. Yes it contains a max standard of 300 for phosphorus.
Q. Does the NRCS Code 590 application standard require that poultry waste be applied up to that maximum standard?
A. No.
Q. Is the use of the NRCS standard something that's in the act? Is that something called for in the act?
A. In the rules, I know that's the standard we refer to. And then I believe the act only makes reference to the most current standard by NRCS in some locations.
Q. So must Animal Waste Management Plans incorporate both the provisions of the act and then the upper limits set in the NRCS 590? Do both of those apply to a plan?
A. Yes.
Q. And do operators have to obey both the requirements of the state statute and whatever the limits are in Code 590?
A. Yes. They follow the statute and their plans.
Q. Let's talk for a minute about the Applicator Act. I

Q. Let me ask you, Ms. Gunter, if ODAFF has a sufficient number of personnel to determine if people who are receiving poultry waste from an operator directly or indirectly in the IRW, do you have enough personnel to determine if they actually have one of these other kind of plans?

A. No. Typically, we've never had the manpower that could sit down and try to match up the land application records with individuals and then determine if they had a plan.

Q. I think we mentioned -- and if I didn't, I apologize -- but as ODAFF interprets the act, do Best Management Practices -- the same Best Management Practices that operators have apply also to areas where applicators apply waste?

A. Yes.

MR. NANCE: I think we're putting up part of 10-9.20(A), Your Honor. I just invite your attention to the end of subparagraph A where it talks about Best Management Practices, part of the same act.

Q. (By Mr. Nance) Ms. Gunter, can the Department of Agriculture alter by rule the land application rates that may be in the statute or the NRCS standard in nutrient-limited watersheds?

A. There is some language in the Poultry Act that would

allow us to set lower standards in nutrient-limited watersheds.

Q. Has ODAFF ever received a formal request to draft a rule with a lower soil test phosphorus level than presently exists?

A. Not to my recollection.

Q. If such a rule were adopted by ODAFF, would it be subject to review by both houses of the legislature and the governor?

A. Yes.

Q. If such a rule were adopted and finally approved by the legislature and the governor, and it lowered the STP level applicable in the watershed, would that mean that there is more or less poultry waste that could be applied in the watershed?

A. If you lowered the standard, there would be probably less property available for the land application of it.

THE COURT: Are you saying you have to have a formal request to begin drafting a rule with a lower STP?

THE WITNESS: If I'm not directed to by someone within my agency and have not received a direction --

THE COURT: I understand that, but he's talking about a formal request from outside.

THE WITNESS: Well, typically there's a -- there

are provisions that allow individuals to request rule making by the agency. It's in some of our administrative rules.

THE COURT: I understand that. That doesn't go to my question. Is the agency taking the position that it has to receive a formal request from outside in order to draft a lower standard, which you say is possible?

THE WITNESS: No, sir.

THE COURT: Go ahead.

THE WITNESS: That's not what I'm saying.

Q. (By Mr. Nance) Ms. Gunter, would the simple adoption of such a rule, even if it was approved by the legislature and the governor, in and of itself assist operators in getting the excess litter from where it is to someplace it could be properly applied?

MR. HOPSON: Objection. Calls for speculation.

MR. NANCE: I think it's logically necessary. I don't think there's anything speculative about it.

MR. HOPSON: If it's logically necessary, then it's irrelevant. It's argumentative.

THE COURT: It is argumentative. Sustained. Rephrase, please.

Q. (By Mr. Nance) Would such a rule alone, Ms. Gunter, without any sort of additional funding, help the growers to move litter that they could no longer put down to

someplace that was appropriate?

MR. HOPSON: Objection. Calls for speculation, argumentative.

THE COURT: Sustained.

Q. (By Mr. Nance) Ms. Gunter, if ODAFF adopted such a rule and it were approved by the legislature and the governor, would it have any effect in the state of Arkansas?

A. No.

Q. You discussed earlier with the Court about accepting new registrations. And let me ask you simply if ODAFF is accepting new registrations, if they're in proper form, at the current time.

A. Yes, we are.

Q. Does holding a registration mean that the grower has -- just holding the registration -- the grower has complied with all of the requirements of the act?

A. Yes -- no, sir, it does not.

Q. Does the simple possession of a registration mean that an operator continues to be in compliance with the act?

A. No, it does not.

Q. Does the act, Ms. Gunter, have any requirement for education of growers or operators?

A. Yes, it does.

Q. How much education are they required to get?
A. Each new grower is required to get nine hours of education in their first year, and every grower is required to get three hours of update training each year thereafter that they're in operation.
Q. Typically, who provides that education to growers?
A. The initial nine hours was typically provided through OSU Cooperative Extension Service.
Q. Have you ever participated in the education program for growers?
A. Yes.
Q. And what's been your participation in that program?
A. My participation is -- I was a frequent speaker at those education events. Typically, I would do the session that related to the laws and the rules and would speak to groups live -- well, all up and down across the east, especially in the early days of the Poultry Act. And I repeated that same discussion at many different venues over the years since '98.
Q. In those venues, did you explain how an Animal Waste Management Plan works?
A. Yes. We discussed the statute and the laws and how -- and the rules, excuse me, and how that was all supposed to operate for them.
Q. In those education forums, did you emphasize the

no-runoff requirement that we've talked about in the statute?
A. Yes. There were no runoff, no discharge requirement.
Q. Has there been a video made of such a presentation that has been used in educational meetings with new growers?
A. Yes. OSU developed a video to put basically all of those different education portions onto one single document so people could review it at the offices there.
Q. Do you appear in part of that video?
A. Yes, I do.
Q. About how long is the presentation you make on the video?
A. If I recall, it's around 20, 30 minutes, something to that effect.
MR. NANCE: Your Honor, we would offer just the portion of Defense Joint Exhibit 1191-A, which is collectively the whole set of nine presentations. We would like to offer just Ms. Gunter's part of the presentation on regulations not for the truth of the matter that are set out in them, but to demonstrate the fact of what is given to growers in this educational program, the substance of what they are told about the legal requirements, particularly the adherence of the

before '06. It wasn't until July 1 of '06 that that became one.

THE COURT: It was stated by you that a -- that a poultry litter sampling analysis had to be made available to the applicator, but the form says give a copy. Is that by statute or regulation? And which is it, give somebody a copy, or does it simply have to be made available?

THE WITNESS: I believe the statute says, "made available."

THE COURT: In other words, it just has to be there on site?

THE WITNESS: Well, no, it has to be -- tried to deliver to them. There was some speculation at the time that that was all drafted that what if they didn't want to take it; are you going to hold the grower accountable if the hauler says, no, I don't want that. We didn't want them to be out of compliance just because someone wouldn't take that from them.

THE COURT: You made a statement there that there's been no action by the Department to do so. As I understand it, that was a reference to a limitation of land application of poultry litter. And this, obviously, was some years ago. I notice the card that the individual showed was expired December 2001. I don't

1 know if that's when the video was taken or not. Has
2 there been, to date, any action by the Department to do
3 so?
4 THE WITNESS: To limit the --
5 THE COURT: Land application of poultry litter
6 to certain areas.
7 THE WITNESS: Not in certain watersheds, no,
8 sir.
9 THE COURT: How about in the IRW?
10 THE WITNESS: No, sir.
11 THE COURT: Go ahead.
12 Q. (By Mr. Nance) Let's talk, Ms. Gunter, about the
13 enforcement of the no-runoff provisions. Would you tell
14 the Court, please, how many poultry inspectors ODAFF has
15 statewide.
16 A. Statewide, we have about five poultry inspectors.
17 Q. How many of those inspectors work in some portion of
18 the Illinois River Watershed?
19 A. Two of them.
20 Q. Do you recall those gentlemen's names?
21 A. David Berry and John Littlefield.
22 Q. Could you tell the Court, please, how many poultry
23 operations each of those gentlemen is responsible for in
24 total.
25 A. David Berry is responsible for a total of about 112,

based on the current counts. And John Littlefield is based -- currently has about 209 assigned to him.
Q. How many of those operations are within the Illinois River Watershed?
A. Of David Berry's 112 operations he's assigned, 53 are located in the watershed. And of Mr. Littlefield's 209 operations, 24 are located in the watershed.
Q. You mentioned a couple of things on the video: Annual inspections and possible complaints. Are those the two main ways that no-runoff violations would be investigated?
A. Yes.
Q. Who responds to complaints, whether it's no runoff or anything else, about a poultry operation, at least in the IRW?
A. Typically, the poultry inspector that's responsible for that particular area.
Q. And tell us just in general terms how a complaint is processed and the inspector is sent out.
A. Generally, we receive the complaints at the office, and the inspector's immediately notified once we've looked at it to make sure we have full information. A copy is faxed to the inspector, and the inspector then looks towards his current schedule and tries to get out there as soon as possible.

Q. Would you tell the Court just generally what goes on in an annual inspection of an operation.
A. An annual inspection is -- our inspector will go out and visit with the grower, discuss any issues that they may have had over the past year, any items that they need help on. Also, they will then fill out their form, their information form where they're checking to make sure, first of all, that the records are being kept at the facility, that they've got all their records intact, including their education certificates, and they can check off that those are indeed there.
They can also identify if they are missing any forms that they should have. Or if it appears that those forms are not filled out completely or correctly, they can discuss any of those issues. They can also do a review of the property just by looking it over, seeing if anything stands out as an issue. And just generally, those are the main things they would do out there.
Q. Does ODAFF have enough staff to go out in the field and take runoff samples from fields when it rains?
A. Typically, no.
Q. Does ODAFF have enough staff to observe where waste are land applied on a regular basis?
A. No, not on a regular basis.
Q. Does ODAFF have staff typically to go and take

MR. HOPSON: In an effort to try to expedite things, I'm going to try to hand out to everybody, including the witness, some exhibits I may use.

THE COURT: Thank you, Mr. Hopson.

MR. HOPSON: May I approach?

THE COURT: You may.

CROSS-EXAMINATION

BY MR. HOPSON:

Q. Ms. Gunter, I'd like to -- I'm Mark Hopson. I represent Tyson Foods in this matter. I don't think we've ever had the pleasure of meeting before.

A. No, sir.

Q. I want to start by asking you a couple of questions that follow up on the Judge's question about the Registered Poultry Feeding Act and how that relates to the CAFO statute. Do you remember the questions His Honor asked you about that?

A. Yes.

Q. Can you tell us when the CAFO law was originally enacted?

A. Well, if you're talking about state statute, that language was originally called the Feed Yards Act, and I don't know the precise year, but it was sometime late '60s, early '70s that it became effective in the state of Oklahoma.

Q. As I understand it, that is also a law that could cover poultry or dry litter application issues; isn't that correct?
A. Only if designated.
Q. There's a provision. If you look at what I handed to you, I believe I handed you a copy of what's been marked for identification as Tyson's -- Defendants' Demonstrative 193. Is that in there?
A. Yes, sir.
Q. Take a look at that and tell His Honor what statute that is.
A. This is a copy of the Oklahoma Concentrated Animal Feeding Operations Act.
Q. I'd like you to turn to Section 20-44 that governs the licensure of concentrated animal feeding operations. Would you take a look at that. I'd like to direct your attention, if you will, to Subsection C, which says, "Any animal feeding operation may be designated as a concentrated animal feeding operation if it is determined to be a significant contributor of pollution to the waters of the state." Is that correct?
A. Yes, sir.
Q. Is that the provision that you're referring to by which a dry litter, or we'll call it a poultry feeding operation, could be designated a CAFO?

A. This would be one of the methods, yes.
Q. And what would the consequences, in simple terms, of that be? Would it be a stricter regulation if such a operation was designated as a CAFO?
A. Yes. Typically, it would be more strict in some areas. Definitely.
Q. What areas would it be stricter in?
A. It would be more strict in their attempts to deal with vectors at the site. It would also be more intensive scrutiny by the Department in that the annual inspections are much more in-depth. The recordkeeping is much more in-depth. Water samples at the site are necessary, as well -- of your water wells, etcetera, in the area.

So there's a lot -- a number of things that would be required in that case.

Q. I understand it, ma'am, that as of this time, there are no dry litter -- that is, poultry feeding operations -- in the Illinois River Watershed that have been made subject to this provision; is that correct?
A. I don't think there are any right now, yes, sir.
Q. Okay. I'd like to draw your attention to another exhibit that Mr. Nance mentioned in his examination of you. That's Defendants' Joint Exhibit 1176.

Do you recall Mr. Nance talking to you about the

Office of the Attorney General's opinion?
A. Yes, I do.
Q. Is this the opinion he was referring to?
A. Yes, it does look like it is.
MR. HOPSON: I'd move the admission of Defendants' Joint Exhibit 1176.
MR. NANCE: No objection.
THE COURT: Well, once again, AG opinions are bound and published. If you'll simply make reference to the opinion, which is number 97-95, the Court will take judicial notice of that AG opinion.
MR. HOPSON: All right, Your Honor.
Q. (By Mr. Nance) Looking at the opinion in front of you, this opinion was issued by the Attorney General, as I understand it, in response to a question or inquiry from Mr. Griffin, the Secretary of the Environment, and from Mr. Ed Fite; is that correct?
A. Yes, it is.
Q. And the question, if I can paraphrase, is, prior to the enactment of the Registered Poultry Feeding Operations Act, what authority did your agency have to engage in environmental enforcement relating to poultry operations. Is that a decent paraphrase of what this is about?
A. Yeah, I think so.

is that correct?
A. Yes, sir.
Q. Am I correct that your agency has never, at least to date, gone to court to seek such an injunction or to enforce water quality standards?
MR. NANCE: Object to the extent that that's argument based on laches or estoppel which they have disclaimed as defenses in this case.
THE COURT: It's not offered on the grounds of laches or estoppel, correct, Mr. Hopson?
MR. HOPSON: I thought it was just a question, Your Honor. I didn't think it was a argument about laches or estoppel or anything else.
THE COURT: Overruled. It basically goes to whether or not it's been done.
THE WITNESS: You asked if injunction --
Q. (By Mr. Nance) Gone to any district court to seek to enforce these water quality standards?
A. No, not just enforce water quality standards.
Q. Let's look at a few provisions of the Registered Poultry Feeding Operations Act. And I've given you a different Bates number, but for the -- to try to keep things simple here, let's just use Exhibit 334. Oklahoma Exhibit 334 you should still have in front of you. Try to have one less exhibit number in the record for the

benefit of the court staff.

You understand that, in general terms, the purposes of this act was to regulate poultry feeding operations within the state of Oklahoma; is that correct?

A. Yes.

Q. If you look over on page 10 -- I'm sorry, Section 10-9.3, it makes it unlawful for any person to construct or operate a new poultry feeding operation without having first registered with the State Board of Agriculture; is that correct?

A. That's correct.

Q. Everybody who was doing this, that is feeding poultry within the definition of this act at the time the act went into effect, had to register within six months, right?

A. Yes, of existing operations at the time the act came about.

Q. And they also had to either get an Animal Waste Management Plan or apply for one; is that right?

A. Yes.

Q. Everybody has an Animal Waste Management Plan now, right?

A. I haven't determined if everyone has one in our files currently.

Q. Do you think it's possible that ten years into the

effectiveness of this act that there's still operations out there that don't yet have an Animal Waste Management Plan?

A. I think it's still possible there's a poultry farm on a mountain somewhere that's never heard of this stuff. We find them occasionally.

Q. Putting aside the hermits up on top of a mountain that are registered poultry feeding operations, let me ask a better question. If they register with you, they've got a plan, right, Ms. Gunter?

A. Should have one, that's correct.

Q. There are a couple of provisions of this statute that apply to integrators like my client, Tyson Foods; isn't that right?

A. Yes.

Q. For example, if we turn to 10-9.5, Subsection G, there is a provision that says, "No integrator shall enter into any contract with an operator of a poultry feeding operation who is not in compliance with requirements of Subsection F of this section." Is that correct?

A. That's correct.

Q. I think there's another one that I skipped over in 10-9, Subsection 2, that has to do with funding of education programs; is that correct?

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A. What section?
Q. I've lost it now. I had it here a second ago.
A. I think you're talking about the one at the very end.
Q. There's one at the very end, 10-9.11(G), that provides "The Department shall notify all integrators of any violations assessed against an operator who was under a contract growing arrangement with that integrator."
That's one of them, right?
A. Yes.
Q. Isn't there one in here that has to do with the funding of educational programs?
A. Yes, it does.
Q. Do you know where that is?
A. Yes, it's in 10-9.22.
Q. Those are the only references to integrators like Tyson Foods in this statute; is that correct?
A. Yes. Well, no, there's a provision that they have to provide the name of their integrator to us on their registration.
Q. That's not something the integrator does or is sent to the integrator; it's just something the grower has to do, right?
A. Yes.
Q. The law does, as Mr. Nance pointed out, provide that

every poultry-growing operation and Animal Waste Management Plan shall utilize Best Management Practices. And that's in 10-9.7, right, Ms. Gunter? The very first words, in fact --

A. Yes.

Q. -- of it, right?

A. Yes.

Q. That's mandatory, isn't it?

A. Yes, it is.

Q. That's a mandatory command from the legislature?

A. Yes.

Q. And it also goes on to say in that very same section not only do they meet the -- shall meet the Best Management Practices set forth in this law, but they also have to meet any Best Management Practices and rules promulgated by your agency, right?

A. Yes.

Q. And Oklahoma, through its legislature, goes on to declare what criteria or standards have to be included in the Best Management Practice rules, right, in the very next subsection, Subsection B?

A. Yes.

Q. So this Subsection B says, so we're clear, "The criteria for Best Management Practices shall be promulgated by rules by the Board and shall include..."

That is a command about what your agency must include in its rules, correct?
A. Yes.
Q. One of the things your agency must include in your Best Management Practice rules is that there shall be no discharge of poultry waste to waters of the state, correct?
A. Yes.
Q. And you also must include in the criteria for Best Management Practices, under Subsection 4, that poultry waste handling, treatment, management and removal shall not create an environmental or a public health hazard. Right?
A. Yes, sir.
Q. And if you go down to -- well, I should ask you. I think you'll agree with me. You certainly will agree with me the Board followed these criteria when it promulgated its rules for Best Management Practices; isn't that correct?
A. Yes, these are part of the criteria.
Q. If you go down a little bit further, it says that every poultry feeding operation shall have an Animal Waste Management Plan which shall include, at a minimum -- in Subsection C -- and then it goes on to list certain things, right, Ms. Gunter?

A. Yes.
Q. Again, you'll agree with me that's a mandatory command of what shall be included in an Animal Waste Management Plan, right?
A. That's correct.
Q. And, in fact, the way this works is, most Animal Waste Management Plans -- in fact, all of them I've seen -- maybe you know an exception -- most Animal Waste Management Plans, in fact, incorporate all of the relevant Best Management Practices right into the plan; isn't that correct?
A. They're supposed to, yes, sir.
Q. Have you seen one that doesn't incorporate Best Management Practices?
A. No. I haven't reviewed a significant number of plans.
Q. Let's look at what the legislature says is required under Animal Waste Management Plans. The first thing it says is that it says it shall include, under Subsection 5, that land applications -- "land application rates of poultry waste shall be based on the available nitrogen and phosphorus content of the poultry waste and shall provide controls for runoff and erosion as appropriate for site conditions." Did I read that correctly?

A. Yes, you did.
Q. And that is something that shall be included in every Animal Waste Management Plan; is that correct?
A. Yes.
Q. And there's a further specific command set forth down in Subsection (C)(6) about things that must be ensured in terms of the procedures that are documented in the Animal Waste Management Plan. Do you see that?
A. Yes, sir.
Q. Specifically, there are four subsections, A through D, but what this part of the statute says is that the procedures in the Animal Waste Management Plan must ensure that the handling of poultry waste complies with certain requirements; isn't that correct?
A. Yes, sir.
Q. That is a command, if you will, to the plan writers, is it not?
A. Yeah, it uses "must," but "shall" is usually what they use as a command language. "Must" gets a little more wishy-washy sometimes.
Q. You think "must ensure" is pretty wishy-washy?
A. In comparison to "shall," yes.
Q. You like "shall" better than "must ensure"?
A. Yes.
Q. You don't disagree with me that when the legislature

of the State of Oklahoma says the procedures documented in the Animal Waste Management Plan must ensure compliance with certain requirements, they mean that to be mandatory language, do you?

A. Yes -- no, I don't disagree with you.

Q. You don't disagree?

A. Is that what you asked me?

Q. That's what I was going for anyhow. So I'm happy with the answer. We'll move on.

One of the things that the Animal Waste Management Plan must ensure is that poultry waste shall only be applied to suitable land at appropriate times and rates; isn't that correct?

A. Yes.

Q. It also goes on to say that the procedures documented in the Animal Waste Management Plan must ensure that discharge or runoff of waste from the application site is prohibited, correct?

A. Yes.

Q. It goes on to say that the procedures documented in the Animal Waste Management Plan must ensure that the timing and rate of application shall be based on the assimilation capacity of the soil profile assuming usual nutrient losses, expected participation, and soil conditions; is that correct?

A. Yes, sir, that's what it says.
Q. All that's been incorporated into the regulations that your agency has prepared; isn't that correct?
A. Yes, these things are incorporated.
Q. When it says, "expected precipitation," what that means is that the Animal Waste Management Plan should ensure that the farmer who's going to place poultry waste on a particular field should take into account the expected precipitation, right?
A. Yes.
Q. That means that, to put it in laymen's terms, you should check the weather report, correct?
A. Correct.
Q. There's no strict liability here under this provision if the weather man is wrong, is there, ma'am?
MR. NANCE: Object. Calls for a legal conclusion, Your Honor.
MR. HOPSON: She's been testifying to legal conclusions since lunchtime.
THE COURT: Overruled.
THE WITNESS: Do you mind repeating that?
Q. (By Mr. Hopson) You're not contending that if a grower goes out in good faith and checks the weather report, and Weather.com and AccuWeather all say it's going to be cloudy but dry, and it turns out to be wrong

that that's a violation of this statute, is it?
A. No, so long as he's done his due diligence on it.
Q. Because nobody knows exactly when it's going to rain, right, Ms. Gunter?
A. No, not typically. They claim they do.
Q. But they're usually wrong. All right. Now, I take it that sitting there today, you're not telling me that you know of any Animal Waste Management Plan that fails to meet these statutory requirements, are you?
A. I haven't reviewed large numbers of Animal Waste Management Plans at all.
Q. So the answer is no, you know of none?
A. I wouldn't have knowledge.
Q. Okay. Will you pull out Defendants' Joint Exhibit 3029.
MR. HOPSON: Your Honor, I will just say, this is another law, but it's a regulation, so I don't know if you want to follow the same rule as you do with respect to statutes.
THE COURT: They are more difficult to obtain and to ensure that you get the current version. So any preferred approach here, Mr. Nance, as to Oklahoma Administrative Code?
MR. HOPSON: 3029.
MR. NANCE: No, I have no objection.

THE COURT: Beyond the specific document, any thoughts, Mr. Nance? You deal with administrative procedures and the rules quite often. Would it be helpful, you think, for all of us and for the Appellate Court in the event that we were to admit those administrative rules?

MR. NANCE: I think it would be helpful to have them available in the record in one form or another, and I don't object to their admission.

THE COURT: All right.

MR. NANCE: At least one document at a time, I don't object to 3029.

THE COURT: Defendants' 3029 is admitted. This would be a perfect time to take our midafternoon recess.

(Whereupon a recess was had.)

THE COURT: Mr. Hopson.

MR. HOPSON: Thank you, Your Honor. Just before the break, we had admitted Defendants' Joint Exhibit 3029. Do you have that in front of you?

THE COURT: Yes, sir.

THE WITNESS: Yes, I do.

Q. (By Mr. Hopson) Would you tell His Honor what the Defendants' Joint Exhibit 3029 is.

A. It's a copy of the Oklahoma Administrative Code of Title 35, Chapter 17 for water quality, Subchapter 5,

dealing with poultry feeding operations.
Q. Would it be fair to say that these are the regulations your agency drafted as part of the implementation of the Registered Poultry Feeding Operations Act?
A. These are rules, yes, sir.
Q. I'm not going to spend a lot of time on these. I just want to look down at a couple of things that you mentioned in your direct testimony. One is the definition of Animal Waste Management Plan. And I just want to note that your rules say the plan shall be prepared by the USDA, NRCS or an entity approved by the State Department of Agriculture; is that correct?
A. Yes, it is.
Q. I guess right now, plans are being written by a couple of contract employees to ODAFF; is that correct?
A. Many of them are.
Q. If you flip over to the next page, Section 35:17-5-5, there's another statute -- another section of the regs that sets forth the Animal Waste Management Plan requirements, right?
A. Yes, sir.
Q. This is consistent with the statute, but it sets forth some additional detail about what should be contained in Animal Waste Management Plans; is that

correct?
A. Yes.
Q. If you will put that aside, Ms. Gunter, and pick up Defendants' -- I'm sorry, Oklahoma Exhibit 334, there are a couple of things I wanted to ask you about in the statute before we put that aside for the final time.
And the first thing I'd like to direct your attention to is back to Section 10-9.7, but this time I'd like to direct your attention to Subsection E. And that is the section that I'm sure you're familiar with that sets forth the standards for poultry feeding operations in a nutrient-limited watershed; is that correct?
A. Yes, sir.
Q. So this is the subsection, if you will, of Section 7 that would apply to any poultry operations in the Illinois River Watershed today; is that correct?
A. Yes, sir.
Q. This is -- you've already told us this, that every poultry feeding operation in a nutrient-limited watershed has to have an annual soil test and an annual poultry waste test; is that correct?
A. Yes, annually.
Q. And that's pursuant to statute, right?
A. Yes.
Q. It says then in the last sentence, "Soil and poultry

That is a command about what your agency must include in its rules, correct?
A. Yes.
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Q. This is -- you've already told us this, that every poultry feeding operation in a nutrient-limited watershed has to have an annual soil test and an annual poultry waste test; is that correct?
A. Yes, annually.
Q. And that's pursuant to statute, right?
A. Yes.
Q. It says then in the last sentence, "Soil and poultry

waste testing shall be performed to determine" -- Subsection C -- "application rate based upon current United States Department of Agriculture Natural Resources Conservation Service Waste Utilization Standards, unless the State Department of Agriculture approves other standards." Did I read that correctly?

A. Yes, you did.

Q. What that means is that your agency can, in fact, approve other standards for the Illinois River Watershed, right?

A. For nutrient-limited watersheds, yes, which would include that.

Q. For example, your agency could propose and implement standards that lowered the maximum application rate from 300 to 200, correct?

A. We could propose such rules, yes.

Q. You could propose rules moving the maximum application rate based on STP from 300 to 65, right?

A. We could propose them, yes.

Q. You haven't done so to date, correct?

A. No.

Q. There is, in fact, another provision of this statute that governs this issue of what the standards are, isn't there? I won't try to trick you. Turn to 10-9.19. This is a provision, part of the same bill that was passed,

but it's actually in the Oklahoma Poultry Waste Applicators Act; isn't that right?
A. Yes, 9.19.
Q. 9.19, Subsection 3, says, "The State Department of Agriculture may promulgate rules pursuant to the Administrative Procedures Act which will prohibit the land application of poultry waste in nutrient-limited watersheds and nutrient-vulnerable groundwaters based upon lower soil phosphorus levels than are allowed in this section for non-nutrient-limited watersheds and non-nutrient-vulnerable groundwaters". Is that correct?
A. Yes, that's what it says.
Q. And under this provision, your agency could, in fact, promulgate rules to prohibit the application of poultry litter in nutrient-limited watersheds, correct?
A. Yes, we could propose rules.
Q. Haven't done so yet, right?
A. No.
Q. Okay. Let's move on in our examination of this act and its provisions. I want to talk to you for a minute about the plan writers. Because the truth is these rules that we've been looking at in the statute, you just don't give the statute and the rules to the farmers. The farmers and growers actually obtain a plan; isn't that correct, Ms. Gunter?

exactly correct; but in some cases, they will ask the inspector that that facility would ultimately be in their region to go out and take the soil samples and such to -- and provide the information to the writer.

Q. Isn't it the case, ma'am, that most of the plan writers will actually visit the growers and visit the plans before they complete the Animal Waste Management Plan?

A. I don't know that for a fact. I only know that they do in some cases, but there have been other cases where our inspectors did it.

Q. Well, you do agree that, in any event, they have to understand the soils and they have to understand the fields on which the litter is proposed to be applied, right?

A. Yes.

Q. And they have to develop procedures and processes for land application that are individualized to the specific fields and properties on which litter is going to be applied, correct?

A. That's correct.

Q. Let's go ahead and take a quick look, I'm going to ask you to pick up something else that's in front of you, and that is Code 590. Code 590 has been marked in the packet in front of you as Defendants' Joint Exhibit

Management Services and the Oklahoma Department of Agriculture, Food and Forestry, correct?
A. Yes.
Q. I'm not going to spend a lot of time on this, but if you will turn over to the page that is labeled at the bottom DJX34800004, I want to ask you a couple of questions about what's set forth on this page. Okay. So just take a minute and look at it. You've seen some Animal Waste Management Plans before, haven't you, Ms. Gunter?
A. Yeah, just in general, I have.
Q. You taught the growers about what's contained in an Animal Waste Management Plan. I'm sure you looked at a couple, didn't you?
A. No, I've looked at it from the standpoint of what's in the statute and required in those plans. That's how I developed my speech for the education.
Q. Well, can you tell me, based on your education and experience in this area, that the second line down referring to nutrient content is referring to a test of the litter and setting forth the results of the test of the litter?
A. Yes.
Q. And the next little chart says, "soil test results." Is that, in fact, as far as you can tell, the

results of testing soil in three different fields?
A. Yes.
Q. If we read below that, it says, "Soil test phosphorus index is 120 and 300 in fields 1 and 3. Litter can be applied at one-half rate."
I think, Ms. Gunter, it's missing a word. And I think the word it's missing is "between." I think that should read, "Soil test phosphorus is between 120 and 300 in fields 1 and 3." Does that make sense to you?
MR. NANCE: Calls for speculation, Your Honor.
THE COURT: Sustained.
Q. (By Mr. Hopson) What's the soil test phosphorus in field number 1?
A. The soil test phosphorous?
Q. Uh-huh.
A. Is 214.
Q. What's the soil test phosphorus in field number 3?
A. 282.
Q. Do you remember, based on your study of the statute and the NRCS standards, what kind of application that would provide for?
A. I can refer to the Table 9 --
Q. Why don't we.
A. -- if that's okay.
Q. Yes. Let's go back to Defendants' Joint Exhibit

3916 and look at Table 9 on page 590-21. What's the rate of application for soils between 120 and 300?
A. On the slope chart, it's half rate.
Q. Okay.
A. And on the chart relating to rocks and -- and slopes, it's half rate.
Q. So you and I can agree that on these fields that are between 120 and 300, litter can be applied at one-half rate, correct?
A. Up to.
Q. Right. Well, actually, when we go back to the Animal Waste Management Plan -- I'd like to look at the exact language there. The exact language of Mr. Ricky Reed's plan is that "litter can be applied at one-half rate." Am I reading that correctly?
A. It says "can," yes.
Q. And if you look at the next sentence, it appears that this plan writer has calculated how many tons of litter per acre is equivalent to one half-rate, doesn't it?
A. Yeah, he's done a calculation there.
Q. And he's calculated that Ricky Reed can apply 1.8 tons of litter per acre maximum application rate, correct?
A. Yeah, that's what that second sentence says, that's

correct.
Q. If you look down a little bit further on that page, ma'am, you will see that there is another chart that consists of the application summary. Do you see that?
A. Yes.
Q. And for fields 1 and 3, it tells Mr. Reed that he can apply 1.8 tons per acre in field No. 1, which will equal 47 tons used, and he can apply 1.8 tons per acre in field number 3, which will equate to 16 tons used; isn't that correct?
A. I think so.
Q. Turn the page -- let me just ask you one more question about this page. Field No. 2 has a soil test phosphorus of 414; isn't that correct?
A. Yes, it does.
Q. The plan writer is telling Mr. Reed you cannot apply any poultry litter to field No. 2; isn't that correct?
A. He's put a zero for application rate in tons.
Q. That's consistent with your understanding of the law, because the limits are 300 STP in nutrient-limited watersheds, right?
A. That's correct.
Q. If you turn the page over, just want you to quickly look at the next page, because I think you can confirm for me that it contains certain waste utilization

guidelines that include conditions that will prohibit the surface application of litter; isn't that correct? Do you want me to repeat that, since I caught you in midcough?

A. Yes, please.

Q. These -- under "Waste Utilization Guidelines," Subsection E, the plan writer has set forth certain conditions that will prohibit the surface application of litter; isn't that correct?

A. Are you talking about Subsection 3, "any one of the following conditions"?

Q. Yes.

A. Yes, there are some prohibitions there.

Q. Among the prohibitions listed is a prohibition on applying litter if there is a high probability of a runoff producing rainfall listed as Subsection B, right?

A. Correct.

Q. Listed at Subsection C, it says you cannot apply litter if the ground is frozen and, in Subsection D, if saturated conditions exist; isn't that correct?

A. Yes.

Q. The frozen ground and saturated conditions are some of the things you talked about with Mr. Nance as being Best Management Practices; isn't that correct?

A. Yes.

Q. I'm almost through with this, but I'd like to direct you a little bit further down the page under Subsection F to Best Management Practices. One of them is under Subsection 4, "Maintain a good growth of grass at all times. Grass should not be less than four inches tall. This reduces runoff, erosion and nutrient loss." Did I read that correctly?
A. Yes, that's what it says.
Q. Is that telling the grower that the grass should be four inches tall at the time litter is applied?
A. I don't know for sure what it's telling.
Q. Let me ask you, a little bit further down under Subsection 7, it says, "Do not apply litter within 50 to 100 feet of streams, ponds and water wells. Buffer strips should be maintained in that area." Would you characterize that as a Best Management Practice?
A. Yes, it would be a BMP.
Q. Turn over, if you will, Ms. Gunter, to page DJX34-0011. And I just want to ask you if you've ever noted this type of information in an Animal Waste Management Plan. It appears to tie to certain maps that are contained in the plan and contain soil descriptions. Is that typically a part of a Animal Waste Management Plan?
A. Typically, that's part of the maps that are going to

be included, as they're going to do their analysis of the soil types from -- gosh, I can't -- the soil surveys. So...

Q. So you believe that the information on page 0011, the description of the soils in certain fields, could be from soil surveys as well as possibly from the actual inspection of the plan writer?

A. 0011, correct.

MR. NANCE: Calls for speculation, Your Honor.

THE COURT: Sustained.

Q. (By Mr. Hopson) Do you know where these soil descriptions come from on page 3480-0011?

A. There's not a reference on this page.

THE COURT: Do you know?

THE WITNESS: It appears to be from the soil survey definitions of different types of soils.

Q. (By Mr. Hopson) Okay. I just want to ask you to wind up this discussion of this Animal Waste Management Plan. The contents of this Animal Waste Management Plan are, to some degree, discretionary; wouldn't you agree?

A. Discretionary?

Q. Don't you think that the person who drafted this plan took some judgment and some -- applied some decisions in choosing what to put in this plan?

MR. NANCE: I think that also calls for

speculation on what the person who drafted it knew or did or could have done.

THE COURT: Not the way the question was framed. Overruled.

THE WITNESS: So -- I guess I'm not sure what you're asking, because by "discretionary," I mean, there are many things in here that are required to be in here, but when it comes to site-specific plans, there may be some things that do not apply whatsoever to a facility.

Q. (By Mr. Hopson) That's exactly what I was getting at. Unlike the application process for registration that you described. That's pretty uniform, isn't it?

A. Yes.

Q. I mean, you've got to accept the registration if it's in the proper form, correct?

A. In its -- yeah, it's the same form for everyone also.

Q. But it's not the same Animal Waste Management Plan for everyone, is it, Ms. Gunter?

A. They'll have similar -- or the same content in many circumstances, but it is required to be site specific.

Q. So it's not the same Animal Waste Management Plan for every grower, is it?

A. Well, I mean -- you're saying these 20 pages with this exact information, is that what you're saying?

Q. That's what I'm saying.
A. Then, yeah, this would not work on another property. It could have different soils, it could -- their soil test phosphorus may come out differently, etcetera.
Q. And the amount of litter that it's going to say you can apply -- the amount of litter that an Animal Waste Management Plan says you may apply on a particular field is going to apply on -- is going to depend on specific conditions on that field and on that farm, right?
A. Yes, it will depend on sampling data.
MR. HOPSON: Excuse me, Your Honor, one second.
THE COURT: Yes, sir.
Q. (By Mr. Hopson) Let's talk a little bit about some of the topics you discussed with Mr. Nance relating to enforcement. One of the things you talked about is the number of inspectors and how this all works for complaints within your agency; isn't that right?
A. Yes, sir.
Q. On the video, we saw something about a point system for violations. Do you recall that?
A. Yes.
Q. There is also -- in addition to a point system, there is a provision involving significant violations of the animal waste management rules and regulations, isn't

there?
A. The one where they can be designated as a CAFO?
Q. Yes. Why don't you pick up what we've already looked at as Oklahoma Exhibit 334 and turn for me to page 10 -- I'm sorry, Section 10-9.12. This is the -- if you're there, Ms. Gunter, this is the provision that sets up the violation point system, right?
A. Yes.
Q. And I'd like to direct your attention to Subsection (B)(1)(a), which says, "Violations involving the greatest harm to the natural resources of the state, ground or surface water quantity or quality, public health or the environment shall receive the most points and shall be considered significant violations." Did I read that correctly?
A. Yes, you did.
Q. I take it you cannot identify for me any significant violations that have been found in the Illinois River Watershed; is that correct?
A. I don't recall using this provision on any enforcements, but I don't do a lot of the enforcement anymore.
Q. So the answer to my question would be yes, correct?
A. Yes. I don't remember exactly how you phrased the question, I'm sorry.

Q. Let me ask you this: There are significant penalties for violating this act contained in Section 10-9.11 of the act, are there not?
A. Well, in comparison to other authorities, no, $200 is not significant.
Q. Well, it's a criminal offense, isn't it?
A. Yes, but any violation of the ag code could be a criminal offense.
Q. It also provides for civil penalties; isn't that right?
A. Yes, it does.
Q. Can you confirm for me that no criminal action has ever been brought by the Attorney General under this provision?
A. I don't recall one.
Q. I want to direct your attention to -- and I think you have it in front of you, but Carol will correct me if I'm wrong -- Defendants' Joint Exhibit 11, Defendants' Demonstrative Exhibit 196.1.
Can you tell His Honor what Tyson's Demonstrative 196.1 is?
A. It is a copy of the Oklahoma Department of Agriculture's Water Quality Standards Implementation Plan. It's Title 35 , Chapter 45, Subchapter 1.
Q. Is this something that you're required by statute to

Q. Let me ask you this: There are significant penalties for violating this act contained in Section 10-9.11 of the act, are there not?
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A. It is a copy of the Oklahoma Department of Agriculture's Water Quality Standards Implementation Plan. It's Title 35 , Chapter 45, Subchapter 1.
Q. Is this something that you're required by statute to

prepare?
A. Yes, sir.
Q. Is the general purpose of this to tell how -- for each agency that has some environmental authority, to tell how they're going to do their part with regard to these water standards' implementation?
A. Yes.
Q. Let's flip back. I only want to look at one section of this. I'd like to look at the section that is 35:45-1-7, and it refers to animal waste programs.
A. Yes, I'm there.
Q. Do you have that now?
A. Uh-huh.
Q. Okay. I'd like to look at Subsection (c)(2), which is on the second page from where that provision starts, if you can flip over to that. I'd just like to read a description of what your agency has written about animal waste programs.
And before I do that, I should ask you, Ms. Gunter, animal waste programs would include the Registered Poultry Feeding Operations Act; is that correct?
A. Yes, it's one of the programs.
Q. Under (c)(2) it says, "Animal waste programs can affect groundwater and surface water beneficial uses if

1 facilities are not designed and operated properly. The
2 application process is targeted at removing the possible
3 threat of pollution to waters of the State by not
4 allowing any discharge to surface water, except in
5 limited circumstances, by promoting recycle and
6 beneficial reuse of wastewater, by not permitting any
7 hydrologic connection between waste storage facility and
8 groundwater, by preparing or reviewing Animal Waste
9 Management Plans, Nutrient Management Plans, or
10 equivalent documents emphasizing Best Management
11 Practices and conservation measures, and by routine
12 inspections of regulated CAFOs, LMFOs and poultry feeding
13 operations." Did I correctly read that?
14 A. Yes, you did.
15 Q. Is that a fair description of how the animal waste
16 programs operate in the state of Oklahoma?
17 A. It's especially true of the CAFO program. Many of
18 these things are lifted out of the CAFO Act. But, yes,
19 generally is an overall view, yes.
20 Q. Let me read one other thing under "Technical
21 information and procedures for implementation," which is
22 (d)(1). It says, "All programs are involved in
23 regulating the animal and poultry feeding operations to
24 assure that facilities meet the minimum requirements.
25 The programs evaluate facility location, watershed,

soils, groundwater data, stream data, flood information, water samples, manure and litter samples and other pertinent information. The application process evaluates the potential effects of the proposed operation on waters of the state to ensure both groundwater and surface water are not polluted." Did I read that correctly?

A. Yes.

Q. Let me talk to you, finally, about the video we watched for just a minute.

MR. HOPSON: I'd like to cull up Demonstrative 195 on the screen, if you will.

Q. (By Mr. Hopson) And I don't think you'll have any problems with this, but I will represent to you this is a screen capture from some of the video that you made and that we watched this afternoon. Do you agree with that?

A. Yes, it appears to be so.

Q. And before we get into this, you'll confirm for me that this video, this training session was not designed and implemented for lawyers, right?

A. Right.

Q. It was designed and implemented for growers or farmers who have poultry operations and are subject to the act, correct?

A. Yes, sir.

Q. And you meant it to be clear and comprehensible,

didn't you? One of the things that is on the screen while you're talking is the following two slides. And the slides read, "Your Animal Waste Management Plan will include particular practices to ensure you do not have runoff from land application sites to waterways surrounding your facilities."

That specific language appears on the screen during the video we watched, right, Ms. Gunter?

A. Yes.

Q. And I've taken the liberty -- we can play it again if you want to, but I've taken the liberty of putting underneath that what you are saying while these screens are shown. And what you're saying is, "Your Animal Waste Management Plan will also include particular practices which you can use to make sure that you do not have runoff of the poultry litter from your land application sites to waterways surrounding your facilities."

You agree with me that that is a accurate statement of what's expected in an Animal Waste Management Plan, correct?

A. Yes, all types of practices are included in that to help someone.

Q. Well, I'm just going to insist on an answer to my question. You'll agree with me that's an accurate statement, and that is what you tell these farmers about

what they should expect from their Animal Waste Management Plan; is that correct?
A. Yes, that appears to be accurate from -- what I've said on the video.
Q. It's not a coincidence, is it, Ms. Gunter, that the slide that you put up during this training session actually tracks the language of the statute, doesn't it?
A. Usually that's what I try to do.
Q. Because you and I already, earlier this afternoon, looked at the provision of the statute -- I think it's Subsection 7 -- that says that "Animal Waste Management Plans will ensure that you do not have runoff from your facilities"; isn't that correct?
A. It will help the grower ensure, but the plan itself is a document that they can use as their guideline.
Q. Let's pull out the statute, Ms. Gunter. Pick up your statute. I'd like to direct your attention to Section 10-9.7.
Are you with me?
A. Yes.
Q. I'd like you to look at Subsection C. Will you agree with me that Subsection C says, "Every poultry feeding operation shall have an Animal Waste Management Plan which shall include at a minimum." See that?
A. Yes, sir.

Q. That's mandatory language, a command from the legislature of the State of Oklahoma, correct?
A. Yes, sir.
Q. And one of the commands in Subsection 6 is that "the procedures documented in the Animal Waste Management Plan must ensure that the handling and utilization of poultry waste complies with the following requirements." Did I read that correctly?
A. Yes, you did.
Q. One of the things that must be ensured under Subsection C is that discharge or runoff of waste from the application site is prohibited. Isn't that correct?
A. That is correct.
Q. That's what you're saying in that slide that we were just looking at a minute ago, right?
A. (No response.)
Q. Isn't that a paraphrase of that statutory language?
A. Yes, it is.
MR. HOPSON: No further questions, Your Honor.
THE COURT: Further cross. Mr. Tucker.
MR. TUCKER: May it please the Court.

CROSS-EXAMINATION

BY MR. TUCKER:
Q. Ms. Gunter, my name is John Tucker.
A. Yes, sir.

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That specific language appears on the screen during the video we watched, right, Ms. Gunter?

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Q. Let's pull out the statute, Ms. Gunter. Pick up your statute. I'd like to direct your attention to Section 10-9.7.
Are you with me?
A. Yes.
Q. I'd like you to look at Subsection C. Will you agree with me that Subsection C says, "Every poultry feeding operation shall have an Animal Waste Management Plan which shall include at a minimum." See that?
A. Yes, sir.

Q. And you or other members of your staff had the opportunity to request or suggest technical changes in that legislation, did you not?
A. Typically, we were limited to technical issues. We made an attempt to not interject ourselves into the politics of it, which dictated some of that bill.
Q. Is that because the Department of Agriculture does not look on itself as a public policy-making agency for the State of Oklahoma?
A. We can make public policy as directed by the legislature.
Q. So the legislature sets the public policy, and the Department implements the public policy set by the legislature?
A. Yes, within their parameters.
Q. Is it your interpretation that your job, then, with respect to the poultry industry, to poultry feeding, to poultry litter is that you are implementing the public policy set out by the legislature?
A. Yes.
Q. The use of the current NRCS standard, that phrase originated with the legislature; is that correct?
A. The --
Q. Not Code 590, but you'll recall with Mr. Hopson, you answered some of his questions -- one of the questions

had to do with not a specific numerical code but the then current NRCS standard?
A. Correct.
Q. Where does the then current language initiate? Does that originate with the legislature?
A. Of the -- of what standard to use when they --
Q. Yes.
A. I don't recall exactly who suggested that language.
Q. The language is actually originally in the governor's task force report, wasn't it?
A. Okay.
Q. They could have selected some other standard, if they had chosen, rather than the then current NRCS standard?
A. Yes, they could have.
Q. They could have suggested some unique Oklahoma standard, correct?
A. They could have suggested another standard, yes.
Q. But they did not. They selected the current NRCS standard, and that standard was implemented as a part of the public policy of the state by the legislature; is that correct?
A. Yes, sir.
Q. Now, do you know what the State of Oklahoma is seeking in this lawsuit with regard to poultry litter?

A. Many things.
Q. Well, is what it's seeking -- well, I'm sure that's true, but is what the State is seeking here a limitation that is an additional limitation on top of the restrictions of Code 590 and the existing Animal Waste Management Plan scheme?
MR. NANCE: I object to lack of expertise and beyond the scope of direct.
MR. TUCKER: If she knows what they're seeking, Your Honor.
THE COURT: Overruled. Go ahead.
THE WITNESS: I'm aware that they're seeking a lower limit on phosphorus.
Q. (By Mr. Tucker) So they are seeking something that is more restrictive than the present existing Code 590 and existing Animal Waste Management Plans as set out by your rules and regulations and by the legislature; is that correct?
A. From a numerical standpoint, yes.
Q. But it's different. It's not the same as what you have now?
A. Correct, it's not the document that we looked at today.
Q. That request is in disagreement with your standards, is that right, with your regulations?

ceiling.
Q. Would it be fair to say that "up to" is your editorial comment as opposed to what's actually in the document?
A. I don't have time to peruse the entire document to look for that, so I can't say that it's not in here. I don't see it right now.
Q. If you'd known how long the last witness was on, you better not say you don't have time.
THE COURT: Six and a half days.
Q. (By Mr. Tucker) Better rethink that answer. That's basically what comes to your mind is "up to"; is that right?
A. Yes.
Q. Putting it on the other shoe, if you were the parent, you wouldn't mind if the teenager came home at 11:00, would you?
A. Correct.
Q. Even though the rule was 12, correct?
A. Correct.
Q. When you say that no one has submitted a request for a change of rules, would it be fair to say that neither the Oklahoma Department of Environmental Quality, the Oklahoma Water Resources Board, the Oklahoma Conservation Commission or the Secretary of Environment, that none of

1 those folks have submitted any written request to ODAFF
2 to make a change in the litter application standards?
3 A. I don't recall anything in a written request form
4 from those agencies.
5 Q. Since you're in charge of regulations, you'd be the
6 person that would certainly know about it, wouldn't you?
7 A. I would certainly have expected to see it, yes.
8 Q. If the Deputy General Counsel doesn't know about it,
9 then the agency is not operating under the system you'd
10 like for it to operate, is it? Is that correct?
11 A. Yes.
12 Q. Is it correct that your agency is the agency charged
13 with responsibility to record violations of the
14 Registered Poultry Feeding Act?
15 A. Yes, our agency identifies violations.
16 Q. And charged to record assessment of points?
17 A. Yes, that can be a component of the enforcement.
18 Q. Are those records to which you have access?
19 A. Records of compliance?
20 Q. Are the records regarding violations and points
21 records to which you have access?
22 A. I can request them from the division, yes.
23 Q. Mr. Hopson went through your video with you and, in
24 fact, your own counsel introduced the entire video. Has
25 any subsequent version of that video been produced?

A. Not to my knowledge. Not with me involved.
Q. Is that still used to train growers?
A. As far as I know, but I haven't been involved in that aspect of training growers in a number of years.
Q. Do you know when it was last shown?
A. No, sir.
Q. Is it correct that Oklahoma State University was also -- well, let me ask you some other questions first about that.
With regard to these plan writers, today you said that there are a couple of plan writers that are subcontractors or contracted out by the State.
A. They're independent contractors.
Q. Mr. Hopson talked to you a bit about the fact that they have to be trained. These are not just folks that would like to have a job, right? These plan writers are trained persons?
A. Yes, they are. They have expertise.
Q. Did you have input to the State's response to Cargill, Inc. and Cargill Turkey Production's request for admissions and interrogatories that would have been filed in the early part of this year? Were you asked for any input on that?
A. I don't remember specifically. We've had a lot of interactions back and forth on aspects of discovery, and

be included, as they're going to do their analysis of the soil types from -- gosh, I can't -- the soil surveys. So...

Q. So you believe that the information on page 0011, the description of the soils in certain fields, could be from soil surveys as well as possibly from the actual inspection of the plan writer?

A. 0011, correct.

MR. NANCE: Calls for speculation, Your Honor.

THE COURT: Sustained.

Q. (By Mr. Hopson) Do you know where these soil descriptions come from on page 3480-0011?

A. There's not a reference on this page.

THE COURT: Do you know?

THE WITNESS: It appears to be from the soil survey definitions of different types of soils.

Q. (By Mr. Hopson) Okay. I just want to ask you to wind up this discussion of this Animal Waste Management Plan. The contents of this Animal Waste Management Plan are, to some degree, discretionary; wouldn't you agree?

A. Discretionary?

Q. Don't you think that the person who drafted this plan took some judgment and some -- applied some decisions in choosing what to put in this plan?

MR. NANCE: I think that also calls for

speculation on what the person who drafted it knew or did or could have done.

THE COURT: Not the way the question was framed. Overruled.

THE WITNESS: So -- I guess I'm not sure what you're asking, because by "discretionary," I mean, there are many things in here that are required to be in here, but when it comes to site-specific plans, there may be some things that do not apply whatsoever to a facility.

Q. (By Mr. Hopson) That's exactly what I was getting at. Unlike the application process for registration that you described. That's pretty uniform, isn't it?

A. Yes.

Q. I mean, you've got to accept the registration if it's in the proper form, correct?

A. In its -- yeah, it's the same form for everyone also.

Q. But it's not the same Animal Waste Management Plan for everyone, is it, Ms. Gunter?

A. They'll have similar -- or the same content in many circumstances, but it is required to be site specific.

Q. So it's not the same Animal Waste Management Plan for every grower, is it?

A. Well, I mean -- you're saying these 20 pages with this exact information, is that what you're saying?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
OCTOBER 22, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XXVII, A.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
Attorney General
MS. KELLY FOSTER
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Oklahoma City, OK 73105

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A. We could check the number.
Q. Part of that issue is, of course, the issue of breaking out your production by watershed versus breaking it out as a company matter?
A. Yes, sir.
Q. And as COO, you would have been more concerned on the company level rather than the watershed level?
A. Exactly. Total production as opposed to by watershed.
Q. Now, as you say, some of these birds were raised -- or that George's was raising were raised by contract growers?
A. Yes.
Q. And George's also operates some growing facilities itself?
A. Yes. George's has ten farms in the Illinois River Watershed that are operated by the company, operated by George's.
Q. Some of those are actually owned by George's, aren't they?
A. Yes.
Q. Do you know how many are --
A. One farm is owned by George's, and then the remainder of the farms are owned by George's affiliated family members.

Q. They are sometimes referred to as investors?
A. Yes, sir.
Q. George's actually operates that farm for them?
A. That is correct.
Q. And as COO, you had direct oversight over the corporate farms?
A. Yes, the company operated those farms.
Q. And people who were operating them were somewhere in a reporting line directly under you?
A. That would be correct.
Q. You also had oversight generally over the contracting grower operations. We'll get into the details, but -- let me rephrase.
The production of birds on the contracting farms, those were generally under your title as COO, right?
A. Those are independent contractors, but those contractors did grow chickens for George's, Inc., so I would assume that you would look at it that we had responsibility for the chickens.
Q. I'm just trying to be sure -- just make clear for the record that under your title as COO, producing the birds on contractor farms was one of the things under you.
A. Production would have come under me, yes.

Q. Let's talk about sort of the distribution of these various facilities. And we're talking in the terms of the IRW. George's has George's company-operated farms. Are those in Oklahoma or Arkansas?
A. All of the company-operated farms are in Arkansas.
Q. What about the contract growers?
A. Of the contract growers, there are 27 farms, 27 broiler farms, three of those farms are in Oklahoma. The remainder are in Arkansas.
Q. So George's -- overwhelmingly, George's birds are produced in Arkansas?
A. Yes, sir.
THE COURT: When you say 27 broiler farms and three in Oklahoma, you're saying 24 in Arkansas are in the IRW?
THE WITNESS: Yes, sir.
THE COURT: All right.
Q. (By Mr. Bullock) As for your corporate-operated farms, George's has always taken responsibility for disposing of the waste from those farms, correct?
A. Yes. We have responsibility for managing the litter from those farms.
Q. And you leave it to the growers to do that on the contract farms?
A. The growers own the litter on the independent

applied to the words that are in that sentence.

THE COURT: Sustained. Rephrase, please.

Q. (By Mr. Bullock) Well, let's not refer to this. Let's -- let me just ask you in terms of the company. The company expected that the grower would implement the recommendations of the service tech, didn't they?

A. The company would expect that the grower would use his best efforts to take care of the birds. The service tech's recommendations are just that: They are recommendations. He is an independent grower, independent contractor. And the service tech is trained to tell him the best methods for growing chickens, the methods that have proven to produce the best, low-cost chicken, the best chicken at the best cost.

So those recommendations are guidelines basically that are given by the service tech for him to follow. But they are just that: They're recommendations.

Q. Well, he's supposed to use his very best efforts to follow those, isn't he?

A. Well, he's supposed to use his very best efforts to grow a chicken.

MR. WEEKS: Objection, Your Honor, we're right back where we were previously.

THE COURT: Sustained.

well.

THE COURT: Go back here real quickly. Mr. Henderson, on item 4 here, it certainly does refer to neglect, but there's an "or" there, correct?

THE WITNESS: Yes.

THE COURT: You may be terminated, A, if you're not following the program; or if you're neglecting the birds, correct?

THE WITNESS: That's the way it's written, sir. We -- to my knowledge, George's has never terminated a grower for not following recommendations.

THE COURT: Go ahead, Mr. Bullock.

MR. BULLOCK: All right.

Q. (By Mr. Bullock) Let me take and clean this off my podium. I can get messy before it's over.

Now, one of the things, in talking about the -- your operations is that you do provide your growers with a contract to -- I'm sorry. You provide your growers with signage for their particular farm, do you not?

A. Yes.

Q. And signs reference George's, Inc. They identify that grower as a grower for George's, Inc.?

A. Yes.

Q. And there's not any substantive difference between the signage that you put out in your company-operated

reading discussed phosphorus. It also discussed nitrogen, and -- but it primarily discussed litter management in general, so I was not specific to phosphorus with what I was trying to impart to the growers.

Q. (By Mr. Bullock) Well, let's go down the article some, and if you will look perhaps what is the fourth line up, about the middle, where -- the sentence that begins, "The problem comes." I'll read that.

"The problem comes when more litter is used than the crops need and phosphorus levels become too high in the soil. During major rain events, some of the phosphorus becomes soluble and washes off into streams and lakes." Do you see that?

A. Yes.

Q. Did I read that correctly?

A. Yes, sir.

Q. At some time around that time, you had identified the problem as being putting on more phosphorus than the crops need?

A. What I was referring to here was the --

Q. Well, if you could --

A. Well, I can't answer that yes or no, but let me --

Q. I'm going to -- some of our witnesses haven't had that much. I think you were in the courtroom yesterday.

But I'm going to give you a little bit of space here, okay?
A. Thank you, sir. What I was trying to say here is litter management had become an issue on -- a major issue on the radar screen. And we wanted -- our growers had been required by state regulation and by contract to have Nutrient Management Plans.
What I was trying to do was to ensure that they understood reasoning behind that, and that we were educating them to the point that they would follow and understand why they needed to follow Nutrient Management Plans. I was basing that on science and things that I had read. That was the reason for the article. It was a proactive article to be environmentally conscious.
Q. All right.
A. That was the reason.
Q. Mr. Henderson, I appreciate that.
A. Thank you, sir, for allowing me to say that.
Q. But let's get back to what you said in the article. As to what your understanding is -- you and I both know neither of us are scientists.
A. Yes.
Q. But the question here is what you understood at this point. And you make reference here to phosphorus becomes a problem when -- when the litter is -- I'm sorry, I'm

creating an imbalance in streams and rivers." Do you see that?
A. Yes.
Q. Did I read it correctly?
A. Yes, sir.
Q. The issue that you were trying to bring to people's attention was the problem of litter use contributing to water quality problems, that it could do that, correct? Let me rephrase.
What you were trying to bring to people's attention there was that litter use could contribute to water quality problems?
A. I had read that. And, yes, I think that's correct.
Q. Now, over -- almost equal with that, over in the next column, you write, "Once the soil testing is done, we may find that a lot of litter may have to be transported to other parts of the country where fertilizer is not so plentiful and is needed for producing pasture and crops."
That's one of the solutions that George's actually was implementing at that point, right?
A. Yes.
Q. And the point is to get the phosphorus to where it's needed, correct?
A. My point in writing this was that if growers had

scientists talk about that.
Q. How about the importance of having a spring and its recharge area there on the property?
A. I have no direct knowledge of that. I know what I read.
Q. Well, let's go on to what is GE7057, which is the third page of the document. Now, again, this is July of 1999, isn't it, when this report is dated?
A. April.
Q. April, I'm sorry.
A. April 16 of 1999.
Q. Do you see Table 3 there as to soil phosphorus levels and recommended fertilizer?
A. Yes.
Q. Do you see on there the "phosphorus pounds per acre" column?
A. Yes.
Q. That -- as you look down, do you understand that the first column where it has M1a, b, etcetera, down to M3, those are various designated field areas?
A. Yes.
Q. And, for instance, M2a, it shows 948 being the phosphorus pounds per acre on that piece of property?
A. Yes, sir.
Q. What, if anything, did George's do after they

received this Nutrient Management Plan?
A. George's complied with the Nutrient Management Plan following receipt.
Q. Okay. So no more litter was applied there at the Morrison farm?
A. No, sir.
Q. Let me try it again, just to make sure the record is right. Was litter applied after you received this?
A. No, sir, not to the Morrison farm.
MR. VOLPE: I object.
MR. BULLOCK: I just wanted to be sure we didn't have double negatives, Judge.
THE COURT: All right. Just to make the record clear, was the objection lodged?
MR. VOLPE: No, I didn't make it, Judge. Next time.
THE COURT: Okay.
Q. (By Mr. Bullock) Now if you would get Oklahoma Exhibit 2790-A.
A. Okay.
Q. First of all, what is George's Ritter Farm?
A. The Ritter Farm was a company-operated hen farm, had four breeder hen houses on it.
Q. What exactly is the function of a breeder hen farm?
A. That farm for -- it did produce hatching eggs for

Q. Let's talk about sort of the distribution of these various facilities. And we're talking in the terms of the IRW. George's has George's company-operated farms. Are those in Oklahoma or Arkansas?
A. All of the company-operated farms are in Arkansas.
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THE WITNESS: Yes, sir.
THE COURT: All right.
Q. (By Mr. Bullock) As for your corporate-operated farms, George's has always taken responsibility for disposing of the waste from those farms, correct?
A. Yes. We have responsibility for managing the litter from those farms.
Q. And you leave it to the growers to do that on the contract farms?
A. The growers own the litter on the independent

contract farms, yes.
Q. We'll get more into the contract itself, but the contract doesn't transfer the waste from the birds to the grower, does it?
A. The litter from the contract farms is owned by the grower.
Q. Well, but --
A. And the contract does not transfer --
Q. Okay.
A. -- either.
Q. It doesn't speak either way to that issue?
A. No.
Q. Now, in terms of this mix between Oklahoma and Arkansas of your production facilities, did that evolve over your 15 years with the company?
A. I'm not sure how that -- over the total evolution of that, Mr. Bullock, I think those three growers were probably in existence in Oklahoma when I came with the company. And those remaining contract farms, most of those would have been there when I came with the company.
Q. And so over the time that you've been there, not as to specific numbers, but just generally, George's has primarily operated in Arkansas with some presence in Oklahoma?
A. Yes.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXVIII - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

OCTOBER 22, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 I N D E X

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **MONTY HENDERSON**

Continued Direct Examination by Mr. Bullock 3114

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9 **JAMES DAVID STRONG**

10 Direct Examination by Ms. Foster 3129

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litter that couldn't be utilized in the area. We also wanted a market -- wanted to develop -- we wanted an entity that could develop a market that would provide the growers an opportunity to sell their litter to someone outside of the watershed, and BMP's could be that entity that could operate and buy and resell litter, operate as a -- as a broker-type company, so to speak, to handle those excess tons of litter from independent contract growers

Q. Okay. A couple things. Do you have an understanding as to the date that compliance with the Arkansas nutrient management law became mandatory, approximate time?

A. I believe -- I don't know the date exactly -- but I believe the law was -- the regulation was passed -- or the act was passed by the legislature in 2003. I don't think that went into effect until late '06.

Q. Maybe '07?

A. Maybe early '07.

Q. Okay. And so at the time of the formation of BMP, Inc., I take it that it wouldn't necessarily be true that all the growers would have Nutrient Management Plans, would it?

A. All the growers that grew chickens for

George's by contract were being asked to have Nutrient Management Plans.

Q. To at least apply for them --

A. Yes, sir.

Q. -- is that correct.

Because I saw that, in fact, for instance, I think the Ritter farm, the Nutrient Management Plan that I saw was 2003; is that correct?

A. Yes. If I remember, it was April of 2003.

Q. All right. So what is your understanding of the Arkansas PI index?

A. Can I refer back to the previous discussion before lunch?

Q. Yes, sir.

A. Okay. There was a discussion that we referred to in the minutes there --

Q. Well, let's -- well --

A. Let me just -- ask me the question again.

Q. Okay. What is the Arkansas PI index?

A. It is a PI index that's used in the development of Nutrient Management Plans for growers in the state of Arkansas to manage -- it gives them a document by regulation to manage their litter.

Q. Okay. And so that is one of the things which was embedded, as it were, in this law that Arkansas

MR. HOPSON: Well, the objection was sustained to the question, why do you support this, Your Honor. I don't know why it's relevant, why Mr. Strong, in either his personal or frankly his official capacity, supports the legislation -- I'm sorry -- the litigation. It's been pending for more than four years.

MR. MCDANIEL: If I could add, Your Honor, this lawsuit is about the claims at law; it's not about someone's personal motivations. It's not relevant.

MR. TUCKER: And I'd also add, Your Honor, that I would assume why he supports this, what's set out in the pretrial order by the plaintiff, are their grounds for pursuing the lawsuit.

THE COURT: I would think so as well. And, of course, it doesn't necessarily -- in response to Mr. McDaniel's statement -- doesn't necessarily go to his personal motivation. He is the trustee of natural resources in the State of Oklahoma, but it should be set forth in the pretrial order.

Are we going to add anything to the claims that are already here? I want to move forward here. Ms. Foster, is there anything that you intend to adduce here from the witness in response to that

1 question that adds to what's already in the
2 pleadings --
3 MS. FOSTER: Well --
4 THE COURT: -- and in the pretrial
5 order?
6 MS. FOSTER: I'm trying to think that
7 through for a second because I don't want to be
8 repetitive.
9 But I guess -- and maybe you can tell me if
10 you want to hear it -- the reason I'm asking these
11 questions is he is -- in addition to the natural
12 resource trustee, he is the governor's appointee for,
13 you know, the cabinet. He's the cabinet secretary for
14 environmental issues.
15 Eliciting why the state thinks the suit is
16 important and what interest it's trying to protect I
17 think is relevant to the lawsuit, and hearing it from
18 the actual client representative I think would be
19 helpful as opposed to seeing it -- you know, lawyer's
20 writing things on a pretrial order.
21 THE COURT: All right. Well, I think
22 it's fairly clear to me. If we can do it efficiently,
23 go ahead.
24 A. Okay. I'll try to be quick.
25 Because we have worked diligently over many

Q. What about Barren Fork from the mouth upstream to Highway 59; what are its designated beneficial uses?

A. Public and private water supply, cool water aquatic community, agriculture, primary body contact recreation, and aesthetics.

Q. Does it have any special designations under the antidegradation policy that are noted in this entry?

A. It does. Outstanding resource water and scenic river.

Q. And so according to this, the Barren Fork from its mouth upstream to Highway 59 is designated as a scenic river?

A. It is. I should correct my earlier statement that it was to the Adair County line.

Q. And if you'll turn to the next page, I want to ask you about the designations for Barren Fork from Highway 59 to the Arkansas state line.

What are the beneficial use designations for that?

A. Public and private water supply, cool water aquatic community, agriculture, primary body contact recreation, aesthetics, and outstanding resource water.

Q. Is this section designated a scenic river?

A. It is not.

Q. But it's protected under the antidegradation standards as an outstanding resource water?

A. It is.

Q. What about the upper Illinois River upstream from the Barren Fork confluence?

A. It is a public and private water supply, cool water aquatic community, agriculture, primary body contact recreation, aesthetics, beneficial uses with outstanding resource water and scenic river additional designations.

Q. And just because this will probably come up later, I notice next to each of these entries there are water body ID numbers, a lot of numbers.

Can you explain what those are?

A. Those are the water body ID numbers assigned to the -- in this case -- of the upper Illinois River upstream of Barren Fork, for example, five different -- it's broken into five different segments by the state's water body ID system.

Q. Okay. So when this says, "Upper Illinois River upstream of Barren Fork confluence," would that be the entire length of the Illinois River to the state line?

A. That would be, yes.

Q. And within that segment, there are five different subsegments?

A. There are.

Q. And what about Flint Creek; how has it been designated for beneficial uses?

A. Public and private water supply, cool water aquatic community, agriculture, primary body contact recreation, and aesthetics.

Q. Does it have any special designations associated with this segment?

A. It does. Outstanding resource water and scenic river.

Q. Is this the full-length of the river to the state line from its confluence with the Illinois River?

THE COURT: I think we've been over that.

A. Yes.

Q. *(BY MS. FOSTER)* Do both -- are there both narrative and numeric criteria which apply to these segments of the Illinois River that we've just discussed?

A. There are.

Q. If, for example, a narrative criterion is

IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF OKLAHOMA

W. A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA and OKLAHOMA SECRETARY OF THE ENVIRONMENT C. MILES TOLBERT, in his capacity as the TRUSTEE FOR NATURAL RESOURCES FOR THE STATE OF OKLAHOMA,	)
Plaintiffs,	)
vs.	)
TYSON FOODS, INC., et al,	)
Defendants.	)

DEPOSITION OF

DONALD DALTON

April 16, 2009

10:00 a.m.

999 Peachtree Street, N.E.
Atlanta, Georgia

Frances Buono, RPR, CCR-B-791

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EXHIBIT
Oklahoma Ex. 7063
4:05-cv-00329

Case Clip(s) Detailed Report
Monday, November 02, 2009, 8:15:53 AM

Oklahoma Trial Sept 2009

Maner, Martin (Vol. 01) - 12/03/2007

1 CLIP (RUNNING 01:05:36.768)

Courtroom

MM01 22 SEGMENTS (RUNNING 01:05:36.768)

1. PAGE 7:13 TO 7:15 (RUNNING 00:00:07.100)

13 Q Mr. Maner, please state to the court your full
14 name.
15 A My full name is Carl Martin Maner, M-A-N-E-R. 09:57AM

2. PAGE 9:10 TO 12:22 (RUNNING 00:04:14.600)

10 Q Did you do anything to prepare for your 09:59AM
11 deposition this morning?
12 A The only preparation I did was read through
13 the paper that I wrote back in '88.
14 Q All right, and what caused you to read that
15 paper? 09:59AM
16 A Well, I had been called by someone a number of
17 months ago about that paper and I understood that
18 was going to be the subject of the deposition.
19 Q Do you remember who that was?
20 A No, I don't. Somebody from the State of 09:59AM
21 Oklahoma.
22 Q Did you meet with anybody in preparation for
23 your deposition today?
24 A No.
25 Q Let's go back starting with your high school 10:00AM
00010:01 and tell the court, if you would, what is your
02 education experience.
03 A I graduated from Hot Springs High School in
04 1962. I attended Henderson University. It's a
05 small college in Arkadelphia for two years in a pre- 10:00AM
06 engineering college, and I graduated from the
07 University of Arkansas in Fayetteville in 1970 with
08 a degree in civil engineering, and I got -- I have a
09 masters degree in natural science from the
10 University of Arkansas at Fayetteville. Got that in 10:00AM
11 1974.
12 Q Okay. Any other postgraduate work besides
13 what you just described?
14 A I've had a handful of postgraduate, graduate
15 level university courses but nothing to pursue a 10:00AM
16 degree, just particular programs in water quality
17 and courses of that nature.
18 Q All right. Any courses in soil science or
19 related areas?
20 A I took a graduate level course in -- it was 10:01AM
21 soil mechanics. It was oriented more towards soil
22 mechanics than soil science. I have had a soil
23 morphology class that was taught through the
24 University of Arkansas and Department of Health on
25 soil morphology, characteristics to determine 10:01AM
00011:01 suitability for percolation rates and that sort of
02 thing.
03 Q Okay, and were those in the recent past or
04 shortly after your masters degree in '74?
05 A The soil mechanics class was in the '80's. I 10:01AM
06 guess the soil morphology class was somewhere in the
07 '80's. They were not -- they were sort of in
08 between.

EXHIBIT
Oklahoma Ex.
7062
4:05-cv-00329

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXIX- AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 2, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **JOHN BLAKE**

8 Videotaped Deposition 3207

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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 NOVEMBER 2, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XXX, P.M. SESSION

17

18

APPEARANCES:

19

20

For the Plaintiffs: MR. W.A. DREW EDMONDSON
21 Attorney General
MS. KELLY FOSTER
22 Assistant Attorney General
State of Oklahoma
23 313 N.E. 21st St.
Oklahoma City, OK 73105

24

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5 **DON DALTON**

6 By Deposition 3247

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8 **MARTIN MANER**

9 By Deposition 3264

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Case Clip(s) Detailed Report
Monday, November 02, 2009, 8:15:25 AM

Oklahoma Trial Sept 2009

Blake, John P. (Vol. 01) - 04/03/2009 [383132 Oklahoma Trial 200...] 1 CLIP (RUNNING 01:32:20.570)

Judges orders

JB-01 29 SEGMENTS (RUNNING 01:32:20.570)

1. PAGE 7:16 TO 7:21 (RUNNING 00:00:06.866)

16 BY MR. RIGGS:
17 Q. SIR, WOULD YOU STATE YOUR NAME FOR THE
18 RECORD, PLEASE.
19 A. JOHN PAUL BLAKE.
20 Q. IS IT DR. BLAKE?
21 A. YES.

2. PAGE 9:17 TO 11:02 (RUNNING 00:01:20.533)

17 Q. DR. BLAKE, WHERE ARE YOU EMPLOYED?
18 A. AT AUBURN UNIVERSITY IN THE DEPARTMENT
19 OF POULTRY SCIENCE.
20 Q. WHAT IS YOUR POSITION WITH AUBURN?
21 A. PRESENT POSITION AS PROFESSOR AND
22 POULTRY EXTENSION SCIENTIST.
23 Q. I HAVE SOME INFORMATION HERE WHICH
00010:01 TELLS ME THAT YOU OBTAINED A BS DEGREE IN
02 ANIMAL SCIENCE IN 1979 FROM PENNSYLVANIA STATE;
03 A MASTERS OF SCIENCE IN ANIMAL SCIENCE IN 1982
04 FROM UNIVERSITY OF MAINE; AND YOU GOT YOUR
05 PH.D. IN ANIMAL SCIENCE FROM VIRGINIA
06 POLYTECHNIC AND STATE UNIVERSITY IN 1986; IS
07 THAT CORRECT?
08 A. THAT'S CORRECT, YES.
09 Q. I'M GOING TO TRY TO SHORTEN THIS A
10 LITTLE. IT'S WHAT WE'VE MARKED AS DEPOSITION
11 EXHIBIT NO. --
12 A. TWELVE.
13 Q. -- 12. WOULD YOU -- IT'S A FOUR-PAGE
14 DOCUMENT I'M GOING TO REFER TO AS YOUR CV. I
15 THINK YOU'LL AGREE THAT'S WHAT IT IS. IS THAT
16 YOUR CURRENT CV?
17 A. I GUESS IT'S AN ANNOTATED CV. MY
18 ACTUAL CV IS PROBABLY ALMOST 100 PAGES LONG,
19 OKAY.
20 Q. OKAY.
21 A. AND I ACTUALLY HAVEN'T UPDATED IT IN
22 SEVERAL YEARS, SO IT MIGHT BE LONGER.
23 Q. TELL ME IF THIS ONE IS REASONABLY
00011:01 CURRENT AND CORRECT, IF YOU WOULD TAKE A MOMENT
02 TO LOOK THROUGH THAT.

3. PAGE 11:08 TO 15:08 (RUNNING 00:04:44.116)

08 A. IT COULD BE UPDATED. THE MOST RECENT
09 PUBLICATIONS ARE 2000.
10 Q. SO, YOU'VE HAD PUBLICATIONS SINCE
11 2000?
12 A. I'VE HAD SINCE -- I'VE HAD
13 PUBLICATIONS SINCE 2000, AND, ALSO, IN THE LAST
14 FIVE, SIX YEARS, I HAVE CHANGED MY AVENUE. I'M
15 TRAINED AS A NUTRITIONIST, ORIGINALLY. SO, IN
16 THE LAST FIVE OR SIX YEARS, I'VE ACTUALLY BEEN
17 DOING LESS WASTE MANAGEMENT WORK AND MORE
18 APPLIED NUTRITION WORK, MORE NUTRITION WORK,

EXHIBIT
Oklahoma Ex. 7061
4:05-cv-00329

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
NOVEMBER 3, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XXXI, A.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
Attorney General
MS. KELLY FOSTER
Assistant Attorney General
State of Oklahoma
313 N.E. 21st St.
Oklahoma City, OK 73105

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WITNESSES ON BEHALF OF THE PLAINTIFF PAGE

PRESTON KELLER

Direct Examination by Mr. Bullock 3310

PATRICK PILKINGTON

Direct Examination by Mr. Bullock 3367

Tyson acquired?
A. That's correct.
THE COURT: Formerly Iowa Beef Processors?
THE WITNESS: Yes, sir.
Q. (By Mr. Bullock) Now, as -- let's limit this to the poultry side in terms of what you were doing. You were still in the position of running the educational programs for the growers; is that correct?
A. I oversaw that. I had a guy working for me that focused on that.
Q. So you had a new Preston Keller to go and organize these presentations?
A. Yes, sir.
Q. Now, as part of the program that you oversaw, was there any type of process to assure that proper environmental management was being performed on the poultry side of the environmental agriculture?
A. I guess clarify. Are we talking about the contract growers or are were we talking about --
Q. We can break that down. Let's first talk about the contract growers.
What was being done during this period of time to assure that the contract growers were implementing sound environmental practices?
A. One is we relied on the local, state and federal

1 regulations, the state inspectors, environmental
2 inspectors to ensure that. We did have a checklist that
3 we sent out on an annual basis to have the contract
4 growers respond that they are following all state and
5 federal regulations. But it was up to the environmental
6 -- state environmental inspectors to ensure that.
7 Q. We'll get into that more. Was there anything else
8 that was being done?
9 A. That's pretty -- that I recall, that's pretty much
10 it.
11 Q. What about at your corporate-operated farms?
12 A. That was -- the local complex was to ensure that
13 they had all the standards set forth within the state
14 that they reside in.
15 Q. Did your office directly monitor that, or was that
16 left to the local area to actually be sure that they were
17 complying on the corporate farm?
18 A. They were left to be -- they got audited by the
19 whole environmental group, so they had to have that
20 covered.
21 Q. Did your office conduct those audits?
22 A. We did not. It was part of the environmental group
23 actually conducted audits. I did not participate in
24 those audits.
25 Q. Was it under your supervision that those audits were

1 regulations, the state inspectors, environmental
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20 covered.
21 Q. Did your office conduct those audits?
22 A. We did not. It was part of the environmental group
23 actually conducted audits. I did not participate in
24 those audits.
25 Q. Was it under your supervision that those audits were

conducted?
A. No, there was a sole -- whole group within environmental that conducted audits.
Q. They audited the corporate farms to determine whether they were properly disposing of the poultry waste generated?
A. As long as they were following the state and federal regulations, yes.
Q. In Arkansas at this time period, there was not a -- the litter management laws had not become effective; is that correct?
A. I don't remember what date they became effective.
Q. Well, would it help you if I suggested that in this court, the testimony has been that the effective date for that act was not until sometime in 2007?
A. Okay.
Q. Okay.
MR. GEORGE: Your Honor, I apologize, I don't think that has been the testimony as to the effective date of the Arkansas act. So in that sense, it's misleading.
THE COURT: What was the effective date, Mr. George?
MR. GEORGE: Your Honor, I believe the act was passed in the last month of 2005. December of 2005.

Q. Could have been earlier than that?
A. Yes, sir.
Q. But it was while you were at Tyson?
A. That's correct.
Q. And I see up in the first slide where it says Preston Keller, so this would have been a training program that you would -- were presenting?
A. I would assume that, yes.
Q. Getting back to "Present." It says, "Phosphorus is mobile, causes water quality problems, and accumulates in the soil." Do you see that?
A. Yes, sir.
Q. At this point, you, as Tyson -- well, at the point where you were director of environmental agriculture, you understood those things, didn't you?
A. I understood, without proper management, those things could be an issue.
Q. Well, and then it goes on, "how much P does soil and litter contribute," the next line. Do you see that?
A. Yes, sir.
Q. Is what you're getting at there is how much phosphorus comes from the soil and the litter that is found in the water?
MR. GEORGE: Objection, Your Honor. Leading. I recognize this is a former employee, but it's

MR. GEORGE: Objection, leading.
MR. BULLOCK: Judge --
THE COURT: I think it is sufficiently established. You may lead. Go ahead.
THE WITNESS: Repeat. I'm sorry.
Q. (By Mr. Bullock) So the plan was, at this point, to have the complex monitor the implementation of this proactive approach that you've described, correct?
A. This program was put forth on a voluntary basis. And we encouraged growers, we send out checklists. And not all of them would return that.
Q. But what you were wanting was for your complex to implement a program to monitor that, right?
A. I guess -- I'm confused between -- I don't know that we're implementing a program. This was a training to encourage growers. Did they send out -- they did send out the checklist, yes, and they received them back.
Q. There are two articles there in the next pane where it says "annual checklists."
A. Yes.
Q. This was a checklist for the service techs to fill out, was it not?
A. No, the contract growers filled those out.
Q. And then if we go down to the next one, we have a nutrient management spreadsheet that was to be completed,

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXXII - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 3, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

PATRICK PILKINGTON

7

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8 Cross-Examination by Mr. George 3411
Redirect Examination by Mr. Bullock 3427

9

10 **J.D. STRONG**

11 Continued Direct Examination by Ms. Foster 3437

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grower, wasn't it?

A. Well, again, I have to say this predates my contract involvement. I can tell you the practice at that time was not unlike now, in that service techs are giving advice, most -- all of which we believe is very good advice, and much of which is followed and quite frankly much of which is not.

Q. Well, if it is followed and the birds don't fare well, the company's not going to hold the grower responsible, are they?

A. Yes. In terms of pay, their pay would be --

Q. Well --

A. I'm not sure what you mean by "responsible."

Q. I'm sorry. Well, let's go -- that's a -- thank you. Because we probably need to go to paragraph (13)(E) to understand that question.

Why don't you read paragraph (13)(E); that's events of default.

A. Okay. "Failure of the producer to properly care for and protect any of the company's property, including, but not limited to, the care commonly defined as good animal husbandry practices."

Q. Okay. First of all, what the company is recommending would be good animal husbandry practices, wouldn't it?

Q. Okay. You were asked by Mr. Bullock a series of questions about Tyson's relationships with contract growers. You're familiar with that term, "contract growers"?

A. Yes, I am.

Q. Does Tyson consider contract growers to be employees?

A. No, we do not.

Q. How would you describe the relationship between Tyson and contract growers?

A. Contract growers and Tyson enter into an agreement to grow chickens. Basically, the way that works is, Tyson provides the chickens and the feed and the advice to do so. The grower provides a house, labor, and they're basically a caretaker for a given amount of time until the birds reach a desired weight and then Tyson will come and pick those birds up.

Q. Does Tyson withhold or pay employment taxes for contract growers?

A. No.

Q. You were presented with some contracts. I don't know that one of the terms that was explored directly was the length of the term of contracts.

Could you provide the court with some context or information as to today the typical length of a

poultry-grower's contract?

A. Yes. We enter three-year contracts -- three-year in duration or greater. The exception to that would be when a grower for some reason requests a shorter contract. I know of contracts that are as long as ten years.

Q. Now, in your experience, do contract growers always stay with the company they originally contract with in terms of an integrator relationship? Are there instances when a contract grower will switch from one integrator to another?

A. They switch. It's quite common actually for them to switch between integrators.

Q. Okay. Are you aware of that occurring with respect to contract growers located in the Illinois River Watershed?

A. I know it has, yes.

Q. Who owns the land or the real property where the poultry houses used by contract growers to raise poultry are located?

A. The growers do.

Q. Does Tyson pay for or finance the construction of poultry houses on growers' properties?

A. No.

Q. Who pays for that?
A. The grower through -- secures financing through a number of different channels.
Q. Are you aware that some growers have litter storage sheds?
A. Yes.
Q. And who would pay for the construction of those facilities?
A. They would.
Q. Who pays for the maintenance of poultry houses located on contract growers' farms?
A. The grower does.
Q. Who pays for the utilities, such as water sewer, gas, electricity, required to service the farm?
A. The grower.
Q. Is there equipment, other than the physical structure of a poultry house that a grower may need to successfully raise poultry?
A. Yes. I mean, they'll need to outfit the house, which is feeders, waterers, fans, we talked about curtains earlier. They may even need -- in some cases, they'll need tractors and the like.
Q. And who would buys that equipment?
A. They do.

Q. Who supplies the labor needed to operate a poultry farm?

A. The grower.

Q. Who makes the professional judgments about the specific practices to be implemented at a farm in terms of raising poultry?

A. The grower will.

Q. Are you aware of instances where contract growers will actually hire out some help to run the farm?

A. Yeah. That's actually quite common.

Q. And when that occurs as between the contract grower and an integrator, such as Tyson Foods, who pays for that individual's labor?

A. The grower.

Q. You were asked some questions by Mr. Bullock about feed and the fact that Tyson supplies feed and mixes feed. Do you recall that?

A. Yes.

Q. Tell the court why Tyson Foods will not allow a grower to simply go out and buy his or her own feed to feed the birds that are ultimately delivered to the processing plant?

A. Well, to be begin with, we have a -- we employ nutritionists who have trained for years and

years and years to figure out what's the best thing to put in chicken feed to optimize their performance. So we certainly want them mixing the feed and making the feed that ultimately ends up in those birds.

Not only that, but there are a number of regulations around from USDA and the like, FDA, that tell you what can and cannot be in chicken feed. We have to make sure that's followed.

And then thirdly, we're also under obligation to treat growers in a similar fashion because ultimately they settle in a competitive manner, and that's through Packers and Stockyards. We obviously can't have chickens fed different rations and then ultimately they end up competing on an economic basis at the end of their settlement.

Q. Okay. Mr. Bullock asked you some questions about I -- think you referred to it as cake, the material at the top surface of a poultry house.

A. Yes.

Q. And could you explain what is beneath the cake? What is that material called?

A. Beneath the cake will be a combination of the bedding that originally came into the house, and depending on how many flocks have been grown, I guess one would identify that as bedding or potentially as

poultry litter.

Q. Okay. And where does bedding come from that goes into a contract grower's house? Does Tyson supply that?

A. No.

Q. Do you know who pays for that bedding?

A. The grower.

Q. Okay. And when there's a full clean-out of a poultry house, does that include the clean-out of the bedding in addition to the manure?

A. Yes. Usually it is all gone at that point.

Q. Now, you were asked several times about the role of service techs visiting a farm, and I noticed a time or two that in responding to a question, you would say that that's part of the duties of a service tech.

Could you provide a full description of the role of service techs and what they're doing when they go to a farm?

A. Sure. Service techs, again, visit farms typically about once a week. Sometimes more in the beginning of the flock, sometimes less later. When they're there, they are certainly, as we talked about before, offering advice based on what how they know how to grow well-performing -- excuse me --

evaporative cooling system of these houses. That's some, I guess, good examples.

Q. Dr. Pilkington, are you aware of any instance in which a grower has been terminated for failing to follow a service tech's advice that did not involve the endangerment of the health of the birds?

A. No, I'm not.

Q. Now, if a contract grower is using part of his land or farm to raise cattle or grow hay or other crops, in addition to raising poultry, do service techs give advice or suggestions on those parts of the farm?

A. No. They're not trained to do that.

Q. Dr. Pilkington, does Tyson spread or land-apply litter in the Illinois River Watershed?

A. No.

Q. How many litter-spreading trucks does Tyson own?

A. None.

Q. Do the service techs that visit these farms monitor or give advice on the land application of poultry litter?

A. No.

Q. When poultry litter is sold by a contract grower to a third party, does Tyson receive the

evaporative cooling system of these houses. That's some, I guess, good examples.

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A. No.

Q. When poultry litter is sold by a contract grower to a third party, does Tyson receive the

proceeds of that sale?

A. No.

Q. Does Tyson tell poultry farmers where to spread or land-apply poultry litter?

A. No.

Q. Does Tyson tell poultry farmers when to spread or land-apply poultry litter?

A. No.

Q. What about the quantity; does Tyson tell poultry farmers the amount of litter that should be applied to a particular property?

A. No, it doesn't.

Q. Now, you were asked a question or two about the cleaning out of a poultry house.

Does Tyson tell farmers when to clean out poultry houses?

A. No.

MR. GEORGE: May I approach, Your Honor?

THE COURT: You may. Now, the answer to that question surprises me. Because I thought it had been testified that when moisture content gets so great or the condition becomes such, that sometimes these service techs will advise that the house needs to be cleaned out or cleaned out before a new batch of chicks are brought in. Is that not the case?

A. Bryan Burns.

Q. Okay. And who is Bryan Burns?

A. He's in-house counsel for Tyson.

Q. And could you, for the record, explain how it is that you came to be in a vehicle with Mr. Burns driving through the watershed and took these photographs?

A. Yes. I was scheduled to testify at the preliminary injunction hearing in this matter, and it was -- I needed to refamiliarize myself with the watershed and some of the farms and whatnot around it, so we got in a car and drove around.

Q. Okay. Was it raining during the time you were driving or shortly before?

A. Yes.

Q. Had it rained heavily?

A. Yes, it had.

Q. Dr. Pilkington, do you still have in front of you some of the contracts that Mr. Bullock discussed with you?

A. I do.

Q. Can you find what is Oklahoma Exhibit 6564-A, which is a broiler production contract?

A. Yes, I have it.

Q. Just for the record, could you read clause

(7) of the contract?

A. Independent contractor?

Q. Yes, sir.

A. "Producer is engaged in and is exercising independent employment. Producer is an independent contractor and may join any organization or association of producer's choice. Producer is not a partner, agent, or employee of, or joint venturer with, company."

Q. Dr. Pilkington, during your involvement with contracts at Tyson Foods, does a producer have the right generally to terminate a contract?

A. Yes.

Q. Okay. And could you, for the record, in the same contract go to paragraph (9), which is duration, and read it into the record, please?

A. Yes. "The terms and conditions of this contract will begin on May 22, '06, and unless terminated by producer, or company, shall conclude on May 22, '09, the scheduled conclusion. If producer is housing company's chickens on the scheduled conclusion, the duration of this contract shall further extend until broilers at producer's facility are picked up by company."

Q. And do you agree, or is it your

1 understanding, Dr. Pilkington, that under that
2 provision either the company or the producer can
3 terminate the contract?
4 A. Yes.
5 Q. Could you find Oklahoma Exhibit 6564-B in
6 your materials, which is a contract with a revision
7 date of 12/96?
8 A. Yes, I have that.
9 Q. And once again, do you see a recognition in
10 the contract language itself of the independent
11 contractor nature of the relationship?
12 A. Yes. In paragraph (6).
13 Q. And could you read that into the record,
14 please?
15 A. "It is understood that the producer is
16 engaged in and is exercising independent employment.
17 The producer is an independent contractor and is not a
18 partner, agent, or employee of the company. Producers
19 may join or assist any organization or association of
20 their choice with no effect on this contract in any
21 way."
22 Q. Dr. Pilkington, in this contract that we're
23 looking at, is there a provision, as there was in the
24 earlier or the more recent version, allowing the
25 producer to terminate the contract?

A. Yes.

Q. Okay. And what, for the record, provision is that?

A. Paragraph -- paragraph (18).

Q. Thank you. Last one that I'll explore with you, Dr. Pilkington. If you can look at Oklahoma Exhibit 6564-C.

A. Yes.

Q. Which for the record is the contract with a revision date -- I think it's 11/92.

Once again, is there a provision recognizing the grower as an independent contractor in this agreement?

A. Yes. It's paragraph (6).

Q. Okay. Dr. Pilkington, you were asked about and shown a couple of photos of signs that have -- for a contract grower's farm that has a Tyson logo on it. Do you recall that?

A. Right.

Q. What is the rationale for placing a Tyson logo on a farm that is owned and operated by a contract grower?

A. The biggest reason is so our feed trucks know that it's our farm. I know this is -- is maybe amazing to some, but there are cases where our feed

THE COURT: Any objection?

MR. HOPSON: No objection.

THE COURT: 3284 is admitted.

Q. *(BY MS. FOSTER)* Would you turn to page C-1 of the report?

A. Okay.

Q. Is that appendix C of the report --

A. It is.

Q. -- that begins on C-1?

A. Yes.

Q. And what is appendix C?

A. It is the -- basically the 303(d) list of impaired waters.

Q. And it may be clear in the record; I'm not sure. The 303(d) list, can you explain succinctly what that is?

A. Section 303(d) of the Clean Water Act requires the state to submit for EPA approval a list of its impaired waters, typically those requiring a TMDL, but it's basically the list of impaired waterbodies in the state.

Q. And on C-1 --

THE COURT: Just one second. All of these impaired waters under federal law require a TMDL?

Q. That makes it easier. Is it the same or is it different?

A. I believe it's the same. But certainly it indicates that Tenkiller is impaired for total phosphorus and dissolved oxygen.

Q. Okay. Let's do the same thing for the listing for the Illinois River -- now, I notice there are several segments of the Illinois River listed here as being impaired. Do you see three segments?

A. I do.

Q. And beside the first segment and the second segment, do you see -- and the third -- do you see a listing as not supporting the aesthetics beneficial use?

A. Yes.

THE COURT: Where are you?

MS. FOSTER: I'm actually --

THE WITNESS: On page C-9.

MS. FOSTER: C-9.

THE COURT: Thank you.

MS. FOSTER: Trying to figure out the easiest way to do this. These codes are difficult, to say the least.

Q. *(BY MS. FOSTER)* So with regard to the Illinois River segments listed on C-9, there's an N124

Q. *(BY MS. FOSTER)* What is source code?

THE COURT: I said "chronological." Obviously not. It's the end of the day. In numerical sequence. Sorry. Go ahead.

MS. FOSTER: I actually -- it took me a second to figure out what the difference was. So it is the end of the day.

Q. *(BY MS. FOSTER)* What is source code 59?

A. Impacts from land application of waste.

Q. Referring back to page 15 and 16 of this exhibit, are source codes 4 and 59 listed for primary body contact recreation and aesthetics?

THE COURT: With all due respect, I mean, we got a lot of numbers here --

MS. FOSTER: Yeah.

THE COURT: -- and potential sources, but this doesn't really advance the ball any, does it? All of these have numerous potential sources; for instance, municipal point-source discharges, rangeland grazing, wildlife other than waterfowl, sources outside the state jurisdiction or borders, source unknown.

It really doesn't advance the ball in terms of meeting the state's burden of proof of showing that a source is waterfowl; correct? It's just identified

here as a potential source; right?

MS. FOSTER: It's --

THE COURT: It doesn't do anything to advance your burden of proof, does it?

MS. FOSTER: I think that the fact that it's identified -- that land application of waste is identified as a potential source does something. I don't think it takes us all the way to the burden of proof especially --

THE COURT: I'm not sure it advances the ball at all. Mr. Hopson.

MR. HOPSON: I would just point out, Your Honor, in the 2004 report that was prepared before litigation was initiated, the only code said "source unknown." Now, postlitigation we've got land application of litter listed as a source.

So I just think this entire exercise of reading the state's self-serving documents into the record is cumulative and a waste of time.

THE COURT: Well, with all due respect, we know the state's position that it's a potential source. I don't know that going through -- and for the record, pages 15 through 17 contain, you know, numerous potential sources here. I mean, I'm just -- I'm a little concerned here about the amount

of time we're taking here.

MS. FOSTER: I'll move on.

THE COURT: Yeah. I really do think the state would be better served rather than going into -- I see all the potential sources listed. It doesn't advance the ball at all in my view.

Go ahead.

Q. *(BY MS. FOSTER)* I wanted to discuss the listings for Lake Tenkiller. I believe the impairments in the 2008 report were previously discussed.

Have you reviewed the listings for Lake Tenkiller on page 15 and 16 of the report?

A. I have.

Q. Do you know whether they're correct?

A. To the best of my knowledge, they are correct, with the exception of one. I believe chlorophyll-a, a transcription error, if you will, by the agency applying that to the downstream portion of the lake as opposed to the upstream portion of the lake. But with that exception, that's the only error that I'm aware of.

Q. So let's be really clear. The chlorophyll-a listing is for Tenkiller Ferry Lake segment 20020, correct, on this list?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
NOVEMBER 4, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XXXIII, A.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
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Q. Okay. And this is the statute that is currently and has been in operation for about ten years to regulate Registered Poultry Feeding Operations in the state of Oklahoma, right?
A. I believe so, if this is the current version, yes.
Q. Turn to Section 10-9.7 of this statute. And I'll try to be quick. But if I move too fast and if I'm skipping over something you think is important, you stop me and we'll look at whatever you want to look at.
But right now, I'd just like to have you confirm that Section 10-9.7 sets forth the utilization of Best Management Practices and the standards for Animal Waste Management Plans as they apply in the state of Oklahoma. Is that right?
A. That is how that's titled, yes.
Q. No, the question is not how it's titled. The question is: Is that right?
A. That is the section dealing with utilization of Best Management Practices and Animal Waste Management Plans.
Q. Turn over to Subsection (B). Does Subsection (B) set forth the criteria for Best Management Practices?
A. It does.
Q. Is one of the first criteria for Best Management Practices "There shall be no discharge of poultry waste to the waters of the state"?

A. Yes.
Q. Is that being enforced, to your knowledge?
A. I have no knowledge either way. I believe it's certainly part of this action here.
Q. Let me ask you this. Is another of the criteria for Best Management Practices under Subsection (4) that poultry waste handling, treatment, management and removal shall not create an environmental or a public health hazard or not result in the contamination of the waters of the state? Is that one of the criteria?
A. It is.
Q. If you look down at Subsection (C), it says, "Every poultry feeding operation shall have an Animal Waste Management Plan." Is that correct?
A. Yes.
Q. And it tells the minimum requirements of an Animal Waste Management Plan, right, Mr. Strong?
A. It does.
Q. And those are mandatory; isn't that correct?
A. Yes.
Q. One of the things that the legislature mandates in this law under Subsection (C)(5) is that "Land application rates of poultry waste shall be based on the available nitrogen and phosphorus content of the poultry waste and shall provide controls for runoff and erosion

as appropriate for site conditions."

Did I correctly read that as one of the mandatory requirements?

A. Yes.

Q. Okay. Is it also one of the mandatory requirements in Subsection (6) that the procedures documented in the Animal Waste Management Plan must ensure certain things about the handling and utilization of poultry waste?

A. Yes.

Q. That's a mandate as well, right, sir?

A. Yes.

Q. And one of the mandates from the Oklahoma legislature --

MS. FOSTER: Excuse me, Your Honor, I have an objection. This testimony has been covered by a number of witnesses, the meaning of the Poultry Feeding Operations Act, and I think that it is cumulative.

THE COURT: Any response?

MR. HOPSON: Yes, Your Honor. First, it's cross-examination. They opened the door to the Animal Waste Management Plan. And it's not the defendants' fault that they've called six different regulators to the stand to testify about the same thing.

THE COURT: Overruled.

Q. (By Mr. Hopson) Now, we were on (C)(6), right? One

of the mandates, one of the things that must be ensured to be in every Animal Waste Management Plan is that poultry waste shall only be applied to suitable land at appropriate times and rates. Is that one of the mandates?

A. Some of those are spelled out here, yes.

Q. Another one that's spelled out immediately after that is that discharge or runoff of waste from the application site is prohibited; is that correct?

A. Yes.

Q. And it says specifically, sir, to be precise, that the procedures documented in the Animal Waste Management Plan must ensure that discharge or runoff of waste from the application site is prohibited; isn't that right?

A. Yes.

Q. Flip over to the next page and let's look at Subsection (E) for a moment, and we'll move on.

You understand that the act that you helped get passed sets forth what standards are going to be used for Animal Waste Management Plans in the state of Oklahoma, right?

A. I'm sorry. What was the question in regard to (E)?

Q. Well, does Subsection (E) set forth the application rate that should be applied in every Animal Waste Management Plan in a nutrient limited watershed?

A. It does.
Q. And what it says, sir, is that "The application rate shall be based upon current United States Department of Agriculture Natural Resources Conservation Service Waste Utilization Standards, unless the State Department of Agriculture approves other standards"; is that correct?
A. Yes.
Q. When we talk about these NRCS standards, those are the NRCS standards you were looking at during your direct examination, right?
A. Yes.
Q. The State of Oklahoma, in this legislation, specifically adopted those NRCS standards, correct?
A. It does reference those, yes.
Q. Well, no, the question is: It specifically adopted them; isn't that correct?
A. Yes.
Q. But it leaves an opportunity for the Department of Agriculture to approve other standards; isn't that also right, Mr. Strong?
A. Yes.
Q. And to date, in the ten years since the passage of this act, the Department of Agriculture hasn't done that, has it?
A. Not to my knowledge.

Q. To your knowledge, your office, the office you've been in for 12 years, the Office of the Secretary of Environment, hasn't asked them to adopt other standards, has it?
A. Not to my knowledge.
Q. Well, do you think it's possible that in the last 12 years, the Department of Environment has been advocating for different standards, and you've been working in that six-person office and didn't know it? Is that your testimony?
A. It's possible.
Q. Okay. Let's move along. Let's turn to a different section of the act, Section 10-9.19.
Just to be clear, sir, this is a part of a related statute that's called the Oklahoma Poultry Waste Applicators Act; isn't that right?
A. Yes.
Q. And this also refers to the land application of poultry waste and the rates that should be applied; isn't that right?
A. It does.
Q. This is another provision where the State of Oklahoma, acting through its legislature and the governor, gives the Department of Agriculture an opportunity to change the phosphorus limits; isn't that

right?
A. It does provide that, yes.
Q. Can you tell me -- can you confirm for us that as of today, the Department of Agriculture hasn't done that?
A. Not to my knowledge.
Q. Well, do you think it's possible, sir, that the Department of Agriculture has changed the phosphorus application maximum rates in the state of Oklahoma, and you don't know about it?
A. It's unlikely.
Q. Extremely unlikely, wouldn't you say?
A. Yes.
Q. So the answer to my question is, no, they haven't done it, right?
A. Not to my knowledge, right.
Q. What this Subsection (3) here allows is it allows the State Department of Agriculture to promulgate rules which will prohibit the land application of poultry waste in nutrient-limited watersheds and nutrient vulnerable ground waters based on lower soil phosphorus levels than are allowed in otherwise nonnutrient limited watersheds, right?
A. Yes.
Q. And would you agree that the State Department of Agriculture of Oklahoma could simply prohibit the

application of poultry litter under this section in nutrient vulnerable watersheds?
A. They could under this section.
Q. Your office, again, hasn't asked them to do that, right?
A. Not to my knowledge.
Q. Well, do you remember looking at all the lists that we reviewed this morning of all the things that your office was doing to achieve its important goals in the Illinois River Watershed?
A. Yes.
Q. Do you remember all those lists in the 972 reports?
A. Yes.
Q. None of them said anything about changing the maximum application rates in the Illinois River Watershed, did they?
A. No.
Q. Let's look at the regulations under this statute. The regulations are in front of you marked as Defendants' Joint Exhibit 3029. And the first thing I'd like to draw your attention to as soon as you have it --
A. Okay.
Q. Do you have it, sir?
A. Yes.
Q. Look at the definitions. An Animal Waste Management

are some further requirements or some further amplification of the statutory standards; isn't that correct?

A. These are the regulations to implement those statutes.

Q. All right. And would you agree with me that these regulations as set forth in Subsection (5) are also mandatory?

A. (No response.)

Q. Let me ask a more specific question. I won't make you struggle with that. Turn over and look at Subsection (a)(7).

Is it correct that Subsection (a)(7) says, "The procedures documented in the Animal Waste Management Plan shall ensure that the handling and utilization of poultry waste complies with the following requirements"? Did I read that correctly?

A. Yes.

Q. And all those requirements thereafter are mandatory provisions that must be included in Animal Waste Management Plans under Oklahoma law; isn't that right, Mr. Strong?

A. Yes.

Q. And one of them is, if you look, for example, down at Subsection (C), one of the requirements that shall --

"The Animal Waste Management Plan shall ensure is that runoff of poultry waste from the application site is prohibited." Do I have that right?
A. Yes.
Q. It also says down in (G), "Land application rates of poultry waste shall provide controls for runoff as appropriate for site conditions."
That's another mandatory requirement, right, sir?
Q. Moving ahead, if you could just pick up Code 590 for a moment, which we have in front of you marked as Defendants' Joint Exhibit 3916, which is already in evidence. You referenced -- and I'm just trying to follow up on something you said. Did you find it, sir?
A. Yes.
Q. Oklahoma State University had input and provides support and standards that are used within this Code 590; is that correct?
A. It does reference their fact sheets, yes.
Q. As we established -- and I just want to touch on it very briefly -- it is Table 9 that applies to the litigation that's going on in this courtroom right now, right? Did you find it?
A. Table 9 is the rates for nutrient limited watersheds.

is prohibited?
A. There may be additional necessary to comply with the law.
Q. But you don't know what they are as you're sitting on the stand here today; is that right?
A. Nothing specific.
Q. Nothing general either?
A. Whatever is necessary to prohibit runoff generally.
Q. Well, we just looked at a section of the statute and a section of the regulations that, if you'll recall, said the plans must ensure that there's no runoff. Do you remember looking at that with me?
A. I do.
Q. Do you have any reason to believe that the people that are drafting these Animal Waste Management Plans don't know what the statutory and regulatory standards are?
A. I have no reason to believe that, no.
Q. And you're certainly not suggesting that the men and women who draft these Animal Waste Management Plans are proceeding in bad faith and not complying with the statutory and regulatory standards, are you?
A. I'm not suggesting that, no.
Q. The truth is, just so it's clear on the record, growers are not handed a copy of the statute and a copy

of the regs and a copy of Code 590 and told go off and figure it out, are they?
A. I don't believe so, no.
Q. No. What actually happens is somebody from NRCS or somebody from ODAFF physically goes out to every farm that has an Animal Waste Management Plan or is applying for one, looks at the fields, talks with the growers and drafts a site-specific plan for that farm. Isn't that the way it works?
A. That is typically how Animal Waste Management Plans are done.
Q. Okay. And the people that are writing these Animal Waste Management Plans are experienced with the soil and environmental issues involved in drafting the plans; isn't that correct?
A. I would hope so, yes.
Q. Well, do you hope so or do you know so, sir?
A. I believe so.
Q. And they have specialized training that they receive both from NRCS and from ODAFF that allows them to become a plan writer; isn't that right?
A. I'm not sure what their training requirements are.
Q. Well, in any event, you have seen some of these Animal Waste Management Plans, haven't you?
A. I have seen some.

used respectively on his fields; isn't that right?
A. There is an application summary there, yes.
Q. You noted in your direct testimony that the Bill 972 reports occasionally reference inspections and violations. Wasn't that right, Mr. Strong?
A. Yes.
Q. But the 972 reports really don't give us any detail about that violation, do they?
A. I don't recall without looking back at those specific sections of the reports.
Q. Well, let me ask you a specific question about that. Sitting there today on the witness stand, would you agree with me that you cannot identify any grower or farm under contract with any of the defendants sitting around here today that has engaged in a practice that results in runoff of poultry waste to the waters of the IRW?
A. I cannot identify a specific one, no.
Q. Are you aware that the statute has different levels of penalties and fines and a point system associated with it? I'm talking about, of course, the Poultry Act.
A. I believe it does.
Q. Okay. And I'll get to that in a minute. But sitting there today, can you confirm for me that since 2005, the State of Oklahoma has not withdrawn any Animal

Waste Management Plans that are in operation in the IRW?
A. I cannot confirm that.
Q. Think it's possible they may have?
A. It's possible.
Q. One of the things that I think you do know is that over the last four years, the State of Oklahoma has continued to issue and approve Animal Waste Management Plans in the IRW; isn't that true?
A. I'm aware that plans have continued to be issued.
Q. Okay. And the application rate hasn't changed as its set forth in Code 590 which we just looked at, Defendants' Exhibit 3916; is that right?
A. I'm not aware of any changes to Code 590.
Q. Let me ask you a minute just one more thing about these enforcement issues, and we'll move on. If you want to refresh your recollection, I'd invite you to pick up the Registered Poultry Feeding Operations Act which has been previously looked at today, it's Defendants' Exhibit 1182.

And you don't need to study this too closely, but I'd just like to ask you to confirm that in Section 10-9.11 of the statute, there are various criminal and civil and administrative penalties and injunctions provided for, right?
A. That is what that section describes, yes.

Waste Management Plans that are in operation in the IRW?
A. I cannot confirm that.
Q. Think it's possible they may have?
A. It's possible.
Q. One of the things that I think you do know is that over the last four years, the State of Oklahoma has continued to issue and approve Animal Waste Management Plans in the IRW; isn't that true?
A. I'm aware that plans have continued to be issued.
Q. Okay. And the application rate hasn't changed as its set forth in Code 590 which we just looked at, Defendants' Exhibit 3916; is that right?
A. I'm not aware of any changes to Code 590.
Q. Let me ask you a minute just one more thing about these enforcement issues, and we'll move on. If you want to refresh your recollection, I'd invite you to pick up the Registered Poultry Feeding Operations Act which has been previously looked at today, it's Defendants' Exhibit 1182.

And you don't need to study this too closely, but I'd just like to ask you to confirm that in Section 10-9.11 of the statute, there are various criminal and civil and administrative penalties and injunctions provided for, right?
A. That is what that section describes, yes.

Q. Yes. Then the next section has a violations point system; do you see that?
A. I do.
Q. Okay. And there are certain things defined as significant violations; isn't that right? Again, I'm not trying to trick you here, it's in Subsection (B)(1)(a), there's a definition of significant violations. Isn't that right, sir?
A. Yes.
Q. And the way this works generally is that significant violations are going to be, just to use a generic term, penalized more than other types of violations, right?
A. I believe they accrue more points, yes.
Q. Okay. And so it's in the record, the significant violations are defined as follows: "Violations involving greatest harm to the natural resources of the state ground or surface water quantity or quality, public health or the environment shall receive the most points and shall be considered significant violations." Is that correct?
A. That is one, yes.
Q. And sitting there today, again, I take it you would confirm for me that you know of no significant violations by any grower associated with the defendants here today in the IRW; is that correct?

A. I'm not aware of any specific operations, no.
Q. You're not aware of any general operations either, right?
A. I am not.
Q. I'd like to ask you, sir, to pluck out of the materials that I handed to you something that I believe you looked at in your direct examination, which was Governor Keating's final report. Do you have that in front of you?
A. Do you have a number?
Q. The number in my packet would be Defendants' Joint Exhibit 2757.
MS. FOSTER: Your Honor, this exhibit was not discussed with Secretary Strong on direct examination. The details of the task force were not delved into on direct examination with Mr. Strong.
THE COURT: Any response?
MR. HOPSON: Then I'll move it into evidence, and we'll take it from there.
THE COURT: All right.
Q. (By Mr. Hopson) Do you have in front of you what's been marked as Defendants' Joint Exhibit 2757?
A. I do.
Q. Is that the final report of Governor Frank Keating's Animal Waste and Water Quality Protection Task Force?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXXIV - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 4, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

I N D E X

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Q. So what do you do with the waste that you do not land-apply on your property?

A. I'm sorry. Could you ask that --

Q. Yeah. What do you do with the poultry litter that has not been land-applied on your property?

A. I sell it.

Q. And do you sell it to neighbors?

A. Generally -- I have sold it to neighbors in the past.

Q. And when you sold it to a neighbor in the past, what would they do with it?

A. They would land-apply it as fertilizer.

Q. Do you have a regular customer today that you're selling to?

A. Not a regular customer, no.

Q. All right. And so when you do sell it, is it still being land-applied, as far as you know?

A. I have no idea. I --

Q. Well, when you sell it to a neighbor, you have an idea, don't you?

A. Yes.

Q. And it's being land-applied there?

A. Yes.

Q. Okay. Is there any particular time of year that you do your cleanouts?

MS. FOSTER: I'm not aware that they all say that actually.

THE COURT: Well, is there an objection?

MS. FOSTER: No objection.

THE COURT: With no objection, 5594 is admitted.

Q. *(BY MR. HOPSON)* Can you confirm, just to start us off, Mr. Strong, that when we looked at the coordinated reports this morning, the various reports that are submitted to the EPA, it's based on the same data, is it not?

A. Not just this. It's based on more information than what is in this -- this monitoring report.

Q. But this monitoring report would get incorporated into those EPA reports we looked at this morning; correct?

A. The data collected under this program would be some of the data utilized to develop the integrated report.

Q. Okay. Would you open up for me to the executive summary in Oklahoma Exhibit 5594 and if you'll look at page Roman numeral x.

You got it?

A. I -- I do.

Q. Okay. And I'm directing your attention to table 1, which is the permanent ambient trend monitoring stations and their beneficial use support status.

Could you tell us in plainer English than that what we're seeing in table No. 1?

A. I believe it's the permanent monitoring stations listed with their beneficial use support status delineated.

Q. Okay. So, for example, FWP, that means the beneficial use of fish and wildlife propagation; right?

A. Yes.

Q. And then right next to it, PBCR means primary body contact recreation; correct?

A. Correct.

Q. And then PPWS means public and private water supply?

A. Correct.

Q. And then AG means agriculture?

A. Correct.

Q. And then AES means aesthetics; correct?

A. Correct.

Q. And if you and I were to look down this chart, it would show whether those beneficial uses are

supported or not supported in these various stream segments; isn't that right?

A. It does show that, yes.

Q. And sometimes it shows you a little code that may give a hint as to why it's not supported. And if you want to look at that code, the code is over on page Roman numeral xiii.

A. Okay.

Q. Do you see it?

A. Yes.

Q. Right. Okay. So these are -- this chart sets forth for each of these stream segments the beneficial uses that the Oklahoma Water Resources Board has decided ought to be supported at these locations; is that right?

A. This sets forth the beneficial use support status for the monitoring stations.

Q. Okay. Let's look at the first river, or river segment, that's within the Illinois River, and I think that would be Barren Fork back on page Roman numeral x; is that correct?

A. Correct.

Q. And that shows -- just to walk through one of these to show how this works -- that shows that the beneficial use of fish and wildlife propagation is

supported; is that correct?

A. That's what it shows, yes.

Q. And it shows that the primary body contact recreation standard is not supported?

A. Correct.

Q. And it shows an 8, and that's the symbol for enterococci; is that correct?

A. Correct.

Q. And if we move over to the next, the next is the public and private water supply, and this segment of the river is supported as its beneficial use as a water supply; correct?

A. That's what it says, yes.

Q. And the next column over, it is supported for agriculture?

A. Yes.

Q. And it's not supported for the aesthetic beneficial use; is that correct?

A. Correct.

Q. Now, can you confirm for me that with respect to the aesthetic use, that would be a reference to the specific aesthetic use standard that's promulgated for scenic rivers; isn't that correct?

A. That number is attributed to total phosphorus Oklahoma scenic river criterion.

Q. Right. And just so we're on the same page, that's the criterion that's the .037 phosphorus criterion; correct?

A. I would assume so, yes.

Q. Okay. There are not a lot of river segments here that are subject to that scenic river aesthetic standard, are there?

A. Not in -- it's only applicable to the scenic rivers.

Q. Right. And how many scenic rivers are there in Oklahoma?

A. There are six.

Q. Okay. If you look through -- and I would invite you to just flip over to the next page just starting with fish and wildlife propagation, if you turn to the next page you see Flint Creek. That's part of the Illinois River Watershed; correct?

A. Correct.

Q. And then a little bit further down you see the Illinois River U.S. 59 at Watts; right?

A. Yes.

Q. And you see the Illinois River U.S. 62 at Tahlequah; right?

A. Right.

Q. And if you confirm for me, at least with

respect to this beneficial use, three out of four segments in the Illinois River support the fish and wildlife propagation beneficial use; is that correct?

A. Were you referring to the Illinois River itself or -- I'm sorry; I lost the question -- or all of these segments in the watershed?

Q. Okay. There are four segments that are shown on this list of 101 river segments that are in the Illinois River Watershed, as I understand it. Those four segments would be the Barren Fork, Flint Creek, and the two Illinois River segments at Watts and Tahlequah; is that correct?

A. Those are the four that I see right off.

Q. Okay. Well, take a minute. If you see another one, let me know.

A. There's Caney Creek --

THE COURT: Sager.

A. -- and Sager Creek.

Q. *(BY MR. HOPSON)* Okay.

A. Yes.

Q. And it's Caney Creek off of SH 100; right?

A. There's two. Oh, yeah. Off SH 100 at Barber, yes.

Q. Is that a scenic river?

A. No. It's in the watershed, I believe.

Q. Okay. Let's just focus on the ones -- if we limit it to the ones that are scenic rivers, is that four the correct identification? In other words -- try this one more time.

A. Scenic rivers in the Illinois River Watershed?

Q. Yes.

A. Yes, those four.

Q. Okay. And just for the record, what are those four?

A. In the Illinois River Watershed, Barren Fork, Flint Creek, and Illinois River which has two segments listed here.

Q. Okay. Now back to my question. Three out of the four of those are supported for fish and wildlife propagation; correct?

A. According to this what may be a draft report, yes.

Q. Okay. Well, this is what we've got to go on, so I'll just ask you to direct your attentions to this document.

There are many other stream segments in the state of Oklahoma that are not supported for fish and wildlife propagation; isn't that correct?

A. That is correct.

Q. Right. And just so we're on the same page, that's the criterion that's the .037 phosphorus criterion; correct?

A. I would assume so, yes.

Q. Okay. There are not a lot of river segments here that are subject to that scenic river aesthetic standard, are there?

A. Not in -- it's only applicable to the scenic rivers.

Q. Right. And how many scenic rivers are there in Oklahoma?

A. There are six.

Q. Okay. If you look through -- and I would invite you to just flip over to the next page just starting with fish and wildlife propagation, if you turn to the next page you see Flint Creek. That's part of the Illinois River Watershed; correct?

A. Correct.

Q. And then a little bit further down you see the Illinois River U.S. 59 at Watts; right?

A. Yes.

Q. And you see the Illinois River U.S. 62 at Tahlequah; right?

A. Right.

Q. And if you confirm for me, at least with

suggest its possible admission. It's not been offered yet.

MR. HOPSON: Right.

THE COURT: There is no objection yet. Go ahead.

Q. *(BY MR. HOPSON)* Take a minute and just look at that for me, Mr. Strong, see if that refreshes your recollection. Just let me know when you've had a chance to look at it.

A. I've glanced at it.

Q. Okay. Does that refresh your recollection that you received this letter from the EPA on October 1st, 2009?

A. Yes.

Q. And does it refresh your recollection that EPA says in this letter that they are going to undertake to develop a scientifically robust model of the Illinois River Watershed?

A. That is what they discuss, yes.

Q. Okay. And do you also know now, having refreshed your recollection, that the EPA intends to undertake to look at all river segments, both in Illinois and Arkansas?

THE COURT: Oklahoma?

Q. *(BY MR. HOPSON)* I'm sorry. Oklahoma and

Arkansas?

A. Yes.

Q. And what the EPA says it's going to do -- what the EPA has informed you that it's going to do, if you now recall, is it's going to provide a technically sound basis for revising both point-source limitations and nonpoint-source approaches; isn't that right?

A. I don't see it in those words exactly. So --

Q. Do you remember that you've been asked to provide a technical liaison to the EPA?

A. Yes, yes.

Q. And do you remember that EPA has told you that it expects this research to lead to the development of TMDLs for the Illinois River?

A. That is an expectation, that it may lead to that.

Q. Okay.

MR. HOPSON: Your Honor, at this time, I'm going to move the admission of Defendants' Joint Exhibit 8090. I think that there is good cause for our failure to list this on the exhibit list because the document did not exist at the time the exhibit list was prepared.

Arkansas?

A. Yes.

Q. And what the EPA says it's going to do -- what the EPA has informed you that it's going to do, if you now recall, is it's going to provide a technically sound basis for revising both point-source limitations and nonpoint-source approaches; isn't that right?

A. I don't see it in those words exactly. So --

Q. Do you remember that you've been asked to provide a technical liaison to the EPA?

A. Yes, yes.

Q. And do you remember that EPA has told you that it expects this research to lead to the development of TMDLs for the Illinois River?

A. That is an expectation, that it may lead to that.

Q. Okay.

MR. HOPSON: Your Honor, at this time, I'm going to move the admission of Defendants' Joint Exhibit 8090. I think that there is good cause for our failure to list this on the exhibit list because the document did not exist at the time the exhibit list was prepared.

A. I know that it is mentioned in the Statement of Joint Principles and Actions something to the effect of Oklahoma -- I don't recall if it says "may" or "will" -- re-evaluate the scenic river's phosphorus criterion, I believe, by 2012.

Q. Isn't that the reason -- isn't the phosphorus criterion the reason Steve Thompson refused to go forward with a TMDL for the Illinois River?

A. Not to my knowledge, no.

Q. You don't know that he took the view that the phosphorus criterion unfairly burdened point sources as opposed to nonpoint sources?

A. I have not heard that from Steve, no.

Q. Just look at the last paragraph. Last paragraph concludes, "In summary, as we have been discussing with both officials in Arkansas and Oklahoma Departments of Environmental Quality, EPA Region 6 will soon initiate development of a water quality model of the Illinois River Watershed in northwest Arkansas and northeast Oklahoma."

Did I read that correctly?

A. Yes.

Q. Who's the EPA been talking to at your DEQ?

A. I'm not sure who.

Q. Have you responded to this letter, sir?

A. I have.

Q. Okay. What did you say?

A. I recalled designating John Craig of the Department of Environmental Quality to serve as our technical lead and then -- I think it was just more general language after that about looking forward to working together on the scoping of this project as well as the development of this -- this modeling effort.

Q. Have you talked to anybody in Arkansas about this development?

A. I believe only briefly at the Arkansas -- Oklahoma-Arkansas River Compact Commission meeting last week.

Q. Are you going to undertake efforts to coordinate with Arkansas in this effort?

A. I believe we'll certainly undertake efforts, yes.

Q. Okay. I want to talk to you about another Arkansas subject, if we will, for just a minute.

Arkansas has now passed laws that I believe you characterized as similar to Oklahoma's poultry statute; is that correct?

A. Correct.

Q. And, in fact, when Oklahoma was first

actually regulates the application of commercial fertilizer; isn't that correct?

A. It does include commercial fertilizer, yes.

Q. Okay. But with respect to the deficiencies that you just mentioned, you had an opportunity to review and comment on Arkansas' draft legislation; isn't that correct?

A. I'm not sure that I did. I had the opportunity to review certainly.

Q. Okay. Well, did you attend meetings with Arkansas officials after you had copies of the legislation in hand?

A. Yes, I did.

Q. And wasn't one of the purposes of those meetings to discuss the proposed legislation?

A. I don't recall any meetings for that purpose, no.

Q. Well, are you sitting here today telling me that you don't recall or you're not sure if you or anyone else from your office communicated your concerns to Arkansas about their statutes? Is that your testimony?

A. I don't recall if we communicated directly with Arkansas or not, other than to point out the deficiencies very early on in our reporting before

1 those -- I believe before the legislation was passed.
2 Q. I'm not sure I follow that. You're telling
3 me that you indirectly communicated your concerns
4 about deficiencies to Arkansas; is that it?
5 A. I believe we may have at least done that,
6 yes.
7 Q. But you're not sure?
8 A. Not -- not positive, no.
9 Q. And the truth is, sir, you did go to meetings
10 with Arkansas officials in which these issues could
11 have been raised; isn't that right?
12 A. Yes.
13 Q. And the explanation you provided for not
14 telling the Arkansas officials your concerns or your
15 issues or your deficiencies is that you believed that
16 these meetings you attend were intimidating; isn't
17 that right?
18 A. To me, yes.
19 Q. Okay. And because you felt intimidated in
20 these meetings, you did not communicate your concerns
21 about the deficiencies in the Arkansas statutes;
22 right?
23 A. I'm saying I can't recall communicating those
24 personally, yes.
25 Q. Well, you know you didn't personally raise

them in the meetings because you were intimidated; right?

A. That's correct.

Q. Do you have an e-mail in your office over there at the Secretary of the Environment?

A. Yes.

Q. Have they provided you with a telephone?

A. Yes.

Q. Do you have paper and pens and stamps?

A. Yes.

Q. But the truth is, you didn't use any of those methods to communicate with Arkansas officials about these purported deficiencies either, did you?

A. We committed them to paper in our reports, yes.

Q. What reports?

A. Senate Bill 972 report.

Q. After the legislation was passed, you criticized the legislation in your Senate 972 reports; isn't that right?

A. I don't know if it was before or after.

Q. But we do know right now here today that you didn't communicate those concerns before the legislation was passed; right?

A. Again, I'm not sure if that was before or

Q. Okay. Well, putting aside what this report says, are you aware, based on what we previously looked at, that many streams in western Oklahoma are impaired because of enterococci bacteria?

A. I am aware of that, yes.

Q. And you're aware that there are significant numbers of cattle in western Oklahoma; isn't that correct?

A. There is a cattle industry in western Oklahoma, yes.

Q. But there's virtually no poultry industry in western Oklahoma; isn't that right?

A. Correct.

Q. Okay. Have you -- isn't it true, sir, that there's no law or mandate that cattle in the IRW have to be excluded by fence from the streams and stream banks of the Illinois River?

A. I'm not aware of one, no.

Q. Is this one of these things where you think there might be a law to that effect and you're just not aware of it? Is that possible?

A. No.

Q. No. So the answer to my question is, there is no law or mandate that keeps cattle out of streams in the Illinois River; right?

A. Not to my knowledge, no.

Q. Okay. And you've never asked the legislature for such a law; isn't that correct?

A. Not that I recall, no.

Q. You think that over your 12 years in the Department of the Environment you may have asked for such a law and it's just slipped your mind as you sit on the witness stand today?

A. No.

Q. Okay. So you've never asked for such a law; right, sir?

A. Never asked, no.

MR. HOPSON: Okay. I have no further questions, Your Honor.

THE COURT: Any further cross-examination? Mr. McDaniel or Mr. --

MR. MCDANIEL: We're going to try to go in order.

THE COURT: I thought Mr. Tucker was always at the end?

MR. TUCKER: Well, I try to remember that I follow Tyson except for Cal-Maine. Cal-Maine is so often silent that I think of myself following Tyson.

THE COURT: But Cal-Maine is always to

assisting in ensuring the beneficial use of poultry litter, that's what it says? Do you agree?

A. Basically, yes.

Q. Okay. And that this statement of purpose related to the poultry regulatory scheme, that's consistent with the expression of the balance between potentially competing interests that I've been trying to discuss with you the last few minutes. Do you agree?

A. That could be a balance test, yes.

Q. Okay. Now, I think you testified on direct that the Oklahoma portion of the Illinois River Watershed was designated by the Oklahoma Water Resources Board as a nutrient-limited watershed in 2006. Is that your testimony?

A. I believe that's the date, yes.

Q. All right. So at the date -- this lawsuit was filed in 2005. Do you recall that, sir?

A. Yes.

Q. Okay. So at the time the lawsuit was filed, the watershed for Lake Tenkiller, at least the Oklahoma portion of it, was not a designated nutrient-limited watershed as that term is used in Oklahoma's water quality standards?

A. As I recall, none were.

lots of paper up there. But the Statement of Joint Principles and Actions is attachment C to Exhibit 5666.

A. Well, I actually found one.

Q. To speed it along -- well, I lost it. It is on page 3 of the Statement of Joint Principles and Actions towards the back of the document.

A. Yes.

Q. Do you see a reopener provision in the Statement of Joint Principles and Actions?

A. I do.

Q. Can you read that into the record?

A. "Oklahoma periodically re-evaluates all of its water quality standards. In particular, Oklahoma will re-evaluate Oklahoma's .037 milligram per liter criterion for total phosphorus in Oklahoma's scenic rivers by 2012 based on the best scientific information available at that time, and with the full timely inclusion of officials from the state of Arkansas representing both point and nonpoint-source dischargers."

Q. Okay. So is it accurate that Oklahoma regularly re-evaluates all of its water quality standards?

A. It is.

March of '04, any of that waste been land-applied?

A. I believe it has, yes.

Q. All right. And when it's hauled away, do you know where it goes?

A. No, I don't, not specifically.

Q. Do you know for a fact it goes outside the Illinois River Watershed?

A. I know for a fact that since -- I believe it was late May of 2005, that 100 percent of the litter has been hauled outside of the Illinois River Watershed.

Q. Let's talk about you and your experience as being a poultry-grower. You have an operation at this time?

A. Yes, I do.

Q. And who is the integrator for which you grow birds?

A. Tyson.

Q. And when did you start with Tyson?

A. April of 2004, I believe.

Q. All right. Did you have poultry-growing operations with an integrator prior to Tyson?

A. Yes.

Q. And who was that integrator?

A. Peterson Farms.

recommendations, or instructions to those growers about their operations?

A. Yes, I would give recommendations.

Q. For the ten years that you worked as a service tech, how often would you on a regular basis see a farm?

A. I would try to see every farm at least once a week.

Q. How many farms were under your authority at the time that you were doing that?

A. It varied from, oh, probably around 30 to -- at one point I think I had 52 or 53.

Q. While working as a Peterson Farms service tech, were you aware of what was being done with the growers' poultry waste generally at those operations?

A. I'm sorry. Could you ask that question again?

Q. At the 30 to 52 farms that you would see on a regular weekly basis, were you aware of what was being done with the poultry waste generated from the barns after it's being removed?

A. Not specifically, no.

Q. Generally, were you aware of what was being done?

A. Yes.

Q. Generally, what was being done with it?
A. Generally, it was being spread as fertilizer.
Q. Is it true that you come from a family of poultry-growers?
A. Yes.
Q. Your father a prior -- or has been a grower in the past?
A. Yes.
Q. Does he still grow today?
A. Yes, he does.
Q. Who is his integrator?
A. Currently, it's Tyson.
Q. And he's not in the Illinois River Watershed, is he?
A. No, he is not.
Q. What watershed -- or how close to your farm is your dad's farm?
A. His farm is actually in the Eucha-Spavinaw Watershed, and it's located approximately 12 miles due west of our farm.
Q. Okay. Did your father -- does your father now and in the past land-apply poultry waste generated at his operation?
A. Yes.
Q. Based on your observations and experience

growing up with the poultry operation and working in it, is it common that poultry waste is land-applied within the watershed?

A. Yes. It is common to have poultry litter applied as -- as fertilizer.

Q. When it is applied, sir, it's not integrated into the soil, it's not tilled in, is it?

A. No, it is not.

Q. Let's talk about your specific operations. How many barns, poultry barns, do you operate at this time?

A. On my personal farm?

Q. Yes, sir.

A. Two.

Q. And have you operated any different number of houses on your farm?

A. No.

Q. Is there a name for your farm?

A. Our farm name is Pigeon Family Farms.

Q. Okay. What's the size of the two barns that you operate?

A. The dimensions are 40 feet wide by 400 feet long.

Q. And did you build those barns or were they there when you acquired the property?

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A. Our farm name is Pigeon Family Farms.

Q. Okay. What's the size of the two barns that you operate?

A. The dimensions are 40 feet wide by 400 feet long.

Q. And did you build those barns or were they there when you acquired the property?

A. In the past, I have decaked.

Q. When did you quick decaking your houses?

A. Probably -- I think the last time I decaked was February of 2006.

Q. So prior to 2006, let's talk about what you did with your cake-out.

Did you then just land-apply it when it was pulled out of the barn?

A. Yes. Immediately.

Q. How often do you cake-out a barn?

A. Generally, it was one time per flock, usually at the end of the flock.

Q. All right. So after each flock of birds, you would run a cake-out process, because you have no storage, it would go and be spread immediately?

A. Yes.

Q. And where would it be spread?

A. It would be land-applied.

Q. Where?

A. On my pastures.

Q. All right. Do you currently, as a grower for Tyson, do a full cleanout of your barns?

A. On average, I do a full cleanout about every other year.

Q. And historically, has that been the number or

Q. So what do you do with the waste that you do not land-apply on your property?

A. I'm sorry. Could you ask that --

Q. Yeah. What do you do with the poultry litter that has not been land-applied on your property?

A. I sell it.

Q. And do you sell it to neighbors?

A. Generally -- I have sold it to neighbors in the past.

Q. And when you sold it to a neighbor in the past, what would they do with it?

A. They would land-apply it as fertilizer.

Q. Do you have a regular customer today that you're selling to?

A. Not a regular customer, no.

Q. All right. And so when you do sell it, is it still being land-applied, as far as you know?

A. I have no idea. I --

Q. Well, when you sell it to a neighbor, you have an idea, don't you?

A. Yes.

Q. And it's being land-applied there?

A. Yes.

Q. Okay. Is there any particular time of year that you do your cleanouts?

Case Clip(s) Detailed Report
Monday, November 02, 2009, 10:51:40 PM

Oklahoma Trial Sept 2009

Hudson, Read (Vol. 01) - 08/20/2007 [Oklahoma Trial Group - Charg...] 1 CLIP (RUNNING 00:32:36.979)

Would you please state your name to the court ...

RH-0820-0000613 **24 SEGMENTS (RUNNING 00:32:36.979)**

1. PAGE 6:13 TO 6:25 (RUNNING 00:00:23.470)

```
        13  Q      Would you please state your name to the court
        14  and for the Record?
        15  A      Read Hudson.                                          09:05AM
        16  Q      Mr. Hudson, are you currently employed?
        17  A      Yes.
        18  Q      For whom are you employed?
        19  A      Tyson Foods.
        20  Q      And that formal name is Tyson Foods, Inc.; is         09:05AM
        21  that correct?
        22  A      Yes, sir.
        23  Q      What position do you hold there?
        24  A      Vice-president, associate general counsel and
        25  corporate secretary.                                         09:05AM
```

2. PAGE 8:15 TO 9:09 (RUNNING 00:00:53.272)

```
        15  Q      All right, and you understand you're here             09:07AM
        16  today as a company designee to speak for the company
        17  on certain subjects to provide complete,
        18  knowledgeable and binding answers on behalf of the
        19  company regarding those subjects that have been
        20  identified in an exhibit to a 30(b)(6) notice?               09:07AM
        21  A      Yes.
        22  Q      For purposes of your deposition this morning,
        23  as I understand, you've been designated to speak on
        24  behalf of the three Tyson entities, that being Tyson
        25  Foods, Inc., Tyson Poultry, Inc., Tyson Chicken,             09:07AM
  00009:01  Inc., and also Cobb-Vantress, Inc.; is that correct?
        02  A      Yes.
        03  Q      So when I use the term you or referring to the
        04  company, we're referring to all four of those
        05  companies today unless you tell me there is some             09:07AM
        06  difference in your response as it might relate to
        07  one of those four companies; can we agree to do
        08  that?
        09  A      I'll do my best.
```

3. PAGE 9:20 TO 11:08 (RUNNING 00:01:33.579)

```
        20  Q      All right.  I'm going to talk about a few             09:08AM
        21  definitions so that you understand the terms that I
        22  use in the deposition and if we have any discrepancy
        23  on those, we're going to define them right here
        24  today before we start.  First off, when I say you or
        25  your poultry growing operation, I mean that term to          09:08AM
  00010:01  include both company-owned or managed and contract
        02  growers.  If I intend for it to mean either or one
        03  or the other, then I will so specify either a
        04  company-owned or managed farm or a contract grower
        05  farm.  Is that acceptable to you?                            09:09AM
        06  A      Yes, sir.
        07            MR. GEORGE:  Rick, before -- just so I
        08  don't have to repeat this objection, we've made an
        09  objection to that term in our letter in response to
        10  the notice of July 26th of 2007.  Can I have a               09:09AM
        11  continuing objection throughout the course of this
```

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXXV - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 5, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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2

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

JIM L. PIGEON

7

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THE COURT: You may, sir.

CROSS-EXAMINATION

BY MR. GEORGE:

Q. Good morning, Mr. Pigeon. My name's Robert George and I represent Tyson Foods. You and I met for the first time yesterday; is that correct?

A. That's correct.

Q. Mr. Pigeon, Mr. Garren asked you a few questions about your farm. Who owns the land on which your poultry farm is located?

A. I own that land.

Q. And you have two poultry houses located on that property; is that correct?

A. Yes.

Q. What other farming or commercial activities are you involved in, or your wife involved in, at that same property?

MR. GARREN: Objection; relevance.

THE COURT: I think we touched upon them, but obviously if he has cattle, that's relevant. Overruled.

Go ahead.

Q. *(BY MR. GEORGE)* Go ahead, Mr. Pigeon.

A. I have a beef cattle operation. Also, my wife owns and operates a greenhouse and nursery

business.

Q. Okay. Does your wife use any fertilizer in her greenhouse operation?

MR. GARREN: Objection; foundation.

THE COURT: Overruled.

Q. *(BY MR. GEORGE)* If you know.

A. Yes, she does.

Q. And of what type, if you know?

A. It's a water-soluble fertilizer.

Q. Okay. Not poultry litter?

A. No.

Q. Mr. Pigeon, who runs your poultry farm?

A. My wife and I.

Q. And do you have a service tech currently assigned to your farm by Tyson Foods that makes periodic visits?

A. Yes.

Q. And what is his or her name?

A. His name is Kenny Russo.

Q. Has Mr. Russo ever made a suggestion or a recommendation to you regarding a practice within your poultry operation that you have chosen to disregard for whatever reason?

MR. GARREN: Objection; leading.

THE COURT: Overruled.

A. Yes, he has.

Q. *(BY MR. GEORGE)* Mr. Pigeon, have you ever been terminated, or threatened with termination, by Tyson Foods for failing to follow a service tech's recommendation?

A. No.

Q. Mr. Garren asked you a few questions about your use of poultry litter in certain locations. Who owns the land on which you have applied poultry litter?

A. I own that land.

Q. Has Tyson ever told you where to apply poultry litter?

A. No.

Q. Has Tyson ever told you how much poultry litter to apply?

A. No.

Q. Has Tyson ever told you when to apply poultry litter?

A. No.

Q. You talked about caking out and bedding in your direct examination. Where do you get your bedding from?

A. From various bedding suppliers.

Q. And generally, what does it contain or is

A. Yes, he has.

Q. *(BY MR. GEORGE)* Mr. Pigeon, have you ever been terminated, or threatened with termination, by Tyson Foods for failing to follow a service tech's recommendation?

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A. No.

Q. Has Tyson ever told you when to apply poultry litter?

A. No.

Q. You talked about caking out and bedding in your direct examination. Where do you get your bedding from?

A. From various bedding suppliers.

Q. And generally, what does it contain or is

comprised of?

A. There's several products that I've used in the past. I've used wheat straw. I have used rice hulls. I've used sawdust, pine shavings. So there's various products that I've used over the years.

Q. And who pays for the bedding that ultimately goes into your poultry houses?

A. I do.

Q. Now, Mr. Pigeon, is your poultry farm a registered poultry farm with the State of Oklahoma under the Registered Poultry Feeding Operations Act?

A. Yes, it is.

Q. And how long have you been registered with the State of Oklahoma, if you know?

A. I've been registered with them since the law or requirements took effect.

Q. Could you consult in the materials that I gave you exhibit -- Joint Defendants' Exhibit 3543-0002? Do you recognize that document?

A. Yes, I do.

Q. And what is it for the record?

A. That's a copy of our poultry registration certificate from the Oklahoma Department of Agriculture.

Q. And do I understand that you receive an

Q. *(BY MR. GEORGE)* Did you find it, Mr. Pigeon?

A. Yes.

Q. And for the record, what is that document?

A. That's the -- appears to be the renewal registration form.

Q. And does your signatures appear on it?

A. Yes, it does.

Q. Is this a document that you would have completed yourself?

A. Yes.

Q. And what's the date of this document?

A. December of 2007.

MR. GEORGE: Your Honor I'd move for introduction of Defendants' Joint Exhibit 3543-0004.

MR. GARREN: No objection.

THE COURT: The exhibit is admitted.

Q. *(BY MR. GEORGE)* Mr. Pigeon, on the renewal form, is it true that you tell the State of Oklahoma how many birds you raise on your property?

A. Yes.

Q. In 2006, what was the estimate as the total number of birds raised?

A. 209,475.

Q. As a registered poultry-feeding operation,

Mr. Pigeon, are you subject to annual inspections by the State of Oklahoma?

A. Yes.

Q. And who is your inspector?

A. Mr. John Littlefield.

Q. And has he been your inspector the whole time you've operated a poultry farm?

A. I don't believe he has.

Q. Okay. How far back does his involvement with your farm go, if you can recall?

A. I don't recall exactly.

Q. Does Mr. Littlefield visit your operation every year, in fact?

A. We visit. He doesn't necessarily visit our farm specifically.

Q. Okay. Are there occasions when he is on your property as part of his inspections?

A. Occasionally, yes.

Q. When Mr. Littlefield comes to conduct an inspection, does he review any information or ask for any information?

A. Yes, he does.

Q. What type of information does he review?

A. He asks for -- to see copies of our registration forms and certificates. He asks to see

our -- any litter application records, any cleanout records, things of that nature.

Q. Does Mr. Littlefield also interview you regarding your operation?

A. Yes, he does.

Q. And, Mr. Pigeon, as part of that inspection and interview process, is there any paperwork completed that you have to sign?

A. Yes, there is.

Q. Could you turn to Defendants' Joint Exhibit 3404?

(Discussion held off the record)

Q. *(BY MR. GEORGE)* Did you find that, Mr. Pigeon?

A. Yes.

Q. What is this for the record?

A. This is a copy of the inspection form that Mr. Littlefield fills out when he inspects my records.

Q. Okay. And if you turn to the third page, do you review it and sign it?

A. Yes.

Q. Do you also see Mr. Littlefield's signature?

A. Yes, I do.

Q. Mr. Pigeon, do you maintain these inspection reports as part of the operation of your farm as

business records?

A. Yes, I do.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 3404.

THE COURT: Any objection?

MR. GARREN: None, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* What's the date of this inspection report?

A. March 16th of 2004.

Q. Okay. And I see in the top right-hand corner, there's a blank "integrator" and it appears that "Peterson" was written and then scribbled through and "Tyson." Do you see that?

A. Yes, I do.

Q. And then out to the side, what does that say?

A. It says "change enclosed."

Q. And can you give us some understanding as to why there was a change from Peterson to Tyson on this form?

A. I believe this was done around -- this inspection was done around the time that I changed integrators.

Q. Okay. At the time you changed integrators from Peterson to Tyson Foods, were you current on your

education, Mr. Pigeon?

A. Yes, sir.

Q. If you look down on the first page, do you see the line that says "date of Animal Waste Management Plan"?

A. Yes, I do.

Q. Okay. Is that one of the things that Mr. Littlefield inquires of you when he conducts an inspection is whether you have an Animal Waste Management Plan?

A. Yes, he does.

Q. Does Mr. Littlefield also ask as to the date of your most recent soil test where you're applying litter?

A. Yes, he does.

Q. And is that information shown on this form?

A. I believe so, yes.

Q. Paragraph 1 is entitled "watershed/groundwater" and it provides some information about the areas in which your property is located.

Who completes that area of the form, you or Mr. Littlefield?

A. Mr. Littlefield.

Q. Do you see that the box is checked that

you're located in a nutrient-vulnerable groundwater area?

A. Yes.

Q. Okay. Do you make that determination or does Mr. Littlefield?

A. Mr. Littlefield.

Q. There's also a place where it asks whether the facility is located in a nutrient-limited watershed. Do you see that?

A. Yes.

Q. Who makes that determination?

A. Mr. Littlefield.

Q. Do you see in paragraph 3 there's a reference to "carcass disposal"? Does Mr. Littlefield ask you about your carcass disposal methods?

A. Yes, he does.

Q. If you turn over to the second page, Mr. Pigeon, there's a reference in paragraph 5 to "application records" and whether they're current.

Do you see that?

A. Yes, I do.

Q. Does Mr. Littlefield review your application records when he conducts an inspection?

A. Yes, he does.

Q. If you'll turn over to the third page,

Mr. Pigeon, do you see paragraph 6 entitled "education"?

A. Yes, I see that.

Q. And does that section describe the educational hours that you received initially as well as updates?

A. Yes, it does.

Q. And is that something that Mr. Littlefield discusses with you when he comes for an inspection?

A. Yes.

Q. In paragraph 7 entitled "complaints" -- do you see that?

A. Yes.

Q. -- to your knowledge, has there ever been a complaint made with respect to your use of poultry litter on your farm?

A. No, there has not.

Q. And then in paragraph 8, could you read that for the record, what that sentence says, and what is checked?

A. "Is the AWMP being followed by this operation?"

Q. Is that a true statement, Mr. Pigeon, that it is being followed?

A. Yes, it is.

Q. Have you always followed your Animal Waste Management Plan?

A. Yes, I have.

Q. Mr. Pigeon, could you pull out Defendants' Exhibit 3543-0006?

A. Okay.

Q. And for the record, what is the title of that document?

A. "Oklahoma registered poultry feeding operations inspection checklist."

Q. And do you see a date on it, Mr. Pigeon?

A. Yes.

Q. What is it, sir?

A. April 9th of 2008.

Q. And if you turn to the second page, do you see your signature at the bottom of this inspection checklist?

A. Yes, I do.

Q. And once again, do you see Mr. Littlefield's signature?

A. Yes.

Q. Is this another example of an inspection form that Mr. Littlefield fills out that you sign when he inspects your property?

A. Yes, it is.

MR. GEORGE: Your Honor, I'd move for introduction of Defendants' Joint Exhibit 3543-0006.

THE COURT: Any objection?

MR. GARREN: No objection.

THE COURT: Without objection, the exhibit's admitted.

Q. *(BY MR. GEORGE)* If you look in paragraph 1, watershed/groundwater -- do you see that section, Mr. Pigeon?

A. Yes.

Q. -- in contrast to the last form that we saw, the sentence that says, "Is facility located in a nutrient-limited watershed," this time it's checked "yes" as opposed to "no." Do you see that?

A. Yes.

Q. Do you know why that changed?

A. Not for certain, no.

Q. Who told you that in -- I'm sorry.

As between yourself and Mr. Littlefield, who made the determination that, at least as of April of 2008, your property was located in a nutrient-limited watershed?

A. Mr. Littlefield.

Q. In that same paragraph, it asks, "watersheds where poultry waste was applied." Do you see that?

It's in paragraph 1, it's sort of indented, third line down.

A. Oh, okay. Yes.

Q. And there's some -- it looks like an abbreviation out to the side. Can you read that?

A. Looks like some letters. I don't know if I can read it. It says "U" -- appears to say "UNK."

Q. Okay. Were you applying poultry litter on your property or your farm in 2008, Mr. Pigeon?

A. No.

Q. What happened to the litter generated from your farm in 2008?

A. Most of the litter generated in 2008, I believe, is still in my poultry houses.

Q. You have it cleaned out; is that what you're telling us?

A. I have not cleaned out since sometime in the spring of 2008, I believe was the date.

Q. All right. If you turn over to the third page of this document, Mr. Pigeon, there's a reference to a cleanout in September of 2006. Do you see that?

A. Yes.

Q. Okay. And under the column "hauler removing or person receiving the waste," what's shown there?

A. BMP.

Q. What is BMP?

A. It's my understanding BMP's is a -- I know kind of what they do but I don't know exactly what you --

Q. I'm sorry. Tell us what they do, as you understand it.

A. As I understand, they work similar to a broker, a brokerage firm, that assists growers in selling litter to be removed from the -- any nutrient-limited or vulnerable watersheds.

Q. And did you, in fact, sell your litter to BMP's in September of 2006?

A. I sold my litter through BMP, yes.

Q. Okay. And did you receive money for that litter?

A. Yes, I did.

Q. And did you retain that money or did you send it to Tyson Foods?

A. I retained that.

Q. Is the money that you receive when you sell your litter important to you in subsidizing the operation of your farm?

A. Absolutely.

Q. Will you turn and find Oklahoma Exhibit 4061, Mr. Pigeon? For the record, it's an Animal Waste

Mr. Pigeon, do you see paragraph 6 entitled "education"?

A. Yes, I see that.

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Q. And is that something that Mr. Littlefield discusses with you when he comes for an inspection?

A. Yes.

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Q. -- to your knowledge, has there ever been a complaint made with respect to your use of poultry litter on your farm?

A. No, there has not.

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Q. Is that a true statement, Mr. Pigeon, that it is being followed?

A. Yes, it is.

Q. Have you always followed your Animal Waste Management Plan?

A. Yes, I have.

Q. Mr. Pigeon, could you pull out Defendants' Exhibit 3543-0006?

A. Okay.

Q. And for the record, what is the title of that document?

A. "Oklahoma registered poultry feeding operations inspection checklist."

Q. And do you see a date on it, Mr. Pigeon?

A. Yes.

Q. What is it, sir?

A. April 9th of 2008.

Q. And if you turn to the second page, do you see your signature at the bottom of this inspection checklist?

A. Yes, I do.

Q. And once again, do you see Mr. Littlefield's signature?

A. Yes.

Q. Is this another example of an inspection form that Mr. Littlefield fills out that you sign when he inspects your property?

A. Yes, it is.

Q. What is BMP?

A. It's my understanding BMP's is a -- I know kind of what they do but I don't know exactly what you --

Q. I'm sorry. Tell us what they do, as you understand it.

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A. I sold my litter through BMP, yes.

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A. Yes, I did.

Q. And did you retain that money or did you send it to Tyson Foods?

A. I retained that.

Q. Is the money that you receive when you sell your litter important to you in subsidizing the operation of your farm?

A. Absolutely.

Q. Will you turn and find Oklahoma Exhibit 4061, Mr. Pigeon? For the record, it's an Animal Waste

Management Plan -- or actually entitled "Nutrient Management Plan."

A. Okay.

Q. Do you recognize this document?

A. Yes, I do.

Q. And is this the document that you maintain and use during the course of your business?

A. Yes.

Q. Did you consult this document in the past in making decisions regarding the use of poultry litter?

MR. GARREN: Objection; leading, Your Honor.

THE COURT: Sustained. Rephrase.

Q. *(BY MR. GEORGE)* Do you consult this document -- or have you consulted this document, Mr. Pigeon?

A. Yes, I have.

Q. And for what purpose?

A. To aid me in knowing what rates I can apply litter to what fields.

Q. Where did you obtain this Nutrient Management Plan from?

A. I believe this Nutrient Management Plan was prepared by members of the NRCS office located in Jay, Oklahoma.

Management Plan -- or actually entitled "Nutrient Management Plan."

A. Okay.

Q. Do you recognize this document?

A. Yes, I do.

Q. And is this the document that you maintain and use during the course of your business?

A. Yes.

Q. Did you consult this document in the past in making decisions regarding the use of poultry litter?

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THE COURT: Sustained. Rephrase.

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A. Yes, I have.

Q. And for what purpose?

A. To aid me in knowing what rates I can apply litter to what fields.

Q. Where did you obtain this Nutrient Management Plan from?

A. I believe this Nutrient Management Plan was prepared by members of the NRCS office located in Jay, Oklahoma.

A. Yes.

MR. GEORGE: Your Honor, I move for introduction of Oklahoma Exhibit 4061.

THE COURT: Any objection?

MR. GARREN: No, Your Honor.

THE COURT: The exhibit's admitted.

Q. *(BY MR. GEORGE)* Mr. Pigeon, could you read for the record the first sentence under "description of operation" in this Nutrient Management Plan?

A. The first sentence?

Q. Yes, sir.

A. "This Nutrient Management Plan includes the production, handling, and distribution of wastes in a manner that prevents or minimizes degradation of air, soil, and water resources."

Q. Is that consistent with your understanding of the purpose of this plan?

A. Yes, it is.

Q. You see the heading entitled "Application"?

A. Yes.

Q. And there's a reference to field 1 and field 3. Do you see that?

A. Yes.

Q. Okay. What is the stated application rate in that paragraph for field 1 and field 3?

A. Yes.
Q. And what was the date of that plan?
A. November of 2006.
Q. Okay. In the first paragraph entitled: "Introduction," there's a sentence that begins with "the law requires." Do you see that, about midway through the paragraph?
A. Yes.
Q. Could you read that for the record, please?
A. "The law requires that the National Resources Conservation Service (NRCS) recommendations for litter application rates be followed."
Q. Is that consistent with your understanding of what the law requires?
A. Yes, it is.
Q. Would you turn over to page 3, Mr. Pigeon? Do you see the section entitled: "Application Rates" and then there's a soil test results chart?
A. Yes.
Q. And then beneath that chart, there is a -- there's a paragraph. Could you read that?
A. "Soil test P index is at or above 300 in all fields. Do not apply litter on this property until the phosphorus index is below 300 in the field where litter is to be applied."

Q. Okay. Mr. Pigeon, after receiving this plan in November of 2006 with that instruction, have you applied litter to any of those three fields?

A. No, I have not.

Q. So you followed the instructions in this plan?

A. Yes.

Q. Now, Mr. Pigeon, did you have a bit of a mix-up at some point with the State of Oklahoma or ODAFF regarding some records that you submitted?

A. Yes, I did.

Q. And could you tell us a little bit about that, please?

A. I had inadvertently reported a wrong field number that I had applied litter.

Q. Okay. And when you submitted that litter application record, did you receive some correspondence back from the State of Oklahoma?

A. Yes, I did.

Q. Okay. Could you turn in your exhibits to Oklahoma Exhibit 2875D, which for the record is a collection of three letters, two from the state and one from Mr. Pigeon?

Do you have that, Mr. Pigeon?

A. Yes, I do.

Q. Do you recognize each of those letters?
A. Yes, I do recognize those.
Q. Okay. And what are the dates of the letters? You can just take them in order.
A. February 16th of 2006.
Q. And who is that letter from?
A. It's from Mr. Dan Parrish.
Q. And who is it to?
A. It's to Jim and Michelle Pigeon.
Q. Do you recall receiving this?
A. Yes, I do.
Q. And then the second letter?
A. That was a letter to Mr. Parrish from myself dated February 21st 2006.
Q. And is that your signature?
A. Yes, it is.
Q. Could you turn to the third letter? What's the date of it?
A. The date is March 23rd, 2006.
Q. And who is it signed by?
A. Mr. Parrish.
Q. And who is it to?
A. To Jim and Michelle Pigeon.
Q. And do you recall receiving that letter from Mr. Parrish?

A. Yes, I do.

MR. GEORGE: Your Honor, I'd move for introduction of Oklahoma Exhibit 2875D.

THE COURT: Any objection?

MR. GARREN: Your Honor, there's an extra page in here that I'm trying to make sure whether it's, in fact, included as part of the letter, which is the third page of the document.

(Discussion held off the record)

MR. GARREN: No objection.

THE COURT: Exhibit 2875D is admitted.

Q. *(BY MR. GEORGE)* So let's walk through this in a little bit of detail, Mr. Pigeon.

Can you go to the February 16, 2006, letter from Mr. Parrish to yourself?

A. Yes.

MR. GARREN: Your Honor, I would object on this line of questioning because it's certainly outside the scope of direct. I don't know the relevance of it in that sense.

MR. GEORGE: Your Honor, if I may, we had an agreement with respect to third parties, such as Mr. Pigeon, that the scope of direct could be exceeded so they wouldn't have to be recalled.

MR. GARREN: Now that I know that, I'll

withdraw it.

THE COURT: Thank you.

Q. *(BY MR. GEORGE)* You dodged a bullet, Mr. Pigeon. We might not have to bring you back.

A. Thank you.

THE COURT: I've had to drive to and from Concord myself so I don't want to make you do that anymore than you have to.

Go ahead.

MR. GEORGE: Thank you, Your Honor.

Q. *(BY MR. GEORGE)* Do you see on the February 16th, 2006, letter that Mr. Parrish has reviewed -- or somebody in his office has reviewed your reports and has found a discrepancy? Is that a fair description?

A. Yes, it is.

MR. GARREN: The document's in, Your Honor, it speaks for itself in that sense. So I would object if we're going to sit here and read this entire document.

THE COURT: Mr. George, the purpose?

MR. GEORGE: Certainly, Your Honor. The purpose is to show that contrary to what's been suggested by the state, that there is actually some oversight of these farms, records are reviewed, and when there are problems noted, procedures are followed

to correct those problems.

THE COURT: The objection's overruled. I think it's helpful to see how the law's being enforced.

Go ahead.

MR. GEORGE: Thank you, Your Honor.

Q. *(BY MR. GEORGE)* In paragraph No. 1, Mr. Pigeon, do you see where Mr. Parrish has reported that you had reported eight tons of poultry waste applied to field No. 2?

A. Yes.

Q. Was that a correct report, or did you make an error? Let me ask it this way.

Did you actually apply eight tons of poultry litter to field No. 2 on December the 22nd of 2004?

A. No, I did not.

Q. And you see in the second paragraph, what does Mr. Parrish say was the phosphorus test index for field No. 2?

A. I apologize. Actually, on section No. 1 --

Q. Yes, sir.

A. -- I may have applied litter on December 22nd, 2004.

Q. Okay.

A. I believe that states that the report did not

include a soil test report.

Q. I'm sorry. I'm sorry. Okay. Do you see where in the second paragraph Mr. Parrish reports that there's been a violation at your property because litter was applied on field No. 2 and the phosphorus index was 528?

A. Yes.

Q. Okay. When you received this letter from Mr. Parrish, were you concerned about that?

A. Absolutely.

Q. And what did you do in response?

A. I immediately went to my records.

Q. What did you find when you reviewed your records?

A. I found that I had inadvertently written the wrong field number down and reported the incorrect field number to the state.

Q. Okay. What should have been the correct field number?

A. I believe that should have been field No. 3, if I remember correctly.

Q. And did you communicate that information back to Mr. Parrish in response to the letter he sent you?

A. Yes, I did.

Q. Okay. And did you submit a corrected report

of your litter application history?

A. Yes, I did.

Q. And is that the document that's shown as -- and it's Bates-numbered at the bottom -- ODAFF, December '07, 004659?

A. I believe that's correct, yes.

Q. What did Mr. Parrish do in response to your letter, if you know?

A. I believe he asked the inspectors, the record inspectors, to come to the farm and collect samples from the fields that I reported in error, soil samples from that field, as well as samples of poultry litter from the houses.

Q. Okay. And did someone, in fact, come and collect those samples from your property?

A. Yes, they did.

Q. And who was that person?

A. That was Mr. John Littlefield and Mr. David Berry.

Q. Okay. And have you received any information as to the results of those samples?

A. Yes, I did.

Q. And could you turn to the last letter that's dated March the 23rd of 2006?

A. Yes.

Q. What was your phosphorus index on field 2 when it was resampled by Mr. Littlefield according to this letter?

A. According to this letter, the phosphorus level in field No. 2 was 282.

Q. Based upon your Animal Waste Management Plan, would you be able to apply on that field if it were 282?

MR. GARREN: Objection to the form.

THE COURT: Overruled. Go ahead.

A. Yes, I could.

Q. *(BY MR. GEORGE)* Okay. And could you read for the record the last sentence of Mr. Parrish's letter dated March 23rd, 2006?

A. "This situation has been resolved."

MR. GEORGE: Your Honor, may I consult? I may be through.

THE COURT: Yes, sir.

(Discussion held off the record)

MR. GEORGE: I'll pass the witness, Your Honor.

THE COURT: Peterson?

MR. HIXON: Peterson Farms has nothing for the witness.

THE COURT: Anyone else? Mr. Garren.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
NOVEMBER 5, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XXXVI, P.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
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A. Greener Pastures Enterprises.
Q. What is that?
A. It's a full-service cleanout business. I take care of the cleaning out the chicken houses, putting bedding back in, so on and so forth, throughout the area.
Q. Do you supply the bedding when you do that work?
A. If they want me to.
Q. Are you paid for the service of cleaning out the barn?
A. No.
Q. What do you get in return for cleaning out the barn?
A. I get the litter.
Q. What do you do with the litter when you get it?
A. I market it, sell it, move it, sometimes even spread it.
Q. Do you have a facility to store it in?
A. Some.
Q. Do you typically store or do you typically land apply it upon cleanout?
A. What are you talking about?
Q. Poultry litter that you remove from barns --
A. Yeah.
Q. -- do you typically store it, or do you simply go from the barns directly to an application site and land apply it?

A. Yes.
Q. And did you dispose of them on your property or -- let me ask it this way: How did you dispose of them?
A. On my property.
Q. In what manner?
A. Composting.
Q. What would you do with the compost after its completion?
A. It would be sometimes spread or sold as litter.
Q. And when it was sold as litter, would it then also be spread?
A. Yes.
Q. Do you recall, sir, how many tons on a cleanout you would remove from your barns?
A. It would vary depending on the time that -- how many flocks went through between cleanouts.
Q. How often would you clean out?
A. Annually usually, but sometimes it would go longer, sometimes less.
Q. On an annual cleanout, when you've had five to six flocks in there, do you remember how many, on average, tons of poultry litter came out of that barn?
A. I'd have to go back and look at my records to tell you that.
Q. When you measure the amount of poultry litter coming

the vicinity of the barn?
A. Yes.
Q. Okay. And when you piled it, how long would it stay there generally?
A. Not very long.
Q. Would you cover it?
A. Just depends on how long it was going to be there.
Q. Sometimes you wouldn't; is that what you're saying?
A. Yeah. Depending on the weather forecast, whatever.
Q. Did you, sir, land apply on your 205 acres all the waste that was generated in your three houses when you were growing?
A. No.
Q. What else would you do with it if you didn't land apply your land?
A. I would sell it, sell the litter.
Q. When you sold it, did you transport it to whoever was buying it?
A. Sometimes, yeah.
Q. And sometimes what else would happen?
A. Or we'd load it on a semi and haul it off.
Q. When you transported it, how far would you generally go when you would sell it and transport it?
A. As much as five miles away.
Q. On average, during the approximate ten years that

you grew for Simmons, did you land apply more than you sold?
A. I don't think so.
Q. Do you have a specific recollection of your application records to say, though, today?
A. I've got -- all my records are filed, and you've probably got a copy of them.
Q. So you don't have a specific recollection without looking at it; is that correct?
A. That's right.
Q. How -- did Simmons make any request of how often you would clean out?
A. They liked an annual cleanout.
Q. I'm sorry. I didn't hear the response.
A. They liked an annual cleanout.
Q. Thank you. With regard to a cakeout, did Simmons make a request how often a cakeout should occur?
A. Between flocks.
Q. You generally followed their direction on that?
A. Sometimes I'd till the litter and wouldn't cake out. That's not what Simmons wanted, so -- I don't grow for them anymore, so I can say that.
Q. Has there ever been an occasion where poultry waste was land applied on your land when you owned it that came from some other growing operation?

A. Not that I recall. I had my own poultry. Why would I want to buy it from somebody else?
Q. After the poultry waste has been removed from the barns, was it ever used in the process of growing the birds?
A. Say that again.
Q. After the poultry litter has been removed from the barns, was it ever used in the process of growing the birds again?
A. No.
THE COURT: You tend to get that same reaction from that question every time.
MR. GARREN: Unfortunately, Judge, there's about six or seven defendants. You might hear it again.
THE COURT: Go ahead.
Q. (By Mr. Garren) Did you ever till the waste or poultry waste into the ground when you land applied it, or just throw it on top of the ground?
MR. ELROD: Object to the form, Your Honor. "Throw it on top."
MR. GARREN: I'll rephrase.
Q. (By Mr. Garren) Did you ever till the poultry waste into the ground upon application?
A. No.
Q. Based on your experience and knowledge as growing

poultry and being a commercial waste applicator, what do you know to be the common or typical use for poultry litter in the IRW?

A. To fertilize the soil is the main cause. That's basically all I know that we did with it.

Q. At the time that you gave your deposition in this case, did you, at that time, know what the agronomic need for the pasture grasses that you had in your pasture was for phosphorus?

A. I was aware of it.

Q. Do you know what the agronomic need for Bermuda is today for phosphorus?

A. Someone's opinion is a certain number.

Q. Do you remember what that number is?

A. I've heard other opinions, too.

Q. Well, I'm asking whether or not you, from your own knowledge, know what the agronomic rate of phosphorus is for Bermuda grass.

A. I don't have a specific number in my head. I'm not going to tell you something I don't know.

Q. That's all we're asking, sir, is to tell us the truth and what you do know.

A. Exactly.

Q. Would your answer be the same if I asked you the same question for Fescue grass?

A. Not that I recall. I had my own poultry. Why would I want to buy it from somebody else?
Q. After the poultry waste has been removed from the barns, was it ever used in the process of growing the birds?
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A. Exactly.

Q. Would your answer be the same if I asked you the same question for Fescue grass?

Q. Prior to your growing for Simmons, did anyone from Simmons inspect your premises?
A. Like who?
Q. Anyone from Simmons.
A. There was a lot of people that looked at it.
Q. You started before the Poultry Feeding Operations Act went into effect. When you got your first Nutrient Management Plan, did Simmons require you to give them a copy?
A. I don't remember.
Q. Did Simmons ever look at your Nutrient Management Plan?
A. Not that I remember.
Q. Did Simmons ever inquire as to what your policies and procedures were for handling and disposing of poultry waste generated in your barns by their birds?
A. At some point in time, they wanted us to have a nutrient plan, and we did.
Q. Other than having a nutrient plan, did they ever look at your nutrient plan?
A. Not that I remember.
Q. Now, did they ever ask you how you handled or disposed of your poultry waste generated by their birds?
A. No.
Q. Did they ever ask you whether or not you had

sufficient lands in which to apply the amount of waste being generated?
A. Not that I remember.
Q. Did Simmons ever inquire at any time that you were growing for them about what the level of phosphorus was in your fields?
A. Not that I remember.
Q. Let's talk a little bit about your contracts. Were your contracts on a one-flock basis or flock to flock?
A. I got annual contracts from them, one-year basis.
Q. Were you allowed to negotiate any of the terms of the contracts you signed?
A. I never tried.
Q. According to your contracts, were -- who supplied all the feed for the birds?
A. Simmons did.
Q. Who delivered it?
A. Simmons.
Q. And if you didn't use it, what happened to it?
A. They reweighed it, and it was calculated into my final settlement.
Q. Were you allowed to use your own feed for the birds?
A. No.
Q. Were you -- who supplied the medications for the needs of the birds?

MR. ELROD: I don't know where this is going, but I kind of thought Eucha-Spavinaw was not within the four corners of this litigation.

THE COURT: Relevance.

MR. GARREN: I didn't hear you.

THE COURT: Relevance.

MR. GARREN: Relevance, Your Honor, is I'm laying a predicate for whether or not he was advised of a change in operations he should do as a result of what Simmons may or may not have known from the Eucha-Spavinaw experience.

THE COURT: As to changes in the IRW?

MR. GARREN: Yes, and on his farm as a result -- I'm trying to set the stage with regard to the timing that any changes occurred as a result of what Simmons may have learned in Eucha-Spavinaw and then advised its grower in the Illinois River Watershed to change its operation for processes.

THE COURT: Overruled.

Q. (By Mr. Garren) Now, let me back you up. You recall the time of the Eucha-Spavinaw case, correct?

A. Yes. I don't remember what year it was or anything like that, but I remember, yeah.

Q. 2001 to 2003, in that time frame, were you ever advised to change the way you would handle or dispose of

poultry litter from your operations by Simmons?
A. No. I was advised by the State how to do it.
Q. The applications that you made from waste coming from the Tyson barns, were those all made within the IRW?
A. I don't recall everything, but most -- for the most part, yes.
Q. And those times of application, what time of year would they have been?
A. They cleaned out all year long. I mean --
Q. The time frame, do you recall the approximate time frame when you were -- in the manner of years, that you were cleaning out Tyson barns and spreading their poultry waste?
A. I don't remember a specific time of the year that we cleaned them out. Could have been the spring, the fall, the winter. I don't remember.
Q. Other than a specific time of the year, do you remember what time frame that you did the cleanouts in the Tyson barns?
A. I guess I don't understand your question.
Q. I may not be very clear. I apologize.
Were you cleaning out in the year 2002, 2003, 2004, do you remember?
A. I'd have to go back and look at my records to remember. I've done a lot since then.

and your litter hauling business as it is today and some other similar questions. So I think this will be brief and I think it will go quickly.

Let's start with your relationship with Simmons when you were growing birds for Simmons Foods. Did you get a 1099 every year from Simmons? You know what a 1099 is?

A. Yes. Yes.

Q. And you were not a W-2 employee; is that correct?

A. No.

Q. Would you have wanted to be a -- an employee of Simmons Foods?

MR. GARREN: Objection, Your Honor, relevance.

THE COURT: Sustained.

Q. (By Mr. Elrod) Do you consider yourself to be an independent contractor with Simmons Foods when you were growing birds for them, sir?

MR. GARREN: Objection. Calls for a legal conclusion.

THE COURT: Overruled.

THE WITNESS: Repeat the question.

Q. (By Mr. Elrod) Did you consider yourself to be an independent contractor when you were growing birds for Simmons?

A. Yes.

Q. Were you your own boss?
A. Yes.
Q. Had your own farming operation?
A. Yes.
Q. Did either you or your wife, as we say, "work off the farm," during that period of time that you were growing birds for Simmons?
A. My wife might have.
Q. You have four children?
A. Two.
Q. Two children. And what are their approximate ages today?
A. Ashley is 18. Jake is 21.
Q. So when you moved from MAPCO to -- and purchased your farm near Westville, Oklahoma in about 1995, they were pups, correct?
A. They were young.
Q. You've raised those kids and supported your family for a period of maybe ten years while you were raising birds for Simmons; is that true?
MR. GARREN: Objection, relevance.
MR. ELROD: Goes to the agency issue, Your Honor.
THE COURT: Overruled.
THE WITNESS: Repeat the question.

THE COURT: Overruled.

THE WITNESS: They're --

MR. GARREN: May I ask, then, that it be qualified as to whether or not it's in or outside the IRW?

MR. ELROD: Outside the IRW, I'm sorry.

THE WITNESS: Mainly farming operations. There are some cattle growers that use it on grass, but mainly farming operations.

Q. (By Mr. Elrod) And as the price of urea based on natural gas and the price of commercial phosphate tied to hydrocarbon prices increase, does the demand outside the watershed tend to increase for your chicken litter?

A. Yes, sir.

Q. I'm going to ask you what may be a sensitive question, and if you object to answering, you just tell me you don't want to answer the question.

I want to ask you how much money you got involved -- approximate amount of investment you've got in those trucks that you're using to haul litter out of the watershed.

A. Boy.

Q. Ball park.

A. I --

MR. GARREN: Again, Your Honor, I object to the

relevance of this.

MR. ELROD: Your Honor, I just think this whole business about hauling litter is going to be one of the focuses of this lawsuit.

THE COURT: Well, it is with regard to injunctive relief.

MR. ELROD: Yes, sir, to show --

THE COURT: If this is a -- an active issue, and I assume it is, it's clearly relevant. In fact, this witness would be very interested if the Court were to do what the plaintiff wanted --

MR. ELROD: That's correct.

THE COURT: -- and order hauling outside the watershed. So clearly overruled.

MR. GARREN: That's not my objection. The objection is to --

THE COURT: Well, but it's relevant. What's your objection?

MR. GARREN: My objection was that he's already said it's profitable, and to know what his capital investment was wasn't a part that was --

THE COURT: It's very relevant, because obviously it can't be done at the snap of a finger. Overruled. You may ask the question.

Q. (By Mr. Elrod) Again, it's kind of rare for a

witness to object to a question, but I'm serious, if you don't want to tell me, that's your business.

But can you give us a ball park number?

A. I can give you a ball park number of $500,000 I put into the business.

Q. Does that mean that you think this thing has got some future to it?

A. I hope it does.

Q. All right. Just a couple more questions about how this process works. Do you know what a hub and spoke concept is where you haul to a location and then it sits there and it's hauled back out to the ultimate end user? That's not what you're doing, is it? You're hauling directly from a farm to the end user; is that true, sir?

A. Yes.

Q. Now, that requires -- in order to coordinate the time that the end user needs it and wants it with the time of the cleanout of a chicken house in northeast Oklahoma, that requires substantial logistical coordination, does it not, sir?

A. Very much.

Q. Does BMPs' help in the doing of that logistical coordination?

A. Not much with me.

Q. You do that yourself?

A. Yes.
Q. Let's talk about the spreading equipment that you've got today to spread inside the Illinois River Watershed. The actual spreading. You said that equipment has become more sophisticated.
Would you describe to His Honor the degree of specificity you're now able to accomplish in terms of application rates.
A. We know how much litter that we're dealing with because we weigh each load, the semi load. We run GPS on all of our trucks. We know how many acres we've covered. We know how much litter we've put on the land exactly. We know -- I mean, it's night-and-day difference from what it was five years ago.
Q. Do you also carry a level with you to determine the slope of land?
A. I've actually got a device on my phone that can tell me the degrees of slope.
Q. Do you use that in the application process?
A. Yes.
Q. Given the amount of capital that you've got invested in your enterprise, Mr. Collins, are you also very careful to comply with Oklahoma state law?
A. Very.
Q. Do you understand that the Oklahoma State Department

Q. Are you also careful to follow the law of Arkansas when you work over there?
A. Yes.
Q. So dead birds will be piled up in a layer inside the compost shed; is that true, sir?
A. Yes, I mean layers of litter and birds and litter, birds, yeah.
Q. Sort of like a cake. There will be a layer of dead birds and then a layer of litter and then a layer of dead birds and then a layer of litter; is that true?
A. So-so, yeah.
Q. And then nature works its course, and the birds basically disappear; is that right?
A. They should be turned and re- -- you know, let them go through another heat, and then they're usually pretty well gone.
Q. Then that end product is also capable of being spread on the land and used as fertilizer; is that true, sir?
A. Yes.
Q. What are the things that you are required to look at before you can determine how much you're going to apply to a particular field inside the IRW? And by that, I mean are you required to look at litter samples, soil samples? I don't want to belabor this point, but just

tell us in your own words what you're required to know and to look at for a specific application.
A. Well, we're looking at the amount of phosphorus. That's the only thing that's relevant in this case right now. That's one of the main things that we look at is the amount of phosphorus in the litter, the pounds per ton versus the amount of -- we don't overspread, because we have learned that less is just as good as more in years past.

So just because it says that we can -- we're allowed to go up to 300 doesn't mean we go up to 300 on our index just so we can max it out every time. The cost of the litter has elevated to the point where the consumer is very conscious to make his operation cash flow and so, therefore, he doesn't want to put any more on there than what he has to put on there to make his grass grow or his crops grow or whatever. So I hope I've answered your question, or if you need some more, I can...
Q. Well, just, you know, commercial fertilizer is expensive this day and age, too, correct?
A. It is.
Q. So is it true, sir, that the value of the litter -- of the chicken litter tends to rise as the cost of its competitor, commercial fertilizer, rises?

THE COURT: I have at least three questions of you here. With regard to these live bed trucks, Mr. Elrod obviously knows what they are. I do not. You say the bottom actually moves?

THE WITNESS: What it is, it's a chain that rotates around with belts on it; some call them belted trailers, some call them live bottom. But as the belts move, it moves the product out the back and it piles it nice, neat, tall piles.

THE COURT: Can you actually spread out of these trucks?

THE WITNESS: No.

THE COURT: I see. Do you spread at a greater rate in the state of Arkansas than you do in Oklahoma?

THE WITNESS: We don't spread at any rate above what we're supposed to by the state laws.

THE COURT: In your experience, do the state laws of Arkansas allow you to spread at a greater rate than in the state of Oklahoma?

THE WITNESS: I don't -- I'm trying to figure out how to answer this to you. It's basically the same. It's just that they all run off of a Waste Management Plan in Arkansas, whereas, in Oklahoma, we don't all run off a Waste Management Plan unless you grow chickens.

THE COURT: You say in Adair County your

A. They're roughly around $200,000 a barn.
Q. So that's --
MR. ELROD: I'm not sure I understand the relevance of this, Your Honor.
MR. GARREN: I'm trying to show the comparison of what he invested and what the investment is in a poultry barn, Your Honor.
THE COURT: Overruled.
Q. (By Mr. Garren) Let me ask you, sir, has it been difficult for you to get enough litter to haul in order to be profitable?
A. Not for the most part, no.
Q. What integrators do you work with to coordinate getting the litter?
A. None.
Q. You're not getting any help from any integrators to haul this litter?
A. No.
Q. Would it be helpful to you if you did?
A. I'm pretty satisfied with what's going on right now.
Q. Do you think it would be easier for you if you had the help of an integrator to coordinate what you said was difficult on both ends, moving this litter?
A. I couldn't answer that question. I'm doing fine just the way I am.

Q. You said when you were spreading, the main thing you looked at was P, or phosphorus. But earlier in your testimony, if I'm not mistaken, you don't look at what the need of the grass or the crop is; is that a correct statement?
A. I don't look at the bottom of the page; is that what you're asking?
Q. All you're concerned about is what is the maximum limit that I might not be able to go up to; is that correct?
A. I don't want to get -- I don't want to do anything illegal.
Q. Would you agree with me, sir, that it's the maximum limit that you look at in order to determine what to spread?
A. It's the maximum limit that I look at whether I can spread or not.
Q. Now, you indicated that 150 houses is a lot of houses going out of bus -- out of -- spreading, in fact, hauling from the Green Country houses?
A. Yes.
Q. Now, let me ask you to put that in perspective. You were only talking about Adair County at the time?
A. Yeah. I do a lot of work in Arkansas also with my semis, and that also has Illinois River Watershed, a big

Q. Would having more waste in your business make your business more profitable, and can you -- let me ask that first. If you had more waste to haul, would that make your business more profitable?

A. I don't know that I want to get a whole lot bigger than what I am right now. I'm pretty busy now. There's a lot of people doing this besides me.

MR. GARREN: I have no other questions.

THE COURT: What's the furthest that you've taken this up in to Kansas?

THE WITNESS: The furthest? 50 miles west of Wichita.

THE COURT: Mr. Elrod.

RECROSS-EXAMINATION

BY MR. ELROD:

Q. Your mortgage was on your entire property, not just your chicken houses, I assume?

A. Correct.

Q. The subsidy that was being contributed by some governmental entities was while these markets were being developed, correct?

A. Yes.

Q. And I'm interested that you deal directly with the grower to purchase litter or to get litter. You don't deal with integrators, right?

A. That's true.
Q. Because it's their litter right?
A. That's right.
MR. ELROD: That's all.
MR. GARREN: Object to the form, Your Honor. It calls for a legal conclusion. Ask that it be stricken.
THE COURT: Overruled. It's a still a live issue.
Anything further? Very well. You are excused, sir.
The plaintiff may call its next witness.
MR. RIGGS: State would call Dan Henderson.
(Witness sworn.)
THE COURT: State your full name for the record, please.
THE WITNESS: Dan Henderson.
THE COURT: You may inquire.

DAN HENDERSON,

having been first duly sworn, was called as a witness and testified as follows:

DIRECT EXAMINATION

BY MR. RIGGS:
Q. Mr. Henderson, did you previously work for Peterson Farms?
A. Yes, sir.

Peterson?
A. Yes. Most of my dad's career was with Peterson, yes.
Q. What did -- what happened to the poultry waste generated by the chickens on your family farm?
A. We spread it on the land.
Q. On your own pastures?
A. Yes.
Q. So you used the poultry litter from your poultry operation to help grow pasture grass for the cows to graze?
A. Pasture and hay, yes, sir.
Q. And hay. So the two activities do complement each other, correct --
A. Yes, sir.
Q. -- in your experience?
The poultry waste nutrients grow more grass for the cows to graze?
A. Yes.
Q. Would you say, based on your almost 30 years with Peterson Farms and the lifetime farming yourself in this area with both poultry and cattle, that most people who do raise poultry also raise some cows?
A. It would be hard to say. Depending on the size acreage they've got whether they could do that or not.

Q. Historically, did many people who raised poultry also raise cows?
A. Yes.
Q. And wasn't it the general practice while you were at Peterson that poultry growers either land applied litter on their own pastures or transferred it to their neighbors, who land applied it on theirs?
A. That was my perception, yeah.
Q. During the time you were president and chief operating officer at Peterson Farms, there was not an organized effort to haul poultry litter out of the Illinois River Watershed, was there?
A. I don't think so.
Q. Sir, what element or constituent in poultry waste is the one that increases grass yield?
MR. LONGWELL: Objection, Your Honor. I'm not sure he's laid the foundation with this witness for this witness to answer this question.
THE COURT: This man has lived on the farm for 62 years. Overruled.
You can answer the question.
THE WITNESS: The main constituent used to be nitrate, nitrogen. But in recent years, phosphorus has kind of reared its head.
Q. (By Mr. Riggs) But historically, most poultry

A. Could have been.
Q. At the end of that, that last paragraph of that memorandum, could you please read the second sentence of the last paragraph.
A. "Agronomists can't agree on the movement of phosphate, the water solubility of the P in the litter, and the means of making P more efficient in our feeds."
Q. So what was your understanding from this information that Mr. Mullikin provided in this sentence about the status of the science?
MR. RIGGS: Object, Your Honor. The witness has admitted that he's not qualified and, in fact, testified Mr. Mullikin was not qualified to make that statement.
THE COURT: Well, given that Mullikin was out, his duty was to gather this information, they were attempting to gather this information to gain understanding of the problem, the question is proper. The objection is overruled. Go ahead.
THE WITNESS: Would you re-ask your question, now that I've --
Q. (By Ms. Longwell) I'll do by best. Based upon this statement within this memorandum, what was your understanding of the status of the science at this time?
A. We couldn't find any solid science that would tell us what we were dealing with.

questions. Okay?
A. Okay.
Q. If I could direct your attention to Oklahoma Exhibit 6378. It's one of Mr. Mullikin's memos.
A. Yes, sir.
Q. I'd like to draw your attention down to what appears to be the fourth paragraph there beginning with "We are faced." Do you see that?
A. Yes, sir.
Q. I'd like to just read this, if I could. Appears here that Mr. Mullikin was saying, "We are faced with a lack of science to help us understand where we are and where we need to go." Did I read that right?
A. Yes, sir.
Q. Secondly, he says, "Agronomists can't agree on the movement of phosphate." Did he write that?
A. Yes, sir.
Q. Furthermore, he also said, did he not, that agronomists can't agree on the water solubility of the P in the litter? Did he write that?
A. Yes, sir.
Q. And, furthermore, did he say that agronomists can't agree on the means of making P more efficient in our feed, correct?
A. Correct.

Q. He goes on to say next, "How much P in our soils is too much?" Another question, correct?
A. Correct.
Q. "Agencies can't agree on the maximum soil levels." Did I get that right?
A. Yes, sir.
Q. "And if they could agree, how they would measure it?" Is that in there?
A. Yes, sir.
Q. "In our few check samples, we demonstrated how hard it is to get a good, accurate sample." Did I read that right?
A. Yes, sir.
Q. Now, despite the fact that it appears from what Mr. Mullikin had to say here that he really didn't know much, did he?
A. Not about this subject matter.
Q. Yeah, but he was, as you may have suggested previously, a man of many opinions, wasn't he?
A. Yes, sir.
Q. I thought that was right. I'd just like to direct your attention now, if I could, to Oklahoma Exhibit 3038. That was the first memo that Mr. Riggs showed you. You got that one?
A. Yes, sir.

REDIRECT EXAMINATION

BY MR. RIGGS:

Q. With regard to Exhibit 6378, Ms. Longwell asked you, I believe, something to the effect if Mr. Mullikin had ever drafted an environmental policy or had been asked to draft an environmental policy for the company.

A. No, he had not.

Q. Did anybody at Peterson Farms ever draft an environmental policy --

A. No.

Q. -- regarding poultry litter?

A. No.

Q. Why not?

A. We didn't have the science to back up what we were trying to figure out.

Q. Well, did you consult the Poultry Water Quality Handbook about those matters?

A. I don't recall.

Q. Even though you sent it to your growers, you don't know if the company paid any attention to it?

A. No, I did not read that document myself.

Q. Do you know what the National Poultry Waste Management Symposium is?

A. I do not recall that.

Q. Do you know if Peterson ever had anybody go to the

Q. With regard to your letter to the growers saying in the first sentence, "As you are aware, the issue of poultry litter being spread on land with too much phosphorus in the soil is continuing to come to the limelight in the state of Arkansas."

MS. LONGWELL: Your Honor, could you have -- Mr. Riggs, if you would refer to the exhibit, that would be --

MR. RIGGS: I'm sorry, Exhibit 3035.

THE COURT: Thank you.

Q. (By Mr. Riggs) You were asked and testified about many qualifications regarding your statement about that.

When you wrote the growers, you didn't qualify that statement, did you?

A. No, sir.

Q. You said simply, "the issue of poultry litter being spread on land with too much phosphorus in the soil..." You didn't say the extension service tells us that, or it might be a problem. You stated, without qualification, that they were aware and obviously the company was aware of the problem, right?

MS. LONGWELL: Your Honor, I object. He's not reading the entire sentence. He's taking part of the sentence and asking the witness a question and saying he didn't qualify it. I think he needs to read the entirety

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XXXVII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 9, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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BILL R. ANDERSON

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8 Cross-Examination by Mr. Jorgensen 4081
Redirect Examination by Mr. Garren 4104
9 Recross-Examination by Mr. Jorgensen 4112
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11 **MARK SIMMONS**

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Q. Okay. And do you know the phrase "a grandparent operation"?

A. Do what?

Q. Do you know the phrase "a grandparent operation"? Let me say it a different way.

Do you know what a layer is?

A. Yes.

Q. And do you raise layers?

A. Yes.

Q. What's a layer?

A. It's one that produces eggs for the broilers to be processed.

Q. Okay. So you're not raising meat chickens, are you?

A. No.

Q. You're raising the chickens that are the parents of the chickens that become meat; right?

A. Yes.

Q. Are you an employee of Cobb-Vantress?

A. No.

Q. Do you own your own farm?

A. Yes.

Q. How long has it been that way?

A. From the start.

Q. Now, I heard Mr. Garren ask if Cobb leases

your farm. How do you get paid for your time?

A. For the barns only.

Q. By the square foot?

A. Yes.

Q. Who actually does the work on the farm?

A. My hired hands.

Q. Okay. How many hired hands do you have?

A. Three.

Q. Three?

A. Three.

Q. And who does the work among them of taking care of the layers?

A. Do what?

Q. Who takes care of the layers?

A. My hired help.

Q. Okay. Among your hired help, are any of them better at raising chickens than others?

A. Yes.

Q. Tell us who's better.

A. I have some Mennonites that work for me that -- they're extremely good hands and do what you tell them.

Q. And among those, I heard Mr. Garren ask whether they met with the field tech. Do you know what a field tech is?

A. No.
Q. Do you refer to somebody as "the field man"?
A. Yes.
Q. Okay. So the field man, do you know who the field man is?
A. Yes.
Q. Who is he? Not by name, just what does he do?
A. He comes out and checks on the birds.
Q. And who does he meet with?
A. My caretaker.
Q. Are you required to follow all of the recommendations you get from the field man?
A. Yes.
Q. All of them?
A. No.
Q. Okay. Tell us about that. Do --
A. Well, sometimes my field man -- I mean, my hired hands has a good idea and they talk to each other and talk it out and they'll do what -- what one is the best.
Q. Do your hired hands ever have a disagreement with the field man?
A. Yes.
Q. Have you ever come up with ideas on your own

that didn't come from the field man?

A. Yes.

Q. Tell us about some of those.

A. Well, heaters, we put automatic heaters in them where they wouldn't have to go out and take care of the birds at night. Or the changing hut, I was the first one that had one of those put on the farm.

Q. In one of the pictures Mr. Garren showed, I heard you refer to "the changing hut."

A. Yes.

Q. What's a changing hut?

A. Well, it's where you go in and change your clothes and shower and disinfect your shoes before you go out.

Q. Whose idea was it first in the world, to your knowledge, to have a changing hut?

A. Cobb.

Q. Yeah. Did you have that idea first and tell Cobb --

A. Yeah, I had it first.

Q. Okay. These are going to seem like stupid questions but I have to ask them.

The people who work for you, who selected them?

A. I did.

Q. Who hired them?
A. I do.
Q. Who supervises them?
A. I do.
Q. Who is the boss on your farm?
A. Me.
Q. Are you retired, sir?
A. Sir?
Q. Are you retired?
A. Yes.
Q. How long have you been retired?
A. Oh, ten years.
Q. Now, I just want to clarify something, Mr. Anderson.
You and I met this morning, didn't we?
A. Yes.
Q. And I showed you the first page of the documents that I thought the state might show you. Do you remember that?
A. Yes.
Q. We didn't read them all the way through, did we?
A. Right.
Q. Mr. Anderson, to your knowledge, who owns the litter created on your farm?

MR. GARREN: Objection, Your Honor.

A. I do.

MR. GARREN: Calls for a legal conclusion.

THE COURT: Overruled. It's ultimately for the court to determine.

Go ahead.

Q. *(BY MR. JORGENSEN)* Can you repeat your answer, Mr. Anderson?

A. I do.

Q. Has it always been that way?

A. Yes.

Q. How do you know that you own the litter?

A. Well, when we first started, Mr. Jones was the president of Cobb's, and that's one reason I built the houses was for the litter.

Q. When you say it was one of the reasons you built the houses, you wanted the litter --

A. Sure.

Q. -- what do you mean by that?

A. I wanted to, you know, apply it to my land. Because since I've started doing that, I can run twice as many cattle as I did before.

Q. Is that because the litter makes the grass grow?

A. Yes.

Q. Okay. And were you raising cattle before you got into chickens?

A. Yes.

Q. Okay. Now, do you drink from a well on your property?

A. I drank water from a spring for 70 years.

Q. Okay. That was going to be my next questions, how long.

Have you ever gotten sick from drinking the water from the spring?

A. No.

Q. Has anybody in your family ever gotten sick?

A. No.

Q. Have you ever had your spring tested?

A. Yes.

Q. What were the results of the test?

MR. GARREN: Objection, Your Honor. It's hearsay, lack of foundation for the testing.

THE COURT: Sustained.

Q. *(BY MR. JORGENSEN)* Okay. Let's move on, Mr. Anderson.

Do you remember, Mr. Anderson, that the state showed you something called Exhibit 6470? And I'm

1 going to show it to you on the screen and bring you a
2 copy as well. Let me show you.
3 MR. JORGENSEN: May I approach, Your
4 Honor?
5 THE COURT: You may, sir.
6 *(Discussion held off the record)*
7 Q. *(BY MR. JORGENSEN)* Do you recognize this,
8 Mr. Anderson?
9 A. Yes.
10 Q. What is it?
11 A. This is the old home place.
12 Q. Is it an aerial photo of your farm?
13 A. Yes.
14 Q. Let's go to the next page. Is there a
15 place -- I mean -- I'm sorry. Let me get right in the
16 mic.
17 Is there a place, Mr. Anderson, on your farm
18 where you feed your cattle over the winter?
19 A. Yes.
20 Q. Where is that? Can you show the court on
21 this map?
22 A. It's on Flint Creek --
23 Q. Okay.
24 A. -- across from New Life Ranch.
25 MR. JORGENSEN: Your Honor, may I

approach the screen?

THE COURT: You may.

Q. *(BY MR. JORGENSEN)* Is this a picture of it, Mr. Anderson?

A. Yes.

Q. Can you come point?

MR. JORGENSEN: Would that be okay, Your Honor?

THE COURT: Yes.

Q. *(BY MR. JORGENSEN)* Will you point for the court where you winter your cattle?

A. *(Indicating)*.

Q. Why there?

A. On account of this mountainous, out of the wind, and there's water. You don't have to break the ice or anything in the winter.

Q. And they're making a recording so I'm just going to say, did you say it's because it's mountainous and the mountain breaks the wind?

A. Yes.

Q. How long have you been -- go ahead and take a seat there, Mr. Anderson -- how long have you been using this field as your winter feeding area for your cattle?

A. Approximately 40 years.

Q. Forty years. That's longer than I've been alive, sir.

A. Yes.

Q. What do you feed your cattle?

A. Bermuda grass, hay, and range cubes.

Q. Range cubes. Can you explain to the court what a range cube is?

A. Well, they have these cubed machines that takes -- you can buy it -- the feed mill buys their corn and products that they make these cubes out of in Nebraska and Missouri and Kansas, which they make the cubes out of corn and wheat and rye or whatever, grains.

MR. GARREN: Your Honor, I'm going to object. I don't think there's really been a foundation for this witness to testify about the constituents of a range cube.

THE COURT: Overruled.

Q. *(BY MR. JORGENSEN)* Mr. Anderson, how long have you been using range cubes?

A. Twenty years at least.

Q. And where do you buy them?

A. From Talala and the co-op at Siloam and --

Q. Now, I know this sounds a little odd, Mr. Anderson, but do your cattle defecate on that

field when you're using it for a winter feeding area?

A. Yes, yes.

Q. All right. Let's turn now, sir, if we could, to a different document.

This is Oklahoma Exhibit 6474A, and I'm going to come show it to you and put it up on the screen, if that's okay.

A. Okay.

MR. JORGENSEN: May I approach, Your Honor?

THE COURT: You may.

(Discussion held off the record)

Q. *(BY MR. JORGENSEN)* Do you remember seeing that?

A. Yes.

Q. Okay. There it is on the screen too, Mr. Anderson.

Do you remember the state showing you this?

A. Yes.

Q. Is this an Animal Waste Management Plan from 2000, the year 2000?

A. Yes.

Q. Okay. You can see that there at the top, and they're highlighting it on the screen for you there.

approach the screen?

THE COURT: You may.

Q. *(BY MR. JORGENSEN)* Is this a picture of it, Mr. Anderson?

A. Yes.

Q. Can you come point?

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A. Okay.

MR. JORGENSEN: May I approach, Your Honor?

THE COURT: You may.

(Discussion held off the record)

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A. Yes.

Q. Okay. There it is on the screen too, Mr. Anderson.

Do you remember the state showing you this?

A. Yes.

Q. Is this an Animal Waste Management Plan from 2000, the year 2000?

A. Yes.

Q. Okay. You can see that there at the top, and they're highlighting it on the screen for you there.

litter?

A. I couldn't hear you.

Q. That's okay. Does Cobb tell you what to do with your litter?

A. No.

Q. Does Cobb ever take soil samples on your property?

A. No.

Q. Does Cobb ask you to provide them with information about what you do with your litter?

A. No.

Q. So how do you know who what to do with your litter? How do you make that decision?

A. Well, when I have my soil tested, that kind of tells me -- that tells me where to put it.

Q. Do you have your soil tested every year?

A. Yes.

Q. Is there -- do you know John Littlefield?

A. Yes.

Q. Who's John Littlefield?

A. He's the man that comes around that --

Q. He comes around?

A. Yeah.

Q. And what does he do when he comes around?

A. Checks our paperwork, you know, Betty does

for me.

Q. And when you say "paperwork," is he from the state and does he come check on your Animal Waste Management Plan?

A. Yes, he does. He's from the state.

Q. Does he come once a year?

A. Yes.

Q. Has he always checked your Animal Waste Management Plan every year?

MR. GARREN: Object, Your Honor. This misstates the testimony. He said he checked the paperwork. I'd ask him to rephrase.

THE COURT: The objection is overruled, subject to examination by the plaintiff.

Go ahead.

Q. *(BY MR. JORGENSEN)* Mr. Anderson, I'm not going to take the time to show you Mr. Littlefield's documents, but have you seen the documents that Mr. Littlefield checks off when he comes to your property?

A. Yes.

Q. And does he check off whether you have an Animal Waste Management Plan?

A. Yes.

Q. And does he check off whether you're

following your Animal Waste Management Plan?

A. Yes.

Q. Has he done that every year since you got an Animal Waste Management Plan?

A. Yes.

Q. Have you ever violated your Animal Waste Management Plan?

A. No.

Q. Thank you, sir.

(Discussion held off the record)

MR. JORGENSEN: Your Honor, my co-counsel would like me to do one more thing.

THE COURT: Yes, sir.

Q. *(BY MR. JORGENSEN)* Mr. Anderson, the Animal Waste Management Plan we've been looking at, that's not your only Animal Waste Management Plan, is it?

A. No.

Q. Did you get another one in 2002?

A. Yes.

MR. JORGENSEN: Your Honor, I'm referring now to Defendants' Joint Exhibit 3051. May I approach the witness?

THE COURT: You may, sir.

(Discussion held off the record)

Q. *(BY MR. JORGENSEN)* Mr. Anderson, do you see

that document that I gave you?

A. Yes.

Q. What is it?

A. It's an animal waste -- it's the Oklahoma Department of Agriculture.

MR. JORGENSEN: Your Honor, I'd like to offer Defendants' Joint Exhibit 3051.

THE COURT: Any objection?

MR. GARREN: No.

THE COURT: Joint Exhibit 3051 is admitted.

Q. *(BY MR. JORGENSEN)* Now, Mr. Anderson, let's look at the front page of this. Who gave this to you?

A. Do what?

Q. Where did you get this?

A. This is sent to me from John -- the state Department of Agriculture.

Q. Okay. Sir, let's go to the page that says page 2 at the bottom.

MR. JORGENSEN: Your Honor, may I approach?

THE COURT: You may.

(Discussion held off the record)

Q. *(BY MR. JORGENSEN)* In that first paragraph at the top, Mr. Anderson, it says, "A - Introduction."

They're going to highlight it on the screen for you because it's hard to see. I'm going to read part of it to you and then ask you some questions about it. Is that okay?

A. Yes.

Q. About three sentences in it says, "The law requires that the National Resources Conservation Service recommendations for litter application rates be followed. NRCS recommends the application of a maximum of 200 lbs. of phosphorus per acre per year if the soil test shows a phosphorus index below 250."

Did I read that right, sir?

A. Yes.

Q. When you got this plan, sir, did you understand that what it says is the law and that you have to follow it?

MR. GARREN: Objection, Your Honor.

A. Yes.

THE COURT: Sustained. Rephrase.

Q. *(BY MR. JORGENSEN)* Mr. Anderson, when you got this plan, did you read the sentence that says, "The law requires that the National Resources Conservation Service recommendations for litter application rates be followed"? Did you read that sentence?

A. Yes.

Q. Did you understand it that you had to follow what's in this plan?

A. Yes.

Q. And did you follow what's in this plan?

A. Yes.

Q. Let's turn to the next page, sir.

Now, as I understand it, Mr. Anderson, this focuses -- this plan focuses on other fields other than your winter feeding area; is that right?

A. Yes.

Q. All right. Let's look at the -- at what the plan looked at.

Do you see there at the top it says "Nutrient Content"?

MR. JORGENSEN: Your Honor, may I approach?

THE COURT: Yes, sir.

Q. *(BY MR. JORGENSEN)* Do you see right here it says "Nutrient Content"?

A. Yes.

Q. Then "According to the latest litter test, each ton of litter contains," and then the amount of phosphorus that's in your litter?

A. Uh-huh.

Q. Now let's look at the next line. Do you see this line "soil test results"?

A. Yes.

Q. Who took these soil tests?

A. I did.

Q. You did? You need to talk into the microphone, sir.

A. I took them.

Q. Okay. And for field No. 1, was the amount of phosphorus 54 pounds, 54?

A. Yes. Yes, sir.

Q. And for field No. 2, 27, just right below that? Right here, sir.

A. Oh, okay.

Q. And do you see below that it says, "litter can be applied at the full rate"?

A. Yes.

Q. Now, this plan, sir, it tells you certain things that you should not do; is that right?

A. Correct.

Q. Like do you see right below that it says, "The bottomland area shown in blue on the soils map can only receive litter between June 20 and September 20 or if there is a 4-inch growth of fescue"?

Did you follow that statement, sir?

A. Yes.

Q. Let's go to the next page.

Do you see there at the bottom the paragraph that says "F - Best Management Practices"?

MR. JORGENSEN: Your Honor -- may I approach, Your Honor?

THE COURT: Yes, sir.

(Discussion held off the record)

Q. *(BY MR. JORGENSEN)* Do you see that, sir?

A. Yes.

Q. Now, it says on No. 2, "Soil and litter are to be tested every year."

Do you see that, sir?

A. Yes.

Q. Did you do that?

A. Yes.

Q. On No. 6, it says, "Do not apply litter within 50 to 100 feet of streams, ponds, and water wells. Buffer strips should be maintained along those areas."

Did you follow that, sir?

A. Yes.

Q. What about the buffer strips; do you have buffer strips?

A. Yes.

Q. Who applies your litter?
A. I do.
Q. You do. And does your daughter Julie help you?
A. Yes.
Q. Is she what's called a certified commercial litter applicator?
A. Yes.
Q. Do you see below that, sir, on No. 7 it says, "On slopes of 8 to 15 percent, use one-half the normal prescribed rate of litter"? Did you follow that, sir?
A. Yes.
MR. JORGENSEN: May I have just one second, Your Honor?
THE COURT: Yes, sir, you may.
MR. JORGENSEN: Thank you for your time, Mr. Anderson.
THE COURT: Any further examination from counsel for any defendant? Mr. Garren?
MR. GARREN: Thank you, Your Honor.

REDIRECT EXAMINATION

BY MR. GARREN:

Q. Mr. Anderson, do you remember when you gave your testimony in a deposition where I was present on

They're going to highlight it on the screen for you because it's hard to see. I'm going to read part of it to you and then ask you some questions about it. Is that okay?

A. Yes.

Q. About three sentences in it says, "The law requires that the National Resources Conservation Service recommendations for litter application rates be followed. NRCS recommends the application of a maximum of 200 lbs. of phosphorus per acre per year if the soil test shows a phosphorus index below 250."

Did I read that right, sir?

A. Yes.

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A. Yes.

THE COURT: Sustained. Rephrase.

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A. Yes.

Q. Did you understand it that you had to follow what's in this plan?

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A. Yes.

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MR. JORGENSEN: Your Honor, may I approach?

THE COURT: Yes, sir.

Q. *(BY MR. JORGENSEN)* Do you see right here it says "Nutrient Content"?

A. Yes.

Q. Then "According to the latest litter test, each ton of litter contains," and then the amount of phosphorus that's in your litter?

A. Uh-huh.

A. Yes.

Q. Let's go to the next page.

Do you see there at the bottom the paragraph that says "F - Best Management Practices"?

MR. JORGENSEN: Your Honor -- may I approach, Your Honor?

THE COURT: Yes, sir.

(Discussion held off the record)

Q. *(BY MR. JORGENSEN)* Do you see that, sir?

A. Yes.

Q. Now, it says on No. 2, "Soil and litter are to be tested every year."

Do you see that, sir?

A. Yes.

Q. Did you do that?

A. Yes.

Q. On No. 6, it says, "Do not apply litter within 50 to 100 feet of streams, ponds, and water wells. Buffer strips should be maintained along those areas."

Did you follow that, sir?

A. Yes.

Q. What about the buffer strips; do you have buffer strips?

A. Yes.

object to the form of the question. Also, outside the scope.

THE COURT: Well, it is important I believe it was established that these were different fields than that indicated in the other soil tests --

MR. JORGENSEN: Yes, Your Honor.

THE COURT: -- correct?

MR. JORGENSEN: And also, Mr. Garren tried to leave the suggestion that there is some recommendation that Mr. Anderson is not following. I'm going to go down one more paragraph and show precisely what the state's recommendation is.

MR. GARREN: I would object.

THE COURT: Overruled. Overruled.

MR. GARREN: But that's -- object to the form of the state -- Your Honor, that was not what the questions were eliciting in the way of a response.

THE COURT: Overruled.

Q. *(BY MR. JORGENSEN)* Mr. Anderson, do you see one paragraph below that it does some math, 200 pounds P205 divided by 60 pounds P205 per ton equals 3.3 tons of litter per acre per year? Do you see that, sir?

A. Yes.

Q. Was it your understanding that this is the state's recommendation to you?

A. Yes.

MR. GARREN: Objection; leading.

THE COURT: Sustained. Rephrase.

Q. *(BY MR. JORGENSEN)* What was your understanding of what the state was saying to you there?

A. The state's the one that wrote this -- sent me this so that's what I knew I could put on.

Q. Thank you, sir.

MR. JORGENSEN: No more questions, Your Honor.

THE COURT: May this witness be excused?

MR. GARREN: May I ask one more question, Your Honor?

THE COURT: You may with regard to that. Of course --

FURTHER REDIRECT EXAMINATION

BY MR. GARREN:

Q. Mr. Anderson --

THE COURT: -- Mr. Jorgensen gets the last word.

Go ahead.

Q. *(BY MR. GARREN)* Mr. Anderson, you said earlier that you don't have to apply the maximum. Is that still your testimony today?

after having been first duly sworn, says in reply to the questions propounded as follows, to-wit:

THE COURT: State your full name for the record, please.

THE WITNESS: Mark Charles Simmons.

THE COURT: You may inquire.

DIRECT EXAMINATION

BY MR. BULLOCK:

Q. Mr. Simmons, what's your current position?

A. I'm chairman of Simmons Foods.

Q. And Simmons Foods is a corporation?

A. That's correct.

Q. And how long have you had that position?

A. I've been officially chairman since sometime in the -- sometime in the '80s.

Q. What are your job duties, as it were, as chairman of Simmons Foods?

A. Oh, a few years back I probably would have been called the chief executive officer and today I'm -- I still probably carry that. But I have two people that report to me directly in our overall corporate and so I -- and then our advisory board, so I'm responsible -- for ultimately responsible for day-to-day operations but through other managers.

Q. Okay. Why don't you go through briefly what

your employment history has been at Simmons.

A. I started working for my dad while I was still in high school taking care of cattle, and then when I -- during the summers during college I worked in different -- several different of our operations. I went -- when my dad passed away in '74, I took over overall management of the organization at that point, and I have been in general management since then.

Q. What is the scope of the operations of Simmons Foods?

A. We today process close to 4 million birds a week. We have about -- between 5200 and 5500 employees in total. We have operations in three states. Of those employees, about 50 percent of them are Oklahoma residents because our operations are concentrated up and down the Oklahoma-Arkansas, Oklahoma-Missouri border. We have hatcheries, feed mills, processing plants.

Q. Just so that the record's clear, the 4 million birds a week that you process, those come -- those come from several watersheds, not exclusively the Illinois, do they?

A. That's correct.

Q. Let's do a little bit of Simmons history.

When did Simmons get into the business of

raising poultry?

A. It wasn't until -- wasn't actually until the '70s that we consistently raised our own birds. My father started raising some birds in the late '50s, had a couple of different kinds of partnerships, and then we bought live birds for -- from other companies for a number of years. When we first started back in the '50s, we bought -- we bought live birds from individual farmers.

Q. But in the '70s, you began operating under the current model that you operate under today?

A. Yes, sir. We started that process.

Q. Okay. And that's where you own the birds throughout the grow-out process, the company does; correct?

A. That's correct.

Q. During this period, when did you start growing birds in the Illinois River Watershed?

A. It probably would have been the very early part of our process because since Siloam Springs is in the watershed, we grew birds close to Siloam Springs. That would have been in the early '70s.

Q. Okay. And Siloam is your base of operation?

A. Yes, sir. That's our home office and where I grew up.

Q. Now, your company does monitor to assure that the portions of its contracts -- other than the ones dealing with litter-handling, you monitor the growers' compliance with the other provisions of the contract, don't you?

A. I think I know what you're talking about. We have a service tech on the farm once a week, and we check to make sure the grower's following our recommendations as closely as they will.

Q. Okay. But as to this, the service tech didn't have any responsibility -- as to the issue of environmental compliance, the service tech didn't have any obligations?

A. Nothing other than what would be obvious to them as they came and went to the broiler houses.

Q. Now, you spoke of the issue of the -- beginning in 2006 or thereabouts that the company put in their contract the requirement of having BM -- of implementing BMPs and getting a Nutrient Management Plan; correct?

A. What date did you say?

Q. 1996?

A. Yes, sir.

Q. Did the company do anything to assure that those plans were sufficient to deal with the pollution

abatement issues related to the spreading of poultry litter?

A. Those plans were written by the NRCS, and when we look at those plans and read the objective of those plans, that is their objective. So we were relying upon the technology and the expertise of the federal government and the state agencies to assist our growers in making sure that their -- that their operations did not pollute the environment.

Q. But you made no effort to make an independent assessment of the adequacy of those plans, did you?

A. We felt that the federal government and the state agencies --

Q. Sir --

A. -- could fully do that without our assistance and we relied upon them.

Q. You made no efforts to verify the adequacy of those methods, did you?

A. Not that I can describe to you.

Q. Have you ever taken any action against any grower regarding their waste-handling practices?

A. Yes.

Q. And what was -- within the IRW?

A. Yes.

Q. And what were the events of that?

the company has done anything to monitor such practices in the IRW.

A. Not other than ask our service techs to address obvious issues that are apparent from coming and going on a farm to the -- to the growers' houses.

Q. And the result of that has been that, other than the one occasion brought to your company's attention through this process, you haven't had any other violations of good nutrient-handling practices, none other have come to your attention in the IRW?

A. Not that I'm aware of.

Q. The constituents of waste from your chickens, it does, in fact, get into the waters of the IRW, doesn't it?

A. I don't know that. I don't -- I don't think it does. I think our Nutrient Management Plans are designed so that it will not do that.

Q. Have you ever investigated that?

A. Not specifically.

Q. Well, have you ever investigated that generally?

A. No, sir.

Q. Have you ever investigated whether the constituents of waste from your chickens infiltrates into the waters of the IRW in light of the karst

generally recognized by a lot of farmers now in places remote from here.

So I think the marketplace is today recognizing its value better than it did before and I think that's something that will continue.

Q. In your concern for the environment, you have looked into the environmental issues involving the use of poultry litter, have you not?

A. Yes.

Q. Okay. You are aware that poultry litter generally is long on phosphorus and short on nitrogen in terms of basic agronomic issues?

A. It's typically -- it is not a balanced fertilizer, particularly for crop ground, as we know it today.

Q. And particularly if you use it over and over again on the same place?

A. I think -- I think it becomes necessary under your Nutrient Management Plans to switch from litter to commercial fertilizer that has no phosphorus in it at some point in time.

Q. But your company still promotes litter as a good organic fertilizer?

A. I still talk about litter as a great fertilizer. It has got benefits that don't show up in

chemical analysis such as organic matter and that kind of stuff.

Q. Now, do you also warn of the dangers posed by an unbalanced fertilizer as we discussed?

A. I don't -- I don't -- I don't promote or warn or anything to that respect.

Q. Well, you just said that you promote the use of poultry litter as a fertilizer.

A. Actually you said that and I may have agreed with it. But I think poultry litter is a very good fertilizer properly applied under your Nutrient Management Plan.

Q. You might look at Exhibit 336. I have here a larger copy of it. Unfortunately when we copy it, generally it's a problem.

MR. BULLOCK: If I might approach, Judge?

THE COURT: You may, sir.

(Discussion held off the record)

Q. *(BY MR. BULLOCK)* This is another ad which your company and others ran in the local papers?

A. Yes, sir.

Q. And this one was run in December of 2004; am I correct?

A. Yes, sir. That's the date on this one.

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

12

13

14

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 NOVEMBER 9, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XXXVIII, P.M. SESSION

17

18

APPEARANCES:

19

20

For the Plaintiffs: MR. W.A. DREW EDMONDSON
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24

25

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A. Very much a conservationist.
Q. What is your knowledge of the river?
A. I grew up on the river almost. We started water skiing on Lake Frances when I was in my early teens, floated on it. I floated lots of stretches of the river with you and my kids and ourselves, and you and I have been on the river together. I haven't floated every stretch, but I've floated higher than most people float. Have not gone clear to the lake, by any means.
Q. Did Simmons Foods, before it was required by law, contractually require your growers to have Nutrient Management Plans?
A. Yes. The first law in this part of the world was passed in '98, I think it was, and we put a requirement in in '96.
Q. And who wrote the plans in those days, the NRCS?
A. Yes, sir.
Q. Did your company help pay for the cost of any of those plans in those early days?
A. We did a variety of different things at different times to assist the grower in getting their plan. We did things from paid for part of the soil tests to we subsidized some plan writers to establish plan writers so that we -- would be enough folks that could get -- cover the farms.

much left in there if you take the chicken house down. It's a one-time deal. It's hard clay. Most the pads are hard clay, and that's the reason we make it that way where stuff does not penetrate. So I don't see that it is a problem.

THE COURT: Well, the question here -- and we need to be very careful here, Mr. Rutherford. The question is: Were you aware -- in about 1992, were you made aware that old poultry house pads could possibly be the source of contamination?

THE WITNESS: I don't know if I heard or not, but I would have rejected it if I did hear it.

Q. (By Mr. Riggs) Fair enough.

MR. BULLOCK: Could we take an early break and perhaps --

THE COURT: Let's do that. We're in recess.

(Whereupon a recess was had.)

THE COURT: We might have a short discussion here as to this notice issue. Is it terribly important to establish notice? I think it's fairly well established. We've been through it with a number of witnesses that this phosphorus problem didn't really become known until the late '80s, and the focus began with these task forces in the '90s. Is it important for the plaintiff's case that we continue to re-establish

that with each and every defendant?

MR. RIGGS: Your Honor, I did think we needed to establish it with each defendant, but certainly with respect to this particular defendant, I don't think we really need to revisit it.

THE COURT: Well, before we move on, for which cause of action or causes of action is that necessary? Mr. Baker, you seem to be rising to help me here.

MR. BAKER: The notice issue goes primarily to the 427(b) element of our case, which is whether or not they were reasonably on notice that the activities they were engaged or their contractors were engaged in could cause or may likely cause --

THE COURT: Known or knowable.

MR. BAKER: That's correct, Your Honor.

THE COURT: Maybe this is beyond hope. But perhaps we could even have it stipulated to. I mean, it seems to me to be well established as to when it first became known that phosphorus could well be a problem.

MR. BAKER: There's a second element to the notice issue as well, Your Honor.

THE COURT: Yes, sir.

MR. BAKER: That goes to the issue of separate and apart from 427(b) and that issue of notice. It also goes to awareness and intentionality, because we've

alleged intentional torts. And one of our allegations is, as I believe the testimony you've been hearing thus far would tend to suggest, that they -- the testimony seems to be we didn't know that this was really a problem or we didn't investigate it as a problem.

Our contention would be that -- and I believe the law would support this -- that if you bury your head in the sand, intentional ignorance, willful ignorance equates to awareness of the problem, and that would get us into our intentional tort theory as well.

THE COURT: Help me with regard to the intentional tort. Which causes of action? Are you talking about --

MR. BAKER: Intentional tort would be with respect to our nuisance claim, Your Honor. And trespass would also be intentional. Our common law claims --

THE COURT: Certainly trespass is an intentional tort, but -- all right. Very well. Mr. Riggs.

Q. (By Mr. Riggs) Mr. Rutherford, I want to talk to you about one other matter. Your service on the governor's task force, you mentioned that earlier. And there's been testimony that Mr. Mark Simmons basically detailed you to work on the governor's task force almost full time, I think you said.

Did you serve almost full time during that

A. Oh, yeah. These -- Arkansas Soil and Water reported to the governor. DPC&E, Department of Pollution Control and Ecology reported to the governor, and they reported back what we were doing. And he said, hey, I want to put credibility -- more credibility to it, I want this to be Arkansas task force -- I want a task force for Arkansas.
Q. Okay. Then you did your work over how many years?
A. We worked on this from '90 to '93, I think.
Q. Put a lot of time and effort in on it?
A. Yes, sir.
Q. Did you think you had your head stuck in the sand when you were dealing with these issues?
A. We were trying to address the issue -- we had a deal that the growers were independent people, not just chicken growers but cattle growers.
MR. RIGGS: Objection. Answer nonresponsive.
THE COURT: Overruled.
Q. (By Mr. Elrod) Go ahead.
A. And so we wanted to see what we could do because we didn't have -- there was nobody that was a ruler over the farmers, and so we came together for the meeting and tried to address the issues, and then we come up with recommendations similar to what the original committee had come up with. We added some to it, and that information was conveyed to growers.

We also set up educational deals to the Cooperative Extension Service. And we actually called -- had meetings around the state. And a lot of times, it would be more than one integrator in the same meeting the growers would be, to where -- and the people -- the state agencies would put the meeting on about possible pollution -- how to handle litter. And this went on for -- took almost two years to get those educational meetings gone through.

Q. Your other committee that you were the chair of is called the Voluntary Approach Evaluation Committee?

A. Yes, sir.

Q. Was that the focus back then, even, of the federal agencies?

A. Yes, that was -- see, the NRCS and Cooperative Extension all worked on a volunteer basis --

MR. RIGGS: Objection, Your Honor.

THE COURT: I'm sorry, excuse me. I didn't hear the objection.

MR. ELROD: The question, Your Honor, was --

THE COURT: No, I didn't hear the objection.

MR. RIGGS: Hearsay.

THE COURT: Overruled. The question is what was the focus back then; is that correct?

MR. ELROD: Yes, Your Honor, that's the intended

question.
Q. (By Mr. Elrod) What was the focus back then? Don't say what anybody said to you. But from your personal knowledge --
A. The focus was to try to solve -- see if -- what the problem was and try to solve it or address the issues. And the people with NRCS and their -- the way they operate is through volunteer system. They do not force growers to take money from them to do things.
The Cooperative Extension is voluntary, and they wanted to keep it a voluntary approach because that way they could work within the framework. If it became state law at that time, then they wouldn't have any control over it. Their charter would not let them do anything other than through volunteer program.
MR. ELROD: I'm looking at my notes, Your Honor, if you'd just give me a second.
Q. (By Mr. Elrod) Were you proud of that work?
A. Again?
Q. Were you proud of that work?
A. Yes, sir.
Q. All right, sir. That's all I have.
THE COURT: Mr. Riggs.
MR. RIGGS: Nothing further, Your Honor.
THE COURT: Very well. You may be excused,

A. As far as the terms themselves?
Q. Yes, sir.
A. No, sir.
Q. Do you agree, sir, that Simmons recommends to its growers to clean out the barns on an annual basis?
A. That has tended to vary over the years. It will go from anywhere from annually to taking a look at the actual litter itself as far as the condition, which may be shorter or longer than that.
Q. Based on the condition of the litter, Simmons may, nonetheless, make a recommendation to clean out?
A. We might make a recommendation, yes, sir.
Q. Does Simmons have recommendations for the cakeout frequency of its growers?
A. We recommend that they do it after every flock if the litter warrants it, yes, sir.
Q. Simmons has minimum standards for its new barns, does it not?
A. Yes, sir.
Q. Did Simmons, in fact, on or around 2005, require an upgrade or retrofit of its growers' barns?
A. We actually started the program three years earlier, announcing that we would have that in 2005, that would be a requirement, and gave the growers that three-year time period to make a decision as to whether they needed to

Q. Does Simmons still contribute any funds to the BMP program for hauling waste from the Illinois River Watershed?
A. Yes, sir.
Q. And has that been a continuous process?
A. As far as I know, yes, sir.
Q. So are you getting bills regularly from BMPs?
A. Yes, sir.
Q. Are those bills related just to Simmons' growers that are in the program?
A. The bills that we get, yes, sir.
Q. All right. I'm going to assume, but just so I'm sure, the form of the contract that was used for the new Peterson growers that came on to Simmons, were they the same form that were already in existence for the Simmons growers?
A. To some degree. The only thing that would be different, Peterson contracts were for basically one year, as I understand it. We did commit to the Peterson growers that we would honor the time that was left on that contract, but it was written in a Simmons contract form. Then after that time period, they would go to the flock to flock.
Q. Does Simmons agree that poultry waste generated by its birds that is land applied in the IRW is contributing

to water quality problems in the IRW, yes or no?
A. No.
Q. And what is the basis for your opinion being no?
A. I don't have a reason to think that it is at this point in time.
Q. How do you know it isn't?
A. Same reason I don't know that it is.
Q. What efforts have you undertaken, that is Simmons, to study that process to make a decision?
A. We go on the basis of our growers have the Nutrient Management Plans, and by them following those Nutrient Management Plans, should be okay. The grower should be okay.
Q. So Simmons has not undertaken any other type of examination or investigation to determine whether or not that's true?
A. We have not.
Q. Sampling has not conducted any -- Simmons has not conducted any sampling of soils, sediments or waters in the IRW regarding runoff, has it?
A. No, sir.
Q. You would agree that runoff can occur from fields where overapplication of poultry waste has occurred, though, would you not?
A. I think if the Nutrient Management Plan is being

followed, that shouldn't be an issue.
Q. Even when there's overapplication?
A. If they're following the Nutrient Management Plan, there wouldn't be an overapplication.
Q. Do you know what the agronomic need is for Bermuda grass, pasture-type grass in the IRW?
A. I do not.
Q. Would your answer be the same if I were to ask you about Fescue grasses?
A. It would.
Q. Now, Mr. Murphy, speaking for -- on behalf of Simmons Foods, can you think of any other major industry that doesn't take responsibility for a waste stream as a result of the product it's producing?
MR. VOLPE: Objection, Your Honor, argumentative.
MR. ELROD: Objection, argumentative.
THE COURT: Sustained.
MR. GARREN: I'm going to surrender the witness, Judge, on that.
THE COURT: You're having another witness surrendered to you, Mr. Elrod.
MR. ELROD: The white flag, Judge.

number of growers that you've actually terminated, without naming them?
A. I probably can count on one hand the number.
Q. And the reasons would be, typically?
A. Majority of those would be growers that actually did not fulfill their commitments on the GAP program, or the Grower Assistance Program.
Q. The University of Arkansas actually grows birds for Simmons, does it not?
A. Yes, sir, it does.
Q. Did it reject your arbitration clause in the agreement?
A. Yes, it did.
Q. Did a grower named Jerry Hunton also reject the arbitration clause of your agreement?
A. Yes, sir.
Q. Are the -- despite the fact that you may be obligated for seven years to a grower, do those growers have the ability to change integrators at any time?
A. Yes, sir, they do.
Q. In fact, has that phenomenon been occurring in the last three or four years from Simmons?
A. Over the last two years, we've had quite a bit, yes, sir.
Q. You have lost growers -- or growers have moved from

Simmons to some of our coconspirators over here?
A. Yes, sir.
Q. And was that partially a result of the upgrade requirement that you had when you went total hundred percent tunnel houses?
A. Part of it was, yes, sir.
Q. Mr. Murphy, I have a series of 14 stock questions for you similar to the ones that have been asked on the other side, then I'm through. Does Simmons tell its growers where to apply litter?
A. No, sir.
Q. Does Simmons tell its growers when to apply litter?
A. No, sir.
Q. Does Simmons tell its growers how much of its litter to apply?
A. No, sir.
Q. And when the grower sells litter, who gets the money?
A. The grower does.
Q. And who pays for the supplies and the bedding?
A. The grower does.
Q. And who owns the land on which the chicken houses are built?
A. The grower.
Q. Who pays for the maintenance of those houses?

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Q. And who owns the land on which the chicken houses are built?
A. The grower.
Q. Who pays for the maintenance of those houses?

A. The grower.
Q. Who pays the utilities for those houses?
A. The grower.
Q. Who pays for the equipment in the house?
A. Grower.
Q. Who supplies the labor?
A. The grower.
Q. Who makes the professional judgment about the specific practices to be implemented at the farm?
A. The grower does.
Q. Is it common for a grower to hire help?
A. Yes, sir.
Q. And if a grower does hire help, who pays for that help?
A. The grower does.
Q. Does the grower get a 1099?
A. Yes, sir.
Q. And does Simmons deduct any taxes or insurance from a grower's check?
A. No, sir.
Q. Does Simmons consider the growers to be independent contractors?
A. They do.
Q. In fact, the contract says that; is that correct, sir?

A. That's correct.
Q. Those are my questions. Thank you.
THE COURT: Any other defendants have questions?
MR. VOLPE: Nothing, Your Honor.
MS. LONGWELL: No, Your Honor.
MR. REDEMANN: No, Your Honor.
THE COURT: Mr. Garren.
MR. GARREN: I have a couple. We'll get out of here by five for sure.

REDIRECT EXAMINATION

BY MR. GARREN:
Q. You said, sir, that Simmons doesn't tell its growers when to apply. In fact, Simmons does tell them when to clean out, doesn't it?
A. We suggest it from time to time, yes, sir.
Q. You would agree with me that when we looked at the contracts earlier, it says under what the grower will do, it will comply with the instructions of the care, feeding and management of the flock given by Simmons anytime during the term of this agreement, correct?
A. That's correct.
Q. So to the extent that this professional judgment that might be exercised is not in compliance with the instructions, care and feeding as instructed by Simmons,

A. I know they also ran cattle on it. I would assume that's why they bought it was to run cattle.
Q. Has George's ever attempted to determine if poultry waste or the constituents of poultry litter are running off of farms and getting into the waters of the IRW?
A. We -- George's has never taken on those as a research project. We're not a scientific group. We try to handle those matters in a more practical way.
Q. So that the record is clear, you're not denying here that constituents of poultry litter from George's birds is, in fact, getting into the waters of the IRW?
A. I don't know that they are getting into the rivers of the IRW. We don't know that. So we would deny that they are.
Q. Only because you don't know if it is?
A. What we know is that --
Q. No, sir, please. When you say --
MR. WEEKS: Objection, Your Honor, I'd like for this witness to complete his answer.
MR. BULLOCK: Judge, I don't believe the answer --
MR. WEEKS: He was attempting to complete his answer.
THE COURT: He was. Go ahead, sir.
THE WITNESS: What we know is that our growers

in the IRW have a Nutrient Management Plan and that, by the contract, they're required to follow that plan. And by doing so, that should preclude the nutrients from running off.

Q. (By Mr. Bullock) But you have done nothing to determine that that is, in fact, true, have you?

MR. WEEKS: Objection, Your Honor, he's asked it and he's answered it.

THE COURT: Sustained.

Q. (By Mr. Bullock) Mr. Henderson testified previously concerning the Morrison farm that was owned by -- that is owned by George's. Do you know, sir, how long George's has owned the Morrison farm?

A. I believe that property was bought in the early '60s.

Q. And since that time, it has been used as -- for poultry growing?

A. It's been used for poultry production and for cattle production.

Q. Are you aware of any specific assessment by George's concerning runoff for the Morrison farm?

MR. WEEKS: I'm going to object. This question has been asked and already answered.

THE COURT: Overruled.

THE WITNESS: No, we've never done a specific

different meanings. You have to take it within the context of how it's used.

The way we've used it here would mean to put in the appropriate place.

Q. Okay. Now, at this point, this was in 1996 when this came out?

A. Yes.

Q. Okay. In terms of Arkansas and Oklahoma, are you aware of any state regulations governing the disposal of litter at this time?

A. I'm not aware of any that were in place in '96. That was the reason that we had included those Best Management Practices in the back of our contract, to give the grower some guidance on how to handle his litter until he could get a Nutrient Management Plan.

Q. Did George's, during the time that this handbook was in effect, monitor the -- whether, in fact, growers were complying with these recommendations?

A. Which recommendations?

Q. Well, as to the disposal of the litter.

A. We asked that the growers apply for a Nutrient Management Plan and to either provide us with a copy of the plan or at least a letter saying that they had applied.

Q. Okay. And did you take any action against any

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	CASE NO. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
NOVEMBER 10, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
VOLUME XXXIX, A.M. SESSION

APPEARANCES:

For the Plaintiffs:

MR. W.A. DREW EDMONDSON
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MS. KELLY FOSTER
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THE COURT: State's Exhibit 505 is admitted.
Q. (By Ms. Moll) Dr. Caneday, would you quickly walk through for the Court the numbers of registered floaters that this chart depicts.
A. This indicates that approximately 115,000 visitors floated in 2004. That rose in 2005 to a little over 130-, maybe 131,000, and then declined in 2006 and 2007. 2007 was the lowest at just slightly over 105,000.
Q. Why did you choose 2004 as your beginning year for this period?
A. In the materials that I requested from the Oklahoma Scenic Rivers Commission, they've changed the way they counted between 2003 and 2004. 2003 and prior, they actually counted float trips; they did not keep track of individual floaters. So the numbers would not have been comparable. From 2004 to the time I requested the data in 2007, they used a consistent floaters number and, therefore, I reported these four years.
Q. So just so the record is clear, am I correct that all of the data used to support this chart came from the Scenic Rivers Commission?
A. Yes. I filed a Freedom of Information Act request for this information.
Q. Please now turn to State's Exhibit 3908.
A. Yes.

And it is given in millions.
Q. Do you know how the COE collects this data?
A. The Corps of Engineers, at all of their managed locations and all of their concession locations, maintain either pneumatic or magnetic counters at the entries. As you cross from private property along the roads onto the federal property, your vehicle is going to be counted based upon the number of axles. They then utilize a proxy predictive variable count to generate these numbers.
Visitors would be any person entering Corps of Engineers' property any time during the year.
Q. That is what this summary depicts as day visitors?
A. Yes.
MS. MOLL: I move the admission of State's Exhibit 496.
THE COURT: Any objection?
MR. ELROD: No, sir.
THE COURT: Hearing none, Exhibit 496 is admitted.
Q. (By Ms. Moll) Dr. Caneday, what does this chart depict in terms of actual numbers of day visitors at Lake Tenkiller for the period 2004 to 2007?
A. This would indicate that there's about 2.4 million day visitors in 2004. It's remained relatively stable,

slight dip in 2005 and 2006, but then a slight increase in 2007 to maybe 2.3 million. I don't remember the exact number, but it would be in that range.

Q. What types of recreation are the day visitors engaged in?

A. The one thing we know about these day visitors is they're all in vehicles, so they're driving a vehicle of some sort. Day visitors may be anyone who comes to the lake but does not spend at least one night at the lake in a Corps facility or in one of the state parks or at one of the concessioned areas.

So these people are boating, water skiing, fishing, they could be hunting. There are some hunting locations. They may be picnicking. They may do a variety of other water-based recreation activity. There are multiple beaches, there's some scuba activity, so on.

Q. Please turn to State's Exhibit 497.

A. Yes.

Q. Are you familiar with this summary?

A. Yes. Again, this is a chart that I produced from the Corps of Engineers' data.

Q. Is Exhibit 497 an accurate summary of the records you reviewed in order to report the number of boaters at Lake Tenkiller for the period 2004 to 2007?

A. Yes, it is.

MS. MOLL: Your Honor, I offer State's Exhibit 497.

THE COURT: Any objection?

MR. GREEN: No objection.

MR. ELROD: No objection.

THE COURT: Hearing none, Exhibit 497 is admitted.

Q. (By Ms. Moll) Dr. Caneday, would you please tell the Court what this chart demonstrates in terms of actual numbers of boaters using Lake Tenkiller for the period at issue here.

A. The chart would indicate that somewhere around 410,000 boaters were counted on Lake Tenkiller in 2004. And that number has declined across the four-year period to be somewhere just under 350,000 in 2007.

The numbers have declined over that time period, but that is also true on almost every lake in Oklahoma.

Q. Am I correct that these numbers include recreation such as water skiers and scuba divers?

A. Yes. A boater would be any type of watercraft that is utilizing either a boat ramp or a marina put-in location on Lake Tenkiller. The Corps of Engineers counts personal watercraft commonly called jet skis, canoes, although there's relatively few of them, sailboats, power boats, all in the same category, they're

visitation numbers are calculated.
A. The total visitation would be the sum of all overnight visitors and day visitors. And in this case, it would be approximately 2.8 million in 2004, which would be the sum of those same relative figures for day visitors and overnight visitors.
And across time -- again, it remains relatively flat, dipping a little bit, but then rising in 2007 to be about 2.6 million total visitors to the lake.
Q. For the annual average?
A. Well, it would be the annual count, yes. As an average, I'd have to look at these numbers, but it's going to be somewhere in between that low of right at 2.5 up to 2.8. So I'm going to say the average is pretty close to 2.5, -6 or something like that.
Q. In your professional opinion, have changes in water quality affected the recreational uses for Lake Tenkiller?
MR. ELROD: Your Honor, I object, foundation; outside of his expertise.
THE COURT: Well, as to the latter, overruled. As to the former, I believe we need a bit more foundation. Sustained.
MR. GREEN: I have another objection. I don't believe from recollection that that is an opinion that is

as a witness for the corporation, in essence, being the corporation speaking?
A. I do understand that.
Q. Let's establish the nature of Cal-Maine's operations in the Illinois River Watershed. Can you tell us briefly what those were.
A. I can. In 1989, Cal-Maine purchased assets of a company that were in the Illinois River Watershed. We began to operate them at that time until we closed those facilities in roughly 2005, I think.
Q. You purchased those facilities from Cargill?
A. Yes, sir.
Q. Exactly what did you purchase?
A. The -- we purchased an egg grading plant, a hatchery, some rolling stock and various inventories, including chickens.
Q. And you took over the contracts of some 20 or more egg producers in the Illinois River Watershed at that time?
A. We wrote contracts for all of the current contractors at that time.
Q. So you continued to contract with those same egg producers that Cargill had been contracting with?
A. Yes, sir.
Q. And the end product was an egg for human

Q. Is was necessary to have refrigeration, of course, wasn't it?
A. Yes, it was. That was a requirement, that eggs be refrigerated when gathered.
Q. Did all of the producers who produced what I'm going to call table eggs -- I think you call them shell eggs, right?
A. Either one is good.
Q. Do they operate under essentially the same contract terms?
A. Essentially, yes.
Q. And about the contracts of those who produced some of the breeding flock, those who had contracts for -- to raise pullets or to raise roosters or to raise any of the categories of breeding stocks, did each of those growers or producers operate under the same basic contract?
A. Essentially in each one of those categories, the contracts were the same. There were exceptions. Exceptions had to do with the quality of the house in some cases or services provided by the contractor. But the basic contract for hen care was the same.
Q. Did a producer who was producing table eggs for the company have any choice with regard to the type or the breed of laying hens they received from the company?
A. No. We only had one breed.

A. I can't say I know if we did or not.
Q. If someone wanted to be an egg producer for Cal-Maine, but didn't want the responsibility of dealing with those dead birds, would that have been permitted?
A. Probably not. That's part of the contractual agreement.
Q. Under your contract with the egg producers, what provisions were made for disposing of the waste which would be produced by Cal-Maine's chickens?
A. The waste was owned and was the responsibility of the contractor.
Q. Was that a provision in the Cal-Maine contracts of its egg producers?
A. Yes, it is.
Q. Was that a provision in the contract from the very beginning of your operation in the IRW?
A. Yes, sir, and before us even, with those same growers.
Q. If someone wanted to be a egg producer for Cal-Maine, but did not want the responsibility of disposing of the waste which would be produced by Cal-Maine's chickens, would Cal-Maine have allowed them to have that provision in their contract?
A. No, I don't know that it really has ever come up. Typically one of the benefits of a contractual

relationship is that the contract grower wants the manure for their own land for fertilizing purposes.
Q. So was most of the waste produced by Cal-Maine's chickens in the IRW spread on the grower's own land in the IRW?
A. I have no direct knowledge of that.
Q. I thought you just said most would want it for that purpose.
A. I did say that. That's why they would contract with us, because they would want it. Was it handled that way? I can't tell you for sure that it was. I don't know exactly what they did with it.
Q. So I take it Cal-Maine never made an agreement with any egg producer in the IRW to take responsibility for the waste off the hands of the producer?
A. To my knowledge, we never have.
Q. Is it true, during the time Cal-Maine operated in the IRW, in order to get a contract as an egg producer for Cal-Maine, the producer had to agree to let the company, in its sole discretion, come in and take over the flock if the company deemed the producer was not caring for the birds properly?
A. There is a clause either exactly or similar to that, that if the producer fails to take care of the birds, the company can operate the flock until the end, and then

page 87 in this document.
A. (Witness complies.)
Q. Actually, if you would turn to the question that begins on page 86 on the bottom, and I'll ask you whether you were asked this question, and did you give this answer:
"QUESTION: So isn't it dangerous when we try to attribute a change to one particular cause, isn't that kind of scientifically dangerous to try to do that when we've got a multiplicity of possible causes for changes like that?"
And the answer is: "I don't know of any single cause that has such a high correlation with a single effect that I would say this cause made this effect in the recreational world." Is that your testimony?
A. That is. And in the context of that question, I would say that is accurate, yes.
Q. And you're also on record as saying that there really isn't any way to say what the cause of the decline in recreation is because there are a number of possibilities; isn't that right, sir?
A. That is correct.
Q. All right.
A. And I would also add I don't know that there is a decline.

Q. Well, I appreciate that. Thank you.
THE COURT: Mr. Green, might we take our midmorning break at this time?
MR. GREEN: Absolutely, sir.
THE COURT: Thank you.
(Whereupon a recess was had.)
THE COURT: Mr. Green.
Q. (By Mr. Green) Dr. Caneday, when -- right before we left for the break, I think I heard you say that you actually don't know whether recreation is declining on the river. Did I hear you correctly?
A. That is true.
Q. That leads me, then, to ask you how you were in a position to respond to Ms. Moll's questions where it appeared as if you gave an opinion that water quality was responsible -- or impacting negatively the number of people recreating on the river.
MS. MOLL: Objection, Your Honor, that mischaracterizes his testimony.
THE COURT: Sustained.
Q. (By Mr. Green) Let's just nail it down here. Are you sitting there offering an opinion today that -- that water quality, and water quality alone, is impacting the number of recreators on the river?
A. I would not offer that opinion.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XL - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 10, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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did with it.

Q. Cal-Maine did not have any alternative uses it had developed for --

A. No, sir.

Q. -- poultry waste?

Does Cal-Maine know whether or not any of the waste produced by its chickens in the IRW was land-applied in the IRW?

A. Do we know if any was?

Q. Yes.

A. Yes.

Q. Now, we know the company owned farms that waste was produced. Do you know of any besides that?

A. I wouldn't know without some doubt, because it was the individual decisions of all of the contractors to handle their waste the way they saw fit.

Q. Did you know of any organized effort to remove any waste produced by Cal-Maine's birds in the IRW from the IRW?

A. I don't know. I don't know that.

Q. Did Cal-Maine ever inquire of any of its contract producers as to whether or not they had Animal Waste Management Plans?

A. I don't know that we did. I think that Animal Waste Management Plans probably became a requirement during the course of our involvement there, and our stance was always that they should operate within the dictates of the law.

Q. But other than that, you never made any inquiry about whether or not they had Animal Waste Management Plans?

A. Not that I'm aware of.

Q. Does Cal-Maine approve of the land application of poultry waste with nutrients in greater amounts than plants can utilize?

A. I don't know that we have an opinion on that.

Q. Do you know what the term "best management practices" means in the context of managing poultry waste?

A. I think I do.

Q. What?

A. That you use the newest technology and newest knowledge to apply to your problem.

Q. Is that the extent of your understanding?

A. That's about the extent.

Q. Do you know any specific examples of what you just referred to that would be considered a best management practice?

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Q. Is that the extent of your understanding?

A. That's about the extent.

Q. Do you know any specific examples of what you just referred to that would be considered a best management practice?

A. No. In the way I relate to manure and manure-handling it -- and Cal-Maine operated in a lot of states and every state has the regulations that dictate the way we should operate in their state. And so rather than -- you know, our policy has been to be sure that we're in compliance, that we meet the state regulations wherever we operate.

Q. Is Cal-Maine a member of the U.S. Poultry & Egg Association?

A. I believe so.

Q. And for how long has Cal-Maine been a member?

A. I think it's been a long while.

Q. You have been a member for a long time?

A. Yes.

Q. Have you ever seen any information from U.S. Poultry & Egg Association regarding best management practices?

A. I personally have not and I'm not aware that we have.

Q. Would you consider information from the U.S. Poultry & Egg Association to be reliable information?

A. I don't know. I know they do a lot of -- they sponsor a lot of research. That's mainly what I know about them.

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Watershed?

A. Yes, sir.

MR. RIGGS: We'd move into evidence 6062.

MR. SANDERS: No objection, Your Honor.

THE COURT: 6062 is admitted.

MR. RIGGS: Your Honor, may I have a minute? I'm about finished and I need to check one exhibit.

THE COURT: Yes, sir.

(Discussion held off the record)

Q. *(BY MR. RIGGS)* Sir, do you remember a contract producer in the IRW named Lois Hampton?

A. I do.

Q. Do you know how long she was a contract producer for Cal-Maine?

A. The chicken house and the farm was for, I think, the entire duration. Originally, we contracted through her -- I think her husband's name and towards the end it was with Lois Hampton.

Q. Do you know anything in particular about any problems she had complying with Oklahoma's environmental laws and regulations?

A. I've seen reports that indicate that she had

some problems.

Q. What kind of problems were those?

A. I would have to look at the reports. Do you have them here?

Q. I do, sir. But I just was trying to see if you could remember much about her.

A. They were -- I think there was a situation that developed on that farm. We had worked with them for almost 15 years and there was a divorce in the family and Ms. Hampton was left with the farm without help and she began to operate totally the farm and she didn't do well. She had some problems in overapplying manures, as I remember, in seeing some of the reports.

That was evidenced by the state inspectors having come and found this and advised her, and it appeared over some time that her -- her management was corrected in that regard.

Q. Sir, was she ever in compliance with her Animal Waste Management Plan from 1998 until Cal-Maine stopped doing business in the IRW?

A. I presume so. I don't know.

Q. Do you know anything more about the specific nature of her failure to comply other than overapplying animal waste?

A. No. There was -- I remember one other

incident, had to do with mishandling mortality in the house. But she -- she was not handling those things properly and within the scope of the law, and it was dealt with by the -- I think it was Oklahoma Department of Agriculture. Somebody that handles those inspections did that.

Q. Did Cal-Maine ever give Ms. Hampton any assistance during that period of time with those problems?

A. Specifically, I don't know. I know that we were aware of some of those at that time.

MR. RIGGS: Nothing further, Your Honor.

MR. SANDERS: We have nothing, Your Honor. We would like to reserve direct.

THE COURT: Very well. You may step down, sir.

THE WITNESS: Thank you.

THE COURT: The state may call its next witness.

MR. GARREN: Your Honor, I would call Joel Reed. I need to check and see if he's out in the hall.

THE COURT: Yes, sir.

(Discussion held off the record)

MR. GARREN: Your Honor, I might inquire

A. Yes, I do.

Q. Let's talk a little bit then. You have a history with one other integrator besides Simmons; is that correct?

A. Yes.

Q. And who was it that you grew for before Simmons?

A. George's.

Q. And what was the time period that you did that work?

A. From 1987 to 1990, somewhere around in there.

Q. All right. When you grew for George's, did you grow broilers?

A. Yes.

Q. What was the approximate size of the bird that you would grow for George's when you did?

A. I believe it was four pounds.

Q. And you grow currently for the company Simmons; is that true?

A. Yes.

Q. And have you grown for Simmons continuously since 1990?

A. Yes.

Q. In the past, has your family been associated with the poultry-growing business?

Q. Which may take it to that 65,000 number?
A. Right. Yes.
Q. When you worked for George's, did you do annual cleanouts of your house?
A. Yes.
Q. Did they request that you do it that way?
A. I don't know that they actually requested it. I just -- I done it every spring.
Q. All right. And how often would you cake-out when you worked for George's?
A. I did.
Q. All right. So you just did an annual cleanout and that was it?
A. Yes.
Q. Did you land-apply the poultry litter from the George's operations when you were conducting those?
A. Yes.
Q. And where did you normally land-apply it?
A. I applied it to my place, to -- I sold some to my neighbors.
Q. Didn't go very far?
A. Not at that time, no.
Q. Did you use soil tests before land-applying back then when you worked for George's?

much you're generating in the amount of litter in an annual cleanout?

A. Somewhere around 300 ton maybe, 350 ton.

Q. All right. Do you cake-out now when -- in your operation?

A. Yes.

Q. How often do you cake-out?

A. Usually after every batch. In between every batch.

Q. Is a batch the same as a flock?

A. Yes.

Q. And you, in addition to that, do a cleanout on an annual basis?

A. Once a year, yeah.

Q. All right. Do you know how much comes out on a cake-out when you perform that task?

A. I don't really have any way of guessing that. I'm going to say in a year's time around a hundred ton.

Q. Okay. Do you own your own spreader truck?

A. No.

Q. In the past, have you traded litter with someone in order to borrow or use a truck?

A. Yes.

Q. And is that one of your neighbors?

testimony. I thought when we talked about a lease land, was that being leased in '05?

A. Yes.

Q. Okay. When did you quit leasing that land?

A. In June of 2006.

Q. Okay. Now, prior to your applications in February of '05 -- let's look at field No. 1 soil test. What does it tell you the level of P is on that?

A. Field No. 1?

Q. Yes, sir.

A. The P index is 328.

Q. Where's this field located? Is it the field that's on the south side of the road next to your barns, or is this a field that's on the north side away from your barns? Do you remember?

A. It would be on the south side.

Q. Okay. And where is it in relation to your barns?

A. That field is south of my house furthest to the east.

Q. All right. Did you rely on this soil test when you made your application on field 1 of 2.27 tons per acre?

A. Yes.

Q. Did you refer to a conservation plan or to a Nutrient Management Plan before you made this application?

A. No. I just went off my soil test and my litter test.

Q. Okay. If you look at your soil test, can you tell me on it how much phosphorus is required based upon the yield goal of three tons per acre for bermuda grass?

A. Zero.

Q. Why would you then apply 2.27 tons of litter if there was no need for phosphorus?

A. Because I need nitrogen to grow my grass.

Q. All right. Are there any other sources of nitrogen available to you?

A. Not for free.

Q. All right. Let's look then at the litter test, which is the first of the two because I think it says "cleanout." Do you see that on Bates No. Reed.0088?

A. Yes.

Q. And do you know what it means as received pounds per ton of P205 that's shown on this litter test?

A. Yes.

A. Yes.
Q. But we didn't discuss anything about your testimony; is that right?
A. No.
Q. Do you still have Oklahoma Exhibit 6439 in front of you?
A. I can get it. Okay.
Q. Does this form state anywhere on here when you actually applied your litter?
A. No.
Q. Okay. Explain to the court how you got into the poultry-growing business.
A. I just was born into it. I've been around chickens all my life.
Q. Do you consider it to be a good way to stay on the farm and raise a family?
A. Yes.
Q. Now, you originally grew chickens for George's; right?
A. Yes.
Q. When you switched from George's to Simmons, did George's have anything to say about that?
A. No.
Q. It's true that you can switch from any integrator at any time that you want to; is that

right?

A. Yes. If they have a contract, you know, for you.

Q. Now, do you also raise cattle?

A. Yes.

Q. And how many head of cattle do you typically run?

A. Fifty-five, sixty.

Q. And what do you feed the cows?

A. I raise hay on my property, and if I happen to not have enough hay, I buy range cubes.

Q. When did you first start raising cattle?

A. Well, I don't know. Back in the early '80s on my own.

Q. Before you started raising chickens?

A. Yes, yes. I've been around them all my life but --

Q. Now, when you became a poultry-grower, was the fact of getting the litter something that was important to you?

A. Yes.

Q. Do you consider litter to be a valuable asset?

A. Yes, I do.

MR. GARREN: Objection; leading.

THE COURT: Sustained. Rephrase.

Q. *(BY MS. BRONSON)* Why is the litter important to you?

A. If I didn't have the litter, I wouldn't be able to afford to fertilize my land and I would probably have to cut my cattle herd two-thirds.

Q. Now, who owns your farm?

A. I do.

Q. Are you your own boss?

A. Yes.

Q. Is that important to you?

A. Yes, ma'am.

Q. Is the right that you have to take control of the litter and decide what happens to it important to you?

A. Yes.

Q. When you sell the litter, who gets that money?

A. I do.

Q. Who's responsible for the day-to-day technical activities on your farm?

A. I am.

Q. Who pays the utilities required for growing chickens?

A. That would be me.

Q. And who pays the taxes on your property?
A. I do.
Q. When you get a check from Simmons, do they withhold any state or federal income taxes?
A. No.
Q. Do you get a W-2 from Simmons?
A. Yes.
Q. Or excuse me. Do you get a 1099 from Simmons?
A. No.
Q. Okay. Are you sure which tax form you get?
A. Yes. I get a W-2.
Q. How often is the field man from Simmons at your farm?
A. Oh, usually once a week.
Q. How long is he there?
A. It just depends on the field man -- service tech. I'm sorry. I have a woman now.
Q. And when she comes to your farm, does she look at anything other than the poultry houses?
A. She -- she checks my chickens, looks at them, see how they're doing, checks to make sure my generators are operating all right.
Q. Does she look at any of the other aspects of your farm?

A. No.

Q. Okay. Are there times when she's there that she gives you recommendations about how to manage your chickens?

A. She gives me advice from time to time.

Q. And do you always follow that advice?

A. No.

Q. Has anyone from the Oklahoma Department of Agriculture ever told you that you're not in compliance with your Animal Waste Management Plan?

A. No.

Q. Does Simmons tell you when to clean out your houses?

A. No.

Q. Does Simmons tell you where to put your litter?

A. No.

Q. Does Simmons tell you who you can sell your litter to?

A. No.

Q. Does Simmons tell you how much to charge for your litter?

A. No.

Q. Has Simmons ever told you where you can apply your litter?

A. No.

Q. After you built your poultry litter storage shed, did someone from the Oklahoma Department of Agriculture inspect it?

A. Yes.

Q. Now, wasn't there a period of time when you did not clean out your poultry houses?

A. I'm not sure of the dates, but I went approximately a year and a half when I didn't -- I just kind of pushed the middle out, I didn't do a complete cleanout.

Q. How far is your property from Flint Creek?

A. Two miles.

Q. And do you have a well on your property?

A. Yes. Two of them.

Q. And is that the water that you drink?

A. Yes.

Q. And that your family drinks?

A. Yes.

MS. BRONSON: I think I'm finished. Let me check.

THE COURT: Mr. Jorgensen.

MR. JORGENSEN: Thank you, Your Honor.

THE COURT: Overruled.

Q. *(BY MR. JORGENSEN)* The question was, based on your experience, has there been a tradition in the poultry industry about who owns the litter?

A. It's just always been my understanding that it was the poultry-grower's litter.

Q. And who owns, to your understanding, the poultry litter that's produced on your farm today?

A. I do.

Q. Now, before you can put birds in your house, do you have to put something down for them?

A. Yes.

Q. What do you put down?

A. We put down rice hulls.

Q. Okay. Can I refer to that as "bedding"?

A. Yes.

Q. Who buys the clean bedding, the rice hulls, that go into your houses before the birds come?

A. I buy.

Q. How much does it cost?

A. Approximately twelve- to thirteen-hundred dollars a semiload, and I usually put two semiloads in.

Q. Okay. Who pays for that?

A. I do.

Q. Now, I think I heard you say you sell your litter. Did I understand that right?

A. Some of it, yes.

Q. Yeah. And who gets the money from that?

A. I do.

Q. Have you ever used the money you got from the sale of the litter to offset the cost of buying clean bedding for the next flock?

A. Yes. That's -- that's the only bonus that I get is the fertilizer and then being able to sell it.

Q. Now, is that important to you?

A. Yes, sir.

Q. Now, I don't represent Simmons, but if Simmons took your litter away from you, would that affect you?

A. Very much.

Q. How so?

MR. RIGGS: Judge, asked and answered, Your Honor, with Ms. Bronson.

MR. JORGENSEN: I don't think so.

THE COURT: Overruled.

Q. *(BY MR. JORGENSEN)* I'm sorry. Go ahead. The question was, how would it affect you?

A. Well, it would affect my cattle herd. I run approximately 55 to 60 head. I would have to cut them

down to at least 25 to 30 because I couldn't grow the grass. I couldn't sell the extra litter that I can't use to buy the bedding back.

Q. Okay. Now, moving topics, you just said that you -- I believe that you sell some of your litter so I won't ask if you use all of it on your property.

So the part that you don't -- the part of your poultry litter that you don't use on your property -- that's what I'm talking about -- where does it go?

A. Usually it goes out to a different watershed, Hennessey, Oklahoma, out west; it goes north to Welch, Oklahoma, to some farm ground, row-croppers.

Q. Have you ever heard of a company called B & S Contracting?

A. Yes.

Q. What is that?

A. That is a company that cleans out and spreads, transports chicken litter.

Q. Do have any relationship with them?

A. Yes, I do.

Q. What is it?

A. I work for them.

Q. And how long have you worked for them?

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A. I work for them.

Q. And how long have you worked for them?

A. Approximately a year and a half.

Q. So what do you do for B & S?

A. I help them clean out chicken houses.

Q. Now, in the time you've been familiar with B & S, where has B & S transported? Take your time and tell His Honor your experience.

A. Well, we've spread anywhere from around in our area to Porter, Oklahoma; Tulsa; Lamar, Missouri; Chetopa, Kansas; Welch, Oklahoma. Then we take some of it to a -- it's a place called AgNatural, which is a composting facility that composts it.

Q. Well, tell me more about AgNatural.

A. They compost the litter, they mix it with clay, dirt, hay, wood chips, different things, and make a commercial fertilizer out of it for golf courses, flower gardens, flower beds.

Q. Now, I'm not from Oklahoma -- you may have noticed -- but in those areas you've just named, are they all close to your barn? Are they all within five miles of your barn?

A. No.

Q. Are they close to the barns where you remove the litter? Are they all within five miles of the barn where you remove the litter?

A. No. Not all of them.

Q. Now, I believe -- I believe Ms. Bronson asked you that when you sell the litter for yourself, who gets the money.

So let me skip over that and say, when you're working with B & S Contracting and you're involved in a sale of litter, who gets the money for the litter?

A. The farmer does, the poultry-grower.

Q. Have you ever seen an instance where the integrator got the money?

A. Never.

Q. Now, I believe you testified that you use poultry litter as a fertilizer?

A. Yes.

Q. How does it perform in your experience as a fertilizer?

A. Well, it performs really well. I mean, it's a slow-release versus commercial fertilizers you're dependent a lot on the rain pretty quick after you land-apply it, because if it starts to break down, it forms a gas and just -- you lose quite a bit of your fertilizer.

Q. All right. His Honor and I both grew up on farms, but for the record, for the Tenth Circuit who might read this, I want you to elucidate on that a little bit.

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A. Uh-huh. Yes.

Q. Does your field woman and the field man before her, do they give you advice on behalf of Simmons?

A. Yes.

Q. Do you follow that advice all the time?

MR. GARREN: Asked and answered, Your Honor.

THE COURT: Sustained.

Q. *(BY MR. JORGENSEN)* Let's give some examples then to flesh it out.

A. Okay.

Q. Does Simmons recommend to you a temperature at which the air in your barns should be held when new chicks are delivered?

A. Yes.

Q. And what is the temperature Simmons recommends?

A. Ninety-two degrees.

Q. Do you follow that?

A. No, I don't.

Q. Why not?

A. Because I'm the one buying the gas.

Q. And what's been your experience with the birds that you've raised at a temperature -- what

temperature -- let me strike that. Let me start over again.

Instead of 92 degrees, what temperature do you use?

A. Ninety.

Q. And what's been your experience raising those chicks at 90?

A. I've got No. 1 on my last batch. I do just as good at 90 than I do at 92 and it saves me a lot of gas.

Q. Now, I think His Honor has heard bits and pieces about settlement and the last batch. What do you mean you were No. 1 on your last batch? We may not all understand how that works.

THE COURT: I pretty well understand that.

MR. JORGENSEN: All right. Let's skip over that then.

Q. *(BY MR. JORGENSEN)* Does Simmons have a recommendation that you should cake-out after each flock?

A. They would probably like for you to. I try to just to keep the air quality better in my houses.

Q. Right.

A. Sometimes I'll windrow the litter. I tried

that once.

Q. So I want to clarify. Are you saying you don't always follow Simmons' advice to cake-out every time, sometimes you windrow?

A. Right.

Q. Let's turn to the cattle that Mr. Nance and you talked about.

Do you raise hay on your farm?

A. Yes, I do.

Q. Are you able to raise enough hay to bale it?

A. Yes.

Q. And how do you accomplish that on your property? Like what do you do with your cattle so that you can raise hay?

A. Well, I have different fields that I graze and different fields that I use for hay meadows.

Q. What do you feed your cattle in the winter?

A. I feed them the hay that I bale off my property and I supplement it with range cubes sometimes.

Q. Okay. Let's focus on range cubes. Do you raise the range cubes on your property?

A. No.

Q. Where do you get them?

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THE COURT: I'm pretty clear on this.

MR. JORGENSEN: You're pretty clear with range cubes?

THE COURT: Yeah. Let's move on. We went over range cubes yesterday.

MR. JORGENSEN: Do we need to go through that they come outside the IRW or should I just skip it?

THE COURT: No, sir.

MR. JORGENSEN: I will just skip it. Can I ask this one, Your Honor?

Q. *(BY MR. JORGENSEN)* Is it common for cattleman in this area to use range cubes?

MR. GARREN: Foundation, Your Honor.

Q. *(BY MR. JORGENSEN)* In your experience?

MR. GARREN: Still foundation, Your Honor.

THE COURT: Sustained.

Q. *(BY MR. JORGENSEN)* How many years have you been a cattleman, sir?

A. All my life.

Q. Do you interact with other cattlemen?

A. Yes.

Q. Are you familiar with the practices of cattlemen in this area?

A. Yes.

Q. In your experience, is it common for cattlemen in this area to use range cubes?

MR. GARREN: Same objection, Your Honor.

THE COURT: Overruled.

A. Yes.

Q. *(BY MR. JORGENSEN)* Do you know what a mineral lick is?

A. Yes.

Q. Do you use mineral licks?

A. Occasionally.

Q. Do you know what materials were in the mineral licks that you used?

A. Different proteins, vitamins, urea, phosphorus.

Q. Have you ever used mineral licks containing phosphorus for cattle that are pregnant?

A. Yes.

Q. Is it common in your experience for cattlemen in this area to use mineral licks?

A. Yes.

Q. Now, the mineral licks that you have bought and used, do they say anything about the cattle and giving the cattle abundant access to water while

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Q. Is it common in your experience for cattlemen in this area to use mineral licks?

A. Yes.

Q. Now, the mineral licks that you have bought and used, do they say anything about the cattle and giving the cattle abundant access to water while

they're using the mineral lick?

MR. GARREN: Leading, Your Honor.

THE COURT: Sustained. Rephrase.

Q. *(BY MR. JORGENSEN)* The mineral licks that you have bought, do they say anything about access to water?

A. Most of them say --

MR. GARREN: Objection, Your Honor. Licks aren't going to talk.

THE COURT: No, I know what he's talking about. Overruled.

Go ahead.

A. Most of them had feeding instructions on them that say that you need to place them near -- near abundant water.

MR. JORGENSEN: I'm very close to being done, Your Honor.

Q. *(BY MR. JORGENSEN)* Do you remember that Mr. Nance asked you if you have sufficient land to use all of your poultry litter? Do you remember that?

A. Yes.

Q. In your experience, is there demand for poultry litter in the marketplace?

A. Yes, there is.

Q. Have you ever had difficulty finding a buyer

for your litter who could apply it under their soil test and Animal Waste Management Plan?

A. No.

Q. Do you know who John Littlefield is?

A. Yes, I do.

Q. Who is John Littlefield?

A. He is my poultry inspector.

Q. Okay. What does he do as your poultry inspector?

A. He comes from -- I call him when I have a problem, a large death loss maybe, or something, which I haven't had. And he also comes by at least once a year and checks my records, makes sure I'm keeping my records right, writes a report, sends it to ODA.

Q. When he comes by your farm once a year, I think I just heard you say, to check your records, does he check whether you have an Animal Waste Management Plan?

A. Yes.

Q. Does he check whether you followed your Animal Waste Management Plan?

A. Yes.

Q. Has he ever determined that you either didn't have one or that you weren't following it?

A. No.

probably two or three flocks and then I bought my parents' farm which they had a house there that --

Q. Now, George's did not instruct you to clean out annually; correct?

A. No.

Q. And they did not instruct you to cake-out between flocks; correct?

A. No.

Q. Mr. Garren asked you a few questions and they started out when you worked for George's. Have you ever been an employee of George's?

A. No, I haven't.

MS. TUCKER: That's all. Thank you.

THE COURT: Mr. Garren.

REDIRECT EXAMINATION

BY MR. GARREN:

Q. Mr. Reed, you indicated that without the litter you couldn't grow grass. Is that absolutely true?

A. I indicated that I couldn't grow as much grass.

Q. All right. Well, my quote here was you just couldn't grow grass. But you can grow grass without the litter, can you not?

A. You might can grow some, yeah. Mostly weeds

MR. JORGENSEN: Objection; misstates the testimony.

THE COURT: Well, this is one of the issues here in the case. Overruled.

Go ahead.

Q. *(BY MR. GARREN)* You're not looking to your soil test to tell you how much you can apply for the various constituents, are you?

A. I'm looking at my soil test to see how much nitrogen I'm allowed to put on according to my phosphorus. So nitrogen is what it takes to grow my bermuda grass and my fescue.

Q. And you're only trying to stay under the maximum level that's set forth in the regulations; correct?

A. I am going by the rules and regulations that the state has -- has --

Q. Do you know about the rules --

A. -- me go by.

Q. Do you know about the rules that says you're to be guided by a soil test every year?

A. Yes, sir.

Q. And as I understand your testimony, you don't look at that soil test to see whether phosphorus is needed or not; correct?

MR. JORGENSEN: Objection; asked and answered, misstates the testimony.

THE COURT: Sustained.

Q. *(BY MR. GARREN)* You say that you own the litter that you produce out of your Simmons barns; correct?

A. Excuse me?

MR. JORGENSEN: Objection. I don't think there's been a foundation that they are Simmons' barns.

THE COURT: Sustained. Rephrase.

Q. *(BY MR. GARREN)* The barns that you use to grow chickens for Simmons; correct?

A. What was the total question?

Q. You used the barns -- your barns to grow chickens for Simmons; correct?

A. Yes.

Q. And you said that you own the litter that's grown -- or produced out of those barns; correct?

A. Yes.

Q. I direct your attention to Exhibit 6447A in the folders there, please. I have a copy of a broiler agreement that you have with Simmons dated in May of 2005.

I'm going ask you, sir, to point to the

Honor.

THE COURT: Mr. Jorgensen.

RECROSS-EXAMINATION

BY MR. JORGENSEN:

Q. Mr. Reed, would you get out this broiler agreement, 6447A, that Mr. Garren asked you about?

A. Sure. Yes, sir.

Q. Do you recall that he asked you to look at this contract and find the provision that says that you own the litter? Do you remember him asking you that?

A. Yes.

Q. Now, I would like to ask you to look at this contract and find the provision for me that says you own your land.

A. There's not one in there, I don't think.

Q. How about one that says you own your barns?

MR. GARREN: Objection, Your Honor. That's clearly outside the scope of anybody's testimony at this point --

THE COURT: Well, it's responsive to the question regarding ownership of the litter. I appreciate it.

MR. GARREN: Counsel from Simmons --

THE COURT: Overruled. Overruled.

of the house, making sure that there's not a water spill or a feed spill, the height of the feed is right, the height of the water is right. Just another pair of eyes to overlook to kind of help me oversee the birds.

Q. They leave you a report that's a fairly detailed checklist of things that they look at, don't they?

A. It's not real detailed, no, sir. I mean, it is, but as far as what I would call a real detailed report, it's not.

Q. Okay. Do they leave a request or recommendations on that field report to you for things they want you to do?

A. If there's something in error that they find.

Q. Does it need to be an error? Can it be just an advice to improve your performance?

A. It could be advice, yes.

Q. And do you generally try to follow that advice?

A. If it's suitable to me, yes.

Q. On occasion, have either of the integrator field men actually made changes in your growing operation such as adjust the temperature or the height

Q. Okay. So as long as you're there, you could do it for him, right, if he asked it to be done?

A. If I agreed that it needed to be done.

Q. Do you recall in a Peterson Farms contract that the field service personnel through their periodic visits will give advice and directives as to any changes they may see that the contract farmer needs to make? Do you remember that language?

A. Yes. Basically.

Q. And do you know what would happen if you don't heed the advice and do what they request you to do?

A. Nothing.

Q. When you went to work for Peterson, did they provide to you any copies of any laws, rules, or regulations that might impact the operation of your operation?

MR. MCDANIEL: I do object to the form. He said "went to work for Peterson."

THE COURT: Rephrase, please.

Q. *(BY MR. GARREN)* When you signed your contract with Peterson to grow their birds, did they give you any copies of any rules, laws, regulations that might impact the operation of that facility?

A. No laws. They gave suggestions. They had a

1 document, the contract that you have with Peterson,
2 says that you're also to provide them any periodic
3 reports that you're required to provide any local,
4 state, or federal agency as might pertain to such
5 plan.
6 Did you, in fact, provide any such periodic
7 reports to Peterson Farms?
8 A. Did I deliver them to them?
9 Q. Or give them to them in any way or --
10 A. I had them in a file. They was available to
11 them if they wanted them. All they had to do was ask
12 for them.
13 Q. Did they ever ask for them?
14 A. No, sir.
15 Q. Did they ever then see them?
16 A. Not my knowledge.
17 Q. Did Peterson require you by contract to
18 dispose of the poultry waste produced by their birds?
19 A. You're meaning the litter; is that correct?
20 Q. Yes, sir.
21 A. Yeah, it belonged to me. I needed to do with
22 it as I could.
23 Q. Can you tell me anywhere in this contract
24 where it says you own the litter as opposed to being
25 instructed to dispose of it?

asked us to clean out yearly.

Q. And how often did you clean out?

A. At least a partial cleanout yearly.

Q. All right. And did you do whatever is called a decaking process?

A. Sometimes.

Q. How often would you do that?

A. At every -- it varied, depending on the condition of the litter. If the litter was extremely wet, you might do it every flock; if it was dry, you wouldn't. It varied.

Q. And when it varies, on average how often do you do it?

A. There's five and a half flocks a year, sir. I mean, I may do it twice a year. I may do it three times a year.

Q. Thank you, sir. Based on your experience with both Peterson and Tyson, can you provide me any significant differences in how you are expected to operate your broiler farm with Tyson than with Peterson?

MR. MCDANIEL: I object. That's a really broad and vague question, Your Honor.

MR. GARREN: I intend it to be in a general way, Your Honor, and then we'll drill down if

pay someone to do it?

A. I pay someone to do it.

Q. All right. And do they indicate to you how much is removed when it's removed?

A. They do.

Q. And you don't remember, sitting here today, how much you generate out of those barns?

A. No, sir, I do not.

Q. Have you applied all that you generate from your barns on your own land?

A. No, sir.

Q. Have you applied in the past all that's generated on an annual basis on your lands?

A. All of it probably four, five years ago, yes.

Q. Okay. You first started in around 2000, 2001; correct?

A. Yes, sir.

Q. How many years did you not use all the waste generated from your barns as to be -- to be applied on your land?

A. I don't believe I have used all of it in the last four years.

Q. All right. What do you do with it?

A. I sell it.

Q. To whom do you sell it?
A. BPS out of Lincoln -- BMP's.
Q. BMP's, Inc.?
A. Yes. Out of Lincoln. I sold some to some local farmers.
Q. And when you sell it to local farmers, what do they do with it?
A. They take it out of the watershed. They apply it in Kansas, Missouri. They got some sod farms. I don't really know what they do with it.
Q. Okay.
A. Other than it is agreed that they're taking it out of the watershed.
Q. So that's what your intention is when you sell it?
A. Yes, sir. My intentions are to make money, to be honest. But I want it as a secondary to be taken out of the watershed.
Q. Do you apply any other poultry litter on your land that's not generated from your barns?
A. No, sir.
Q. Do you buy commercial fertilizer to grow grass?
A. I have -- I have in the past.
Q. And have you done it in the last four years

since you've been selling your litter?

A. Yes, sir.

Q. And are you buying phosphorus?

A. No, sir.

Q. Why not?

A. It's too expensive.

Q. And does your grass need it?

A. Does it need it? It needs phosphorus, yes.

Q. Have your soil tests indicated that there is a need for phosphorus on your grounds?

A. The soil test lately says it's adequate.

Q. Okay. So would that indicate to you that it's needed if it's already adequate?

A. It's an indication to me it could be applied as long as I'm under the threshold of 300, yes, sir.

Q. Okay. So as long as you're under that threshold, you would apply it even if you have to buy it?

A. If I'm buying it as a commercial fertilizer, no, sir.

Q. All right. And that's important, isn't it? If it's free, it's easy to put it down. But if you have to pay for it and the grass doesn't need it, you're telling me you're not buying it; correct?

A. I don't know that any of it is free.

Q. Well, the litter's not free when you're growing it in your barn?

A. No, it's not.

Q. Oh. How is it not free? Others have testified that it is.

A. You got to bring it out of your barn and hire somebody to take it out of your barn and spread it on your field. So it's by far from free.

Q. Okay. And so if you don't own those trucks and that equipment, it comes out of pocket; correct?

A. Exactly.

Q. But you come out of pocket to buy fertilizer too, don't you?

A. Exactly.

Q. Since you're in the last four years selling it so that you think it's going out of the watershed, I'm going to assume you don't use or need that used litter in growing your birds, do you?

A. You said, did I use all of it or sell all of it. I still use part of it.

Q. All right.

A. The main reason that I'm selling it is to generate income. I could use it all on my farm, but I need the cash flow to pay back for bedding in my chicken houses is the reason that I sell it. It's not

a fact that I can't use the fertilizer. It's the fact that I need the cash flow to operate.

Q. All right. Let's talk about some of your experience with ODAFF and your requirements under the law to be a poultry operator.

Can you tell the court how long was it before you began growing birds for Peterson that you requested a Nutrient Management Plan?

A. I'm going to say within a year probably, and I'm working off of memory here, sir.

Q. I want you to look at Exhibit 1848 there in front of you. Go to Bates stamp No. 105.

A. Okay.

Q. Do you see a letter there addressed to you and Beverly Saunders dated May 13th, '02?

A. Yes, sir.

Q. And is that the letter you received upon having requested your first Animal Waste Management Plan?

A. Yes, sir.

Q. And you testified earlier that you actually began growing birds in December of 2000 or February of '01; correct?

A. February of '01, yes, sir.

Q. You registered in December of 2000 with the

A. Yes, sir.

Q. And what was your motivation for going into the chicken-growing business?

A. It was twofold actually. Knowing that the farm was poor, we needed some fertilizer. We couldn't afford commercial fertilizer so we bought it for the chicken litter. Plus, the job would give me a chance to stay home full-time and farm.

Q. All right. When you say "the farm was poor," can you explain what that means?

A. The farm has grown up and been neglected for about ten years and have gone back to brush. The soil content on the 500 acres wouldn't run 30 head of cows year-round.

Q. Okay. Now, what was a poultry operation going to do for your cattle business?

A. Number one, it would be able to get the litter to apply to the farm to make grass. But number two was the cash flow that I could improve the farm with fencing as well as supplying me a job and an income.

MR. GARREN: Your Honor, I'm going to object to this line of questions. I don't really think it's relevant to the circumstances of this case and ask that the last response be stricken.

Q. Now, this cattle operation, on average how many head of cattle are you running these days?

A. About 125 head.

Q. What kind of operation?

MR. GARREN: Objection; relevance.

THE COURT: Overruled.

A. Purebred and commercial.

Q. *(BY MR. MCDANIEL)* Now, how has your cattle operation changed over the years, particularly since you purchased your poultry operation?

A. We've managed to improve the farm and improve the grass quality. We've improved -- or increased the number of head that we're able to carry and moved into a registered operation.

Q. How has the poultry part of your business affected the profitability of your cattle operation?

A. It's made a difference between running 30 head of cows and 125, so it's been tremendous. There's no comparison today.

Q. All right. Let's talk about litter management.

Mr. Garren asked you about Exhibit 1848. That's the letter from the NRCS to you and your wife dated in May of 2002. Do you remember a few questions on that document?

poultry litter on your farm until such time as you received an Animal Waste Management Plan?

MR. GARREN: Leading, Your Honor.

THE COURT: Overruled.

A. They gave me a best management practice, an idea, Joe did, about soil sampling and litter sampling to give me a basic idea.

Q. *(BY MR. MCDANIEL)* You said "Joe did." Who was Joe, Mr. Saunders?

A. At that time he was an NRCS head. Johnson, Joe Johnson, I believe. I'd have to -- I'm not real good with names.

Q. Look back at that letter and see if that's the individual you're referring to. It's 1848. It would not be in the folder I gave you.

A. Oh, 1848?

Q. I'm sorry, Mr. Saunders. Should be in the folder labeled "1848." Oh, it's on the screen, sir, since it was admitted.

A. Joe Jones, Joe G. Jones, district conservationist.

Q. All right. Now, you do presently have an Animal Waste Management Plan?

A. Yes, sir.

Q. All right. Would you pull out of your folder

there what's been marked as Defendants' Joint Exhibit No. 1?

A. Okay.

Q. And those are the numbers that are down in the bottom right. Do you see that, sir?

A. Yes, sir.

Q. All right. Tell us, please, what is Defendants' Joint Exhibit No. 1?

A. Excuse me?

Q. Tell us, what is Exhibit No. 1?

A. It's the cover for a waste management plan.

Q. All right. But the document, the entire document, is that your Animal Waste Management Plan?

A. Yes, sir.

MR. MCDANIEL: Your Honor, I offer Defendants' Joint Exhibit 1.

MR. GARREN: No objection.

THE COURT: All right. Defendant's 1 is admitted.

MR. MCDANIEL: All right. Thank you.

Q. *(BY MR. MCDANIEL)* Mr. Saunders, do you see on the cover sheet of your Animal Waste Management Plan the name of any Oklahoma agency?

A. Oklahoma Department of Agriculture, Food and Forestry.

Q. All right. And what year did you receive this?

A. It was received in 2005.

Q. Do you recall the name of the individual that worked with you to prepare this Animal Waste Management Plan?

A. I believe it was Mr. Abernathy.

Q. Now, do you recall giving Mr. Abernathy any information to assist him in preparing this Animal Waste Management Plan?

A. Yes. The number of houses, the number of birds, and the acres that we own. I don't remember all the information.

Q. In your operation since you have received this plan, Mr. Saunders, does it primarily apply to the land application of poultry litter on your cattle farm?

A. Yes, sir.

Q. Do you land-apply any poultry litter on your poultry farm?

A. No, sir.

Q. Now, has anyone for Peterson Farms ever asked you, Mr. Saunders, for the opportunity to inspect how you are managing your poultry litter on your separate cattle operation?

A. No.

Q. Now, from your perspective, did you believe Peterson Farms had the right to inspect how you manage your poultry litter on your separate cattle operation?

A. No.

Q. And you looked at a contract -- one of the contracts with Mr. Garren that you had with Peterson Farms.

Did that contract provide that representatives of Peterson Farms had the right to access your poultry farm in the area where poultry are raised?

A. Yes.

Q. Did that contract provide representatives of Peterson Farms the right to inspect any other area of your agricultural operation?

A. No, sir.

Q. All right. Let's look at your Animal Waste Management Plan. And I'm going to refer to the numbers at the very bottom of the page, sir, rather than the ones printed with the original plan. So go to the page that's marked DJX0001-0003. It's actually the third page of the document.

Do you find that?

A. Yeah. Yes, sir.

Q. All right. In the first paragraph under "Introduction," do you see the sentence about halfway through there that begins "the law requires"?

A. Yes, sir.

Q. All right. Would you read those three sentences that begin with "the law requires" out loud?

A. "The law requires that the National Resource Conservation Service recommendations for litter application rate be followed. NRCS recommends the application maximum of 200 lbs. of phosphorus per acre per year if the soil test shows a phosphorus index below 250. "

Q. Next sentence, please.

A. "If the soil test phosphorus index is between 250 and 400 then the rate applications are reduced by one-half. If the phosphorus index is above 400 then no litter is to be applied."

Q. Okay. You can stop there. Thank you.

Is it your understanding, sir, when this plan was issued to you in 2005 that the maximum soil test phosphorus for applying litter was 400?

A. Yes, sir.

Q. Now, the first -- under paragraph B, "Description of Operation," the first sentence says, "This farm is located in an area of highly vulnerable

groundwater."

Did I read that correctly?

A. Yes, sir.

Q. Does that reflect that Mr. Abernathy knew that your farm was in a vulnerable groundwater area when he designed the plan?

A. Yes, sir.

Q. All right. If you continue down through that paragraph, he states, "Total average yearly waste and litter production is estimated, to be 500 tons."

A. Yes, sir.

Q. And Mr. Garren asked you if you thought that was approximately the amount of poultry litter generated from your operation. Do you know if that number is correct?

A. I'd have to -- I'll be honest. I'd have to look at the records to see how much is produced.

Q. All right. If we continue down a couple more sentences, he says, "There is not a litter storage barn available. If it should become necessary to store litter outside it will be protected from outside water and there will be no runoff from the stockpile."

Now, at the time this plan was written, did you have a stacking shed?

A. No, sir.

Q. Do you have a stacking shed today?

A. Partially. It's not as big enough. I've got one on the drawing board right now NRCS will build in the spring.

Q. Would that be just for decaked litter?

A. It will just be for storage of decaked or sometimes necessary for cleanout.

Q. All right.

A. Or a partial clean.

Q. I'm sorry.

A. I'm sorry.

Q. Did you understand from your Animal Waste Management Plan then that if you were going to store litter outside, you had to cover it and take measures to make sure there would be no runoff?

A. Yes, sir.

Q. Did you comply with that requirement?

A. Yes, sir.

Q. All right. He concludes on this page, he says that you've got about 400 acres are suitable for receiving litter.

Was that about right at that time in 2005?

A. Yes, sir.

Q. Let's flip to the next page, sir.

(Discussion held off the record)

Q. *(BY MR. MCDANIEL)* All right. Mr. Saunders, the next page under the heading "Application Rates," are you there with me?

A. Yes, sir.

Q. All right. Does the report describe six different fields?

A. Yes, sir.

Q. Now, this field 8 that is identified in a different section, is that field 8 on your poultry farm?

A. Yes, sir.

Q. Are the other five fields on your cattle farm?

A. Yes, sir.

Q. Do you see where it reports results from your litter test from March of -- or excuse me -- May of '05?

A. Yes, sir.

Q. Do you recall having your litter tested in 2005?

A. Yes, sir.

Q. Now, the next is the soil test results from May of '05. Do you recall having your soil tested in 2005?

A. Yes, sir.

Q. All right. It shows the phosphorus index for your six pastures ranged from a low of 7 up to a high of 65 STP. Have I got that right?

A. Yes, sir.

Q. And it states -- under field 8, it says that there will be -- there will not be -- excuse me -- "litter will not be applied here."

What does that mean?

A. That's the chicken farm. I don't apply any litter on the chicken farm.

Q. Ever?

A. Ever.

Q. All right. Flip back -- and, again, I'm referring to the numbers at the bottom of the page -- to the page that ends in 14. Tell me what that page is.

A. That's a soil test report.

Q. All right. Is that for field 3 on your cattle farm?

A. Yes, sir.

Q. What was the soil test phosphorus reported?

A. Says "adequate." The number?

Q. Yes, sir, the number.

A. I'm sorry. Sixty-five.

Q. Okay. So when you said "adequate," what were

you referring to?

A. "Interpretation and Requirements."

Q. Okay. So the OSU lab states that this particular field did not need phosphorus for the purpose of growing bermuda grass. Is that how you read that?

A. Yes, sir.

Q. Okay. Now, this field No. 3, in your opinion, would this field still benefit from receiving poultry litter?

A. Yes, sir.

Q. Why?

A. Because the nitrogen is deficient. Its nitrogen is low.

Q. All right. Let's go back to that page 4 where the table of your soil test was.

These soil tests, would you consider that the phosphorus index on all your pastures in 2005 was pretty low?

A. Very low.

Q. Now, let's look at this paragraph right below the table with the soil tests.

It says, soils test P Index is below 250 in all fields tested. "Litter can be applied at the full rate (200 lbs. P2 O5 per acre). 200 lbs. P2 O5

divided by 79 lbs. P2 O5/ton of litter = 2.5 ton of litter per acre per year maximum application rate. This 2.5 tons will supply enough nitrogen to produce about 2.2 tons of bermuda grass or about 1.3" -- is it 3 or 8? I honestly can't see that. It might be 8 -- "tons of fescue (Fertilizer is 70 percent effective the first year)."

Did I read that correctly?

A. Yes, sir.

Q. All right. So based upon the soil tests that were obtained in May of '05, and despite the fact that field 3 had sufficient phosphorus for bermuda grass, Mr. Abernathy stated that you could apply litter at the full rate of 2.5 tons per year on all fields? Is that a correct reading?

A. Yes, sir.

Q. Now, when I read this next section here where it says, "500 ton of litter is available divided by 2.5 tons per acre = 200 acres that can be covered at the full rate," flip one more page and you see the heading that says "Application Summary"?

A. Uh-huh.

Q. Why don't you give me a break. Will you read that?

A. "400 acres can receive litter at the rate of

2.5 tons per acre - 1000 tons that could be used on this property. This far exceeds the litter production on this farm."

Q. What does that mean?

A. That basically means that I can't produce enough litter to overapply on my farm.

Q. All right. Under "Dead Bird Disposal," would you read your Animal Waste Management Plan requirement under "Dead Bird Disposal" aloud, please?

A. "Birds from normal death loss are disposed of in a composter. Catastrophic losses are disposed of in a dug pit as approved by the appropriate poultry inspector. An alternative method is field composting."

Q. All right. Did you compost your normal mortality in 2005?

A. Yes, sir.

Q. Do you still compost your normal mortality?

A. Yes, sir.

Q. Was it your understanding from this, Mr. Saunders, that you could only bury dead chickens in the ground if, one, you had a catastrophic loss; and two, your poultry inspector approved?

A. Yes, sir.

Q. Has that ever happened on your farm?

A. No, sir.

Q. This Animal Waste Management Plan has got a lot of other requirements in it, requirements that His Honor has seen in other witness testimony.

So let me just ask you, sir: In operating both your poultry farm and your cattle operation, do you follow these Animal Waste Management Plan requirements?

A. Yes, sir.

Q. Now, have you attended the training that the state puts on for poultry-growers explaining the Animal Waste Management Plan process and environmental management of poultry farms?

A. Yes, sir.

Q. From that training, what is your opinion of what is the purpose of an Animal Waste Management Plan?

A. That we don't overapply litter and take cake of our natural resources.

Q. From your perspective as a poultry-feeding operator, do you have an opinion whether or not if you comply with the requirements of this Animal Waste Management Plan, you'll be doing what Oklahoma expects you to do to protect against water pollution?

A. Yes, sir.

MR. GARREN: Objection, Your Honor. That calls for a legal conclusion.

MR. MCDANIEL: I asked for his perspective.

THE COURT: Overruled.

Q. *(BY MR. MCDANIEL)* Sir, if you don't have enough poultry litter to cover all of your pastures, how do you manage further productivity of the forage on your cattle operation?

A. If I had to, I would have to buy commercial fertilizer.

Q. Has Peterson Farms ever played any role in how you manage your cattle operations?

A. No, sir.

Q. All right. If we're speaking about your overall agricultural operation being your poultry farm and your cattle operation, do you make use of the poultry litter in your agricultural operation when you take it out of your poultry house?

A. Yes.

Q. Is poultry litter -- excuse me. How do you use it?

A. I either apply it or sell it.

Q. Okay. And it's valuable to your operation, I assume?

A. It's an asset to the farm, yes, sir.

Q. Have you ever land-applied poultry litter simply because you needed to get rid of it?

A. No, no.

Q. In your experience, have you ever observed anyone land-applying poultry litter simply because they needed to get rid of it?

A. No, sir.

Q. Does that make any sense in your mind?

A. It makes no sense at all.

Q. Why?

A. Well, it's got a value. Today it's $15 a ton. So why would you just dump it when you can pick up a phone and sell it for $15 a ton and never touch it? It makes no sense just -- I mean, the same thing as throwing money out the window.

THE COURT: $15 a ton in the barn?

THE WITNESS: In the barn, yes, sir.

Q. *(BY MR. MCDANIEL)* Sir, if you lost your poultry litter, what would be the effect on your overall operation?

A. It would be devastating. I mean, to the point that at 500 tons, the number that you used, if I sell even two-thirds of it at $15 a ton, and then when I clean out and I have to put bedding back in at

approximately $1500 to $2,000 a semiload for four semiloads, I mean, that's just a dead loss. I've got no way to recoup it.

The expenses have got so high that you need to sell or make money on about anything that you've got there. So it would make a difference between the farm cash-flowing and not is where it would make a difference.

Q. The between survival and not survival?

A. Exactly.

Q. When you said $1500 a semiload per bedding, did I hear you correctly?

A. Between 1500 and 2,000, yes, sir.

Q. And you said four semis?

A. Yes, sir.

Q. And that will take care of all five of your houses?

A. Yes, sir.

Q. All right. So $6,000 a year for bedding; is that the extent --

A. Exactly.

Q. Okay. Now, does the State of Oklahoma send an inspector to your farm every year?

A. Yes, sir.

Q. Who is your -- who's currently your

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A. Exactly.

Q. Okay. Now, does the State of Oklahoma send an inspector to your farm every year?

A. Yes, sir.

Q. Who is your -- who's currently your

inspector to determine whether the facility is located in a nutrient-limited watershed area?

A. Yes, there is.

Q. And how did the inspector mark that in 2001?

A. "No."

Q. All right. Can you quickly -- or take all the time you need -- look through these seven and will you confirm for me that they were marked "no" -- that question was marked "no" every year until -- or of the ones we have. The only one that's marked "yes" is the 2008 inspection.

A. That is correct. 2008 is the first one that's marked "yes."

Q. All right. Just to clarify something, was your farm inspected in 2007?

A. I'm assuming that it was. I'd have to go through -- he's been here every year. I'm assuming that there's a copy of 2007 in my files.

Q. All right. Mr. Saunders, to your knowledge, has the poultry inspector from the State of Oklahoma ever found a condition on your farm to be a violation of Oklahoma law?

A. No, sir.

Q. Now, this issue that you discussed with Mr. Garren about your educational hours as a grower,

you resolved that with your inspector; is that correct?

A. Yes, sir.

Q. Are you in compliance with your educational requirements today?

A. Yes, sir.

Q. Now, if you'll assume with me, sir, that this lawsuit was filed in 2005, does that mean you have been inspected by the State of Oklahoma poultry inspector at least three times since this lawsuit was filed?

A. Yes, sir.

Q. At any time, has any ODAFF inspector expressed to you that the way you manage your farm or your litter could be causing pollution of the waters of the state of Oklahoma?

MR. GARREN: Object, Your Honor. No foundation for this witness; and secondly, whether or not that is, in fact, their responsibility.

THE COURT: It's just a factual question as to whether or not the inspector -- any inspector has expressed to him that subject. Overruled.

MR. GARREN: I'd interject then it would be hearsay, Your Honor.

THE COURT: Overruled. Not for the

think feeling like it is an appropriate response -- or question.

THE COURT: Rephrase.

MR. GARREN: And it is leading, in addition.

THE COURT: Rephrase, please.

Q. *(BY MR. MCDANIEL)* Do you believe it's your prerogative, sir, to exercise your own skill and intellect and decision-making in order to manage the birds within your care to achieve the best possible results?

MR. GARREN: Still leading, Your Honor.

THE COURT: It is leading. Rephrase, please.

Q. *(BY MR. MCDANIEL)* Sir, do you have any discretion in how you manage the birds that are under your care?

A. I have complete discretion, yes, sir.

Q. I'm sorry. The microphone --

A. I have complete discretion on that.

Q. And why do you say you've got complete discretion?

A. Because I supply the management to the farm. They supply the chickens, the feed, the medicine, and I supply the building and the management. They can

make suggestions but the management is up to me. I don't have to go with their -- with their suggestions if I feel it's wrong or a detriment to mine.

In the end, I'm the one that pays for the management. If I do something that's not right with those birds, then I get placed down at the bottom because they don't convert or they don't grow so it's my cost. So the management has got to be left with me or I'm -- it's just not going to work. I'm there 24/7.

Q. Are you competing with other poultry-growers?

A. We compete with whoever sells within that week from Monday to Saturday based on cost.

Q. And how do you typically place in that competition, Mr. Saunders?

A. I stay in the top 25 percent.

Q. And your placement in the top 25 percent, to what degree is that attributable to how you choose to manage your poultry-growing operation?

A. In my mind, it's all in it. We're all given the same birds, we're all given the same feed, so it's discretionary. It's how I raise the bird.

Q. Now, you made a decision at some point to not contract with Peterson Farms and move your contract to Tyson; right?

A. Correct.

Q. Once your contract with the integrator has ended, are you free to shop with any other integrator for your services?

A. Yes, sir.

Q. Now, do you recall anytime during the time this lawsuit's pending that some people from -- or representing the State of Oklahoma came to your farm to collect samples?

A. Yes, sir.

Q. Did they collect samples of soil?

A. Yes, sir.

Q. Were the soil samples collected on your cow farm, cattle farm?

A. Yes, sir.

Q. Did they collect samples of poultry litter?

A. Yes, sir.

Q. Did they collect samples of groundwater from wells?

A. Yes, sir.

Q. Now, how many water wells do you have working on your property?

A. One water well.

Q. Where is it?

A. It's on the cattle farm.

MR. GARREN: Objection, Your Honor. This has gone past the question, I believe, at this point. It's a simple narrative.

THE COURT: Mr. McDaniel.

MR. MCDANIEL: I'll continue.

Q. *(BY MR. MCDANIEL)* Mr. Saunders, do you believe that you're a good steward of the land and the water?

A. I do.

MR. GARREN: Objection; relevance.

THE COURT: Overruled.

Q. *(BY MR. MCDANIEL)* Why do you believe that?

A. I follow the state statutes that they've set out for us. I test the land. I test the litter. I apply the litter at the rate they require. I don't apply as much as I could require because I'm selling it right now. I feel like we're taking care of the environment.

You can go to my chicken farm. It's neat and clean. I want to be proud of it. I don't want it to be dirty and pollution. So I feel I'm a good steward. I feel like I'm taking care of the land and improving the land as I live on it.

Q. Thank you.

MR. MCDANIEL: I'll tender the witness,

Your Honor.

THE COURT: Any further questions?

MR. GEORGE: No, Your Honor.

CROSS-EXAMINATION

BY MR. ELROD:

Q. I just want to get a couple numbers in the record that aren't here yet out, Al, having to do with your stocking rate.

Your testimony was that -- we've met before, have we not? I'm John Elrod, represent Simmons.

You testified that in the bad old days your stocking rate was 30 cattle and that's increased to 125. Is that your testimony?

A. Yes, sir.

Q. You're talking about mother cows?

A. Yes, sir.

Q. And your intention is that they calf every year; correct?

A. Yes, sir.

Q. So there's a 95 mother cow difference between the old days and the present day; is that true, sir.

A. That's correct.

Q. And would you tell His Honor, year in and year out approximately how much money a 210-day weaned calf will bring at the sale barn?

MR. GARREN: Objection; relevance.

MR. ELROD: Your Honor, this is an equitable case. It has to do with injunctive relief that's being sought by the state.

MR. GARREN: Actually, it doesn't have to do with other parties, Your Honor. The state's bringing an action --

MR. ELROD: Well, this is the man that's going to be impacted by what the state's asking be done.

THE COURT: I think equity takes into consideration everybody that may be affected. Overruled.

MR. ELROD: Thank you, Your Honor.

Q. *(BY MR. ELROD)* Would you tell His Honor the approximate price that a 210-day-old weaned calf will bring year in and year out?

A. Probably $500.

Q. About $500?

A. Yes, sir.

Q. So if there was a 95-calf difference between the old days and what you can do now, that would be somewhere in the range of $42,500 income that you don't -- would not be receiving; is that fair, sir?

A. Exactly.

Q. Now, I think I heard you say you sell your litter. Did I understand that right?

A. Some of it, yes.

Q. Yeah. And who gets the money from that?

A. I do.

Q. Have you ever used the money you got from the sale of the litter to offset the cost of buying clean bedding for the next flock?

A. Yes. That's -- that's the only bonus that I get is the fertilizer and then being able to sell it.

Q. Now, is that important to you?

A. Yes, sir.

Q. Now, I don't represent Simmons, but if Simmons took your litter away from you, would that affect you?

A. Very much.

Q. How so?

MR. RIGGS: Judge, asked and answered, Your Honor, with Ms. Bronson.

MR. JORGENSEN: I don't think so.

THE COURT: Overruled.

Q. *(BY MR. JORGENSEN)* I'm sorry. Go ahead. The question was, how would it affect you?

A. Well, it would affect my cattle herd. I run approximately 55 to 60 head. I would have to cut them

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XLI - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 12, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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vertically-integrated company in the depo, Your Honor.

THE COURT: Was it asked?

MR. GARREN: I don't have a specific recollection. I thought it was.

THE COURT: Well, that's -- okay. Let's move on.

Q. *(BY MR. GARREN)* Do you see the document in front of you?

A. 6267?

Q. Yes, sir.

A. Yes.

Q. All right. Have you seen this document before?

A. Yes. Only in preparation for my deposition.

Q. All right. Do you know what total vertical integration is?

A. Yes.

Q. All right. You said that the L.L.C. is not totally vertically integrated; correct?

A. Yes.

Q. Can you tell me, in reference to this document, what parts does L.L.C. operate? Does it have a feed mill?

A. Yes.

Q. Does it have a turkey breeder house?

A. Yes, we have some.
Q. In fact, you have six farms?
A. Yes. There are more than six in total.
Q. I'm sorry. And by reference to IRW, the Illinois River Watershed, you and I have spoken about that before; correct?
A. Yes.
Q. All right. So in reference to Illinois River Watershed, you have six farms that are breeder farms?
A. Yes.
Q. All right. Does the L.L.C. have a turkey hatchery?
A. Yes.
Q. Does the L.L.C. have turkey growers?
A. Yes.
Q. Does it have slaughter facilities?
A. No.
Q. Does it have further processing?
A. No.
Q. Does it have a distribution center?
A. No.
Q. And I assume then it has no customer delivery?
A. No.
Q. All right. Within the IRW, is it true that

Cargill, Inc. in the past also had a chicken broiler business?

A. Yes.

Q. And do you remember the time period in which it operated the chicken business?

A. My recollection is -- recollection is it was from the late '70s to the mid '80s.

Q. Does Cargill use what's referred to as a complex reference to its operations?

A. Yes, we use that term.

Q. For purposes of the Illinois River Watershed, what complexes provide poultry-growing live production operation services or management or assistance in any way?

A. The IRW growers produce birds for our Springdale, Arkansas, complex.

Q. Is that the only one?

A. Yes.

Q. Gentry complex is not part of providing services or assistance to the IRW growers?

A. Gentry's a hatchery.

Q. And do they provide bird to the Springdale complex for growing?

A. Yes.

Q. Where's the feed mill?

Q. Is it true also that Cargill, and now the L.L.C., place its company signs at each of its contract grower's farms?

A. Yes.

Q. Do your growers compete for ranking within the complex based on a flock at the time?

A. They compete within a settlement period, yes.

Q. Okay. And that's in part of some consideration of how they're paid; is that correct?

A. Yes.

Q. Do you agree that there is no express language in any of the Cargill or CTP contracts conveying or transferring ownership of the poultry manure excreted by the birds to the growers?

A. While that's not expressly written into the contract, the contract discusses nutrient management and growers have the understanding that they own the litter.

Q. So the answer to my question is, that's correct, it's not expressly written?

A. I think it's not expressly written but implied.

Q. You agree, sir, that once the poultry waste is removed from the grow-out barns, it's no longer

MR. EHRICH: Counsel, can I have the number again? I apologize.

MR. GARREN: CARTP0057.

MR. EHRICH: Thank you.

MR. GARREN: And the following page.

A. Can you restate the question?

Q. *(BY MR. GARREN)* Do you see the first two sentences under paragraph 1 called "cleanout"?

A. Yes.

Q. And is it a fact then that Cargill's recommending cleaning the brood barn to the ground after each flock?

A. Yes.

Q. And isn't that, in fact, what's being done again today?

A. Our growers -- our growers don't all clean out the brood barn every flock.

Q. The recommendation is the same, though, is it not, by CTP?

A. I currently know that our growers don't clean out the brood barn every flock so sometimes we build up litter.

Q. My question is, isn't that still the recommendation, though, by Cargill?

A. I think it is.

they've got the facilities to provide for the care, feeding, and management of the birds you're going to place with them?

A. Yes, we would -- we would do that.

Q. And in that inspection, does your person from Cargill inquire as to where and how the poultry waste generated in that facility will be disposed of?

A. No. Only to the extent that we would ask that they have a Nutrient Management Plan and litter storage plan that addressed those issues.

Q. All right. And does Cargill make an inquiry about the number of acres that are available for the handling and disposition of poultry waste generated by its birds?

A. No. Those are things that are included in a Nutrient Management Plan.

Q. Has Cargill at any time made an inquiry of its growers in the IRW about the amount of acreage they have available for applying the litter generated by Cargill's birds?

A. I don't recall that we have.

Q. Does Cargill make any inquiry of a new grower as to the amount of phosphorus in the soils proposed to be used by that grower in disposing of that poultry waste generated from its birds?

A. No. The growers are independent contractors and the Nutrient Management Plan is site-specific to their operation, part of their business plan.

Q. You would agree with me that Cargill was growing birds in the IRW before 1998, though; correct? That was before the laws in the state of Oklahoma went into effect?

A. I wasn't at Cargill, but I understand that they were.

Q. Okay. Now let's talk about Arkansas, the laws in Arkansas.

With regard to Nutrient Management Plans, can you tell me when it was required in Arkansas by law to have one actually in place or to have asked for one to be created?

A. I believe that date is 2007.

Q. Okay. Now, prior to 2007 on the Arkansas side -- let's break it down this way.

Do you know on a percentage basis how many growers Cargill has on the Arkansas side of the IRW as opposed to the Oklahoma side?

A. Roughly I know the number.

Q. On a percentage basis, do you know what that percentage is?

A. Not without a calculator.

A. No. The growers are independent contractors and the Nutrient Management Plan is site-specific to their operation, part of their business plan.

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A. I believe that date is 2007.

Q. Okay. Now, prior to 2007 on the Arkansas side -- let's break it down this way.

Do you know on a percentage basis how many growers Cargill has on the Arkansas side of the IRW as opposed to the Oklahoma side?

A. Roughly I know the number.

Q. On a percentage basis, do you know what that percentage is?

A. Not without a calculator.

Q. Is about 75 percent a fairly accurate number?

A. No. There are only seven or eight on the Oklahoma side and the remainder of those 33 are on the Arkansas side. So that's the percentage.

Q. And so prior to those laws going into effect, did Cargill ask its growers in Arkansas how much acreage they had available to dispose of the waste generated -- or to be generated by the birds Cargill was going to place with them?

A. No. The growers are independent contractors.

Q. Does Cargill agree that northwest Arkansas is a geographic area of concentrated poultry production?

A. Yes.

Q. Does Cargill or CTP, L.L.C. know if poultry waste generated by its birds in the IRW that has been land-applied is contributing to the water quality problems in the IRW?

A. I don't know of any case that that's happened.

Q. Generally speaking, do you know whether it's occurring?

A. No.

Q. What have you done to find out if it is occurring or to -- well, just let me ask you that.

What has Cargill done to determine if it is

occurring?

A. We haven't undertaken scientific research studies on that matter. Those are handled by state and federal agencies. They're experts, we rely on their judgment.

Q. So I take that to mean that Cargill has not done anything independently to determine whether or not the waste generated by its birds is contributing to the water quality problems in the IRW; correct?

A. Yes.

Q. And based on that, you have no basis -- meaning Cargill or CTP -- to dispute that poultry litter generated by its birds that has been land-applied in the IRW is running off; correct?

A. Can you restate the question?

Q. Yes. You -- Cargill or CTP -- then has no basis to dispute that poultry litter generated by its birds has been applied in the IRW and is running off?

A. We would dispute that.

Q. What basis do you have to dispute it?

A. We believe that the state laws in both states reflect science and research and that that science and state law should protect the waters of both states.

Q. So you're agreeing then the science that the

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Q. What basis do you have to dispute it?

A. We believe that the state laws in both states reflect science and research and that that science and state law should protect the waters of both states.

Q. So you're agreeing then the science that the

state has generated is accurate and complete on that subject?

A. I'm not an expert on that.

Q. Well, does Cargill have an opinion whether or not the laws that the State of Oklahoma has put in place are doing the job that you say they are?

A. Our opinion is that the laws should match the science, and we don't know of any case where there's been water contamination.

Q. Okay. I didn't ask whether it should. I'm asking whether or not Cargill has done anything to determine if those laws are, in fact, protecting the water quality?

A. Not to my knowledge.

Q. Likewise, you have no basis to dispute that land-applied poultry litter from your birds is getting into the waters of the state then, do you?

A. I don't know of any case that's happened.

Q. Likewise then, you have no basis to dispute that poultry litter generated by your birds is getting into the waters of the state; correct?

A. I don't know of any case that that's happened.

Q. So your answer is, you agree with that statement?

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
)
8 vs.) CASE NO. 05-CV-329-GKF-PJC
)
9)
TYSON FOODS, INC., et al.,)
10)
)
11 Defendants.)

12

13

14

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 NOVEMBER 12, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XLII, P.M. SESSION

17

18

APPEARANCES:

19

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litter is transferred to a third party.
Q. Whose litter is it?
A. It's mine.
Q. In your 30 years in the poultry industry in various locations in the country, have you ever encountered a situation where the growers don't have -- don't believe the litter is theirs?
MR. GARREN: Objection, foundation, calls for hearsay then.
THE COURT: Overruled.
THE WITNESS: No.
Q. (By Mr. Ehrich) As vice president of agricultural operations for Cargill, do you sign the contracts with Cargill's contract producers?
A. Yes.
Q. In that capacity, you're familiar with those contract terms, aren't you?
A. Yes.
Q. Have you ever had a situation where someone who wants to grow turkeys for Cargill has said, I'll take this deal, but I don't want the litter? Ever had that situation?
A. Not, not to my knowledge.
Q. Ever had the situation where someone wants to grow turkeys for Cargill has said, it's a great deal, but, you

MR. EHRICH: I'll withdraw it.
THE COURT: All right.
Q. (By Mr. Ehrich) Does Cargill give instructions that can't be varied to its contract growers through the service men?
A. No. Our service people are only on the farm a small amount of time each week, so the basic management of the farm, day-to-day operation, the decision-making lies with the growers themselves.
Q. Are you aware, sir, of any instance during your years with Cargill where a contract grower has been terminated because he or she failed to comply with suggestions, recommendations or instructions from a field man?
A. No.
Q. Indeed, if you look at your contract, A4 -- 6269-A4, is there a paragraph 19 dealing with events of default?
A. Yes.
Q. As you look at that paragraph and the various subparagraphs, do they include -- or is it included that it is a ground for termination, it's an event of default if a grower fails to comply with instructions of a field man?
A. No, that's not one of the listed items.
Q. Thank you. You can put those away.

THE COURT: Overruled. I think that's contained in that.

THE WITNESS: Can you restate the question. Was it for the IRW?

Q. (By Mr. Ehrich) Sure. Maybe since we're all working -- maybe I should withdraw and rephrase that question.

Since the time that environmental farm audits began to be performed in 2002, have you ever become aware of a contract grower who has failed to apply for or receive a Nutrient Management Plan or an Animal Waste Management Plan?

A. No.

Q. In line with your earlier testimony, would you expect to be told, become aware of any grower who had not received or applied for a Nutrient Management Plan or an Animal Waste Management Plan during that period from 2002 to today?

A. Yes.

Q. Several times -- let me start again.

Is it significant to Cargill that growers obtain a Nutrient Management Plan or an Animal Waste Management Plan?

A. Yes.

Q. Why?

A. Our growers are good environmental stewards, and in a lot of cases, that's complying with the law. To go beyond that, growers have Nutrient Management Plans that are filled out by trained professionals in that field and they're site specific, and we feel that the proper nutrient management and litter storage is a part of running a good, sound operation.

Q. So is it significant to Cargill that the State of Oklahoma issues Animal Waste Management Plans to Cargill contract growers who are operating on the Oklahoma side of the Illinois River?

A. Yes.

Q. Why?

A. Same reasons I think I just gave you, that we know that those are site-specific plans carried out by trained professionals, and it's a part of a good, sound environmental practice for our business.

Q. So what significance, if any, is there when a service technician who's carrying out a farm audit checks the box that there's an Animal Waste Management Plan, this contract producer has a Animal Waste or Nutrient Management Plan, what significance is there to Cargill?

A. When our grower receives notice that a grower has a Nutrient Management Plan, it gives us the assurance that nutrients are being handled in a proper way on that

farm. The plan is written by a trained professional. The plan should be based on science from the area that it's written in. And it's one of the things that we feel like helps us to create a sustainable business.

Q. When Mr. Garren was questioning you about one of the advertisements, Oklahoma Exhibit 335, there was a discussion about whether there existed now a science-based nutrient management system. Do you remember those questions?

A. Yes.

Q. Is it your understanding that the nutrient management regulations in Oklahoma and Arkansas are the same?

A. No, I believe those are different.

THE COURT: I think we've been over that.

MR. EHRICH: I understand. If you'll allow me one more question.

THE COURT: Go ahead.

Q. (By Mr. Ehrich) In the context of that advertisement, did the fact that these regulatory systems are different in Oklahoma and Arkansas have anything to do with, in your judgment, how that sentence Mr. Garren's inquired about was framed?

MR. GARREN: Leading, Your Honor.

THE COURT: Overruled.

Q. Was it your expectation that in complying with those rules, laws regarding nutrient management, the growers would consult with the appropriate government agencies, inspectors, officials?

MR. GARREN: Leading.

THE COURT: Sustained.

Q. (By Mr. Ehrich) Did you have any expectation about what your growers would do with this guide?

A. We were hopeful that it would be helpful to them in managing their operations.

Q. Did you expect and intend that the growers would use this guide as their only source of information about nutrient management?

MR. GARREN: Asked and answered, Your Honor.

THE COURT: Sustained.

MR. EHRICH: If you'll allow me just a minute, Your Honor.

THE COURT: Yes, sir.

Q. (By Mr. Ehrich) In your experience with Cargill and its contract growers, as you sit here today, what's the best source of information for a grower to manage nutrients on his or her farm?

MR. GARREN: Objection, Your Honor, as to the word "best." I don't know we have a foundation,this man -- clearly says he doesn't know everything, because

he couldn't remember things himself as to the information Cargill had.

THE COURT: In his experience with Cargill is the context. Overruled.

THE WITNESS: The best information for a grower with regard to their operation would come from their Nutrient Management Plan.

MR. EHRICH: That's all I have, Your Honor.

THE COURT: Anything further?

MR. VOLPE: We have nothing, Your Honor.

MR. BASSETT: No.

MR. SANDERS: No.

THE COURT: Mr. Garren.

REDIRECT EXAMINATION

BY MR. GARREN:

Q. Do you still have the guide in front of you there, Mr. Maupin?

A. Yes.

Q. Turn to page 7 of the guide under your grower environmental policy. Are you there?

A. Yes.

Q. What is the date by which your growers were to have a Nutrient Management Plan in place?

A. The date to have or have applied for was January 1, 2004.

Q. You agree with me, and you said earlier, that Cargill professes to be a good steward and, in fact, proactive in environmental matters, correct?
A. Yes.
Q. You realize, do you not, sir, that in 1998, Oklahoma enacted laws requiring Nutrient Management Plans in the IRW, correct?
A. Yes.
Q. And you're, in fact, aware in Virginia, where you have your own farm, in 1999 and even before Nutrient Management Plans were required there, too, correct?
A. Yes.
Q. And why is it, then, that Cargill would wait six more years later to have their Arkansas growers employ the use of Nutrient Management Plans?
A. I can only answer from 2001 when I came over from Rocco, when I arrived there, there were a large number of Nutrient Management Plans in Arkansas and Oklahoma. Maybe half the growers, in fact, had those plans. So it was an evolving voluntary process during that time. When I came over, we decided to codify that in the contract.
Q. Did you -- did you undertake a survey to determine how many had Nutrient Management Plans in 2001, sir?
A. I don't remember a survey in 2001.
Q. You said earlier that Nutrient Management Plans are

Q. As I understand it, Peterson Farms has sold its broiler production business to Simmons; is that right?
A. Yes, that's correct.
Q. What -- can you tell us generally what was sold in that transaction?
A. That would be all the assets that we used to produce broilers for processing: The feed mill, the hatcheries, the processing plant, the truck shop, rolling stock and the corporate headquarters.
Q. What happened to the contract growers for Peterson who were raising broilers when that happened?
A. They signed contracts with Simmons Foods.
Q. Did all of them do that?
A. Several didn't. There was a few that went ahead and started growing for other companies.
Q. How was it arranged that so many went to Simmons rather than just be dispersed more generally?
A. You might restate that. I don't quite understand what you're saying.
Q. I was just wondering how so many of them went to Simmons. Was it some sort of a collective effort to transfer all of those contracts to Simmons?
A. I don't know specifically, but I'm sure it would have been. It seemed like it was a pretty smooth transfer over.

A. The litter belongs to our growers, and they know how much litter they produce just based on either an estimate on how many trucks they actually pull out of the house. The best way to actually know is when you load it onto a truck and you take it to scales. So if the grower sends it out to be land applied or utilized at a mushroom plant or whatever where they've actually got scales, then we have a really good idea. But other than that, it's just speculation.

Q. The company never inquired about any of that?

A. No, we did not.

Q. Was it of significance to Peterson that it was operating in a watershed which had been designated a scenic river?

A. Yes.

Q. Did the fact that the Illinois River had been designated a scenic river make any difference in the way Peterson operated in that watershed?

A. We still require our growers to have a Nutrient Management Plan and to use those plans properly in utilizing their nutrients. So I would say that it didn't make a difference being a scenic river, because we still expected them to follow the law and their Nutrient Management Plans.

Q. Was distance from a feed mill a factor for Peterson

would basically be in the Eucha-Spavinaw Watershed from the Decatur area, that small of an area really puts it close --

Q. What I -- are you trying to correct the testimony of Mr. Henderson?

A. No, I was just making a comment.

Q. Did Peterson ever track what was done with the waste being generated by its chickens?

A. No, it didn't.

Q. Did Peterson know what most of its growers did with their waste or their litter?

A. No. It was the growers' litter or nutrients to use, so we just expected them to follow their Waste Management Plans.

Q. When did it first become the growers' litter, as far as Peterson was concerned?

A. It always has been.

Q. When was it first put in the contract?

A. Probably back in '97, '98. I'm not sure, but it was in the '90s.

Q. Why did it become necessary to put it in the contract if it had always been their litter?

A. I believe that the reason it was put in the contract so that it wouldn't be a question on whose -- had the rights or, you know, who had the assets of the litter.

Your Honor.

THE COURT: Sustained.

Q. (By Mr. Riggs) Did Peterson ever try to find out if most of the waste that came from its birds stayed in the IRW?

A. We -- you know, there again, I've said before the litter belongs to the growers, and they're under contract and state law to have Nutrient Management Plans. So depending on what their plan allows them to do with it or what they decide to do with it, we don't know.

Q. My question was about what Peterson's interest was in knowing that. Did they ever try to find out?

A. Like I said, again, we don't have that authority to go in and --

Q. I'm not asking about that, sir. Just listen to my question, please, if you would.

Did Peterson ever try to find out?

A. No, we didn't.

Q. Did Peterson ever have any lab tests done of the waste produced by its chickens?

A. We've had soil samples, if that would -- you talking about manure samples?

Q. I'm talking about just manure samples.

A. I don't believe so. Well, I'm sorry, we've had litter samples sent to the University of Arkansas to be

analyzed from our own houses in the -- for our own litter management plans -- or Nutrient Management Plans.
Q. That was litter including the bedding material and feed waste that might have gotten into the bedding material and feathers or whatever else wound up on the floor of the chicken house, right?
A. Yes, that's correct.
Q. Do you know anything about the results of those tests?
A. I haven't seen them myself, no.
Q. Did you learn from those tests anything about the constituents of poultry litter?
A. I haven't from those exact tests or specific tests, no.
Q. Does Peterson know generally what the constituents are that are found in poultry litter?
A. Yes, we do.
Q. What are they?
A. Roughly 30 percent moisture, if you break it into per ton of litter, approximately 60 to 70 pounds of nitrogen, 40, 45, 50, 55 pounds of phosphorus, roughly 45 pounds of pot ash per ton.
Q. Do you remember in your deposition what your answer was to that question?
A. Not exactly. Pretty close, but I don't remember.

At the last year that we were growing broilers at Peterson, our producing broilers, we were using phytase, so some of the rations didn't get any more defluorinated phosphate added in. But if they needed some, we did add it, to answer your question.
Q. Did Peterson ever do anything specifically to attempt to limit the amount of additional phosphorus or phosphates it was putting in its feed?
A. There again, there at the tail end of probably the last year to 18 months, we were using phytase, which did lower the amount of defluorinated phosphate.
Q. What was the reason that was done?
A. Well, there's a couple of reasons. The first reason is that if you can put an enzyme in your feed that helps utilize more of the naturally occurring nutrients, whether it be energy, phytase, could be other things, there's several enzymes out there now, the prices of different ingredients has gone up so much that those enzymes became more attractive or more worth a risk of using. So part of it is economical and part of it is environmental. It's good environmentally to use products that help us to be better stewards of the environment.
Q. How does it help the environment for Peterson's feed to have less phosphorus in it?
A. Well, it may or may not help at all. If you

properly manage your litter, whether it be land applying, composting, those excess nutrients shouldn't be going into the watershed.

Q. So are you sure that your growers were all doing what you just said, managing their litter properly so that none of it got in the water?

A. Well, we do require them to have a Nutrient Management Plan written by their appropriate state, and it is a statute of both states to have one. And the fact that we haven't got any reports saying that any of our growers were out of bounds or weren't in accordance with the law, I would say that we don't have any going into the watershed.

Q. Did you really have a good environmental reason to change your feed formula then?

A. There again, I believe that that's part of it. We didn't -- we didn't have any evidence that any constituents of the poultry manure were getting in the watershed, but at the time, the phytase, it made good sense for Peterson Farms economically and maybe what you want to call politically, or PR, it made good sense to use the phytase.

Q. All of the feed that was fed to Peterson's chickens during the time it operated in the Illinois River Watershed came from its own feed mill, right?

Peterson sought back in 1998 from its growers?
A. No, I do not.
Q. Do you know why it was sought? Again, do you know, as company representative, why the company was wanting that kind of information back then?
A. Well, there again, it just shows in the bottom last sentence of the first paragraph, I believe it's pretty self-explanatory why they needed this form.
Q. So that they could determine how many tons of litter could not be applied to pasture land the coming spring?
A. That's correct.
Q. Did the company do anything to deal with this issue that was mentioned in these letters regarding the question of excess litter?
A. Well, this was -- of course, obviously, Oklahoma passed state law requiring Nutrient Management Plans. We had most -- a lot of our growers were already doing voluntary Nutrient Management Plans. We were fixing to require all of our growers in '99 to have Nutrient Management Plans.

So I feel like, speaking for the company, this was to get an idea of where we might be if those Nutrient Management Plans were written and put into effect on those site-specific farms. If they couldn't land apply, what would we need to do to help them if they needed to

move it off the watershed.
Q. Was there any follow-up to this, as far as you know, this letter that went out?
A. Not that I'm aware of personally, no.
Q. Let me ask you to find Exhibit 4009.
THE COURT: Mr. Riggs, if it would be an appropriate time, let's take our midafternoon recess.
MR. RIGGS: It would.
(Whereupon a recess was had.)
THE COURT: Mr. Riggs.
MR. RIGGS: Thank you, Judge.
Q. (By Mr. Riggs) When we took the break, Mr. Houtchens, I asked you to locate, if you could, Exhibit 4009. Do you have that, or would you turn to it?
MR. MCDANIEL: Mr. Riggs, could you pull the mic down to you? I can't hear you.
MR. RIGGS: Thanks.
THE WITNESS: I've got 4009.
Q. (By Mr. Riggs) Do you know what -- first of all, who is Thomas Bain?
A. He was the controller for a period of time of Peterson Farms.
Q. Who is Kerry Kinyon?
A. Kerry Kinyon was our -- he was either vice president

Q. (By Mr. Riggs) If there should be an excess of phosphorus built up in soil over time, does Peterson consider that to be a concern?
A. I would believe that we feel like it could be a potential risk or concern.
Q. To what?
A. That there could be a possible event that could cause some runoff.
Q. So the concern would be over the possible adverse consequences for water quality?
A. Well, if we believe that the phosphorus built up in the soil is there, and it is a concern, the runoff would affect water quality if that did get into the waters of the state.
Q. Does Peterson consider it to be a proper use of litter to apply it to soils which do not need more phosphorus for the plants being grown in those soils?
A. I don't know if we have an idea on that or not. We -- our growers have their own litter management plans, and those are site specific -- for site-specific soil samples, and that is definitely including their slope, their type of cover, grass, riparian buffer zones. So, no, I don't think we have an opinion on that.
Q. Do you know what the term "nutrient-limited watershed" means?

A. Yes, I do.
Q. What?
A. As I understand it, that term was coined to a watershed in general, generally speaking, that has a particular nutrient in the watershed that would limit -- you know, nutrient-limited watershed, so it's speculating as to what you can do with it then.
Q. Do you know what the term "nutrient-surplus watershed" means?
A. I've heard of it, too. It's been a long time ago. It would probably be just the opposite of nutrient limited; nutrient surplus, nutrient in the watershed.
Q. If Peterson were operating in a watershed deemed to be nutrient limited or nutrient surplus, would that make any difference in the way it operates?
A. I would say no, because, there again, we rely on our growers to have the state-specific required Nutrient Management Plans and to follow them as they are written to their site-specific location.
Q. Would you turn to Oklahoma Exhibit 0335 there. Do you recognize that exhibit?
A. I believe I've seen it at my deposition.
Q. What is it?
A. It looks to be a PR advertisement.
Q. Is Peterson's logo on that ad?

the authority when he is the corporation.

THE COURT: As I think I said before from, as I recall vaguely, a written order here, I think I -- or ruling on the motion in limine, I outlined the Court's view of this. I think the answer is sufficient. It's a PR piece. Sustained.

Q. (By Mr. Riggs) You've mentioned several times that you rely on the Animal Waste Management Plans of your growers. Does Peterson do anything to verify that its growers have Animal Waste Management Plans?

A. We require in our contracts that they have one. We also state in the contract that they provide us with one if we request it. If a state authority, NRCS, Department of Ag, notifies us that there are some growers that do not have one, then we would know if there was that did not have them. Other than that, we are relying on good faith that our growers have made the contacts to get those plans written.

Q. Peterson also requires in its contracts that all of its growers follow all environmental laws and regulations, correct?

A. Yes, that is correct.

Q. Does Peterson do anything to verify that its growers, in fact, follow all environmental laws and regulations?

A. Well, we're limited in our own authority as far as what we can do on a grower's farm. I mean, it's private property. We don't have the authority to enter, beyond what our contract allows us to, the actual premises on the farm. So there again, we still rely on our growers doing the right thing and on the state agencies reporting. And we hadn't been getting any of those, so, you know, based on that knowledge, we feel like everybody is doing that like they should.

Q. Mr. Houtchens, who writes those contracts?

A. I'm not real sure on that.

Q. So you're saying because Peterson self-limits its authority to go on the property, that that's a reason you can't observe whether or not environmental laws and regulations are being followed?

MR. MCDANIEL: I object to the form of the term "self-limit." No foundation.

THE COURT: Rephrase.

Q. (By Mr. Riggs) Does the grower determine what the terms of the contract are with reference to what Peterson can do upon entering its property?

A. No, I believe not.

Q. Peterson determines that, doesn't it?

A. I believe so.

Q. So couldn't Peterson, in fact, do more than just go

the IRW?

MR. MCDANIEL: Same objection, Your Honor.

THE COURT: Could you ask the question again?

MR. RIGGS: Yes.

Q. (By Mr. Riggs) Yes. Has Peterson ever done anything to find out if any of the constituents from the waste generated by Peterson's chickens have contaminated the waters of the IRW?

THE COURT: The objection is overruled.

THE WITNESS: No, we haven't, because we believe that the proper utilization and management of a grower's litter through his state-approved litter management, Nutrient Management Plans would negate or -- would keep that from happening, that pollution.

Q. (By Mr. Riggs) You're so confident that that's a perfect system, you don't ever do anything to find out whether it's working or not, right?

MR. MCDANIEL: Objection, argumentative.

THE COURT: Overruled. This is quite central.

THE WITNESS: In the course of our normal business at Peterson Farms, our expertise is not in soil science or --

Q. (By Mr. Riggs) So, sir, is your answer, no, we've never done anything to find that out?

A. My answer is that we still rely on our state --

CROSS-EXAMINATION

BY MR. MCDANIEL:

Q. Mr. Houtchens, can you tell the Court when Peterson Farms was founded.

A. Founded in 1939.

Q. By whom?

A. Lloyd Peterson.

Q. And how long did Mr. Peterson run the company?

A. I would say from 1939 to 2008.

Q. Did he pass away in 2008?

A. Yes October, 2008.

Q. Do you know about how old he was?

A. I believe 94. 93, 94.

Q. Has the company always had its headquarters in Decatur?

A. Yes, they have.

Q. Is Decatur, Arkansas in the Illinois River Watershed?

A. No, it's not.

Q. Now, what -- generally, what facilities did Peterson Farms operate in Decatur?

A. We operated hatcheries, feed mill, processing plant, research and development farm, a general store at one time, a small restaurant, corporate office, truck shop, I believe.

Q. During the entire time you worked for Peterson Farms, were all those services provided from Decatur?
A. Yes, they were
Q. Mr. Houtchens, has Peterson Farms ever managed any poultry litter in the Illinois River Watershed?
A. No, we have not.
Q. Has it ever applied -- land applied poultry litter in the Illinois River Watershed?
A. No, we have not.
Q. Did Peterson contract growers have Farm Management or Nutrient Management Plans even before they were required by state law?
A. Yes, they did.
Q. Do you know who was writing those plans or issuing those plans?
A. When they first started, it was a voluntary procedure, it was through the county extension offices.
Q. And were the district conservation offices involved at any time thereafter?
A. I believe they were. I'm not real sure exactly how it flowed, but I knew it wasn't the way it is right now with the NRCS.
Q. You know what the NRCS is, then?
A. Correct.
Q. Were any of the Nutrient Management Plans for

Arkansas growers written by the NRCS before the new Arkansas laws came into effect?
A. Yes, they were.
Q. Did Peterson Farms have any reason to believe that growers' compliance with federal and state programs would result in pollution?
A. Would you say that again. I'm sorry.
Q. Did Peterson have any reason to believe that growers' compliance with federal and state programs for litter management would result in pollution?
MR. RIGGS: Objection, leading.
THE COURT: Overruled.
THE WITNESS: No, we did not.
Q. (By Mr. McDaniel) Did Peterson Farms possess any information to suggest that using poultry litter to fertilize pastures would necessarily cause water pollution?
A. No, we did not.
Q. To your knowledge, other than the claims in this lawsuit, has any state regulatory authority in Oklahoma or Arkansas notified Peterson that any one of its former contract growers has polluted or threatened to pollute the waters of the Illinois River Watershed?
A. No, we did not.
Q. Have either of those state agencies informed

Peterson that any of its contract growers had violated their Animal Waste Management Plan or Nutrient Management Plan?

A. Not that I'm aware of.

Q. Why did Peterson Farms provide all the food for its chickens?

A. You mean the feed?

Q. Yes. Food, feed, yes.

A. Reason we provide all of the feed is because -- there's several reasons, but we -- we're also a branded company, and our brand is very important, so the quality is -- could be the difference of surviving or not surviving, so we have to send the feed out to -- you know, to ensure that we have a quality product.

Q. Were service techs authorized to inspect a grower's farm operations beyond the poultry houses?

A. No, they're not.

Q. To your knowledge, did Peterson Farms' service techs ever attempt to inspect poultry growers' properties outside of the poultry growing area?

A. No, they did not.

Q. Were the service techs authorized to instruct growers when or where to land apply poultry waste?

A. No, they were not.

Q. Now, would you tell the Court, first off, did

Q. When were you certified?
A. About five years ago.
Q. Would it be approximately the 2002 or 2003 period?
A. No, about 2003 or '4.
Q. All right. Are Nutrient Management Plans also referred to as Animal Waste Management Plans?
A. In some -- with some people, yes.
Q. And you're currently employed by whom at this time?
A. Cargill Turkey Production.
Q. So if I use the CTP or LLC, you'll know that's what I'm talking about?
A. Yes, sir.
Q. Since 2004, has CTP, LLC operated the poultry-growing business for Cargill, Inc. in the IRW?
A. Yes, sir.
Q. Is it true you have given your deposition both as an individual and as a 30(b) designated witness for Cargill and Cargill Turkey Production?
A. Yes, sir.
Q. Let's go through your employment history fairly quickly here, if we can.
MR. GARREN: And if I may lead a little, Your Honor, we can get through it quicker.
Q. (By Mr. Garren) You've been a breeder department -- you've been in the breeder department as a farm manager,

Q. Was, in your instruction and training, the risk of environmental degradation from land-applied poultry waste included in any of the training or education you've received?
A. Litter management and nutrient management were some of the topics, yes, sir.
Q. And within that topic, were you instructed or advised about the risk of environmental degradation from land-applied poultry waste?
A. Yes, sir.
Q. Was it your duty to gather information about environmental effects of poultry growing operations from these various associations and universities as environmental coordinator?
A. No, sir.
Q. So when you went to these seminars and other instructional courses, did you share that information with anybody at Cargill when you completed that course?
A. I may have talked to Tim Maupin.
Q. Did you share any of the information you may have learned at these seminars with your flock supervisors when you were in charge of them?
A. No, sir, I did not.
Q. Why wouldn't you?
A. The -- for the -- the framework for this area was

already completed by the legislation that was passed by the State of Oklahoma. They had already set the rules of Nutrient Management Plans and Best Management Practices, and we had already met with our growers and asked them to voluntarily implement those same practices in Arkansas as well for them.

So these seminars were really just information maybe as future resources of something. But for the IRW, that framework was already -- pretty much already in place.

Q. Just so I'm clear on the record. What is your current position or title with CTP?

A. Ag coordinator.

Q. Do you still hold responsibility with regard to environmental matters?

A. I do have some responsibilities, yes, sir.

Q. And do you share them with anybody?

A. If there is an issue that I am involved in or a project, yes, sir, I would work with other people.

Q. Do other people have the same or similar responsibilities for the environment as you do on an ongoing basis?

A. In Springdale, no, sir. Excuse me. The ag manager is generally -- the ag manager for the Springdale complex is generally the one that is responsible for

environmental regulations, but I am there to help him.
Q. Based upon your environmental training and education, do you agree that in the IRW, one should not apply more of a nutrient on the land that is agronomically needed?
MR. TUCKER: Your Honor, I object to attempting to qualify this man as a witness based upon seminars he's attended.
THE COURT: Sustained.
Q. (By Mr. Garren) Is it your responsibility, sir, to make a determination whether or not land-applied poultry waste should occur by your growers?
A. No, sir.
Q. And that's because you don't think you have a responsibility for it, is that it?
A. The growers are responsible for following their Nutrient Management Plans, yes, sir.
Q. Prior to having Nutrient Management Plans, did Cargill have any responsibility of seeing that they were not applying more poultry waste than was agronomically needed?
A. No, sir, we did not.
Q. Do you agree, sir, that if one is applying more nutrients to the land than is agronomically used by that crop, it increases the risk of runoff?

A. No, sir.
Q. And do you have any studies, any literature to support your position?
A. Sir, I have not been shown where if Nutrient Management Plans were followed, BMPs are followed, where runoff of any nutrient has occurred.
Q. You're assuming that those plans are being followed, correct?
A. Yes, sir.
Q. All right. And have you made any determination yourself, sir, whether or not that's occurring?
A. The growers are responsible for following their plans.
Q. That would include Cargill when it operates its breeder farms, would it not?
A. Yes, sir.
Q. Did you make any determination on the breeder farms or have you made any determination as to the breeder farms whether Nutrient Management Plans are being followed there?
A. The breeder farms do have Nutrient Management Plans, yes, sir. And it's the responsibility of the breeder manager to be following those.
Q. Is it your responsibility to see that they are?
A. No, sir, he's the one that's responsible for that.

live on, that my other set of grandparents worked at for a couple of years.
Q. As long as you can recall living in northwest Arkansas, what do you know to be the common use for poultry litter?
A. Used as fertilizer.
Q. How does that happen? Is it land applied?
A. Yes, sir.
Q. When it's land applied, do you know whether it's tilled into the soil or not, typically?
A. Typically, it is not.
Q. Are you familiar with a book called the Environmental Management Guide used by Cargill?
A. Yes, sir, I am.
Q. Was that given to growers, as far as you know, for their use?
A. Yes, sir, it was.
Q. Is it given to new growers when they go to work for Cargill also?
A. It has been given out once. I do not know if it's been given out lately.
Q. Is that same book given to the flock supervisors?
A. I believe that the flock supervisors have access to that book, yes, sir.
Q. What about the grow-out managers, do they have

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XLIII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 16, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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THE COURT: Yes, sir. We went over both of those when last we met.

MR. GARREN: Right. I'm just going to ask him one question about it.

Q. *(BY MR. GARREN)* Based upon this soil test phosphorus report, what does it recommend for the level of phosphorus to be applied on that field?

A. Zero.

Q. Look at page 123816 of the same exhibit. Are you there?

A. Yes, sir.

Q. Look under the -- at the paragraph that has the heading "Why." In the last sentence, it says, "However, manure is also a potential pollutant to our ground and surface water if improperly managed because of the nitrates, phosphates, bacteria, and organic matter it contains."

Does Cargill and CTP agree with that statement?

MR. TUCKER: Your Honor, I object to asking this witness about what Cargill or CTP does or does not believe. He should ask this witness what he does or does not believe.

MR. GARREN: He's the environmental coordinator for Cargill, Your Honor, and responsible

in part for the breeder farms.

THE COURT: Overruled.

Q. *(BY MR. GARREN)* Do you remember the question, Mr. Alsup?

A. Do I agree with this?

Q. Does Cargill or CTP agree with that statement that I just read you from page 123816?

A. I agree that if litter is not managed, there could be an increase in -- an increased risk in water quality.

Q. Would you agree with me that Cargill or CTP did not test the soils of the breeder farms after the 1998 single soil test that was taken for the plan?

A. Yes, sir.

Q. Did Cargill undertake at any time any investigation whether the continued use of poultry litter on those lands and the elevated STP was causing pollution to the waters of the IRW?

A. No, sir, I didn't.

Q. Did Cargill do that? Do you know of anybody in Cargill, or somebody on behalf of Cargill, that made that determination or investigation?

A. No, sir.

Q. Let's look at -- let's see. Have you been concerned -- you, yourself, have you ever expressed

news, the State of Oklahoma is trying to pass legislation that will affect poultry producers in Oklahoma . . . ."

Does that give you some estimation of the time in which you drafted and sent this letter?

A. Yes, sir.

Q. Was it sometime prior to 1998?

A. Yes, sir.

Q. All right. Do you see the sentence that follows that, "This legislation is aimed at protecting the water from phosphorus contamination"?

A. Yes, sir.

Q. You wrote that at the time; correct?

A. Yes, sir.

Q. You believe that to be true?

A. I believe that's what the legislation in Oklahoma was trying to do, yes, sir.

Q. Read the next sentence into the record, please. Into the record.

A. "Phosphorus can contaminate water when there is run off after the litter is spread on the fields."

Q. And you believed that to be a true statement when you wrote it, was it not?

A. If done improperly, yes, there's an increased risk.

Q. Does it say that in that sentence?
A. No, sir.
Q. You expected your growers to rely on it, didn't you?
A. It was information -- a piece of information that I was trying to give them, yes, sir.
Q. Now, looking at the second page of this document, the last paragraph, you're talking about a meeting at a high school and you wanted all 7,000 growers in the state to attend.
Did that meeting occur?
A. Yes, sir.
Q. And did you present information to them about environmental concerns at that meeting?
A. No, sir, I did not.
Q. Who did?
A. This was a meeting that was set up -- after the legislation with the State of Oklahoma had passed, the State of Arkansas agreed to educate the -- give similar education to the growers in Arkansas. The State of Arkansas approached the companies to get in touch with their growers, set up some of the meeting areas and the times, and to encourage our growers to be there to receive this education.
Basically, we were trying to get the growers

in Arkansas to voluntarily do what the growers in Oklahoma were doing because of the legislation.

Q. Did you change any contracts that made that a requirement?

A. To attend the meeting?

Q. No. To do what the Oklahoma growers were doing? Did you make a change in any contract so that the Arkansas growers would do what, in fact, the Oklahoma growers were doing?

A. No, sir, I didn't.

Q. Okay. So if I'm clear on this, too, you would have growers in Oklahoma competing for payment with growers in Arkansas; correct?

A. Yes, sir. They do settle together.

Q. Okay. And so nonetheless, Arkansas growers were treated differently, weren't they?

MR. TUCKER: I'm sorry, Your Honor. Could he ask that question again?

Q. *(BY MR. GARREN)* Arkansas growers were treated differently than those in Oklahoma based upon those regulations; would you agree?

MR. TUCKER: Object to the form of the question. The regulations may treat the growers differently but not Cargill.

THE COURT: Rephrase, please.

A. I was assisting Devin. Devin was the lead in Kansas and I was assisting Devin from here.

Q. Why did the precision ag model not continue?

A. Well, two reasons. One, Devin left the company and so basically we lost our project manager, just soon after that the litter actually got hard to get.

Q. And Devin was located in Arkansas or where?

A. Sir?

Q. Where was Devin located?

A. Devin was living in Minnesota and was going to be in transition. He was going to move to Kansas.

Q. But instead he took another job?

A. Yes, sir.

Q. And without his leadership then, the project -- and your difficulties in acquiring litter that developed, the project was discontinued?

A. Yes, sir.

Q. I'd like to talk with you for a few minutes about the topic of grower relationships, okay?

A. Yes, sir.

Q. Could you tell me the things, as far as Cargill Turkey Production is concerned, the grower is responsible for?

A. Our contract producers are responsible for

providing the housing, the equipment in the housing, utilities -- gas, electric -- the labor, the management to -- whatever the birds need to be raised, they supply that.

Q. Who's responsible for bird care?

A. The contract producer.

Q. And what are the contract producer's hours?

A. It's a 24-hour-a-day operation. They're not in the house 24 hours a day, but their birds are there all the time.

Q. Who's responsible for housekeeping?

A. The contract producer.

Q. Temperature control?

A. The producer.

Q. Ventilation?

A. The producer.

Q. Mortality management?

A. The producer.

Q. For want of a better word, varmints?

A. Varmint -- they have to keep the varmints out of the houses, yes, sir.

Q. But who's responsible for that?

A. The producer.

Q. Biosecurity?

A. The producer.

Q. What are the -- what does CTP or Cargill supply to this relationship?

A. CTP provides the feed, they provide the poults, they provide a -- for bird health, we have a veterinarian on staff that is able to come with any issue that a grower may have. We have nutritionists on staff that make sure that the feed is given to the birds has the proper nutrient content.

Also, Cargill Turkey Production provides a flock supervisor that would visit the farm and act as a resource for the growers on proper management techniques that they may know or heard about, to answer any questions they may have, but also to act on Cargill's behalf that the birds are -- there's no animal welfare issues or food safety issues with the birds.

Q. Who supplies the capital for the farm, its buildings and equipment, and the labor?

A. The grower.

Q. Who takes the market risk?

A. Cargill Turkey Production.

Q. Who supplies the capital for the birds, the feed, and the medical care?

A. Cargill Turkey Production.

Q. How much does a big tom eat?

is an issue that has to do with -- let's see how I can ask that. Let me start at it this way.

Do growers have to follow recommendations of the flock supervisor?

MR. GARREN: Objection; leading.

THE COURT: Overruled.

A. Could you -- I'm sorry. I was coughing.

Q. *(BY MR. TUCKER)* Do growers have to follow the recommendation of the flock supervisor?

A. No, sir.

Q. Are there times when the grower is required to follow the instructions of the flock supervisor?

A. Yes, sir.

Q. And what times are those?

A. Bird welfare and food safety.

Q. The issue that you read on the form for Eagle View Farms that Mr. Garren asked you to read, what does that -- based on your experience at CTP and Cargill, what is that statement having to do with the litter in the brood house?

A. That would have been a recommendation.

Q. All right. It did not reach the level of bird welfare?

A. No, sir.

Q. If the grower is not obligated to follow the

one or placed those --

Q. *(BY MR. TUCKER)* Well, I should have asked, how many farms is he responsible for?

A. Okay. Roughly around 16.

Q. All right. Would it be fair to say that it's in the flock supervisor's interest to be persuasive to his grower?

A. Yes, sir.

Q. Who has responsibility for day-to-day management decisions?

A. The grower.

Q. Why does the grower have that responsibility since the birds belong to Cargill and bird health and prosperity is an important issue to Cargill?

A. The grower is the one that is actually there managing the farm, they're the caretaker. A Cargill person is not there to do that day to day.

Q. Do growers sometimes train flock supervisors?

A. Yes, sir.

Q. Can you think of one in the Cargill system that does?

MR. GARREN: Objection; relevance.

THE COURT: Relevance?

MR. TUCKER: Your Honor, the relevance is is that the growers are in a great position to make

A. We have had growers that were raising big toms that wanted to switch to regular hens; we have accommodated that. As well as we've had growers want fewer flocks, they wanted to slow down, not necessarily retire, but they may only want two or three flocks a year; we've accommodated that.

Q. I want to talk to you about the topic of litter management. You may -- I'm asking these questions in the context of your relationship we previously discussed having to do with the relationship between Cargill or CTP and the grower.

Who decides when a house should be cleaned out?

A. The grower.

Q. Does Cargill make recommendations as to when a house should be cleaned out?

A. Yes, sir.

Q. Does the grower need to follow that recommendation?

A. They do not follow that all the time, no, sir.

Q. Do some follow it?

A. Yes, sir.

Q. Who makes the decision about whether to apply on a farmer's property or not?

A. The grower.

Q. Who makes the decision about how much to apply?

A. The grower.

Q. If a decision is made to sell or trade, who picks the buyer?

A. The grower.

Q. Are turkeys raised the same way as chickens?

A. No, sir.

Q. Directing your attention to a regular farm, a regular -- what I would call a meat production farm, has a brood house and grow-out houses, would you explain just real briefly, if you would, the process of what happens when the bird arrives? You've already gone up to the five-week period in the brood house. At the end of five and a half weeks or so, what happens to the turkeys?

A. They are moved to the grow-out houses.

Q. And we've had some description about that. How long do they stay in the grow-out houses?

A. A regular hen would be in there -- would be roughly in there about six and a half to seven weeks.

Q. And what is the size of the houses of Cargill grow-out houses?

A. The sizes vary. Are you asking an average

group of growers?

A. Yes, sir.

Q. Does he usually get a bonus?

A. Yes, sir.

Q. Would it be fair to say he obviously has healthy birds?

MR. GARREN: Objection, Your Honor. I think we're off now down a rabbit trail, not relevant.

THE COURT: I see the relevance. Overruled.

A. Yes, sir. He normally has healthy birds.

Q. *(BY MR. TUCKER)* So for his operation, it's different than the Cargill recommendation; is that correct?

A. Yes, sir.

Q. How long has Mr. Schwabe grown for Cargill?

A. I believe since around 1977.

Q. Has Cargill disciplined Mr. Schwabe for not following the cleanout guideline?

A. No, sir.

Q. If a grower sells his litter, does Cargill receive any of the proceeds?

A. No, sir.

Q. In the ordinary course of Cargill or CTP's business, do CTP or Cargill ever track what the

growers do with their litter?

A. No, sir, we don't.

Q. Does Cargill verify whether the grower has a Nutrient Management Plan or an Animal Waste Management Plan as the case may be?

A. Yes, sir. We've asked them.

Q. What is that process?

A. It's -- we ask them when we are doing our farm evaluations that we do, farm audits.

Q. And what is the farm audit again?

A. It is a checklist on -- that the flock supervisors do two times a year, basically checking the area outside of the houses that could affect the birds that are inside.

Q. When did you first start hearing about the concept of best management practices?

A. In the early '90s, '92-3.

Q. What was your job at that time?

A. I was the ag manager.

Q. The ag manager?

A. I'm sorry. Grow-out manager. Grow-out manager.

Q. I'm sure you deserved the promotion. I just hate to promote you right here in the courtroom.

What sources were you getting your

information from?

A. The State of Arkansas, University of Arkansas, the Extension, The Poultry Federation.

Q. At that time, were they talking about a particular nutrient?

A. Yes, they were.

Q. What nutrient were they talking about?

A. Nitrogen.

Q. Why as grow-out manager were you receiving this information?

A. I was on the contact list to get it and also I was the one that was best able to disseminate that information out to our growers.

Q. What kind of best management practices do you recall hearing about at that time?

A. I -- I think there was some that came --

MR. GARREN: Your Honor, I object. This really does call for hearsay, unless he lays the foundation as to what he has in his normal course of business.

THE COURT: Sustained.

Q. *(BY MR. TUCKER)* Did you reach an understanding with the materials that you received as to what the scientists were raising as a concern about nitrogen, if anything?

MR. GARREN: Same objection, Your Honor. It doesn't get there on the foundation part. It doesn't establish that he, in fact, receives that material or what it is.

THE COURT: He's calling for his understanding at the time. Overruled.

A. Could you ask the question again, please?

Q. *(BY MR. TUCKER)* Sure. What was your understanding of what you were reading from these various scientists in that period of time? What were they saying?

A. About the best management practices?

Q. Yes. Not were they, but what was the concern? What was your understanding of their concern?

A. The concern at that time was nitrogen.

Q. Did it relate to the environment?

A. Yes, sir.

Q. What was the relationship?

A. Nitrogen -- nitrates getting into -- to the water.

Q. And what did you do with this information you received?

A. I mailed it out to the growers.

Q. Why did you do that?

of Ag.

Q. In the 1990s, did Cargill have an environmental policy?

A. Yes, sir.

Q. What was that environmental policy?

A. It was to -- to obey all laws, regulations, rules that we do business -- where we do business at.

Q. Did Cargill require the same of its contract growers?

A. Yes, sir.

Q. Was that requirement in the contract?

A. Yes, sir.

Q. When Oklahoma passed its regulations, did anything occur with regard to Arkansas?

A. The State of Arkansas and Oklahoma reached an agreement that Arkansas would provide some of the same education --

MR. GARREN: Your Honor, I'm not sure that a foundation has been raised -- or offered with regard to this witness' knowledge on an agreement between the states. I'd object.

Q. *(BY MR. TUCKER)* What was your understanding of what happened between the State of Oklahoma and State of Arkansas? Let me ask the question that way.

A. That the State of Arkansas agreed to give the

same type of education that the growers in Oklahoma were getting because of the legislation.

Q. Was the training in Arkansas limited to growers in a particular watershed?

MR. GARREN: Leading, no foundation.

THE COURT: Overruled.

A. It was supposed to have gone to all the growers in the state of Arkansas.

Q. *(BY MR. TUCKER)* Did Cargill provide any assistance with regard to that project?

A. We invited our growers to these meetings. I think we even reserved some of the rooms that they were meeting at, asked our growers to attend them, and bought snacks for them.

Q. Did you attend any of those training sessions?

A. Yes, sir.

Q. And who presented that training?

A. It was folks from the University of Arkansas, Arkansas Extension Service, and the Arkansas NRCS office.

Q. Did either Cargill or Arkansas require that growers attend those training sessions?

A. No, sir.

Q. Did Cargill growers attend?

A. Yes, sir, they did.

Q. And what was covered in that training?

A. They reviewed best management practices similar to what was going on in Oklahoma. I think they went over litter spreader calibration, litter storage, Nutrient Management Plans, kind of reviewing what was in them, what was detailed in them.

Q. What did Cargill do with regard to its growers and Nutrient Management Plans following those meetings in Arkansas or as a part of those meetings?

A. We were requesting that our contract producers obtain those -- obtain Nutrient Management Plans.

Q. Were you requiring that they did?

A. No, sir. Not at that time.

Q. Were you recommending that they did?

A. Yes, sir.

Q. Did some Cargill growers in Arkansas obtain Nutrient Management Plans?

A. Yes, they did.

Q. Did Cargill do anything to document in one place what it had done in Arkansas and Oklahoma during this flurry of activity about training in 1998?

A. I filled out an NTF questionnaire that kind of recapped everything that was going on.

THE COURT: Any objection?

MR. GARREN: I'm sorry. No objection, Your Honor.

THE COURT: Oh, I'm sorry. Didn't hear you.

MR. GARREN: I apologize.

THE COURT: Without objection, Cargill 5 is admitted.

Q. *(BY MR. TUCKER)* Mr. Alsup, who is the person at Springdale who is to receive notice from any agency from the State of Oklahoma or Arkansas about violations or noncompliance with the litter laws?

MR. GARREN: Objection, Your Honor, as to scope of time.

Q. *(BY MR. TUCKER)* Today.

THE COURT: Sustained.

MR. TUCKER: I'm sorry.

Q. *(BY MR. TUCKER)* Who is the person today?

A. I am on their mailing list.

Q. And how long have you been on that mailing list?

A. Since 1997 or '98.

Q. Have you been on that list as the person that would receive notice since the Oklahoma law was passed?

A. Yes, sir.

Q. Have you ever received notice from Oklahoma -- or are you also on the list for Arkansas?

A. Yes, sir.

Q. Have you ever received notice from Oklahoma or Arkansas that any Cargill or Cargill Turkey or CTP grower's operation was threatening any release of poultry litter to the waters of the state?

A. No, sir.

Q. Did you ever receive any notice from either state that any Cargill or CTP grower's operation was violating their Nutrient Management Plan?

A. No, sir.

Q. Have you received notices from the State of Oklahoma about such things as grower education requirement reports or the currency of soil test reports?

A. Yes, sir.

Q. How do you receive that information?

A. By a letter.

Q. Who sends the letter to you?

A. The state.

Q. What have you done in response to that?

A. We would -- I would have given that to the ag manager or the flock supervisor. They would go and

address that issue, noting to the grower that we've received this notice and that they need to contact their either inspector or state officials to correct it.

Q. And what has happened as a result of that?

A. Everything has been -- every notice that we've gotten has been -- has been fixed, corrected.

Q. All right. What is your understanding -- or do you have an impression about how attentive the Oklahoma regulators are?

MR. GARREN: Objection, Your Honor; foundation.

THE COURT: Sustained.

Q. *(BY MR. TUCKER)* Do you know of any of those things that they have missed notifying you about?

A. No, sir.

Q. I want to go back to one question on this business about the breeder farms because it still troubles me.

Can you tell me altogether, taking all the registrations from the 2003 application forward, adding all those breeder farms together what the total amount of litter would have been that would have been applied to those farms over all those years?

A. It would have been a fraction of 2,000 -- 500

absorption?

THE WITNESS: Much greater area of clay than silt, so it's only in the very sandy soils. Some of those do predominate in the watershed where we'd expect phosphorus to move with some depth, move from the surface down two, three, four, five, six inches or more.

THE COURT: All right. Now, of course, we're dealing in an area of some karst topography here?

THE WITNESS: Right.

THE COURT: But, of course, you've got different types of soil within this million-acre watershed; correct?

THE WITNESS: Right.

THE COURT: It appears through the testimony that's been given here so far that soil scientists first became aware of the phosphorus potential problem in the late 1980s or thereabouts.

Is that approximately correct?

THE WITNESS: Oh, I think it would have been in the -- maybe later than that.

THE COURT: Early '90s?

THE WITNESS: Yes, early and late '90s.

The initial concern was nitrogen and then

several studies showed that that wasn't a widespread of a problem, and then there was more concern about these high levels of phosphorus. That happened really in the late 1990s.

THE COURT: Oh, the late 1990s?

THE WITNESS: Yes.

THE COURT: Well, in any event, whenever it happened, the earlier thought had been that the phosphorus remains bound in the soil and does not create an excess nutrient problem?

THE WITNESS: And that's true, especially where commercial fertilizers were used, because the amount of phosphorus that was applied to the soil never approached exceeding the soil's capacity to absorb it and so it would be absorbed and held.

As you continue to add more and more phosphorus, you use up those absorption sites and it becomes more and more water-soluble phosphorus and more and more in the runoff.

THE COURT: So there is a limit to absorption?

THE WITNESS: Yes.

THE COURT: And that differs according to soil type, no doubt?

THE WITNESS: Yes.

THE COURT: Okay. Go ahead.

Q. *(BY MR. NANCE)* Okay. We've discussed about what happens to the equilibrium if a plant takes up water-soluble phosphorus.

What happens to a plot if the water-soluble -- if some water-soluble phosphorus leaves in runoff? Does that affect the equilibrium too?

A. Yes. And in the same way because those same reactions are involved again. So as you move water-soluble phosphorus off, some more will become available.

Q. Okay. You began to touch with the court on STP tests. Let's talk about that for a moment.

Is all of the phosphorus that's in the soil available to plants at any given time?

A. No, it is not.

Q. Okay. And how is it we determine how much of that phosphorus that's in the soil is available to plants or approximate that?

A. The early soil chemists attempted to come up with chemical solutions that would -- would withdraw or cause phosphorus to become soluble in the soil in a way that mimicked what plants would do as they were

Q. *(BY MR. NANCE)* Here, let me give you these.

Dr. Johnson, do plants continue to respond if there continues to be an increased amount of phosphorus put in the soil?

A. Only up to a point. Then once that point is reached and the phosphorus is meeting a hundred percent of the plant's need, then additional phosphorus does not do the plant any good.

Q. And what's the STP level that OSU researchers have determined is that level at which the plants respond no further?

A. That's 65 pounds per acre of P.

Q. Okay. Does that correlation apply to forage grasses like fescue and bermuda?

A. Yes.

Q. Let me ask you, Dr. Johnson, if you would look at -- they're in folders -- Exhibit 3179.

A. I have it.

Q. Could you look at that and tell me if you are familiar with that document?

A. Yes. That's the fact sheet 2225 that provides OSU soil test interpretations.

Q. Okay. Is that an extension service publication that's based on the scientific research that you talked about earlier?

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 NOVEMBER 16, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XLIV, P.M. SESSION

17

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APPEARANCES:

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additional application of phosphorus from poultry waste?
A. I would characterize it as waste disposal.
Q. Have you published a report to that effect?
A. Yes.
Q. An official report from your department at the university?
A. Yes.
Q. When was that published?
A. That was published in January of 1998.
Q. Let's talk for a moment, Dr. Johnson, about the use of poultry waste as a nutrient source. What are the most important nutrients for growing forage?
A. The most important nutrients in intensive crop production, that is if you're managing a field to grow and harvest plant material from it, are nitrogen, phosphorus and potassium.
Q. And how do the amounts needed for -- particularly I'm going to talk about Fescue and Bermuda grass for forage crops. How do the amounts of those needed -- those macronutrients needed, how do they compare to each other in a ratio form?
A. The ratio of nitrogen to phosphorus as P2O5 and potassium as K2O is about 6 to 1 to 2. And it will vary some depending upon the nitrogen content of the plant, which can change quite a bit, but the other two do not

THE COURT: You may, sir.

CROSS-EXAMINATION

BY MR. MCDANIEL:

Q. Good afternoon, Dr. Johnson.

A. Hi.

Q. Now, if I understand the opinions that you've offered, you're now telling the Court that you think the soil test phosphorus limit the Court ought to adopt in this case is 120 STP?

A. I don't know that I told the Court to adopt a level, but that sounds like it would be an appropriate level to distinguish between agronomic response and waste disposal, yes.

Q. Let's be clear. Is that your recommendation to the Court today, that it adopt 120 STP as the cutoff limit for land application of poultry litter in the Illinois River Watershed?

A. I would recommend that, yes.

Q. Now, before today, your involvement in this case, you wrote an expert affidavit that was submitted for the preliminary injunction phase of the case, right?

A. Yes.

Q. You gave a deposition related to that affidavit, right?

A. Yes.

Q. You don't know how many fields are represented by the Arkansas data either, correct?
A. Correct.
Q. You don't know what percentage of the Illinois River Watershed in Arkansas is represented by the Arkansas public data, right?
A. That's correct.
Q. You don't know how these fields are being used, other than maybe just the crop being produced?
A. Yes.
Q. Yes, as in I'm correct?
A. Yes, you're correct.
Q. Thank you.
A. Sorry.
Q. Now, the dataset that you used, both Arkansas and Oklahoma public datasets, it does include pastures where commercial fertilizer is the external source of nutrients, right?
A. It may, yes.
Q. And there was no way or method for you to filter out this data to only look at fields where poultry litter had been land applied; am I right?
A. That's correct.
Q. How many different soil types are there in the Illinois River Watershed?

are properly represented by that dataset?
A. That's correct.
Q. Because you don't know the geographic location where these soil samples were taken, you can't verify that each land use in the Illinois River Watershed was sampled in a statistically appropriate way for you to draw a conclusion about the watershed as a whole?
A. That's correct.
Q. Dr. Johnson, you're aware that poultry growers in Oklahoma and Arkansas currently are required to have Nutrient Management Plans or Animal Waste Management Plans?
A. Yes.
Q. And in your analysis, when you looked at this data, you didn't make any attempt to identify which of the samples in the Oklahoma and Arkansas public datasets came from lands which there has been an Animal Waste Management Plan or a Nutrient Management Plan written for a poultry grower?
A. That's correct.
Q. So let me put this another way to make sure you and I are on the same page. You have not attempted to correlate this soils data with any poultry grower?
A. That's correct.
Q. And you're aware that there are laws in place in the

come up on the screen for you, Dr. Johnson. Let's look at this --

MR. MCDANIEL: Sorry, Your Honor, my eyes are tired. I suppose everybody's are.

Q. (By Mr. McDaniel) Dr. Johnson, let's look at this demonstrative I put up here, and let's talk just a little bit about poultry litter. We've got listed under macronutrients, nitrogen, phosphorus and potassium. you've already testified to that. Do you agree to that?

A. Yes.

Q. Under "secondary nutrients," calcium, magnesium and sulfur; do you agree with that list?

A. Yes.

Q. Under "micronutrients," iron, boron, manganese, zinc, copper, molybdenum, chlorine and sodium; do you agree with that list?

A. No.

Q. What don't you agree with?

A. Sodium is not a micronutrient.

Q. Is that it?

A. Yeah, that's it.

Q. Okay. Let's go down the right-hand column. Soil-amending properties. Do you agree that poultry litter increases soil pH?

A. It can.

Q. Do you agree that poultry litter adds organic matter to the soil?
A. It can.
Q. Do you agree that poultry litter improves tilth?
A. Not always.
Q. Give me a quick definition of what tilth is.
A. Tilth is the physical condition of the soil that eases the cultivation of it with a tillage implement.
Q. Easier to pull a plow through it is another way of putting it?
A. Yes, it has good tilth.
Q. You said poultry litter can, but does not always, improve tilth; is that your testimony?
A. Yes.
Q. Can poultry litter improve water retention of soil?
A. It can.
Q. Poultry litter --
A. Doesn't always.
Q. Can poultry litter promote microbial activity?
A. It may temporarily.
Q. Can poultry litter promote aggregation of soil particles?
A. It may.
Q. Can poultry litter promote water infiltration?
A. It may.

Q. Can poultry litter promote macrofauna populations?
A. It may.
Q. Can it improve porosity?
A. It might.
Q. You said poultry litter -- we started at the top of the list with increases soil pH. Did you tell me you agree that it can do that?
A. It can do that.
Q. That's one of the reasons one might land apply lime?
A. Yes.
Q. You agree lime is a soil amendment, right?
A. Yes.
Q. All right. Now, we have a field, an Oklahoma field -- and the reason I'm saying Oklahoma, I'm not trying to be tricky, I'm going to use your 65 STP.
If you have an Oklahoma field that has an STP of 65, but is deficient in nitrogen for the grass, do you agree that by adding poultry litter, it will improve the yield of the forage?
A. It may, yes.
Q. So more grass will grow?
A. It might, yes.
Q. And if you're grazing that pasture, you could potentially increase your stocking rate on a pasture that yields more grass; do you agree?

A. Yes, that's correct.
Q. If you were raising hay, you could cut more hay?
A. Potentially, you could.
Q. Now, same question. This Oklahoma field has 65 STP, but it's deficient in potassium. Do you agree that adding poultry litter will boost the yield of the pasture grass?
A. It could, yes.
Q. Another hypothetical. Assume with me that -- you identified here that zinc is a micronutrient in poultry litter, and zinc is a micronutrient in agronomics, correct?
A. Yes.
Q. In this hypothetical, I want you to assume that my hypothetical field has all the zinc it needs for the full yield of the pasture grass, but it is deficient in both nitrogen and phosphorus. If I put litter on that field and apply more zinc than that field needs, would you call that waste disposal?
A. From the standpoint of zinc, it would be, but I wouldn't normally call that waste disposal.
Q. Isn't it the truth, Dr. Johnson, that you cannot categorically tell this Court that if you put poultry litter down on an Oklahoma pasture that is already at 65 STP that there will be no benefit in improved yield?

A. Yes, that's correct.
Q. If you were raising hay, you could cut more hay?
A. Potentially, you could.
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Q. You don't know how many fields are represented by the Arkansas data either, correct?
A. Correct.
Q. You don't know what percentage of the Illinois River Watershed in Arkansas is represented by the Arkansas public data, right?
A. That's correct.
Q. You don't know how these fields are being used, other than maybe just the crop being produced?
A. Yes.
Q. Yes, as in I'm correct?
A. Yes, you're correct.
Q. Thank you.
A. Sorry.
Q. Now, the dataset that you used, both Arkansas and Oklahoma public datasets, it does include pastures where commercial fertilizer is the external source of nutrients, right?
A. It may, yes.
Q. And there was no way or method for you to filter out this data to only look at fields where poultry litter had been land applied; am I right?
A. That's correct.
Q. How many different soil types are there in the Illinois River Watershed?

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
15 NOVEMBER 17, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL, DISTRICT JUDGE
16 VOLUME XLV, A.M. SESSION

17

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8 **DR. ROGER OLSEN**

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field.
Q. That study may tell you how much soluble phosphorus may be released from the soil into the surface water, but it doesn't tell you anything about the potential for that surface water to actually leave the field, does it?
A. It doesn't tell you about the potential of the water leaving. It says that if water leaves, you can estimate the concentration of phosphorus in that water.
Q. If it leaves?
A. Yes.
Q. Let's turn back to page 4 of the code. In the right-hand column, see the bullet point that refers to phosphorus application?
A. Yes.
Q. All right. It says that -- that the maximum plan rates of phosphorus application shall be determined by using the Oklahoma Phosphorus Assessment Worksheet that we just looked at and then Tables 8 and 9, right?
A. That's correct.
Q. Now, Tables 8 and 9 are on page 21, so let's flip over there. Are you there?
A. I'm there.
Q. Sir, do you know whether or not before the Illinois River Watershed was designated as nutrient limited whether Table 8 applied to the Nutrient Management Plans

written for the watershed?
A. No, I don't know.
Q. In your opinion, which of these tables currently applies to the --
A. The one for nutrient-limited watersheds.
Q. Table 9?
A. Yes.
Q. You agree that Table 9 sets forth soil test phosphorus levels ranging from zero up to a greater-than-300 STP level?
A. Yes.
Q. And it provides litter application rates associated with soil depth, percentage of slope, and it shows those in a relationship to the size of rock and the soil covered by the rock?
A. Yes.
Q. Okay. Now, do you agree that under this criteria, Table 9, that the legal maximum is 300 STP?
MR. NANCE: I object to a legal conclusion from this witness. No foundation.
THE COURT: Overruled.
THE WITNESS: I would agree that, as stated in this document, the planned maximum rate is given in Table 9.
Q. (By Mr. McDaniel) Is 300 STP?

A. Is 300 STP.
Q. It's not 65 STP?
A. That's correct.
Q. It's not 120 STP?
A. That's correct.
Q. Now, you offered this Court yesterday a number of criticisms of the Code 590 and 300 STP cutoff, right?
A. I believe so.
Q. You just don't like the Code 590, do you?
A. Oh, I didn't say that.
Q. You don't like this 300 STP cutoff, do you?
A. I don't have an emotional feeling about it. What I object to is that it doesn't have a scientific basis.
Q. Do you think the Oklahoma legislature made a mistake adopting this code?
A. I don't know what all it considered, but it's an inappropriate code for identifying and for minimizing the amount of phosphorus in runoff.
Q. So you do think they made a mistake adopting this criteria in Code 590?
A. That would be one conclusion you could draw, I believe.
Q. Was there a time back when you worked at Oklahoma State that you told the NRCS folks that you disagreed with the 300 STP limit in the code?

A. Is 300 STP.
Q. It's not 65 STP?
A. That's correct.
Q. It's not 120 STP?
A. That's correct.
Q. Now, you offered this Court yesterday a number of criticisms of the Code 590 and 300 STP cutoff, right?
A. I believe so.
Q. You just don't like the Code 590, do you?
A. Oh, I didn't say that.
Q. You don't like this 300 STP cutoff, do you?
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A. I don't know what all it considered, but it's an inappropriate code for identifying and for minimizing the amount of phosphorus in runoff.
Q. So you do think they made a mistake adopting this criteria in Code 590?
A. That would be one conclusion you could draw, I believe.
Q. Was there a time back when you worked at Oklahoma State that you told the NRCS folks that you disagreed with the 300 STP limit in the code?

A. I believe that's probably true.
Q. You shared with the Oklahoma NRCS many of the same criticisms you've testified to here in court, didn't you?
A. Well, I would have called their attention to the lack of a scientific basis for that. And I would have called attention to the unreasonable allowance for higher amounts of phosphorus to be applied in sensitive areas in material that is more easily moved over the landscape than you would allow for a commercial fertilizer that is not so easily moved.
Q. And did the NRCS listen to you?
A. Yes, they did.
Q. They didn't change the code, did they?
A. No, they didn't. They're not required to take my recommendation, just listen to it.
Q. In fact, in 2001, didn't OSU formally notify the Oklahoma NRCS that it approved of the Code 590?
A. I believe that the department had -- for the department I worked in, had a communication to that effect probably.
Q. Let's be clear. That did occur, didn't it? Your department head notified the NRCS that it -- he approved and OSU approved of the Code 590?
A. I think he approved. He wasn't speaking for me.
Q. But was he speaking as the department head at

Oklahoma State University?
A. Yes, he was.
THE COURT: And that would have been specifically what department?
THE WITNESS: That probably would have been the department of -- the name changed from agronomy to plant and soil sciences. I believe it had already changed to plant and soil sciences at that point.
Q. (By Mr. McDaniel) Did Professor Ronald Elliot, the head of the biosystems in the ag engineering department, also join with your department head, Mr. Stigler, in notifying NRCS that they approved of the Code 590?
A. Yes.
Q. Would you, in the materials I provided you, Dr. Johnson, go to Defendants' Joint Exhibit 0001. You should recognize it as an Animal Waste Management Plan.
You don't have it, Dr. Johnson. I just realized that.
Do you recall looking at the Saunders Animal Waste Management Plan with me during your deposition?
A. Yes.
Q. Let's go to page 4. Let me know when you're there, sir.
A. I'm there.
Q. Would you read off -- in 2005, when this was

prepared, would you read off what the soil test phosphorus levels were for the five fields on Dr. Saunders' cattle operation that were tested.
A. I must not be on the right page. It says page 4.
Q. I'm using the 4 in the bottom right-hand corner. It's actually typed as page 3 in the text of the document. I'm sorry.
A. Okay. I'm there.
Q. Would you read off for each of the fields what the soils test phosphorus was.
A. Yes. From field 1, 14; field 2 is 7; field 3 is 65; field 4 is 22; and field 7 is 10.
Q. In 2005, this field No. 3, the one I want to talk to you about --
A. Okay.
Q. -- that tested right at your agronomic critical level of 65, right?
A. Yes.
Q. Now, according to you, Mr. Saunders should have been prohibited from applying litter to field 3 in 2005; is that true?
A. Yes. For a benefit from phosphorus, that would be true.
Q. But under your new criteria that you've explained to the Court, if 120 STP is the cutoff, then you wouldn't

have any problem with him putting phosphorus on that field, would you?
A. That's true.
Q. I'm referring to the numbers at the bottom right-hand corner. Turn to page 14. Are you there?
A. I'm there.
Q. Do you recognize it as a soil test for that field 3?
A. It says field 4. Okay, I'm there.
Q. You're looking at the field 3 sheet with me?
A. Yes.
Q. All right. Now, Oklahoma State soil, water and forage analytical laboratory, when they do these soil tests for farmers and ranchers, one of the goals here is to provide recommendations to that landowner for what nutrients may be deficient for production on that land, right?
A. Yes, yes.
Q. So this section called Interpretation and Requirements, that's the purpose of that section of the report?
A. Yes.
Q. And this one describes what the requirements would be for Bermuda grass, right?
A. Yes.
Q. So what did the OSU lab recommend as a -- the

THE WITNESS: You'll have to restate the question.

Q. (By Mr. McDaniel) Despite your lack of detailed knowledge of the regulatory programs, it's your opinion, isn't it, Dr. Johnson that the laws of Arkansas and Oklahoma should be changed and replaced with your absolute 120 STP criteria?

A. Yes.

Q. Now, you're not here, Dr. Johnson, to offer the opinion that poultry litter qualifies as a solid waste under the Federal Solid Waste Disposal Act, are you?

A. No.

Q. You're not aware of any jurisdiction that manages or regulates poultry waste as a solid waste?

MR. NANCE: Judge, this is beyond the scope of direct as well.

THE COURT: Sustained.

Q. (By Mr. McDaniel) Dr. Johnson, would you agree with me that it's well understood that you cannot manage and fertilize an agricultural field and have a zero discharge in the runoff?

A. That's true.

Q. So if --

A. If water's running off the field, you're going to have some nutrient phosphorus in it.

1 but I wanted to particularly point to the Court these
2 issues when you do consider Dr. Johnson's testimony and
3 this notion that it's going to take some 400 years for
4 something to happen, that there's absolutely no support
5 for that notion.
6 THE COURT: All right. The motion is denied
7 again. I can certainly take this into consideration. I
8 mean, again, it's interesting we're using the courts to
9 attempt to make some of these determinations. And one of
10 the issues here is should the Court consider rejecting
11 Code 590.
12 And we all understand the political
13 considerations, and yet there's more than that because,
14 by Dr. Johnson's own admission, his department head has
15 approved NRCS 590, as well as the head of ag engineering
16 at OSU. It's very interesting insofar as Dr. Johnson,
17 who is a serious academic, is talking about his
18 disagreements relative to what clearly is an important
19 issue in our society.
20 I'm not going to strike the testimony. I'll
21 certainly take it into consideration.
22 Mr. Jorgensen.
23 MR. MCDANIEL: Very well.
24 MR. BULLOCK: Your Honor, in terms of
25 Mr. Jorgensen's argument, I informed him while the Court

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XLVI - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 17, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **ROGER OLSEN, PH.D.**

8 Continued Direct Examination by Mr. Page 5250

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right, 400 locations throughout the basin.

Q. Okay. Is this analysis that we're about to talk about in your -- set forth in your report?

A. Yes, sir.

Q. Okay. So how did you go about doing your geographical evaluation of phosphorus?

A. Yeah. So at each of these locations, I actually took all the data that we had collected at each of those locations. So there may be one sample there, there may be five or six samples there, but on the average there would be three or four. So we created an average for each of those locations, and essentially I divided the concentrations that we saw into different ranges and essentially depicted those different ranges on a map of the IRW to see where we had concentrations above reference and above the standard of -- above the number of 0.37 and where we had high concentrations compared to lower concentrations.

Q. Okay, sir. And did you look at any other constituents besides phosphorus?

A. Yes. I looked at several of the other key constituents.

Q. Okay. And what did you find based on your analysis?

A. Well, I found that for phosphorus, that there's widespread and pervasive contamination clear across the basin, that most locations are above both the 37 number and the reference number.

Q. Okay. And what about the other constituents you evaluated?

A. Similar -- for instance, potassium, did a similar analysis. Again, there was widespread and pervasive contamination across the basin.

Q. Did you form any other conclusions based on this analysis?

A. No.

Q. Okay. Dr. Olsen, I think we just touched on it, but did you perform a traditional fate and transport analysis?

A. I performed some traditional fate and transport geochemical modeling to determine the reactions of phosphorus and the various forms of phosphorus in the environment.

Q. And is that evaluation set forth in your report?

A. Yes, it is.

Q. Okay. What did you do, sir?

A. Well, first of all, I actually reviewed literature to determine the actual forms of phosphorus

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
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TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME XLVII - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 18, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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7 **ROGER OLSEN, PH.D.**

8 Cross-Examination by Mr. Green 5407

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THE COURT: Mr. Green.

MR. GREEN: Yes, sir. I commend Mr. Page on his keeping to his promise.

CROSS-EXAMINATION

BY MR. GREEN:

Q. Good morning, Dr. Olsen.

A. Good morning.

Q. My name is Tom Green. I'm one of the attorneys representing Tyson Foods. All right, sir. Let me start this way.

It's fair to say, is it not, that you designed the state's sampling scheme to generate data for the analyses by the various experts in this case?

A. Some of those I designed myself, but many of those I had input from the various experts.

Q. Okay. And a part of that sampling scheme was to take samples in the watershed over a substantial period of time; is that not right?

A. That's correct.

Q. And, in fact, if I'm reading your report correctly, there was sampling done in each of the years 2005 through 2008?

A. Yes.

Q. And do you have your report in front of you?

A. No, I don't.

MR. PAGE: I have an extra copy, Mr. Green.

MR. GREEN: Do you mind giving him back a copy of his report?

MR. PAGE: Your Honor, may I approach?

THE COURT: Please.

MR. PAGE: Thank you.

MR. GREEN: Thank you, Mr. Page.

MR. PAGE: You're welcome, sir.

Q. *(BY MR. GREEN)* Doctor, if you would, take hold of your report and turn to page 6-1, which is the first page of Section 6 of your report.

Are you there, sir?

A. Yes.

Q. And I'm looking at the third paragraph under 6.1, and in that paragraph you state, do you not, that you designed -- or all of you, the state's experts, designed the sampling scheme so that all major sources of contamination in the Illinois River Watershed would be identified; is that right?

A. Yes.

Q. And you understand that this trial so far has focused principally on phosphorus as the principle constituent of concern?

A. Yes.

Q. Now, you don't contend that poultry are the only source of phosphorus in the watershed, do you?

A. No.

Q. Nor are they the only source of bacteria; correct?

A. That's correct.

Q. Would you agree with me, Dr. Olsen, that an appropriate sampling program must be designed to evaluate contamination from sources other than poultry litter?

A. Yes.

Q. And what you did, sir, is that you collected a lot of what you call "ambient water samples" in the watershed; is that not right?

A. Yes.

Q. And if I understand what "ambient" means, or how you're using that term, these are samples that are not designed to target specific sources of contamination; is that right?

A. That's correct.

Q. Among your ambient samples were three samples from wastewater-treatment plant effluent; is that right?

A. No, those weren't ambient samples.

Q. Okay. But you took three samples from

wastewater-treatment plants; is that right?

A. There was actually eight, sir.

Q. In your report, do you discuss that there were eight?

A. Yes.

Q. Can you show me where that is?

A. That's the -- in appendix C that lists all the samples from wastewater-treatment plants.

Q. Do you have in front of you your table 6.4-2b?

A. Would you --

Q. Can you find that?

A. Yes. That isn't the one that has the eight on it, but I can go to that one instead.

Q. Well, are you -- are you sufficiently aware of that table to know that that table reports three samples?

A. Let me find that figures table. What table was that?

Q. 6.4-2b as in "boy." That table is entitled: "Chemical and Bacterial Compounds of Poultry and Wastewater-Treatment Plant Wastes (Water)."

A. Yes, sir.

Q. And if I'm reading that right -- or tell me if I'm reading that right -- under the sampling for

wastewater-treatment plants it shows the number of samples, three; is that correct?

A. There were also additional samples that were only analyzed for phosphorus and not reported.

Q. Not reported on this table?

A. That's right. They're in the appendices, sir.

Q. Okay. So I'm reading this table correctly; is that right?

A. Yes, yes. This was the table that we did the most extensive analysis on.

Q. Okay. Well, I'll come back to this table in a bit.

Now, you also gathered some edge-of-field samples that were intended to characterize what runs off fields with land-applied poultry litter; is that right?

A. That's correct.

Q. And would it be fair to say that with respect to that undertaking, you relied on Dr. Fisher?

A. As far as sampling -- as far as the locations?

Q. As far as locations and as far as administering that sampling program.

A. As far as locations, but I directed a lot of

our personnel to sampling and he had a big input to that also.

Q. Well, let me ask you this, Dr. Olsen: Did you rely on Dr. Fisher's assurance that all of the edge-of-field samples were representative of what runs off land-applied poultry fields?

A. Yes, I did.

Q. And I think you also found an opportunity to take two edge-of-field samples from a field where cattle grazed and where litter had not been applied; is that right?

A. They weren't edge-of-field samples. They were actually samples from ponds on the field.

Q. Okay. I stand corrected. But there were two of them; right?

A. Yes.

Q. Okay. And you also took some river and lake sediment samples?

A. Yes.

Q. And you took some poultry and cattle manure samples?

A. Yes.

Q. Now, Doctor, other than these samples, which I've just discussed with you, you didn't collect any samples directed at any other specific sources for the

purpose of detecting and quantifying any of the constituents or contaminants you tested for, including phosphorus; isn't that right?

A. There were no other direct waste samples besides the ones just described.

Q. Okay. So then I want you to confirm for me that you took no samples, no soil samples, and you took no samples of edge-of-field runoff from any fields in the watershed were biosolids had been land-applied?

A. No samples were collected.

Q. And you took no samples and no samples of edge-of-field runoff from any fields in the watershed where sewage plant wastewater had been used for irrigation; is that correct?

A. That's correct.

Q. And you took no samples in the vicinity of any known sewage overflows or bypasses in the watershed; correct?

A. That's correct.

Q. And you took no soil samples around septic systems, leaking septic systems, or otherwise?

A. That's correct.

Q. And you took no samples, soil samples or edge-of-field samples, from any fields frequented by

wildlife in the watershed; is that right?

A. We actually collected manure samples from wildlife preserves, and many of the fields would have wildlife on them besides -- besides cattle.

Q. Well, did you take soil samples or edge-of-field runoff from any fields which you identified as frequented by wildlife in the watershed?

A. No.

Q. Okay. And I take it you did not attempt to identify any waterfall landing areas in the watershed; is that right?

A. We did identify those areas.

Q. Well, you took no samples from any such area; is that right?

A. We did take duck feces and other feces samples from those areas.

MR. GREEN: Your Honor, may I approach?

THE COURT: You may.

(Discussion held off the record)

MR. TODD: Do you have a copy of his deposition, Your Honor, or do you need one?

THE COURT: I do.

Q. *(BY MR. GREEN)* I think you said you had some manure samples, but I asked you specifically whether you took any soil samples or any edge-of-field samples

from any waterfall landing areas in the watershed.

A. I don't think that was your question. If you want to reread it --

MR. PAGE: Your Honor, I object. I think those questions state any samples. I don't think they were that direct.

MR. GREEN: I will rephrase then.

Q. *(BY MR. GREEN)* Did you take any soil samples or any edge-of-field runoff samples from any waterfall landing area?

A. No.

Q. Doctor, did you take any soil samples in the area of any cattle mineral feeder?

A. No.

Q. And it's my understanding that you took no soil samples and no samples of edge-of-field runoff from any field where swine waste or effluent had been applied; is that right?

A. That's correct.

Q. Or from any lagoon containing waste from a hog farm?

A. That's correct.

MR. PAGE: Your Honor, I want to object. I don't think there's any evidence in the record that there is any swine effluent being applied in this

watershed or any lagoons that have overflowed.

THE COURT: Mr. Green.

MR. GREEN: It's my understanding that this is a perfectly acceptable question to exclude all other possible sources.

THE COURT: Well, the question is, is it even possible in this area. If we were in western Oklahoma, clearly. I don't know --

MR. GREEN: I can't represent to you whether it's possible or not. The doctor has been asked this question before and answered, as he indicated previously, and I felt it was acceptable to ask him.

THE COURT: Well, obviously if there's no evidence of swine in the region, then we'll discount it; if there is, then we won't.

MR. ELROD: Your Honor, I can represent to you that there is swine in the IRW.

THE COURT: Well, I'm sure there's swine. But the question is whether there's swine being produced in quantities sufficient such that effluent might be spread on fields.

MR. ELROD: I can represent to you that there is and has been historically.

THE COURT: Unfortunately, that's lawyer

talk.

MR. ELROD: I understand.

(Discussion held off the record)

THE COURT: I can't accept lawyer talk into evidence.

Go ahead, Mr. Page.

MR. PAGE: Your Honor, what I do know is that Dr. Engel considers swine as part of the animal agricultural livestock, but he uses that as part of a mass balance. He doesn't -- and he assumes it gets on the watershed soils in his -- in his model.

THE COURT: All right. Overruled.

Go ahead, Mr. Green.

Q. *(BY MR. GREEN)* Doctor, you took no samples of any runoff from any nursery in the watershed?

A. No.

Q. And you took no samples or soil samples or edge-of-field samples from any golf course in the watershed?

A. That's correct.

Q. Do you know how many golf courses there are?

A. No.

Q. You took no soil samples from any lawns; is that right?

A. That's correct.

Q. And you took no soil samples or samples of edge-of-field runoff from fields where only commercial fertilizer had been land-applied; is that right?

A. That's correct.

Q. And you did not undertake any sampling to determine the type and concentration of constituents which run off dirt roads in rain events; is that right?

A. Not specifically dirt roads alone.

Q. And would your answer be the same for runoff coming off of paved roads?

A. That's correct.

Q. In addition, Doctor, you did not undertake to sample specifically storm water runoff from any urban area in the watershed; is that right?

A. That's correct.

Q. And you took no samples to test the composition of resuspension of sediment in the rivers; is that right?

A. That's not correct.

Q. Okay.

A. We did many samples during high-flow events.

Q. That were specifically designed to test the composition of resuspension?

A. Well, high-flow events will, in my opinion,

yes.

Q. Okay. Did you take any samples, Doctor, to determine what, if any, impact humans recreating in the watershed may have on water quality?

A. Not specifically.

Q. And as I understand your report, you took no samples of edge-of-field runoff from any of your reference fields or control fields; is that right?

A. That's correct.

Q. And finally, Doctor, you make no attempt to measure or quantify the deposit of airborne particulates into the waters of the IRW, such as arsenic, which could come from coal-burning, electrical-generating plants in the vicinity of the watershed; am I right?

A. We did not target any and take any air samples.

Q. And do you know how many such coal-burning, electrical-generating plants there are in the vicinity of the Illinois River Watershed?

A. No.

Q. Now, Doctor, if you had taken soil samples or edge-of-field samples, or where appropriate even your geoprobe samples, of all of these other potential sources of contamination that I've just reviewed with

1 give a general answer to that.
2 THE COURT: Well, overruled. I think
3 Mr. Green has made his point. I think we can move on.
4 MR. GREEN: Yes, I do too, Your Honor.
5 Q. *(BY MR. GREEN)* Doctor, with respect to many
6 of these other potential sources of contamination that
7 I discussed with you in which you've just conceded you
8 did not sample and you did not analyze, it's true, is
9 it not, that you explained your failure to do that by
10 contending that you would have seen a distinct
11 chemical composition for many of those sources had
12 they been a major contributor of contamination; is
13 that not right?
14 A. I wouldn't characterize my failure to do
15 that. That was one reason. There were many other
16 reasons I didn't sample those other sources.
17 Q. Is it your testimony that you would have seen
18 a distinct chemical composition for many of those
19 sources had they been a major contributor of
20 contaminants?
21 A. That's one of my statements and opinions
22 based on my PCA.
23 Q. Right. And that's just what I wanted
24 to -- just what I wanted to clarify.
25 And when you made that statement, you were

referring to your principle component analysis, were you not?

A. That's correct.

Q. And just to provide an example, with respect to urban runoff, Doctor, you counted on your principle component analysis to identify it if it were a major source in the samples you took; isn't that right?

A. Well, I -- that's one way. But as I tried to explain yesterday in my report, there were other reasons for knowing before we start a sampling program that that wasn't a major source.

Q. Have you previously testified that you counted and relied on your principle component analysis to identify urban runoff if it were a major source in the samples that you took?

A. I believe I did.

Q. And now we're here with the principle component analysis having been excluded from this trial, and you understand that; correct?

A. That's correct.

Q. All right. And so it cannot form the basis for any opinion that you gave yesterday from the witness stand; is that right?

A. That's correct. But I was trying to rely upon my statements concerning why we selected samples

that we did as major sources.

Q. Okay. Let me take a little closer look at what you did sample, and I want to look at your wastewater-treatment samples.

Are you aware, sir, that there were ten wastewater-treatment plants that discharge into the Illinois River Watershed at the time that you were collecting your samples?

A. I thought there were only nine, but that's -- we can assume ten.

Q. There's a Tyson Demonstrative 205 that's on the screen. I think you have a hard time -- oh, you have a screen right there. Okay.

A. Will that come up?

(Discussion held off the record)

MR. PAGE: Mr. Green, do you have a copy for the witness also?

MR. GREEN: Yes.

MR. PAGE: Sometimes that's hard to see.

MR. GREEN: May I, Your Honor?

THE COURT: You may.

Q. *(BY MR. GREEN)* Doctor, does that comport with your understanding of the locations of the wastewater-treatment plants?

that we did as major sources.

Q. Okay. Let me take a little closer look at what you did sample, and I want to look at your wastewater-treatment samples.

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MR. GREEN: Yes.

MR. PAGE: Sometimes that's hard to see.

MR. GREEN: May I, Your Honor?

THE COURT: You may.

Q. *(BY MR. GREEN)* Doctor, does that comport with your understanding of the locations of the wastewater-treatment plants?

A. I'd have to -- excuse me -- I'd have to review my records but --

Q. Well, would you accept my representation that that's accurate?

A. I don't think at the time of our sampling that one of the effluent samples was discharging to the basin but I'd have to check my records. That's why I think maybe we have nine instead of ten.

Q. All right, sir. The Fayetteville-West is a different color and it says "new active." Do you see it's orange?

A. Oh, okay. Yes.

Q. All right.

A. Okay.

Q. Now, I want to return to this issue of how many samples you gathered from wastewater-treatment plants.

Have you not previously testified, sir, that what you did was to take one sample from each of three wastewater-treatment plants?

A. No. As I -- as I said, and clarified that, that was for the complete extensive analysis. There were an additional five samples that were taken for a limited analysis.

Q. Do you have your deposition in front of you?

Q. Let me take you back to 6-21 in your report. On page 6-21, let me direct you to your summary of observations towards the bottom of page 6-21.

Do you have that, sir?

A. Yes, I do.

Q. Did you not write, "Poultry waste related contaminants are wide spread and pervasive across the IRW. The poultry contaminant concentrations decrease from the source of the contamination (fields with poultry waste application) to Lake Tenkiller in a logical manner consistent with fate and transport mechanisms"? Did you write that?

A. Yes, I did.

Q. Okay. Now, I want to just --

MR. GREEN: Is this a good time for a break, or do you want me to keep going? I'll be happy to do either.

THE COURT: Let's keep going.

MR. GREEN: Yes, sir.

Q. *(BY MR. GREEN)* I want to focus on this pathway analysis, and I want to be clear about what you did, Doctor. Let's talk about edge-of-field locations for a minute, okay?

You sampled a bunch of edge-of-field locations; correct?

A. That's correct.

Q. And they weren't -- were they -- over what period of time? Let me ask it that way.

A. I think that was over 2005, 2006, and 2007.

Q. Now, you sampled them over three years, over a three-year period; correct?

A. That's correct.

Q. And then you took all the sampling data that you got and you kind of lumped it together and determined the average values for certain constituents; is that right?

A. That's one of the things I did.

Q. Okay. So you calculated an average for a number of constituents based on a population of edge-of-field samples that were collected over a three-year period; is that right?

A. That's one of the things I did.

Q. Okay. And then you kind of did the same thing when you went to take samples of small tributaries; is that not right?

A. I also create mean values for those.

Q. Yeah. But over what period of time did you take your samples from small tributaries?

A. I think that program was in 2005 -- definitely 2005, 2006. I can't remember for sure

whether we continued that program in 2007 or not. I'd have to check.

Q. So either over a period of two years or three years, you gathered samples from small tributaries, you kind of, as I visualize it, lumped them together, and then found average values for certain constituents; is that right?

A. That's only one thing I did, sir.

Q. Okay. And not to belabor this, but you did the same kind -- you used the same kind of approach with larger rivers; is that not right?

A. That's correct.

Q. And then you took various water samples in the lake?

A. Yes.

Q. Over what period of time?

A. That was 2005, 2006, 2007.

Q. Okay. So for all of these compartments -- if I can call them that -- for all these compartments, the sampling took place over a substantial period of time?

A. Two to three years, yes.

Q. And the data was all averaged for each compartment; is that not correct?

A. That's one of the things I did, yes.

Q. Okay. Now, in the process of undertaking and completing this sampling, which we've just described, you did not go to any edge-of-field, take a sample, then go follow that water to the nearest tributary and take a sample of that tributary, and then take successive samples where that tributary joins a larger stream or river and then to the lake? You didn't follow your gradient with respect to specific sampling, did you?

A. Not clear from the source to the lake. No, we didn't do that.

Q. So there's not only no geographical connection or linkage between the samples in your compartments, there's also no temporal connection as well; isn't that right?

MR. PAGE: Your Honor, I think that states inaccurately the witness' testimony. I object.

THE COURT: Overruled.

A. Would you repeat the question, please?

Q. *(BY MR. GREEN)* Sure. I'm just trying to see if I can get you to confirm what we've been discussing.

By virtue of your last answer to my last question, you would concede, would you not, that

already discussed with my geochemical model.

Q. Well, let ask you this: If there's a puddle of water sitting by the side of a road, which I will hypothesize has been created by a rainstorm, will the relative levels of particulate matter versus dissolved constituents in that puddle vary depending on how long the water sits there?

A. The relative concentrations, but not the absolute concentrations, dissolved phosphorus.

Q. All right. Now, let me go back and talk generally about your edge-of-field samples.

Would you agree with me that they may be the most critical component in your pathway -- downgradient pathway because anything, you know, flowing off of a field has to go through the edge of the field?

A. I think all the environmental components are critical to look at, but that's the start, yes.

Q. Okay. And the point of all the edge-of-field samples was to characterize what was actually flowing off a field where poultry litter had been applied; right?

A. That's correct.

Q. Okay. But I think we may have touched on this. You didn't gather these samples yourself?

A. No, I didn't.

Q. And you didn't personally review and evaluate each of the edge-of-field locations?

A. That's correct.

Q. And you did not, Dr. Olsen, personally see any water moving off of any field and migrating to a particular stream or tributary; is that not right?

A. That's correct.

Q. And you relied, I think you told us earlier, on Dr. Fisher to select and collect those samples?

A. Well, to select the samples, but there were CDM people that I relied upon to collect those samples.

Q. Let me ask you this: Did you review the photos and the field notes that were associated with each edge-of-field location?

A. Many of those, but not each of them.

Q. And based on that review, did you come to understand, Doctor, that most of the edge-of-field samples were not taken while it was actually raining?

A. Yes, I did. But many of those were soon after a rainfall event.

Q. Do you also understand from your review that the sampling crews did not observe or gather water actually running off of any field?

edge-of-field samples were gathered from ponds or puddles or roadside ditches?

A. No.

Q. Why is that not right?

A. Well, I already said that a variety of those were actually collected from the flow as it came off the field.

Q. Well, you don't have any personal knowledge of that, do you?

A. Well, I've reviewed the notes on those and saw the pictures.

Q. You saw how many -- how many pictures did you see of sampling crews sampling flow, edge-of-field flow, moving literally off the field?

A. I remember five or six.

Q. Out of how many?

A. Approximately 90.

Q. Okay. Now, did you see in any of those materials that you reviewed that at the time these samples were collected, that the sampling crews were able to track where the water actually went, assuming it went anywhere, after it left the field?

A. In some cases, there are notes that they were downgradient in the particular ditches and it was flowing in a particular direction, but they didn't

1 document where it went from there.
2 Q. Okay. So they tracked it to a ditch beside
3 the road?
4 A. Yes.
5 Q. Let me show you a photograph now that
6 is -- it's been previously alluded to in this trial.
7 I'm showing you State of Oklahoma -- it's Defendants'
8 Joint Exhibit 118. Yeah, it's a long number. This is
9 DJX, Defendants' Joint Exhibit, 118, State of Oklahoma
10 0040330.
11 Do you have that photograph in front of you,
12 sir?
13 A. Yes.
14 Q. Now, just looking at that photograph, you
15 have no personal knowledge that this puddle that we're
16 looking at in this photograph represents actual runoff
17 from a field; is that not correct?
18 A. That's correct.
19 Q. And if it rained about this time, that
20 rainwater is logically going to run off the road, some
21 of it, and puddle up beside the road, is it not?
22 A. Some of it will.
23 Q. And so whatever is in this puddling of water
24 that we're looking at it's going to necessarily
25 contain some road runoff, will it not?

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22 A. Some of it will.
23 Q. And so whatever is in this puddling of water
24 that we're looking at it's going to necessarily
25 contain some road runoff, will it not?

A. Yes. But I could distinguish that from poultry runoff.

Q. Okay. And the water in the puddle is also going to be impacted by the soil that supports and surrounds the puddle; is that right?

A. Yes. But I could tell the difference between that and poultry runoff.

Q. You're ready -- you're ready for me, aren't you? You want -- oh, forget it.

Now, Doctor, do you see what appear to be tire tracks passing through this puddle?

A. Well, it's hard to say whether they -- they were probably there before it rained but there's tire tracks in the puddle. By passing, I didn't know whether you meant someone had drove through it or not. We can't tell that.

Q. Well, let's just ask a hypothetical then.

Would you agree then that if a car drove this puddle, it likely would have stirred up some sediment from the road into the puddle?

A. Yes.

Q. Thank you. Now, out of curiosity, Doctor, do you know that studies have shown that a substantial amount of copper in surface water derives from car brakes given off as friction material when the brakes

are engaged? Have you heard that?

A. Yes.

Q. And if that's correct, then water running off a road into a puddle, such as this, may well contain, well, copper from brakes?

A. Yes. I was actually involved in that study in California, it was from major, major highways in California, and this certainly isn't a major highway in California. And it was also total copper versus dissolved copper.

Q. All right. Let's look at another photo here, Doctor.

(Discussion held off the record)

MR. GREEN: May I, Your Honor?

THE COURT: Yes, sir.

Q. *(BY MR. GREEN)* Now, sir, we are looking at Defendants' Joint Exhibit 118, State of Oklahoma 0039143.

And, again, would you agree with me that this photo appears to show water that's pooled up on a gravel road?

A. It's pooled up, yeah, at the side of the road in the side of the field.

Q. Right. And the road appears a bit rounded to me so that if it rained on this road, water would have

Q. Well, if I represented to you that they were cattle, would you accept that representation?

A. Certainly.

Q. Okay. I want to show you one other -- just a couple more.

MR. GREEN: May I, sir?

THE COURT: Oh, yes, sir.

Q. *(BY MR. GREEN)* Now showing you DXJ 118, State of Oklahoma 0040334. I want to just have you look at that and I just want to show you one additional.

MR. GREEN: May I approach, Your Honor?

THE COURT: Yes, sir.

Q. *(BY MR. GREEN)* And now, what I have handed to you is Defendants' Joint Exhibit 118, State of Oklahoma 0038342.

Now, Doctor, you have previously conceded in your prior testimony that cattle grazed on each of the fields targeted for edge-of-field sampling; is that not right?

A. That's my understanding, yes.

Q. So if any of these puddles in these last few photographs that I've shown you contained some field runoff, if they did, any sample taken from the water shown in these pictures would have to have been

impacted by cattle manure; is that not right?

A. That's potentially right, yes.

Q. Okay. And we actually see evidence of that in some photos, and I'm just going to go right to Olsen 22, if I can, which is this picture here. Why don't I just bring both of them up. I'll save time and be efficient.

MR. GREEN: May I, sir?

THE COURT: Yes, you may.

Q. *(BY MR. GREEN)* Now, let's look first at Defendants' Joint Exhibit 118, State of Oklahoma 0039020.

Do you have that in front of you?

A. Yes.

Q. And you'll note that that photo was taken on May 29 of 2006. Do you see that? It's a little hard to read but it's that in yellow print.

A. Yeah. It actually looks like March 29th on mine.

Q. March. I'm sorry. Got my -- got my M's mixed up. You're absolutely right, March 29th.

And the next one, the next photo, which is Defendants' Joint Exhibit 118, is also identified as State of Oklahoma 0039084, was taken on March 31, 2006. Do you see that?

Q. Barely?

A. Yes.

Q. But he is a colleague of yours at CDM?

A. He works for CDM.

Q. Okay. Are you aware that he and a Ms. Amy Shallcross and a Ms. Kelly Cave, both either presently or formerly affiliated with CDM, published in 1999 an article entitled: "Updating the U.S. Nationwide Urban Runoff Quality Database"?

A. No.

Q. You're not aware of it. Let me show you that.

MR. GREEN: May I, Your Honor?

THE COURT: Yes, sir.

Q. *(BY MR. GREEN)* All right, sir. You have before you Tyson Demonstrative 214. Just out of curiosity, have you ever seen this document before?

A. No.

Q. Now, this document -- or this exercise or investigation gathered data on constituents to characterize urban runoff, Dr. Olsen, as part of the National Urban Runoff Program.

Have you ever heard of the National Urban Runoff Program?

A. Somewhat familiar with it, but I've never

evaluated it in detail.

Q. Okay. And then this investigation gathered that data into a single Camp Dresser & McKee database. Did you know that?

A. No.

Q. Now, in this document, if you'll turn to page 14, there are some reporting of the sampling results that they found. I'd like to put up on the screen Tyson Demonstrative 215.

MR. GREEN: May I approach, Your Honor?

THE COURT: You may, sir.

Q. *(BY MR. GREEN)* Now, all that demonstrative does, Doctor, is it just takes the data out of this study, the National Urban Runoff study, and what I've done I've posted that data on this demonstrative, along with your data for these constituents -- total phosphorus, total Kjeldahl nitrogen, copper, and zinc -- and I put them together so that they can be compared.

MR. PAGE: Your Honor, may I interrupt for a moment?

I don't believe this was on the defendant's list so I haven't had a chance to see this document before. I don't believe counsel for the defendant has established foundation that this a learned document

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
vs.)CASE NO. 05-329-GKF-PJC
8)
TYSON FOODS, INC., et al.,)
9)
)
10 Defendants.)

11

12

13 TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 NOVEMBER 18, 2009
BEFORE THE HONORABLE GREGORY K. FRIZZELL
15 VOLUME XLVIII, P.M. SESSION

16

17 APPEARANCES:

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9 Redirect Examination by Mr. Page 5583
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10 Recross Examinatin by Mr. Sanders 5609

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12 **STEVEN PATRICK**

By video deposition 5611

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that there was a significant difference between those two sets of samples.
Q. Well, let's talk about some of the sample results that we got out of there. First of all, according to your understanding, based, I gather, on what Mr. Fite must have told you, you understood that poultry litter had not been applied to that field, at least insofar as Mr. Fite knew; is that right?
A. That's correct.
Q. And are you aware that Mr. Fite testified that he had used commercial fertilizer only a time or two?
A. I don't know that testimony.
Q. No one told you that. Okay. Now, these samples that were collected on Mr. Fite's field, whether you want to call them edge of field or whatever you want to call them, puddle samples, you went and had them tested for constituents, did you not, including phosphorus?
A. Yes, we did.
Q. Have you reviewed the test results associated with the samples from Mr. Ed Fite's field?
A. Yes.
Q. Let me show you, sir, what's already in

evidence.

MR. GREEN: May I approach, Your Honor?

THE COURT: You may.

Q. (By Mr. Green) What I'm showing you, sir, is Oklahoma Exhibit 6923, State of Oklahoma 005246, which is a lab sheet with certain test results for samples that have been denominated CP1A and CP1B. Do you see that?

A. Yes, sir.

Q. And those are the Ed Fite cattle samples, correct?

A. That's correct.

Q. Now, if you'll look at that first page, you will see that this laboratory Aquatic Research, Incorporated also reports values for wastewater effluent; is that right?

A. That's correct.

Q. Am I looking at that correctly?

A. Yes.

Q. And you see that the cattle runoff sample is about seven times higher than the Springdale wastewater treatment plant sample? Have I got that right, about seven times, maybe six times; is that correct?

A. Depends on which constituent you look at.

Q. I'm looking at the total phosphorus.
A. Approximately.
Q. Okay. When you saw those results -- and you saw those results, did you not?
A. Yes.
Q. I mean, back then, you know, back about when they were generated, right, in -- looks like somewhere in the spring of '08.
A. Yes.
Q. You saw them back then?
A. Yes.
Q. When you saw those results, did you think at all about trying to gather some more cattle samples?
A. At this point, we didn't really have additional time to try to gather more cattle samples, even though I would have liked to, liked to keep looking and see if we could find any more.
Q. All right. Let me talk a little bit more about edge-of-field samples, just some general information here for a minute. You wouldn't quarrel with the proposition that it doesn't always rain immediately after poultry litter is applied to a field in the Illinois River Watershed?
A. That's correct.
Q. And even if it did rain soon after the

go to?

MR. GREEN: It goes to whether or not he's taken into his account certain factors related to cattle and their activities in the waterway that impact on pollution.

THE COURT: Overruled. Go ahead.

Q. (By Mr. Green) So let me play this clip. If you could watch that clip for just a moment, sir.

(Whereupon the video clip was played.)

Q. (By Mr. Green) Doctor, would you agree with me that this is your client, the State of Oklahoma, telling farmers and ranchers that cattle and cattle mineral feeders and the removal of foliage in riparian areas and erosion can cause nutrient pollution in surface waters?

A. Yes.

Q. You don't disagree with that, do you?

A. No.

Q. Yet it's a fact, is it not, that you ignored these factors in your investigation, didn't you?

A. No. Dr. Engel, in his modeling which I reviewed and discussed with him, actually calculated the impact due to cattle that was standing in water and near water and placing manure in water. So that's been considered in the analysis in my

descend into looking at the actual samples and discussing the data, did you? Just trying to make a simple point here.
A. You mean I didn't discuss all 433 samples in small tributaries? I don't know what you're driving at.
Q. Let me see if I can make myself clear.
A. Sorry.
Q. Let's look at the right-hand graphs, top and bottom, which are a bit easier to read because they're expanded versions of the left side; is that right?
A. That's right.
Q. And you told us that you see high levels of total phosphorus and soluble reactive phosphorus in the small tributaries?
A. That's correct.
Q. And then lower levels in surface water, and lower levels still in the lake; is that right?
A. That's correct.
Q. And did you include all of your small tributary sampling locations in this analysis?
A. Yes, we did.
Q. So you didn't cherry pick any of the data or leave any of the data out; is that right?

A. No, sir.
Q. Let's go to Demonstrative 228.
MR. GREEN: May I, sir?
THE COURT: Yes, sir.
Q. (By Mr. Green) Now, this comes right out of your report, does it not?
A. Yes, it does.
Q. And it's Table 2.4-1.
A. That's correct.
Q. Summary of small tributary sampling locations. And this is a list of all of those locations, correct?
A. That's correct.
Q. Now, if we move across the chart to the right, the column -- next to the last column is called point sources. Am I reading that right?
A. Correct.
Q. And what that means, I think -- and you set me straight if I'm wrong -- is that that sampling station was impacted by a wastewater treatment plant location.
A. That's correct.
Q. In other words, that sampling location was impacted by a wastewater plant pumping out phosphorus upstream; is that right?

A. Discharging phosphorus upstream in that sampling location, yes.
Q. You see there are two stations that are indicated as being impacted by wastewater treatment plants, and that's high flow station No. 4 and high flow station 22. Am I reading that correctly?
A. Yes.
Q. And did you include those two sampling locations in your analysis?
A. You mean the bar charts?
Q. Yeah.
A. Yes, I did.
Q. And did you stop to consider whether including those stations would have a disproportionate impact on your analysis?
A. I didn't want to, again, like you say, cherry pick data, so I used everything that we had, realizing that some of the stations had wastewater impact. And I never said they didn't.
Q. So now let me hand you Tyson Demonstrative 229.
MR. GREEN: May I, sir?
THE COURT: Yes.
Q. (By Mr. Green) Now, Doctor, we asked the State to pull all your small tributary -- or to allow us to pull all of your small tributary data. And what

Q. Do you have any reason to take issue with this printout of the small tributary high flow sampling results for SRP 4500?

MR. PAGE: Your Honor, I think it's a rather broad question. Take issue with this --

THE COURT: Sustained. Rephrase, please.

Q. (By Mr. Green) Can you confirm for me that these are your sample results for a small tributary high flow sampling for soluble reactive phosphorus?

A. It looks like them, but without, you know -- doing my own pull of the data, you know, I could confirm those.

Q. Let me see if I can slog on here a little more. If you'll continue into this demonstrative, you get to a third page. And what we've done is we've pulled out the data column from the printout of all the sampling results, and that is, like, I think the column that is to the right side of the document. And what this allows us to do is look at the sampling results from high flow station No. 4 and high flow station 22.

So if I can just have you focus on the results from high flow station No. 4. They're up on the board there, but you can probably see them. They start about nine lines down on this document.

Do you see them?
A. Yes.
Q. And if you continue to the next page, you will see the sample results from high flow station No. 22. And they start about 16 or 17 lines down. Do you see them?
A. Yes.
Q. Now, Doctor, can we agree that the results from these two stations are substantially higher than the results recorded for any other station?
MR. PAGE: Your Honor, without a foundation, I object because this is hearsay examination. This document itself is hearsay, Your Honor. Hasn't been admitted and there's no foundation for it.
THE COURT: Sustained. I think we are getting to the truth here as opposed to using this for cross-examination through that question. Rephrase, please.
MR. GREEN: See if I can, Your Honor.
Q. (By Mr. Green) Do you know just from your own recollection, sir, that the sampling results that you obtained for the stations that were impacted by wastewater treatment plant discharges were substantially higher than the sampling results that

you were getting from the other stations? Do you know that from your own recollection?
A. Yes, they were higher. Those results at those high flow stations contained both wastewater effluent discharge, and there's also a tremendous amount of poultry land application in these basins. It contains both, and that's why they're higher.
Q. But they're higher, right?
A. Yes.
Q. Now, did you give any consideration to removing those high readings from the wastewater from the -- you know, the sampling results that were impacted from wastewater treatment plants because of the bias they would give to your bar chart and your averages?
Do you understand my question? Let me rephrase it. Those values are so high that they are biasing the average concentrations which you're plotting on Demonstrative 245-A; isn't that right?
A. They make them higher. If I took them out, they would be lower --
Q. As a matter of fact --
MR. PAGE: Your Honor, I don't believe Dr. Olsen had a chance to finish his response.
THE COURT: Go ahead, Doctor.

THE WITNESS: I'd have to do an analysis. Those concentrations would be still very much higher, in my opinion, than the mixed environmental compartment. I'd have to do that to confirm that.

Q. (By Mr. Green) If I were to represent to you that if you took them out and then averaged the remaining data, the average would plot out at 92 micrograms per liter, which is plus or minus, roughly, at the level of the other bars shown on your graph. Can you accept that representation?

MR. PAGE: Your Honor, there's no foundation for that.

THE COURT: Sustained.

Q. (By Mr. Green) You're not in any position to accept my representation; is that right?

A. I'm trying to check it so I can understand.

MR. GREEN: May he have an opportunity?

THE COURT: Yes.

THE WITNESS: I'm looking for the demonstrative now. There it is. It looks like if that's true, then they would be similar to the other concentrations. Looks like the median wouldn't change that much, so you could still see a general pattern in the concentrations. But I'd have to confirm that.

Case Clip(s) Detailed Report

Oklahoma Trial Sept 2009

Sunday, November 08, 2009, 4:08:48 PM

Case Clip(s) Detailed Report
Sunday, November 08, 2009, 4:08:48 PM

Oklahoma Trial Sept 2009

Wear, Ray (Vol. 01) - 07/26/2007 [Oklahoma Trial Group - Charge n...] 1 CLIP (RUNNING 00:39:50.737)

Final

RW01 **88 SEGMENTS (RUNNING 00:39:50.737)**

1. PAGE 5:08 TO 5:22 (RUNNING 00:00:36.712)

08 Q. Would you state your name for the record, please,
09 sir?
10 A. Ray Wear.
11 Q. Mr. Wear, we've just met. I'm David Riggs. I'm an
12 attorney for the State of Oklahoma in this litigation that
13 the State has filed against your company, Peterson, and
14 the other defendants regarding alleged pollution of the
15 Illinois River Watershed. You understand why we're here
16 today?
17 A. Yes, sir. Yes, sir.
18 Q. What is your understanding of that?
19 A. That I'm supposed to talk about contracts and the
20 corporate structure.
21 Q. Okay. So you were designated as the spokesperson
22 for the company, Peterson Farms, Inc., in those areas you

2. PAGE 5:23 TO 5:25 (RUNNING 00:00:01.076)

23 just mentioned?
24 A. Yes, sir.
25 Q. Let me go ahead and hand you what is marked as

3. PAGE 6:01 TO 6:02 (RUNNING 00:00:24.982)

00006:01 Exhibit 1 to your deposition. And take that if you would
02 and look at the heading where it says Areas of Inquiry.

4. PAGE 6:05 TO 6:05 (RUNNING 00:00:20.197)

05 A. Do I need to read all of it?

5. PAGE 6:12 TO 6:12 (RUNNING 00:00:03.999)

12 THE WITNESS: Oh, okay.

6. PAGE 6:14 TO 6:20 (RUNNING 00:00:16.809)

14 A. Yes.
15 Q. (Mr. Riggs continued.) Okay. Those are the three
16 areas you expect to testify about today?
17 A. (Witness nods head.)
18 Q. Okay. I want to start by asking you some questions
19 about the company's organization and structure, and I'll
20 hand you Exhibit 2.

7. PAGE 7:04 TO 7:08 (RUNNING 00:00:09.000)

04 Q. (Mr. Riggs continued.) Have you seen Exhibit 2
05 before, Mr. Wear?
06 A. Yes, sir.
07 Q. Can you tell us what it is?
08 A. It's Organizational Chart, Peterson Farms.

8. PAGE 7:13 TO 7:24 (RUNNING 00:00:49.000)

13 Q. It doesn't have a date on it. Would you look at
14 each block there which has a name or -- or a title or a
15 position and tell me if those are all still current as of
16 today's date?

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
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7 Plaintiffs,)
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TYSON FOODS, INC., et al.,)
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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 NOVEMBER 19, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME XLIX, A.M. SESSION

16

17 APPEARANCES:

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME L - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 19, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 I N D E X

2

3 Page

4

5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

BERNARD ENGEL, PhD

7

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9 Further Voir Dire Examination by Mr. George 5800
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Q. And were those scientific studies identified in your report?

A. Yes, they were.

Q. And do scientists, such as yourself, use scientific studies as a basis to check or validate research such as these phosphorus coefficients analysis you just mentioned?

A. Yes.

Q. Okay. Dr. Engel, I'd like you to look at Demonstrative 230.

A. Okay.

Q. Do you have that before you, sir? I know there's not enough room. You can use the side there, Dr. Engel, if you'd like.

A. Okay.

Q. Dr. Engel, who prepared this demonstrative?

A. I did.

Q. Okay. What information does it contain?

A. This demonstrative contains three study statements from three studies that identify poultry waste phosphorus losses following land application and use a coefficient-based approach in doing so.

Q. Okay. Did you evaluate these studies to support the coefficient phosphorus results that you just testified to in this court?

A. Yes.

Q. Okay. Tell us about the first study.

A. Well, the first study by Willett, et al., in 2006 titled: "The Opportunity Cost of Regulating Phosphorus from Broiler Production in the Illinois River Basin," used a coefficient for runoff of phosphorus from land-applied poultry waste phosphorus of 5.36 percent and applied this to the Illinois River Watershed to compute the amount of phosphorus attributable to poultry waste lost each year.

Q. Okay. And did you use that study of the IRW? Correct?

A. It was of the Illinois River Watershed here in Arkansas and Oklahoma.

Q. To validate your analysis of five percent to determine how much poultry waste produced in the IRW would run off into rivers?

A. Yes.

Q. Okay. Second study, would you please discuss that with the court?

A. Yes. The second study by Sharpley, et al., discusses a variety phosphorus-based management issues associated with poultry-farming, and within that study state that five percent of poultry waste applied on land surfaces due to poultry waste application runs

1 off in surface waters.
2 Q. And Dr. Sharpley, what -- was he looking at
3 any particular watershed or was this a more
4 broad-based study?
5 A. This five percent value came from a group of
6 studies that were examined and reported in a figure
7 within -- within that report.
8 Q. And this is based on a peer-reviewed
9 scientific study; correct?
10 A. Correct.
11 Q. Okay. Would you please explain the third
12 study set forth in this Demonstrative 230?
13 A. So the third study by Nelson, et al., again
14 is in the Illinois River Watershed here in Oklahoma
15 and Arkansas, and describes a mass balance computation
16 that these scientists conducted.
17 What it found was that between four and five
18 percent of phosphorus that was applied to the
19 landscape, that would include poultry waste
20 phosphorus, in the watershed runs off on an annual
21 basis for the period that they looked at.
22 Q. And that study was also specific to the IRW?
23 A. Correct.
24 Q. Okay. Dr. Engel, did you reach any
25 conclusions by comparing these studies to the work

that you did with your coefficient analysis?

A. Yes.

Q. And what were those?

A. Well, based on my analysis, and confirmed by these reports, poultry waste when land-applied becomes a substantial contributor to phosphorus runoff and approximately five percent of the phosphorus in that waste would be expected to run off in an average or typical year.

Q. Okay. Dr. Engel, I want to change topics with you now, sir, and I want to ask you about STP.

Are you familiar with the term "STP"?

A. Yes. "STP" would stand for soil test phosphorus.

THE COURT: Let's go back just for a second because I don't recall whether or not the court formally ruled on Mr. George's objection relative to the demonstrative -- for use of the demonstratives here. I think I voiced my general approach, but did I formally enter a ruling on it?

MR. GEORGE: I don't believe so, Your Honor. So we would renew our objection and give the court an opportunity to do so.

THE COURT: All right. The objection's overruled. It seems -- and I frankly didn't have

Q. And did you find a relationship between pastureland and phosphorus if you had no poultry houses -- or poultry house -- I don't know if I can ask the question right.

MR. PAGE: I apologize, Your Honor.

Q. *(BY MR. PAGE)* Could you just please describe whether or not the analysis you did for cattle using pasture, whether you could eliminate poultry house influence based on that analysis?

A. Well, so -- so -- could you rephrase the question?

Q. I really doubt if I can.

Dr. Engel, how did you -- I mean, you have pastures; right?

A. Right.

Q. And you assume cattle on the pastures?

A. Yes.

Q. Okay. Did you also have pastures with low poultry house densities that you considered as part of your analysis?

A. Yes.

Q. Okay. What did that show you with this pasture/cattle analysis?

A. So the relationship for pastures was not statistically significant in this particular

instance.

Q. Okay. But if you had pastures with poultry house density, was there a significant relationship?

A. I guess that relationship was not looked at explicitly, so the relationship was either looking at poultry houses being active -- poultry houses in these watersheds or the amount of pasture.

Again, certainly there were pastures with poultry houses in these watersheds and the range of the amount of pasture varied --

MR. GEORGE: Objection, Your Honor.

A. -- within these.

MR. GEORGE: I apologize. The witness has said he has not done that analysis, and now he's speculating about what the result might have been had he done it. It's improper speculation.

THE COURT: Sustained.

MR. PAGE: Your Honor, I think he corrected me.

THE COURT: Well then, we'll need to clarify, but he did say the relationship wasn't looked at. So rephrase, please.

MR. PAGE: Okay.

Q. *(BY MR. PAGE)* Dr. Engel, how did you account for -- let me see if I can restate this.

MR. PAGE: Excuse me, Your Honor.

THE COURT: Let me give you 15 minutes to --

MR. PAGE: Thank you.

(Short break)

THE COURT: Mr. Page.

MR. PAGE: Yes, Your Honor. Thank you. Your Honor, I'll announce to the court that I wasn't able to figure out how to reformulate that question so I'm going to go on.

Q. *(BY MR. PAGE)* Dr. Engel, did you also do a comparison -- when you did this study of poultry house density and phosphorus in streams, did you also evaluate septic tank contribution?

A. Yes.

Q. And what did you do for that, sir?

A. Well, I looked at a relationship between phosphorus concentration and septic tanks within the watersheds. I also did some analysis of the waste that would be -- the phosphorus that would be input into those septic systems, and based on that analysis, concluded that septic systems in these watersheds could not possibly be responsible for the elevated phosphorus concentrations in runoff as we increase poultry house density that were observed.

Q. Okay. What about for livestock; who identified which livestock for the information that would be used for the mass balance?

A. So I in prior studies have used the census data for the livestock data and identified that data to be used in this instance as well.

Q. And what about for commercial fertilizer; was that another source of phosphorus identified in the mass balance?

A. Yes, the commercial fertilizer was. As in most states, there's a state agency that maintains some records, and so that has been my preferred source when doing these kinds of analyses.

Q. And did you suggest that to Ms. Smith?

A. Yes. And that was the data used.

Q. And did she go collect the data for you and do the calculations on that data?

A. Yes.

Q. Okay. What about golf courses; who suggested that source?

A. The golf courses were identified as potential sources in literature. So I identified that as something that we should look at, identified potential ways to identify golf courses within the Illinois River Watershed, and Megan carried out the collection

Case Clip(s) Detailed Report
Monday, November 02, 2009, 10:20:06 PM

Oklahoma Trial Sept 2009

Butler, Leasea (Vol. 01) - 08/22/2007 [Oklahoma Trial Group - Cha...] 1 CLIP (RUNNING 01:35:45.391)

State your name, please. ...

LB-0822-0000613 **74 SEGMENTS (RUNNING 01:35:45.391)**

1. PAGE 6:13 TO 7:03 (RUNNING 00:00:43.830)

```
        13  Q      State your name, please.
        14  A      Leasea Dawn Butler.
        15  Q      Ms. Butler, how are you currently employed?          09:07AM
        16  A      I work for Cobb-Vantress.
        17  Q      And what do you do for them?
        18  A      I'm director of GP production.
        19  Q      And explain what that is.
        20  A      I am over all of the U.S. grandparents for           09:07AM
        21  Cobb-Vantress.
        22  Q      And how long have you had that position?
        23  A      Two years.
        24  Q      And how long have you been with Cobb?
        25  A      Nine years.                                          09:07AM
  00007:01  Q      What did you do prior to having your current
        02  position?
        03  A      I was complex manager at Bates Mountain Farm.
```

2. PAGE 8:19 TO 8:22 (RUNNING 00:00:11.664)

```
        19  Q      You understand that here today you're speaking
        20  on behalf of the company Cobb-Vantress.  Do you          09:10AM
        21  understand that?
        22  A      Yes.
```

3. PAGE 9:14 TO 9:20 (RUNNING 00:00:23.641)

```
        14  definitions before we get into that.  As to the
        15  period of inquiry that I'm asking my questions           09:11AM
        16  concerning, we're addressing here today all of the
        17  time period during which Cobb-Vantress has been
        18  active in the Illinois River watershed.  Do you
        19  understand that?
        20  A      Yes.                                              09:11AM
```

4. PAGE 10:01 TO 10:06 (RUNNING 00:00:30.490)

```
  00010:01  Q      When I refer to poultry waste, I'm referring
        02  to the bedding material and the feces, urine, the
        03  feed, feathers, all of the things which are in -- on
        04  the floor of a poultry house at the conclusion of
        05  the growing period.  Do you understand?                  09:12AM
        06  A      Yes.
```

5. PAGE 12:16 TO 12:18 (RUNNING 00:00:10.771)

```
        16  Q      In terms of the contract, is it true that Cobb
        17  does not negotiate any of the individual terms of
        18  its contracts with growers?
```

6. PAGE 12:21 TO 13:02 (RUNNING 00:00:18.077)

```
        21  A      I feel that we do give them the option to
        22  negotiate terms.  I mean they can sign the contract
        23  or not.
        24  Q      Or not sign the contract?
        25  A      Yes.                                              09:16AM
  00013:01  Q      So it's basically a take it or leave it
```

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME LI - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 23, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
vs.)CASE NO. 05-329-GKF-PJC
8)
TYSON FOODS, INC., et al.,)
9)
)
10 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 NOVEMBER 23, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME LII, P.M. SESSION

16

17 APPEARANCES:

18

19 For the Plaintiffs: MR. W.A. DREW EDMONDSON
Attorney General
20 MS. KELLY FOSTER
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21 State of Oklahoma
313 N.E. 21st St.
22 Oklahoma City, OK 73105

23

24

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same objection, and it calls for the same ruling. Do you need a recess, Mr. Garren?

MR. GARREN: It would assist me in finding some --

THE COURT: As I say, if you wish --

MR. GARREN: I can move from this.

THE COURT: -- to bring in a nonretained exert, it can't be a surprise to Mr. George. You have to have materials that have been provided to him so that this is not a surprise.

As you know, fate and transport is probably the central issue here, and you can't conduct a trial by ambush on Mr. George.

We'll give you the recess you request.

(Whereupon a recess was had.)

THE COURT: Mr. Garren, there must be another study. I took that break to review Exhibit 517, and as Mr. George says, this study involves short-term nutrient injections of orthophosphate into to the stream and in nitrogen. We don't talk at all in this document about fate and transport from edge of field to streams.

MR. GARREN: Your Honor, just to respond at least in this regard to being bushwhacked, I --

THE COURT: No, let's just move on. The

Mr. Garren?

MR. GEORGE: Yes, Your Honor.

THE COURT: Groundwater gets into streams. Can you stipulate to that?

MR. GEORGE: Yes, Your Honor.

THE COURT: This is fate and transport, Mr. Garren. We're five years into this litigation -- or four and a half years. We're talking about fate and transport of phosphorus. The objection is sustained. Let's move on.

Q. (By Mr. Garren) Dr. Chaubey, do you have any experience in studying the effects of land-applied poultry litter on fields within the watershed?

A. Yes.

Q. Did those studies also study nutrient runoff as part of your work?

A. Yes.

Q. And what kind of nutrients were you studying, if you would, related to the poultry litter?

A. I was looking at both nitrogen and phosphorus.

Q. Did you conduct any fate and transport studies with regard to the transport of those nutrients from fields into waters of the Illinois River?

A. Yes, both experimentally and from modeling point of view.

Case Clip(s) Detailed Report

Oklahoma Trial Sept 2009

Monday, November 23, 2009, 9:16:18 PM

Case Clip(s) Detailed Report
Monday, November 23, 2009, 9:16:18 PM

Oklahoma Trial Sept 2009

Haggard, Brian H. (Vol. 01) - 04/16/2009

1 CLIP (RUNNING 01:24:45.974)

Final Version

BH01 **84 SEGMENTS (RUNNING 01:24:45.974)**

1. PAGE 4:22 TO 4:25 (RUNNING 00:00:16.000)

22 BRIAN HAGGARD, PhD
23 having first been duly sworn to testify the truth,
24 the whole truth and nothing but the truth, testified
25 as follows: 08:36AM

2. PAGE 9:24 TO 11:19 (RUNNING 00:02:14.000)

24 Q All right. Go ahead and state your full name
25 to the court, if you would, please. 08:44AM
00010:01 A Brian Edward Haggard.
02 Q Okay. Let's hand you what's been marked as
03 Exhibit 7 and tell the court, what that is, if you
04 would, please.
05 A This is a copy of my resumT or curriculum 08:44AM
06 vitae.
07 Q Okay. How current is this?
08 A It was last updated in January of this year I
09 believe.
10 Q Okay. Let's talk a little bit about your 08:44AM
11 education. You obtained a BS degree at the
12 University of Missouri in Rolla; is that correct?
13 A Yes, sir.
14 Q And your major there was life sciences?
15 A Yes, sir. 08:44AM
16 Q All right. Next you obtained your masters at
17 University of Arkansas in 1997 in environmental soil
18 and water science. Who was on your committee for
19 your masters thesis?
20 A Dr. Phillip Moore was my advisor. Dr. Tommy 08:44AM
21 Daniel was a departmental committee member. Dr.
22 Chuck West was a departmental committee member, and
23 I believe Dr. Thoma was the external member.
24 Q And Thoma, is that T-O-M-A?
25 A T-H-O-M-A. 08:45AM
00011:01 Q Thank you.
02 A Chemical engineering department.
03 Q Then you obtained your doctorate at Oklahoma
04 State University in biosystem engineering in the
05 year 2000. Tell us, if you would, who was your 08:45AM
06 advisors on your thesis there.
07 A Dr. Dan Storm was my dissertation advisor.
08 Q On the committee, who were they?
09 A Dr. Mike Smolen, Dr. Tom Honn and Dr. Emily
10 Stanley. 08:45AM
11 Q As of January 1 when your resumT or curriculum
12 vitae was prepared, is it accurate and complete as
13 far as you know?
14 A I believe so. There might -- there could be
15 some grants that are left off because I haven't 08:46AM
16 updated it.
17 Q Okay, but at the time it's pretty much
18 complete as far as you can tell?
19 A Yes, sir.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel. W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)
Plaintiffs,	)
vs.	)CASE NO. 05-329-GKF-PJC
TYSON FOODS, INC., et al.,	)
Defendants.	)

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
NOVEMBER 24, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
VOLUME LIII, A.M. SESSION

APPEARANCES:

For the Plaintiffs: MR. W.A. DREW EDMONDSON
Attorney General
MS. KELLY FOSTER
Assistant Attorney General
State of Oklahoma
313 N.E. 21st St.
Oklahoma City, OK 73105

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME LIV - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 24, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

NOVEMBER 30, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 I N D E X

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

6

7 **BERNARD ENGEL, PH.D**

8 Continued Direct Examination by Mr. Page 6192

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before you, sir?

A. Yes, I do.

Q. Okay. Is Exhibit 1154 a figure that's taken from your report?

A. Yes, it is.

Q. And is it a graphical representation of your opinion concerning the net additions of phosphorus by source for the current period?

A. Yes.

MR. PAGE: Your Honor, I move admission of Oklahoma Exhibit 1154.

THE COURT: Any objection?

MR. GEORGE: Yes, Your Honor. I think it is cumulative of Exhibit 1217 we just looked at, and from the description of the witness it is a demonstrative as opposed to a substantive exhibit.

THE COURT: Overruled. 1154 is admitted.

Go ahead.

MR. PAGE: Thank you, Your Honor.

Q. *(BY MR. PAGE)* Briefly, Dr. Engel, would you please explain the information that's depicted on Exhibit 1154?

A. Certainly. And let me note in doing that that this represents the most current period of

phosphorus additions into the IRW by source, so it would represent this 2002 period from the prior table that we looked at.

And so within this period, if we look at the -- the biggest part of this would be poultry, a little more than 76 percent. If we read on around -- it's a little bit difficult to match some of these colors up -- but as we look at this --

Q. Where does the human begin after you look at poultry? It's pretty easy to identify poultry at 76 percent.

A. So as I recall, the human is the 3.2 percent here, and then I believe you step on around in order with swine at 2.9, dairy at 5.2, beef cattle at 1.7, commercial fertilizer at 7 1/2 percent, urban runoff at about .5 percent, industrial sources at 2.7 percent, and all other sources that included nurseries and golf courses and things at .2 percent.

Q. Okay. Dr. Engel, I'd like you now to look at Exhibit 1157. Do you have that, sir?

A. I do.

Q. Was this table taken from your report?

A. This figure was taken from my report.

Q. Excuse me. Figure. And does this contain your opinion concerning historical net additions of

1 describes how much phosphorus reaches that gauging
2 location.
3 Q. Okay, sir. Please continue.
4 A. So turning to 233b, so recalling back from
5 the other figure, we have the wastewater-treatment
6 plant observed value, a computed value from the
7 nonpoint-source model GLEAMS, and the routing model
8 then simply computes the phosphorus load. So the
9 arrow to the right delivered to a location --
10 Q. Okay. So this equation that's on this
11 exhibit is the actual equation for the routing
12 model?
13 A. This is the routing model equation.
14 Q. Okay. Would you please describe the
15 equation, sir?
16 A. So what this equation indicates is that the
17 phosphorus load at a particular gauge on a particular
18 day is going to be equal to A, a coefficient -- I'll
19 describe that in a minute -- plus a coefficient times
20 the flow times the phosphorus accumulation.
21 Q. Q is represented as flow?
22 A. Yes. So Q represents the flow, so the flow
23 was the observed flow at the USGS gauging station for
24 that particular day.
25 The third term here then in the equation, so

plus another coefficient that I'll describe times flow squared, in general there's a relationship between the amount of phosphorus and flow squared. So the higher the flow, the more rapid the increase in the phosphorus moved. And, again, times the P accumulation, so P accumulation was the accumulated phosphorus from the box.

So A, B, and C are coefficients that were obtained during the equation development from data from the Illinois River Watershed, so these equations were obtained by identifying a relationship between this equation and the observed phosphorus loads.

Q. So those coefficients are actually based on actual empirical data from the IRW?

A. So these would be based on observed data from the Illinois River Watershed, yes.

Q. Now, if it was a mechanistic model, would those -- it would still have coefficients as part of its process analysis; correct?

A. There would certainly still be coefficients in a mechanistic-based model.

Q. Would they be based on exclusively-observed data?

A. Not necessarily exclusively, but they would probably be calibrated to some extent with local data.

describe watershed modeling.

Q. Okay. Now, what did you do next, Dr. Engel, in your watershed modeling project?

A. So next, these data were prepared and input into the modeling system. So after they were input into the model and the model was running, the next step then was to use the modeling system and go through a calibration and validation process.

Q. Now, would you please explain to the court why you undertake a calibration and validation process for the model?

A. So the calibration/validation process allows one to identify and test how well the model is performing for the particular location to which it's being applied.

Q. Okay. Is it important and necessary to calibrate a model?

A. Not always. So certainly given the choice and given the kinds of potential uses that we wanted to make of the model this particular case, it would be certainly desirable to calibrate the model.

Q. Okay. And would you explain briefly to the court how the calibration process works with the model?

A. Certainly. So the concept with calibration

is that we have observed data. So in this case, we had observed runoff at the three USGS gauging stations and we had observed phosphorus loads at those locations. We had inputs that we -- that we had derived from the sources just talked about into the model. So when one makes a prediction then, that prediction may not match the observed data.

And so through the calibration process, there are a range of coefficients or parameters within the model that one would typically adjust, and were adjusted in this case, to better match model prediction and observe runoff-observed phosphorus loads.

Q. Okay. Now, sir, what about validation; in your opinion, for a watershed model, is it important to validate?

A. Again, it depends on the circumstances. For circumstances like this where we want to understand how reliable the model would be expected to be, it would be important to do a validation process with that model.

Q. And would you explain to the court how you validated this IRW model?

A. So the process that was used is the same approach that's described hundreds of times in

the -- in the peer-reviewed journals talking about watershed models in which you reserve a portion of the data, the observed flows and the observed phosphorus loads, so you have this independent set of data that's not been used for calibration. You don't make further adjustments to these coefficients that were adjusted during model calibration, so you don't make these further adjustments.

You predict for the conditions represented by this independent observed data, and then compare predicted values with the observed data that have been reserved for validation. Typically, some statistical measures are computed to describe how well that matches.

Q. Now, Dr. Engel, in your opinion, is model calibration and validation a method typically used by scientists, such as yourself, to determine how accurate a watershed model is?

A. Yes.

Q. What is -- did you actually calibrate and validate the model that you performed for this case?

A. Yes.

Q. What is the performance of the IRW model?

A. Well, the model as calibrated for runoff was certainly above published values that one would

the -- in the peer-reviewed journals talking about watershed models in which you reserve a portion of the data, the observed flows and the observed phosphorus loads, so you have this independent set of data that's not been used for calibration. You don't make further adjustments to these coefficients that were adjusted during model calibration, so you don't make these further adjustments.

You predict for the conditions represented by this independent observed data, and then compare predicted values with the observed data that have been reserved for validation. Typically, some statistical measures are computed to describe how well that matches.

Q. Now, Dr. Engel, in your opinion, is model calibration and validation a method typically used by scientists, such as yourself, to determine how accurate a watershed model is?

A. Yes.

Q. What is -- did you actually calibrate and validate the model that you performed for this case?

A. Yes.

Q. What is the performance of the IRW model?

A. Well, the model as calibrated for runoff was certainly above published values that one would

typically suggest for acceptable model performance.

So R^2's and Nash-Sutcliffe coefficients were both above the range of values that one would hope for calibration, and that was also true for the validation data sets.

Q. That is, did it also consider P calibration data when you did the model validation and calibration?

A. Yes. So both runoff and phosphorus loads were calibrated and validated and performance for both was above levels that would be deemed acceptable by the watershed modeling scientific literature.

Q. Dr. Engel, I'd like you to look at Defendants' Joint Exhibit 2734. Should be marked DJX.

A. Okay. I have it.

Q. You have it? Dr. Engel, is this table 12 from your errata as part of your report?

A. Yes.

Q. Okay.

MR. PAGE: Your Honor, I move admission of DJX2734.

THE COURT: Any objection?

MR. GEORGE: No objection, Your Honor.

THE COURT: Exhibit 2734 is admitted.

Q. *(BY MR. PAGE)* Would you please explain to

typically suggest for acceptable model performance.

So R^2's and Nash-Sutcliffe coefficients were both above the range of values that one would hope for calibration, and that was also true for the validation data sets.

Q. That is, did it also consider P calibration data when you did the model validation and calibration?

A. Yes. So both runoff and phosphorus loads were calibrated and validated and performance for both was above levels that would be deemed acceptable by the watershed modeling scientific literature.

Q. Dr. Engel, I'd like you to look at Defendants' Joint Exhibit 2734. Should be marked DJX.

A. Okay. I have it.

Q. You have it? Dr. Engel, is this table 12 from your errata as part of your report?

A. Yes.

Q. Okay.

MR. PAGE: Your Honor, I move admission of DJX2734.

THE COURT: Any objection?

MR. GEORGE: No objection, Your Honor.

THE COURT: Exhibit 2734 is admitted.

Q. *(BY MR. PAGE)* Would you please explain to

the court the table 12 portion of that exhibit?

A. Yes. So table 12 is one of a number of tables reported within -- within my report describing performance of the model following calibration and validation.

This particular table describes Nash-Sutcliffe coefficients for phosphorus load calibration and validation at the three locations so locations noted in the left-hand column. Again, those are Tahlequah, Barren Fork and Caney Creek.

And so what this indicates is for the calibration phase, I believe the first five years of the data set -- '97 to '02, I believe, would be the case then -- the calibration is noted for each of these. The validation would be the next five years of data. And, again, these values identify how well the model performed with respect to the Nash-Sutcliffe coefficient for those calibration validation periods.

Q. What is -- is there an acceptable level of performance for validation and calibration of a model based on the Nash-Sutcliffe performance standard?

A. Yes. The value that one would find widely reported in literature for Nash-Sutcliffe for this type of effort would be .4 and above. Certainly,

these values are above -- above that range.

Q. Now, based on this validation and calibration, did you perform -- excuse me -- did you reach any conclusions?

A. So yes, based on this, my conclusion is that the model is performing at a level that's acceptable and so that the model would then be ready to be used to take next steps.

Q. Do you have an opinion as to whether or not this model may accurately model phosphorus loads to IRW rivers and streams and Lake Tenkiller?

A. So based on the validation performance, so the validation is this independent check where the model is not further changed, the validation indicates that the model is certainly going to provide reliable estimates.

Q. Okay. Now, Dr. Engel, I want to pause for a moment now that you've described the model you've used. I want you to contrast the model that you used in the IRW with the model that you reviewed for Judge Eagan in the Eucha-Spavinaw case.

A. Okay. So a couple of items of particular note.

So in the Eucha-Spavinaw situation, the model was only calibrated so the data were far more limited,

typically suggest for acceptable model performance.

So R^2's and Nash-Sutcliffe coefficients were both above the range of values that one would hope for calibration, and that was also true for the validation data sets.

Q. That is, did it also consider P calibration data when you did the model validation and calibration?

A. Yes. So both runoff and phosphorus loads were calibrated and validated and performance for both was above levels that would be deemed acceptable by the watershed modeling scientific literature.

Q. Dr. Engel, I'd like you to look at Defendants' Joint Exhibit 2734. Should be marked DJX.

A. Okay. I have it.

Q. You have it? Dr. Engel, is this table 12 from your errata as part of your report?

A. Yes.

Q. Okay.

MR. PAGE: Your Honor, I move admission of DJX2734.

THE COURT: Any objection?

MR. GEORGE: No objection, Your Honor.

THE COURT: Exhibit 2734 is admitted.

Q. *(BY MR. PAGE)* Would you please explain to

the court the table 12 portion of that exhibit?

A. Yes. So table 12 is one of a number of tables reported within -- within my report describing performance of the model following calibration and validation.

This particular table describes Nash-Sutcliffe coefficients for phosphorus load calibration and validation at the three locations so locations noted in the left-hand column. Again, those are Tahlequah, Barren Fork and Caney Creek.

And so what this indicates is for the calibration phase, I believe the first five years of the data set -- '97 to '02, I believe, would be the case then -- the calibration is noted for each of these. The validation would be the next five years of data. And, again, these values identify how well the model performed with respect to the Nash-Sutcliffe coefficient for those calibration validation periods.

Q. What is -- is there an acceptable level of performance for validation and calibration of a model based on the Nash-Sutcliffe performance standard?

A. Yes. The value that one would find widely reported in literature for Nash-Sutcliffe for this type of effort would be .4 and above. Certainly,

these values are above -- above that range.

Q. Now, based on this validation and calibration, did you perform -- excuse me -- did you reach any conclusions?

A. So yes, based on this, my conclusion is that the model is performing at a level that's acceptable and so that the model would then be ready to be used to take next steps.

Q. Do you have an opinion as to whether or not this model may accurately model phosphorus loads to IRW rivers and streams and Lake Tenkiller?

A. So based on the validation performance, so the validation is this independent check where the model is not further changed, the validation indicates that the model is certainly going to provide reliable estimates.

Q. Okay. Now, Dr. Engel, I want to pause for a moment now that you've described the model you've used. I want you to contrast the model that you used in the IRW with the model that you reviewed for Judge Eagan in the Eucha-Spavinaw case.

A. Okay. So a couple of items of particular note.

So in the Eucha-Spavinaw situation, the model was only calibrated so the data were far more limited,

detail.

First of all, how did this first mistake get discovered?

A. So it was when answering some questions for the defendants --

Q. Was this in your deposition?

A. No.

Q. It was a phone call that you agreed to do prior to your deposition and after your report?

A. I don't recall if it was a phone call or an e-mail request. It was one of the two.

Q. And did you participate in that with the defendants' experts on modeling?

A. Yes.

Q. Did you fully answer all their questions?

A. To my knowledge.

Q. Okay. Now, what specifically was the error that was discovered by Dr. Jeon but not communicated to you?

A. So the specific error was in the code that was written to conduct the calibration of the model. The model had to step through each of the unique combinations of land use, soils, management, weather for each watershed that was modeled, and there were three watershed that were modeled.

Q. Does that have a name, those unique combinations?

A. Hydrologic response units would be the term that's typically used.

Q. And is that sometimes shorthand called HRUs?

A. It would be abbreviated HRU, yes.

Q. And, again, for the court's benefit and us, what is an HRU?

A. So an HRU, hydrologic response unit, is an unique combination use of land use, soils, management, and weather that is modeled then uniquely in GLEAMS; other models do a similar concept.

Q. Okay. And what was the mistake that was made with regard to the HRUs that you discovered?

A. So a little bit of context. So there were three watersheds being modeled at Tahlequah, Barren Fork, Caney Creek, and as one might expect the number of HRUs within those differs.

So the code was initially written to calibrate Caney Creek. It had, as I recall, nine HRUs. The other watersheds had a different number than nine. And when that code was moved to the other watersheds to complete calibration in those locations, the nine was not changed. As a result, the

calibration was completed with only the first nine hydrologic response units in those watersheds --

Q. What watersheds were you talking about, the calibration was completed with just nine in those watersheds? What are "those"?

A. So those watersheds would have been Barren Fork and at Tahlequah.

Q. Are there more than nine HRUs, or hydrologic response units, for Barren Fork and Tahlequah?

A. Yes.

Q. So that was a mistake, he just used the same HRUs for Caney Creek and Barren Fork?

A. Used the same number. So it found the first nine in those instances.

Q. And there have should been additional HRUs because there's more diversity in Barren Fork than there is in Caney Creek?

A. Correct.

Q. So what was the problem with Tahlequah calibration?

A. Same problems. There were more HRUs than in Caney Creek, so, again, looked at only the first nine and completed the calibration with only that first nine HRUs found.

Q. Okay. And that was -- does that fully explain the first mistake that you determined?

A. Yes.

Q. Okay. Was there any other mistakes?

A. Yes. There was a -- as I was fixing that mistake --

Q. The first mistake, the HRUs?

A. The first mistake, the HRU problem, and using the GLEAMS outputs and rerouting those, there was a mistake made with respect to some observed phosphorus load data in a table and then a couple of figures associated with that.

Q. Okay. How were these -- well, let me ask this.

Were these mistakes corrected?

A. Yes.

Q. How were they corrected?

A. So the first mistake, the HRU mistake, the corrected GLEAMS modeling results were put into the routing model. The routing model produced new results that touched many of the graphs then in chapter 10 of my report. So the graphs that came from the routing model that had used the incorrect GLEAMS inputs were all updated and associated figures, tables with those

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
vs.)CASE NO. 05-329-GKF-PJC
8)
TYSON FOODS, INC., et al.,)
9)
)
10 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 NOVEMBER 30, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 56, P.M. SESSION

16

17 APPEARANCES:

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several weeks after the deposition, and that there was no further discovery sought.

THE COURT: With the conflicting understanding here, I'd suggest that maybe you put a paralegal on it and try to find that and bring it in before you complete Dr. Engel's -- questionings of Dr. -- questioning of Dr. Engel. In fact, if you complete prior to cross-examination, I may allow you to reopen direct. But I suggest you get somebody on it. The objection is sustained without that proof. Let's move.

MR. PAGE: Your Honor, this is my conclusion to my examination is on this point.

THE COURT: All right. Very well. We'll -- in fairness, I'll allow you to -- I see Mr. Garren and one other attorney leaving to try to obtain that, so we'll reopen in the event that you show that that source data was provided.

Just to be clear here, Mr. George, you're telling the Court on the record that that source data was not provided, correct?

MR. GEORGE: Your Honor, my recollection as to the details of that e-mail is not very clear. What I do recall is that Mr. Page and I did exchange e-mail correspondence afterwards; and specifically

we saw on the first day of your trial testimony, you cite frequently a gentleman by the name of Dr. Andrew Sharpley. Do you recall that?
A. Yes.
Q. For the record, who is Dr. Sharpley?
A. I believe he's currently a USDA -- or I believe he's a USDA scientist in Arkansas or maybe even a faculty member at the University of Arkansas.
Q. You do recall that at one point in time, he was affiliated with and, in fact, worked directly for the United States Department of Agriculture?
A. Yes.
Q. Do you know -- your answer was a little unclear, so I'm going to try to pin it down.
Are you aware that Dr. Sharpley is now a faculty member at the University of Arkansas?
A. I was a little confused if he was a faculty member or currently a USDA employee at Arkansas on campus.
Q. At the time that Dr. Sharpley was with USDA, were you aware that he worked out of Pennsylvania as opposed to Arkansas?
A. I was aware he worked in Pennsylvania, yes.
Q. Another author that you cite with some frequency in your report and in the demonstrative

exhibits that we saw is Dr. Tommy Daniels. You're familiar with Dr. Daniels?
A. Yes.
Q. And his work generally?
A. Yes.
Q. Who is Dr. Daniels?
A. I believe he's a faculty member at the University of Arkansas.
Q. Do you agree that the two gentlemen that we just described, Dr. Daniels and Dr. Sharpley, are two of the most well-recognized authorities on the potential loss of phosphorus from agricultural lands and proper management of phosphorus in agricultural settings?
A. They would be well-recognized, yes.
Q. And you also work with a colleague who's testified, at least partially in this case, Dr. Chaubey, correct?
A. Correct.
Q. And, in fact, Dr. Chaubey reports to you or is a member of one of the departments over which you are the chair; is that right?
A. Yes.
Q. You're aware, I assume, and, in fact, I think you cite some in the demonstratives that were shown

regulate the land application of poultry litter in the Illinois River Watershed?
A. Yes.
Q. Let's talk about what these transport factors would be on sort of a hypothetical field, if you would, for a moment.
You agree that one of the transport factors that must be considered in determining the risk of movement of phosphorus off of a field is the slope of the field?
A. It can certainly be a contributing factor.
Q. Another contributing factor would be the type and the composition of the soil, right?
A. Yes.
Q. Another transport factor that is often considered by phosphorus indices is the distance to a stream; is that right?
A. Yes.
Q. And there are other factors, such as the type of plants that are growing on a site, that can impact transport, correct?
A. Yes.
Q. You're familiar with buffer strips, and you'd agree that the existence of a buffer strip at the end of a field is something that a phosphorus index

would ordinarily consider in making recommendations for litter application?
A. Certainly some phosphorus indices may, yes.
Q. And the existence of a buffer at the edge of a field would certainly impact the potential for transport of phosphorus leaving that field, correct?
A. Yes.
Q. Now, you know, don't you, Dr. Engel, that Dr. Sharpley and many other scientists hold the view that STP levels alone are not a reliable basis upon which to manage poultry litter applications?
A. I've seen that statement, yes.
MR. GEORGE: Your Honor, may I approach?
THE COURT: You may, sir.
Q. (By Mr. George) Dr. Engel, I've handed you what's been marked for identification purposes as Defendants' Joint Exhibit 8097 which, for the record, is a submission by the University of Arkansas and, in particular, Dr. Chaubey and Dr. Daniels, to this court, the Northern District of Oklahoma, in connection with the Eucha-Spavinaw case.
You're familiar with the Eucha-Spavinaw case, correct?
A. Correct.

Plans for the Arkansas side of this basin?
A. I believe I've seen a little bit about that, but not details.
Q. Now, Arkansas is not the only state in the United States to use a phosphorus index as opposed to just STP, is it?
A. Correct.
Q. Let's talk for a moment about rainfall simulation studies. You discussed with the court on the first day of your direct examination some findings from rainfall simulation studies. Do you recall that?
A. Yes.
Q. And you agree, do you not, Dr. Engel, that these rainfall simulations often involve litter application rates and rainfall amounts that are not representative of real world conditions?
A. I'm not sure I'd agree that they're not represented in real world conditions. In some cases, that may be true, but not all.
Q. Well, you do understand, do you not, that the goal of these rainfall simulation studies is to set up a set of conditions that will guarantee to produce runoff of phosphorus? Do you understand that?

MR. PAGE: Objection, no foundation, Your Honor.

THE WITNESS: Yes.

THE COURT: Excuse me. The objection is overruled.

Q. (By Mr. George) Do you agree that it would be a mistake, Dr. Engel, to take the runoff percentages that we get out of these rainfall simulation studies and assume that that is what happens in the Illinois River Watershed when it rains?

A. I'm not sure I would necessarily agree with that statement.

Q. You'd have a hard time agreeing with that statement, because that's exactly what you've done in this case, isn't it?

A. Not exactly.

Q. You testified earlier this morning that you took five percent as a runoff value associated with poultry litter and applied it to all litter and then compared it to phosphorus loads in this watershed. Do you recall that testimony?

A. Yes.

Q. You've done exactly what I described a moment ago, haven't you? You've used a rainfall simulation estimate of five percent, and you've applied it as

1 though it's real world conditions to all of the
2 litter applied in the watershed and compared it to
3 phosphorus loads, correct?
4 A. I used five percent, but the five percent was
5 reported in multiple places, including one that was
6 a watershed.
7 MR. GEORGE: Your Honor, may I approach?
8 THE COURT: You may.
9 Q. (By Mr. George) Dr. Engel, I've handed you
10 what's been marked for identification purposes as
11 Defendants' Joint Exhibit 2729 which, for the
12 record, is an e-mail from Mr. Page to yourself with
13 an article or a publication from Andrew Sharpley
14 attached; is that correct?
15 A. Yes.
16 Q. And you recall this e-mail and this particular
17 article by Dr. Sharpley, don't you?
18 A. Yes.
19 Q. We discussed it at your deposition, didn't we?
20 A. I believe so.
21 Q. Can you turn to page 14 of the article. And
22 under the caption "Poultry litter application and P
23 runoff," there are about three sentences that I want
24 to see if you agree with. Okay?
25 Dr. Sharpley is discussing some of these

studies, and he says, "Numerous studies have reported the potential for P loss in runoff following poultry litter application to pastures."

Skipping over to the next sentence. "In all cases, these studies have used small plots and in some cases simulated rainfall following applications. In as much, they represent the worst-case scenario for P loss, and should not be used as an estimate of field scale loss."

Do you disagree with Dr. Sharpley about the wisdom of using these small plot runoff studies as an estimate for field scale loss?

A. I guess I would not agree with that statement fully. There's certainly some instances where that may not be the case.

MR. GEORGE: May I approach, Your Honor?

THE COURT: Yes, sir.

Q. (By Mr. George) Dr. Engel, I've handed you what's been marked as Oklahoma Exhibit 1160, and I believe this is an exhibit that has already been admitted into evidence. And the exhibit reflects that it is Figure 8.2 from a Sharpley, et al., 2007 paper. Do you see that?

A. Yes.

Q. You recall this exhibit, correct?

A. Correct.
Q. And you recall that this exhibit shows graphically some sampling results associated with a small plot study in southeast Oklahoma?
A. Yes.
Q. Just so the record is clear, this is not a field study that was conducted in the Illinois River Watershed, is it?
A. I don't believe that it was in the Illinois River Watershed.
Q. You see the reference at the bottom to the poultry litter application rate for the three years of '91 through '93?
A. Correct.
Q. And it is expressed as 140 kilograms per hectacre (sic) per year; is that right? Hectare per year.
A. Yes.
Q. I apologize. I always have difficulty with hectares and acres. Could you convert that to an application rate per acre of poultry litter?
A. Well, let's see. If I recall correctly, to go from hectares to acres, we need to multiply by 2.47, approximately. So I believe that would get us --
Q. Let me do this. I don't want you to guess,

Dr. Engel. Would it help if I handed you the actual study from which this figure is excerpted?
A. I'm not sure it will help me with the conversion. I may still struggle with that one.
Q. Dr. Engel, if you'll turn in this study to the page on which this figure appears, which is page 379. And, again, for the record, this is a study by Dr. Sharpley and Dr. Daniel, correct?
A. Well, the paper is authored by Sharpley, Herron and Daniel, yes.
Q. And it's marked as Oklahoma Exhibit 1025, correct?
A. Yes.
Q. If you'll look on page 379, the upper left-hand column, do you see a reference there to the application rate for poultry litter in acres, tons per acre?
A. I see -- yeah, I see a reference. Let me make sure I've got the right context here. Just a moment.
Q. Sure.
A. It looks like the application rate in English units was five tons per acre.
Q. You're familiar generally with application rates today in the Illinois River Watershed, are you

not?
A. Yes.
Q. There's no one in the Illinois River Watershed today applying litter at five tons per acre, is there?
MR. PAGE: Objection, Your Honor, lack of foundation.
MR. GEORGE: He said he was familiar.
THE COURT: Overruled. If he knows.
THE WITNESS: I'm not aware that anyone is or isn't, you know, as I've not looked at all the records that would have those values reported.
Q. (By Mr. George) That brings up an interesting question. Have you looked at Nutrient Management Plans for growers in the Illinois River Watershed?
A. I've certainly looked at some of them, yes.
Q. Do you recall any of those plans permitting or suggesting application rates on the order of five tons of litter per acre?
A. No.
Q. Let's switch topics for a moment and talk about the mass balance study that you testified about on direct examination. I think we established during the voir dire that I conducted with you, Dr. Engel, that the mass balance study that is shown in

Q. (By Mr. George) And 1157. Oklahoma Exhibit 1157. And Oklahoma Exhibit 1164.
A. Yes.
Q. Oklahoma Exhibit 1229.
A. Yes.
Q. And the last one, Oklahoma Exhibit 4320.
A. Yes.
Q. Thank you for doing that, Dr. Engel. Do you agree with me that all eight of those exhibits that I've just asked you to put in front of you relate to and are the product of your and Meagan Smith's mass balance study?
A. Give me a moment to look at these.
Q. Sure.
MR. PAGE: Do you have an extra copy of these, Mr. George? I'm not sure we asked all these to be admitted.
MR. GEORGE: Sure.
THE WITNESS: These came from the mass balance report.
Q. (By Mr. George) Dr. Engel, let's talk generally about this mass balance study and what it is and what it's not. You agree the mass balance study evaluated the movement of phosphorus in and out of the basin or the watershed, right?

A. Yes.
Q. The mass balance study does not focus on phosphorus movement within the basin, does it?
A. Correct.
Q. You agree, do you not, that the mass balance study does not directly analyze the movement of phosphorus from fields to surface or groundwater?
A. Yes.
Q. But you believe that Ms. Smith is qualified and was qualified to undertake this mass balance study, don't you?
A. Certainly.
Q. And you testified on the first day of your deposition -- I'm sorry, of your trial testimony, that you reviewed Ms. Smith's deposition, correct?
A. Yes.
Q. And I want to read you a quote that came from her in that deposition, ask you whether you agree with it, okay?
A. Okay.
Q. Ms. Smith was asked, this is on page 38, "Your study has nothing to do with fate and transport of phosphorus in the watershed; is that right?"
And her answer was: "That is correct."
Do you agree with her statement?

A. No.
Q. Ms. Smith was your hands, I think is what you described her role as in this study, correct?
A. Yes.
Q. And she was the one that performed the calculations, correct?
A. She performed the majority of the calculations. I performed some.
Q. And she was the one that gathered the information regarding various sources to evaluate in the mass balance study?
A. Yes.
Q. She's the one who principally authored the report that you then appended to your expert report, correct?
A. She wrote certainly the majority of the report. I was involved in the report editing and writing as well.
Q. You disagree with your hands; is that what you're telling me?
A. I think there probably needs to be more context.
Q. Answer my question first.
A. Okay, sorry. So I disagree with her statement from the deposition.

Q. So I assume you disagree when she said that -- the same thing on page 73 of her deposition, that this is not fate and transport; you disagree with that statement as well, right?
A. Well, the study itself was not a fate and transport study.
Q. Now, Ms. Smith also testified that not all of the phosphorous additions that were included in her analysis make it to Lake Tenkiller. Would you agree with that statement?
A. Generally, yes; but over enough time, I would maybe disagree.
Q. Can you go back to Oklahoma Exhibit 1154, which is your pie chart. You discussed this on direct examination, correct?
A. Yes.
Q. And you drew the Court's attention to this figure for poultry phosphorus additions of 76.2 percent, correct?
A. Yes.
Q. And by way of background, these percentages relate to phosphorus additions during the current time period, which is defined as what year?
A. These would represent approximately 2002.
Q. And these percentages reflect the relative

magnitude of each of these sources as an addition to the watershed, correct?
A. Correct.
Q. You're not representing, are you, Dr. Engel, that in 2002, 76.2 percent of the phosphorus that made it to Lake Tenkiller came from poultry litter, are you?
A. No, that's not what this says.
Q. Now, Ms. Smith's mass balance study does not take into account the measured discharges of phosphorus from wastewater treatment plants, does it?
A. No.
Q. And you're well aware of that data because you've reviewed it for other purposes, correct?
A. Correct.
Q. Did you know that Ms. Smith testified that she didn't even know if wastewater treatment plants discharge phosphorus in the watershed?
A. I recall some language. I don't recall that exact statement, but I recall some language in the deposition that is at least near what you described.
Q. And you agree with me, as opposed to Ms. Smith, don't you, that wastewater treatment plants do discharge phosphorus into the watershed, right?

Mr. Page.

Let's talk about nurseries for a moment.

Ms. Smith did not add up the amount of commercial fertilizer that was purchased and hauled into the watershed by nurseries, did she?

A. That was not explicitly identified.

Q. Ms. Smith also did not include in her mass balance analysis an estimate of the amount of phosphorus that's in cattle manure that's produced in the watershed so that we can compare it to the total amount of phosphorus from poultry litter, did she?

A. Cattle was not -- cattle waste was not included, for the reasons I described.

Q. In fact, Dr. Engel, the only contribution of phosphorus from cattle that Ms. Smith included in her analysis is an estimate of the phosphorus content of mineral supplements which she assumed was only given to calving cows, correct?

A. It was cattle supplements, yes.

Q. Do you know that mineral licks are widely used in the Illinois River Watershed in cattle operations?

A. Yes.

Q. And are you aware of the practice that those

mineral licks are often placed in riparian areas?
A. I've seen them in riparian areas. I've seen them in other areas.
Q. You're familiar with range cubes, aren't you? You know what range cubes are?
A. Yes.
Q. Ms. Smith did not add up the phosphorus content of imported range cubes for purposes of her mass balance analysis, did she?
A. To the extent that they were included in the supplements, they would be here, but I don't think they were explicitly identified.
Q. Now, in arriving at Ms. Smith's 76.2 percent phosphorus addition for poultry litter, Ms. Smith used all of the litter that was generated in the watershed without regard to whether that litter was actually applied in the watershed, right?
A. Right.
Q. She did not take into account, did she, the amount of poultry litter that's being transported out of the watershed, right?
A. Right.
Q. So Ms. Smith treated phosphorus and litter that is exported from the watershed as a phosphorus addition to the watershed; is that right?

watershed since the construction of the dam can reach the water? That's not your opinion, is it?
A. No.
Q. Now, Ms. Smith, in her mass balance analysis, ignored all sources of phosphorus that are purely internal, correct?
A. Correct.
Q. By "internal," make sure we're communicating, we mean internal to the basin, right?
A. Right.
Q. She completely ignored the amount of phosphorus that's in soils in the Illinois River Watershed naturally, didn't she?
A. Yes.
Q. Now, in terms of water quality, Dr. Engel, does it matter if the phosphorus that makes it to a stream comes from phosphorus that's in the soils that's always been there but was eroded for one reason or another or, rather, from corn grown in Iowa and imported into the watershed for chicken feed?
A. No, it wouldn't matter.
Q. If we dug up all of the phosphorus naturally present in soils in the watershed, and we deposited it in the river, its impact on water quality would

be the same as a comparable amount of phosphorus from an imported source, right?
A. Yes.
Q. If we were to add up all of the phosphorus that's present in the soils and the watershed before the first poultry house was built, do you know how much phosphorus that would be?
A. No. I would need to perform a series of calculations to get that value.
Q. But you actually looked at this question as part of your modeling analysis, because one of the input values that you had to make a decision on is the phosphorus content of soils and various profiles in horizons, correct?
A. So certainly the STP data was used as an input into the model, and it would have provided some idea of the level of phosphorus in soils.
Q. You were trying to be reasonable and representative in selecting the soils' P concentrations for purposes of your model, correct?
A. Correct.
Q. Have you gone back and looked at your model input files to see how much phosphorus you assumed was present in the Illinois River Watershed soils as compared to the amount of phosphorus that you're

Q. Does that mean you dispute it or you just don't know?
A. Without doing the calculation myself, I don't know.
Q. Let's go back to Oklahoma Exhibit 1154, which is the pie chart. Dr. Engel, one of the great things about cross-examining an expert is I get to ask you questions that are hypothetical, so I'm going to ask you a hypothetical.
If you assume for purposes of this question that Dr. Bierman got it right, he added up your input files for phosphorus correctly, and it was 6.3 million pounds of -- I'm sorry, tons of phosphorus in soils, if we took just that one internal source of phosphorus present in soils, and we applied it to your pie chart, what would it look like?
A. I guess to use a phrase that you used earlier, it's an apples-oranges kind of comparison here, so -- but if we did that, certainly the value you're reporting is much bigger than the pounds or tons of phosphorus represented in the pie chart.
Q. Let me show you a demonstrative exhibit. If we could pull up Tyson Demonstrative 230. I'll hand you a copy as well.
And I represent to you, Dr. Engel, that

what we've done is we've taken that one source and added it to Oklahoma Exhibit 1154. And you'd agree with me that what this would show is that one source would make up 99.9 percent of the other phosphorus sources that you characterize in that exhibit? Do you have any reason to disagree with that?

A. I guess I'm not certain about your 6.3 million ton number, but if that's the number that was used here, that's what this would likely show.

Q. If we were -- if you were to accept, at least for purposes of this question, that 6.3 million tons of phosphorus number, you would agree with me that the amount of phosphorus added every year from poultry litter applications to the soils that contain, under my representation, 6.3 million tons of phosphorus would be a fraction of one percent, right?

A. Yes.

Q. Do you still have the collection of exhibits that I had you pull out, Dr. Engel?

A. I do.

Q. And let me ask you one more time to pull together a subset of them. From the same stack, can you find Oklahoma Exhibit 1148, Oklahoma Exhibit 1152, Oklahoma Exhibit 1157, Oklahoma Exhibit 1164,

doctoral degrees on the other axis; do you see that?
A. Yes.
Q. He's computed a regression line between those two variables, correct?
A. Yes.
Q. You'll see he has an R^2 value, right?
A. Yes.
Q. That's a relatively strong R^2 value, right, 9.96?
A. Yes.
Q. You would agree with me, would you not, that the mere fact that Dr. Sullivan's analysis shows a strong statistical correlation between these two variables does not mean that increasing production of poultry in the watershed is causing more private colleges to grant doctoral degrees, correct?
A. Correct.
Q. The fact that two variables may even be statistically significant in their correlation does not equal causation, does it?
A. Correct.
Q. You ever heard of something called cross-correlation?
A. Yes.
Q. What is cross-correlation?

A. So that would be when two variables are cross or co-related.
Q. Does that mean that there are instances in which two variables look like they're correlated with one another but, in fact, they are correlated with a third variable? Is that an example?
A. Yes, that could be.
Q. And it's true, is it not, that in Mr. Cox's correlation, he found a statistically significant relationship between the density of septic tanks in these 14 subwatershed areas and increasing phosphorus concentrations in streams?
A. Yes.
Q. Now, if you'll look at page C-3 of Dr. -- by the way, is Mr. Cox a Ph.D.?
A. Yes.
Q. If you'll look at page C-3 of Dr. Cox's report that's appended to your report, he excuses away, does he not, the correlation between septic tanks and phosphorus concentrations in streams by saying, and I quote, "strong cross-correlations observed between septic tanks and total poultry house density; in other words, in areas with high poultry house development, human dwellings are also relatively high." Do you see that?

A. Give me a moment.
Q. Sure.
A. Okay.
Q. Do you see that statement?
A. Yes.
Q. And do you agree with that statement?
A. There are further statements and there was further analysis that -- that supported that.
Q. Do you see where he refers to Figure 3 of the report?
A. Which location are you at here? I'm sorry.
Q. I'm sorry. In the second paragraph on page C-3, where he's discussing this cross-correlation and septic tanks, he refers to Figure 3; do you see that?
A. Correct.
Q. Can you turn to Figure 3. It's on page C-7 of his report.
A. Yes.
Q. And those plots look pretty similar to the poultry house density phosphorous concentration plots, don't they?
A. Yes.
Q. And the R^2 values -- or, rather, the P test values are within the realm of statistical

significance, aren't they?
A. Yes.
Q. So using the same approach in terms of correlation, Dr. Cox found a relationship between the density of septic tanks in subwatersheds and the phosphorus concentration both during high and low flow in those same watersheds, right?
A. That's not what Figure C -- Figure 3 is not showing that relationship.
Q. I'm sorry. Thank you. What is shown in Figure 3 is the relationship between septic tanks and poultry houses included in the analysis, correct?
A. Correct.
Q. The point that Dr. Cox is making is that there might be cross-correlation between multiple sources in an area; septic tanks may be related to urban -- I'm sorry, related to humans that live near poultry houses, right?
A. Correct.
Q. Now, what else could be related to the presence of poultry houses that would be a source of phosphorus in these subwatersheds?
A. Be a source? We have septic systems that we've just talked about. Cattle; but cattle are recycling phosphorus, so they're not putting new phosphorus

into those watersheds.
Q. What about dirt roads? Would you expect to find a higher density of dirt roads in rural parts of the watershed where poultry farming occurs?
A. I've not done the analysis, so I'm not certain.
Q. In fact, Dr. Engel, neither you nor Dr. Cox investigated any cross-correlations between poultry house density and other sources of phosphorus besides septic tanks, did you?
A. That's not true.
Q. Can you show me in the report where you provide cross-correlation analysis for, let's say, poultry houses and the presence of cattle?
A. I guess maybe it wasn't cross-correlation. There were other analyses, but maybe they weren't cross-correlations.
Q. Let me make sure the record is clear. You did not investigate as part of this analysis the cross-correlation between poultry houses and the presence of cattle, did you?
A. So it was not a cross-correlation. It was another analysis.
Q. You know, don't you, just from your familiarity with the Illinois River Watershed that in areas of high concentration of poultry houses, we also find

high concentrations of cattle and dirt roads, right?
A. Not in all locations.
Q. Did you review Dr. Sullivan's report for the specific purpose of seeing his cross-correlation analysis between poultry houses and cattle and poultry houses and dirt roads?
A. I'm vaguely recalling those cross-correlations in his report, but I don't recall those details offhand.
Q. Do you recall enough to remember that he found, not surprisingly, that in areas of high concentration of poultry houses, you also find high concentrations of cattle and dirt roads?
MR. PAGE: Your Honor, this evidence hasn't been part of the record.
MR. GEORGE: Your Honor, I'm simply asking if this witness has an understanding of a report submitted by another expert that he said he reviewed.
THE COURT: Overruled.
THE WITNESS: I saw the report, but I don't recall the details at this moment.
Q. (By Mr. George) You agree, don't you, that both cattle and dirt roads are sources of phosphorus to streams?

A. Both could provide some contribution.
Q. In the analysis completed by Dr. Cox, you evaluated correlations both with regard to active poultry house density and total poultry house density, correct?
A. Correct.
Q. What's the difference between those two?
A. So the difference would be that the active were readily being used in the period where these were identified the 2005-2006 period. The total would have included those that were inactive houses from that period.
Q. Now, you didn't gather the poultry house density data yourself, did you?
A. No, I didn't.
Q. Did Dr. Cox gather that?
A. No, he didn't.
Q. Where did it come from?
A. The poultry house information came from the work of Dr. Fisher and his colleagues.
Q. If Dr. Fisher's house count and locations in that dataset are wrong, that would impact the reliability of your analysis, wouldn't it?
A. It would impact some of the numbers potentially.

Q. Did you do a quality assurance check on his data to see if he got it right in terms of locations and counts?
A. I didn't.
Q. You counted on him to get that right?
A. Yes.
Q. Now, you understand, do you not, Dr. Engel, that the land use in the Illinois River Watershed that most typically receives poultry litter is pasture land, right?
A. Right.
Q. Are you aware that there's been testimony already in this case, in fact, by Dr. Fisher, that the State's experts had great difficulty finding any pastures in the watershed where poultry litter had not been applied? Are you aware of that?
A. Yes.
Q. Now, in your direct testimony on the first day of your trial testimony, you stated that phosphorus concentrations in these 14 subwatersheds that you and Dr. Cox looked at were not correlated well with the percentage of pastures in those subwatersheds. Do you recall that?
A. Yes.
Q. Can we look at Table 2 which is on page C-4.

A. Okay.
Q. In fact, if you go back up to Table 1 , and it carries over to the top of C-4, what is Table 1?
A. So Table 1 identifies the potential total phosphorus predictor variables that were explored in the analysis.
Q. What's the right-hand column?
A. Right-hand column discusses the rationale for each of the potential predictor variables that were considered.
Q. Do you see in the row titled "Percentage Pasture" that there's a rationale there that the amount of pasture in a subbasin can serve as a surrogate for agricultural activity which may be a good predictor of stream phosphorus concentration, and then in parentheses it says, "expected positive correlation"? Do you see that?
A. Yes.
Q. What does that phrase mean, "expected positive correlation"?
A. So that phrase would mean that as there is a greater percentage of pasture in one of these subwatersheds, the expectation would be increased phosphorus in the runoff leaving these watersheds.
Q. When you actually crunched the data as part of

the correlation analysis, you did not find a positive statistically significant correlation in these 14 subwatersheds between phosphorus concentration and the percentage of pasture, did you?

A. That's correct.

Q. In fact, if you look down at Table 2, the regression analysis results for percentage pasture range from 0.01 to 0.13, correct?

A. Correct.

Q. Those are very weak correlations, right?

A. Based on the number of data points, those would be fairly weak.

Q. And to put that in terms that perhaps even I can understand, what those values tell us is that the amount of pasture land in this analysis only explains between 1 to 12 percent of the variability in phosphorus concentration in those same subwatersheds, right?

A. 1 to 13 --

Q. 1 to 13?

A. -- percent, yes.

Q. To follow your analysis, then, you'll agree with me that pasture lands in these 14 subwatersheds are not the determining factor on phosphorus

concentrations in the streams in these subwatersheds, right?
A. Right.
Q. Now, you discussed in your direct examination Oklahoma Exhibit 516, which is a study by Dr. Chaubey, and I think I handed it to you earlier. Can you find it again?
Did you find it, Dr. Engel?
A. I'm still looking. Just a moment.
Q. I realize we've thrown a lot of paper at you.
A. Found it.
Q. And now, for the record, this is a copy of the Beaver Lake study that Dr. Chaubey and others completed, correct?
A. It's been a while since I've looked at it, but, yes, it looks like in the abstract it does talk about the Beaver Lake basin.
Q. Now, you've discussed this on your direct examination, correct, this study?
A. A portion of it, yes.
Q. So you're familiar with it generally, right?
A. Yes.
Q. And you recall, do you not, that Dr. Chaubey used in his analysis percent pasture as a surrogate for the agricultural activities, including the use

of poultry litter that he was studying in terms of their potential relationship to phosphorus concentrations in streams?
A. Correct.
Q. He did not use poultry house density, did he?
A. No.
Q. He did not use poultry house density within the subwatersheds or within those watersheds plus a two-mile buffer, did he?
A. No.
Q. Can you point us to any piece of scientific literature, Dr. Engel, in which another expert has tried to correlate poultry house density in subwatersheds with phosphorus concentrations as part of an investigation of the potential source of the phosphorus in streams or rivers?
A. Not directly with poultry house density, but with other measures that would be comparable.
Q. Whose idea was it to put these two-mile buffers around these subwatersheds to pull in additional poultry houses in the analysis?
A. I believe that was probably a result of discussions that Bert Fisher and I had, so I don't know which one of us maybe thought about that first, but it was a result of joint discussions.

than the --

MR. PAGE: I'll object. There's no foundation for that information in the record.

THE COURT: Overruled.

Q. (By Mr. George) Do you see that, Dr. Engel?

A. Yes, I see them.

Q. You didn't exclude these point source-impacted high flow stations because the phosphorus concentrations were higher than agricultural areas, did you?

A. No.

Q. That's just a coincidence?

A. With point sources in them, certainly during base flow, one would expect the values to be high. So, you know, it wasn't because they weren't agricultural expectations.

Q. Dr. Engel, did you investigate the history of litter applications in the 14 subbasins used in the regression analysis?

A. I did not.

Q. You don't know whether litter generated on farms owned or under contract with any of these defendants has been applied in those subwatersheds, do you?

A. There certainly were some data collected by

Dr. Fisher and his associates that did describe that, but I don't recall specifics of how much. And certainly that is an incomplete set of data.
Q. But you personally don't know, correct?
A. I don't recall at this point. I have seen some of that, but I certainly don't recall specific values.
Q. You don't know, do you, Dr. Engel, which of the companies named as defendants in this lawsuit have contracts with poultry farmers located in these 14 subwatersheds, do you?
A. I've seen some of that information, because that is part of the database. So as I sit here at the moment, I don't know which defendants are associated with each house in each of these watersheds or the buffers.
Q. Can you go to page 43 of your report. Actually, the main body of your report. Actually, let's look at page 44. You've reproduced on page 44 some of these cross-correlation plots, correct?
A. I'm on page 44.
Q. For the record, you're looking at Figure 9.2?
A. Yes.
Q. Which is a regression analysis or plot between total phosphorus concentration and poultry houses,

making sure that I understand and that the record is clear as to exactly how you put together your model of the Illinois River Watershed.

Your model consists of two pieces; is that right, broadly?

A. So generally there were two pieces, a model to model, the nonpoint source piece, and a component to do the routing.

Q. And if we were going to attach labels to those two broad pieces of the modeling work, the nonpoint source component was the GLEAMS model, correct?

A. Yes.

Q. And the routing component you just referred to was your routing model, correct?

A. Correct.

Q. You also divided the Illinois River Watershed into three subwatersheds draining, respectively, to monitoring stations near Lake Tenkiller at Tahlequah, Barren Fork and Caney Creek, correct?

A. Correct.

Q. And you further subdivided the Illinois River Watershed, as I understand it, into 50 hydrologic response units, or HRUs, right?

A. Correct.

Q. And of these 50 HRUs, 21 drained to Tahlequah;

is that right?
A. I believe that's correct.
Q. And 20 to Barren Fork, correct?
A. Yes.
Q. And nine to Caney Creek?
A. Correct.
Q. Do you recall the acreage of these HRUs?
A. I would need to refresh my memory by looking at some data to get those right.
Q. That information is reported in the files -- the voluminous files we've been discussing related to your modeling, correct?
A. Yes.
Q. There's a defined amount of acreage associated with each HRU, right?
A. Correct.
MR. GEORGE: May I approach, Your Honor?
THE COURT: You may, sir.
Q. (By Mr. George) Dr. Engel, I've put in front of you a chart that I created from your modeling files related to each of the HRUs in each subwatershed and the reported acreage associated with the land use in those HRUs.
Can you take a moment and just generally look through this and see if you believe I've got it

source in the Eucha-Spavinaw Watershed?
A. That's my recollection.
Q. How many are there in the Illinois River Watershed?
A. In the ten sort of range.
Q. If I said 13, would you disagree?
A. That's probably in the ten sort of range.
Q. How does the Eucha-Spavinaw Watershed compare in terms of -- I'm sorry, strike that.
Does the Eucha-Spavinaw Watershed have significant urban areas in its headwaters like the Illinois River Watershed?
A. No.
Q. The human population in the Eucha-Spavinaw Watershed is much smaller than the Illinois River Watershed, correct?
A. Yes.
Q. And there's a much smaller cattle population in that watershed as compared to the Illinois River Watershed, correct?
A. On a population basis, yes.
Q. Now, the model that was used in the City of Tulsa case was the SWAT model, right?
A. Correct.
Q. And you agree that's a sophisticated watershed

scale model?
A. I suppose "sophisticated" is in the eye of the beholder, but it's certainly a watershed scale model, and I'm certainly familiar with it.
Q. So is it sophisticated or not, in your opinion?
A. It's one of the more comprehensive watershed models that exist at this point in time.
Q. You would agree that the SWAT model is more complex than the GLEAMS model?
A. It would be more complex, yes.
Q. You provided some discussion in your direct examination of Dr. Jeon's involvement and role in the modeling work in this case. I want to explore that a little bit more, if I can.
At the time that Dr. Jeon worked with you, he was approximately in his mid20s; is that right?
A. I believe he was older than that, in looking at when his degrees were received.
Q. Do you recall when his degree was received, his doctoral degree?
A. I can recall when his BS was received, and that's perhaps a better indicator of his age.
Q. Let's put a frame of reference around it. You agree, do you not, that when this lawsuit was filed in 2005, Dr. Jeon did not yet have his doctorate

degree?
A. I think he received his doctorate in 2005, maybe 2004.
Q. He came straight to you from his doctorate program; is that right?
A. He may have spent six months or a little more in Korea before he came.
Q. Did he have a private-sector job in Korea?
A. I believe he had continued at the university he was at.
Q. Dr. Jeon did not have any teaching responsibilities at Purdue University, did he?
A. No.
Q. He, in fact, did a substantial amount of work on your GLEAMS model; is that right?
A. Yes.
Q. He assisted you in setting up the model; is that right?
A. Yes.
Q. And you agree that part of setting up a model is determining what assumptions are made regarding the conditions that are being modeled?
A. That would be part of setting a model up, yes.
Q. For example, a modeler has to decide whether to use default values that are already in the model or

GLEAMS model, more often than not, in this project?
A. He made the day-to-day runs.
Q. And how many total runs in terms of scenarios and calibration and validation runs would you estimate were made as part of the work in this case?
A. I guess let me describe that and see if I can address your question. So I talked about the various scenarios in the testimony earlier today, talked about the calibration and validation. Those would have been run for each of the three watersheds for each of those scenarios and calibration validation.

And underlying those runs, the model was being run hundreds, thousands of times or certainly, you know, hundreds or thousands of times multiplied by many days for -- for that ten-year period and hundred-year period that was being examined.
Q. Let's go with sort of the first level, hundreds of times. If the model was run hundreds of times, Dr. Jeon ran more than 90 percent of those, because you only ran about 10; is that right?
A. He would have probably run -- he would have overseen the runs of the majority of those, certainly.
Q. Now, you discussed with Mr. Page the mistake

that was made with respect to HRUs and how it led to the issuance of your errata report. Do you recall that discussion?
A. Yes.
Q. And I want to walk back through that with a little more detail, if I can. Specifically, it's true, is it not, that an error was discovered in the computer code drafted by Dr. Jeon, right?
A. Yes.
Q. And the purpose of this computer code was to tell the model sort of the series of executions that it was required to run on various watersheds, and it was a code that was specifically written by Dr. Jeon for this case; is that right?
A. The code was written to automate that process, so yes.
Q. If I understand correctly, the mistake that existed in the code resulted in the GLEAMS model running on only a portion of the HRUs in each of the three subwatersheds; is that right?
A. So it would have run on the complete set for Caney Creek, and it would have run on a portion in Barren Fork and Illinois at Tahlequah.
Q. Do you still have Tyson Demonstrative 246 in front of you?

A. 246?
Q. Yes, sir.
A. Yes.
Q. I want to make sure I understand what was left out of the model runs as a result of this code error. Do I understand correctly that if you look at the subbasins for the Illinois River Watershed, that due to the mistake in the code, that the model did not run on basins 10 through 21?
A. May not have been 10 through 21. I'm not sure how you have these ordered.
Q. If it helps you, I took the numbers you assigned in terms of HRUs.
A. Without looking back under the model specifics, I don't know that it was running them specifically in this order. So there would have been nine of those 21. And as I sit here at the moment, I cannot tell you which nine.
Q. Okay. So we do agree that it only ran on nine out of 21 of the subwatersheds in the Illinois River Watershed subbasin, correct?
A. Correct.
Q. If you move down to Barren Fork, there were a total of 20, but due to the programming error, it only ran on nine of those, so 11 were left out; is

that right?
A. Correct.
Q. And then all of Caney Creek was included; is that right?
A. Correct.
Q. So the total number of HRUs that were left out was how many?
A. So it would have been 11 and 10, so a total of 21.
Q. And that's approximately half of the total number of HRUs, right?
A. A little less than half, yes.
Q. Now, neither you nor Dr. Jeon discovered in the first instance this mistake, right?
A. I didn't discover it, and neither did Dr. Jeon, until -- I guess I didn't discover this until probably August. I believe he discovered this sometime late April.
Q. Let me back up on you for a moment. When you submitted your original expert report in May of 2008, you were working off of the results from model runs with almost half of the HRUs missing; is that right?
A. It was a little less than half, but yes.
Q. And you submitted that report not knowing that

the results that you were looking at omitted those 21 subwatersheds, right, or HRUs?
A. Correct.
Q. Okay. And you, Dr. Engel, did not become aware of the fact that you had written your report based upon results for approximately half of the watershed until the defendants questioned you about it; is that right?
A. The defendants' question was not about the HRUs; it was a different question. And in exploring that question, that's when I discovered this.
Q. It was a question from the defendants that prompted that discovery by you, not your own review, correct?
A. It was my review based on a question into something else that discovered this.
Q. When you discovered that mistake and how it cascaded through your expert report, you submitted an errata on September the 4th in which you provided results from model runs that included all of the watershed, right?
A. Yes.
Q. Now, do you have your errata report with you?
A. I believe it's in this binder.
Q. Can you go to page 2.

MR. GEORGE: Your Honor, do you have his errata report as well dated September 4th?

THE COURT: I do, sir.

Q. (By Mr. George) Dr. Engel, I apologize, I need to go back for just a moment because someone has advised me perhaps both you and I made a mistake that we need to correct.

On the HRUs, the chart you have there in terms of the number that are omitted, if it only ran on 9 in the 3 subwatersheds, there are really 23 missing as opposed to 21, right?

A. Correct. So 21 minus 9 and 20 minus 9.

Q. Again, one more time, the total number of HRUs is 50, right?

A. Correct.

Q. All right. Now, back to your errata of September the 4th. And this report was written based upon different runs of the GLEAMS and routing model that included all of the watershed, right, all HRUs?

A. Correct.

Q. And you see on page 2 that you state, "The substance of the major opinions in Dr. Engel's expert report is unchanged"? Do you see that?

A. Yes.

Q. And you recall at your deposition telling me when I asked you about the differences between your errata and your original report that you had to look at different modeling results, but your opinions and your analysis remained the same, right?
A. Well, certainly some of the numerical values reported in those opinions changed, but the -- I guess the tone and nature of those opinions was unchanged.
Q. Do you recall telling me at your deposition that your conclusions didn't change much as a result of fixing the error between the first report and the second report?
A. I don't recall that specific statement, but I probably said that.
Q. You don't disagree with that? That's how you feel today, isn't it, that your conclusions have not changed much from your first report to your second report?
A. Certainly some of the numerical values have changed somewhat, but, you know, the major conclusions remain the same.
Q. Do you know what acreage or what percentage of the watershed was comprised by the 23 HRUs that were not included in the runs supporting your original

expert report?
A. Not without doing an analysis to figure out that percentage.
Q. If I represented to you our analysis shows it was about 54 percent of the acreage, would you have any reason to disagree with that today?
A. I guess I'm not certain that these HRUs were used in this order in that computation, so it may be that percentage, it may be some other percentage.
Q. How is it, Dr. Engel, that you did not notice when you were looking at the model results and writing your original expert report that half of the watershed was missing?
A. I can certainly explain that. So during calibration, in that process, the model assigned larger phosphorus losses to the 9 HRUs in each of these watersheds than what it should have. So it assigned those larger losses in a way to match the observed phosphorus loads from the watershed.
So as a result of that, the phosphorus loads that were input into the routing equation were quite similar to what those values were when the mistake was discovered and subsequently fixed.
MR. GEORGE: May I approach, Your Honor?
THE COURT: You may.

that was made with respect to HRUs and how it led to the issuance of your errata report. Do you recall that discussion?
A. Yes.
Q. And I want to walk back through that with a little more detail, if I can. Specifically, it's true, is it not, that an error was discovered in the computer code drafted by Dr. Jeon, right?
A. Yes.
Q. And the purpose of this computer code was to tell the model sort of the series of executions that it was required to run on various watersheds, and it was a code that was specifically written by Dr. Jeon for this case; is that right?
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Q. Do you still have Tyson Demonstrative 246 in front of you?

Q. (By Mr. George) Dr. Engel, I've put before you Defendants' Joint Exhibit 8106 that I want to use as a demonstrative to walk through a discussion with you to illustrate what happened and its impact on your conclusions.

You see down at the bottom the format that you've used in your testimony before this Court regarding the routing model and the inputs from GLEAMS and wastewater treatment plants and the resulting load to the lake? Do you see that schematic?

A. Correct.

Q. That's a general illustration of what happens in your linked modeling system?

A. Yes.

Q. It's the way in which the data flows, correct?

A. Correct.

Q. So what happened, Dr. Engel, is when you ran your GLEAMS model with more than half or around half of the watershed excluded and put those loads into the routing model, you got essentially the same phosphorus load to the lake as you got when you ran it with the entire watershed, right?

A. It was similar, for the reason I described.

Q. Does that make any sense to you?

A. Yes.
Q. Okay. You don't believe in the real world, Dr. Engel, that if we took all of the nonpoint source contribution from half of the watershed out of the equation that we would see a different -- a substantially different phosphorus concentration of the lake?
A. That's a different question than what I'm answering.
Q. Well, answer that one. I like it better.
A. So yes to the question you're asking.
Q. But when we look at the -- what happened between your original report and your errata report, we don't see that magnitude of a change, do we?
A. No. And I can explain why, if you'd like.
Q. Go ahead.
A. So again, the explanation is that because the model was calibrated, the total phosphorus that has been observed to be delivered to Lake Tenkiller for the period that was used, '97 to '06, so during the calibration, that amount of phosphorus was delivered by the 9 HRUs in each of these subwatersheds.
So the calibration process adjusted values to ranges that caused that to happen. And, therefore, the GLEAMS model predicted phosphorus

A. Yes.
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So the calibration process adjusted values to ranges that caused that to happen. And, therefore, the GLEAMS model predicted phosphorus

loads that were used as input into the routing that were, as a result, comparable to the total loads predicted once the correct number of HRUs were used.
Q. So if I understand, basically what you have told me is because of the way you set up your calibration process to try to hit these targets at the end of the watershed, that the computer automatically adjusts the variables necessary to meet that target in GLEAMS in terms of the amount of runoff coming from a particular area in the watershed, right?
A. It makes those adjustments within predefined ranges, yes.
Q. So to keep it at a real high level, it really doesn't matter, does it, what you put into this model? Because of the way you have calibrated it, the model is going to struggle to produce results that match the observed data at the end of the watershed, right?
A. I'm not sure I would fully agree with that statement.
Q. Do you fundamentally disagree with it?
A. I would disagree with that statement.
Q. It's true, is it not, Dr. Engel, that your model is hard-wired to give essentially the same

Q. You talked a little bit on direct examination about calibrating the model. Dr. Jeon was also the person primarily responsible for calibrating the model, right?
A. He certainly conducted the day-to-day calibration under my direction, yes.
Q. And to give us a working definition here, calibration, as a general matter, is the process of adjusting the inputs to the model so that the output will better match observed data; do you agree with that?
A. It's not adjusting all inputs, so there's a predefined group of things within the model that could be adjusted during calibration to, as you said, make sure that the model responds, the model variable as best as possible matches the observed variable.
Q. Your model was programmed to be somewhat self-calibrating, right?
A. Yes.
Q. That's what you referred to as a shuffle complex evolution algorithm?
A. That was the algorithm used, yes.
Q. Just so the record is clear on this, generally what that algorithm would do is it would step

through all of the input variables and adjust them up as high as 50 percent, down as low as 50 percent from where they were, and it would do various combinations of those adjustments until it settled upon the number and amount of adjustments necessary to best match the outcome; is that right?

A. It's a close description, but maybe not fully accurate.

Q. What did I get wrong?

A. So I guess first, there was a predefined set of things that could be adjusted, so not any variable could be adjusted. In this particular instance, as I recall, the range in adjustments was plus or minus 50 percent. Literature shows plus or minus tenfold, so a thousand percent on some variables. We constrained this to plus or minus to 50 percent.

And as you described, the algorithm then is doing -- is searching for a global optima in which it tries to optimize the relationship between predicted variable and observed variable. And I guess in this specific instance, initially that was water runoff or flow. And subsequent to that, it was phosphorus.

Q. Let's get specific, if we can. Can you identify some of the variables that are important to

the analysis in this case that the model was allowed to adjust as it saw fit to match the target within the range of 50 percent? What are some of those variables?

A. Certainly. There were certainly a group of soil parameters that were allowed to be adjusted.

Q. What type of soil parameters?

A. So those included -- I may need to look at the report to get specifics. So those included water-holding capacity, for example, that was initially a value that came out of the STATSGO database for soils. There were certainly a range of the soil values that could be adjusted. So those were most important in calibrating for runoff.

Probably the most sensitive value for runoff would have been the curve number associated with the HRUs. So that's a value that's typically quite sensitive to runoff.

And for phosphorus, there would have been a smaller group of values that were adjusted, including phosphorus content of the soil, phosphorus content of poultry waste and even the amount of poultry waste that was applied. And I believe there were a couple of other phosphorus-related transformation values that could be adjusted as

well.
Q. Let's talk for a moment about phosphorus concentration in soil and poultry litter. Those are two of the variables for which you and Dr. Jeon made a decision as to what the initial input value should be for this watershed, right?
A. Correct.
Q. You determined what you thought was the most appropriate representation of the amount of poultry litter applied, right?
A. Right.
Q. You determined, based on data, what you thought was the most appropriate amount of phosphorus to be reflected in the soil. And you put that into the GLEAMS input files, right?
A. Correct.
Q. Now, despite those decisions that you and Dr. Jeon made on the front end, the way this calibration process worked, the model could take the amount of poultry litter up 50 percent and down 50 percent, right?
A. My recollection -- I did look at some files a couple of days ago that spoke to that a bit. And I believe on the poultry waste and the STP, the range was either 10 or 20 percent that it could adjust

within, so it wasn't a full 50 percent on those. So when I said 50 percent earlier, I misspoke.
Q. You didn't misspeak in the sense that that was the liberty that the model had. It could have adjusted it up to 50 percent, right?
A. It could adjust some of the things by 50 percent, yes.
Q. Did you impose a specific and unique parameter limitation of 10 percent adjustment on phosphorus concentration in soil and poultry litter?
A. I believe it was 10 or 20, at least based on a document that I looked at here somewhat recently.
Q. You failed to mention that in your report, didn't you?
A. I don't recall if it was or wasn't.
Q. Now, after the computer ran its automated calibration and adjusted those variables, there was some manual modification of the input values performed by Dr. Jeon, correct?
A. Correct.
Q. And one of the things that he adjusted was the phosphorus concentration in the soil profile, right?
A. I don't recall if that was one that was adjusted due to manual or the automated part of the calibration.

Q. Well, just so we're communicating clearly, what was the input value described or labeled as for phosphorus concentration of the soil, do you remember?
A. That would have -- the phosphorus concentration in the soil would have varied by county based on soil test phosphorus.
Q. I'm sorry, my question was poor. Which label did you attach to it in your input file? What was it called?
A. I believe the variable is CLAB, if I'm remembering correctly. It may not be CLAB.
Q. I think you're right. "LAB" stands for what?
A. Labile.
Q. For the record, what is labile phosphorus?
A. It describes the available -- or the most readily available phosphorus within the soil.
Q. That's an important input parameter in predicting runoff within GLEAMS, isn't it?
A. Yes, it would be important.
Q. Is it your testimony, Dr. Engel, that you don't recall whether Dr. Jeon manually modified the labile phosphorus concentration after the automated calibration?
A. As I'm sitting here at the moment, I'm not

calibration steps. And your answer was consistent with the e-mail, that Dr. Jeon has been -- you were unable to reach him for an extended period of time; do you recall that?

A. Correct.

Q. So it's true, is it not, Dr. Engel, that without the assistance of Dr. Jeon, you were incapable of providing a detailed description of how you calibrated your models?

A. I was capable of providing a detailed description of the calibration at a conceptual level. When we got to the mechanics of which files, which files were inputs and stepping through the mechanical part of the process, since Dr. Jeon had done that, I wanted to make sure that, you know, that I correctly reflected the information.

Q. Let's put Dr. Jeon aside for a moment and talk more about GLEAMS. GLEAMS is a commercially available model, right?

A. I'm not sure you'd call it commercially, but it's publicly available would be a term I guess I might use.

Q. It's not a model that was created for this litigation, right?

A. Correct.

Q. GLEAMS, by itself, was designed as a field scale model; do you agree with that?
A. That was the initial design, yes.
Q. And it was designed to simulate runoff from individual fields, right?
A. Yes.
Q. Now, there are models that are designed to operate at the watershed scale, right?
A. Yes.
Q. And those models are -- my term -- commercially available, publicly available, right?
A. I would call publicly available, yes.
Q. And you agree that GLEAMS by itself, as used in this case, does not model phosphorus contribution on a watershed-wide scale to a reservoir, right?
A. Right, so --
Q. That's why you had to have the routing model, right?
A. Correct.
Q. Now, you're aware that EPA routinely has models evaluated for purposes of developing TMDLs?
A. Yes.
Q. Before selecting GLEAMS as your model of choice for your work in the Illinois River Watershed, did you consult the scientific literature generated as

part of EPA's TMDL model review work to determine whether GLEAMS is a proper model for the one-million-acre Illinois River Watershed?

A. Didn't specifically consult the EPA TMDL document.

Q. You are familiar with that document, are you not?

A. I believe I've subsequently seen it.

MR. GEORGE: May I approach, Your Honor?

THE COURT: You may.

Q. (By Mr. George) Dr. Engel, I've handed you what's been marked for identification purposes as Defendants' Exhibit 2458. This is the EPA TMDL model evaluation document that you and I were just discussing, is it not?

A. Yes.

Q. And you see that in the top right-hand corner, there's an actual EPA project number associated with this publication, right?

A. Yes.

Q. And it was published in -- or released, at least, in November of 2005, right?

A. Looks like that is the date attributed to the document, yes.

Q. If you turn to page 209 -- actually 210, I

apologize. You'll see that this document has a fact sheet reflecting the review of multiple individual models, and the one on page 210 is the fact sheet for the GLEAMS model, right?
A. Yes.
Q. And you see that this particular fact sheet references the contact information of a Frank M. Davis. Do you know who Frank Davis is?
A. Yes, I do.
Q. Who is he?
A. He's a computer scientist that has programmed GLEAMS, among other things, over the years.
Q. And do I understand correctly that Mr. Davis maintains the website at which someone who's interested in modeling with GLEAMS can go and download updates to the model?
A. I believe that's the case, yes.
Q. So he's a scientist and a programmer; is that your understanding?
A. He's certainly not the hydrologist nor water quality modeler that created the GLEAMS model. He's really a computer scientist.
Q. Do you have any reason to doubt that Mr. Davis is a person who's knowledgeable about the GLEAMS model?

A. He would certainly be knowledgeable.
Q. You see in this fact sheet on page 210 and the paragraph under "model overview," do you see --
A. Okay.
Q. The last half of the first full sentence -- I'm sorry, last half of the second sentence says, GLEAMS is a field-scale model that assumes that a field has homogeneous land use, soils, and precipitation?
A. Yes, I found that, yes.
Q. GLEAMS' world, if you will, ends at the edge of a field; is that correct?
A. Correct.
Q. You would agree with me that when you're using a field scale model such as GLEAMS, the size of the field you are modeling is an important factor in determining what model you should use?
A. It may be. There may be cases where it's not.
Q. Is it true that at the field level, GLEAMS assumes that all phosphorus on a field has equal potential to reach the edge of the field?
A. That would not be true.
Q. It's not true? It differentiates based upon where the phosphorus is located in reference to the edge of the field?
A. Certainly phosphorus in different depths in the

soil profile have different likelihoods of reaching the edge of the field.
Q. My question was not -- if it was unclear, I apologize -- was not directed at depth, but at the surface landscape and the point at which the phosphorus exists on the field in reference to the edge of the field.
A. Okay.
Q. So you would agree with me that with respect to the surface area of a field, GLEAMS assumes that all phosphorus on the surface of a field has equal potential to reach the edge of the field?
A. Yes, it would.
Q. So in the world of GLEAMS, a pound of phosphorus in the middle of a field has the same potential to reach the edge of field as a pound of phosphorus at the very edge of the field, right?
A. I believe so, but I would probably need to think about that a little bit more here.
Q. Well, you're familiar with this model, aren't you?
A. I'm certainly familiar with the model. So --
Q. Well --
A. Yes.
Q. Let's take it out of the model and let's move

to the real world. You would agree with me that the likelihood that water and nutrients will travel across a 20-acre field and reach the edge of that field is much different than the likelihood that water and nutrients will travel across a 90,000-acre field and reach the edge of the field? You agree with that, don't you?

A. I think -- the answer is yes, but if I could explain further.

Q. Let's stay with the answer. The reason the answer is yes, Dr. Engel, is because in the real world, you can have processes such as dilution and settling of particles and adsorption of water in the soil as it flows across the surface of a field, right?

A. Those would be processes that would potentially exist.

Q. If you look at page 211 of the model fact sheet, it says that -- under "model limitations" that GLEAMS is limited to an agricultural field of very small size. Do you see that?

A. Yes, I found that, yes.

Q. None of your HRUs, which are the fields, for purposes of GLEAMS in your work were of a very small size, were they?

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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
vs.)CASE NO. 05-329-GKF-PJC
8)
TYSON FOODS, INC., et al.,)
9)
)
10 Defendants.)

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13 TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 DECEMBER 1, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 57, A.M. SESSION

16

17 APPEARANCES:

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PROCEEDINGS

DECEMBER 1, 2009:

THE COURT: Mr. George.

MR. GEORGE: Thank you, Your Honor.

DR. BERTON ENGEL,

having been first duly sworn, was called as a witness and testified as follows:

CONTINUED CROSS-EXAMINATION

BY MR. GEORGE:

Q. Good morning, Dr. Engel.

A. Good morning.

Q. Do you still have in front of you the TMDL model evaluation document that we discussed yesterday as Defendants' Joint Exhibit 2458?

A. Yes.

Q. Could you turn again to the GLEAMS model fact sheet. It begins on page 210 of that document. While you're turning, Dr. Engel, do I understand correctly that you applied GLEAMS to urban areas in the Illinois River Watershed?

A. Yes.

Q. Could you look on page 211 under "model limitations."

A. Okay. Found it, yes.

Q. And do you see that the EPA model evaluation

fact sheet says that GLEAMS is not suited for urban land uses?
A. Yes, I see that.
Q. It's true, is it not, that the programming that comes with GLEAMS and the default values in terms of land use and characteristics are not configured for urban areas; is that right?
A. It's possible to configure them for urban areas, so -- and there are certainly a range of default files that people have generated over the years.
Q. But GLEAMS was not designed for use with urban areas; do you agree with that?
A. It was not specifically designed for that purpose.
Q. If you turn back and look on page 210 under "model areas supported," you see that the EPA fact sheet says that the GLEAMS model has low support for watershed modeling?
A. Yes.
Q. I think we established on your cross yesterday that GLEAMS's world, if you will, from a modeling construct ends at the edge of the field; is that right?
A. Right.

other model to evaluate the likelihood that the water we see in this puddle actually reached Lake Tenkiller?

A. Certainly the model would do that evaluation. I guess I didn't explicitly model the pieces of things that I can see depicted here. But certainly the model would have calculated runoff, would have calculated phosphorus moving with it to the edge of the field and then passed that off to the routing equation.

Q. You didn't take your GLEAMS model and link it up to any of the specific edge-of-field locations and model transport from those specific locations, did you?

A. It wasn't necessary to link it to --

Q. Can you answer my question?

A. So, no, it wasn't necessary to link it to specific locations with this level of detail.

Q. Dr. Engel, to your knowledge, is there anyone on the State's expert team that's going to come in here and testify that the phosphorus found in these puddles of standing water sampled by the study was eventually transported to a definite stream or river?

A. Not that I'm aware of, but I guess I would

indicate that again as --
Q. You've answered my question. Thank you.
You agree, do you not, Dr. Engel, that it's important to examine the transport of phosphorus from the edge of the field to rivers into the reservoirs in this case? It's an important issue, isn't it?
A. Yes, and certainly as phosphorus reaches edges of fields, it reaches ditches that become streams that become rivers.
MR. GEORGE: Move to strike, nonresponsive, Your Honor.
THE COURT: Sustained.
Q. (By Mr. George) Now, Dr. Engel, in your modeling work in this case, you linked the output of your GLEAMS model to your routing model, correct?
A. Yes.
MR. GEORGE: And can we pull up Oklahoma Demonstrative Exhibit 233a.
Q. (By Mr. George) You're familiar with this demonstrative, are you not, Dr. Engel?
A. Yes.
MR. GEORGE: I'm sorry, can we go to 233b.
Q. (By Mr. George) This is your routing model, is it not, Dr. Engel?

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A. Yes.
MR. GEORGE: I'm sorry, can we go to 233b.
Q. (By Mr. George) This is your routing model, is it not, Dr. Engel?

A. Yes.
Q. And you agree that calling this equation a model is a bit of a stretch, isn't it?
A. Often model equation can be used interchangeably, so it's an equation, it's a model.
Q. Your routing model does not separately track phosphorus from wastewater treatment plants or nonpoint sources, does it?
A. No.
Q. It lumps them all together, right?
A. Yes.
Q. And you agree that every molecule of phosphorus that you feed into the routing model has an equal opportunity to reach Lake Tenkiller, right?
A. Yes.
Q. Your routing model does not differentiate between the phosphorus that enters the stream system 50 miles upstream from Tenkiller from a nonpoint source runoff event and phosphorus that's discharged by the wastewater treatment plant at Tahlequah just a few miles from the lake, does it?
A. No.
Q. Look at Demonstrative Exhibit 248.
MR. GEORGE: May I approach, Your Honor?
THE COURT: Yes, you may.

A. Yes.
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A. No.
Q. Look at Demonstrative Exhibit 248.
MR. GEORGE: May I approach, Your Honor?
THE COURT: Yes, you may.

so...
Q. What about the Barren Fork stream network, do you agree or do you disagree that the stream and river network in the Barren Fork subwatershed is 700-plus miles?
A. I haven't made that calculation, so I'm uncertain.
Q. And I assume you've also not made the calculation as to how many stream or river miles exist within the Caney Creek Watershed; is that right?
A. I've not made the calculation.
Q. Dr. Engel, your routing model does nothing to simulate what happens in the hundreds of miles of streams between locations where GLEAMS predicts runoff will occur and the three downstream USGS stations closest to Lake Tenkiller, does it?
A. I'm not sure I would characterize it that way.
Q. It's not designed to simulate the chemical, physical and biological processes that occur, is it?
A. Those are implicitly described by the equation, so they're not explicitly described.
Q. You do recognize, do you not, Dr. Engel, that in the real world of the Illinois River Watershed environment, there are a host of physical, chemical

and biological processes that affect the fate of phosphorus that enters a stream and whether that phosphorus will be ultimately transported downstream to a terminal reservoir such as Tenkiller?

MR. PAGE: Object, Your Honor, asked and answered.

THE COURT: Overruled.

Q. (By Mr. George) You understand that, don't you?

A. Yes. I am certainly aware of that. And if I could add --

Q. You'll get a chance to add with your attorney, and I'm going to make as efficient use of my time as I can, Dr. Engel.

Can you identify for the Court some of the physical, chemical or biological processes that actually occur in streams in the Illinois River Watershed that impact the movement of phosphorus downstream?

A. Certainly.

Q. Please do so.

A. Well, certainly as phosphorus enters the streams, some of it may be temporarily delayed as it moves downstream. It may fall out because flow is slow, may be uptaken by algae, other plants that are

within the system, but in general as this begins moving through the stream, it's a matter of time before it ultimately reaches some point further downstream.

Q. You're familiar with terms such as "attenuation," "deposition," "resuspension," "absorption" and "biological uptake"?

A. Yes.

Q. Those are all processes that occur within a stream, right?

A. Yes. I think I probably described a couple of those but maybe didn't use those names.

Q. Dr. Engel, there are physically based instream models available and commonly used in the scientific community that are designed to simulate and account for all of those instream processes, correct?

A. Yes.

Q. I think you referred -- or alluded to them in your direct testimony as mechanistic models; is that right?

A. I think many would be considered mechanistic, yes.

Q. In fact, Dr. Engel, EPA has developed and maintains some instream models that are available for use for the public that are mechanistic or

edge-of-field data, was it?
A. No.
Q. What -- your target was the three USGS stations hundreds of miles downstream, in some instances, from the areas in which GLEAMS was predicting runoff, right?
A. Not sure that they were hundreds of miles downstream. My recollection is it's shorter than that.
Q. How far downstream would they be?
A. My recollection was that it's less than a hundred miles.
Q. Once you had made these adjustments to try to hit the targets downstream, or the computer had made the adjustments in some instances, if I understand your testimony correctly, you then ran the model again for a different time period and compared the predictions to another set of observed USGS data, and that's what you call your validation; is that right?
A. Correct.
Q. Now, Dr. Engel, your validation does not test whether the predictions from GLEAMS in terms of surface runoff estimates from pastures, forest, croplands and urban areas reasonably reflect real

world conditions, does it?
A. Let me maybe break this down. So surface runoff was calibrated and validated independent of phosphorus with that runoff. So in that the calibration validation of the runoff matched downstream, it reasonably represented the processes within the watershed.
Q. But what you were trying to accomplish with your validation was a good fit with the USGS stations, not the edge-of-field predictions, correct?
A. Yes, the calibration was matching the outputs of the watershed, yes.
Q. You'll agree with me, will you not, Dr. Engel, that you did not specifically calibrate or validate your GLEAMS model to edge-of-field data, did you?
A. It was not, but it wasn't necessary.
Q. At no point in time, Dr. Engel, did you compare the phosphorus levels predicted by the GLEAMS model for each of the HRUs to some corresponding observed phosphorus load to validate those predictions, did you?
A. Well, I guess the individual HRU values were not directly compared to edge-of-field observed data.

Q. (By Mr. George) The exhibit that I referenced was on an earlier list that was withdrawn by the State. I think you actually testified about Defendants' Exhibit 2734. See if you can find that one.
A. I've got a folder that looks like it may be it.
Q. Did you find it?
A. Yes, I did.
Q. You see in Table 12 on Defendants' Exhibit 2734, you report the results in terms of Nash-Sutcliffe coefficients from your phosphorus calibration and validation at the three USGS stations, correct?
A. Yes.
Q. If I understand generally, that this is a comparison that shows -- or this is a coefficient that demonstrates the relationship between the observed and the predicted values; is that right?
A. Correct.
Q. As a general matter, the higher the number, the closer to one on these coefficients, the better the relationship; is that right?
A. Yes. This would have a maximum value of one. And closer to one is a better fit, yes.
Q. For the record, the Table 12 that we're looking

at is from your errata report in October of 2008, correct?
A. Correct.
Q. And so this table shows us how well the model results compare to observed data after you had corrected the error that we discussed that included all of the watershed, right?
A. Yes, it would have -- that's what it would represent, yes.
Q. And I've gathered from your testimony on direct that you're rather proud of these results; they're good results, right?
A. These are good results, yes.
Q. And if I understand correctly, the reason you do this exercise and compute these coefficients is if you have a low value, that would ordinarily signal to you there's something wrong with your model, right?
A. That's probably too strong of a statement. It would signal that the model is not matching the observed value well, but there could be certainly a variety of reasons that that may be the case.
Q. Now, do you have your expert report with you, your original report? Actually, before we leave this, Dr. Engel, the values on these coefficients in

your errata report with all of the watershed included range from .55 to .97, right?
A. Yes.
Q. Okay. Now, do you have your original report with you?
A. I do.
Q. Can you find Table 12 in your original report, please. I believe it's in Appendix D.
A. Okay.
Q. What page is it on, Dr. Engel?
A. Looks like page D-35.
Q. Now, these are the results of the Nash-Sutcliffe coefficients for the calibration and validation you did on the model runs that only had half of the watershed in it, right?
A. I'm not sure that it was half the watershed, so that's --
Q. Let's don't -- I don't want to parse words. These are the results for the model runs that -- where you calibrated and validated the model that had the missing HRUs, right?
A. Yes.
Q. These results are actually better than the results with the entire watershed, aren't they?
A. That would -- that would be a subjective

opinion, I suppose, as to whether they're better. Certainly some of the numerical values are higher.
Q. What's the range?
A. Looks like .80 to .98.
Q. All three of your USGS stations fall between .80 and .98, correct?
A. Yes.
Q. And on the errata report, Table 12, that we just looked at with the entire watershed, you had at least one station that was as low as .55 on the coefficient, right?
A. Correct.
Q. So isn't it true, Dr. Engel, that your model more accurately predicts observed flows and phosphorus loads with half the watershed not included than it does when you model the whole watershed?
A. No, I wouldn't agree with that statement.
Q. That's not what these numbers show us?
A. No.
Q. You agree that a modeler should conduct a sensitivity analysis on a model to determine how sensitive it is to changes in different inputs, right?
A. It would depend on the situation. Certainly

do recall that it was decreased by a little bit.
Q. But you don't know as you sit here today what value the computer ultimately settled upon for litter applications annually in the watershed?
A. I'm not recalling that total value at this moment.
Q. You agree, do you not, Dr. Engel, that one of the substantial challenges that modelers face is making good assumptions as part of their models?
A. Yes.
Q. And you agree that if the assumptions underlying a model are wrong, that can upset the outcome of the model?
A. It potentially could.
Q. And we don't have any dispute, do we, that your model is based upon certain assumptions that you and Dr. Jeon made?
A. Yes, it would be.
Q. Let's talk about some of the assumptions that you made as part of your modeling work regarding litter applications.
Your model assumed that every ounce of litter was applied in the watershed on a single day, April the 1st of each year, correct?
A. As I recall, there were maybe different dates

do recall that it was decreased by a little bit.
Q. But you don't know as you sit here today what value the computer ultimately settled upon for litter applications annually in the watershed?
A. I'm not recalling that total value at this moment.
Q. You agree, do you not, Dr. Engel, that one of the substantial challenges that modelers face is making good assumptions as part of their models?
A. Yes.
Q. And you agree that if the assumptions underlying a model are wrong, that can upset the outcome of the model?
A. It potentially could.
Q. And we don't have any dispute, do we, that your model is based upon certain assumptions that you and Dr. Jeon made?
A. Yes, it would be.
Q. Let's talk about some of the assumptions that you made as part of your modeling work regarding litter applications.
Your model assumed that every ounce of litter was applied in the watershed on a single day, April the 1st of each year, correct?
A. As I recall, there were maybe different dates

by different watershed, but it was applied on a single day to various watersheds.
Q. So I think what you're telling me is it was applied on a single day, but the model may have moved it from April 1st to another day?
A. I believe that's right.
Q. Okay. Now, when you made that assumption that all litter was applied on a single day, you knew that in the real world, litter is applied on different days throughout the year, correct?
A. Yes.
Q. In fact, if you still have your -- actually, Oklahoma Exhibit 1149. Dr. Engel, I've handed you an exhibit that's already in evidence, Oklahoma Exhibit 1149. And this exhibit is a chart that comes from your expert report, is not?
A. Yes.
Q. And can you describe for the Court generally what this chart is and what it's intended to show?
A. Certainly. So on the Y axis, it looks like percent waste disposal, and on the X axis are the months. And it looks like this data is based on ODAFF data from '99 to 2004 and shows the month, based on these records, in which waste would have been applied within the Illinois River Watershed.

Q. And your own analysis in Figure 4.1 shows that only about 17 percent of the annual litter applications, at least on the Oklahoma side of the watershed, occur in April, correct?
A. Yes.
Q. Your analysis shows that some litter is applied each month, right?
A. Correct.
Q. And your analysis of actual data shows that no more -- I'm sorry, no month has more than 20 percent, correct?
A. Correct.
Q. Now, you agree, do you not, Dr. Engel, that in the real world environment, the season of application and the timing, particularly in reference to rainfall, can affect the amount of phosphorus that's lost from a field?
A. It could affect it, yes.
Q. Let's talk about another assumption. Your model assumes that every pasture in the watershed receives litter every year, correct?
A. Yes.
Q. Now, in reality, in the conditions that exist in the watershed, you don't believe that every single pasture in the watershed receives litter

every year, do you?
A. Probably not.
Q. Now, you testified on direct that you believe the soil test phosphorus levels on a pasture can have a significant impact on the amount of phosphorus that can run off of that field during heavy rains, right?
A. Yes.
Q. In your model, Dr. Engel, you assume that every pasture in the watershed has one of four soil test phosphorus levels depending upon which zone it's in, correct?
A. Yes.
Q. Now, you're aware that in the real world environment of the Illinois River Watershed, soil test phosphorus levels on pasture vary greatly from one pasture to the next, right?
A. They can potentially vary, yes.
Q. Now, your model also assumes that litter is applied to all parts of all pastures, correct?
A. Yes.
Q. Your model does not account for locations of ponds on pastures, does it?
A. Not explicitly.
Q. Now, in the real world environment, you

1 understand that ponds can capture nutrients that
2 might otherwise run off of a field, right?
3 A. They may detain them, yes.
4 Q. You did not go out and map or visually confirm
5 the location of these pastures in the watershed
6 where you simulated litter applications, did you?
7 A. No.
8 Q. Instead, you used something -- and you
9 discussed this on your direct examination -- called
10 the National Land Cover Dataset, right?
11 A. Yes.
12 Q. As a general matter, that dataset tries to
13 classify lands across the United States, as I
14 understand it, in terms of forest, pastures,
15 croplands and urban areas, right?
16 A. Yes.
17 Q. Defendants' Joint Exhibit 1859.
18 MR. GEORGE: May I approach, Your Honor?
19 THE COURT: You may.
20 Q. (By Mr. George) Dr. Engel, were you aware that
21 there had been some debates, if you will, within the
22 State's expert team as to the accuracy of the
23 National Land Cover Dataset for the Illinois River
24 Watershed?
25 A. I don't recall that specifically.

Q. Ms. Smith says that her gut tells her that the National Land Cover Dataset is a gross overestimate. Do you see that?
A. I see the statement, yes.
Q. Did you investigate this issue as to whether the National Land Cover Dataset estimate for cropland in the Illinois River Watershed was accurate compared to other data?
A. My recollection, again, is that it was not 45,000 acres, that it was less than a thousand acres.
Q. Let's move to pastures. Pastures are the most important land use in your model, correct?
A. I'm not sure I would make them the most important. They're one of several land uses in the model certainly.
Q. They comprise by a percentage of acreage, the single largest land use in the watershed, correct?
A. Forestry would be close and maybe -- but they would be comparable in size.
Q. Your investigation, though, for this case in terms of litter application and its effects focused principally on pastures, right?
A. Yes.
Q. Have you reviewed Dr. Bierman's expert report

and seen where he provided some examples of where the National Land Cover Dataset mistakenly identified areas that are not pastures as pastures?
A. I recall seeing some of that. I don't remember the details at this moment.
Q. Let me see if I can refresh your recollection.
MR. GEORGE: May I approach, Your Honor?
THE COURT: Yes, sir.
Q. (By Mr. George) Dr. Engel, I've handed you what's been marked for identification purposes as Defendants' Joint Exhibits 8111, 8112, 8113, and 8114. Do you now recall these figures and having reviewed them in Dr. Bierman's report?
A. They look familiar, yes.
Q. And you understand generally what Dr. Bierman tried to do was to take the pasture land use files that you produced in this case and overlay them over aerial photographs?
MR. PAGE: Objection, Your Honor, there's no foundation for that statement in the record.
MR. GEORGE: I asked him if he understood that's what he did, Your Honor.
THE COURT: Overruled.
THE WITNESS: I'm not recalling, you know, the full set of details as to how these figures were

arrived at right now.
Q. (By Mr. George) Let me ask some questions hypothetically, then.
You agree that it would be a problem if the pasture land use dataset that you used in your model depicted urban areas and subdivisions as pastures, right?
A. I'm not sure I would describe that as a problem necessarily, but...
Q. It wouldn't be accurate, would it?
A. It -- it would -- they would be different certainly.
Q. You agree that the conditions that exist and the potential for runoff that exists in an urban area, a subdivision or in a commercial area are substantially different than a pasture, right?
A. They could be different, yes.
Q. It would also be true, would it not, Dr. Engel, that the conditions that exist and the potential for runoff on a highway is different than a pasture, right?
A. Yes, it would be.
Q. You know from looking at some of your own input files that in your modeling work in this case, there were highways that were treated as pastures, right?

A. I don't recall that that was the case.
Q. Have you investigated that?
A. I guess I didn't perform a specific analysis of overlaying other datasets on NLCD data and doing that analysis.
Q. You agree that in the real world, what happens in a forest is substantially different in terms of runoff from what happens on a pasture, right?
A. Yes.
Q. Did you investigate your NLCD data for pasture to see if there were any forests that were included as pastures?
A. I didn't perform that investigation.
Q. Now, to the extent there were areas that were classified in the dataset as pastures that were not pastures, say, an urban area or a road, your model would have applied litter to those areas, right?
MR. PAGE: Objection, Your Honor, lack of foundation to the question.
MR. GEORGE: Hypothetical, Your Honor.
THE COURT: Overruled.
THE WITNESS: So in the model, litter would have been applied to things labeled as pasture in the NLCD.
Q. (By Mr. George) Do you know if your model

simulated litter application on Wal-Mart parking lots in northwest Arkansas?
A. I didn't perform that specific investigation.
Q. Do you know if your model simulated litter applications on Highway 412 between Tulsa and Springdale?
A. I didn't perform that specific analysis.
Q. Do you know if your model simulated people land applying litter in the middle of dense forest?
A. I didn't do that analysis.
Q. Let's talk about where litter is actually applied in the Illinois River Watershed. You're familiar with Nutrient Management Plans or Animal Waste Management Plans?
A. Yes.
Q. And you understand that anyone applying litter in the Illinois River Watershed is required to have such a plan? Do you understand that?
A. Yes.
Q. And do you also understand these plans impose certain conditions on where and when litter can be applied?
A. Yes.
Q. Do you understand that these plans are designed on a field-specific basis, taking into account

simulated litter application on Wal-Mart parking lots in northwest Arkansas?
A. I didn't perform that specific investigation.
Q. Do you know if your model simulated litter applications on Highway 412 between Tulsa and Springdale?
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A. Yes.
Q. And do you also understand these plans impose certain conditions on where and when litter can be applied?
A. Yes.
Q. Do you understand that these plans are designed on a field-specific basis, taking into account

things such as soil test phosphorus, hydrology, slope, and soil considerations?
A. Yes.
Q. And the purpose of taking these factors in account is to minimize runoff or the potential for runoff, right?
A. I'm not sure that they're minimizing water runoff necessarily, but the intent --
Q. Phosphorus.
A. Phosphorus runoff. The intent would be to reduce it.
Q. And I believe you testified in your deposition that you're not aware of any widespread violations of Animal Waste Management Plans in the Illinois River Watershed; is that right?
A. I believe I've seen small numbers, but widespread, no.
Q. Now, these plans prohibit applying litter when it's likely to rain or on saturated or frozen soils; did you know that?
A. Yes.
Q. And you told us earlier that the initial setup for your model was that litter was applied on April 1st, right?
A. Correct.

Q. Are you aware that in your model, it sometimes rains on April 1st?
A. That wouldn't surprise me.
Q. So you've simulated people applying poultry litter in the middle of rain?
A. I'm not sure I would depict that as the middle of rain. Certainly given weather forecast, litter is going to be applied, because the weathermen aren't always that accurate.
Q. Because weathermen make their predictions based on models, don't they?
A. I think weathermen use a variety of things to make those predictions.
Q. You're aware they make predictions based on models, right?
A. They certainly use models, yes.
Q. You're aware that these plans prohibit application of litter too close to surface waters or sinkholes?
A. Yes.
Q. And you're aware that both states prohibit the application of litter on pastures with extreme slopes?
A. Yes.
Q. You're aware that both states have setback

requirements that prohibit litter application within certain feet or distances of streams?
A. Yes.
Q. Are you aware that litter cannot be applied in the Oklahoma portion of the watershed on pastures with STP levels that exceed the thresholds adopted by the state of Oklahoma for the watershed?
A. Yes.
Q. You're aware that litter cannot be applied under these plans on soils that are very shallow, right?
A. Yes.
Q. You did not take any of these restrictions into account in setting up your model, did you?
A. No, it wasn't necessary in this case.
Q. In your model, litter is applied on pastures with extreme slopes, isn't it?
A. I'm not sure that there were extreme slopes identified that were labeled pasture.
Q. You didn't go in and delete from litter application scenarios pastures based upon slope, did you?
A. No, I didn't.
Q. In your model, litter is applied right up and beside streams and rivers, right?

A. If they were labeled pasture, it would have been.
Q. In your model, litter is applied right before or even during a rain event, right?
A. Well, the model doesn't know if it's during a rain event. It has a daily time step, so litter can certainly be applied on days that it did rain.
Q. In your model, litter is applied on shallow soils, right?
A. Yes, it could have been.
Q. And in your model, litter is applied on pastures that have STP levels that would make continued applications on those fields unlawful, right?
A. My recollection is that average STP levels were used, and I don't recall if these exceeded any thresholds.
Q. Well, but the average is not necessarily indicative of the actual conditions on a specific pasture, is it?
A. It would represent average, not a specific pasture.
Q. I'll represent to you there's been testimony in this case of certain locations in the Oklahoma portion of the watershed where the phosphorus

levels, according to samples on pastures, are above the threshold of Oklahoma law. Are you aware of that?
A. I don't recall that specifically.
Q. If that were true, and that was a pasture in your National Land Cover Dataset, your model would have simulated litter applications on that pasture, right?
A. Yes, it would have.
Q. Dr. Engel, you set your model to assume that litter was applied in locations where it would generally be unlawful to apply litter, correct?
A. The model applied litter to pastures.
Q. Without regard to whether it was lawful?
A. It didn't make that assessment.
Q. Let's talk about litter application rates. You divided the watershed into four large zones, as I understand it; is that right?
A. Yes.
Q. And you assumed that every acre of pasture within each zone received exactly the same amount of poultry litter; is that right?
A. Yes.
Q. Now, you realize, don't you, that litter application rates vary from pasture to pasture?

A. Yes.
Q. And you don't dispute the fact that the actual litter application rates on pastures in the watershed are substantially different from the rates you used in your model, do you?
A. They may vary, certainly.
Q. Dr. Engel, you don't believe it was necessary to reflect actual litter spreading patterns and practices in the Illinois River in your modeling work, do you?
A. I'm not sure that I would agree with that statement.
Q. Isn't that what you told me in your deposition? Do you have your deposition with you?
A. I believe I do.
Q. Can you open it up and look at page 255. Have you found page 255?
A. Yes, I'm on 255.
Q. Do you see the question that begins on page 255, line 23 and then your answer that goes through the following page on line 8? Take a moment, see if that refreshes your recollection.
A. Okay.
Q. You told me in your deposition, did you not, Dr. Engel, that it wasn't necessary to reflect the

actual spreading patterns? Do you recall saying that?
A. Looks like similar language here, yes. But I think you need context to understand that.
Q. You didn't try to reflect actual litter spreading patterns in your modeling work, did you?
A. It wasn't necessary to reflect every level of detail of those spreading patterns to conduct the modeling study.
Q. Doctor, your model doesn't have much to do with reality in the watershed, does it?
A. I would disagree with that statement.
Q. Let me confirm a few things about how you used your model. Doctor, you did not use your model to try to evaluate the fate and transport of poultry litter constituents off of any specific pasture in the Illinois River Watershed using actual conditions and litter application history of that particular site, did you?
A. So there was not a field-specific study that was part of this, no.
Q. So you're not offering a fate and transport opinion based upon your model with respect to any particular location in the Illinois River Watershed where litter has actually been applied, are you?

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A. So there was not a field-specific study that was part of this, no.
Q. So you're not offering a fate and transport opinion based upon your model with respect to any particular location in the Illinois River Watershed where litter has actually been applied, are you?

A. Well, I think that's a misrepresentation of what the model does.
Q. So the answer to my question is you're not offering that opinion?
A. I'm not offering that opinion.
Q. Let's talk about specific farms and property owners and litter applicators, who the Court has either heard testimony from or about in this case. Okay.
Have you used your model to evaluate fate and transport of phosphorus from Bill Anderson's farm?
A. I'm not sure I know who Bill Anderson is necessarily.
Q. If you had evaluated his specific farm, you would know it, wouldn't you?
A. Yes.
Q. Have you used your model to evaluate fate and transport of phosphorus from Julie Anderson's farm?
A. No.
Q. Have you used your model to evaluate fate and transport of phosphorus from Jim Pigeon's farm?
MR. PAGE: Your Honor, I think this is irrelevant. It's asked and answered.
THE COURT: Relevancy?

MR. GEORGE: Your Honor, the defendants' contention is the State bears the burden to prove fate and transport specifically, and this has been the evidence. I'm asking the scope of his opinions.

THE COURT: I think he's said he's not offering an opinion of -- fate and transport opinion based upon his model with respect to any particular location, correct?

MR. GEORGE: He has, Your Honor. If you believe this is cumulative, I'll move on.

THE COURT: Sustained.

Q. (By Mr. George) Now, Dr. Engel, you and Dr. Jeon also had to make some decisions about how to represent urban areas in your base case model, didn't you?

A. Correct.

Q. And when setting up the GLEAMS model, the modeler has to describe the type of field that's being modeled, right?

A. Yes.

Q. We established earlier that GLEAMS doesn't come with a set of variables that are intended to represent urban areas, right?

A. It allows one to describe any range of land uses and conditions.

Q. And do you recall being surprised at your deposition by my suggestion that Dr. Jeon had set the model up to treat urban areas as alfalfa hay fields?
A. Yes.
Q. I assume that since your deposition, you've now gone back to confirm that's exactly what he did, haven't you?
A. That's not exactly what was done.
Q. Okay. He did, in fact, use the alfalfa hay plant and nutrient input files and the default values and coefficients in those files to simulate urban areas, didn't he?
A. Those would not be specific to alfalfa.
Q. Well, they weren't specific to urban areas, were they?
A. They weren't -- I think that's a mischaracterization of how those worked.
Q. He didn't alter those default values and coefficients in the alfalfa plant and nutrient input files, did he?
A. My recollection is that the nutrients for alfalfa and pasture and hayed areas were different than urban.
Q. Isn't it true, Dr. Engel, that your model

assumes that alfalfa hay is growing in the Wal-Mart parking lots and on sidewalks in northwest Arkansas?
A. I don't believe that's the case.
Q. You do agree that urban areas and alfalfa fields are quite different, don't you?
A. Yes, those would be certainly different.
Q. You understand that many urban surfaces are impervious?
A. Yes.
Q. That means that water flows off of them and directly into storm sewers and channels, correct?
A. It could, yes.
Q. And that water flows off of those surfaces without the filtering effect that you would get in terms of alfalfa, vegetation on a hay field?
A. In some cases, that may be true.
Q. Let's talk about commercial fertilizer. You realize, don't you, that the manicured lawns in the subdivisions in northwest Arkansas in the watershed are likely to receive applications of commercial fertilizer?
A. They probably will receive some.
Q. You do understand that commercial fertilizers tend to be highly soluble?
A. They can be.

A. No, one wouldn't.
Q. You agree that a properly working septic system can contribute phosphorus to groundwater and to surface water?
A. It would contribute a small amount potentially.
Q. You agree that septic systems in particular can impact phosphorus concentrations in groundwater, right?
A. They would tend to have more impact on groundwater than surface water, yes.
Q. You agree that groundwater shows up in streams, right?
A. Yes.
Q. And, in fact, under base flow conditions, permanent streams are almost entirely spring- and groundwater-fed, right?
A. As well as water may be coming back out of alluvium along the streams, yes.
Q. Now, based on your own analysis of septic tanks in the watershed that -- the most that you could say was that their contribution to phosphorus loads was less than 10 percent; is that right?
A. I don't recall saying -- I don't recall the 10 percent number.

commercial fertilizer? Can't tell, can you?
A. That's beginning to get outside my area of expertise, so I would leave that to the agronomists and soil scientists.
Q. You've not undertaken an evaluation in that regard, right?
A. I haven't.
Q. Now, the phosphorus that's in that blade of grass from whatever source does not present much risk for runoff and water quality degradation, does it, as long as it's attached to the soil?
A. To the soil or to the grass?
Q. The phosphorus that's in the grass attached to the soil.
A. I'm sorry, I'm not following your question.
Q. Let me try it again, because I want us to be communicating. The phosphorus that's in a blade of grass that is attached to the soil on a pasture in the Illinois River Watershed does not present much risk for runoff or water quality degradation, does it?
A. No, it would not.
Q. But now, that changes when a cow comes along and eats the blade of grass, right?
A. It potentially changes.

Q. Because cattle convert the blade of grass into waste that contains phosphorus that's then deposited back on the surface of the land, right?
A. Yes, it would.
Q. And some of that phosphorus that's in that cattle waste is soluble phosphorus, right?
A. Yes.
Q. So cattle then deposit that phosphorus on the surface of the land in a form that's susceptible to impacting phosphorus concentrations leaving a field during heavy rains, right?
A. It would have the potential in some cases to do that.
Q. You also agree that cattle relocate phosphorus on pastures, right?
A. Yes, they may.
Q. And in many instances, or at least in some instances, they move phosphorus closer to streams, right?
A. They may.
Q. And you understand that the State is asking the Court to enter an order that would further restrict or perhaps even ban the application of poultry litter in the watershed; you know that, right?
A. Yes.

substantial, right?
A. They're similar.
Q. If I understand your testimony thus far, you believe that the amounts of manure that's generated by cattle and deposited on the surface of lands in the watershed should be largely ignored because cows, in your view, are just recycling nutrients already present in the watershed; is that right?
A. Yes.
Q. You do agree that grass can be grown in the watershed even without poultry litter, right?
A. Yes, it could be.
Q. And you're aware, are you not, that some cattle graze on fields where no poultry litter has been spread?
A. Yes.
Q. And you've heard that Mr. Fite's rodeo bulls are privileged to graze on such a pasture, right?
A. I'm not sure -- I don't recall that, but...
Q. You don't know?
A. I don't have knowledge of that.
Q. Dr. Engel, as a scientist, you can't look at a blade of grass and know where the phosphorus that's in that blade of grass comes from, can you, whether it came from litter or from the soil or from

commercial fertilizer? Can't tell, can you?
A. That's beginning to get outside my area of expertise, so I would leave that to the agronomists and soil scientists.
Q. You've not undertaken an evaluation in that regard, right?
A. I haven't.
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A. They may.
Q. And you understand that the State is asking the Court to enter an order that would further restrict or perhaps even ban the application of poultry litter in the watershed; you know that, right?
A. Yes.

Q. So let's assume that there were no more litter application allowed in the watershed. Have you got that assumption in mind?
A. Okay.
Q. In order to sustain the same cattle industry, the litter would have to be replaced with another fertilizer, perhaps commercial fertilizer, right?
MR. PAGE: Objection, Your Honor, this goes beyond the foundation of expertise and certainly beyond the testimony on direct.
MR. GEORGE: Your Honor, I'm exploring the basis for ignoring cattle, which is that they're recyclers.
THE COURT: You're talking about commercial fertilizer placed on pastures?
MR. GEORGE: Yes, Your Honor.
THE COURT: Overruled.
Q. (By Mr. George) Did you understand the question?
A. If you could repeat it, it would be helpful.
Q. If there's no more litter application in the watershed, in order to sustain the cattle industry and the forage that's necessary, landowners may have to replace litter with commercial fertilizer, right?
A. My recollection from conversations with

Dr. Johnson is that, you know, it would be necessary to potentially replace nitrogen, but most of these soils contain sufficient phosphorus for many, many years.

Q. Okay. In that event, even with a nitrogen-based fertilizer, that would grow grass, right?

A. Yes.

Q. And that grass, whether it was treated with phosphorus-based commercial fertilizer or just nitrogen-based, would contain phosphorus, right?

A. It would contain some, yes.

Q. That grass would be eaten by cattle, right?

A. Yes.

Q. And that phosphorus would be deposited in much the same way as it is now, on the surface of the land, right?

A. Yes.

Q. Dr. Engel, don't you agree based on what we've just gone through that all of the phosphorus in cattle manure is relevant to water quality issues, regardless of its source?

A. I'm not sure I would agree with that statement.

MR. GEORGE: May I have a moment,

match the reality of how farmers are actually managing litter in the Illinois River Watershed; do you agree?

A. That would differ from the assumption I made, yes.

Q. All right. You had a discussion, a brief discussion with Mr. George about sewage upsets or bypasses. Can you give us a brief description what a sewage upset or bypass is?

A. Yes, certainly. So this would occur typically during a rainfall event in which the wastewater treatment facility may not be able to accommodate all the water flowing into it, and so they may bypass part of it and discharge it.

Q. All right. As a general principle, a sewage treatment plant, or a POTW, as I think we called it sometimes, generally we think of it in terms of having a permitted point source discharge. And you could think of it essentially like a pipe that is discharging the treated effluent from the plant into some receiving stream. Do you agree with that generally?

A. Yes.

Q. So in the case of a bypass or an upset, there is either raw or partially treated sewage that does

not exit the system through this point source discharge pipe?
A. Yes, there would be some.
Q. Okay. Now, with regard to how you handled the discharges -- or how you handled sewage in your model, you assumed that all sewage releases were those that went out through the pipe and were reported in the daily monitoring reports or discharge monitoring reports for the plants?
A. Yes.
Q. And that assumption that all of the sewage that you would include in your model is that which goes out the pipe, implicit in that assumption is that all of the effluent has been subjected to whatever phosphorus removal technology the sewage plant employs, correct?
A. Certainly the values that would be reported would have been values that went through that treatment process, yes.
Q. But you agree in the case of an upset or a bypass, that material that's released is not -- has not necessarily been subjected to the phosphorus removal processes in the system?
A. Correct, but it's a relatively small amount.
Q. Well, let's look at this Exhibit 2733 that

Mr. George put in front of you.

MR. MCDANIEL: Your Honor, if I can, I would like to go ahead and offer for admission Exhibit -- Defendants' Joint Exhibit 2733.

THE COURT: Any objection?

MR. PAGE: Your Honor, I don't believe a proper foundation has been provided for this document.

THE COURT: Sustained.

MR. MCDANIEL: Your Honor, on the pretrial order, the only objection noted by the plaintiff is relevance.

THE COURT: Still need a foundation.

Q. (By Mr. McDaniel) Did anybody on your team, Dr. Engel, endeavor to investigate the extent to which there had been bypasses or overflows?

A. To my knowledge, no, but, you know, there very well may have been.

Q. You said there wasn't much. Let's look at the last sheet of the exhibit. It's DJX2733-0007.

Do you see where this reports that there were -- in April of 2008, there were three bypasses, one for nine million gallons, another for five-and-three-quarter million gallons and another for five million gallons?

A. Yes.
Q. What stream is Westville near?
A. I'm not recalling at the moment.
Q. If I told you that it's on the Shell Branch, which is a tributary to Barren Fork, does that comport with your understanding?
A. I'm not recalling. It very well certainly could be located there.
Q. All right. If, in fact, these releases occurred that are reported here in 2008, and if those releases occurred and it was upstream of your sampling point on the Barren Fork, these releases were not factored into your modeling, correct?
A. That would be correct.
Q. Turn back towards the beginning of the document, and you'll see there are several pages of bypasses reported for City of Tahlequah. Do you see that?
A. Yes.
Q. I'll represent to you, sir, a gentleman by the name of Carl Parrott, who's the engineering supervisor for ODEQ's water quality division, he testified as a 30(b)(6) witness for the State in this matter and he covered a number of wastewater treatment topics.

Did you review his deposition in developing your opinions?
A. What was the name again?
Q. Carl Parrott.
A. I don't recall seeing that.
Q. Well, I'll represent to you that he testified in his May 30, 2008 deposition beginning on page 107 that for the period of November 1999 to October 2005, the Tahlequah system released on average 3,277 gallons of raw, untreated sewage a month.
Is that a fact that was made known to you in developing your opinions?
A. I don't recall seeing that set of values specifically.
Q. Tahlequah sits on Tahlequah Creek that then flows into the Illinois River. Is that upstream of the USGS gauging and water quality sampling station?
A. I believe it would be, yes.
Q. In your modeling work, did you make any assessment of the impact from raw sewage releases from Tahlequah?
A. Subsequent to my modeling, I've seen those values, but during the modeling exercise, no. But subsequently, based upon a report by Dr. Jarman, I believe, the discharges from all these are less than

a hundred pounds a year in the entire basin.

MR. MCDANIEL: I move to strike the latter part of his answer as nonresponsive, Your Honor.

THE COURT: Overruled. Your question asked for an assessment of the impact. Go ahead.

Q. (By Mr. McDaniel) Did -- are you basing your opinion on what Dr. Jarman said?

A. Well, I read that report, and based on --

Q. I just asked you if you were basing your opinion on what Dr. Jarman said.

A. That's part of the data that that opinion would be based on, yes.

Q. You didn't see Dr. Jarman's report until after you submitted your own, correct?

A. Correct, and I believe that's what I stated.

Q. My question to you was: In developing your opinion, did you consider the effect of the release of raw sewage from the Tahlequah system into the Illinois River?

A. No.

Q. All right. There was -- the State of Oklahoma also designated an engineer by the name of Mark Derichsweiler, who's the supervisor of Oklahoma Department of Environmental Qualities Watershed Planning Division, to testify on a number of topics,

including wastewater treatment and discharges and bypasses in the Arkansas portion of the basin.

Were you supplied his deposition testimony?

A. I don't believe I've seen that deposition.

Q. Were you provided any information for you to consider in developing your opinions related to sewage bypasses or upsets in the -- related to the larger sewage plants in Arkansas?

A. No, but I didn't request it.

Q. Now, in your model -- I note in your report, it appears that you attributed a zero load to the sewage treatment plant at Watts?

A. I would need to refresh my memory.

Q. Go ahead. Look at your report where you discussed the sewage treatment plants.

A. So it looks like for the 2003 to present period, you're correct. It looks like there's a value reported in the early '90s representation in Table 6.1.

Q. In the modern era, you assumed a zero load from the Watts plant; am I correct?

A. Looks like that was the case, yes.

Q. Why is that?

A. My recollection is that -- that there were no PCS data reported for that location for the present

period, and that the only values reported had been these more historical values.
Q. Is that where your investigation into the Watts system stopped?
A. I believe that was the case, given that at least historically, it represented only 1100 pounds per year, approximately.
Q. At the time you gave your deposition, do you recall us talking about the Watts system briefly?
A. I do recall that briefly, yes.
Q. At least at that time, you had no idea what the Watts sewage system was, did you?
A. I'm not highly familiar with it.
Q. Since the deposition, have you looked more closely at the Watts system?
A. I have not.
Q. Have you reviewed its history?
A. I have not.
Q. Have you reviewed any consent orders between the town of Watts and the State of Oklahoma with regard to that system?
A. I don't believe I've seen any of those.
MR. MCDANIEL: May I approach, Your Honor?
THE COURT: Yes, sir.
Q. (By Mr. McDaniel) Dr. Engel, I've handed you

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME 58 - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 1, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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10 **SCOTT A. WELLS, PH.D.**

11 Direct Examination by Mr. Bullock 6677

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THE COURT: Yeah. It's clear to me that the answers given here in this exchange of e-mails does, in fact, support the court's rulings yesterday as opposed to providing evidence that the plaintiff's met their Rule 26 obligations.

This exchange of e-mails needs to be made as a court exhibit. Our next court's exhibit, I believe, is Court's Exhibit 9; is that correct? Let's mark this as Court's Exhibit 9. The court's ruling stands.

MR. GEORGE: Thank you.

(Bench conference concluded)

THE COURT: Let's mark this as Court's Exhibit 9.

Mr. McDaniel.

MR. MCDANIEL: Thank you, Your Honor. A couple of procedural matters before I resume the examination.

I neglected to offer into evidence Oklahoma Exhibit 1090, which is the USGS flow rate, but I do so now.

THE COURT: Any objection?

MR. PAGE: No objection, Your Honor.

THE COURT: Oklahoma Exhibit 1090 is admitted.

MR. MCDANIEL: All right. Secondly,

A. Yes.

Q. Now, Dr. Engel, do you recall Mr. George's questions concerning the results of your original calculations with the missing HRUs and their similarity with the final calculations?

A. Correct.

Q. Would you explain to the court how that is possible?

A. Yes, certainly. So the process here was that -- that the model was calibrated, and during that calibration period, some of the parameters available to be modified to adjust the model were changed. In fact, the amount of phosphorus that was applied to these HRUs was the amount of phosphorus applied to the entire watershed.

And based on my knowledge of the model, experience with the model, and similar models, within the working ranges of nutrient applications onto the landscape that we're working within here, that essentially doubling or greatly increasing the application rate provides results that are very similar to more area with the same application, but therefore, at a lower rate-per-unit area.

So that would be the explanation.

Q. Okay. But then on a validation process, do

general practice, to represent these broader areas that can be represented that way without representing every single field.

The model predicts runoff from those areas, predicts phosphorus movement from those, and at the watershed level provides the necessary data to assess fate and transport of phosphorus from the sources that were considered.

Q. Now, are these Nutrient Management Plans that are written for the IRW, are they site-specific documents?

A. They are absolutely site-specific.

Q. Are they written with a view towards protecting the water quality of a whole watershed?

A. No. They're written to -- to attempt to reduce phosphorus running off from that specific field. So they don't look at the aggregate.

Q. Okay. And so, in your opinion, sir -- let me strike that.

There was also a question asked you about litter application rates based on four different zones. Do you recall that --

A. Yes.

Q. -- question?

What was the basis for that assumption?

during the summer.

Is that correct?

THE WITNESS: That's correct. But you also have the problem of low dissolved oxygen.

THE COURT: Well, that's what you just pointed out here. What happens then once -- once that water is released and you do actually have some atmospheric exchange, does that solve the low dissolved oxygen problem? What do they do to solve that problem with the fishery?

THE WITNESS: Yeah. It depends how far downstream the fishery is. So you have to allow the water to equilibrate with the atmosphere and have enough time, travel time, to make a significant impact.

THE COURT: And it's all taken into account?

THE WITNESS: We don't model below Tenkiller Reservoir but someone has looked at that.

I think the Corps of Engineers also does other things with their powerhouse to have turbine venting and things like to insert air into that low DO water as it goes out the system.

THE COURT: Go ahead.

Q. *(BY MR. BULLOCK)* Okay. Let's proceed with

the movie here. Since I can't see this, about what time of the year are we, Doctor?

A. We're into May, the middle of May, so May 19th right now. In fact, this is an interesting issue.

You see that along the bottom of the thermocline moving laterally across the reservoir there's a little thin layer of low DO water, and that's usually due to what we call an interflow. So what happens is that the water coming in the reservoir plunges below the epilimnion and scoots along the top of the thermocline carrying low DO water with it across the reservoir. You'll see this little wedge of oxygenated water gradually diminish in the hypolimnion over time.

Q. Okay. Let's proceed.

Now, that that's cloud that you -- we just saw --

A. That's correct. That cloud of water with oxygen gradually gets depleted.

Q. Okay.

A. And so this is -- at this particular point, we're into July and we can see that the hypolimnion has no oxygen and the only oxygen in the system is in the upper layer of the epilimnion.

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

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4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
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TYSON FOODS, INC., et al.,)
9)
)
10 Defendants.)

11

12

13 TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 DECEMBER 2, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 59, A.M. SESSION

16

17 APPEARANCES:

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1 looking at the facts and simply describing
2 characteristics of an industry.
3 Q. Does it involve econometrics?
4 A. Descriptive economics typically does not
5 involve econometric or statistical analysis.
6 Q. So in this case, you have not done any
7 econometrics as such?
8 A. Not in this case, no.
9 Q. Let's start briefly, then, if we could, with a
10 general description about how -- or the predominant
11 way poultry is being produced in the country today.
12 A. 90 to 95 percent of poultry is produced in an
13 -- under an economic model referred to as vertical
14 integration.
15 Q. What is vertical integration?
16 A. Vertical integration at the full extent
17 involves going from raw material production to
18 processing and to marketing, wholesaling and even
19 retailing.
20 Q. Are turkeys generally produced essentially the
21 same way as other poultry?
22 A. Yes. Essentially the same way as broilers.
23 Q. Are there any significant differences between
24 the way various kinds of poultry are produced with
25 respect to the issues you were asked to address in

can change.
Q. Did you see anything in any of those grower contracts which gave the grower the right to a certain number of birds over a certain period of time?
A. Only for the first flock.
Q. Do the contracts you reviewed address ownership of the waste generated by the birds?
A. Only one.
Q. And what was that?
A. Defendant Peterson's 2004 contract said that the litter is the exclusive property of the grower.
Q. Prior to that provision in that Peterson contract, did you see that provision anywhere else?
A. No.
Q. Have you seen that provision in any other of the defendant companies' contracts?
A. No.
Q. Do the contracts make any reference to how the waste is to be managed, the waste that's generated by the integrator's birds while they're being cared for by the grower?
A. The contracts, going back in time, generally state that the dead birds are the responsibility of the contract grower. With regard to waste, the

report, May 15, 2008, regarding the economic feasibility of removing varying amounts of poultry litter from the watershed and hauling them to use elsewhere as fertilizer?

A. It was economically feasible to haul almost all of it, assuming 350,000 tons, in 2007, and feasible to haul all of it in 2008.

MR. RIGGS: Pass the witness.

THE COURT: Does it remain economically feasible, given the current cost of commercial fertilizer?

THE WITNESS: Fertilizer prices have declined, and they're now kind of between the 2007 and 2008 level.

THE COURT: Is that dependent mainly on natural gas prices or oil or both?

THE WITNESS: The price of nitrogen fertilizer is largely dependent on the natural gas price.

THE COURT: That's what I understood.

THE WITNESS: Phosphorus and potassium are a little more complicated. Most of the commercial phosphorus we used is from mined phosphate rock in the United States.

A lot of the pot ash is imported. And

actually, a lot of the nitrogen is imported primarily from Canada, and so exchange rates get involved. But the prices went up because of energy price increases, but also increasing demand due to expanded crop production for biofuels, mandated increases in corn and vegetable oil crop production.

THE COURT: Mr. Hopson.

MR. HOPSON: Your Honor, in order to save time, I'm going to hand a few things up to the witness, if I can approach.

THE COURT: Yes, sir.

CROSS-EXAMINATION

BY MR. HOPSON:

Q. Good morning, Dr. Taylor. My name is Mark Hopson, and I'm one of the lawyers who represents Tyson Foods in this case. And I just handed you a stack of materials, including your depositions, that we may or may not have to look at.

But let me start with this proposition and just ask you, are you contending that the Illinois River Watershed, that geographic location, is a separate and distinct geographic market for the service -- for providing grower services?

A. There is considerable overlap of complexes with

that, but they do not match up perfectly with the Illinois River Watershed.
Q. Because if a person is going to give an opinion on monopoly or monopsony or anything else, the place we traditionally start in economics is to define the product of the service and to define the geographic market; isn't that correct?
A. In antitrust evaluations, certainly.
Q. Let me ask you this way: You have said that basically, if I can paraphrase, your report says that the geographic market for grower services is basically defined by the number of integrators within a radius of 20 to 50 miles of that grower's house; is that right?
A. I am citing that the integrator defines the market for grower services, and that tends to be 20 to 50 miles radius from feed mill, processing plant.
Q. You don't know where all the growers are in the IRW; isn't that right, Dr. Taylor?
A. I have seen -- no, I do not.
Q. And you haven't undertaken any study of the number or location of integrators who have feed mills or hatcheries within 50 miles of the growers in the IRW; isn't that right?

A. That is correct.
Q. Now, you cite national studies in your report. If you want to refresh yourself, take a look at paragraph 22, but I think you'll agree with me you cited national studies on this whole oligopsony issue that suggests that 75 percent of growers in the United States have three or fewer potential integrators to contract with; do you recall that?
A. Yes.
Q. To the extent that those studies, in fact, represent an oligopsony market, that is a very different situation from what one would find in the Illinois River Watershed, is it not?
A. No.
Q. You know, because there were seven integrators on the front page of the lawsuit when this case was filed, that there are at least seven integrators within 50 miles of the growers in the IRW, don't you?
A. There are seven poultry integrators, but there are not seven broiler integrators or turkey or egg integrators.
Q. How many broiler integrators are there within 50 miles of every grower in the Illinois River Watershed? The answer to that question is you don't

"But in reality, that's what happened; isn't that true?

"ANSWER: So far."

That's your testimony under oath in July, 2008, right, Dr. Taylor?

A. That's right. And it's four to six, not five to six that you were using in your question.

Q. So it's four to six flocks a year that, in reality, the growers in the IRW have been getting, right?

A. Right.

Q. So you're also, speaking of empirical evidence, not aware of any instance in which a specific grower in the IRW has had a flock withheld or threatened to have a flock withheld; isn't that true?

A. That's true.

Q. And you're also not aware of a single instance in the actual evidence in this case in which any of the defendants have refused to enter into a contract or renew a contract with a grower in the IRW; isn't that right?

A. Right.

Q. Let me turn to a corollary of this point. You talk about in your report and in your various articles, and you talked this morning that the

in formulating the opinions about oligopsony and economic power that you delivered this morning from that witness stand?

MR. RIGGS: Objection, Your Honor, assumes facts not in evidence.

THE COURT: It's impeachment. Overruled. Go ahead.

THE WITNESS: The question again, please.

Q. (By Mr. Hopson) I just want to ask you if you've taken any of the evidence or what you've heard about actual switching and actual competition on price into account in formulating the opinions that you've delivered to His Honor this morning.

A. No.

Q. Let me ask you this: Isn't it the case that at the time you prepared your opinion in this case, in the IRW, you didn't have any idea one way or another whether any of the integrator defendants have had to raise grower pay as a result of competition between these companies for growers in the IRW?

A. I know that grower pay has increased to roughly offset inflation. I don't know whether it was raised over -- to compete.

Q. So the answer is you don't know?

A. Yes.

Q. At the time you prepared your opinion and wrote your report that you delivered to us, you had not looked at any data, one way or another, about the extent which growers have been leaving one integrator and moving to another integrator in the IRW; isn't that correct?
A. Yes.
Q. And you can't tell, Dr. Taylor, anything about price competition or switching from reviewing contracts; isn't that right?
A. Right.
Q. And the depositions that you read, sir, have no testimony whatsoever about price competition or switching; isn't that correct?
A. Correct.
Q. Did the plaintiffs tell you that we had a dozen or so growers sitting in that witness stand testifying in this case?
A. No, I don't recall it.
Q. So you haven't looked at the testimony of any of the growers who sat in that witness stand and testified; is that right?
A. Oh, I've read some of the depositions.
Q. But I'm not talking about depositions. I'm talking about trial testimony in this case. You've

relating to grow-out operations in the IRW, right?
A. Right.
Q. Let me talk to you just a little bit -- I think others may have questions about this issue of economic value of litter. But just as a starting point and on a very practical basis, I understand your point about litter and too much phosphorus in the soil, but you also know that growers in the IRW, growers everywhere, find value in the other elements in the litter besides phosphorus, right?
A. They may.
Q. Right. For example, you would agree with me that they certainly find value in the nitrogen that's found in the litter; is that not correct?
A. Yes.
Q. And you would agree with me that they find value in the fact that the application of litter to the soil has value as a soil amendment; isn't that right?
A. Yes, to some extent.
Q. You've done no analysis whatsoever of the current value of litter to growers in the IRW or the possible replacement cost of commercial fertilizer if that litter was to be removed; isn't that right?
A. Yes. I was not asked to.

right?
A. As far as I know.
Q. As far as you know, growers have always decided what to do with their litter; isn't that right?
A. That they've decided what to do with "the" litter.
Q. I'm not going to quibble with you about semantics. The growers decide whether to sell it or whether to land apply it or whether to give it away, right?
A. Right.
Q. Did you notice in that OSU budget that we were looking at before that the value of the litter was one of the three components of revenue to a poultry grower?
A. Yes.
Q. So the litter, you would agree with me, at least has cash value to these growers, correct?
A. It may.
Q. Well, this is not theoretical, sir. It does have cash value. If you can call somebody to come pick up your litter, and they will pay you $15 a ton, that is real-world cash value; is it not, Dr. Taylor?
A. That is a gross value.

Q. I'm asking about cash value, sir. Is it cash value?
A. Okay.
Q. Is it?
A. Yes.
Q. You talked about take-it-or-leave-it contracts. Do you remember that?
A. Right.
Q. One of your views is the economic power here is either exercised or manifested in the fact that, as you testified, integrators are not able to -- growers are not able to individually negotiate contracts with integrators? Is that your view?
A. There is no negotiation that takes place, individually or collectively.
Q. Right. And you understand, sir, from your long and intense study of this industry, that the integrators, rightly or wrongly, take the position that they offer identical contracts to similarly situated growers because they are required to as a matter of law. You understand that, don't you?
A. I understand that is the integrators' position.
Q. And you understand that they take that position, but you believe that their position that they're legally obligated to offer their growers the

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME 60 - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 2, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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ROBERT TAYLOR, PH.D.

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12 **ROBERT JAN STEVENSON, PH.D.**

13 Direct Examination by Mr. Page 6961

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A. Right.

Q. Now, with regard to the integrators and the litter, and the growers and the litter, from those depositions -- or from that testimony that you read, did you reach an understanding that the growers rightly or wrongly believe that the litter is theirs to do with as they choose?

A. Historically, they believe that it has been theirs to do with what they please, yes.

Q. One of the points you made in your report was that some of the contracts -- and you particularly referenced, I think, the Cargill contract in your testimony this morning -- have always required the growers to follow the law, whether it's national, state, or local, and that now they even go so far as to require that they follow the environmental laws and they even have to have a Nutrient Management Plan or similar. Do you recall that?

A. They have not always stated that.

Q. But they do now?

A. Generally, they do now, yes.

Q. Now, in your report, I took it -- and correct me if I'm wrong -- but in your report, I took it, and from your testimony this morning, that you consider that to be some sort of an indicator of control over

Q. Well, let me muddle through and help me as I stumble.

A. Okay.

Q. At the grower's expense, the grower contributes a number of things to this relationship between the poultry company and the grower. He contribute the houses?

A. Right.

Q. And therefore, he has to either have the capital to borrow the capital for that?

A. Right.

Q. The equipment?

A. Yes.

Q. The land to put the houses on?

A. Which is small acreage for the houses. Houses --

Q. But he contributes that?

A. Yes.

Q. His labor or the labor of those people he employs to work for him?

A. Right.

Q. All of the repairs and maintenance to those buildings and equipment?

A. Right.

Q. And he takes care of storing the food safely?

-- and you heard his testimony that he hauls into southern Kansas?

A. Yes.

Q. Do you think Roger Collins is going to make it?

A. If fertilizer prices remain strong, yes.

Q. Yes, sir. Now, not only does the price -- by the way, in that regard, phosphate is a reducing asset. I mean, you pull it out of the ground and it's no longer there, correct, just like oil?

A. That's my understanding.

Q. So we can understand that over the long-term, you'll agree with me that that particular asset should increase in cost over time long-term, just by virtue of the fact that there's going to be less and less of it available?

A. In the long-term maybe. Pretty short-term because there's only like 15- to 25-year supply.

Q. And when that happens, the value of chicken litter will even increase more than today; correct, sir?

A. Correct.

Q. And will you agree with me that we could probably anticipate that the price of your urea based on natural gas over the long-term is also going to

go to tunnel houses?

A. That's my understanding.

Q. All right, sir.

MR. ELROD: That's all I have. Thank you.

THE COURT: Any further cross?

MR. HIXON: Just a few.

THE COURT: Mr. Hixon.

CROSS-EXAMINATION

BY MR. HIXON:

Q. Dr. Taylor, I'm Philip Hixon and I represent Peterson Farms in this matter. It's good to see you again.

A few questions on your transportation opinions in this case. It was my understanding that you testified earlier that it was your opinion that it was feasible to transfer 350,000 tons of poultry litter from the Illinois River Watershed to eastern Arkansas; is that correct?

A. With fertilizer prices prevailing in '08, it was profitable to do that.

Q. Okay. So it was profitable in '08?

A. And for '07, it was profitable to haul it almost that far.

Q. Okay. Isn't it true that that opinion is

A. No.

Q. The ownership of litter or who decides what happens to litter?

A. The only opinion I've offered is on -- related to control is the integrator decides where the complex will be and how many growers and how many birds will be produced and they decide on where the waste is generated, but I have no other opinions.

Q. But your opinion remains that even despite that opinion, the grower determines what occurs with the litter, what happens with the litter?

A. Yes.

Q. Okay. Just to clarify the record, you testified regarding the Peterson contract provision on the ownership of litter?

A. Right.

Q. And I may have misunderstood you but if you'd clarify. I heard you to say that that provision was in the 2004 contract at the earliest. Was that your testimony?

A. I don't know that I said at the earliest because I have not seen Peterson contracts prior to '04.

Q. Okay. So is it true that you don't know how long that provision has been in the Peterson broiler

A. So during the summer of 2007 when we sampled the 37 sites for fish, we observed phosphorus concentrations ranging from 7 to 945 micrograms per liter with a median concentration of 67, and 25th and 75th quartiles of 29 and 142.

Q. Now, Dr. Stevenson, did you take these results from your three sampling campaigns and compare them to Oklahoma's scenic river water quality criteria of 37 micrograms for phosphorus?

A. Yes, I did.

Q. And what did you find in that comparison?

A. We found that all -- we sampled five -- during the spring when we could do repeated sampling and actually calculated geometric mean, which is the number that the Oklahoma standard is based on, we had five stations in the Flint and Illinois River reaches that are within the scenic river's zone, and all five of those sites had greater than 37 micrograms per liter.

Q. Okay. Did you have any other findings from your evaluation?

A. So if we actually look across -- if you look at these numbers, you can see that at least -- well, between three-fourths and two-thirds of the streams that we sampled had nutrient concentrations greater

than the Oklahoma 37-microgram-per-liter standard.

Q. Is that when you combine all three sampling plans together?

A. So that if I look at the spring of -- I'm sorry -- the summer of 2006, basically 37 is the lower quartile. So 75 percent of the streams in the summer of 2006 had phosphorus concentrations that would have exceeded the Oklahoma standard of 37.

In the spring and in the summer -- spring of 2007 and the summer of 2007, the quartiles are lower than that and basically I think it's 64 and 62 percent of the streams had nutrient concentrations that exceeded the 37-microgram-per-liter Oklahoma standard.

Q. Now, Dr. Stevenson, did you also do a comparison of these phosphorus sampling results with other streams that you studied throughout the United States?

A. Yes, I did.

Q. And what did you find with those comparisons?

A. So I made -- I -- the two most recent studies in streams from similar geologies and climates are -- because climate and particularly geology defines what natural background nutrient concentrations should be.

So in these streams -- so the two regions

Q. And in your opinion, Dr. Stevenson, how does that standard apply to the work you did in the IRW?

A. This defines the biological -- the biodiversity, the biological condition end points, for our assessment.

Q. Now, Dr. Stevenson, based on your investigation of filamentous green algae that you've just described in some detail, what did you find as a result of your investigation?

A. We found extensive growths of filamentous green algae in the -- in the Illinois River Watershed ranging between zero and 91 percent cover. So -- and these are -- and this is during the spring of 2007 when we would expect large amounts of filamentous algae to grow.

These are also eight-week averages, so imagine an eight-week average where there's a 91 percent cover of the stream bottom by macroalgae. That's -- that's very high.

So the range was from zero to 91. The median was about 20 percent, which has -- can be used as a benchmark for a problem with aesthetics.

Q. And in your opinion, sir, is the 20 percent algal cover a nuisance algal cover?

A. Yes.

Q. Okay. And so what was the median; that is, the midpoint, in this spring 2007 study?

A. So the median was 20 percent, which means that 50 percent of the streams had higher than 20 percent filamentous green algal cover.

Q. Now, Dr. Stevenson, have you compared this study that you just described and the results that you just described to any other work you've done on filamentous green algae cover?

A. Yes, I have.

Q. And what did you do?

A. So I compared it to our Kentucky and Michigan study, where we also used this filamentous green algae cover characterization. And so in the 140 sites in both Michigan and Kentucky where we did these two-month averages of filamentous green algae cover, we only had three sites that had around 50 percent cover, so 50 percent of the stream bottom being covered by filamentous green algae. Three quarters of the sites were less than 20 percent so there were many fewer.

In the Illinois River Watershed, more than 20 -- 25 percent of the sites -- 25 percent of the stream sites versus just a couple -- 25 percent of the sites had greater than 50 percent filamentous green

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME 61 - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 3, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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4 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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ROBERT JAN STEVENSON, PH.D.

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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
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14 DECEMBER 3, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 62, P.M. SESSION

16

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A. That's true.
Q. You believe that urban land use increases total phosphorus in the Illinois River Watershed streams, right?
A. Yes, I do.
Q. And you believe that the effect is large for the Illinois River Watershed streams where there are urban activities, right?
A. I believe the effect is large.
Q. You think --
A. There's a substantial increase in phosphorus in urban watersheds, urban-dominated watersheds, yeah.
Q. You think that the phosphorus from urban land use stimulates benthic algal growth and has negative effects on biological conditions, right?
A. Yes, I do.
Q. However, in your report, you did not make the calculation as to the phosphorus concentration range that is due solely to urban effects, did you?
A. No, I did not. Well, actually, I did isolate the effects of urban versus poultry, so I do know the effects of urban -- in urban-dominated watersheds, sure.
THE COURT: Let's take our midafternoon break.

subwatersheds?
A. That's my understanding is that they were included in, if they were in the two-mile radius around the subwatersheds.
MR. CHADICK: Let me approach, Your Honor, and draw up on the board here.
THE COURT: Yes, sir.
Q. (By Mr. Chadick) So I understand this, Professor Stevenson, say you have a subwatershed here, we'll call that S watershed 1. And a subwatershed here, S watershed 2. And a subwatershed here, call that S watershed 3. And these had -- and I'm -- just for purposes of demonstrating -- poultry houses in them.
For purposes of the count of the poultry house density, you draw a two-mile buffer, so you would include in your count of houses not only the houses that are in this subwatershed 1, but some of the houses that are in subwatershed 2, right?
A. Yes.
Q. These houses would be double-counted, in other words, correct?
A. Yes, they would.
Q. And the same for here, subwatershed 3 would count not only the houses in that subwatershed, but

also houses in subwatershed 1 and subwatershed 2?
A. Correct.
Q. That's the same for subwatershed 2?
A. What we're calculating is an indicator of potential amounts of manure that might be applied in the watershed, not how much manure is coming from a specific house.
Q. But you realize that there was double-counting going on, even though you didn't have anything to do with the poultry house density; is that right?
MR. PAGE: I'm sorry, I have to object, Your Honor. This example misrepresents how the subwatersheds are spaced. I don't believe there's any evidence in the record that there will be double-counting among the watersheds.
Q. (By Mr. Chadick) You're not aware --
THE COURT: Overruled.
MR. CHADICK: Sorry, Your Honor.
Q. (By Mr. Chadick) Are you aware of any double-counting going on, Dr. Stevenson?
A. So, a house would have been counted for each of those watersheds one time. But a house counted to be in one watershed could also be counted to be in another watershed, because the manure from that house may have been spread in a radius around the

Q. But the relationships you testified about on direct were between these stream quality parameters and their relationship to poultry house density, correct?

A. Yes.

Q. Let's go back to Mr. Chadick's simple illustration of these subbasins. And he put the poultry houses on here as little triangles and then the two-mile buffer around each subbasin.

Now, there's been quite a bit of testimony over the past two months here in court, a lot of people do lots of different things with poultry litter. So let me tell you a few of them, and see if it's kind of your understanding.

There's some poultry farmers who have testified that they clean out their houses pretty much every year, and they have land that they can use the poultry litter on, so they are using it on their cattle pastures. So you've got some farmers, let's call them Farmer Jones, is applying their litter at their farm.

You've got some farmers who have said, I'm not required to clean out, bedding is expensive, I don't need it on my land, I may go two years and not clean out. So that's Farmer Smith, let's say Farmer

Smith. I put a X over him because Farmer Smith didn't apply anything.

Then there's other farmers that's like -- there was Mr. Al Saunders testified that the last four years, he shipped 80 percent of his litter outside the watershed. So that litter is gone -- I'm going to say gone to Kansas. I'm not representing he said that, but just for illustration purposes.

So Mr. Saunders right here, only 20 percent of his litter is he using on his land, okay.

A. Yes.

Q. So far, you're following me?

A. Completely. I think.

Q. Okay. Now, over here in watershed No. 3, we have big, rich cattle landowner, let's call him John Elrod. Okay. Mr. Elrod doesn't have any poultry houses, but he's got a lot of pasture, and he runs cattle on that pasture. And what he does is he's got a deal with a litter broker, and tells that litter broker, you know, I need litter on my place to keep my grass satisfied. I've got a Nutrient Management Plan. It's up to the broker to find the litter at the best price.

So that broker may get this grower's

litter, take it to Elrod. May get it from outside these three, take it to Elrod. May get it from somebody close, take it to Elrod.

Are they all conceivable, in your mind?

A. Yes.

Q. All right. Now, but what you evaluated was simply looking through a telescope, counting rooftops, correct?

A. Yes.

Q. So Mr. Saunders over here, who for four years has been sending 80 percent of his litter out, he didn't get counted in your regression equation as 0.2 poultry houses, right?

A. That's correct, he did not. We did not --

Q. This subwatershed 3 over here, where we have rich Mr. Elrod, who's got lots of pasture acreage, he's not -- even though he may be taking all the litter from this house and this house and this house and bringing it to that watershed, there's no data in your database to account for that, correct?

A. That's correct.

Q. So when we look back at your regression equation, this poultry house density is a theoretical surrogate for the land application of poultry litter, but you have no data from any of

your subwatersheds that you modeled in your analysis to tell you or enable you to draw this stream water quality correlation against, for instance, litter tons per acre for any specific watershed, or tons per square mile. I mean, you didn't have the information to use that as your source parameter, correct?

A. No, I didn't.

Q. Thank you.

MR. MCDANIEL: Pass the witness.

THE COURT: Further cross.

MR. GEORGE: Just a few, Your Honor.

CROSS-EXAMINATION

BY MR. GEORGE:

Q. I can't draw, so I will not go to the whiteboard and embarrass myself again.

Dr. Stevenson, my name is Robert George, and I've got to start by asking you a question that has bugged me since you took the stand yesterday, okay?

A. Yes, sir.

Q. I understand your first name is Robert, correct?

A. Yes, it is.

Q. But you choose to go by Jan?

Q. You're aware, are you not, that Oklahoma has passed a numeric criteria for phosphorus concentrations in scenic river-designated portions of rivers in the Illinois River Watershed, right?
A. Yes, I'm familiar with that.
Q. That numeric phosphorus criteria is what?
A. 37 micrograms per liter.
Q. Or .037 milligrams per liter, correct?
A. Yes, sir.
Q. And that numeric phosphorus criteria only applies to sections of the Illinois River, Flint Creek, and Barren Fork that have been designated as scenic rivers, correct?
A. That's my understanding.
Q. Oklahoma has no numeric phosphorus criteria for many of the smaller streams and tributaries in the watershed that are not designated as scenic rivers, right?
A. That's my understanding.
Q. Now, you were hired in this matter by the State of Oklahoma, as I understand it, correct?
A. Yes.
Q. And you're here today and you were here yesterday testifying on behalf of the State of Oklahoma, right?

density, so you used percent pasture as sort of a surrogate for cattle; is that right?
A. Yes, that's correct.
Q. Now, is it your understanding that in the Illinois River Watershed, the land type or land use category where poultry litter is generally applied is pastures?
A. I didn't make that assumption.
Q. You don't know one way or the other whether that's generally true in the IRW?
A. I've heard that that's true, but that's not an assumption in my analysis.
Q. But in any event, your -- at least your preliminary analysis did not show a correlation between the percentage of pastures in subwatersheds and phosphorus concentrations, right?
A. No, it shows a correlation.
Q. But not one that you felt was strong enough for it to be a dominant cause, correct?
A. Right, without including poultry house operations.
Q. Speaking of poultry houses, which of the eight defendants named in this lawsuit have contracts with growers whose poultry houses were included in the subwatersheds you studied?

A. I don't know.
Q. So in light of that, none of your causation opinions are specific to a particular defendant, are they?
A. No, they're not.
Q. I think this was implicit in the discussion that you had with Mr. McDaniel, but let me ask it so we've got an even clearer record.
Did you investigate the actual history of litter applications in the subwatersheds used in your correlation analysis?
A. No, I didn't.
MR. GEORGE: I'll pass the witness, Your Honor.
THE COURT: Further cross-examination.
MR. EHRICH: No, Your Honor.
MR. TUCKER: No, Your Honor.
MR. SANDERS: No, Your Honor.
THE COURT: Redirect.
MR. PAGE: Mr. Page -- I'm getting tired, Your Honor. I'm calling myself up here.
THE COURT: Your first question of yourself?
MR. PAGE: No questions, Your Honor. I have no questions -- I meant to say Mr. Page has no

114-004 Peterson Farms State of Oklahoma
Designations

Kinyon, Kerry: 6:8 - 6:9

Designation: **Plaintiff Designations**
Final Trial Cuts

8 Q State your name, please.
9 A Kerry Kinyon.

Kinyon, Kerry: 7:22 - 7:25

Designation: **Plaintiff Designations**
Final Trial Cuts

22 Q Where are you currently employed?
23 A I'm unemployed.
24 Q And how long has that been?
25 A Since end of November 2006. 09:09AM

Kinyon, Kerry: 8:1 - 9:8

Designation: **Plaintiff Designations**
Final Trial Cuts

00008
1 Q At that time what was your employment?
2 A Vice-president, Peterson Farms.
3 Q Could you go through briefly what your
4 employment history has been?
5 A I started with Peterson Farms in 1981, started 09:10AM
6 out as an accountant, progressed through purchasing.
7 My primary responsibility was purchasing the grain
8 and soybean meal and the commodities, things like
9 that. Progressed on up to vice-president of
10 purchasing. Became chief operating officer, I 09:10AM
11 believe, in 2001 for a period of maybe two and a
12 half years to three years.
13 Q And was there a period of time that you were
14 replaced as chief operating officer after you
15 achieved it? 09:10AM
16 A There was some reorganization, and the title
17 of COO was done away with, and everyone was just
18 made vice-presidents.
19 Q At the time that you were the chief operating
20 officer, who was your supervisor; who did you report 09:11AM
21 to?
22 A I reported to the board of Peterson Farms and
23 Lloyd Peterson.
24 Q And when you became vice-president, who did
25 you report to? 09:11AM
00009
1 A Blake Evans.
2 Q How did that reorganization -- what prompted
3 that reorganization to the extent that you know?
4 A Well, I think Blake came into the company as a
5 grandson of Lloyd Peterson, and just felt like I 09:11AM
6 guess -- he became, I guess, CEO, and just put on --
7 everybody on the executive committee on the level of
8 vice-president.

Kinyon, Kerry: 131:8 - 132:12

Designation: **Plaintiff Designations**
Final Trial Cuts

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
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vs.)CASE NO. 05-329-GKF-PJC
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13 TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 DECEMBER 7, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 63, A.M. SESSION

16

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IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 7, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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WITNESSES ON BEHALF OF THE PLAINTIFF

DENNIS COOKE, PH.D.

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A. Yes.
Q. For LK-03, it was 63; correct?
A. Yes.
Q. LK-02 was 49?
A. Yes.
Q. LK-01 was 41?
A. Right.
Q. And the whole-lake average was 54; right?
A. Yes.
Q. Now, if we look at the trends in phosphorus, total phosphorus, and we include 1986, as you did in this draft in October of 2007, we can see a couple things. First, the 1986 data reflects total phosphorus levels higher than 1992, which is the next year forward that you recorded; right?
A. Yes.
Q. Second, with the exception of LK-04 for 1986, every other zone of the lake and the whole-lake average showed the highest average total phosphorus levels for the entire period depicted from 1974 to 2007; do you agree?
A. Yes.
Q. Is it true, Dr. Cooke, that you threw this data out because this data undercuts the plaintiff's theory of this case, that conditions are worsening in

Lake Tenkiller?

A. Let's see if I interpret that question -- or understand that question. That I threw the data out so that it would make our case look better; is that --

Q. Is that what you did?

A. No.

Q. If you plot the history of total phosphorus levels in Tenkiller with the 1986 data, it shows that the overall lake total phosphorus has declined since 1986. Do you agree that's what it shows?

A. We excluded the 1986 data for --

Q. Is that what it shows, Dr. Cooke?

A. No, it doesn't. Because the 1986 data are not data that we would accept.

Q. Is that what this figure shows, Dr. Cooke?

A. This figure shows that 1986 has higher concentrations than the other years, but I did not throw it out for that reason.

Q. It shows -- this figure shows a decline in the total phosphorus for the whole-lake average in Lake Tenkiller from 1986 all the way up through 2007; correct? That's what the figure shows?

A. Except for station LK-04, that's what that shows. Of course, we don't have plotted on here water residence time, and that's the key to this. And, you

1 know, unless you look at the whole picture, which
2 includes water residence time, because that determines
3 phosphorus concentrations as much as inflow, we can't
4 say anything about 1986 data here.
5 MR. MCDANIEL: Your Honor, I asked him
6 about what the figure shows. I move to strike.
7 THE COURT: Sustained. And Mr. Page
8 will have an opportunity on redirect.
9 Help me out. Which document is this?
10 MR. MCDANIEL: That is Demonstrative
11 244. Did you not receive it?
12 THE COURT: Oh, it's a demonstrative?
13 MR. MCDANIEL: Yes.
14 THE COURT: All right. Yeah, I have
15 it.
16 MR. MCDANIEL: Okay. Sorry.
17 Q. *(BY MR. MCDANIEL)* All right. Let's shift
18 gears, Dr. Cooke, and talk about cyanobacteria and
19 blue-green algae.
20 Now, you've offered opinions that Lake
21 Tenkiller's at risk due to blooms of blue-green algae
22 or cyanobacteria; correct?
23 A. Yes.
24 Q. Now, you based your opinion in part upon the
25 study or the work that was done by Dr. Downing and

others. Are you familiar with that article?

A. Yes.

Q. Now, didn't Dr. Downing conclude that the risk of cyanobacteria dominance was between zero and ten percent when the total phosphorus levels were between zero and thirty micrograms per liter?

A. May I look at the report?

Q. Sure, yes. And I've got the Downing article I'll give you as well. Do you want to see that?

A. Well, I think the figure is here.

Q. Yeah.

MR. MCDANIEL: May I approach, Your Honor?

THE COURT: Yes.

Q. *(BY MR. MCDANIEL)* I'll just let you go ahead and have the Downing study, sir.

A. Okay. Could you ask the question again? I have the figure in front of me.

Q. Sure. Let me ask you to look at Dr. Downing's article because that's what I drew my question from.

A. Fine.

Q. So the answer, I think, will be more --

A. Yeah. I'm just using the figure because it's bigger.

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

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Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 8, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
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1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

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14 DECEMBER 8, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 66, P.M. SESSION

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It shows that for much of the summer, for walleye, habitation in Tenkiller Reservoir is restricted severely.

Q. Now, Dr. Welch, is there any evidence from Lake Tenkiller fish data that these coolwater species have been affected by this DO temperature squeeze?

A. Yes.

Q. Dr. Cooke, would you please pull out Oklahoma Exhibit 730.

THE WITNESS: You're typing Welch when he says Cooke?

Q. (By Mr. Page) Did I say it again? I apologize, Dr. Welch.

Do you have that exhibit, sir?

A. I do.

Q. Is this taken from a figure in your report?

A. It is.

Q. And who prepared this?

A. Tony Gendusa.

Q. Did he collect information based on your request and summarize that data for you?

A. Yes.

Q. And did you review the data?

A. Yes.

Q. And is it an accurate summary of these records?

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
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TYSON FOODS, INC., et al.,	)	
Defendants.	)	

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 9, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

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5 *WITNESSES ON BEHALF OF THE PLAINTIFF*

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EUGENE WELCH, PH.D.

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Wednesday, December 9, 2009

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THE COURT: Before we begin this morning, the attorneys may have noticed that I'm trying to deal with whatever motions have arisen during the course of the trial. There's one left. It's the state's motion for reconsideration of the court's September 4, 2009, minute order which deals with Section 427B, and you'll recall the long discussion we had with Mr. Baker and Mr. Bullock and Mr. Jorgensen.

And as I'm sure you've all experienced, it's an interesting profession that we're in, insofar as a new day may dawn and you may see things in a different light. It seems to me that it may have been error for the court to preclude the plaintiff from attempting to put on any evidence with regard to that particular theory. It does not mean that the court may not ultimately interpret 427B in the fashion that it did, but I am concerned because we don't want to try this over again, if we don't have to.

It seems to me that I need to give the plaintiff the opportunity to present whatever evidence it wishes to present -- I think Mr. Baker was the point man here -- with regard to this foreseeability

1 argument.
2 The plaintiff has shifted ground a bit in the
3 motion to reconsider from the previous motion, insofar
4 as I think at least one time the plaintiff in the
5 motion to reconsider reads this phrase: "One who
6 employs an independent contractor to do work which the
7 employer knows, or has reason to know, to be likely to
8 involve a trespass."
9 I think at the time of the hearing we talked
10 about employment of these independent contractor
11 growers to do the work of growing chickens. And
12 unless I'm mistaken, I think at least one point the
13 reference to "do work" was to do work of disposing of
14 poultry waste. I'm not sure that's the case here.
15 But even if we don't go that far, Mr. Baker's
16 foreseeability argument potentially allows the
17 application of 427B, even when an independent
18 contractor, for instance, hires another independent
19 contractor to dispose of the waste. And it should not
20 be a safe harbor under 427B for the independent
21 contractor then in turn to do that which was
22 foreseeable from the integrator's standpoint.
23 So I'm going to grant the state's motion for
24 reconsideration, which is No. 2623, to allow whatever
25 evidence the state wishes to present to the court with

regard to its theory under 427.

And I know it comes late, but as you point out, Mr. Baker -- and Ms. Moll, I think, may have written this brief. I don't know. Mr. Baker. As you point out, Mr. Baker, these motions in limine may be reconsidered at any time, and I think it's important to do this now before the close of plaintiff's case to allow you to present whatever additional evidence you wish. You may not wish to present any additional evidence with regard to that because you may be satisfied with that which has already been presented. In any event, No. 2623 is granted.

All right. Let's proceed.

MR. ELROD: May I approach the witness, Your Honor?

THE COURT: You may.

MR. ELROD: Your Honor, I move for introduction by stipulation Defendants' Joint Exhibit 98, which is the 2009 Lake Tenkiller Visitor's Guide.

THE COURT: There is no objection?

MR. PAGE: It's the Christmas season, Your Honor. No objection.

THE COURT: May the spirit spread. Joint Exhibit No. 98 is admitted.

MR. ELROD: Thank you, Counsel.

Case Clip(s) Detailed Report
Wednesday, December 09, 2009, 11:13:26 AM

Oklahoma Trial Sept 2009

Edwards, Dwayne R. (Vol. 01) - 04/23/2009 [383132 -Oklahoma Trial...] 1 CLIP (RUNNING 02:01:51.046)

Judges Orders

DE-0423-0000619-001 155 SEGMENTS (RUNNING 02:01:51.046)

1. PAGE 6:19 TO 6:23 (RUNNING 00:00:18.533)

```
       19          IF YOU WOULD TELL THE COURT PLEASE -- GO AHEAD
       20  AND GIVE THEM YOUR FULL NAME AND YOUR CURRENT RESIDENCE,
       21  ADDRESS.
       22       A. I'M DWAYNE RAY EDWARDS. MY ADDRESS IS
       23  752 PINNACLE COURT HERE IN LEXINGTON 40515.
```

2. PAGE 6:25 TO 7:09 (RUNNING 00:00:26.194)

```
       25  AND I HAD A CONVERSATION. I UNDERSTAND THAT YOU HAVE
 00007:01  BEEN RETAINED AS A CONSULTANT BY MR. ELROD IN THIS CASE;
       02  IS THAT CORRECT?
       03       A. THAT'S CORRECT.
       04       Q. OKAY. AND WHAT I WOULD LIKE TO DO TODAY IS, BY
       05  WAY OF FURTHER EXPLANATION OF THE PURPOSE OF THIS
       06  DEPOSITION, IS TO ESTABLISH THE DATE OF THAT HIRING. DO
       07  YOU KNOW WHEN THAT IS?
       08       A. I DON'T KNOW THE EXACT DATE. IT'S BEEN THREE
       09  AND MAYBE EVEN FOUR YEARS.
```

3. PAGE 7:14 TO 7:16 (RUNNING 00:00:12.467)

```
       14       Q. MY QUESTIONS TO YOU ARE NOT INTENDED TO ELICIT
       15  ANY RESPONSES THAT WOULD INTERFERE WITH OR REVEAL YOUR
       16  CONVERSATIONS WITH MR. ELROD IN THIS CASE. MY
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4. PAGE 7:22 TO 7:25 (RUNNING 00:00:11.200)

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       22  AREA. SO IF A QUESTION I ASK YOU SEEMS TO INVADE THAT
       23  CONFIDENCE OR THAT CONSULTING ARRANGEMENT, PLEASE LET ME
       24  KNOW --
       25       A. OKAY.
```

5. PAGE 8:05 TO 8:05 (RUNNING 00:00:01.567)

```
       05                MR. ELROD: IT'S JUNE 1, 2006.
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6. PAGE 8:19 TO 8:21 (RUNNING 00:00:06.504)

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       19          ARE YOU FAMILIAR WITH THE CASE OF THE STATE OF
       20  OKLAHOMA VERSUS TYSON FOODS, I ASSUME?
       21       A. IN A GENERAL WAY.
```

7. PAGE 10:15 TO 11:02 (RUNNING 00:01:14.694)

```
       15       Q. I BROUGHT WITH ME TODAY EXHIBIT 2, WHICH IS AN
       16  ON-LINE VERSION OF YOUR RESUME OR CURRICULUM VITAE, AND
       17  I NOTED IN THE UPPER RIGHT-HAND CORNER THAT THIS IS
       18  UPDATED AS OF FEBRUARY 27, 2002, SO LET'S GO THROUGH
       19  THIS A LITTLE BIT. I'LL ASK YOU TO LOOK AT THAT BRIEFLY
       20  TO SEE IF THAT APPEARS TO BE ACCURATE AS OF THAT DATE.
       21       A. WITHOUT GOING THROUGH ALL OF THE PUBLICATIONS
       22  LINE BY LINE...
       23       Q. I WOULDN'T EXPECT YOU TO REMEMBER ALL OF THOSE,
       24  SIR. BUT, GENERALLY, THE BIO MATERIALS, DO THEY REFLECT
       25  ACCURATELY YOUR EDUCATION AND PROFESSIONAL EXPERIENCES?
 00011:01       A. AS OF THAT DATE, YES. I WOULD SAY THAT'S
       02  CORRECT.
```

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
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7 Plaintiffs,)
vs.)CASE NO. 05-329-GKF-PJC
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TYSON FOODS, INC., et al.,)
9)
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10 Defendants.)

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13 TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 DECEMBER 9, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 68, P.M. SESSION

16

17 APPEARANCES:

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typically when the feasibility study process begins.
Q. In the process of doing your work in terms of remedial possibilities -- well, let me withdraw and rephrase.
You have prepared a report of your findings and evaluation; is that correct?
A. Yes, sir.
Q. Does this -- in this report, do you purport that this is a completion of your evaluations?
MR. BULLOCK: I have a copy of it, Judge, in case we get into some issues with --
THE WITNESS: No, sir. I believe that this report reflects a start down the path, but I would not say it's a complete feasibility study.
Q. (By Mr. Bullock) Now, can you explain why that is?
A. Well, basically the time frame, and basically when pencils down for the injury -- for the expert reports was at the same time that pencils down were for my report. So there was not a long opportunity to digest the different experts. Everything was really done concurrently.
Q. Now, in terms of the injuries that your report addresses, how did you go about determining those?
A. The injuries were developed based on

Q. Did you examine the issue of increased treatment of drinking water to prevent dissolution byproducts?
A. Disinfection byproducts?
Q. Yeah, let's try that one this time.
A. Yes. Yes, I did.
Q. What were you referring to there?
A. Basically the impacts of -- that you've been discussing over the last couple of days, but the potential for algae growth and the negative impacts to the water treatment plants, and then the formation of the disinfection byproducts.
Q. What is your recommendation in terms of that?
A. I believe I said it was retained.
Q. Okay. And what, if anything, further needs to be done in terms of that?
A. In terms of that, I took a very broad-brush approach, and definitely additional things that need to be considered are the types of treatment processes incorporated in each of the water treatment plants.
Q. Did you look at that in your study as to what each of these individual -- or any of these individual plants are doing?
A. No, I did not.

A. Looking at different aeration methods, probably a pilot study in certain areas to evaluate what the best aeration method was and, you know, what the seasonal operational parameters should be and what the necessary oxygen transfer efficiencies need to be and aeration rates need to be in order to provide that habitat.

Q. So are there issues in terms of both at what level you do it, as well as the actual delivery system itself?

A. The delivery system itself, where you mount it, if you're going to mount it in the lake, if you're going to have a shore-based piping and things like that, and the number of issues that need to be worked through.

Q. Now, you also looked at the issue of drinking water treatment. That's the same thing that we've addressed before, the lake issue?

A. Yes, the exact same manner.

Q. Okay.

MR. BULLOCK: That's all the questions I have of this witness, Judge.

THE COURT: So as I understand it, in terms of options that you discussed today that you retained for remedial evaluation in a later part of

the report, it is cessation, vegetative buffer strips, and drinking water surface water treatment. Is that essentially it?

THE WITNESS: Yes, sir. But I didn't mean to imply that I wasn't retaining those other options for additional evaluation, but I think they need to be considered, but there's more work that needs to be done.

THE COURT: Well, unfortunately, this being a lawsuit, the decision has to be made, you understand.

Now, there was discussion by a number of the experts about alum treatment. I notice in your report, you report -- and this doesn't surprise me -- that alum toxicity to aquatic life; correct?

THE WITNESS: Yes.

THE COURT: Sedimentation, problems with fish gills, etcetera?

THE WITNESS: Yes.

THE COURT: Any cross-examination?

MR. MCDANIEL: Yes, sir.

THE COURT: Now, in terms of time, because basically as I understand what was proposed to me today, is that you all would prefer not to be here tomorrow; is that correct?

should look at for the lake. It just kind of came in pieces?
A. Yeah. I mean, that was my role, was to bring those pieces together into this framework.
Q. Now, your expert report, sir, that you submitted in the case, do you agree that your report doesn't set out any specific numerical criteria established for each of the alleged injuries so that one could determine specifically when and if a remedial goal has been achieved?
A. Do I agree with that statement?
Q. Yes, sir.
A. Yes.
Q. So if I understand correctly, neither you nor anyone else has attempted to evaluate the potential effectiveness of any combination of these alternatives that you suggested?
A. No, not at this time.
Q. Now, your report, do you have a copy of it with you?
A. Yes.
Q. Okay, great. And I counted something -- not counting your references and that sort of material -- somewhere along about 32 pages of text there.
A. 36, you know...

Q. Does it --
A. -- completely.
Q. Does it follow the standards required by Oklahoma Department of Environmental Quality for a remedial investigation and feasibility study?
A. I don't know the answer to that question.
Q. Does the report that you issued in this case meet the industry standard for a feasibility study in any setting you can identify for us?
A. I guess I wouldn't characterize it as a feasibility study.
Q. Good enough. But you did start to draft a preferred remedy section in your report, but you decided to take it out simply because you ran out of time; true?
A. I might have had a table of contents that had the heading "Preferred Remedy," but I don't recall ever drafting a preferred remedy.
Q. Then I may have made it more confusing than I meant to. It was your intention to include a preferred remedy in your report, but due to the press of time, you did not; is that correct?
A. I guess, yeah.
Q. Isn't it true, Mr. King, that besides just time, you did not have adequate information or a

sufficient definition of the overall issues to permit you to develop a preferred remedy?
A. How is that different from the previous question?
Q. Can you answer the question I asked?
A. If you could just ask it again, please.
Q. The prior question, I asked you about the time you had available.
A. Okay.
Q. This question is, in addition to the time, you lacked the information you needed in order to define the overall situation sufficiently to permit you to make a recommendation as to the preferred remedy?
A. Yeah -- yes, that's the reason why there's the section of additional information required remedies.
Q. This report and the opinions that you've given here based upon the report, is it fair, sir, to say it's the best that you could do with the time that you were given?
A. Yes.
Q. Now, if I understand correctly, a complete feasibility study has never been prepared for this particular matter?
A. To the best of my knowledge, yes.
Q. Now, am I right, Mr. King -- and if I call you

Q. And the idea behind that, it's rather simple, is you're going to say if the soils have adequate phosphorus to grow alfalfa or bermuda or fescue, we won't put phosphorus down, we'll put the nitrogen down that the forage needs. Am I on track?
A. Yes, sir.
Q. Now, you do appreciate that these companies sitting over here represented by these men and women don't own those pastures?
A. I don't know that, but -- yeah.
Q. That's a reasonable assumption?
A. Yes.
Q. That means that the people that own those pastures will make their own decisions about how to support the grasses and crops on their pasture. That's reasonable, too, isn't it?
A. I don't know.
Q. Well, would it defeat the purpose you're seeking to achieve with your recommendation, Mr. King, if people are buying commercial fertilizer that has got phosphorus in it?
A. No matter how the phosphorus is land applied, if it's above the agronomic rate, yes, that would defeat the purpose.
Q. This notion that the only fertilizer that's

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14 DECEMBER 10, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 69, A.M. SESSION

16

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MR. MCDANIEL: It makes it so much more tragic that he would doodle. I had hoped that with that revelation, I could just pass the witness, but I fear since I cannot impeach his testimony, I'll have to move on.

Q. (By Mr. McDaniel) When we stopped yesterday afternoon, Mr. King, we were talking about really the two concepts together; that is, banning the use of litter and trying to manage forage by eliminating phosphorus fertilizers and supplementing with nitrogen. Do you recall the nature of the discussion?

A. Yes.

Q. I want to pick up right there. And one of the things I was talking to you about when we ended was this notion that private landowners, when they buy fertilizer, are going to make whatever decisions they choose to make about whatever fertilizer to put on their land.

And so I want to hit on this point and see if you agree with me that there's really no practical way to implement a ban on all phosphorus fertilizer use in this watershed. Do you agree with that?

A. Yes.

Q. To accomplish that, there would really need to be the full cooperation of thousands of landowners who are the persons making decisions about buying and land applying fertilizer on their property?
A. Yes.
Q. Now, as part of your investigation that you did, you didn't really evaluate the effect of a litter ban on the farmers or the agricultural economy of the watershed, right?
A. No, sir.
Q. Now, I haven't seen where anyone on the State's team of consultants has tried to estimate what eliminating the option of poultry litter use would do to forage yields in the watershed. Have you seen any such analysis?
A. No.
Q. And I haven't seen in the analysis of what a litter ban would do for cattle stocking rates. Have you?
A. No, sir.
Q. For that matter, has there been any analysis on what would happen with the density of forage that's protecting the land from erosion, how that might degrade if landowners cannot afford commercial fertilizer to maintain forage?

Q. So then I want to make sure what you're recommending to the court here. Are you suggesting or is it implicit in your opinion that these defendants should pay to acquire and maintain buffer strips to protect the streams from runoff from lands that companies and their contract growers never owned, never managed? That's your -- is that implicit in your recommendation to the court?
A. Yes.
Q. From a fundamental fairness standpoint, you have to admit that doesn't make a lot of sense, does it, Mr. King?
A. Again, my perspective is that there's an injury to the Illinois River Watershed.
Q. Can you answer my question?
A. And we're repairing an injury. So, yes, fundamentally, I think it is fair.
Q. For this program to work, private landowners are going to have to voluntarily agree to sell their land or grant easements, right?
A. I didn't look into that mechanism, but yes.
Q. I'm sorry?
A. I did not look into the incentivization program or whatever, you know, might be the way to implement this.

Q. But these estimated costs that you've submitted, they simply assume that the owners of these lands will agree to sell or grant an easement?
A. That is an assumption, yes.
Q. Have you done any type of research to determine what percentage of the riparian property owners would be willing to sell and, if so, at what price?
A. No, sir.
Q. Then would you agree, sir, that the implementability of this buffer strip alternative is speculative, at best?
A. I did not consider it speculative, no.
Q. Now, I note, sir, you didn't even investigate the cost or feasibility of fencing cattle out of the streams or riparian areas, did you?
A. No, sir.
Q. Let's switch gears and talk about the lake for a minute. You told us at your deposition that you don't have any definitive proposal to recommend to the court for any steps taken directly on or in the lake; do you recall that?
A. Yes.
Q. And there have been three lake experts that have testified here, and none of them told this court that there was any specific remedial measure

1 considerably higher than the correct population
2 classification, right?
3 A. Yes.
4 Q. Okay. But as you alluded to just a moment ago
5 in response to my question, choosing the incorrect
6 population figure was not really the big mistake you
7 made with this EPA table, is it?
8 A. No.
9 Q. Okay. Now, to create your Table 7 and 8, you
10 pulled the figures off the EPA table and you treated
11 them as unit costs, didn't you?
12 A. Yes.
13 Q. In other words, once you selected the
14 population classification for a system on the EPA
15 table, you assumed that the cost figure for median
16 capital cost and median O&M cost was the cost for
17 that single system, right?
18 A. Correct.
19 Q. Let's look at that, how you handled that.
20 Let's look at your Table 8. And I want to, in
21 specific, look at how you came up with the cost of
22 the second entry there, which is Cherokee County
23 Rural Water District 13.
24 You state on your table that the capital
25 cost for this system alone is $29.33 million, right?

A. Yes.
Q. Let's look at the EPA table from the Federal Register. On the EPA table, you determined that Cherokee County No. 13 fits the 1,000 to 3,299 person classification, step one, right?
A. Yes.
Q. Step two, you pulled the figure of $24.27 million off the EPA table as the median capital cost, then you increased that by a factor to represent present value, correct?
A. Yes.
Q. That's how you go from $24.27 million on the EPA table to what you show on your Table 8 as being 29.33 million, right?
A. Yes.
Q. This is the same method that you used for the O&M cost also on your Tables 7 and 8, right?
A. Yes.
Q. That's not how this EPA table works at all, is it, Mr. King?
A. No.
Q. These figures on this EPA table are not unit costs, are they?
A. No.
Q. The cost figures the EPA has shown here for

each size classification of system is the predicted cost for all of the systems of that size in the entire United States, isn't it?
A. Yes.
Q. So what this table says for community drinking water systems of the size 1,000 to 3,299 across the whole country, the EPA has estimated the total cost to upgrade to meet the Stage 2 rule requirements is $24.7 million for the whole country?
A. Yes.
Q. You used that and asserted that would be the cost for upgrading Cherokee County Rural Water District No. 13 that serves less than 3200 people?
A. I made a mistake.
Q. Doesn't this EPA table show the totals at the very bottom?
A. Yes.
Q. And it reflects that the total expected median cost of upgrades for the whole country, regardless of the size of the system, is $843 million, right?
A. Yes.
Q. Did it ever occur to you, sir, that in your estimate for just the small systems in the Oklahoma portion of the Illinois River Watershed of over a billion dollars might just be a tad off?

A. I made a mistake.
Q. You've known about these gross errors in your report since at least the time you gave your second deposition, didn't you?
A. Yes.
Q. You've never issued any type of errata or correction to your expert report?
A. My understanding was that there wasn't that opportunity. But, no, I have not.
Q. So you must agree with me, Mr. King, that you have not disclosed in this case any valid estimate of the need for or the cost of any changes at any water treatment plant in the Illinois River Watershed?
A. Yes.
Q. You agree with my statement?
A. Yes, sir.
MR. MCDANIEL: I'm transitioning to a new topic, Your Honor. Would you like to take your break?
THE COURT: Yes, this is a good time. Let's take it.
(Whereupon a recess was had.)
THE COURT: Let me just ask for purposes of efficiency. Most of this cross-examination does go

anywhere in your report where those numerical criteria are set out anywhere except the five milligrams per liter of dissolved oxygen; that's true, isn't it?

A. Yes.

Q. You've not offered the court any proposal how to handle the results of any investigation it may deem necessary? Let me give you an example. You've not defined any criteria for the process for deciding upon the investigation which remedial action should be taken, if any?

A. Not provided a decision tree, no.

Q. You've not defined any cost benefit basis for determining whether a remedial option would simply be a waste of resources. No cost benefit analysis in your report?

A. No.

Q. You've not given the court any information from which it could determine whether any option is feasible or whether due to the need for voluntary action by nonparties, it's impractical or unenforceable. You haven't addressed those issues?

A. In my opinion, it is -- the remedial alternatives I present are practicable and implementable.

clearly is well beyond his expertise, and it ultimately is asking for a legal interpretation of what may be future orders of the court.

THE COURT: Sustained.

Q. (By if Mr. Tucker) Is there anything that prevents a rancher from applying swine manure?

A. Not to my knowledge.

Q. Is one of those difficulties in implementing your thought the fact that someone would have to monitor all of that?

A. Monitoring is a key component of any remedial operation.

Q. Now, you testified you believe that one of your solutions is to prevent or minimize runoff from pastures, and that's how you discussed the buffer methods, right?

A. Yes, sir.

Q. Are there other similar solutions to buffer strips, for example, ponds that would capture a large part of a pasture's runoff?

A. We address ponds in the -- I address ponds in the report.

Q. Would you agree that a fenced pond is even better than just a plain pond?

A. Again, with respect to phosphorus injury --

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14 DECEMBER 14, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 70, A.M. SESSION

16

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evil -- or "evil" is a strong term -- is wrong, should be illegal.

At pretrial, there was some flavor of that, that every single application contributed to the injury and, therefore, all they had to show was that application happened.

But now we've backed off that standard. Dr. Johnson, for example, has now doubled his ante to 120. It was 65 STP at the preliminary injunction hearing. Now we're up to 120 may be applied without necessarily having environmental repercussions. So it is necessary to distinguish between -- for my phraseology here, between good and bad litter applications, which ones actually have an effect and which ones are scientifically and legally permissible. We have to parse those under the standards the State itself has set up. Let's look at STP records.

The mere fact that a field has a high or elevated STP level, what does that show? Well, let me talk actually about STP records generally first. The records that were put in this morning, you will see that they show a wide range of STP levels across the state, some elevated in the terms that we've used in this trial, and some quite low, some even

point, Your Honor, for Cargill, the court will recall that there are six Cargill breeder farms that are located in Arkansas, and the litter from each of those farms has been hauled out since 2005.

MR. ELROD: I feel like I'm at the Baptist church, Your Honor.

THE COURT: Repent.

MR. ELROD: Simmons has no company-owned farms in the watershed, Your Honor.

THE COURT: Thank you, sir.

Mr. McDaniel.

MR. MCDANIEL: The same for Peterson Farms, Your Honor, no farms at any time in the Illinois River Watershed.

THE COURT: Mr. Todd.

MR. TODD: Can I get a hallelujah?

With regard to those farms, Your Honor, I would simply cap it by noting -- going back to where I started, which is there has been no evidence linking the location of those farms with rivers and streams in the watershed with specific testing sites the State has focused on and no expert testimony linking them all together with any allegation of pollution.

Let me go finally, Your Honor, on the

specific causation to the question of litter application by third parties. And we certainly appreciate Your Honor's comment the other morning on the 427B issue, Your Honor's desire for a full record. And we certainly appreciate Your Honor's desire not to retry this case.

And so I don't want to rehash the legal standards. They have been fully ventilated in the briefings. You know them much better than I do. If we're going to get into them, Mr. Jorgensen would have to get back up here again.

We're confident that to the extent that the court ends up in the same place that you were before, that 427B liability does not reach individuals whom are not just independent contractors or even an independent contractor to an independent contractor, but people who have no relationship whatsoever, contractual or otherwise, with these defendants, to the extent that litter is being applied by them, there cannot be any claim of causation as to these defendants for that conduct.

The record is clear, Your Honor, as it stands today that there is substantial transferring of litter between parties in the watershed, transfers over which these defendants have no

control and which result potentially in litter applications over which these defendants have no control nor have any involvement, contractual or otherwise.

Ms. Phillips testified that many people in the watershed like to apply poultry litter to their pastureland and they would rather be able to buy it from a neighbor where it's convenient than to have to search outside of the watershed or further distance from their property.

Mr. Pigeon, a grower, testified that he has routinely sold litter to his neighbors.

Roger Collins, a witness who Mr. Elrod put on, I found particularly compelling. He's a certified applicator who has made a business of buying litter -- or, rather, of cleaning out barns from growers to get the litter, and then he goes and applies it elsewhere. He sells to other people, applies it throughout the watershed and, in fact, some distance outside the watershed. I think he testified to a 200-mile radius that he applies it in.

There's no suggestion that any of that can be linked back to these defendants. But even more concerning, the record is clear that the record is

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME 71 - PM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 14, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

operations' and thus is a 'solid waste' as defined by Section 6903(27), which is the definition of solid waste under the act.

So under that scenario, as the test has set -- as the court has set out the test for us, we believe that poultry waste as used in the IRW meets the definition of solid waste on two accounts.

First of all, it is being overapplied. And when my chance comes, I'll give you extensive evidence as to where the state believes there's evidence in the record documenting overapplication throughout the IRW.

The second is is that we think we have ample evidence in the record demonstrating leaching, or as Your Honor when you made this ruling included runoff as well as leaching. So I think we can satisfy both of those tests.

THE COURT: Mr. Baker, where is your line with reference to overapplication, 65, 120, or 300?

MR. BAKER: Sixty-five, Your Honor.

There was some discussion by Mr. Todd about compliance with an Animal Waste Management Plan as being a safe harbor. And, of course, we're going to get to that later on when we discuss the Animal Waste Management Plans. But suffice it to say -- Gina, if

MR. MCDANIEL: Right.

THE COURT: -- that all growers believe this is valuable. So it basically undercut that position to the extent that one of the integrators had conducted its own survey and had reason to believe that some percentage of their growers would have given it away.

All right. Mr. Elrod.

MR. ELROD: Yes, Your Honor. I'll be very brief.

Your Honor, Simmons Foods, on behalf of itself and all other defendants, respectfully moves the court for dismissal of all claims related to human health.

There have been hints within the four corners of the walls of this courtroom, Your Honor, that the state was not going to pursue its bacteria claim. And, in fact, from an evidentiary standpoint, it's my observation that it has not pursued its bacteria claim, but we've never had official dismissal of its human health claims in this case.

We quite frankly need to know how we're going to present our defense and whether it's necessary for us to bring the six or eight witnesses to the courtroom that we have available to us to deal with

human health and bacteria issues.

THE COURT: I think that's reasonable from a housekeeping standard.

Mr. Baker.

MR. BAKER: Your Honor, we're not dismissing, per se, our bacterial claim. Obviously, we want to preserve it for appellate purposes because obviously we take issue with Your Honor's Daubert rulings and those sort of things.

THE COURT: Right.

MR. BAKER: But we acknowledge those rulings and have proceeded, given the time constraints of this trial and those rulings, and recognizing that if you fix the phosphorus problem, the bacterial hearts and minds will follow.

THE COURT: That's what I thought. I don't know that the pretrial order specifically carves out a human health element, does it?

MR. BAKER: It does not. We simply have a RCRA claim and nuisance claims and that sort of thing.

The other point was that --

THE COURT: In other words, I'm not sure there's anything to grant judgment on with regard to the human health subclass.

MR. BAKER: That's correct. And in fact, there are other aspects of our case that deal with human health, especially with respect to, for example, the RCRA claim which has a very liberal standard as to what constitutes an endangerment. We have presented evidence as to DBPs and blue-green algae, which are derived from phosphorus, which we believe the court ought to take into consideration when it's evaluating whether or not there is, in fact, an imminent and substantial endangerment.

THE COURT: You would agree that the -- no pun intended or no -- but the focus has been on phosphorus here?

MR. BAKER: That would be correct, Your Honor.

THE COURT: All right. I'm not sure that there's anything really to grant judgment on.

MR. ELROD: Well, Your Honor, admittedly there's no cause of action called "human health." But it cuts across all the other causes of action that remain alive in this case, whether it be for injunctive purposes or any other purpose.

And given the fact that -- and once again -- I mean, it's one thing for them to hint or indicate to the court that they're probably not pursuing in an

active sense their bacteria case, but it's another thing entirely for us, trying to be very cautious in the representation of our clients, to tailor our defense in this case simply based on hints.

It seems to me that it would be appropriate for the court to enter an order that would then permit us to not bring to the court certain witnesses that we have planned in an over abundance of caution. And even though once again there's no cause of action that says we're suing for human health, it is embedded in virtually all of their causes of action.

THE COURT: The concern I have is that human health concerns cut across, as Mr. Baker says, some of the allegations regarding blue-green algae and disinfection byproducts. If I were to grant your motion, then inevitably some of the defense counsel will say, Judge, you ruled but that's not to be considered in this trial, and clearly I have evidence with regard to those matters.

I don't see that the causes of action that are set forth on the pretrial order address human health as opposed to the -- well, I do see it now.

MR. JORGENSEN: Your Honor --

THE COURT: Second paragraph on page 2 of 44, we talk about polluted the waters of the

Illinois River Watershed -- this is the state's allegation -- that the defendants have directly or indirectly polluted the waters of the Illinois River Watershed with phosphorus in the form of phosphorus compounds and bacteria from the waste generated from the raising of defendants' poultry.

So I understand your concern, Mr. Elrod. Mr. Baker, we've put on --

MR. ELROD: Mr. Jorgensen may have something to add, Your Honor, if you would permit.

MR. JORGENSEN: Your Honor, if I might, I showed this slide earlier on. I actually believe that if someone asserts a cause of action -- if a plaintiff asserts a cause of action, let's say, with regard to two potential causes of injury and then presents no evidence as to one of the causes of injury, that you are entitled to partial judgment on that cause of injury. So this is from the second amended complaint and these are the causes of injury that the plaintiffs have listed.

Referring back to the 52(c) standard, Your Honor, you've heard the evidence and you've heard nothing about microbial pathogens causing injury, hormones, copper, copper compounds, zinc, zinc compounds, arsenic, arsenic compounds, or nitrogen,

nitrogen compounds.

So I actually do believe the defendants are entitled to partial judgment as to all claims on those -- on those causes of injury.

THE COURT: Well, I'm looking at these and maybe I'm not looking at the correct -- oh, I'm sorry. You're looking at the second amended complaint. The second amended complaint is superseded by the pretrial order.

MR. JORGENSEN: Right.

THE COURT: So I think what you need to do is point me to the provisions of the pretrial order because the second amended complaint essentially is a nullity at this point.

MR. JORGENSEN: Great.

THE COURT: So unless you can show me something in the pretrial order which raises these matters, your argument as to items B through G here contained in paragraphs 57 through 63 on the second amended complaint frankly is moot.

MR. JORGENSEN: Right. And that may do it for us, Your Honor. Thank you.

THE COURT: All right.

MR. JORGENSEN: Your Honor, we're prepared to move to nuisance.

said no, no, no, these are intentional torts. We don't lose under these motions.

MR. MCDANIEL: Your Honor --

(Discussion held off the record)

THE COURT: Mr. Baker.

MR. JORGENSEN: Go ahead. Oh, Mr. Baker.

MR. BAKER: The pretrial order does include intentional tort, Your Honor. If you look at, for example, paragraph 55, so as to constitute an intentional public nuisance under Oklahoma state law. Then paragraph 56 likewise, has the intentional public nuisance law in there as well. And those likewise --

THE COURT: Well, my paragraph numbers must not be the same as yours because my 55 and 56 are federal common law.

MR. BAKER: Which docket number are you looking at, Your Honor? Remember, we switched out --

THE COURT: Right. I've got 2641 and perhaps that was never switched out for me. What's the most recent?

MR. MCDANIEL: Look at page 10, Your Honor, paragraph 55 on page 10.

THE COURT: All right. Well, I was looking at paragraph 55 on page --

MR. JORGENSEN: They renumber, Your Honor.

THE COURT: -- 22.

MR. JORGENSEN: Yeah. They restart in the middle.

THE COURT: All right. Thank you.

MR. JORGENSEN: All right. So page 10, 55: "Whether each defendant's conduct in Oklahoma, directly or by various liability, is causing, has caused or has a reasonable probability of causing an unreasonable interference with or impairment of the State's and the public's beneficial use and enjoyment of the waters (and biota therein) located in the Oklahoma portion of the Illinois River Watershed -- here it is -- so as to constitute an intentional public nuisance under Oklahoma state law."

THE COURT: All right. So, Mr. Baker, do I understand correctly that Mr. Jorgensen stated correctly that your public nuisance claim is an intentional tort only?

MR. BAKER: That is correct, Your Honor.

THE COURT: Okay. Thank you very much.

MR. BAKER: And that will carry through 55, 56, 67, and 68.

a continuum in my preparation.

THE COURT: Well, I understand the way this is cut. Let me ask you perhaps the easiest question.

With regard to nuisance per se, isn't it clear that the motion ought to be granted with regard to nuisance per se?

MR. BAKER: I don't want to go down swinging hard on this, but we believe -- we believed there is a claim for nuisance per se. That the fact the matter is --

THE COURT: There's no question there's a claim there. The question is whether or not it ought to be dismissed or a judgment ought to be granted.

MR. BAKER: I believe the evidence shows that poultry waste when land-applied in the IRW always runs off, there's going to be always some fraction of the phosphorus that always runs off; therefore, the evidence would support a nuisance per se claim.

That said, because of Your Honor's ruling on RCRA and trying to draw lines, what we did is we're trying to find a common denominator between our various claims. And so we are adopting a 65 standard for the relief that we're seeking as an injunctive

remedy, and that would, I believe, Your Honor, create difficulties for our nuisance per se claim.

THE COURT: I agree. It would seem to me that the motion for judgment should be granted with regard to the nuisance per se claim. We'll further review the other arguments and to give Mr. Baker an opportunity to present, I take it, his 427 argument, together with the response to the nuisance argument.

Mr. Jorgensen.

MR. JORGENSEN: Yes, Your Honor. May we -- staying with Mr. Baker's baseball theme, may we bat cleanup?

Your Honor noted that the pretrial order governs in this court, and therefore, I have been through the pretrial order and see no reference to arsenic, copper, zinc, those other materials causing -- allegedly causing injury, so I believe they're gone. I would --

THE COURT: You've had an opportunity to look through it all?

MR. JORGENSEN: Yes, Your Honor. I have the benefit of keyword searching.

THE COURT: All right.

MR. JORGENSEN: Yes. But "bacteria" is mentioned -- and I'm just going to turn this over to

remedy, and that would, I believe, Your Honor, create difficulties for our nuisance per se claim.

THE COURT: I agree. It would seem to me that the motion for judgment should be granted with regard to the nuisance per se claim. We'll further review the other arguments and to give Mr. Baker an opportunity to present, I take it, his 427 argument, together with the response to the nuisance argument.

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MR. JORGENSEN: Yes. But "bacteria" is mentioned -- and I'm just going to turn this over to

Mr. Elrod -- "bacteria" is mentioned --

THE COURT: Second paragraph of the second page.

MR. JORGENSEN: Oh, and throughout. I'm going to let him read them out.

So we do need a -- there was no evidence on bacteria. So we would urge you at this time to grant judgment on bacteria so that we don't have to bring in bacteriologists to tell you all about bacterial that you didn't hear about it.

But I'll turn it over to Mr. Elrod to read out the places that it mentions "bacteria."

MR. ELROD: Judge, Jennifer Pfizer of the Bassett firm was kind enough to look through the pretrial order and -- I mean, there's -- I can take five minutes, but it's replete throughout, bacteria and pathogens.

THE COURT: For the record, why don't you --

MR. ELROD: All right. Your Honor, pathogens are mentioned at page 30, paragraph 23; page 34, paragraph 63 --

MR. JORGENSEN: Go a little bit slower.

MR. ELROD: Okay. Page 34, paragraph

63; 39, paragraphs 45, 46, and 47. Bacteria generally is -- the word "bacteria" occurs at page 2, the second paragraph; 6, paragraph 3; 8, paragraph 23; 13, paragraph 72; 16, paragraph 13; 17, paragraph 16A; 24, paragraph 65; 27, paragraph 966; 31, paragraph 34; 31, paragraph 40; 33, paragraph 59; 39, paragraphs 43, 44, 49, and 50; 40, paragraphs 51, 53, 55, 56A, 58, and 59; page 41, paragraph 69, 70, 71, 72, 73, and 78; and finally, page 42, paragraph 79.

So given that notion, Your Honor, and those inclusions, we again would move the court for motion for partial judgment on all human health claims as they cut across any cause of action.

THE COURT: Any response, Mr. Baker?

MR. BAKER: Well, a few things, Your Honor.

First of all, as I noted earlier, while Mr. Elrod has moved for judgment on all of our health-related claims, I did point out that we do have phosphorus-related, health-related claims. So I think that, first of all, is overexpansive.

Secondly --

THE COURT: I think he's focusing on bacteria here.

MR. BAKER: Right. But the way he

phrased it, I want it to be clear on the record.

THE COURT: I agree.

MR. BAKER: The second point I would make is is that there is some evidence, albeit not a lot, of a bacterial injury. For example, we have the 303(d) list that came in, and the 2008 one, I believe, states impairments for bacteria from poultry waste. Well, it says impairments from land-applied wastes and -- I forgot what the other category was. Admittedly, there's not a lot of evidence in the record on this point.

THE COURT: I think the point is, as Mr. Jorgensen pointed out, there is some evidence in this record. If this was before a jury, I wouldn't grant judgment, but the standard is a bit different for 52(c).

It seems to me that in order to streamline this matter, the motion for judgment under Rule 52(c) because of the dearth of evidence -- and by "dearth," I don't mean there's none at all -- but the case has not been made -- or the plaintiff did not carry its burden of proof with regard to bacteria.

The explanation comes in the statement previously made, I think by Mr. Bullock, which makes some practical sense, that if the case is made with

regard to phosphorus, there's no need to focus on bacteria.

But in order to allow this case to proceed a bit more quickly, because the defendants would be obligated to present bacterial experts and witnesses, the motion for judgment is granted with regard to any bacterial claim.

MR. BAKER: Yes, Your Honor.

THE COURT: Go ahead.

MR. ELROD: Thank you, Your Honor.

THE COURT: Mr. Todd.

MR. TODD: Your Honor, continuing with the cleanup theme, just to go back to RCRA for just one second.

THE COURT: Yes, sir.

MR. TODD: To the extent that the court is interested in the *Seaboard Farms* issue, we've got a copy of the administrative order for Your Honor. It was attached --

THE COURT: But that's an administrative order from whence the complaint derived or an administrative order following the complaint?

MR. TODD: It was an administrative order issued by EPA Region 6 to Seaboard Farms --

THE COURT: Which Seaboard did not

1 IN THE UNITED STATES DISTRICT COURT

2 FOR THE NORTHERN DISTRICT OF OKLAHOMA

3

4 STATE OF OKLAHOMA, ex rel.)
W.A. DREW EDMONDSON, in his)
5 capacity as ATTORNEY GENERAL)
OF THE STATE OF OKLAHOMA,)
6 et al.)
)
7 Plaintiffs,)
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8)
TYSON FOODS, INC., et al.,)
9)
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10 Defendants.)

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS
14 DECEMBER 15, 2009
BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE
15 VOLUME 72, A.M. SESSION

16

17 APPEARANCES:

18

19 For the Plaintiffs: MR. W.A. DREW EDMONDSON
Attorney General
20 MS. KELLY FOSTER
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21 State of Oklahoma
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22 Oklahoma City, OK 73105

23

24

25

been hashed out here that the focus is on what the integrators' intent was relative to these matters.

So with due respect, the motion for judgment on the claim of trespass is denied.

I'm going to take a few minutes, and the court will put together its notes with regard to the RCRA claim and we'll be back.

(Whereupon a recess was had.)

THE COURT: Do I understand correctly that all argument with regard to the RCRA motion for judgment has been made?

MR. TODD: Yes, Your Honor.

MR. BAKER: Except with respect to causation.

THE COURT: Yes, I'm going to hold causation out separately.

With regard to the RCRA claim, one of the elements of such a claim under 42, United States Code, Section 4972(A) is that the defendant "contributed to, or is contributing to the handling, storage, treatment, transportation, or disposal of solid waste." The Tenth Circuit addressed that matter in Burlington Northern and Sante Fe Railway Company v. Grant, 505 F.3d 1013 at 1019 to -20.

Under RCRA, the term "solid waste" includes

material from agricultural operations only to the extent that the material is "garbage, refuse, or other discarded material" found at 42, United States Code, Section 6903(27).

Material is considered to be "discarded" where it is disposed of, thrown away, or abandoned. That's found in American Petroleum Institute v. EPA at 216 F.3d 50, pages 55, 56, D.C. Circuit 2000.

The term "discarded" cannot encompass materials that are "destined for beneficial reuse or recycling in a continuous process by the generating industry itself," found at American Mining Congress v. EPA, 824 F.2d 1177 and 1186, D.C. Circuit 1987.

In this case, the plaintiff has failed to produce sufficient evidence that poultry litter is a RCRA solid waste in the IRW. In other words, there's been insufficient evidence on this record that poultry litter is merely being "discarded" in the sense of being thrown away or abandoned.

The record reflects that poultry litter has a market value and has at least some beneficial use. The growers largely intend to put it to beneficial use, and the material has at least an incidental beneficial effect in its usage. The State here regulates -- the plaintiff itself

regulates its application in an attempt to allow such beneficial use. As Mr. Todd argues, the fact you have a high STP is not in itself evidence of a "discard."

This court would note that it, however, rejects the defendants' argument that poultry litter is "returned to the soil" under this record in the IRW as a fertilizer or soil conditioner in light of the tons of pot ash imported into the IRW by the defendant poultry integrators for incorporation into their feed to strengthen the bones of their chickens, much of which phosphorus finds its way into the poultry litter and into the watershed.

The court was previously concerned, and one of the reasons it denied the motion for summary judgment had to do with the issues raised in the Seaboard case by the United States Attorney, immediate past United States Attorney and the EPA in the Western District of Oklahoma. But in Seaboard, the EPA was primarily concerned with effluent leaking from the plastic-lined pits and the infrastructure, including piping.

The focus was not on land application, although the complaint mentioned land application of swine effluent. The practice of land application

was merely the subject of an allegation in the complaint and is not determinative on the legal issue.

So the defendants' motion for judgment on the RCRA claim is granted.

I believe that addresses all of the motions that have been fully argued. We'll take the next argument. Mr. McDaniel.

MR. MCDANIEL: Good morning, Your Honor.

THE COURT: Good morning.

MR. MCDANIEL: May it please the court, Scott McDaniel for Peterson Farms. And I take the podium, Your Honor, to move for judgment under Rule 52 on the State of Oklahoma's Count No. 7 against all the defendants.

At the risk of stating the obvious, the evidence in this case is basically one undifferentiated presentation of facts and expert opinions. But that evidence must be tailored and must fit the elements of each one of these claims that the State has pled. And in the case of Count 7, there is -- it is an especially poor fit. And that's the reason we think that Count 7 is particularly appropriate for the court's disposition at this time.

IN THE UNITED STATES DISTRICT COURT

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TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 15, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

1 defense counsel that are not specific to their
2 particular clients.
3 Thank you.
4 THE COURT: Thank you, Mr. Elrod.
5 Mr. Jorgensen.
6 MR. JORGENSEN: Your Honor, I firmly
7 believe that the key to happiness in life is being
8 grateful for the small blessings that come our way,
9 and one of those today is that we have not spoken
10 every argument that we could have spoken. That is the
11 end of the defendants' presentation.
12 THE COURT: It's more than a small
13 blessing.
14 MR. JORGENSEN: Our understanding of the
15 Rule 52(c) standard and the way our case law is that
16 we don't need to explicitly go through with you all
17 the things that we've already gone with you and which
18 you know well. You discovered that we had no in-depth
19 recitation of 427B, privilege by consent, agency law
20 generally.
21 I also I failed to mention, but want to
22 mention now, that, of course, we agree with Your Honor
23 that there is a significant issue here for federal
24 common law with preemption and displacement and we
25 didn't go into those in great detail. But if you have

any questions about any issues, that's why I rise.

My understanding of the 52(c) case law is you don't have to sit up there thinking, oh, I thought they were going to talk about this and then we wouldn't have to go on. We haven't talked about everything, but if you had any remaining issues on the issues we briefed, we would like to address those.

THE COURT: Well, I'm glad you mentioned displacement because that, in reviewing the trial briefs, seem to be something that you might touch upon, and no one did --

MR. JORGENSEN: Yes, sir.

THE COURT: -- in that regard. Because it did make me wonder whether that was being dropped because there was a good response from the plaintiff.

Give me your view there of federal common law nuisance. We've got a Supreme Court case on the Clean Water Act; right?

MR. JORGENSEN: We do. We have two, Your Honor, I believe. The two are -- where you might find a good discussion of these is in the recent Second Circuit decision -- is it -- *Connecticut v. American Electric Power*. Do you know which one I'm talking about?

THE COURT: Yes.

MR. JORGENSEN: And the Second Circuit says there -- it's on page 106 of the decision, 106 -- that poor law clerk that had to write that -- but on page 106 of the decision the court talks about preemption of federal common law as it relates to water pollution. Of course, this was an air pollution case but it's using water pollution as an example.

And it talks about the *Milwaukee I* and *Milwaukee II* cases from the Supreme Court, and then footnote 41 on page 106 notes the case *Middlesex County Sewerage Authority* -- Sewerage, S-e-w-e-r-a-g-e -- *Authority v. National Sea Clammers Association*, 453 US 1. The Second Circuit said that that case explicitly held that the Federal Water Pollution Control Amendments, which were amendments to the Clean Water Act -- this is the quote -- displaced federal common law in the entire area of water pollution.

I believe that's true, and I'm glad that they used the word "displaced," the Second Circuit there in that footnote, Your Honor, because -- Your Honor knows this very well so I'll be brief -- but the word "preemption" is thrown around a lot because it's just a common concept we all know.

But in the area of does federal law or a

1 pronouncement of the federal Congress displace federal
2 common law, it's actually the displacement standard,
3 which as you know, is a far easier standard to meet
4 than preemption. Preemption is, you know, does
5 Congress intend to set aside state authorities? All
6 of the presumptions are against that given the Tenth
7 Amendment and the rights of the individual states, the
8 sovereign states.
9 In contrast, displacement, all of the
10 presumptions are that if Congress speaks on a subject,
11 that that's it for that subject because the courts
12 have said we affirmatively don't want federal common
13 law. It only exists to fill in the interstitial gaps.
14 So I didn't want to leave you with the
15 impression that we have not urged that on, Your Honor.
16 We do think it's a complete answer to federal common
17 law and that federal common law -- the claim does need
18 to be dismissed. It's only because you mentioned that
19 we thought, well, let's not take the time.
20 THE COURT: Well, don't assume.
21 All right. Well, I'm interested to hear the
22 response. Anything else?
23 MR. JORGENSEN: Thank you, Your Honor.
24 THE COURT: All right. Well, we're
25 almost at three. What's your pleasure, Mr. Baker?

MR. BAKER: I could deal with the Clean Water Act very quickly.

THE COURT: Yeah, let's do that.

MR. BAKER: May it please the court, this has been an issue that was raised way back in the 12(b)(6) stage and extensively briefed, and I would simply direct Your Honor to docket No. 129. Are we up to 27, 2800 now?

THE COURT: Yeah.

MR. BAKER: This was done a very, very long time ago.

THE COURT: My recollection is not that perfect. If you could refresh my recollection.

MR. BAKER: Right. And here's what it is.

The Clean Water Act applies to point-sources, point-sources. We're obviously dealing with nonpoint-sources. The legislative history, the case law is extraordinarily clear that nothing in the Clean Water Act goes to nonpoint-sources.

Let me read to you --

THE COURT: So there's still an interstitial space in which federal common law may apply?

MR. BAKER: A very big interstitial

space, Your Honor.

For example, *Defenders of Wildlife*, that's 415 F.3d -- these are Tenth Circuit cases that were cited to you -- 415 F.3d at 1124 to 25. It says, "The Clean Water Act does not require states to take regulatory action to limit the amount of nonpoint water pollution introduced into its waterways."

American Wildlands, another Tenth Circuit case, 260 F.3d 1197. Nothing in the Clean Water Act demands that a state adopt a regulatory system for nonpoint-sources.

We have the legislative history. "There is" -- and this is on page 15 of that brief I cited to you -- "there is nothing in this bill which requires any state in the country to adopt a program to deal with nonpoint-source pollution. The bill provides that each state will make an assessment of the problem. If a state does not make an assessment of the problem, the EPA will make one in that state for purposes of establishing national data on this problem. After that, no state is compelled to adopt a program to control nonpoint-source pollution."

I could go on. The case law is just abundantly clear on these issues.

THE COURT: I do recall vaguely the

distant past.

MR. BAKER: I argued this for probably half a day before you --

THE COURT: Yes, sir.

MR. BAKER: -- in 2000 --

THE COURT: Seven.

MR. BAKER: -- 2007. It's been awhile.

THE COURT: All right. I think that pretty well addresses that.

What about Mr. Sanders? Because, you know, the argument throughout the trial is that Cal-Maine is different in nature than some of these other integrators. What about Mr. Sanders' argument?

MR. BAKER: Specifically, the Benton County issue?

THE COURT: Yes.

MR. BAKER: We are not pursuing the Benton County issue, Your Honor.

THE COURT: Very well. With that statement --

MR. BAKER: But we are pursuing Cal-Maine with respect to its own conduct.

THE COURT: I understand. But with that stated, the issue set forth in paragraph 43 of the

final pretrial order is adjudged in favor of, I guess, Cal-Maine -- I didn't know whether I needed to make that connection -- and against the plaintiff, there being no evidence to support the contention that the conduct, acts, or omissions of Benton County Foods, L.L.C. in connection with its poultry-feeding operations in the IRW are legally those of Cal-Maine Foods, Inc.

So the motion for judgment made by Mr. Sanders will be granted in that part.

All right. Do you care to take on any other issues, Mr. Baker, before we take our break?

MR. BAKER: I'd prefer that we take the break and we just dive into it.

THE COURT: All right. Let's do that. We'll take our recess.

(Short break)

MR. JORGENSEN: You're surprised to see me, Your Honor.

THE COURT: I expected Mr. Baker.

MR. JORGENSEN: I felt I would have been disloyal to the Supreme Court if I didn't reply to what was just said.

THE COURT: Oh.

MR. JORGENSEN: We had slides

presented -- prepared on this point.

THE COURT: This is Clean Water Act?

MR. JORGENSEN: Clean Water Act preemption. More precisely, the Federal Water Pollution Control Amendments, FWPCA.

So Mr. Baker's argument was that the Clean Water Act, which has now been amended by the Federal Water Pollution Control Amendments, FWPCA, does not provide any kind of a regulatory regime for nonpoint-sources but rather leaves that empty, and that's just not true.

Let's bring up the first slide.

So, of course, the court has, I believe, read the new Second Circuit case out of -- or the new case out of the Second Circuit, *Connecticut v. American Electric Power*, which discusses this issue at length. That's the one I cited to the court. And, again, it's page 106 and footnote 41 that I urge most importantly to the court.

And, of course, it points out the rule that we know, that federal courts can only resort to federal common law in the absence of an applicable act of Congress. This is the displacement standard.

Let's roll forward. So the Clean Water Act, of course the court knows, is from 1972. It provided

a comprehensive solution to the problem of interstate water pollution. And, again, the Second Circuit recognizes that and in no way contradicts what Mr. Baker had said.

But it points out that in the area of water pollution, the Supreme Court has held that the '72 Clean Water Act entirely displaced the federal common law of nuisance -- that's the quote -- entirely displayed. That's the quote from the Second Circuit. So there are three circuit judges that disagree with Mr. Baker's argument.

But the question is, how can that be in light of the fact, and that I must concede, that the Clean Water Act has a much more stringent regulatory system, a much more federal-, as opposed to state-driven, system for point-sources than nonpoint-sources? And here's why.

Actually, let's just -- well, no, let's do review this slide, and then we'll move on to the point I was just talking about.

So the court addressed the scope of the Clean Water Act in *Milwaukee I* and it talked about in *Arkansas v. Oklahoma* what it had done. And it said, "In *Milwaukee I*, we remained aware that new federal laws and new federal regulations may in time preempt

1 the filed of federal common law of nuisance. In
2 *Milwaukee II*, we held that the Federal Water Pollution
3 Control Act Amendments of 1972 did just that." So
4 that's important.
5 And then, "Congress had not left the
6 formulation of appropriate federal water pollution
7 standards to the courts through application of
8 nuisance concepts, but had occupied the field through
9 the establishment of a comprehensive regulatory
10 program under the Clean Water Act amendments." That's
11 from the Tenth Circuit in 1989.
12 So the question is, how could the Clean Water
13 Act be comprehensive in light of what Mr. Baker said?
14 There are undoubtedly all the cases that he cited,
15 plus more, that point out the difference in the way
16 the Clean Water Act regulates point-sources and
17 nonpoint-sources.
18 For point-sources, the federal system takes
19 over, tells you what to do, issues you a permit, and
20 you have to comply with the permit.
21 But what I think Mr. Baker suggested that is
22 in error is that then that nonpoint-sources are left
23 unregulated, not addressed by the mind of Congress.
24 That's not true.
25 Since 1987, the Clean Water Act has regulated

nonpoint-source pollution as well as point-source pollution.

THE COURT: Since when? 1998?

MR. JORGENSEN: Since 1987 at a minimum.

The Water Quality Act of 1987 -- and I'll go slow for the record.

THE COURT: Yeah. Because she only got 198 so you need to slow down here. I'm sorry. He.

MR. JORGENSEN: I'm sorry, Your Honor. I got some e-mails in the last few nights from the court reporters gently and kindly chiding me. So I'll slow down.

The Water Quality Act of 1987, it's public law No. 100-4, and the other citation is 101 Stat. -- S-t-a-t -- 42. That's 1987. It amended the Clean Water Act and it tasked the states with detailed reporting requirements and planning requirements that are federally required, and the court knows, I believe, about many of these. They're now Section 319 of the Clean Water Act.

So each state has to submit to the EPA, as a matter of federal law, a state assessment report and the state has to hold a state-level notice and comment rule-making. That has to identify the impaired waters, quote, without -- which without additional

action to control nonpoint-sources of pollution cannot reasonably be expected to maintain applicable water quality standards.

The second thing that the state has to address and report to EPA on are categories and subcategories of nonpoint-sources and, quote, particular nonpoint-sources which add significant pollution, end quote, to impaired waters.

The third thing that the state has to address and report specifically to EPA on is a process that uses, quote, intergovernmental coordination and public participation, end quote, to develop best management practices -- the court has heard a lot about the best management practices that flow out of this process -- for controlling each category and subcategory of nonpoint-sources -- and this is the quote from the law -- to the maximum extent practicable, end quote.

And then four, the state has to tell the EPA what are the programs it is going to use to control the nonpoint-source pollution that has been discussed.

I think I mentioned this is Section 319 of the Clean Water Act. The statutory citation is 33 U.S.C. Section 1329.

So after that report comes into the EPA -- and I believe some of this reporting is in the record

in this case, it's certainly been the subject of discussion here -- the EPA administrator can take the state's plan for nonpoint-source pollution and accept it. And I believe the court again heard here in court about the EPA-approved, EPA-not-approved lists, 303(d) lists, and others. It can reject the plan as inadequate. It can mandate that the state revisit it and resubmit to EPA. Or if the state refuses to comply altogether, the EPA can just prepare its own report or prepare its own TMDL and move forward. This is, again, Section 1329 of 33 U.S.C.

So Mr. Baker's undoubtedly right, and, again, the cases that he cites are not inapposite to what I'm saying, in that you don't have to get a nonpoint-source permit from the federal government like you do a point-source permit.

The way the Clean Water Act addresses nonpoint-source solution is different, and the ultimate remedy is left to the states with EPA's supervision in the background, but the court has heard about how EPA either approves or doesn't approve and requires resubmission.

So the question there is -- and I believe the test is for displacement -- did Congress -- I think this is the actual quote from the Supreme

1 Court -- speak to the issue? Did Congress speak to
2 the issue of nonpoint-source pollution? If not,
3 federal common law continues. If it did speak to the
4 issue, then federal common law is displaced.
5 I don't see how you could say that they
6 haven't spoken to the issue simply because they choose
7 to allow the states this fear of authority,
8 decision-making, and discretion subject to the EPA
9 oversight and opportunity to take over it, if it needs
10 to be done.
11 Now, I'm not suggesting that even with all
12 that, that the nonpoint-source regulations are as
13 stringent as the point-source regulations. I'm not
14 suggesting that after the EPA does the TMDL, which
15 Oklahoma refused to do in this watershed, that it will
16 result in the same sort of mandatory federal
17 processes. But EPA is there and driving it forward,
18 pushing it forward the regulation of nonpoint-source
19 pollution on a comprehensive basis, and this is the
20 scheme that Congress came up with and the court has
21 heard a lot about it.
22 Now, I would feel confident in that scheme if
23 I just had nothing else other than the scheme, and
24 here on the slide it lists a few things. The states
25 have to submit their 303(d) lists -- boy, we've heard

a lot of that in this case -- and they have to implement TMDLs. I just read about the state assessment report to EPA.

Here on this slide is some of what you've heard in this case, about the EPA -- the letter from EPA to Secretary Strong and this Arkansas Secretary of the Environment, talking about how EPA is going to take over the creation of a nonpoint-source TMDL. This shows how this process works.

So, again, I would feel confident under just the standards, but nothing makes me feel more confident than seven votes of the Supreme Court behind my argument. I love that. Particularly when the two dissenting votes are justices perhaps who are not still on the court.

So this is *Middlesex County Sewerage Authority*. This is the case that the Second Circuit cites when it says -- you'll see when you read the Second Circuit decision, in the text they talk about point-source, nonpoint-source, and they make the point that in the early cases, the Milwaukees that we've talked about here, those were point-source cases and there's still nonpoint-source left go to. Then they drop this footnote 41, and then they say, "As the Supreme Court case decided two months later," citing

Middlesex, the Supreme Court explicitly held that the Federal Water Pollution Control Amendments displaced federal common law in the entire area of water pollution."

Let me go to the actual decision to see if they misread it. So I'm on -- in the printout that we have from LexisNexis, Your Honor, I'm on page 13 at the upper left-hand corner. For the record, it looks like the cite is 453 US, and I believe it's at 21 to 22.

THE COURT: Yes, sir.

MR. JORGENSEN: "The court" -- this is quoting the Supreme Court -- "the court has now held that the federal common law of nuisance in the area of water pollution is entirely preempted by the more commence sieve scope of the FWPCA, which was completely revised soon after the decision in *Illinois v. Milwaukee*." That's one of the Milwaukees that weigh talked about on the slides.

"This decision disposes entirely of respondents' federal common-law claims, since there is no reason to suppose that the preemptive effect of the FWPCA is any less when pollution of coastal waters is at issue." This was a coastal water case.

Now, I'm going to anticipate Mr. Baker's

1 response. Mr. Baker, I think, is going to stand up
2 and say, that even in this case, *Middlesex County*
3 *Sewerage*, this was sewage dumping out of boats into
4 coastal waters so you still got a point-source.
5 But the court is well aware of the Supreme
6 Court cases that say, if the lower courts think that
7 our pronouncements and holdings are too broad and
8 ought to be restricted, the duty that they have is to
9 follow them and then note to us that they think we've
10 spoken too broadly.
11 So I think Mr. Baker's inviting this court
12 into an appellate problem in asking him to disregard
13 the phrase, "This court has now held that the federal
14 common-law of nuisance in the area of water pollution
15 is entirely preempted."
16 Thank you, Your Honor.
17 THE COURT: Do you want to draft that
18 language for me in case that that's the way I went?
19 Mr. Baker.
20 MR. BAKER: I think you have to read
21 Supreme Court cases in the context in which they're
22 written, and this was clearly a point-source case.
23 THE COURT: Well, once again, this
24 "entirely preempted" language is a bit hard to get
25 around. I understand -- I've attempted to read court

decisions in light of the facts of those particular cases. That's why the Roberts juris prudence makes some sense to me because he tries to be case-specific. I think it helps all of us as lawyers. But this language says "entirely preempted."

MR. BAKER: And, again, I say you read cases in the context of which they're written. I imagine one any of us has written something that if you take -- we wish we had used a clearer phraseology to express the thought. And if you look at it --

THE COURT: Oh, I'm sorry. Go ahead. I didn't mean to cut you off.

MR. BAKER: When you look at it, they're clearly addressing a point-source issue. That's the way their analysis flows. Could they have said it more clearly? I believe they could have.

THE COURT: But there's no doubt that that occurs.

Now, are either of these Tenth Circuit cases to which you refer the court post-*Middlesex County Sewerage*?

MR. BAKER: They are -- the *American Wildlands* case is a 2001 case. *Defenders of Wildlife* is a 2005 case.

THE COURT: All right. Well, we'll

obviously need to study that because that's a dispositive issue, if it were to go the way that Mr. Jorgensen suggests, as to the federal common law claim.

MR. BAKER: And it would bring us back to our argument that under a choice of law analysis, the State of Oklahoma, having the most significant context, you would apply the common law of Oklahoma to conduct in Arkansas.

And I know, anticipating Mr. Jorgensen's remarks, he's going to raise a commerce clause argument on that. That is a complete red herring, Your Honor. Commerce clause generally applies to statutes. This would apply to the common law. The common law applies evenhandedly to Oklahoma and Arkansas. There's no commerce clause issue there.

THE COURT: Okay. You're saying in the event that the federal common law of nuisance were out?

MR. BAKER: Right.

THE COURT: Okay. Thank you.

MR. BAKER: But I would encourage one last -- I would encourage Your Honor to read the *American Wildlands* and *Defenders of Wildlife* because both of those cases --

THE COURT: Yes, sir. Which one is that? 415?

MR. BAKER: The *American Wildlands* is 260 F.3d 1192, and *Defenders of Wildlife* is 415 F.3d 1121.

And just as a final remark, where this all springs from is the *Milwaukee* case, the *Milwaukee v. Illinois* case.

THE COURT: Yes, sir.

MR. BAKER: And I think if you read that -- and that cite is 101 S. Ct. 1874. And at 1794, if you read that decision closely, the basis for finding that the federal common law had been displaced was the fact that the Clean Water Act thoroughly addressed point-source pollution.

And here, obviously the Clean Water Act does not thoroughly address nonpoint-source pollution, it doesn't address it at all. It doesn't give EPA any regulatory authority over nonpoint-source pollution.

THE COURT: How do you respond to Mr. Jorgensen's argument that, in fact, it gives or allows states a sphere of discretion subject to EPA oversight?

MR. BAKER: Let's go back to *American Wildlands*. This is at page 1197-1198 of that

1 decision. And just for Your Honor's reference, this
2 can be found in our reply brief, which is docket
3 No. 870.
4 *American Wildlands* says, "In the act,
5 Congress has chosen not to give the EPA the authority
6 to regulate nonpoint-source pollution. The act
7 nowhere gives the EPA the authority to regulate
8 nonpoint-source discharges."
9 *Defenders of Wildlife* has this to say -- this
10 is the Tenth Circuit as well -- "Congress clearly
11 intended the EPA to have a limited nonrule-making" --
12 nonrule-making -- "role in the establishment of water
13 quality standards by states."
14 Additionally, *Defenders of Wildlife* at 1124
15 to 25, "The Clean Water Act does not require states to
16 take regulatory action to limit the amount of nonpoint
17 water pollution introduced into its waterways."
18 Let's see. Also, *American Wildlands* at 1197,
19 "Congress cautiously distinguished between
20 point-source and nonpoint-source discharges giving EPA
21 authority under the Clean Water Act to regulate only
22 the former."
23 It's very clear that the EPA's regulatory
24 authority does not extend to nonpoint-source
25 pollution.

THE COURT: All right. Well, that obviously explains why I ruled as I did, but we'll go back and refresh our recollection in that regard.

Mr. Baker.

MR. BAKER: Yes, sir, Your Honor. I have just a few PowerPoints for Your Honor.

THE COURT: Thank you. Very perceptive, Mr. Baker. Go ahead.

MR. BAKER: First of all, that was the longest four hours I've ever sat through.

I've sat there and I've listened to what the defendants' contentions are, that the state has not adduced evidence on this point or that point, and I welcome the opportunity now to address the factual record as well as to address some of the remaining legal issues.

Those will -- among those are going to be causation, Animal Waste Management Plans, the integrator/grower relationship, our causes of action, of course, 427B liability, intentional tort. I have a lot of ground to cover, Your Honor, and I'll try to go as quickly as possible. But given the defendants' repeated assertions that we have no evidence on this or no evidence on that, I appreciate the court's patience as I --

1 defendant may be liable, even though his or her acts
2 alone might not have been a sufficient cause of the
3 injury." "Even though his or her acts alone might not
4 have been a sufficient cause of the injury."
5 So not only do we have to not prove that
6 there's a sole cause -- don't have to prove there's a
7 sole cause -- we also don't have to prove that their
8 conduct alone would have been sufficient to cause the
9 injury even without the other contributors.
10 Next slide, please.
11 So, again, I mention to Your Honor, I believe
12 that the defendants have built up a causation standard
13 that is not the causation standard that should apply
14 in this case.
15 Here's what Judge Eagan had to say in the
16 *City of Tulsa* case. This is a case, of course, very
17 similar to what you're facing here today, and here's
18 what she said: "In this case, plaintiffs need not
19 prove the portion or quantity of harm or damages
20 caused by each particular defendant. Rather,
21 plaintiffs must show that" -- one -- "each defendant
22 contributed to the phosphorus loading in the watershed
23 and the phosphorus in the watershed has resulted in
24 the harm and damages sustained by plaintiffs."
25 So simply put, we simply have to put the

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23 and the phosphorus in the watershed has resulted in
24 the harm and damages sustained by plaintiffs."
25 So simply put, we simply have to put the

defendants' phosphorus in the watershed and then we have to show an injury by phosphorus in the watershed.

THE COURT: It says, "Plaintiffs must show that each defendant contributed to phosphorus loading in the watershed."

Of course, their arguments, as we heard, are that the plaintiff has not shown that any of them contributed to phosphorus loading in the water.

MR. BAKER: We'll show that they've contributed phosphorus in the water, but that's not our burden. Our burden is to prove it gets in the watershed and that there's transport routes, of course, and that's enough. Because once it runs off, it results in the harm when it commingles with the other sources.

THE COURT: So you're saying that under this, all you have to do is show that it's in the soil?

MR. BAKER: On the soil, yes, Your Honor. It's what Judge Eagan had to say on the matter. I think it's a very -- it squares with what -- and you'll see, this is not a novel concept as we go into some more cases.

If we can see the next slide, please.

The *Herd* case, and this is Judge Holmes, the

The last line there, it says, "Therefore, nutrient utilization standards that are protective of the environment" -- protective of the environment -- "would require that animal manure applications do not result in soil test phosphorus levels that exceed 120."

We would submit that if they exceed 65 -- and I'll show you the evidence in just a moment -- you're endangering the environment.

Next slide, please.

Again, here's just a graphical representation of the -- of the response to crops from soil test phosphorus, and after 65 you get no further response.

Slide No. 48.

So we've heard quite a bit about the 65 versus 120 STP debate, so I'll go through and read this to Your Honor.

Mr. Nance asks Dr. Johnson: "Let's just -- on the scientific issues, let's just talk briefly about this. I think we've established from your testimony that at an STP of 65, you get no additional crop response, according to the OSU research; is that right?"

"That's correct."

"And to what extent above between 65 and 120

IN THE UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF OKLAHOMA

STATE OF OKLAHOMA, ex rel, W.A. DREW EDMONDSON, in his capacity as ATTORNEY GENERAL OF THE STATE OF OKLAHOMA, et al.	)	
Plaintiffs,	)	
vs.	)	No. 05-CV-329-GKF-PJC
TYSON FOODS, INC., et al.,	)	
Defendants.	)	

VOLUME 74 - AM

TRANSCRIPT OF NONJURY TRIAL PROCEEDINGS

DECEMBER 16, 2009

BEFORE GREGORY K. FRIZZELL, U.S. DISTRICT JUDGE

REPORTED BY: *BRIAN P. NEIL, CSR-RPR, RMR, CRR*
United States Court Reporter

Go ahead, Mr. Jorgensen.

MR. JORGENSEN: Your Honor, if I have ever fallen --

THE COURT: You have not. You have not, sir.

MR. JORGENSEN: Okay. This displacement issue is very complex and there's a lot of cases. I just wanted to note for the court, in case it's helpful, that I believe briefs of this issue are at docket No. 66 and 144.

THE COURT: Well, you know, both sides are doing this, you know, they're referring me back to numerous briefs in the past. If you want to represent your clients well, you know, package it up, do it in a brief, give me your best arguments, don't refer me back to numerous briefs in the past.

MR. JORGENSEN: Yes, sir.

THE COURT: All right. Mr. Baker.

MR. BAKER: So, Your Honor, just to briefly recap --

THE COURT: And just because it came to my mind, one of the reasons, of course, is one of the bases, as I recall, for denying the defendants' motion with regard to the displacement issue were the cases that were in existence in 2007. And as Mr. Jorgensen

notes, there have been recent cases, the Second Circuit case, that have been decided since then. So, you know, a brief is supposed to be just that.

As Mr. Jorgensen also notes, because I think I've said before that he's probably one of, if not the best, writer here, he knows that good writing consists of editing many times. Good writing is not a process of dumping as much volume on the court as possible. So don't refer me back to five briefs.

I was reading a trial brief yesterday that referred me back to five briefs. That is not good writing; don't do it.

Mr. Baker.

MR. BAKER: Yes, Your Honor.

To go back to my presentation, I'd like to recap and recall what the case is all about. Of course, our theory of the case is defendants placed millions of birds in the IRW annually, these birds creates hundreds of thousands of tons of waste annually in the IRW, and the defendants failed to ensure that this waste is managed properly.

I took Your Honor through the causation standard. We didn't hear a lot of causation law from the defendants. We cited Your Honor to the *City of Tulsa* case and the *Herd* case, which we maintain stand

with a grower and/or environmental handbook. I think that is very indicative of control. How often do you, for example, call a plumber to your house to repair some pipes and you give them a manual on how to fix it?

So I'm going to explain the import of this as I go on, but those are some of the facets of the integrator-grower relationship that I wanted to highlight. I'll try to explain the import of that in just a moment.

So next, I'd like to move on to the Oklahoma Registered Poultry Feeding Operations Act, slide 185. What is it? The feeding operations act is a registration program, not a permitting program. It prohibits runoff, creation of an environmental hazard, and contamination of waters of the state. The purpose of the law is to prevent pollution, not allow it. It's not a permitting program. It does not displace state common law or state environmental law. Has no application to Arkansas. You recall that most of the operations that we're dealing with here are in Arkansas. And it was enacted in 1998.

Next slide. Animal Waste Management Plans. What are they? They're guidance documents. I'll show you testimony on this point in a moment. They're not

permits. They're subject to the overarching requirements of the statute. It's the applicators -- and there's a typo there, should have an apostrophe -- the applicators' responsibility to ensure no runoff, not the plan writer. It's not an authorization to pollute or a consent by the state to pollute.

THE COURT: All right. Let's back up here because page 185 touches upon the Title 50, Section 4 issue perhaps.

You say it doesn't displace state common law or other state environmental law, but you have Title 50, Section 4 that says compliance with state law -- and I don't have it in front of me -- but basically it means you don't have a nuisance.

Now, whether it's a permitting program or a registration program, defendants have the argument that they're complying with the act, and therefore, it's not a nuisance; right? What's your response?

MR. BAKER: My response is is that they're not complying with the act. The act -- they're complying arguably with one sliver of the act. We're going to examine that sliver of the act in just a minute.

But remember, the overarching theme of the act is no runoff, no environmental contamination, and