

UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF NORTH CAROLINA  
SOUTHERN DIVISION

----- )  
 BEN ARTIS, et al. )  
                   Plaintiffs, )  
                                   ) 7:14-CV-00237-BR  
                   vs. )  
                                   ) )  
 MURPHY-BROWN, LLC, )  
                   Defendant. )  
 ----- )

JULY 30, 2018  
JURY TRIAL - DAY 14  
BEFORE THE HONORABLE W. EARL BRITT  
SENIOR UNITED STATES DISTRICT COURT JUDGE

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## I N D E X

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CHRISTINE LAWSON

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DEFENDANT'S EXHIBITS

NUMBER	RECEIVED
685	13
383	34
299	41
282	42
382	43
691	54
1385-1	59
366	66
376	81

PLAINTIFFS' EXHIBITS

NUMBER	RECEIVED
1358	125
1699-136 and 1750-116	145
1750-118	148

## C. Lawson - Cross-Examination

1 (The jury entered the courtroom at 2:34 p.m.)

2 THE COURT: All right, Mr. Kaeske.

3 MR. KAESKE: Thank you, Your Honor. Good afternoon.

4 ALL JURORS: Good afternoon.

5 **CROSS-EXAMINATION**

6 **BY MR. KAESKE:**

7 Q. Good afternoon, ma'am. My name is Mike. Nice to meet  
8 you.

9 A. Nice to meet you.

10 Q. The permit that we're talking about --

11 A. The general permit?

12 Q. Yes, ma'am.

13 A. Yes, sir.

14 Q. It's a water permit, right?

15 A. It's issued by the Department of Water Resources, yes,  
16 sir.

17 Q. What it's meant to do is protect the water, right?

18 A. That's the primary purpose, yes.

19 Q. You know this is a case about odor?

20 A. I know that that's a large part of this case, yes, sir.

21 Q. Odor travels through the air?

22 A. Yes, sir, I'm aware.

23 Q. Okay. There is no air permit that applies to any swine  
24 facility in the State of North Carolina, correct?

25 A. There are no specific air quality permits that I'm aware

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1 of.

2 Q. So that we're clear, the permit that you were brought here  
3 by Smithfield to talk about today is a permit that applies to  
4 prevent discharges to the groundwater from animal waste,  
5 correct?

6 A. The general permit primarily is designed to prevent  
7 discharges to surface waters. The general permit also  
8 incorporates other permit requirements, for example, mortality  
9 measurement requirements that fall specifically under the  
10 purview of the State Veterinary Office, but because they are  
11 permit entities they are referenced in these permits as well.

12 Q. Thank you, ma'am.

13 As far as air permits are concerned, there are industries  
14 in the State of North Carolina that are obligated to have air  
15 permits, correct?

16 A. That's correct.

17 Q. The swine industry is not one of them?

18 A. No, sir.

19 Q. So as much bacteria as the swine industry wants to put  
20 into the air they're allowed to do it by the permit that you  
21 have, correct?

22 A. The permit we have does not address air quality issues.

23 Q. As many volatile organic compounds that the swine  
24 operations put into the air, that is not addressed by your  
25 permit, correct?

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1 A. The general permit does not address air quality issues.

2 Q. Okay. So as much pathogens as the swine operations put  
3 into the air, that is not affected by the permit that you're  
4 here to talk about, correct?

5 A. The general permit does not specifically address air  
6 quality issues.

7 Q. And most importantly, as much odor as swine operations put  
8 into the air, that is not regulated by the permit that you're  
9 here to talk about, correct?

10 A. That's not exactly correct.

11 Q. Okay. Let's talk about this. And you understand -- as  
12 far as the laws in State of North Carolina, you understand  
13 there is a law in the State of North Carolina that governs  
14 nuisance, right?

15 A. I'm aware this is a law, and I'm not a lawyer and not  
16 familiar with the specifics of that law but know that one  
17 exists.

18 Q. And you know that compliance with the water permit does  
19 not exempt any swine operation from complying with the nuisance  
20 law, right?

21 A. I don't know the specifics of the law, but -- I can't  
22 speak to the nuisance laws exactly. I don't know those  
23 details.

24 Q. Okay. Well, you know that a swine operation can be a  
25 nuisance even though it complies with its water permit, right?

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1 A. I know that it is possible that people claim that they are  
2 a nuisance, yes.

3 Q. And the point -- thank you.

4 The point of my question was, though, regardless of  
5 whether those operations are in compliance with their water  
6 permit, correct?

7 A. Yes.

8 Q. Okay. Now, let's talk a little bit about hog operations  
9 in North Carolina first. How many hog operations are there in  
10 North Carolina that are more than 250 hogs that have a permit?

11 A. That have a permit? There are approximately 2100  
12 permitted swine facilities in North Carolina.

13 Q. Okay. Thank you. And while we go along I might need to  
14 take myself some notes so I don't forget some stuff.

15 How many open lagoons are there in North Carolina?

16 A. Swine?

17 Q. Yes, ma'am.

18 A. Approximately 3300.

19 Q. Approximately 3300. Thank you. How many hogs are there  
20 in North Carolina?

21 Let me do us both a favor and ask a better question. How  
22 many hogs approximately are produced in North Carolina every  
23 year?

24 A. I believe there are approximately 2 million.

25 Q. Okay. And I'm going to grab my calculator real quick.

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1 I've seen that the hogs average about 1.9 tons of waste a year  
2 per hog. Sound about right?

3 A. Depending on the animal type.

4 Q. Thank you.

5 A. There's a difference between a nursery animal and  
6 finishing animals.

7 Q. Let's just talk about finishing animals because that's  
8 what the Greenwood operations are. Finishing animals average  
9 1.9 tons a year, right?

10 A. I don't have the reference number in front of me but  
11 that's in the right ballpark.

12 Q. So that's like 3,800 -- I did the math so go with me on  
13 this. 3,800 pounds of waste per finishing animal a year at a  
14 swine facility in North Carolina; fair?

15 A. Based on how many animals?

16 Q. Per animal. 3,000 -- so 1.9 tons times 2000 pounds gives  
17 us 3,800 pounds.

18 A. Okay.

19 Q. Okay. So that's per animal. I was just translating tons  
20 to pounds.

21 A. Okay. I was just trying to keep up with what you're  
22 asking me.

23 Q. Yes. And if you don't understand my question, please feel  
24 free -- not everyone understands my questions. Sorry.

25 So 3,000 pounds per animal per year and we got 10 million



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1 hogs. So that's -- got to get the order of magnitude right.  
2 That's 38 billion pounds of hog waste every year going into  
3 lagoons in North Carolina, right?

4 A. Not exactly.

5 Q. Not exactly.

6 A. There was an assumption in your math -- if there's  
7 10 million swine produced a year, there's more than one  
8 grouping or turn a year, so the -- so it's based off the number  
9 of permitted animals that you have at a facility at a given  
10 time and the total number of permitted animals.

11 For example, if there's two different groups of animals  
12 that are raised in the course of one year, so let's make up ABC  
13 Farms and they're permitted for a thousand animals, and it's a  
14 finisher, they could actually produce 2,000 animals in a year,  
15 a thousand at each turn. So I just want to make sure we're  
16 talking about the same thing. Do you understand what -- I want  
17 to make sure we're talking about the same thing.

18 For 10 million animals, the number you came up with sounds  
19 that would be correct assuming that you're talking about  
20 10 million animal spaces.

21 Q. So are you saying that we should divide it in half or --

22 A. Right. Potentially. Depends on how you're -- depends on  
23 what you're getting at, but yes. Potentially in half but still  
24 it's a number.

25 Q. Well, what I'm getting at is how much hog waste -- maybe I

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1 should just ask you the question and you'd be able to give me  
2 the answer.

3 How many tens of billions of pounds of hog waste go into  
4 hog lagoons in North Carolina every year?

5 A. I would have to look at the numbers to -- I would have to  
6 calculate it out for you. So -- based off your calculations,  
7 then we'll go with that. I'm not trying to be difficult. I  
8 want to make sure we're talking about the same thing.

9 Q. Whatever, it's tens of billions of pounds?

10 A. Okay.

11 Q. Yes?

12 A. Okay.

13 Q. And your department is in charge of regulating all those  
14 tens of billions of pounds?

15 A. Yes, sir.

16 Q. In all of those thousands of lagoons?

17 A. Yes, sir.

18 Q. Tell the members of the jury in the Fayetteville Regional  
19 Office and the Wilmington Regional Office, how many inspectors  
20 are there?

21 A. There are three full-time inspectors in each of those  
22 offices that their positions are specific to inspections for  
23 animal operations.

24 Q. Okay. Six inspectors. Now, the reason I picked those two  
25 offices is because Fayetteville and -- Fayetteville and

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1 Wilmington, those folks are the ones that are going to have to  
2 cover Sampson County, Duplin County, Pender County. Which  
3 other counties?

4 A. Well, the Sampson -- the Fayetteville Regional Office  
5 covers 11 counties.

6 Q. Fayetteville is 11. Do you know how many hog operations  
7 are in those 11 counties?

8 A. I'm thinking. There are more than 700.

9 Q. Okay. But you don't know exactly how many?

10 A. I didn't look the data up this morning. As an engineer, I  
11 don't want to give a hard number. It's more than 700. I used  
12 to work in that region.

13 Q. I know you did, and I know you're in charge of it so I  
14 kind of figured you might know, but it's okay.

15 Is it more than 800?

16 A. It could be. It's in that ballpark.

17 Q. 7 to 800?

18 A. Right. If there's 2100 across the state, 7 to 800 in that  
19 region sounds appropriate, that sounds about right.

20 Q. Three folks to 7 to 800 facilities, right?

21 A. Yes.

22 Q. They are meant to get to each one of those facilities  
23 every year once?

24 A. At least once.

25 Q. In addition to those three folks doing 7, 800 inspections

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1 a year at swine facilities, they also have to inspect dairy  
2 facilities, yeah?

3 A. If there are any in that region.

4 Q. Are there?

5 A. I don't know if the one in that region is still in  
6 operation. When I was there there was one, but I don't know if  
7 it was still open.

8 Q. Any other operations they have to inspect?

9 A. I believe there's one poultry operation.

10 Q. So mostly just swine?

11 A. Yes, sir.

12 Q. How about Wilmington, how many hog operations are the  
13 three folks in Wilmington obligated to inspect every year?

14 A. Approximately the same, about 800.

15 Q. Makes for a busy year, yeah?

16 A. Yes, sir.

17 Q. Last year how many hog operations didn't get inspected  
18 within the 12 months because the folks couldn't get to them  
19 all?

20 A. I don't know. I do know that looking at a -- looking at  
21 it microscopically there were 2300 total permitted facilities,  
22 plus 23 some-odd plus counting dairy and poultry, there were  
23 more inspections than that that were conducted. We have to  
24 develop a report that gets filed with the General Assembly  
25 every year reporting on the total number of permitted

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1 facilities and total number of inspections and we break it down  
2 by region.

3 Q. I guess my question was a little bit different. How many  
4 facilities because there was too much work didn't get inspected  
5 last year?

6 A. I don't know.

7 Q. That happens though, right? Based on scheduling and based  
8 on all the number of operations and based on the few number of  
9 folks that you got, some just don't make it within the 12  
10 months, right?

11 A. There have been some in years past.

12 Q. Yeah. Now, the amount of resources that your department  
13 has available to you to conduct this work of regulating this  
14 sizable industry has decreased over the years, correct?

15 A. Yes.

16 Q. I mean, you mentioned it I think with Mr. Neale, you  
17 suffered significant budget cuts over the years, right?

18 A. Yes. Particularly in the central office, yes.

19 Q. I think in 2011 wasn't the budget like \$205 million for  
20 DEQ?

21 A. I don't know.

22 Q. And then this year it's like \$77 million dollars for DEQ,  
23 right?

24 A. There was a significant decrease. There are also several  
25 programs transferred out of DENR to other departments.

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1 Q. Yep. We're going to talk about one of those. There were  
2 also programs that were just plain cut, right?

3 A. Sure.

4 Q. And there was staff that was cut, right?

5 A. Yes, sir.

6 Q. Like -- I bet Sophie can help me find the number.

7 There was something like -- for example, since 2011,  
8 there's been a 41 percent decrease in water quality regional  
9 office staff, right?

10 A. That sounds right.

11 Q. And there were programs that were just cut like the Neuse  
12 River rapid response team that provided a response to fish  
13 kills in the Neuse River, that program was just straight up  
14 cut, right?

15 A. Yes, sir.

16 Q. And DEQ well drilling team that would drill monitoring  
17 wells to assess groundwater quality and quantity, that was  
18 eliminated, right?

19 A. Yes, sir.

20 Q. And another thing that happened was the Division of Soil  
21 and Water Conservation, did I get the name right? Division of  
22 Soil and Water Conservation was moved out of the Department of  
23 Environmental Quality and put under the Secretary of  
24 Agriculture, right?

25 A. Yes, sir.

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1 Q. And what that means is the folks that are part of the  
2 Division of Soil and Water Conservation they now work for the  
3 Agricultural Commissioner, is that what we call them?

4 A. The Commission of Agriculture, yes, sir.

5 Q. That man, he's a straight-up elected official, right?

6 A. He is an elected official.

7 Q. So those folks report to an elected official and that  
8 elected official gets almost all of his campaign contributions  
9 from the agricultural industry, right?

10 A. I don't know where his campaign contributions come from,  
11 but they do report to the Commissioner of Agriculture.

12 Q. And the Commissioner of Agriculture is a guy who promotes  
13 agriculture, correct?

14 A. That's part of his job.

15 Q. By the way, when we're talking about the Division of Soil  
16 and Water Conservation in this case, we're actually talking  
17 about the folks that are responsible for inspecting these  
18 facilities, correct?

19 A. That's correct.

20 Q. Okay. So the folks that are responsible for inspecting  
21 these facilities in this case report to the Secretary of  
22 Agriculture, not to you, correct?

23 A. That's correct.

24 Q. Okay. Now, you've -- let me try it this way: How are all  
25 the ways that folks can cheat with respect to their permit and

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1 you might never know about it?

2 MR. NEALE: Objection to the speculation, Your Honor.

3 THE COURT: Overruled.

4 THE WITNESS: All the ways someone can cheat?

5 BY MR. KAESKE:

6 Q. Yeah.

7 A. Well, I'll come up with as many as I can, although I'm not  
8 inclined to cheat I'll do the best I can based on what I've  
9 seen. Falsification of records. That's number one.

10 Q. Sure. And tell us some of the records that folks can  
11 falsify and you might never know about it despite your  
12 regulations.

13 A. So as we covered earlier, there are lots of records, there  
14 are sample requirements that are in there, those records have  
15 to be maintained. There are records for lagoon levels, there  
16 are records for the application of the waste, when you apply,  
17 how much you apply, at what rate you applied. Those are all  
18 records that if one were inclined to cheat and break the law  
19 that they could falsify.

20 Q. Okay. Now, by the way, those, like in the Wilmington  
21 office, Wilmington -- well, let me back up.

22 So in the Fayetteville office, for those 7 to 800  
23 operations that those three folks have to cover, those three  
24 folks are all that would theoretically stand between cheating  
25 or not cheating or learning or not learning about any cheating



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1 that takes place, right?

2 A. Generally speaking, yes.

3 Q. So the first thing, for example, that you mentioned was  
4 sampling records. Now -- and you showed some sampling records.  
5 There's a waste analysis report and a soil analysis report?

6 A. Right. Mr. Neale showed that.

7 Q. Let's do the waste analysis report first. The waste  
8 analysis report, that's where you take a sample or someone  
9 takes a sample of the waste and they send it off to a state lab  
10 for it to be analyzed, correct?

11 A. Right. They send it off to a certified lab.

12 Q. That, you said, was supposed to be done 60 days before  
13 spring?

14 A. Within 60 days. It can be before or after.

15 Q. I don't know the answer to this question. Does that mean  
16 that if someone is permitted to -- if they are certified waste  
17 utilization plan allows them to spray 12 months out of the year  
18 that they would need to get six soil tests done in a year?

19 A. No. You were talking about waste analysis.

20 Q. I'm sorry. You're exactly right. I'm exactly wrong. Let  
21 me start over.

22 We're talking about waste, sampling the hog's waste. It's  
23 supposed to be done 60 days from when you spray. So if  
24 somebody gets to spray 360 days a year, does that mean they  
25 have to have six of them done?

## C. Lawson - Cross-Examination

1 A. It means a minimum three because they are valid 60 days  
2 forward and backwards in time.

3 Q. Okay.

4 A. Minimum three.

5 Q. Math I'm not going to understand. So, for example, if  
6 Greenwood was allowed to spray all year-round, they should have  
7 at least three of them for the year; is that right?

8 A. If they are applying year-round, yes, sir.

9 Q. And they would be obligated to keep them in their files,  
10 right?

11 A. Yes, sir.

12 Q. So if I was given all their files, I should be able to  
13 show the members of the jury three of them?

14 A. If they applied all throughout the year, yes, sir.

15 Q. Got it. Now, there's another kind of sampling going on  
16 and that is the sampling of the lagoon. Is there a sampling of  
17 the lagoon waste?

18 A. That's what we were talking about, the sampling of the  
19 lagoon waste.

20 Q. And then there's another kind of sampling, that is the  
21 soil?

22 A. The soils, soil analysis.

23 Q. How often does that have to happen?

24 A. Once every three years.

25 Q. Got it. Now, if we go back to the lagoon sampling, as far

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1 as people being able to cheat on that -- there's actually an  
2 investigation going on right now of a gentleman that was  
3 involved in, what was it, 55 lagoons at 35 operations that show  
4 like maybe he didn't sample right; is that right?

5 A. That's right.

6 MR. NEALE: Objection. Relevance to this case, Your  
7 Honor.

8 THE COURT: Overruled.

9 THE WITNESS: That's right. And we referred it to  
10 the SBI and it's under investigation.

11 BY MR. KAESKE:

12 Q. You said you referred it to the SBI. And you said you  
13 referred this case to the SBI too, right?

14 A. The consultant involved that was mentioned earlier, yes.

15 Q. Well, we'll get to that in a second. SBI is the State  
16 Bureau of Investigations?

17 A. Yes, sir.

18 Q. That's a criminal enforcement agency?

19 A. Yes, sir.

20 Q. Like the FBI but state?

21 A. Yes, sir.

22 Q. They don't assess violations for the regulations you're  
23 here to talk about, do they?

24 A. No, sir. They lock people up.

25 Q. But -- I get that. They might lock people up but there's

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1 a difference between locking people up and protecting the  
2 environment, right?

3 A. That's right.

4 Q. And your job is protecting the environment?

5 A. That's right, and they are not mutually exclusive.

6 Q. I'm sure that's true because if the guy is locked up, then  
7 he's -- the environment is protected at least from him, right?

8 A. Yes, sir.

9 Q. But here's my question: So for that guy, for example,  
10 this Billy Houston guy, for that guy, have you assessed any  
11 violations?

12 A. Not yet.

13 Q. Okay. And how about for this guy, or for Smithfield in  
14 this situation, you said that you referred it to the SBI, but  
15 have you taken any enforcement action?

16 MR. NEALE: Objection to the -- as to Smithfield,  
17 Your Honor.

18 THE COURT: Overruled.

19 THE WITNESS: So the current case, the Billy Houston  
20 case, the consultant, those violations have not yet been  
21 assessed. We have not completed our investigation to determine  
22 the totality.

23 Now, what you refer to in this circumstance that's  
24 related to this case, I'm not certain when the information was  
25 brought to light. I was out on maternity leave. I came --

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1 when I came back to work, the director showed me the  
2 information, provided to the director of the division regarding  
3 the case, he asked my opinion, did I think this is something  
4 that should be further investigated? Was this a criminal  
5 action? And I said yes, it is. So then that referral was  
6 made.

7 I'm not certain -- I didn't ask if the regional  
8 office then further pursued the permit side, the regulatory  
9 side, as far as pursuing issuing a notice of violation or civil  
10 penalty enforcement. So I don't know if the answer is yes or  
11 no.

12 BY MR. KAESKE:

13 Q. Okay. Well, let's see if I can fill in some of the  
14 information that you don't know and then let's see if we can  
15 follow up on that.

16 So first, you know that it was only as a result of this  
17 lawsuit going on and us getting those records that anybody  
18 figured out that somebody cheated on those spray records for  
19 Greenwood; did you know that?

20 A. I know it's as a result of this case.

21 Q. And when you say "as a result of this case," it was as a  
22 result of us doing an investigation into getting the records  
23 that turned this all up?

24 MR. NEALE: Objection, Your Honor. Foundation.

25 THE COURT: Overruled.

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1 THE WITNESS: My understanding is it was as a result  
2 of this case and the discovery phase of this case and that one  
3 of the attorneys noted the difference. I don't know who it  
4 was. It might have been you, but yes, as a result of this  
5 case.

6 BY MR. KAESKE:

7 Q. And that was -- this is the part I'm going to fill in for  
8 you because you said you were on maternity leave.

9 That was in August and September of 2016. So we're  
10 closing in on two years, all right?

11 A. All right.

12 Q. Now, you're the one that's in charge of the permit. If  
13 there is -- if there is something that's criminal with respect  
14 to the keeping of the records, that's your responsibility,  
15 correct, ultimately? I mean all the way at the top you're the  
16 one that wrote the permit, you're the one that's in charge of  
17 the permit, right?

18 A. I manage the program, yes, sir.

19 Q. And you're here today to talk about these particular  
20 operations, right?

21 A. Yes, sir.

22 Q. And you talked to Mr. Neale before you got here, right?

23 A. Yes, sir. Just as I spoke to someone on your team prior  
24 to a previous case.

25 Q. That's right. And you knew you were going to be here

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1 talking about those spray records, right?

2 A. I knew I was being called to speak about the regulatory  
3 program and my role as a program manager. I presume there  
4 would be questions about these particular farms. I did not go  
5 and do any exhaustive research. I have not been on these  
6 farms, but it was also my understanding that I would be asked  
7 about specific documents, and I can answer that I don't have  
8 encyclopedic knowledge of every one of the 2100 swine farms.

9 Q. That's fair. But it was Mr. Neale that asked you about  
10 the irregularities and the spray records and so now I'm  
11 following up.

12 A. Yes, sir.

13 Q. So in my follow-up I'm asking you, I presume, that you all  
14 worked that out ahead of time; that he was going to ask you  
15 about -- that you knew he was going to ask you about the spray  
16 record irregularities, right?

17 A. What he said to me was that that might come up, and I said  
18 okay.

19 Q. So now I just want to know, did you go back to the folks  
20 that are underneath you and say, hey, we referred this to the  
21 SBI. Did we ever take any enforcement action on this? Did you  
22 ever ask anybody?

23 A. I did not go back and ask that question. I was very -- I  
24 made a conscious decision not to go and engage others to start  
25 digging up things that I don't have direct knowledge of already

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1 or just because I was subpoenaed in other trials and not called  
2 and I -- I didn't go and ask people about information. I  
3 prepared as best I could in a broad sense, but I did not go and  
4 ask that question.

5 Q. Okay. Well, let's set that part of it aside then and let  
6 me just ask you this: You said that the secretary -- was it  
7 the secretary that came and asked you, hey, is this criminal,  
8 or who did you say it was?

9 A. The director of the division.

10 Q. The director. The director of the division came and asked  
11 you whether it should be referred and you said, yeah, that's  
12 criminal, right?

13 A. Yes, sir.

14 Q. Did you also say, And we need to take some enforcement  
15 action?

16 A. I don't believe I -- I don't think so.

17 Q. Okay.

18 A. I think it would have been -- that would be something that  
19 the standard protocol would be that the regional office would  
20 investigate that. So it wouldn't come -- it wouldn't come  
21 directly from my office. I would not be personally the one  
22 investigating it. The regional offices would investigate those  
23 situations but the information that I was provided, I was also  
24 provided that and told that I was not allowed to speak of it  
25 because it was provided by the Court and were told not to talk



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1 about that at that time.

2 So in early 2017, I was told not to talk about it because  
3 it was sealed by the Court. Probably the preliminary of these  
4 cases. We were told it was confidential information.

5 Q. You think that Judge Britt issued some sort of order that  
6 prevents you from regulating someone?

7 A. No, sir. That is not what I'm saying.

8 Q. Well, I just want to make sure that I got it right.

9 You're here to talk about how stringent these regulations  
10 are.

11 A. Yes, sir.

12 Q. And I guess is it the case that these regulations are so  
13 stringent that someone can be referred to the State Bureau of  
14 Investigation for criminal activity but no enforcement action  
15 in two years be taken against anybody with respect to the  
16 records violations?

17 A. I suppose it's possible.

18 Q. Okay. Have you looked at the records?

19 A. Personally, no.

20 Q. You haven't even seen them?

21 A. No, sir, I have not.

22 Q. Okay. Well, when Mr. Neale was asking you questions,  
23 you -- I remember this thing you said about how all the records  
24 are interdependent.

25 A. Yes, sir.

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1 Q. And that one of the ways when you went and did your  
2 thorough audit of the records was that -- one of the ways  
3 people would be able to check -- inspectors would be able to  
4 check to see whether the records were accurate or not was the  
5 way they were all interdependent, right?

6 A. Yes, sir.

7 Q. What you meant, there's one record, that's the freeboard  
8 record, right?

9 A. Yes, sir.

10 Q. There's another record, that's the spray record, right?

11 A. Yes, sir.

12 Q. There's another record that shows rain, right?

13 A. Yes, sir.

14 Q. And did you know that the records in this case show that  
15 all of those numbers were at various times -- were at various  
16 times crossed out and changed in order to be able to make it  
17 all work? Do you see this freeboard number that got changed  
18 twice? Do you see that?

19 A. I see that.

20 Q. And then do you see like -- let me see here -- see this  
21 rain number that got changed? It was .6 inches of rain and  
22 then that got crossed out. Do you see that?

23 A. I see that.

24 Q. Okay. And you see how these pumping records got changed,  
25 these pumping numbers got changed? I guess you haven't taken

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1 an opportunity to look at this; is that right?

2 A. This is the first time I've seen this.

3 Q. Okay. Well, how often do you think stuff like this  
4 happens?

5 A. I don't think it's common.

6 Q. Well, is there a way for you to know?

7 A. The way that we know is we continue to do our compliance  
8 inspections.

9 Q. Well, so here's what we got. What we've got is the  
10 regulations that you're responsible for and a known situation  
11 where somebody has violated those regulations by falsifying  
12 spray records, and I guess what you're telling us is that the  
13 woman who is in charge of writing the permit and is at the top  
14 of the pyramid in terms of the regulation hasn't taken an  
15 opportunity to look at it to see how it might happen to be able  
16 to prevent it in the future; is that fair?

17 A. I'm telling you that I have not looked at those specific  
18 records.

19 Q. Okay.

20 A. That's what I'm telling you.

21 Q. Okay. Well, if you wanted to learn something about how  
22 this might happen in order to be able to prevent it in the  
23 future, the records are available and you could look at them,  
24 correct?

25 A. That's correct.

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1 Q. Okay. Now, let's change topics for a minute. Let's talk  
2 about sludge surveys. Sludge, sludge is the stuff that  
3 accumulates at the bottom of the lagoon, right?

4 A. That's right.

5 Q. And some of it's inert, right?

6 A. Right.

7 Q. Some of it isn't. It's got microbes and stuff in it,  
8 correct?

9 A. Yes, sir.

10 Q. Sludge, it accumulates every year unless it's removed,  
11 true?

12 A. True.

13 Q. And how much does the average lagoon accumulate in sludge  
14 every year?

15 A. The rate of accumulation varies depending on the design of  
16 the lagoon relative to the size of the facility.

17 Q. But generally speaking, one to three inches a year?

18 A. That's reasonable.

19 Q. Okay. And you recognize -- I think you've said publicly  
20 before, tell me if I'm right, that you recognize that sludge  
21 and the sludge accumulation in the bottom of these lagoons that  
22 are all now over 20 years old is a problem for the growers, the  
23 integrators and the environment, correct?

24 A. It's a challenge.

25 Q. And it's a challenge because the more that sludge

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1 accumulates, something's got to be done with it, right?

2 A. That's right.

3 Q. If there's too much sludge in a lagoon, the lagoon is not  
4 going to work right?

5 A. That's right.

6 Q. If the lagoon doesn't work right, one of the things that  
7 means is it's going to create more odor, right?

8 A. Eventually.

9 Q. And one of the other reasons that the sludge is a  
10 challenge is because when the sludge is removed, it's got to go  
11 somewhere; it's got to be land applied somewhere?

12 A. That's right.

13 Q. Okay. Now, you talked about the remote control boat with  
14 the sonar.

15 A. Uhm-uhm

16 Q. And that's used to measure the sludge levels?

17 A. That's one of the methods used.

18 Q. What you told the members of the jury was that if the  
19 sludge gets more than 50 percent of the treatment volume of the  
20 lagoon, then a plan of action has to be come up with and the  
21 sludge has got to be removed, right?

22 A. That's right.

23 Q. One of the things that you know is that sludge removal is  
24 expensive, right?

25 A. Yes, sir.

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1 Q. Do you know how much, for example, it can cost a grower to  
2 have to remove a million gallons of sludge?

3 A. I don't know.

4 Q. Okay. Do you know about the margins that growers worked  
5 on, even anecdotally, do you know about how little money the  
6 growers make to be able to deal with things like sludge?

7 A. Anecdotally, they say the margins is slim and the cost of  
8 sludge removal is expensive.

9 Q. So at least for the growers, without help from the  
10 integrator, being able to afford sludge removal is tough; you  
11 know that?

12 A. Yes, sir.

13 Q. Okay. The way that the sludge surveys are done is -- you  
14 described this but let's do it again real quick -- you can  
15 either go out on a boat and stick a pole in the lagoon?

16 A. Uhm-uhm, yes, sir.

17 Q. Or you can drive one of those remote controlled boats out  
18 there that does the sonar?

19 A. Uhm-uhm

20 Q. Department of Water Resources, you all don't have one of  
21 the remote controlled boats to do the sonar yourself when you  
22 go to the site inspections, right?

23 A. No, sir.

24 Q. So what that means is that when someone, whoever it is,  
25 does a sludge analysis of any particular lagoon there is no

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1 independent check on the numbers by the State, correct?

2 A. Beyond the annual compliance inspection, no.

3 Q. And the annual compliance inspection is to look at the  
4 numbers that have been written down, not to go measure,  
5 correct?

6 A. That's right. We look at the reports.

7 Q. You look at the reports. And so -- so if we look at one  
8 of the reports, for example, let's take the Greenwood 1  
9 facility and let's look at 2015.

10 MR. KAESKE: Your Honor, I'd like to -- Your Honor,  
11 I'd like to offer into evidence Plaintiffs' 1358, which is the  
12 lagoon sludge survey form from Greenwood Farms Number 1 dated  
13 4/11/2015, please.

14 THE COURT: Let it be received.

15 (Plaintiffs' Exhibit No. 1358 was admitted into evidence.)

16 BY MR. KAESKE:

17 Q. You recognize this as the form like the form you were  
18 looking at before with Mr. Neale?

19 A. Yes, sir.

20 Q. It says here it was measured with a disk, a pole and a  
21 disk and a pole. That's the process you described?

22 A. Yes, sir.

23 Q. And then if you look usually at the back of these things  
24 there's a map and this is drawn by whoever took the  
25 measurements, supposed to be, right?

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1 A. Yes, sir.

2 Q. And shows the lagoon and hog houses and relationship and  
3 marks the spots with numbers of where each of the samples was  
4 taken, true?

5 A. Yes, sir.

6 Q. And then what happens is they make a little chart and they  
7 show for each one of those little spots how deep various things  
8 are and then the thickness of the sludge layer. Do you see  
9 those numbers?

10 A. Yes, sir.

11 Q. And what they do is come up with an average and the  
12 average is how thick the sludge is, right?

13 A. Yes, sir.

14 Q. What we expect is when you were inspecting -- or what your  
15 inspectors that work under you, what we expect is that every  
16 year you're going to go in and the sludge level is going to go  
17 up one to three inches a year, depending, right?

18 A. That's right.

19 Q. Unless sludge is removed, right?

20 A. Or some other treatment, yes, sir.

21 Q. Okay. Now, so this is December -- sorry. This is April  
22 of 2015. Do you see that?

23 A. Yes, sir.

24 Q. And you see how the sludge level was 3.42 feet?

25 A. Yes, sir.



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1 Q. Okay. This one here and --

2 MR. KAESKE: Your Honor, I'm going to mark this at  
3 1358.1. It was produced to us on July 9th and so it didn't  
4 make the exhibit list.

5 MR. NEALE: Objection, then, Your Honor.

6 MR. KAESKE: It was produced as by the operation  
7 after the pretrial order was already done by Mr. Thompson in  
8 response to the subpoena that we had issued long ago.

9 MR. NEALE: Same objection, Your Honor.

10 THE COURT: If it's not marked as an exhibit, it  
11 can't be received as an exhibit. It can be received as a  
12 demonstrative exhibit that you guys use all the time.

13 MR. KAESKE: That'll be fine, Your Honor. Thank you.  
14 And I will call this Lawson Number 1.

15 BY MR. KAESKE:

16 Q. Now, if we look at the -- see where it says Barwick AG  
17 Services, LLC. That's where -- you know who Curtis Barwick is,  
18 right?

19 A. Yes, sir, I do.

20 Q. And he has some service where he does this for a bunch of  
21 operations; is that right?

22 A. Yes, sir, he does.

23 Q. Do you see where it is dated December 22nd, 2016?

24 A. Yes, sir.

25 Q. Now, remember this last one from 2015, it said 3.4, right?

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1 A. Yes, sir.

2 Q. Do you see how this one says -- one year later -- it says  
3 2.4?

4 A. I see that.

5 Q. So what that shows is that in one year's time instead of  
6 the sludge level in the lagoon increasing, it went down by a  
7 foot, right?

8 A. That's what those numbers say.

9 Q. Okay. Now, there wasn't any sludge removal.

10 So when your inspector would have gone out, would your  
11 inspector have looked at both of these records in comparison to  
12 each other or how would that have gone?

13 A. They would definitely look at the most current and perhaps  
14 the year before, and they would ask questions what happened.

15 Q. Well, if they -- you said perhaps the year before. If all  
16 they did was go and look at the current one and they didn't  
17 compare it to the year before, then they wouldn't know, right?

18 A. If they didn't, they wouldn't know.

19 Q. Okay. Now, if it's 2.4 feet of sludge, then no sludge  
20 needs to be removed, right?

21 A. Can you move -- go back where I can see more of it.

22 Q. Yes, ma'am. In fact, I can hand you a copy of it, if that  
23 would make it easier for you.

24 A. Yes, sir. That's fine with me, if it's all right with the  
25 Judge.

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1 MR. KAESKE: Your Honor, may I?

2 THE COURT: Sure.

3 BY MR. KAESKE:

4 Q. Here you go.

5 A. Do you have the other one also?

6 Q. Sure. Yes.

7 Do you see?

8 A. Which one do you want to talk about, 2015 or 2016?

9 Q. Well, I guess my last question to you was this: If the  
10 sludge level is correct when reported at 2.4 feet, what that  
11 means is no sludge removal is required, correct?

12 A. That's correct.

13 Q. Okay. Now, I'd like to --

14 A. That's also true for the other report as well.

15 Q. Absolutely. The other one they didn't need to remove it  
16 either because it said it was only 3.4 feet.

17 A. That's correct.

18 Q. And if this lagoon is 10-feet deep, at what point do they  
19 start removing?

20 A. Well, the calculated thickness of existing liquid  
21 treatments on here is 3.8, so when the sludge thickness is  
22 greater than the liquid treatment zone.

23 MR. KAESKE: Paul, would you do me a favor and pull  
24 up 1490-0245.

25 BY MR. KAESKE:

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1 Q. You showed us a diagram, Mr. Neale and you looked together  
2 at a diagram that shows a stake that they took in the lagoon.

3 A. Yes, sir. You talking about the freeboard marker?

4 Q. Yes, ma'am

5 MR. KAESKE: As a matter of fact, Paul, let's pull  
6 that up real quick. I think it was Defense Number 691. I want  
7 the diagram we were looking at before. Defendant's 691.

8 BY MR. KAESKE:

9 Q. So this is what we're looking at here. This is the stake,  
10 right?

11 A. Yes, sir.

12 Q. And what it says is that the stake should be made out  
13 of -- typically it's going to be made out of PVC pipe, right?

14 A. Yes.

15 Q. And there's going to be these markers on them and they are  
16 going to be, generally speaking, six inches between markers,  
17 right?

18 A. That's recommended.

19 Q. Okay.

20 A. Uhm-uhm

21 MR. KAESKE: Now, Paul, let's go back to the picture,  
22 please.

23 BY MR. KAESKE:

24 Q. Do you see this lagoon marker?

25 A. Yes, sir.

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1 Q. And you see how the sludge is all the way up there, no  
2 water on top of it?

3 A. I see that.

4 Q. Now, if we measure this, these -- by the way, this picture  
5 was taken on December 1st, so this is three weeks before --  
6 this is taken three weeks before this right here. Do you see  
7 where it says the sludge is 2.4 feet thick?

8 A. Yes, sir.

9 Q. And do you see how it says that it's on December 22nd,  
10 2016?

11 A. I do.

12 Q. Okay. Well, this picture was taken three weeks before  
13 that. And if you look at the sludge, this is sludge and it's  
14 right up to that point right there, right?

15 A. Uhm-uhm

16 Q. And if we count these things it's one, two, that's one  
17 foot, three, four, that's two feet, five, six, seven, eight,  
18 that's four feet, right?

19 A. Uhm-uhm

20 Q. And if the lagoon is 10-feet deep, that means there is  
21 six feet of sludge, right?

22 A. If the lagoon is 10-feet deep and if that is set in the --  
23 out in the middle of the lagoon, not on the side slope.  
24 Depending on where this is located.

25 Q. But that's how it's supposed to be, it's supposed to be

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1 out there so you can measure it, not stuck in the side, right?

2 MR. NEALE: Objection. Foundation.

3 THE COURT: Overruled.

4 THE WITNESS: From this photograph, I can't tell how  
5 far out of the lagoon it is. I'm just saying that. Based on  
6 the way you stated it, you are correct.

7 BY MR. KAESKE:

8 Q. Okay. And to be fair to you, you've never been here?

9 A. That's right, I've never been on that farm.

10 Q. And you've never inspected this farm?

11 A. That's right, I've never been on that farm or inspected  
12 that farm.

13 Q. But when you say that your inspectors go to the farm and  
14 do the inspections, they look at these markers and rely on  
15 these markers being in the right place so they can accurately  
16 determine whether the freeboard is appropriate and all of those  
17 things, right?

18 A. That's right.

19 Q. So they are expected to be, like that diagram that we just  
20 looked at, where they are put in the right spot so your people  
21 can rely on them, right?

22 A. That's right.

23 Q. So assuming that it is as it's supposed to be designed and  
24 this thing is sitting where it's supposed to sit so your  
25 inspectors can rely on it when your inspectors would go look at

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1 this, you would say there's six feet of sludge in that lagoon?

2 MR. NEALE: Objection to form, Your Honor.

3 THE COURT: Overruled.

4 THE WITNESS: That's not what I would look at -- I  
5 would not look at that and say there is six feet of sludge in  
6 there just looking at this photograph.

7 MR. KAESKE: Let's look at another photograph. Paul,  
8 could you please pull up 1323-0051.

9 BY MR. KAESKE:

10 Q. Do you see this photograph?

11 A. I do.

12 Q. This photograph was taken on the same day as the lagoon  
13 marker that I showed you, okay?

14 A. Uhm uhm

15 Q. Do you see these -- first of all, there should be liquid  
16 covering all of the sludge in any given lagoon, right?

17 A. That's right.

18 Q. Okay. Do you see these boot prints in the sludge?

19 A. I do see those boot prints.

20 MR. KAESKE: Paul, can you zoom in on this area here.

21 BY MR. KAESKE:

22 Q. Do you see how when he's sticking that sampling thing out  
23 there -- these are holes that are made by when he tried to  
24 stick the sampling thing in there the first time. Do you see  
25 how that isn't sinking?

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1 A. I see that it's not below the surface, yes.

2 Q. And that's sludge at the surface?

3 A. You know that?

4 Q. How about this: Do you know that?

5 A. It's possible.

6 Q. Okay. That is a violation; that's bad, right?

7 A. Not necessarily. I don't know. Was he dewatering to do  
8 sludge removal at that time? Was -- without looking -- is this  
9 on the side slope? Is there sludge that was accumulating on  
10 the side slope and that's what we're actually seeing? I don't  
11 -- so being able to see the angle -- generally speaking, yes,  
12 there should be liquid on top of that. The sludge should not  
13 be protruding through the surface unless there is some activity  
14 that was specific to require him to lower the liquid level.

15 Q. Okay. I'll tell you that to this day, we're now July of  
16 2000 -- almost August of 2018, no sludge has been removed from  
17 this lagoon.

18 A. Okay.

19 MR. NEALE: Objection, foundation.

20 THE COURT: Overruled.

21 BY MR. KAESKE:

22 Q. So one thing that we can agree on is that for a lagoon to  
23 operate properly there has to be a treatment zone, right?

24 A. Yes, sir.

25 Q. And the treatment zone is a liquid zone?



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1 A. Yes, sir.

2 Q. Not a solid zone, right?

3 A. That's right.

4 Q. Okay. And so if you're -- you would expect that if one of  
5 your inspectors showed up and saw a lagoon like this or even if  
6 it was the Division of Soil and Water Conservation and they saw  
7 a lagoon like this, that would be some sort of violation,  
8 right?

9 A. There should be a notation of it and questions asked about  
10 why there is sludge mounted above the surface and an  
11 expectation of action to be followed.

12 Q. Well, let me focus on this very particular question. Is  
13 that a violation of your very stringent regulations?

14 A. It is not in and of itself. The way the standard is  
15 written -- our permit says you have to be in compliance with  
16 the standard. And the way the standard is written it speaks  
17 about the average depth now, at the same time there should not  
18 be mounds of sludge protruding through the surface. I don't  
19 know what the rest of the measurements look like, but that is  
20 something that we would call to the attention of the producer.

21 Q. Can we agree that that, where it's at the surface there,  
22 that pole is 20-feet long, where there is no water at the  
23 surface 20-feet away from the bank, can we agree that that  
24 sludge level is not 2.4 feet deep?

25 MR. NEALE: Objection. Speculation, Your Honor.

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1 THE COURT: Overruled.

2 THE WITNESS: I don't know how deep it is. I can  
3 tell you that you're not getting the expected treatment at that  
4 location.

5 THE COURT: Hold up, counsel.

6 MR. KAESKE: Yes, sir.

7 THE COURT: Members of the jury, we're going to take  
8 our afternoon recess at this time. You may leave your notepad  
9 right there in your seats.

10 Everyone else remain seated as the jury leaves the  
11 courtroom

12 (The jury exited the courtroom at 3:28 p.m.)

13 (The proceedings were recessed at 3:30 p.m. and reconvened  
14 at 3:45 p.m.)

15 (The jury entered the courtroom at 3:47 p.m.)

16 THE COURT: Mr. Kaeske, you may resume.

17 MR. KAESKE: Thank you, Your Honor.

18 BY MR. KAESKE:

19 Q. Ms. Lawson, I wanted to show you something. I made a  
20 mistake. Remember I showed you this where they scratched out  
21 the rain but then they wrote that same rain down here? Sophie  
22 showed me I was pointing to the wrong spot.

23 See this spot here where they -- on April 12th, they  
24 scratched out six-tenths of an inch and wrote in three-tenths  
25 of an inch rain; do you see that?

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1 A. Yes, sir.

2 Q. That's weird, right?

3 MR. NEALE: Objection, Your Honor.

4 THE COURT: Overruled.

5 THE WITNESS: That is unusual for sure.

6 BY MR. KAESKE:

7 Q. And then -- I think there was some more. In any event,  
8 let's move on.

9 MR. KAESKE: Paul, would you do me a favor and pull  
10 up 1490-0204.

11 BY MR. KAESKE:

12 Q. I just wanted to show you. This is --

13 MR. KAESKE: Can you blow up the lagoon please, Paul.

14 BY MR. KAESKE:

15 Q. So that's an aerial photograph of that lagoon on the  
16 day -- because you were saying, hey, I can't really get the --  
17 so that's the same day when he was out there with that pole; do  
18 you see it?

19 A. Yes, sir, I do.

20 Q. Okay. And there's a lot of solids showing up on the  
21 surface of that lagoon, aren't there?

22 A. There's a lot of either solids and/or scum on the surface.  
23 I'm looking to see if I can determine where the marker is.  
24 Yes, there are.

25 Q. All right. We're going to move away from the lagoon for a

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1 second and ask you this -- well, actually, real quick.

2 MR. KAESKE: Paul, could you pull up 1062-0002.

3 BY MR. KAESKE:

4 Q. Do you see this picture here?

5 A. Yes, sir.

6 MR. KAESKE: If we zoom in on the lagoon, Paul.

7 BY MR. KAESKE:

8 Q. Do you see how the lagoon, here, this other lagoon, this  
9 is Greenwood 2; did you know that?

10 A. I did not know that. The lagoon shape looks familiar.

11 Q. This Greenwood 2's lagoon, do you see all the exposed  
12 solids in that picture?

13 A. In this area?

14 Q. Yeah. And all the way down here in this area and this  
15 here along the bank here, that area, and then over here on the  
16 bank, that area; do you see all that?

17 A. I see what you're pointing to, yes, sir.

18 MR. KAESKE: Paul, can you back out of it.

19 BY MR. KAESKE:

20 Q. That's a pretty low lagoon, right?

21 A. Is there a way to zoom into that more closely so I can get  
22 a better idea if it's low or not?

23 Q. Sure. I think that's as close as --

24 A. Sure, I understand. From the aerial, it's hard to tell  
25 the level of the lagoon, but it is -- it doesn't appear to be

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1 full.

2 Q. Well, there's one of two possibilities. Either one is  
3 that that sludge is really high and/or that lagoon is pretty  
4 low to expose all those solids, right?

5 A. That's right.

6 Q. Okay.

7 A. Do you know the date of this picture?

8 Q. I do. It was August 25th of 2016.

9 MR. KAESKE: Can you back out please, Paul.

10 BY MR. KAESKE:

11 Q. Now, do you see them spraying?

12 A. I do.

13 Q. Why do you figure they would be spraying when the lagoon  
14 is that low?

15 A. I don't know.

16 Q. Okay. By the way, that spray, do you think that spray  
17 creates odors that those neighbors are going to smell? Do you  
18 know?

19 A. I think it's possible.

20 Q. Okay. Now --

21 MR. KAESKE: Paul, could you please pull up 1490-0485  
22 please, Paul.

23 BY MR. KAESKE:

24 Q. Now, can you tell the members of the jury -- ma'am, do  
25 these conditions of these hogs and these pens, does this

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1 violate any of your regulations?

2 A. No.

3 Q. Okay. Having barns that are that filthy, that doesn't  
4 violate any regulations, true?

5 MR. NEALE: Objection.

6 THE COURT: Overruled.

7 THE WITNESS: Our regulations don't speak to the  
8 conditions inside of the barns.

9 BY MR. KAESKE:

10 Q. You know that barns create odor that can get to the  
11 neighbors, right?

12 A. I know that they can.

13 MR. KAESKE: Paul, could you please pull up  
14 1492-0199.

15 BY MR. KAESKE:

16 Q. To be clear, while Paul is pulling that up, there are no  
17 regulations that pertain to the condition of the insides of the  
18 barns; is that right?

19 A. Well, there's not specific regulations for the inside of  
20 barns.

21 Q. Do you see here how all that manure is caked on those  
22 walls there like that?

23 A. I do.

24 Q. No regulations that that's violating, right?

25 A. Not that I'm aware of.

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1 Q. Okay.

2 MR. KAESKE: Paul, 1492-0199, please.

3 BY MR. KAESKE:

4 Q. So these conditions, this wouldn't violate any of the  
5 permit requirements either, right?

6 A. Not the conditions that are listed in the permit.

7 Depending on what's in the odor control checklist, it could be  
8 a violation of the odor control checklist.

9 Q. What if they don't have an odor control checklist?

10 A. It's required.

11 Q. What if they don't have one?

12 A. Then they have to have one.

13 Q. Mr. Neale has never showed you an odor control checklist?

14 A. No, sir.

15 MR. NEALE: Objection.

16 THE COURT: Overruled.

17 BY MR. KAESKE:

18 Q. Do the inspectors look for an odor control checklist when  
19 they show up?

20 A. That's probably in the certified animal management plan.  
21 That's required, so it should be a part of the records that are  
22 kept on the farm

23 Q. Both of those things I agree, ma'am. My question was a  
24 little bit different. Do the inspectors look to see whether  
25 there is one? Is that part of their audit of the records when

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1 they show up?

2 A. Part of the audit of the records is to see that they have  
3 the requirements, all of the required records. So that would  
4 be part of the list of records.

5 Q. Okay. Let's talk about the site inspections -- you know  
6 what, I have one more I did want to ask you about.

7 MR. KAESKE: Paul, could you -- maybe two more.  
8 Paul, could you please pull up 1490-0594, please.

9 BY MR. KAESKE:

10 Q. Now, you said that the inspectors, they go out into the  
11 spray fields; is that right?

12 A. Yes, sir.

13 Q. Will they look at things like hydrants, like the hydrant  
14 we were just looking at there, sir?

15 A. Yes, sir.

16 Q. Will they look at standing water like this right here like  
17 this?

18 A. Yes, sir.

19 Q. Do you see those flies that are in there? Is anything  
20 about this condition in the spray field, is anything about this  
21 a violation if the inspectors see it or is this not a  
22 violation?

23 A. If that's animal waste there that very well could be a  
24 violation, it could be.

25 Q. Okay. Well, let me ask you this: If an inspector were to



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1 see a condition like this in the spray field, would they take  
2 any samples to figure out whether that's animal waste or no?

3 A. Possibly.

4 Q. Is it routine that inspectors take samples?

5 A. When they feel it necessary to determine the nature of  
6 what's in the water or, you know, what they're looking at to  
7 determine what's in it.

8 Q. Okay. Now, things like this condition that could be  
9 violations, how other than that one day a year when the  
10 inspectors show up, how are any of these things going to get  
11 noticed by your department?

12 A. Well, during the course of the inspection if something  
13 like this that's in the middle of the spray field next to this  
14 hydrant, if this is something that reoccurred, you would see  
15 evidence, even the day you showed up, that that water is not  
16 standing there, the waste is not standing there. If this were  
17 a one-time issue, we wouldn't know unless it happened when we  
18 were there. If this were a recurring issue, you would see --  
19 you would see evidence of damage to the spray field around the  
20 hydrant, show evidence of problems.

21 Q. I guess here's what I'm getting at. You'll acknowledge  
22 for me, won't you, that any given operation could be in  
23 violation of its permit 364 days out of the year and it's  
24 likely that no one from your department would ever know,  
25 correct?

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1 A. It's possible that the facility could be in violation and  
2 it's possible that we might not find out.

3 Q. All right. And basically, other than your inspector  
4 showing up, the Smithfield or their growers self-reporting or  
5 somebody figuring out how to make a complaint, you're not going  
6 to know for any one of these facilities whether they're in  
7 compliance with their permit or not, correct?

8 A. Those are the three main mechanisms, yes, sir.

9 Q. Now, you were talking about discharges to the -- we did  
10 talk about discharge to the water -- well, maybe I'll come back  
11 to that.

12 As far as the inspection procedure is concerned, you -- I  
13 think you said before, am I right, that most inspections, you  
14 think, they last two to four hours?

15 A. I didn't say that.

16 Q. How long do you think inspections last?

17 A. That's -- that is a good estimate of time. That's  
18 appropriate. But I don't think we talked about that today.

19 Q. No, today we didn't. I'm sorry. I thought I've seen you  
20 have public commentary before about when you talked like you  
21 have today in public about how stringent the rules are we  
22 require inspections, the inspections are rigorous, they are not  
23 just courteous calls, they are two to four hours. You said all  
24 of those things?

25 A. That's correct, yes, sir.

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1 Q. Thank you. And certainly an order to do a thorough  
2 inspection of however many acres of spray field, however many  
3 acres of lagoons, all those years worth of records, it's going  
4 to take a few hours to do that, right?

5 A. That's right.

6 Q. If you want to be thorough?

7 A. Right.

8 Q. Have you looked at any of the inspection records, other  
9 than the one that Mr. Neale showed you, for this -- these  
10 operations?

11 A. No, sir.

12 Q. I want to show you a couple of them real quick and ask you  
13 a couple of questions about it. For example --

14 MR. KAESKE: Your Honor, I'd like to offer into  
15 evidence Plaintiffs' Exhibit 1699-136, which is an inspection  
16 of Greenwood 1 on 5/8/08, and 1750-116 which is an inspection  
17 on Greenwood 2 on 5/8/08, please.

18 THE COURT: Let it be received.

19 (Plaintiffs' Exhibit No. 1699-136 and 1750-116 were  
20 admitted into evidence.)

21 BY MR. KAESKE:

22 Q. Ma'am, you recognize these as inspection forms, yes?

23 A. Yes, sir, I do.

24 Q. And here it says that the date of visit was May 8th, 2008,  
25 right?

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1 A. Yes, sir. The same day I was hired to work for the State.

2 Q. Congratulations. And this facility number, that's

3 Greenwood 1?

4 A. Yes, sir.

5 Q. It used to be Pridgen Farm Number 3, the owner's name was

6 Gary Pridgen. It says, on-site representative and there is

7 nothing listed. Do you think that that means that the guy just

8 didn't write it down or he showed up that day and nobody was

9 there, or you don't know?

10 A. I don't know. Both of those are possibilities.

11 Q. Is it -- it happens, doesn't it, that inspectors show up

12 to these sites and nobody is there and they go ahead and make

13 their inspection anyway?

14 A. It has happened.

15 Q. And when they show up and nobody is there, how do they get

16 to audit the records?

17 A. Well, if the records are left and made available they

18 review the records that are on-site.

19 Q. Okay. So the inspector would just walk into the office if

20 it's open and then --

21 A. If we were instructed to do so.

22 Q. Okay. Now, do you see here where it says that the arrival

23 time was 10:45?

24 A. Yes, sir.

25 Q. Do you see here where it says the departure time was

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1 11:30?

2 A. I do.

3 Q. That's only 45 minutes obviously, right?

4 A. Yes, sir.

5 Q. And that is not enough time to do a thorough investigation  
6 once yearly, thorough investigation at one of these operations,  
7 right?

8 A. That's right.

9 Q. Okay. And then do you see here how the other operation it  
10 says that the arrival time was 11:30 and the departure time was  
11 12:12?

12 A. Yes, sir.

13 Q. And so that's not quite 45 minutes, right?

14 A. That's right.

15 Q. And that's also not enough time to do a thorough  
16 investigation, right?

17 A. That's right. You see these are operations reviews, not  
18 compliance inspections.

19 Q. And what does that mean?

20 A. In 2008 the Division of Soil and Water was required -- up  
21 until 2011 until June 30 of 2011, the Division of Soil and  
22 Water was tasked with doing operations reviews on every  
23 permitted animal operation. So up until that time, every  
24 permitted animal operation received a compliance inspection  
25 from the Division of Water Quality. That's what we were at the

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1 time, and an operation review from the Division of Soil and  
2 Water Conservation.

3 Now, those four pilot counties had both inspections by  
4 Division of Soil and Water and so they were inspected twice a  
5 year. And the primary focus during that inspection would be  
6 six months of records rather than a year, but that was an  
7 operations review and it's done in a group because they were  
8 done so tightly. But that's all I can say just from that  
9 little bit of information.

10 MR. KAESKE: Your Honor, I offer into evidence  
11 1750-118.

12 THE COURT: Admitted.

13 (Plaintiffs' Exhibit No. 1750-118 was admitted into  
14 evidence.)

15 BY MR. KAESKE:

16 Q. When we're looking at this one, this one says it is a  
17 compliance inspection so that's the Full Monty, right?

18 A. Yes, sir. That would be the regular compliance  
19 inspection.

20 Q. And arrival time was 10:30, I guess, and departure time  
21 was 30 minutes later; departure time was 11:00 o'clock, 30  
22 minutes later?

23 A. It's either 10:20 or 10:30, yes.

24 Q. Let's say it's 10:20.

25 A. Being generous.

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1 Q. Being generous, at 10:20, being generous, that's not  
2 enough time?

3 A. Are there any additional notes in that inspection?

4 Q. That's a good question. Let me look. Yes, there were.  
5 Don't know what that says.

6 A. Numbers 24 and 25.

7 Q. And then --

8 A. Missing, should arrive soon.

9 Q. Pump lagoon, exclamation point. Will check lagoon level  
10 in a few days. Those are the notes?

11 A. Okay. And may I see the bottom?

12 Q. Sure. Keep going like this.

13 A. Well, they didn't sign it on that page. It's on a  
14 different page.

15 Q. You want to see the signature?

16 A. I was looking to see who did the inspection, uhm-uhm

17 Q. It's the same one, same guy, Will Burke. Do you know that  
18 gentleman?

19 A. I do.

20 Q. Are you going to talk to Will Burke?

21 A. I'm sorry?

22 Q. Are you going to talk to Will Burke about these?

23 A. I don't plan to. I haven't talked to him in a couple of  
24 years, at least. He's been gone from the State for quite a  
25 while. In 2011 he was part of the group that was let go when

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1 that program was eliminated.

2 Q. Okay. Let me show you another one of these. Hold on a  
3 second. I won't do this forever, but I do want to show you  
4 just one more.

5 So --

6 A. Now, if these inspections were done in a group as they  
7 were booked, they may have been, it's possible that some of the  
8 records review was prior to the time as being listed on-site,  
9 but I don't know that for these. But sometimes that does  
10 occur, that you would do the records review and perhaps the  
11 time documented is being on-site is just the time on-site. But  
12 again, I don't know if the time listed is to represent  
13 everything or if the records review was done separately.

14 Q. Well, let's look at these two and see if we can learn  
15 anything more.

16 These are --

17 MR. KAESKE: Your Honor, I'd like to offer into  
18 evidence 1699-138 and 1750-119, which are both compliance  
19 inspections.

20 THE COURT: Let them be received.

21 (Plaintiffs' Exhibit No. 1699-138 and 1750-119 were  
22 admitted into evidence.)

23 BY MR. KAESKE:

24 Q. Okay. If we look at these two here -- by the way, this is  
25 Will Burke again. Do you see Will Burke?



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1 A. Yes, sir.

2 Q. And if you look on this one, this is Will Burke?

3 A. Yes, sir.

4 Q. And if we look at the times, it says here on 11/21/07 and  
5 11/21/07 that he arrived at one at 10:40 and left at 11:10 but  
6 he arrived at the other at 11:00 o'clock and left at 11:45. Do  
7 you see that?

8 A. I do see that.

9 Q. That's tough, right?

10 A. Yes, sir.

11 Q. Okay. Now, the fact of the matter is that given the  
12 number of inspections, the number of facilities to be  
13 inspected, the number of inspectors that there are to do the  
14 inspections, and given the fact that the keeping of the records  
15 is the honor system, it's tough to be thorough with these  
16 inspections, isn't it?

17 A. We're as thorough as we can possibly be in what we do.

18 Q. Okay. Now, do you know how many hog operations in North  
19 Carolina violate the current siting requirements?

20 MR. NEALE: Objection to form, Your Honor.

21 THE COURT: Overruled.

22 THE WITNESS: What exactly are you asking me? Can  
23 you give me a more specific question?

24 BY MR. KAESKE:

25 Q. Let me try. So you and Mr. Neale talked about the fact

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1 that there were siting requirements that were implemented in  
2 1995, right?

3 A. That's right.

4 Q. And it's 1500 feet from the lagoon or the barns to the  
5 closest occupied residence, right?

6 A. That's right.

7 Q. 2500 feet from the nearest lagoon or barns to church or  
8 school or park, right?

9 A. Right.

10 Q. Now, first, do you know that there was no scientific study  
11 that ever went in to determining those numbers, those  
12 distances, correct?

13 A. I don't know, but that would not surprise me.

14 Q. It wouldn't surprise you to know that those distance --  
15 those distances were chosen by legislators as part of a  
16 political process, correct?

17 A. That's right. It's set by the General Assembly.

18 Q. And a political process that Smithfield had input into,  
19 correct?

20 A. Among others, yes, sir.

21 Q. Now, you can't think of any, I guess, regulatory reason  
22 why a church should be further away from a hog operation than a  
23 place where somebody lives every day, right?

24 A. I don't know why.

25 Q. Okay. Now, you understand that every hog operation that

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1 was built prior to the effective date of that law was  
2 grandfathered in under that law, right?

3 A. That is correct.

4 Q. Like you said, nobody required those farms to get up and  
5 move if they were already closer than that to people's houses,  
6 right?

7 A. That's right.

8 Q. So that means that there are some number of hog operations  
9 in North Carolina that violate the current siting requirements  
10 but for the fact that they were grandfathered in under the law,  
11 correct?

12 A. Correct.

13 MR. NEALE: Objection, Your Honor. They don't  
14 violate.

15 THE COURT: The objection is overruled.

16 THE WITNESS: They are not in violation if the law.  
17 It does not apply to the facility because it was pre-existing.  
18 So it's not a violation. It doesn't meet the current siting  
19 requirements perhaps, as you explained, but that's not a  
20 violation because it was pre-existing.

21 BY MR. KAESKE:

22 Q. Okay. Well, how many of the 2100 industrial hog  
23 operations that are in the state -- permitted in the State of  
24 North Carolina don't meet those siting requirements; do you  
25 know?

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1 A. I don't know.

2 Q. Okay. How about this one: Of the 3,000 lagoons that  
3 exist in the State of North Carolina for industrial hog  
4 operations, how many of them are leaking?

5 A. What do you mean by "leaking"?

6 Q. Well, you know what it means for something to leak, right?

7 A. When something is broken it could leak.

8 Q. Well, but you know that lagoons leak, can leak whether  
9 they are broken or not, right?

10 A. I wouldn't use the word "leak."

11 Q. How about seep? Would you use the word seep?

12 A. No, I would not.

13 Q. What word would you use to describe what happens when the  
14 lagoon waste leaves the lagoon into the ground through the  
15 bottom or the sides?

16 A. Well, a lagoon, as I mentioned in the standards, they are  
17 required to have -- required to meet the standards that were in  
18 place at the time of construction. So at least since 1992 all  
19 lagoons were required to have at least a clay liner. So -- and  
20 a clay liner that's designed to a certain permeability, and  
21 permeability is an engineering term used to describe the rate  
22 at which a liquid can pass through under a pressure head, so  
23 the head over a distance and so there's permeability. It's a  
24 characteristic of that material. Everything has a  
25 permeability. Concrete has a permeability. It's very, very

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1 small but it has permeability.

2 Q. Okay. Let's go back to my question, if you don't mind.  
3 Of the 3,000 lagoons holding the billions of gallons of hog  
4 waste in North Carolina, how many of them are leaking; do you  
5 know?

6 A. I know the ones that were designed and constructed to NRCS  
7 standards since 1992 meet the standards of permeability of 1.25  
8 times 10 to the minus sixth centimeters per second; that is the  
9 permeability for that, which is very close to the permeability  
10 requirements for municipal industrial structures, which is one  
11 times 10 to the minus seven, which is a tenth less. That's the  
12 permeability for industrial and municipal. So you're talking  
13 about one order of magnitude, slightly less, difference in the  
14 requirements.

15 Q. I'm not sure you're answering my question. Let me try one  
16 more time. There are all different kinds of ways that  
17 material -- that the hog waste that's in these lagoons that can  
18 come out the sides or the bottom, right?

19 A. Potentially.

20 Q. Okay. Tell the members of the jury what all the ways are  
21 that the hog waste could be getting into the groundwater  
22 through the sides or the bottom of the lagoon.

23 MR. NEALE: Your Honor, objection to the relevance  
24 and speculation in this case.

25 THE COURT: Overruled.

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1 THE WITNESS: Well, the primary way would be a  
2 defective or poorly constructed or maintained structure. If  
3 there's a failure to the structure in some way, whether it's a  
4 failure in the liner or failure in the embankment, that would  
5 be the primary way.

6 BY MR. KAESKE:

7 Q. Okay. Let's go with the primary way. I think we agree  
8 that most all of the lagoons in the State of North Carolina are  
9 more than 20 years old, right?

10 A. Yes.

11 Q. Okay. And in that time, depending on how they are  
12 maintained, as you just described, and depending on how they  
13 were lined originally, they could have a crack in them, they  
14 could be leaking, right?

15 A. Potentially. But you're talking about compact clay liners  
16 and properly constructed and maintained. And as long as the  
17 structures are maintained, they're quite durable structures.  
18 They're not apt to -- they don't break down the way artificial  
19 materials might in various environments, however, they require  
20 maintenance just as any other thing does.

21 Q. Have you ever said if there's a crack or hole in the  
22 lagoon's lining there is no way with our visual inspections to  
23 tell if there is actually a crack or if waste is leaking into  
24 the groundwater? Have you ever said that?

25 A. I don't recall saying that.

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1 Q. Did you know you were quoted in a book saying that?

2 MR. NEALE: Objection to the hearsay, Your Honor, and  
3 continued objection to the relevance.

4 THE COURT: Overruled. Overruled.

5 THE WITNESS: I don't know who quoted me or when that  
6 would have been.

7 BY MR. KAESKE:

8 Q. Well --

9 A. As I said, I don't recall that.

10 Q. That's fair. Let's just ask the question straight up.

11 Would you agree that if there's a crack or a hole in the  
12 lagoon's lining there is no way with your visual inspections to  
13 tell if there actually is a crack or if waste is leaking into  
14 the groundwater?

15 A. Perhaps, perhaps not. Perhaps not.

16 Q. The state -- your stringent regulations do not require any  
17 wells to be drilled or holes to be drilled to determine whether  
18 there's any leakage from any of these 20-something-year-old  
19 lagoons, right?

20 A. That's right. State law does not require that.

21 Q. And you know, you know as the permit writer, that the  
22 growers, they're not in a position to be able to afford to  
23 drill and maintain monitoring wells to determine whether the  
24 lagoons they've inherited are leaking or not, right?

25 MR. NEALE: Objection to the speculation, Your Honor.

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1 THE COURT: Overruled.

2 THE WITNESS: Could you ask the question again?

3 (Record read.)

4 THE WITNESS: So installation and sampling monitoring  
5 wells can be expensive. It can be very expensive.

6 BY MR. KAESKE:

7 Q. Okay. Do you -- does the State test clay liners during  
8 the inspections?

9 A. Not during the inspections, no.

10 Q. Or at any time?

11 A. During the construction of any structure, any permitted  
12 structure, there should be engineer certification of the  
13 construction.

14 Q. Okay. But that would be 20-something years ago?

15 A. When it was built, that's right.

16 Q. So now, as they sit, nobody is going out and inspecting  
17 the liners to see if they're leaking, right?

18 A. Nobody is poking holes in the liners to check them, no,  
19 sir.

20 Q. Or drilling into the ground?

21 A. No, sir.

22 Q. Okay. Now, do you know -- because we were talking about  
23 the sludge problem before, do you know how many of the 3,000  
24 lagoons in North Carolina haven't had any sludge removed in the  
25 last 20 years?



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1 A. No, sir.

2 Q. You have all that information, though, in your files,  
3 right?

4 A. The information is there. It's not in a collated manner  
5 so I can't just do a query of a database and give you that  
6 answer.

7 Q. So as far as what you can regulate is concerned, you don't  
8 have a way -- you don't have a computerized way of checking the  
9 progress of people's sludge records over the years, right,  
10 although you have that information?

11 A. That's right.

12 Q. And you don't have a way of checking that information  
13 versus any sludge removal documents they have to kind of do a  
14 balance sheet, right?

15 A. Well, when there is sludge removal, they have to file a  
16 plan of action of what sludge removal is to be done. There's  
17 an estimation of the volume of sludge to be removed and what  
18 the plan is for the disposition of that material.

19 Q. I guess what I'm saying is: If you had the resources  
20 available to you, you could maintain -- you have the records  
21 and the data to figure out how the sludge is tracking in each  
22 one of these lagoons and whether the sludge has been removed in  
23 each one of these lagoons, if you had the resources available  
24 to you to keep an eye on it, right?

25 A. The sludge surveys are reviewed during the inspection.

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1 They're not submitted with regard to -- they are not turned  
2 over to the State. The State is not in the possession of those  
3 records with the exception of NPDS permit facilities.

4 Q. As far as the lagoons being outlawed, the fact of the  
5 matter is, it is against the law to build a new lagoon,  
6 correct?

7 A. For swine, yes.

8 Q. For swine, yeah?

9 A. But not for dairy and cattle and poultry.

10 Q. For swine it's against the law to build a new lagoon,  
11 correct?

12 A. That's right.

13 Q. Is it a violation to spray at night?

14 A. No.

15 Q. If I've got -- people are supposed to visually inspect  
16 spray activities, right?

17 A. Right.

18 Q. Every hour?

19 A. At least every two.

20 Q. At least every two hours. Thank you.

21 And if I've got spray records that show spraying until one  
22 or three in the morning, do you think that sounds like a good  
23 practice?

24 A. I would not think that's the best practice. So unless  
25 they have a way to see what's going on, that's probably not a

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1 good idea.

2 Q. Because we talked about a thing called drift, right?

3 A. That's right.

4 Q. And drift is where the wind takes the hog waste and it  
5 blows it into somebody's yard, right?

6 A. Beyond the application area that's designed, yes.

7 Q. And you can certainly understand how that would be  
8 annoying, potentially embarrassing, angering, for neighbors to  
9 get hog waste sprayed in their yard?

10 A. Right, and a violation of the permit, and a violation.

11 Q. And a violation of the permit.

12 Which brings up -- reminds me I need to ask you. That  
13 aerial surveillance thing that you said that you were doing  
14 that day --

15 A. Yes, sir.

16 Q. -- how often do you all do that?

17 A. Whenever the resources allow.

18 Q. How often do you all do that?

19 A. Not very often.

20 Q. How often, if you don't mind me asking, do you all do  
21 that?

22 A. We -- the division has not done their own aerial  
23 surveillance since 2011.

24 Q. Okay. So just when Mr. Neale was asking you questions you  
25 didn't mean to mislead the jury into believing that this is

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1 something that goes on regularly?

2 A. No, sir, I did not mean to mislead anyone. He asked me  
3 about a personal experience when I was in the regional office,  
4 which was 10 to 12 years ago, and that's what I was speaking of  
5 when we were able to utilize the division resources and  
6 airplanes we used at that time.

7 Since 2011, the Division of Soil and Water's resources is  
8 no longer in DENR so we didn't have the ready access to those  
9 resources but we have utilized others.

10 Q. Okay. So by the way, what you described to us was a  
11 situation where you were in the air and you saw a violation,  
12 right?

13 A. That's right.

14 Q. From the air you could tell it was a violation?

15 A. When the spray was going into the woods, yes.

16 Q. And then you got on the ground and got to the site and you  
17 could still tell that it was a violation, right?

18 A. Right.

19 Q. And with all of your power as the regulator, you couldn't  
20 stop the violation, right?

21 A. That's right.

22 Q. You had to get Kraig Westerbeek on the phone because --  
23 he's in your phone, right?

24 A. I had his number, that's right.

25 Q. And you had to get Kraig Westerbeek on the phone and he

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1 had to give you permission to stop a violation that you, as the  
2 number one regulator of hog operations, were witnessing  
3 personally with your own eyes, right?

4 A. When we couldn't reach the owner, as an inspector I called  
5 the next person in the line that I knew had any sort of tie to  
6 the farm. And as the integrator, I said -- I want to find  
7 another way to get ahold of the owner so I called the next  
8 person in line and that happened to be Kraig Westerbeek and he  
9 said -- he told me who the service person was and he said, you  
10 know, is anybody there?

11 No.

12 Is it still -- is the pump running?

13 Yes.

14 And he told us to turn it off. He told us to go ahead and  
15 turn it off to stop it.

16 Q. Mr. Westerbeek, you know that he works for Smithfield?

17 A. Oh, yes, sir, I do.

18 Q. Did that get written up as a violation?

19 A. Yes, sir, it was.

20 Q. So back to what I was saying about the drift. Let me show  
21 you --

22 MR. KAESKE: Paul, could you please pull up  
23 1562-0001, and can you show it like at 36 or something, please.

24 BY MR. KAESKE:

25 Q. Let me ask you, is this what we're looking at here? Is

## C. Lawson - Cross-Examination

1 this what we're talking about when we're talking about wind and  
2 drift? Do you see how it's kind of spraying one direction and  
3 blowing the other direction?

4 A. Right. Within the spray field, yes.

5 Q. Is this the kind of thing that's a problem?

6 A. If it's causing the drift to leave the spray field, then  
7 that would be a problem.

8 Q. Okay. And who's going to make that determination, the guy  
9 that's running the sprayer?

10 A. The guy that's running the sprayer should be able to see  
11 if it's leaving the spray field.

12 Q. Okay.

13 A. Part of the requirements of their on-site inspection  
14 during the spray event.

15 Q. Well, the regulators don't get to observe all the spray  
16 events, right?

17 A. No.

18 Q. And spraying is happening almost every day --

19 A. Right.

20 Q. -- in North Carolina and you don't have the resources  
21 to --

22 A. No one does, that's right.

23 Q. I think I'm closing in on it here. Let me -- oh.

24 As far as who is responsible is concerned, remember

25 Mr. Neale was asking you the questions about who's responsible

## C. Lawson - Cross-Examination

1 and you said that the permit holder is responsible?

2 A. Yes, sir.

3 Q. Okay. And then Mr. Neale was asking you about  
4 alternatives and how many new permits Smithfield had applied  
5 for. Do you remember those questions, and you counted on your  
6 fingers?

7 A. Right. Talking about the waste energy systems?

8 Q. Right.

9 A. Yes, sir. Those are on existing facilities. They're not  
10 new farms.

11 Q. I understand. But now that we're on the right -- we were  
12 talking about who's responsible for the waste and then you guys  
13 were talking about who gets credit for new permits, right?

14 MR. NEALE: Objection to the form, Your Honor.

15 THE COURT: Overruled.

16 BY MR. KAESKE:

17 Q. We talked about those two things?

18 A. We talked about who's responsible.

19 Q. And you said that the permittee is responsible?

20 A. The permittee is.

21 Q. And then he asked you about getting credit for getting new  
22 permits for alternatives, right?

23 MR. NEALE: Objection, Your Honor. There was no  
24 question about credit.

25 THE COURT: Overruled.

1 THE WITNESS: He asked me about the number of the  
2 waste energy systems that were being permitted under -- that  
3 were on Smithfield farms or Smithfield contract farms.

4 BY MR. KAESKE:

5 Q Okay. That's where I want to focus.

6 THE COURT: You going to have to wait until tomorrow  
7 morning.

8 Members of the jury, we have come to the end of the  
9 day. We're going to take our overnight recess. We'll  
10 reconvene tomorrow morning at 9:00 o'clock.

11 Please remember the instructions I've given to you  
12 not to discuss the case with anyone or allow anyone to discuss  
13 it with you. Most importantly, don't gain any knowledge about  
14 the case from any other source. If anyone should attempt to  
15 talk to you about the case, please get their name and let me  
16 know.

17 I hope you have a good overnight recess. I'll see  
18 you tomorrow morning at 9:00 o'clock.

19 Everyone else remain seated as the jury leaves the  
20 courtroom

21 (The jury exited the courtroom at 4:30 p.m.)

22 THE COURT: All right. The Court is now going to  
23 take up the motion -- the Daubert matter and plaintiffs' motion  
24 to exclude or limit the expert testimony of Keith Ramsey.

25 Mr. Kaeske, are you going to argue it for your side?



1 MR. KAESKE: Yes, sir.

2 THE COURT: You got the floor.

3 MR. KAESKE: Thank you, sir.

4 Your Honor, I'd like to first give the Court some  
5 background on Dr. Ramsey. So Dr. Ramsey is an infectious  
6 disease doctor who's in Eastern North Carolina. He's in Pitt  
7 County at a hospital. He's not a practicing clinician at the  
8 time I took his deposition in -- when did I take his  
9 deposition? -- must have been February of 2017. He hadn't seen  
10 any patients for six or more months since the previous June.

11 Dr. Ramsey, Dr. Ramsey started a program where  
12 because he's an infectious disease doctor and because his  
13 hospital had a problem with MRSA, which is  
14 methicillin-resistant Staph aureus, he instituted a program  
15 where every admittee to his hospital would be swabbed to  
16 determine whether they were MRSA carriers or not. And if they  
17 were, they were essentially quarantined at the hospital to  
18 prevent MRSA infection spreading at the hospital. That's the  
19 background you need to know.

20 As a result of that, Dr. Wing had a Ph.D. student who  
21 wanted to do a study about MRSA carriage and whether there was  
22 an increased rate of MRSA carriage among people that lived in  
23 the area of hog operations. So Dr. Wing's student contacted  
24 Dr. Ramsey who had this database of these -- and this program  
25 of testing people, they got together, they collaborated on two

1 studies that were published in the scientific literature, one  
2 in 2013, one in 2014. Leah Schinasi is the primary author --  
3 I'm sorry, the first author. She was the doctoral student and  
4 then Dr. Wng and Dr. Ramsey's names are both on them. They  
5 were published, they were peer reviewed. That exists.

6 Defendant hired Dr. Ramsey in this case some years  
7 ago, 2000 --

8 THE COURT: Did Dr. Ramsey on either of those  
9 published studies write any conclusion from what the report  
10 itself did?

11 MR. KAESKE: No. And his testimony at the deposition  
12 shows that his involvement in the -- in the writing of the  
13 study was editing, as was Dr. Wng's. They were written by  
14 Schinasi.

15 So Dr. Ramsey was hired in this case -- I should say  
16 too, Your Honor, the two studies that were in question were not  
17 part of Dr. Wng's testimony that's been offered to the jury.

18 So as far as the -- I think I have extracted from  
19 Dr. Wng's testimony, I don't have it in front of me -- yes, I  
20 do, maybe I do -- the parts that have to do with MRSA, and I  
21 think that there was one reference to MRSA. I did not discuss  
22 either of those studies and neither of those studies were  
23 presented to the members of the jury.

24 So the first thing that I would say is Dr. Ramsey's  
25 work on those studies, other than the fact that he worked with

1 Dr. Wng on those studies, we have not claimed that any of the  
2 plaintiffs are carrying MRSA; that they have ever been infected  
3 by MRSA and we have not discussed those studies. So some  
4 criticism of Dr. Wng's MRSA studies would be irrelevant since  
5 Dr. Wng has not provided any testimony regarding his MRSA  
6 studies -- well, somebody else's MRSA studies that he's a  
7 co-author on.

8           So other than those two studies, Dr. Ramsey testified  
9 in his deposition that he's not an expert on the literature of  
10 the health effects of hog operations; that he is not an expert  
11 in the health effects of hog odor; that he has never conducted  
12 a literature view of the peer-reviewed scientific literature to  
13 determine how many articles there are that say that there are  
14 health effects associated with living near hog operations. He  
15 couldn't name any of the articles that are peer-reviewed in the  
16 scientific literature that say there are health effects that  
17 are associated with living near hog operations other than  
18 Dr. Wng. And so he then, in his opinions, criticizes the Wng  
19 and Wolf article, which is the 2000 study that was commissioned  
20 by the State Department of Health that there has been extensive  
21 testimony about. He'd never read that study prior to being  
22 hired by the defendant.

23           And what happened was --

24           THE COURT: That study is the one that was the basis  
25 of Dr. Wng's testimony in this case?

1 MR. KAESKE: Yes, sir. There was -- yes, sir. There  
2 was one other study that Dr. Wng -- I did not put in testimony  
3 directly about Dr. Wng's 2008 Community Health Effects of  
4 Industrial Hog Operations Studies. He referenced it obliquely,  
5 but Dr. Ramsey has never read it or at least at the time of his  
6 deposition he had never read it. Neither is it cited in  
7 Dr. Ramsey's report and he didn't rely on it.

8 So Dr. Ramsey, as I understand it, is going to offer  
9 testimony on several different areas. One, apparently he's  
10 going to testify about Dr. Wng and say that Dr. Wng was  
11 biased. I don't believe that that's appropriate testimony for  
12 an expert to testify about the credibility of another witness.  
13 To the extent that he believes any of that stuff, it's based on  
14 conversations that he had with Dr. Wng. He certainly is not  
15 in a position where -- I'm sorry. That's not appropriate  
16 expert testimony to say I relied on this hearsay to create an  
17 opinion that the man was biased. It's not appropriate. It's  
18 especially not appropriate in a case like this where Dr. Wng  
19 has passed. Dr. Ramsey has never made a public or private  
20 criticism of Dr. Wng, as he never put Dr. Wng on notice of  
21 being -- of his belief that Dr. Wng was bias. In fact, he let  
22 his name be associated for the entire world to see on  
23 peer-reviewed scientific literature with Dr. Wng, the very  
24 literature that he now claims is bias.

25 So I think that testimony about Dr. Wng and his

1 dealing -- dealings with Dr. Wing and Dr. Wing's, quote,  
2 unquote, because he uses these words, "intentions," would be  
3 inappropriate for the jury to hear. That's topic number one  
4 that I think should be excluded.

5           Topic number two is Dr. Ramsey has an opinion that --  
6 one, he has the opinion that there are no, quote, unquote,  
7 "health effects," associated with hog operations.

8           In his deposition, he makes clear that what he means  
9 by health effects are diseases; and, of course, our clients, as  
10 we've been through in this trial and in our motion in limine  
11 and from the beginning, are making no claims of diagnoseable  
12 medical conditions as a result of hog odor. So that is  
13 irrelevant testimony from him and not in the area of his  
14 expertise since when he was asked: You're not an expert in the  
15 health effects of hog odor, right? And his answer was straight  
16 up: Correct.

17           Furthermore, he's not an expert in the scientific  
18 literature on the health effects of living near hog operations.  
19 He said: I would say I'm not an expert. And as I said in his  
20 testimony, other than the two studies that he was involved in  
21 with Dr. Wing and then the 2000 study that was provided by the  
22 defendant, he hadn't read any of the other scientific  
23 literature with the exception of a 2005 study by Dr. Schiffman  
24 that, of course, shows exactly the opposite; that there are  
25 health effects associated with industrial hog operations.

1           The next part of Dr. Ramsey's testimony that I  
2 believe should be excluded is his opinion that if any of the  
3 plaintiffs were bothered by hog odor that they would have told  
4 their doctors about it.

5           And he states this in his report repeatedly, he  
6 stated it in his deposition repeatedly and basically says  
7 because I'm a doctor and because I treat patients in Eastern  
8 North Carolina, I can tell you that if any of these plaintiffs  
9 were truly bothered by hog odor they would have, should have,  
10 could have discussed it with their doctors. That is  
11 speculation. It requires him to know things that he doesn't  
12 know, like what the interactions between the plaintiffs and  
13 their doctors are, what kind of techniques their doctors use  
14 for questioning them and taking their histories, et cetera. It  
15 also is in direct conflict with what Your Honor has recognized  
16 in Your Honor's order with respect to health effects and the  
17 use of medical records, which was the Court agrees with  
18 plaintiffs that what they're claiming doesn't require expert  
19 medical testimony. Plaintiffs do not claim the odor coming  
20 from the swine farms caused or exacerbated any medical or  
21 diagnoseable disease or complex medical system. They  
22 experience symptoms like nausea, headache, coughing, watery  
23 eyes by the odor produced by the swine farms. Testimony about  
24 those systems and testimony of the systems of smelling the  
25 unpleasant odor are in the common knowledge of the lay person

1 and interfere with the plaintiff's use and enjoyment of the  
2 property.

3           Because that does relate to the common knowledge of  
4 the experience of a lay person, there is no need for expert  
5 testimony on it and he is not qualified nor has he applied any  
6 approved or -- or understood methodology to determine that if  
7 the plaintiffs had been bothered by hog odor they would have  
8 talked to their doctors about it or that the doctors would have  
9 asked and it would have made it into the medical records.

10           Furthermore, on that same point, Dr. Ramsey -- and  
11 the defendants talk about this in their response. Dr. Ramsey  
12 reviewed some medical records. Now, to read the defendant's  
13 response you would believe that he reviewed everybody's medical  
14 records.

15           THE COURT: One.

16           MR. KAESKE: One. He reviewed the medical records of  
17 Lucy Sidberry and then he apparently reviewed medical  
18 chronology that I assume was prepared for him by somebody at  
19 the law firm for Mr. Carr. I wasn't able to see --

20           THE COURT: What do you mean medical chronology?

21           MR. KAESKE: I don't know. He wrote in his report  
22 that he reviewed the medical records and listed the names of  
23 the plaintiffs and then he said: I reviewed medical chronology  
24 for some other people. He named them Mr. Carr is one of the  
25 people that he named, but I was never provided with it so I

1 can't tell you what it is.

2 My presumption is somebody summarized medical records  
3 and provided him with a summary of some medical records, but I  
4 don't know.

5 So I believe that that testimony should be excluded.

6 I also believe that all of that discussion gets us  
7 into a problem with what Mr. Neale wanted to exclude last week  
8 which is talking about the plaintiffs' diagnoseable medical  
9 conditions and what they've talked to their doctors about. And  
10 I don't think that there's any need for us to open the door and  
11 go back into all that.

12 Another thing that Dr. Ramsey seeks to talk about  
13 that I feel ought to be excluded is he seeks to talk about a  
14 man named Dr. Corbett Quinn, and I don't know whether Mr. Neale  
15 intends to elicit this testimony or not but Dr. Ramsey never  
16 met this Dr. Quinn, who's dead, he never talked to Dr. Quinn,  
17 he never read anything that Dr. Quinn wrote, except a single  
18 hearsay letter that was provided to him, Dr. Ramsey, by the  
19 defendant after he was retained in the case where Dr. Quinn  
20 writes to Dr. Wing criticizing Dr. Wing's 2000 study.

21 So what happened is after Dr. Ramsey was hired in the  
22 case, the defendants asked Dr. Ramsey to criticize Dr. Wing's  
23 2000 study that we heard about. They provided him with  
24 Dr. Quinn's criticism of Dr. Wing's study as well as a  
25 criticism written by the Pork Council of Dr. Wing's study. And



1 now Dr. Ramsey's criticism of Dr. Wng's study are those same  
2 criticisms.

3           And Dr. Quinn's letter to Dr. Wng is pure hearsay  
4 and Dr. Quinn supposedly did a study himself, which was never  
5 published, never written, of insurance records provided to him  
6 by Murphy-Brown of their Blue Cross/Blue Shield employee  
7 hospital admissions where Dr. Quinn tries to say that Dr. Wng,  
8 you're wrong because I looked at the Blue Cross/Blue Shield  
9 records that I was provided by Murphy-Brown and I compared them  
10 to some State records that we don't have and we don't know what  
11 they were, and I didn't find an increased incidents of any  
12 health effects. That was not a scientific study. It was never  
13 published. If we were to go into detail about it, I can show  
14 you a bunch of documents that show all the problems with it,  
15 but Dr. Ramsey doesn't know about that study. It's not  
16 something that's appropriate for him to rely on, and he  
17 shouldn't get to talk about that study or about Dr. Quinn and  
18 Dr. Quinn's communications with Dr. Wng.

19           I want to make sure that I covered the things that --

20           THE COURT: While you're thinking about it, let me  
21 ask you this.

22           MR. KAESKE: Yes, sir.

23           THE COURT: Wouldn't you have to concede that  
24 Dr. Ramsey is an expert in the field of infectious diseases?

25           MR. KAESKE: He's probably an expert in the field of

1 i n f e c t i o u s d i s e a s e s .

2 THE COURT: All right. The first opinion that he  
3 proposes to testify, according to his written report, is hog  
4 farms have not been shown to cause any increased incidence of  
5 MRSA, Staph or any other infectious disease in the communities  
6 surrounding hog farms. Why can't he testify to that?

7 MR. KAESKE: Well, I think it's irrelevant to the  
8 case. Those are diagnoseable medical conditions that we're not  
9 making a claim about and we have not, we have not elicited that  
10 testimony. So you're going to bring an expert to say that  
11 something we never claimed happens doesn't happen. So that  
12 would be the first reason that I would say that.

13 THE COURT: Okay. You got another one?

14 MR. KAESKE: Well, I mean, I don't think that his --  
15 I don't believe that his studies support that position and it's  
16 just those two studies --

17 THE COURT: He didn't make any studies other than --

18 MR. KAESKE: That's my point. The 2013 and 2014  
19 papers are the only things that underlie that opinion and  
20 their -- we haven't discussed them, and I don't think they  
21 support those opinions.

22 THE COURT: All right. His second opinion -- and he  
23 only lists two in the -- in his report.

24 MR. KAESKE: If I could finish that thought.

25 Those studies -- I think this is important for Your

1 Honor to understand. Those 2013 and 2014 papers that were  
2 published that his name is on, Dr. Wing's, those are MRSA  
3 carriage studies, not infection studies. And in his deposition  
4 he and I went into this in-depth. He does not believe that  
5 MRSA carriage is a health effect. He believes that MRSA  
6 infection is a health effect. So his opinion that it hasn't  
7 caused any incidence of MRSA or disease is not what any other  
8 studies are about. They are studies about MRSA carriage and  
9 not infectious disease.

10 THE COURT: All right. The second opinion is hog  
11 farms and their emissions have not been shown to cause other  
12 adverse health effects in surrounding communities.

13 Now, is it your -- what is your contention with  
14 regard to that?

15 MR. KAESKE: That's the one where I say that he is  
16 not an expert in what the literature is and he doesn't know  
17 anything about the levels of emissions.

18 THE COURT: In fact, was he able to cite a single  
19 peer-reviewed publication that supported his position?

20 MR. KAESKE: No.

21 THE COURT: Are any peer-reviewed publication that  
22 questioned and the -- was and tied the findings by Dr. Wing and  
23 others?

24 MR. KAESKE: No, sir. As a matter of fact, I asked  
25 on page 25 and 26 of his deposition: Can you name me a single

1 author anywhere in the peer-reviewed scientific literature that  
2 has ever written what you're saying; that there are no health  
3 effects associated with living near hog operations.

4 And he said: I don't recall. No, sir.

5 Do you ever remember reading an article that  
6 concludes that there are no health effects associated with  
7 living near hog operations?

8 And he said: No, sir.

9 And I think it's important, Your Honor, we've had  
10 this contention between the two sides throughout the case about  
11 what health effects are and we're clearly calling health  
12 effects sudden onset systems, and that's what Dr. Wing's study  
13 is about, too, nausea, vomiting, respiratory irritation, eyes  
14 watering, that kind of thing. And the one study that he cites  
15 is the Schiffman 2005 study. And in that study she found a six  
16 times or eight times increase in headaches. She found eye  
17 irritation. And so the exact health effects -- the one  
18 document that he relies on shows headaches, nausea, and I  
19 believe it's eye irritation from that study. So I don't know,  
20 other than him saying it's so where he comes to that  
21 conclusion, and when he specifically says that hog farms and  
22 their emissions have not been shown to cause other health  
23 effects. He doesn't know what the levels of emissions are nor  
24 has he ever studied them. And he doesn't either know -- I went  
25 in detail about nausea, headaches, eye irritation and all that,

1 he doesn't know what level of emissions would be required to  
2 cause any such irritation.

3 THE COURT: Okay. Thank you.

4 MR. KAESKE: Yes, sir.

5 THE COURT: Who is arguing for you, Mr. Neale?

6 MR. NEALE: Your Honor, Garrett Hooe is going to  
7 argue for the defense.

8 MR. HOOE: Good afternoon, and may it please the  
9 Court.

10 THE COURT: Where are you from?

11 MR. HOOE: Richmond, Virginia.

12 Let me start with ping one, Your Honor, on the MRSA  
13 studies. The plaintiffs' contention that there have been scant  
14 or no evidence of MRSA or other public health issues in this  
15 case is wrong.

16 I would ask this Court to look at the motion to  
17 strike that we filed. I'll quote right from it. Dr. Wng  
18 testified as to antibiotic resistance and associated medical  
19 issues. Document 172-6 at line 60 -- excuse me, page 60, line  
20 23 through page 60, line two, testimony regarding an article on  
21 MRSA. There is more. Doc 172-8, page 181 through 185, you'll  
22 recall that Dr. Wng gave a TED talk on the subject of  
23 antibiotic resistance and associated diseases. In addition to  
24 saying that people get Staph infections from bacteria that come  
25 from livestock and they develop infections from those bacteria

1 while also testifying that antibiotic resistant bacteria can  
2 spread far and wide.

3           It's not just Dr. Wing that testified to that, Your  
4 Honor. In fact, Dr. Rogers similarly testified on July 12th at  
5 page 42 through 44, testimony concerning antibiotic-resistant  
6 bacteria, which can, quote, "be very problematic in terms of a  
7 health perspective."

8           So to say that those are not issues in this case, to  
9 say that issues of public health of wider community have not  
10 been raised is simply not true; and that, in fact, is something  
11 that Dr. Ramsey will refute.

12           Now, why is he qualified to do that? Well,  
13 plaintiffs' counsel has mentioned his two studies with  
14 Dr. Wing, who was an expert in this case. Dr. Wing indeed  
15 relied, cited in his reliance materials one of those studies,  
16 the 2014 one, but it goes beyond the simple, practical --

17           THE COURT: Did Dr. Ramsey file a dissenting voice in  
18 that report?

19           MR. HOOE: No, Your Honor. Dr. Ramsey participated  
20 in those reports and is going to own to the conclusions in  
21 those reports.

22           That's the point. There were no conclusions. There  
23 was an association between swine farms and MRSA carriage.  
24 Beyond that, Dr. Ramsey's expertise in the field of antibiotic  
25 resistance is certainly significant.

1           One of the items that was not mentioned by my friend  
2 Mr. Kaeske is that he is a Board certified physician in  
3 infectious disease and internal medicine. He's also treated  
4 thousands of patients in Eastern North Carolina. He is the  
5 only doctor, medical doctor in this case that has actually seen  
6 patients from these communities. And his role as director at  
7 Vidant Medical Center, he treats patients from these  
8 communities every day, and that's what he'll testify to.

9           THE COURT: Could that be because there are no  
10 medical claims in this case?

11           MR. HOOE: No, Your Honor, on the contrary.

12           Again, as we highlighted the motion to strike, the  
13 testimony on that issue has been legion. There is, despite  
14 what these plaintiffs may say, some public health concern about  
15 the diagnoseable medical conditions or health effects resulting  
16 from swine farms. And Dr. Ramsey is here to say, I'm in North  
17 Carolina, I'm a Board certified physician, I visited these  
18 farms, which can't be said by Dr. Wng, I've reviewed records  
19 from these plaintiffs, which Dr. Rogers and Dr. Wng can't say,  
20 and these are not issues that are present in the community.

21           Now, in an instance where none of that testimony  
22 could come in --

23           THE COURT: Well, you're mixing the two opinions now.  
24 You've just used the term health-related issues. Let's stick  
25 to the first opinion and that is MRSA and Staph.

1 MR. HOOE: Of course, Your Honor.

2 THE COURT: If you don't mind.

3 MR. HOOE: I do not.

4 In addition to being Board certified in these areas  
5 and having treated patients from these areas, he did  
6 participate in the studies. These are more than sufficient  
7 grounds under Daubert and the Federal Rules of Evidence to give  
8 him the requisite knowledge, skill and expertise required to  
9 opine on the issues identified in topic one that Your Honor has  
10 discussed.

11 So I don't know there is any question that we can  
12 rely only on his review of the studies without looking at his  
13 attendant, education and current practical experience. For  
14 those reasons, Dr. Ramsey is well qualified to offer the  
15 opinions in Section 1.

16 THE COURT: Talk to me about the second one, the  
17 opinion two: Hog farms and their emissions have not been shown  
18 because other adverse health effects in surrounding  
19 communities.

20 MR. HOOE: Yes, sir.

21 THE COURT: What qualifies him to testify to that?  
22 He's an expert in infectious disease.

23 MR. HOOE: Yes, sir. Dr. Ramsey will testify that  
24 part of his work experience in that regard concerns patients  
25 presenting with issues of overexposure to hydrogen sulfide, to



1 ammonia, to endotoxins. When those issues -- patients comes  
2 into Vidant Medical Center and expresses those symptoms, he's  
3 the guy, he'll go to and see them. He's been doing that since  
4 2005.

5 Dr. Wing can testify on these issues and yet never  
6 seen or at least practiced medicine in a North Carolina  
7 facility and saw patients.

8 Dr. Rogers testified on these issues and yet never  
9 seen or treated a North Carolina patient for these issues.

10 Beyond a practical experience, and Your Honor,  
11 Dr. Ramsey has also served on the faculty of various --

12 THE COURT: Well, what is beyond his practical  
13 experience and as a physician that qualifies him to testify as  
14 to the emission from hog farms having other adverse health  
15 effects?

16 MR. HOOE: Yes, Your Honor.

17 What qualifies him to do so beyond his practical  
18 experience, which I would add is sufficient on its own, as the  
19 case law which we cited in our brief, but beyond that, he has  
20 in his report laid clear about two dozen articles that he  
21 relied on and looked at in forming his opinions. Not all of  
22 those are concerning the health effect sections. It's not just  
23 one. It's not just Dr. Schiffman, even though he did review  
24 that. Plaintiffs simply disagree with Dr. Ramsey's  
25 conclusions. He also --

1 THE COURT: Show me on the report.

2 MR. HOOE: Sure, Your Honor. If you would like to  
3 look at page 11, for example.

4 THE COURT: Page 11. Okay.

5 MR. HOOE: And in fact, it may be most helpful to  
6 start -- I apologize -- on page 10, the last full paragraph.  
7 He talks about the prevalence of bacteria in -- excuse me.  
8 With respect to hydrogen sulfide, the paragraph beginning  
9 there, Your Honor. And he talks about Dr. Wing's studies and  
10 cites Dr. Wing's studies, the results of the plaintiffs'  
11 experts' studies. In this instance, Dr. Ramsey has observed  
12 far below standards for, like I mentioned, hydrogen sulfide as  
13 one of those compounds, those emissions from hog farms below  
14 what is recommended is safe. That is what are grounds for, in  
15 addition to his practical experience, a basis for him to offer  
16 this opinion.

17 THE COURT: Show me any other peer-reviewed studies  
18 other than the two that he participated in with Dr. Wing's  
19 associate?

20 MR. HOOE: Well, according to Dr. Ramsey's report, he  
21 has both the Wing study and, again, the Susan Schiffman study  
22 that he looked at. He also -- he doesn't stop there. It's not  
23 just because he reviewed some medical literature, it's because  
24 of other instances and his experience of the chairman, for  
25 example, of the Pitt County Board of Health. He also, Your

1 Honor --

2 THE COURT: I asked you about peer-reviewed studies.

3 MR. HOOE: Yes, sir. It would be the 2005 study by  
4 Susan Schiffman and the Dr. Wing study that was on the prior  
5 page that goes directly to emissions from swine.

6 THE COURT: Can you cite me anything from his  
7 deposition testimony or in his report here that cites to any,  
8 any peer-reviewed study that agrees with his conclusion that  
9 hog farms and their emissions have not been shown because  
10 adverse health effects?

11 MR. HOOE: Beyond what he already cited in the  
12 report; that is the Wing study --

13 THE COURT: The Wing study?

14 MR. HOOE: Yes, sir.

15 THE COURT: And what else, do you say?

16 MR. HOOE: The Susan Schiffman study.

17 THE COURT: It says the opposite, doesn't it?

18 MR. HOOE: No, Your Honor. That's plaintiffs'  
19 disagreement.

20 What he says is -- well, I'll just read it: A 2005  
21 study by Susan Schiffman found that test subjects exposed to  
22 levels of hydrogen sulfide and ammonia reached 24 parts per  
23 billion and 817 parts per billion respectively suffer no  
24 adverse health effects. That's what Dr. Ramsey, in addition to  
25 the Wing study, in addition to his over 10 years experience

1 treating patients from these communities, and in addition, I  
2 would mention unlike Dr. Wing, actually going to these farms,  
3 he went to Greenwood 1 farm, Greenwood 2 farm and Paul Stanely  
4 7 farm, has learned about health effects emitted from swine  
5 farms.

6 It was good enough for Dr. Wing to be able to say he  
7 never visited those, to be able to say he never practiced  
8 medicine in North Carolina to qualify as an expert on those  
9 topics.

10 Now Wing, as Dr. Ramsey makes clear, has published on  
11 the issue; Dr. Ramsey, as a competent expert, as experts can,  
12 under the laws in Daubert, review relevant literature and form  
13 opinions, he has the knowledge and skills and expertise to  
14 opine.

15 There are a couple other discrete issues that I'm  
16 happy to address for Your Honor such as perceived bias and  
17 things of that nature.

18 THE COURT: Is that the subject of an expert opinion?

19 MR. HOOE: It is. Dr. Ramsey included with his  
20 opinions in here, has firsthand knowledge and experience that  
21 sanction under Federal Rules of Evidence 703 as to the study  
22 design and research methods used in 2013 and 2014.

23 Now, Dr. Ramsey when he testified, he's here, I can  
24 bring him up to the stand if you'd like to, will say --

25 THE COURT: He's not in the courtroom, is he?

1 MR. HOOE: He's in the courthouse, Your Honor. I was  
2 a little too literal.

3 He will say that in 1980, '81, around that time, he  
4 completed a research fellowship, part of his job. And that  
5 fellowship was to assess and evaluate research methods and  
6 study design. That gives him a particular relevant perspective  
7 on Dr. Wng's studies in 2013 and 2014.

8 It's not impugning Dr. Wng's character or  
9 motivations. It's instead based on his firsthand knowledge and  
10 experience about bias that may have been present in those  
11 studies and that affected how one should interpret the results  
12 of those studies, even though Dr. Ramsey has cited them here as  
13 favorable to Murphy-Brown's defense. So that's plainly within  
14 the realm of his expertise and firsthand knowledge that this  
15 Court has long permitted observations on firsthand knowledge.

16 THE COURT: Let's get to medical records. He has  
17 purportedly reviewed the medical records of one of the  
18 plaintiffs and maybe a list of the other.

19 This Court has previously determined and has entered  
20 an order stating that the only relevance is a -- if a plaintiff  
21 testifies that she has a condition that she contends -- she or  
22 he -- contends were caused by the farm operations, the  
23 defendant may show through the records that that is not the  
24 case.

25 MR. HOOE: I'm not sure that's what it says, Your

1 Honor. In fact, it says the parties cannot broadly introduce  
2 into evidence medical records. Dr. Ramsey will not be doing  
3 that. He will not be broadly introducing --

4 THE COURT: What do you propose that he testify to,  
5 Counsel? That's what I'm trying to find out.

6 MR. HOOE: Yes, Your Honor. Dr. Ramsey he will  
7 testify to the absence of complaints among the plaintiffs in  
8 this case, including Ms. Sidberry, as to conditions resulting  
9 from swine farms that are diagnoseable or health effects or  
10 otherwise. And that's --

11 THE COURT: What about the other plaintiff that  
12 Mr. Kaeske mentioned?

13 MR. HOOE: Yes, Your Honor.

14 I would suppose that doesn't go so much to his  
15 qualifications as it does to the ability and admissibility of  
16 testimony at the time.

17 I would say, however, Your Honor accurately pointed  
18 out, he did review Ms. Sidberry's records as disclosed in his  
19 expert report and said he did one. Dr. Wing and Dr. Rogers,  
20 they did zero and they still got to talk about, on end, the  
21 repeated public health crisis or other effects that result from  
22 swine farm operations.

23 So to answer Your Honor's question, I think that's  
24 not necessarily grounds for disqualification as an expert. It  
25 goes to weight and admissibility of the testimony; but

1 certainly, yes, Dr. Ramsey has done what Dr. Wing and  
2 Dr. Rogers have not.

3 THE COURT: All right. I think I understand your  
4 position.

5 MR. HOOE: Thank you, Your Honor.

6 THE COURT: Thank you.

7 All right. The motion to disqualify the witness in  
8 its entirety is denied. He will be able to qualify as an  
9 expert in infectious diseases. He will be able to state his  
10 opinion -- his opinions one and two as shown in the written  
11 report.

12 He will not be able to state his opinion with regard  
13 to the motives of Dr. Wing and his study. He will not be able  
14 to testify that the complaint -- failure to complain as shown  
15 by the medical records of the individual plaintiffs in some way  
16 shows that they did not have any complaints.

17 Anybody need any clarification?

18 All right. Take a recess until tomorrow morning at  
19 9:00 o'clock.

20 MR. KAESKE: I did need a clarification. What about  
21 Corbett Quinn?

22 MR. NEALE: There won't be any testimony about  
23 Dr. Quinn, Your Honor.

24

25 (The proceedings were recessed at 5:10 p.m.)

1                                   UNI TED STATE DI STRI CT COURT  
2                                   EASTERN DI STRI CT OF NORTH CAROLI NA

3  
4  
5                                   CERTI FI CATE OF OFFI CI AL REPORTER  
6

7 I, Amy M. Condon, CRR, RPR, CSR, Federal Official Court  
8 Reporter, in and for the United States District Court for the  
9 Eastern District of North Carolina, do hereby certify that  
10 pursuant to Section 753, Title 28, United States Code, that the  
11 foregoing is a true and correct transcript of the  
12 stenographically reported proceedings held in the  
13 above-entitled matter and that the transcript page format is in  
14 conformance with the regulations of the Judicial Conference of  
15 the United States.

16  
17  
18 Dated this 5th day of September, 2018.

19  
20  
21                                   /s/ Amy M. Condon  
22                                   Amy M. Condon, CRR, CSR, RPR  
23                                   U. S. Official Court Reporter  
24  
25



Facility Number 71-17

- Division of Water Quality
- Division of Soil and Water Conservation
- Other Agency \_\_\_\_\_

Type of Visit  Compliance Inspection  Operation Review  Structure Evaluation  Technical Assistance  
 Reason for Visit  Routine  Complaint  Follow up  Referral  Emergency  Other  Denied Access

Date of Visit: 5-8-08 Arrival Time: 11:30 Departure Time: 12:12 County: Pecker Region: W:Ro

Farm Name: Ridger 4 Owner Email: \_\_\_\_\_

Owner Name: Cassy Ridger Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Facility Contact: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No: \_\_\_\_\_

Onsite Representatives: \_\_\_\_\_ Integrator: \_\_\_\_\_

Certified Operator: \_\_\_\_\_ Operator Certification Number: \_\_\_\_\_

Back-up Operator: \_\_\_\_\_ Back-up Certification Number: \_\_\_\_\_

Location of Farm: \_\_\_\_\_ Latitude: ° ' " Longitude: ° ' "

Empty rectangular box with scroll arrows on the right side.

Swine	Design Capacity	Current Population	Wet Poultry	Design Capacity	Current Population	Cattle	Design Capacity	Current Population
<input type="checkbox"/> Wean to Finish			<input type="checkbox"/> Layers			<input type="checkbox"/> Dairy Cow		
<input type="checkbox"/> Wean to Feeder			<input type="checkbox"/> Non-Layer			<input type="checkbox"/> Dairy Calf		
<input checked="" type="checkbox"/> Feeder to Finish	<u>5672</u>	<u>3,500</u>	Dry Poultry <input type="checkbox"/> Layers <input type="checkbox"/> Non-Layers <input type="checkbox"/> Pullets <input type="checkbox"/> Turkeys <input type="checkbox"/> Turkey Poults <input type="checkbox"/> Other			<input type="checkbox"/> Dairy Heifer		
<input type="checkbox"/> Farrow to Wean						<input type="checkbox"/> Dry Cow		
<input type="checkbox"/> Farrow to Feeder						<input type="checkbox"/> Non-Dairy		
<input type="checkbox"/> Farrow to Finish						<input type="checkbox"/> Beef Stocker		
<input type="checkbox"/> Gilts						<input type="checkbox"/> Beef Feeder		
<input type="checkbox"/> Boars			<input type="checkbox"/> Beef Brood Cow			Number of Structures: <u>1</u>		
Other								
<input type="checkbox"/> Other								

**Discharges & Stream Impacts**

- Is any discharge observed from any part of the operation?  Yes  No  NA  NE  
 Discharge originated at:  Structure  Application Field  Other
  - Was the conveyance man-made?  Yes  No  NA  NE
  - Did the discharge reach waters of the State? (If yes, notify DWQ)  Yes  No  NA  NE
  - What is the estimated volume that reached waters of the State (gallons)?
  - Does discharge bypass the waste management system? (If yes, notify DWQ)  Yes  No  NA  NE
- Is there evidence of a past discharge from any part of the operation?  Yes  No  NA  NE
- Were there any adverse impacts or potential adverse impacts to the Waters of the State other than from a discharge?  Yes  No  NA  NE

12/28/04 Continued

Facility Number: 71-17

Date of Inspection: 3-8-08

**Waste Collection & Treatment**

4. Is storage capacity (structural plus storm storage plus heavy rainfall) less than adequate?  Yes  No  NA  NE
- a. If yes, is waste level into the structural freeboard?
- | Structure 1   | Structure 2   | Structure 3   | Structure 4   | Structure 5   | Structure 6   |
|---|---|---|---|---|---|
| <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> NE |

Identifier: \_\_\_\_\_

Spillway?: \_\_\_\_\_

Designed Freeboard (in): \_\_\_\_\_

Observed Freeboard (in): 37

5. Are there any immediate threats to the integrity of any of the structures observed? (ie/ large trees, severe erosion, seepage, etc.)  Yes  No  NA  NE
6. Are there structures on-site which are not properly addressed and/or managed through a waste management or closure plan?  Yes  No  NA  NE

If any of questions 4-6 were answered yes, and the situation poses an immediate public health or environmental threat, notify DWQ

7. Do any of the structures need maintenance or improvement?  Yes  No  NA  NE
8. Do any of the structures lack adequate markers as required by the permit? (Not applicable to roofed pits, dry stacks and/or wet stacks)  Yes  No  NA  NE
9. Does any part of the waste management system other than the waste structures require maintenance or improvement?  Yes  No  NA  NE

**Waste Application**

10. Are there any required buffers, setbacks, or compliance alternatives that need maintenance/improvement?  Yes  No  NA  NE
11. Is there evidence of incorrect application? If yes, check the appropriate box below.  Yes  No  NA  NE
- Excessive Ponding  Hydraulic Overload  Frozen Ground  Heavy Metals (Cu, Zn, etc.)
- PAN  PAN > 10% or 10 lbs  Total Phosphorus  Failure to incorporate Manure/Sludge into Bare Soil
- Outside of Acceptable Crop Window  Evidence of Wind Drift  Application Outside of Area

12. Crop type(s) Bromo (C) Fescue (P) SLD

13. Soil type(s) C-A Mid

14. Do the receiving crops differ from those designated in the CAWMP?  Yes  No  NA  NE
15. Does the receiving crop and/or land application site need improvement?  Yes  No  NA  NE
16. Did the facility fail to secure and/or operate per the irrigation design or wettable acre determination?  Yes  No  NA  NE
17. Does the facility lack adequate acreage for land application?  Yes  No  NA  NE
18. Is there a lack of properly operating waste application equipment?  Yes  No  NA  NE

Comments (refer to question #): Explain any YES answers and/or any recommendations or any other comments. Use drawings of facility to better explain situations. (use additional pages as necessary):

Reviewer/Inspector Name: Will Burke Phone: 916-517-2999

Reviewer/Inspector Signature: [Signature] Date: 3-8-08

Facility Number: 71-17

Date of Inspection: 5-8-04

**Required Records & Documents**

19. Did the facility fail to have Certificate of Coverage & Permit readily available?  Yes  No  NA  NE
20. Does the facility fail to have all components of the CAWMP readily available? If yes, check the appropriate box.  WUP  Checklists  Design  Maps  Other  Yes  No  NA  NE
21. Does record keeping need improvement? If yes, check the appropriate box below.  Yes  No  NA  NE  
 Waste Application  Weekly Freeboard  Waste Analysis  Soil Analysis  Waste Transfers  Annual Certification  
 Rainfall  Stocking  Crop Yield  120 Minute Inspections  Monthly and 1" Rain Inspections  Weather Code
22. Did the facility fail to install and maintain a rain gauge?  Yes  No  NA  NE
23. If selected, did the facility fail to install and maintain rainbreakers on irrigation equipment?  Yes  No  NA  NE
24. Did the facility fail to calibrate waste application equipment as required by the permit?  Yes  No  NA  NE
25. Did the facility fail to conduct a sludge survey as required by the permit?  Yes  No  NA  NE
26. Did the facility fail to have an actively certified operator in charge?  Yes  No  NA  NE
27. Did the facility fail to secure a phosphorus loss assessment (PLAT) certification?  Yes  No  NA  NE
- Other Issues**
28. Were any additional problems noted which cause non-compliance of the permit or CAWMP?  Yes  No  NA  NE
29. Did the facility fail to properly dispose of dead animals within 24 hours and/or document and report the mortality rates that were higher than normal?  Yes  No  NA  NE
30. At the time of the inspection did the facility pose an odor or air quality concern? If yes, contact a regional Air Quality representative immediately  Yes  No  NA  NE
31. Did the facility fail to notify the regional office of emergency situations as required by General Permit? (ie/ discharge, freeboard problems, over application)  Yes  No  NA  NE
32. Did Reviewer/inspector fail to discuss review/inspection with an on-site representative?  Yes  No  NA  NE
33. Does facility require a follow-up visit by same agency?  Yes  No  NA  NE

**Additional Comments and/or Drawings:**

Do not ~~draw~~ record on 120 min or p-2.  
Missin Soil,  
Put Sludge & calibration in Box

12/28/04

Facility Number 71-17

- Division of Water Quality
- Division of Soil and Water Conservation
- Other Agency \_\_\_\_\_

Type of Visit  Compliance Inspection  Operation Review  Structure Evaluation  Technical Assistance  
 Reason for Visit  Routine  Complaint  Follow up  Referral  Emergency  Other  Denied Access

Date of Visit: 9-20-04 Arrival Time: 10:30 Departure Time: 11:00 County: Polk Region: W170

Farm Name: Pridgen #4 Owner Email: \_\_\_\_\_

Owner Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Facility Contact: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No: \_\_\_\_\_

Onsite Representative: \_\_\_\_\_ Integrator: MB

Certified Operator: \_\_\_\_\_ Operator Certification Number: \_\_\_\_\_

Back-up Operator: \_\_\_\_\_ Back-up Certification Number: \_\_\_\_\_

Location of Farm: Latitude: ° ' " Longitude: ° ' "

Swine	Design Capacity	Current Population	Wet Poultry	Design Capacity	Current Population	Cattle	Design Capacity	Current Population
<input type="checkbox"/> Wean to Finish			<input type="checkbox"/> Layer			<input type="checkbox"/> Dairy Cow		
<input type="checkbox"/> Wean to Feeder			<input type="checkbox"/> Non-Layer			<input type="checkbox"/> Dairy Calf		
<input type="checkbox"/> Feeder to Finish			Dry Poultry <input type="checkbox"/> Layers <input type="checkbox"/> Non-Layers <input type="checkbox"/> Pullets <input type="checkbox"/> Turkeys <input type="checkbox"/> Turkey Poults <input type="checkbox"/> Other			<input type="checkbox"/> Dairy Heifer		
<input type="checkbox"/> Farrow to Wean						<input type="checkbox"/> Dry Cow		
<input type="checkbox"/> Farrow to Feeder						<input type="checkbox"/> Non-Dairy		
<input type="checkbox"/> Farrow to Finish						<input type="checkbox"/> Beef Stocker		
<input type="checkbox"/> Gilts						<input type="checkbox"/> Beef Feeder		
<input type="checkbox"/> Boars			<input type="checkbox"/> Other			<input type="checkbox"/> Beef Brood Cow		
Other						Number of Structures: <u>1</u>		
<input type="checkbox"/> Other								

**Discharges & Stream Impacts**

1. Is any discharge observed from any part of the operation?  Yes  No  NA  NE

Discharge originated at:  Structure  Application Field  Other

  - a. Was the conveyance man-made?  Yes  No  NA  NE
  - b. Did the discharge reach waters of the State? (If yes, notify DWQ)  Yes  No  NA  NE
  - c. What is the estimated volume that reached waters of the State (gallons)?
  - d. Does discharge bypass the waste management system? (If yes, notify DWQ)  Yes  No  NA  NE
2. Is there evidence of a past discharge from any part of the operation?  Yes  No  NA  NE
3. Were there any adverse impacts or potential adverse impacts to the Waters of the State other than from a discharge?  Yes  No  NA  NE

12/28/04 Continued ✓

Facility Number: 71-17

Date of Inspection 8-30-04

Waste Collection & Treatment

4. Is storage capacity (structural plus storm storage plus heavy rainfall) less than adequate?  Yes  No  NA  NE
- a. If yes, is waste level into the structural freeboard?  Yes  No  NA  NE

	Structure 1	Structure 2	Structure 3	Structure 4	Structure 5	Structure 6
Identifier:						
Spillway?:						
Designed Freeboard (in):						
Observed Freeboard (in):	<u>20</u>					

5. Are there any immediate threats to the integrity of any of the structures observed? (ie/ large trees, severe erosion, seepage, etc.)  Yes  No  NA  NE
6. Are there structures on-site which are not properly addressed and/or managed through a waste management or closure plan?  Yes  No  NA  NE
- If any of questions 4-6 were answered yes, and the situation poses an immediate public health or environmental threat, notify DWQ
7. Do any of the structures need maintenance or improvement?  Yes  No  NA  NE
8. Do any of the structures lack adequate markers as required by the permit? (Not applicable to roofed pits, dry stacks and/or wet stacks)  Yes  No  NA  NE
9. Does any part of the waste management system other than the waste structures require maintenance or improvement?  Yes  No  NA  NE

Waste Application

10. Are there any required buffers, setbacks, or compliance alternatives that need maintenance/improvement?  Yes  No  NA  NE
11. Is there evidence of incorrect application? If yes, check the appropriate box below.  Yes  No  NA  NE
- Excessive Ponding  Hydraulic Overload  Frozen Ground  Heavy Metals (Cu, Zn, etc.)
- PAN  PAN > 10% or 10 lbs  Total Phosphorus  Failure to Incorporate Manure/Sludge into Bare Soil
- Outside of Acceptable Crop Window  Evidence of Wind Drift  Application Outside of Area
12. Crop type(s) CRP SLO Fescue
13. Soil type(s) CoA NoA
14. Do the receiving crops differ from those designated in the CAWMP?  Yes  No  NA  NE
15. Does the receiving crop and/or land application site need improvement?  Yes  No  NA  NE
16. Did the facility fail to secure and/or operate per the irrigation design or wettable acre determination?  Yes  No  NA  NE
17. Does the facility lack adequate acreage for land application?  Yes  No  NA  NE
18. Is there a lack of properly operating waste application equipment?  Yes  No  NA  NE

Comments (refer to question #): Explain any YES answers and/or any recommendations or any other comments. Use drawings of facility to better explain situations. (use additional pages as necessary):

Empty box for comments.

Reviewer/Inspector Name Will Barber Phone: 910-512-2989

Reviewer/Inspector Signature: [Signature] Date: 8-30-04



Facility Number: 71-17

Date of Inspection: 9-30-04

Required Records & Documents

19. Did the facility fail to have Certificate of Coverage & Permit readily available?  Yes  No  NA  NE
20. Does the facility fail to have all components of the CAWMP readily available? If yes, check the appropriate box.  WUP  Checklists  Design  Maps  Other  Yes  No  NA  NE
21. Does record keeping need improvement? If yes, check the appropriate box below.  Yes  No  NA  NE  
 Waste Application  Weekly Freeboard  Waste Analysis  Soil Analysis  Waste Transfers  Annual Certification  
 Rainfall  Stocking  Crop Yield  120 Minute Inspections  Monthly and 1" Rain Inspections  Weather Code
22. Did the facility fail to install and maintain a rain gauge?  Yes  No  NA  NE
23. If selected, did the facility fail to install and maintain rainbreakers on irrigation equipment?  Yes  No  NA  NE
24. Did the facility fail to calibrate waste application equipment as required by the permit?  Yes  No  NA  NE
25. Did the facility fail to conduct a sludge survey as required by the permit?  Yes  No  NA  NE
26. Did the facility fail to have an actively certified operator in charge?  Yes  No  NA  NE
27. Did the facility fail to secure a phosphorus loss assessment (PLAT) certification?  Yes  No  NA  NE

Other Issues

28. Were any additional problems noted which cause non-compliance of the permit or CAWMP?  Yes  No  NA  NE
29. Did the facility fail to properly dispose of dead animals within 24 hours and/or document and report the mortality rates that were higher than normal?  Yes  No  NA  NE
30. At the time of the inspection did the facility pose an odor or air quality concern? If yes, contact a regional Air Quality representative immediately  Yes  No  NA  NE
31. Did the facility fail to notify the regional office of emergency situations as required by General Permit? (ie/ discharge, freeboard problems, over application)  Yes  No  NA  NE
32. Did Reviewer/Inspector fail to discuss review/inspection with an on-site representative?  Yes  No  NA  NE
33. Does facility require a follow-up visit by same agency?  Yes  No  NA  NE

Additional Comments and/or Drawings:

(29) Missms  
(28) Should have seen.

Pump lagoon!

(33) will check proper level in a few days.

12/28/04

PResp2Disc045305

WIKO  
 RECEIVED  
 WATER QUALITY DIVISION  
 APR 25 1998  
 Non-Discharge Permitting

State of North Carolina  
 Department of Environment and Natural Resources  
 Division of Water Quality  
 Non-Discharge Permit Application Form  
 (THIS FORM MAY BE PHOTOCOPIED FOR USE AS AN ORIGINAL)  
 General Permit - Existing Liquid Animal Waste Operations

RECEIVED  
 APR 21 1998

The following questions have been completed utilizing information on file with the Division. Please review the information for completeness and make any corrections which are appropriate. If a question has not been completed by the Division, please complete as best as possible. Do not leave any question unanswered.

1. GENERAL INFORMATION:

- 1.1 Facility Name: Ivey Pridgen Farm
- 1.2 Print Land Owner's name: Ivey Pridgen
- 1.3 Mailing address: 277 Horse Branch Road  
 City, State: Burgaw NC Zip: 28425  
 Telephone Number (include area code): 259-5136 910-259-5136
- 1.4 County where facility is located: Pender
- 1.5 Facility Location (Directions from nearest major highway. Please include SR numbers for state roads. Please include a copy of a county road map with the location of the farm identified): SR 1216 approximately one mile east of Piney Wood
- 1.6 Print Farm Manager's name (if different from Land Owner): \_\_\_\_\_
- 1.7 Lessee's / Integrator's name (if applicable; please circle which type is listed): Murphy Farms Murphy Family Farms
- 1.8 Date Facility Originally Began Operation: 9-94
- 1.9 Date(s) of Facility Expansion(s) (if applicable): N/A

2. OPERATION INFORMATION:

- 2.1 Facility No.: 71 (county number); 17 (facility number).
- 2.2 Operation Description: Swine operation  
Feeder to Finish  
3672- Certified Design Capacity

Is the above information correct?  yes;  no. If no, correct below using the design capacity of the facility  
 The "No. of Animals" should be the maximum number for which the waste management structures were designed.

Type of Swine	No. of Animals	Type of Poultry	No. of Animals	Type of Cattle	No. of Animals
<input type="checkbox"/> Wean to Feeder	_____	<input type="checkbox"/> Layer	_____	<input type="checkbox"/> Dairy	_____
<input type="checkbox"/> Feeder to Finish	_____	<input type="checkbox"/> Non-Layer	_____	<input checked="" type="checkbox"/> Beef	<u>25</u>
<input type="checkbox"/> Farrow to Wean (# sow)	_____	<input type="checkbox"/> Turkey	_____		
<input type="checkbox"/> Farrow to Feeder (# sow)	_____				
<input type="checkbox"/> Farrow to Finish (# sow)	_____				

Other Type of Livestock on the farm: \_\_\_\_\_ No. of Animals: \_\_\_\_\_

DEFENDANT'S  
 EXHIBIT  
 299  
 Case No. 7:14-CV-00287-BR

2.3 Acreage cleared and available for application (excluding all required buffers and areas not covered by the application system): 36.90; Required Acreage (as listed in the AWMP): 32.3

2.4 Number of Lagoons: 1; Total Capacity: ~~44,750~~ <sup>786,916</sup> Cubic Feet (ft<sup>3</sup>); Required Capacity: 718,377 (ft<sup>3</sup>)

Number of Storage Ponds: 0; Total Capacity: \_\_\_\_\_ (ft<sup>3</sup>); Required Capacity: \_\_\_\_\_ (ft<sup>3</sup>)

2.5 Are subsurface drains present within 100' of any of the application fields? YES or **NO** (please circle one)

2.6 Are subsurface drains present in the vicinity or under the lagoon(s)? YES or **NO** (please circle one)

2.7 Does this facility meet all applicable siting requirements? (Swine Farm Siting Act, NRCS Standards, etc.) (Swine Only) YES or **NO** (please circle one)

What was the date that this facility's swine houses and lagoon were sited? 9-94

What was the date that this facility's land application areas were sited? 4-94 + 4-95

### 3. REQUIRED ITEMS CHECKLIST

Please indicate that you have included the following required items by signing your initials in the space provided next to each item.

3.1 One completed and signed original and one copy of the application for General Permit - Animal Waste Operations;

Applicants Initials

SP

3.2 Two copies of a general location map indicating the location of the animal waste facilities and field locations where animal waste is land applied;

SP

3.3 Two copies of the entire Certified Animal Waste Management Plan (CAWMP). If the facility does not have a CAWMP, it must be completed prior to submittal of a general permit application for animal waste operations.

SP

The CAWMP must include the following components:

- 3.3.1 The Waste Utilization Plan (WUP) must include the amount of Plant Available Nitrogen (PAN) produced and utilized by the facility.
- 3.3.2 The method by which waste is applied to the disposal fields (e.g. irrigation, injection, etc.)
- 3.3.3 A map of every field used for land application.
- 3.3.4 The soil series present on every land application field.
- 3.3.5 The crops grown on every land application field.
- 3.3.6 The Realistic Yield Expectation (RYE) for every crop shown in the WUP.
- 3.3.7 The PAN applied to every land application field.
- 3.3.8 The waste application windows for every crop utilized in the WUP.
- 3.3.9 The required NRCS Standard specifications.
- 3.3.10 A site schematic.
- 3.3.11 Emergency Action Plan.
- 3.3.12 Insect Control Checklist with chosen best management practices noted.
- 3.3.13 Odor Control Checklist with chosen best management practices noted.
- 3.3.14 Mortality Control Checklist with the selected method noted.

If your CAWMP includes components not shown on this list, please include the additional components with your submittal.



Facility Number: 71 - 17  
Facility Name: Ivey Pridgen Farm

**4. APPLICANT'S CERTIFICATION:**

I, Ivey D. Pridgen (Land Owner's name listed in question 1.2), attest that this application for Ivey Pridgen Farm (Facility name listed in question 1.1) has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned to me as incomplete.

Signature Ivey D. Pridgen Date 8-5-98

**5. MANAGER'S CERTIFICATION:** (complete only if different from the Land Owner)

I, \_\_\_\_\_ (Manager's name listed in question 1.6), attest that this application for \_\_\_\_\_ (Facility name listed in question 1.1) has been reviewed by me and is accurate and complete to the best of my knowledge. I understand that if all required parts of this application are not completed and that if all required supporting information and attachments are not included, this application package will be returned as incomplete.

Signature \_\_\_\_\_ Date \_\_\_\_\_

THE COMPLETED APPLICATION PACKAGE, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, SHOULD BE SENT TO THE FOLLOWING ADDRESS:

**NORTH CAROLINA DIVISION OF WATER QUALITY  
WATER QUALITY SECTION  
NON-DISCHARGE PERMITTING UNIT  
POST OFFICE BOX 29535  
RALEIGH, NORTH CAROLINA 27626-0535  
TELEPHONE NUMBER: (919) 733-5083  
FAX NUMBER: (919) 733-0719**

Facility Number 71 - 90

- Division of Water Quality
- Division of Soil and Water Conservation
- Other Agency \_\_\_\_\_

Type of Visit  Compliance Inspection  Operation Review  Structure Evaluation  Technical Assistance  
 Reason for Visit  Routine  Complaint  Follow up  Referral  Emergency  Other  Denied Access

Date of Visit: 5-8-08 Arrival Time: 10:45 Departure Time: 11:50 County: Pendore Region: White

Farm Name: Pelican Farm #3 Owner Email: \_\_\_\_\_

Owner Name: Greg Pridgen Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Facility Contact: \_\_\_\_\_ Title: \_\_\_\_\_ Phone No: \_\_\_\_\_

Onsite Representative: \_\_\_\_\_ Integrator: MJB

Certified Operator: \_\_\_\_\_ Operator Certification Number: \_\_\_\_\_

Back-up Operator: \_\_\_\_\_ Back-up Certification Number: \_\_\_\_\_

Location of Farm: \_\_\_\_\_ Latitude: ° ' " Longitude: ° ' "

Swine	Design Capacity	Current Population	Wet Poultry	Design Capacity	Current Population	Cattle	Design Capacity	Current Population
<input type="checkbox"/> Wean to Finish			<input type="checkbox"/> Layer			<input type="checkbox"/> Dairy Cow		
<input type="checkbox"/> Wean to Feeder			<input type="checkbox"/> Non-Layer			<input type="checkbox"/> Dairy Calf		
<input checked="" type="checkbox"/> Feeder to Finish	<u>2672</u>	<u>3000</u>	Dry Poultry <input type="checkbox"/> Layers <input type="checkbox"/> Non-Layers <input type="checkbox"/> Pullets <input type="checkbox"/> Turkeys <input type="checkbox"/> Turkey Poults <input type="checkbox"/> Other			<input type="checkbox"/> Dairy Heifer		
<input type="checkbox"/> Farrow to Wean						<input type="checkbox"/> Non-Dairy		
<input type="checkbox"/> Farrow to Feeder						<input type="checkbox"/> Beef Stocker		
<input type="checkbox"/> Farrow to Finish						<input type="checkbox"/> Beef Feeder		
<input type="checkbox"/> Gilts						<input type="checkbox"/> Beef Brood Cow		
<input type="checkbox"/> Boars						Number of Structures: <input style="width: 50px;" type="text" value="1"/>		
Other								
<input type="checkbox"/> Other								

**Discharges & Stream Impacts**

1. Is any discharge observed from any part of the operation?  Yes  No  NA  NE
  - Discharge originated at:  Structure  Application Field  Other
  - a. Was the conveyance man-made?  Yes  No  NA  NE
  - b. Did the discharge reach waters of the State? (If yes, notify DWQ)  Yes  No  NA  NE
  - c. What is the estimated volume that reached waters of the State (gallons)?
  - d. Does discharge bypass the waste management system? (If yes, notify DWQ)  Yes  No  NA  NE
2. Is there evidence of a past discharge from any part of the operation?  Yes  No  NA  NE
3. Were there any adverse impacts or potential adverse impacts to the Waters of the State other than from a discharge?  Yes  No  NA  NE

12/28/04 Continued ✓

Facility Number: 71-90

Date of Inspection 5-8-08

**Waste Collection & Treatment**

4. Is storage capacity (structural plus storm storage plus heavy rainfall) less than adequate?  Yes  No  NA  NE

a. If yes, is waste level into the structural freeboard?  Yes  No  NA  NE

Structure 1      Structure 2      Structure 3      Structure 4      Structure 5      Structure 6

Identifier: \_\_\_\_\_

Spillway?: \_\_\_\_\_

Designed Freeboard (in): \_\_\_\_\_

Observed Freeboard (in): 33

5. Are there any immediate threats to the integrity of any of the structures observed? (ie/ large trees, severe erosion, seepage, etc.)  Yes  No  NA  NE

6. Are there structures on-site which are not properly addressed and/or managed through a waste management or closure plan?  Yes  No  NA  NE

If any of questions 4-6 were answered yes, and the situation poses an immediate public health or environmental threat, notify DWQ

7. Do any of the structures need maintenance or improvement?  Yes  No  NA  NE

8. Do any of the structures lack adequate markers as required by the permit? (Not applicable to roofed pits, dry stacks and/or wet stacks)  Yes  No  NA  NE

9. Does any part of the waste management system other than the waste structures require maintenance or improvement?  Yes  No  NA  NE

**Waste Application**

10. Are there any required buffers, setbacks, or compliance alternatives that need maintenance/improvement?  Yes  No  NA  NE

11. Is there evidence of incorrect application? If yes, check the appropriate box below.  Yes  No  NA  NE

- Excessive Ponding     Hydraulic Overload     Frozen Ground     Heavy Metals (Cu, Zn, etc.)
- PAN     PAN > 10% or 10 lbs     Total Phosphorus     Failure to Incorporate Manure/Sludge into Bare Soil
- Outside of Acceptable Crop Window     Evidence of Wind Drift     Application Outside of Area

12. Crop type(s) Bernola (P) 560

13. Soil type(s) EMA GR

14. Do the receiving crops differ from those designated in the CAWMP?  Yes  No  NA  NE

15. Does the receiving crop and/or land application site need improvement?  Yes  No  NA  NE

16. Did the facility fail to secure and/or operate per the irrigation design or wettable acre determination?  Yes  No  NA  NE

17. Does the facility lack adequate acreage for land application?  Yes  No  NA  NE

18. Is there a lack of properly operating waste application equipment?  Yes  No  NA  NE

Comments (refer to question #): Explain any YES answers and/or any recommendations or any other comments. Use drawings of facility to better explain situations. (use additional pages as necessary):

Reviewer/Inspector Name Will Burke

Phone: 910-512-8919

Reviewer/Inspector Signature: Will Burke

Date: 5-8-08

12/28/04 Continued

Facility Number: **71-90**

Date of Inspection: **5-8-08**

**Required Records & Documents:**

- 19. Did the facility fail to have Certificate of Coverage & Permit readily available?  Yes  No  NA  NE
- 20. Does the facility fail to have all components of the CAWMP readily available? If yes, check the appropriate box.  WUP  Checklists  Design  Maps  Other  Yes  No  NA  NE
- 21. Does record keeping need improvement? If yes, check the appropriate box below.  Waste Application  Weekly Freeboard  Waste Analysis  Soil Analysis  Waste Transfers  Annual Certification  Rainfall  Stocking  Crop Yield  120 Minute Inspections  Monthly and 1" Rain Inspections  Weather Code  Yes  No  NA  NE
- 22. Did the facility fail to install and maintain a rain gauge?  Yes  No  NA  NE
- 23. If selected, did the facility fail to install and maintain rainbreakers on irrigation equipment?  Yes  No  NA  NE
- 24. Did the facility fail to calibrate waste application equipment as required by the permit?  Yes  No  NA  NE
- 25. Did the facility fail to conduct a sludge survey as required by the permit?  Yes  No  NA  NE
- 26. Did the facility fail to have an actively certified operator in charge?  Yes  No  NA  NE
- 27. Did the facility fail to secure a phosphorus loss assessment (PLAT) certification?  Yes  No  NA  NE

**Other Issues**

- 28. Were any additional problems noted which cause non-compliance of the permit or CAWMP?  Yes  No  NA  NE
- 29. Did the facility fail to properly dispose of dead animals within 24 hours and/or document and report the mortality rates that were higher than normal?  Yes  No  NA  NE
- 30. At the time of the inspection did the facility pose an odor or air quality concern? If yes, contact a regional Air Quality representative immediately  Yes  No  NA  NE
- 31. Did the facility fail to notify the regional office of emergency situations as required by General Permit? (ie/ discharge, freeboard problems, over application)  Yes  No  NA  NE
- 32. Did Reviewer/inspector fail to discuss review/inspection with an on-site representative?  Yes  No  NA  NE
- 33. Does facility require a follow-up visit by same agency?  Yes  No  NA  NE

**Additional Comments and/or Drawings:**

*When is 2007 soil test  
Missing Loc/Permit.  
Got calibrations/sludge survey in box  
Lagoon needs mowing.*

12/28/04

FORM R18D-1

Farm #1 (GW)

Waste Structure Freeboard and Daily Precipitation Record

Farm Owner

*Greenwood Products, LLC*  
*Jerry Stewart / Dale Myers*

Facility Number

71 - 90

Operator

Date (mm/dd/yr)	Waste Structure Freeboard (Inches)						Precipitation (Inches)	Initials
	#	6	0	7	#	#		
9/9/15	40					8/31	2.2	KS
9/15/15	39					9/1	.4	KS
9/22/15	39					9/8	1.1	KS
9/29/15	38					9/15	1.2	KS
10/6/15	36					9/11	.4	KS
10/12/15	35					9/29	1.5	KS
10/20/15	35					10/1	2.3	KS
10/27/15	31					10/5	1.0	KS
11/3/15	29					10/6	.5	KS
11/10/15	28					10/12	.4	KS
11/17/15	26					10/29	.5	KS
11/24/15	28					11/7	2.4	KS
12/1/15	29					11/10	.5	KS
12-5	30					11/19	1.2	KS
12-12	30					11/26	.2	KS
12-19	30					12/7	1.0	KS
12-26	29					12/18	.4	KS
1-2-16	26					12/22	2.0	DM
1-9	28					12/30	.3	DM
1-16	26					1-15-16	.5	DM
1-23	23					1-22	1.3	DM
1-30	22					1-28	.5	DM
2-6	20					2-3	2.0	DM
2-13	20					2-5	.3	DM
2-20	20					2-7	1.0	DM
2-27	20					2-16	.5	DM
3-5	21					2-23	1.4	DM
3-12	24					2-24	.5	DM
3-19	26					3-4	.8	DM
3-26	27					3-13	.1	DM
4-2	26					3-15	.2	DM

1. Lagoon freeboard is the difference between the lowest point of a lagoon embankment and the level of liquid. For lagoons with spillways, the difference between the level of liquid and the bottom of the spillway should be recorded.
2. Freeboard plus available storage capacity must be recorded at least weekly.
3. Rainfall must be recorded for every rain event.

3/14/03



Appendix 2. Sludge Survey Data Sheet\*

Revised August 2008

agoon Identification \_\_\_\_\_ GW#1

Completed by: \_\_\_\_\_ Blake Moore  
Print Name

  
Signature

Date: \_\_\_\_\_ 4/11/2018

(A) Grid Point No.	(B) Distance from liquid surface to top of sludge		(C) Distance from liquid surface to lagoon bottom (soil)			(C) - (B) Thickness of sludge layer		
	Ft.	& in, Ft. (tenths)	Ft.	& in, Ft. (tenths)	Ft.	& in, Ft. (tenths)	Ft. (tenths)	
1	5.5	5.5	9.5	9.5			4.0	
2	5.25	5.3	9	9.0			3.8	
3	6	5.0	9	9.0			4.0	
4	5.25	5.3	8.75	8.8			3.5	
5	5	5.0	8.5	8.5			3.5	
6	5.8	5.5	8.5	8.5			3.0	
7	5	5.0	9	9.0			3.0	
8	8.5	8.5	9	9.0			2.5	
9	8.5	8.5	9	9.0			2.8	
10	8.5	8.5	9	9.0			2.5	
11	5.25	5.3	8.75	8.8			3.5	
12	5.25	5.3	8.25	8.3			3.0	
13	5	5.0	8.5	8.5			3.5	
14	4.5	4.5	9	9.0			4.5	
15	4.5	4.5	9	9.0			4.5	
16		0.0		0.0			0.0	
17		0.0		0.0			0.0	
18		0.0		0.0			0.0	
19		0.0		0.0			0.0	
20		0.0		0.0			0.0	
21		0.0		0.0			0.0	
22		0.0		0.0			0.0	
23		0.0		0.0			0.0	
24		0.0		0.0			0.0	
Number of points with readings			X	X		X	X	
Average of points					8.88	X	X	3.42
At pump inlets		N/A	5.5	X	X	X	X	X

\*All Grid Points and corresponding sludge layer thicknesses must be shown on a sketch attached to this Sludge Survey Data Sheet.

The average thickness of the sludge layer and the thickness of the existing liquid (sludge-free) treatment zone are determined from the information on the Lagoon Sludge Survey Form ( Items O and P, respectively). In this example, the average sludge layer thickness is 2.6 feet and the existing liquid treatment zone is 3.6 feet. If the lagoon has a designed sludge storage volume, see notes at end of the worksheet. The dimensions of the lagoon as measured and the side slope are needed for calculations of sludge volume and of total treatment volume. If the lagoon is a standard geometric shape, the sludge volume and the treatment volume in the lagoon can be estimated by using standard equations. For approximate volumes of rectangular lagoons with constant side slope, calculate length and width at the midpoint of the layer, and multiply by layer thickness to calculate layer volume, as shown in the example. For irregular shapes, convert the total surface area to a square or rectangular shape. For exact volumes for lagoons with constant side slope, the "Prismoidal Equations" may be used.

	Example		Your Lagoon
1. Average sludge Layer Thickness (T)	2.6	ft.	3.4
2. Depth of the lagoon from top of bank to bottom soil surface (D)	11	ft.	10.0
3. Slope = Horizontal/ vertical side slope (S)	3		3.0
4. Length at the top of inside bank (L)	457	ft.	495.0
5. Width at top inside slope (W)	229	ft.	252.0
6. Length at midpoint of sludge layer $L_m = L - 2S(D - (T/2))$	398.6	ft.	445.3
7. Width at midpoint of sludge layer $W_m = W - 2S(D - (T/2))$	170.5	ft.	202.3
8. Volume of sludge (Vs) $V_s = L_m W_m T$	169,860	ft <sup>3</sup>	807,969
9. Volume in gallons: $V_{sg} = V \times 7.5 \text{ gal./ft}^3$	1,273,950	gal.	2,309,985
10. Thickness of existing liquid tmt. zone (Y)	3.6	ft.	3.8
11. Thickness of total treatment zone (Z) $Z = T + Y$	6	ft.	7.2
12. Length at midpoint of total tmt. zone $L_z = L - 2(S)(D - (Z/2))$	409	ft.	458.7
13. Width at midpoint of total tmt. Zone $W_z = W - 2(S)(D - (Z/2))$	181	ft.	213.7
14. Volume of total treatment zone (Vz) $V_z = L_z W_z Z$	444,174	ft <sup>3</sup>	704,455
15. Ratio (R) of sludge layer volume to total Treatment Volume $R = V_s/V_z$	0.38		0.44

If the ratio R exceeds 0.80, then a sludge Plan of Action may be required. Check with DWQ for information on filing the Plan of Action.

Note: If the lagoon has a designed sludge storage volume (DSSV), subtract that volume from both the volume of sludge (Vs) (Item 8) and from the volume of total treatment zone (Vz) (Item 14), and take the ratio.

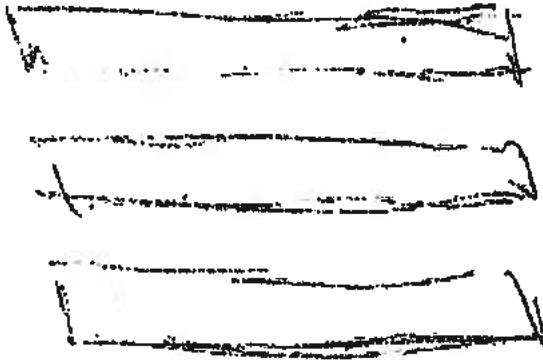
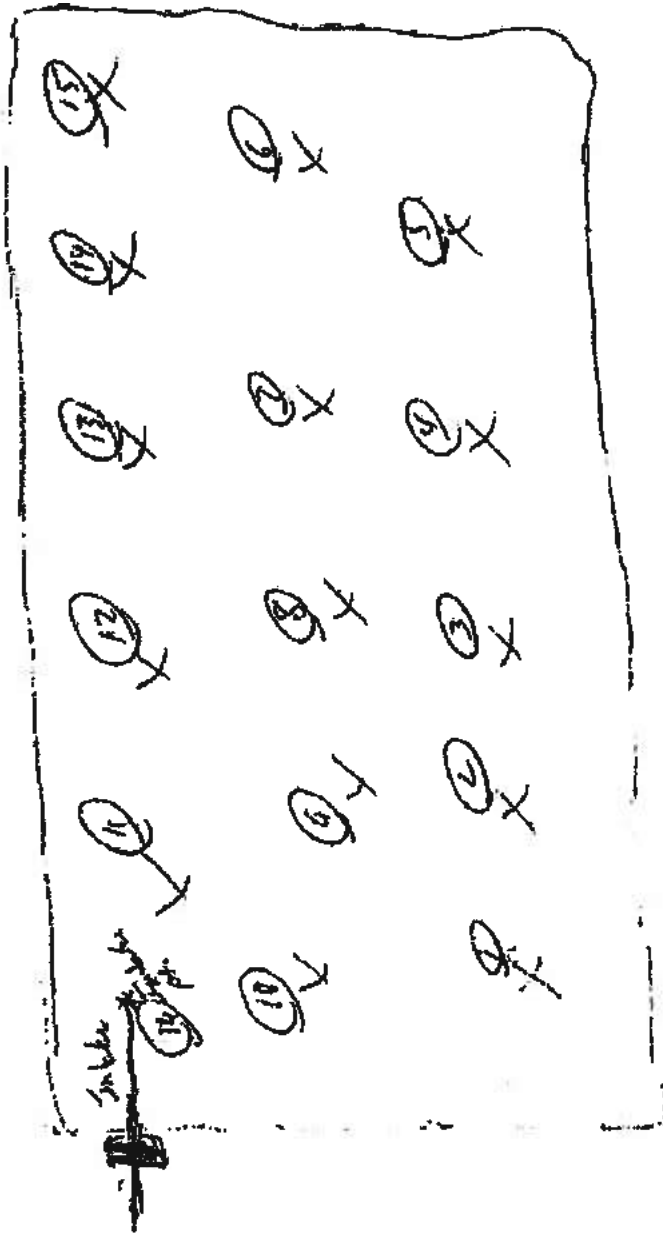
Then,  $R = (V_s - DSSV) / (V_z - DSSV)$

Example: If DSSV = 85,000 ft<sup>3</sup>, then  $R = (169,860 - 85,000) / (444,174 - 85,000) = 84,860 / 359,174 = 0.24$ .

16. Design sludge storage volume (DSSV)	85,000		
17. Ratio (R) of sludge layer volume to treatment volume adjusted for designed sludge storage volume	0.24		0.44



GW#1



High Areas

Appendix 1. Lagoon Sludge Survey Form

Revised August 2008

71-90

A. Farm Permit or DWQ Identification Number Greenwood Farm #1

B. Lagoon Identification GW1

C. Person(s) Taking Measurements Blake Moore

D. Date of Measurement 4/11/2015

E. Methods/Devices Used for Measurement of:

- a. Distance from the lagoon liquid surface to the top of the sludge layer  
pole with disc
- b. Distance from the lagoon liquid surface to the bottom (soft) of the lagoon.  
pole
- c. Thickness of the sludge layer if making a direct measurement with "core sampler".



F. Lagoon Surface Area (using dimensions at inside top of bank): 2.58 (acres)  
(Draw a sketch of the lagoon on a separate sheet, list dimensions, and calculate surface area. The lagoon may have been built different than designed, so measurements should be made.)

G. Estimate number of sampling points:

- a. Less than 1.33 acres: Use 8 points
- b. If more than 1.33 ac. 2.58 acres x 6 = 15, with maximum of 24.  
(Using sketch and dimensions, develop a uniform grid that has the same number of intersections as the estimated number of sampling points needed. Number the intersection points on the lagoon grid so that data recorded at each can be easily matched.)

H. Conduct sludge survey and record data on "Sludge Survey Data Sheet" (Appendix 2). Also, at the location of the pump intake, take measurements of distance from liquid surface to top of sludge layer and record it on the Data Sheet (last row); this must be at least 2.5 ft. when irrigating.

I. At the time of the survey, also measure the distance from the Maximum Liquid Level to the Present Liquid Level (measure at the lagoon gauge pole): 0.4

J. Determine the distance from the top of bank to the Maximum Liquid Level (use lagoon management plan or other lagoon records) 1.6

K. Determine the distance from the Maximum Liquid to the Minimum Liquid level: (use lagoon management plan or other lagoon records) 2.0

L. Calculate the distance from the present liquid surface level to the Minimum Liquid Level (Item K Minus Item I, assuming the present liquid level is below the Maximum Liquid Level) 1.6

M. Record from the Sludge Survey Data Sheet the distance from the present liquid surface level to the lagoon bottom (average for all the measurement points) 8.9

N. Record from the Sludge Survey Data Sheet the distance from the present liquid surface level to the top of the sludge layer (average for all the measurement points): 5.4

O. Record from the Sludge Survey Data Sheet the average thickness of the sludge layer: 3.4

P. Calculate the thickness of the existing Liquid Treatment Zone (Item N minus Item L): 3.8

Q. If Item O is greater than Item P, proceed to the Worksheet for Sludge Volume and Treatment Volume. If Item O is equal to or less than Item P, you do not have to determine volumes.

Completed by: Blake Moore *[Signature]*  
Print Name /Signature

Date: 4/11/2015

Appendix 2. Sludge Survey Data Sheet\*

Revised August 2009

Lagoon Identification \_\_\_\_\_ GW1

Completed by: \_\_\_\_\_ Blake Moore  
Print Name

  
Signature

Date: \_\_\_\_\_ 4/11/2016

(A) Grid Point No.	(B) Distance from liquid surface to top of sludge		(C) Distance from liquid surface to lagoon bottom (soil)			(C)-(B) Thickness of sludge layer			
	Ft.	& In.	Ft. (tenths)	Ft.	& In.	Ft. (tenths)	Ft.	& In.	Ft. (tenths)
1	5.5		5.5	9.5		9.5			4.0
2	6.25		5.3	9		9.0			3.8
3	5		5.0	9		9.0			4.0
4	5.25		6.3	8.75		8.8			3.5
5	5		5.0	8.5		8.5			3.5
6	5.5		5.5	8.5		8.5			3.0
7	8		8.0	9		9.0			3.0
8	6.5		6.5	9		9.0			2.5
9	6.5		6.5	9		9.0			2.5
10	6.5		6.5	9		9.0			2.5
11	5.25		5.3	8.75		8.8			3.5
12	5.25		5.3	8.25		8.3			3.0
13	5		5.0	8.5		8.5			3.5
14	4.5		4.5	9		9.0			4.5
15	4.5		4.5	9		9.0			4.5
16			0.0			0.0			0.0
17			0.0			0.0			0.0
18			0.0			0.0			0.0
19			0.0			0.0			0.0
20			0.0			0.0			0.0
21			0.0			0.0			0.0
22			0.0			0.0			0.0
23			0.0			0.0			0.0
24			0.0			0.0			0.0
Number of points with readings				X	X		X	X	
Average of points			5.44			8.86	X	X	3.42
At pump Intake		NA	5.5	X	X	X	X	X	X

\*All Grid Points and corresponding sludge layer thicknesses must be shown on a sketch attached to this Sludge Survey Data Sheet.

The average thickness of the sludge layer and the thickness of the existing liquid (sludge-free) treatment zone are determined from the information on the Lagoon Sludge Survey Form ( Items O and P, respectively). In this example, the average sludge layer thickness is 2.5 feet and the existing liquid treatment zone is 3.5 feet. If the lagoon has a designed sludge storage volume, see notes at end of the worksheet. The dimensions of the lagoon as measured and the side slope are needed for calculations of sludge volume and of total treatment volume. If the lagoon is a standard geometric shape, the sludge volume and the treatment volume in the lagoon can be estimated by using standard equations. For approximate volumes of rectangular lagoons with constant side slope, calculate length and width at the midpoint of the layer, and multiply by layer thickness to calculate layer volume, as shown in the example. For irregular shapes, convert the total surface area to a square or rectangular shape. For exact volumes for lagoons with constant side slope, the "Prismoidal Equations" may be used.

	Example	Your Lagoon
1. Average sludge Layer Thickness (T)	2.5 ft.	3.4
2. Depth of the lagoon from top of bank to bottom soil surface (D)	11 ft.	10.0
3. Slope = Horizontal/ vertical side slope (S)	3	3.0
4. Length at the top of inside bank (L)	457 ft.	495.0
6. Width at top inside slope (W)	229 ft.	252.0
6. Length at midpoint of sludge layer $L_m = L-2S(D-T/2)$	398.5 ft.	445.3
7. Width at midpoint of sludge layer $W_m = W-2S(D-T/2)$	170.5 ft.	202.3
8. Volume of sludge (Vs) $V_s = L_m W_m T$	169,860 ft <sup>3</sup>	307,989
9. Volume in gallons: $V_{sg} = V * 7.6 \text{ gal./ft}^3$	1,273,950 gal.	2,309,905
10. Thickness of existing liquid trt. zone (Y)	3.5 ft	3.8
11. Thickness of total treatment zone (Z) $Z = T+Y$	6 ft	7.2
12. Length at midpoint of total trt. zone $L_z = L-2(S)(D-Z/2)$	409 ft.	455.7
13. Width at midpoint of total trt. Zone $W_z = W-2(S)(D-Z/2)$	181 ft.	213.7
14. Volume of total treatment zone (Vz) $V_z = L_z W_z Z$	444,174 ft <sup>3</sup>	704,455
15. Ratio (R) of sludge layer volume to total Treatment Volume $R = V_s/V_z$	0.36	0.44

If the ratio R exceeds 0.60, then a sludge Plan of Action may be required. Check with DWQ for information on filling the Plan of Action.

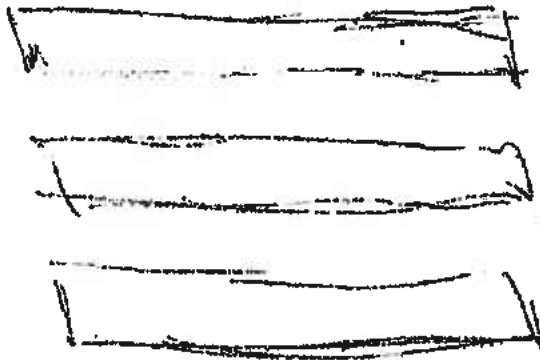
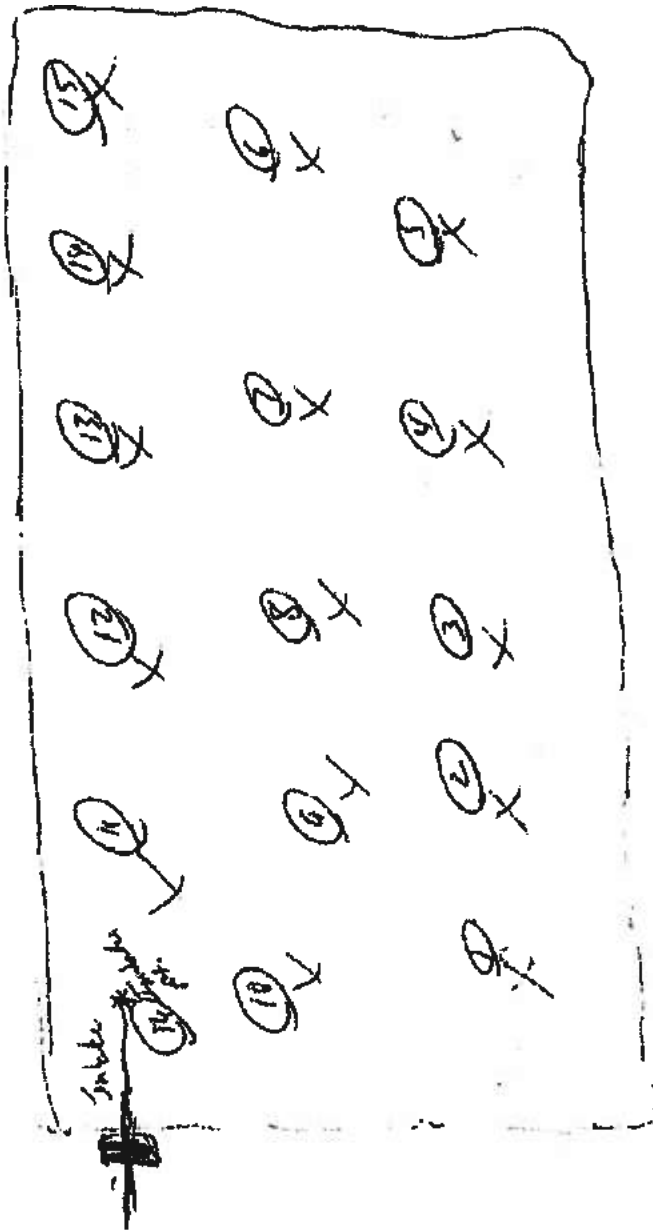
Note: If the lagoon has a designed sludge storage volume (DSSV), subtract that volume from both the volume of sludge (Vs) (Item 8) and from the volume of total treatment zone (Vz) (Item 14), and take the ratio.

Then,  $R = (V_s - DSSV) / (V_z - DSSV)$

Example: If DSSV = 85,000 ft<sup>3</sup>, then  $R = (169,860 - 85,000) / (447,174 - 85,000) = 84,860 / 362,174 = 0.24$ .

16. Design sludge storage volume (DSSV)	85,000	
17. Ratio (R) of sludge layer volume to treatment volume adjusted for designed sludge storage volume	0.24	0.44

GW#1



Hog Holes



Facility Number 77 - 90

- Division of Water Resources
- Division of Soil and Water Conservation
- Other Agency

Type of Visit:  Compliance Inspection  Operation Review  Structure Evaluation  Technical Assistance

Reason for Visit:  Routine  Complaint  Follow-up  Referral  Emergency  Other  Denied Access

Date of Visit: 1/28/15 Arrival Time: 9:15 Departure Time: 10:45 County: RENDER Region: \_\_\_\_\_

Farm Name: GREENWOOD LIVESTOCK #1 LLC Owner Email: \_\_\_\_\_

Owner Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

Physical Address: \_\_\_\_\_

Facility Contact: \_\_\_\_\_ Title: \_\_\_\_\_ Phone: \_\_\_\_\_

Onsite Representative: GREGG MOORE TERRY STUART Integrator: \_\_\_\_\_

Certified Operator: \_\_\_\_\_ Certification Number: 25279

Back-up Operator: \_\_\_\_\_ Certification Number: \_\_\_\_\_

Location of Farm: \_\_\_\_\_ Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_

Swine			Wet Poultry			Cattle		
	Design Capacity	Current Pop.		Design Capacity	Current Pop.		Design Capacity	Current Pop.
Wean to Finish			Layer			Dairy Cow		
Wean to Feeder			Non-Layer			Dairy Calf		
<input checked="" type="checkbox"/> Feeder to Finish	<u>3672</u>	<u>3600</u>				Dairy Heifer		
Farrow to Wean						Dry Cow		
Farrow to Feeder						Non-Dairy		
Farrow to Finish						Beef Stocker		
Gifts						Beef Feeder		
Boars						Beef Brood Cow		
Other			Dry Poultry					
			Layers					
			Non-Layers					
			Pullets					
			Turkeys					
			Turkey Poults					
			Other					

**Discharges and Stream Impacts**

1. Is any discharge observed from any part of the operation?  Yes  No  NA  NE

Discharge originated at:  Structure  Application Field  Other: \_\_\_\_\_

a. Was the conveyance man-made?  Yes  No  NA  NE

b. Did the discharge reach waters of the State? (If yes, notify DWR)  Yes  No  NA  NE

c. What is the estimated volume that reached waters of the State (gallons)? \_\_\_\_\_

d. Does the discharge bypass the waste management system? (If yes, notify DWR)  Yes  No  NA  NE

2. Is there evidence of a past discharge from any part of the operation?  Yes  No  NA  NE

3. Were there any observable adverse impacts or potential adverse impacts to the waters of the State other than from a discharge?  Yes  No  NA  NE



Facility Number: 71-90

Date of Inspection: 1/28/15

24. Did the facility fail to calibrate waste application equipment as required by the permit?  Yes  No  NA  NE

25. Is the facility out of compliance with permit conditions related to sludge? If yes, check the appropriate box(es) below.  Yes  No  NA  NE

Failure to complete annual sludge survey  Failure to develop a POA for sludge levels

Non-compliant sludge levels in any lagoon  
List structure(s) and date of first survey indicating non-compliance: \_\_\_\_\_

26. Did the facility fail to provide documentation of an actively certified operator in charge?  Yes  No  NA  NE

27. Did the facility fail to secure a phosphorus loss assessments (PLAT) certification?  Yes  No  NA  NE

**Other Issues**

28. Did the facility fail to properly dispose of dead animals with 24 hours and/or document and report mortality rates that were higher than normal?  Yes  No  NA  NE

29. At the time of the inspection did the facility pose an odor or air quality concern? If yes, contact a regional Air Quality representative immediately.  Yes  No  NA  NE

30. Did the facility fail to notify the Regional Office of emergency situations as required by the permit? (i.e., discharge, freboard problems, over-application)  Yes  No  NA  NE

31. Do subsurface tile drains exist at the facility? If yes, check the appropriate box below.  Yes  No  NA  NE  
 Application Field  Lagoon/Storage Pond  Other: \_\_\_\_\_

32. Were any additional problems noted which cause non-compliance of the permit or CAWMP?  Yes  No  NA  NE

33. Did the Reviewer/Inspector fail to discuss review/inspection with an on-site representative?  Yes  No  NA  NE

34. Does the facility require a follow-up visit by the same agency?  Yes  No  NA  NE

Comments (refer to question #): Explain any YES answers and/or any additional recommendations or any other comments. Drawings of facility to better explain situations (use additional pages as necessary).

4. + 15.) MEETING WITH TIM HALL JASON TURNER MARTIN McLAUGHLIN SAM EDWARDS TO EVALUATE IRRIGATION FIELDS. FESCUE FIELD IN POOR CONDITION. RECENTLY BROADCAST OATS ON FESCUE AND BERNUDA FIELD FOR 50 LBS OVERSEED. TIM TO SEND RECOMMENDATION TO DNWR HOW TO ADDRESS. KEEP DOCUMENTATION AND INFORM DNWR OF PROGRESS. ~~UNDERSTAND~~

34.) DNWR TO DO JOINT INSPECTION LATER IN YEAR.

NEW OWNERS AS OF DEC 2014. IN PROCESS OF UPDATE FARM PARTICIPATION TO RALEIGH.

Reviewer/Inspector Name: JOHN FARNELL

Phone: (903) 96-738

Reviewer/Inspector Signature: *John Farnell*

Date: 1/28/15

2/4/2014



Facility Number: 71-90

Date of Inspection: 1/28/16

**Waste Collection & Treatment**

4. Is storage capacity (structural plus storm storage plus heavy rainfall) less than adequate?  Yes  No  NA  NE
- a. If yes, is waste level into the structural freeboard?  Yes  No  NA  NE

	Structure 1	Structure 2	Structure 3	Structure 4	Structure 5	Structure 6
Identifier:	<u>LAGOON</u>					
Spillway?:						
Designed Freeboard (ft):						
Observed Freeboard (ft):	<u>13</u>					

5. Are there any immediate threats to the integrity of any of the structures observed? (i.e., large trees, severe erosion, seepage, etc.)  Yes  No  NA  NE
6. Are there structures on-site which are not properly addressed and/or managed through a waste management or closure plan?  Yes  No  NA  NE

If any of questions 4-6 were answered yes, and the situation poses an immediate public health or environmental threat, notify DWR

7. Do any of the structures need maintenance or improvement?  Yes  No  NA  NE
8. Do any of the structures lack adequate markers as required by the permit? (not applicable to roofed pits, dry stacks, and/or wet stacks)  Yes  No  NA  NE
9. Does any part of the waste management system other than the waste structures require maintenance or improvement?  Yes  No  NA  NE

**Waste Application**

10. Are there any required buffers, setbacks, or compliance alternatives that need maintenance or improvement?  Yes  No  NA  NE
- . Is there evidence of incorrect land application? If yes, check the appropriate box below.  Yes  No  NA  NE
- Excessive Ponding  Hydraulic Overload  Frozen Ground  Heavy Metals (Cu, Zn, etc.)
- PAN  PAN > 10% or 10 lbs.  Total Phosphorus  Failure to Incorporate Manure/Sludge into Bare Soil
- Outside of Acceptable Crop Window  Evidence of Wind Drift  Application Outside of Approved Area

12. Crop Type(s): \_\_\_\_\_

13. Soil Type(s): \_\_\_\_\_

14. Do the receiving crops differ from those designated in the CAWMP?  Yes  No  NA  NE
15. Does the receiving crop and/or land application site need improvement?  Yes  No  NA  NE
16. Did the facility fail to secure and/or operate per the irrigation design or wettable acres determination?  Yes  No  NA  NE
17. Does the facility lack adequate acreage for land application?  Yes  No  NA  NE
18. Is there a lack of properly operating waste application equipment?  Yes  No  NA  NE

**Required Records & Documents**

19. Did the facility fail to have the Certificate of Coverage & Permit readily available?  Yes  No  NA  NE
20. Does the facility fail to have all components of the CAWMP readily available? If yes, check the appropriate box.  Yes  No  NA  NE
- WUP  Checklists  Design  Maps  Lease Agreements  Other: \_\_\_\_\_

21. Does record keeping need improvement? If yes, check the appropriate box below.  Yes  No  NA  NE
- Waste Application  Weekly Freeboard  Waste Analysis  Soil Analysis  Waste Transfers  Weather Code
- Rainfall  Stocking  Crop Yield  120 Minute Inspections  Monthly and 1" Rainfall Inspections  Sludge Survey
22. Did the facility fail to install and maintain a rain gauge?  Yes  No  NA  NE
23. If selected, did the facility fail to install and maintain rainbreakers on irrigation equipment?  Yes  No  NA  NE