STATE OF NORTH CAROLINA

COUNTY OF DUPLIN

IN THE OFFICE OF
ADMINISTRATIVE HEARINGS
NO. 10-EHR-5508

HOUSE OF RAEFORD FARMS, INC., Petitioner,	)	
v.	)	TRANSCRIPT OF HEARING
NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, Respondent.	)	

Before Honorable Augustus B. Elkins II

Administrative Law Judge

TUESDAY, NOVEMBER 29, 2011

Courtroom B

Office of Administrative Hearings

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Volume 3 of 8

Pages 395 through 568

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1 **F U R T H E R P R O C E E D I N G S** 10:01 a.m.
2 The Court: Good morning. This hearing is
3 called to order. Today is October the 29th--I'm sorry,
4 November the 29th, 2011. And all parties present when we
5 recessed back in October are again present. Mr. Holley, if I
6 can have you return to the stand, and I'll remind you as you
7 approach that you remain under oath.
8 (Whereupon,
9 **JAMES K. HOLLEY, P.G.**
10 the witness on the stand at the time of adjournment on
11 October 26, 2011, resumed the stand and testified further as
12 follows:)
13 The Court: As is my custom when we have
14 this type of break, we did hold a brief conference with the
15 attorneys involved just before the hearing just to double-
16 check where we were in the hearing and what we saw as the
17 schedule for the rest of the week. With that being said, I
18 believe we're at cross-examination, and Ms. LeVeaux, you may
19 continue.
20 Ms. LeVeaux: Thank you, Your Honor.
21 **C R O S S - E X A M I N A T I O N** 10:08 a.m.
22 By Ms. LeVeaux:
23 Q Good morning, Mr. Holley.
24 A Good morning.
25 Q I hope you had a nice Thanksgiving.

1 A Yes, it was good, thank you.
2 Q Good. Mr. Holley, did you have an occasion to
3 talk with Joe Teachey, the operator in charge?
4 A I believe my first trip in January he was present
5 for a brief period of time, yeah.
6 Q Okay. Can you--I'm having a hard time hearing
7 you---
8 A (interposing) Okay.
9 Q ---just a little bit. You may have a cold or
10 something. So he was present, but you don't remember
11 speaking with him directly?
12 A I know that we visited some of the bridges
13 together as a group along with Clay Howard. And I'm sure he
14 had some things to say, but I don't recall anything specific.
15 Q But you do recognize that he was the operator in
16 charge, do you not?
17 A Yes.
18 Q And you also are aware of the fact that just prior
19 to the September 9th, 2009 discharge that the secondary--the
20 valve of the secondary lagoon had to be replaced, or the
21 valve between the two lagoons had to be replaced?
22 A I understand that there was a replacement of the
23 valve between the two lagoons that was undertaken sometime
24 prior to that date.
25 Q Would it shock you that Mr. Teachey's contention

1 or testimony, prior testimony, was that it took more than a
2 day to do that replacement?
3 A No. I've reviewed his testimony, and it's--I
4 wasn't there so I can't say a whole lot about what was
5 involved with that, but I take him at his word that it took
6 several days to prepare and replace that valve.
7 Q You are a senior hydrologist and not a stream
8 standards or water quality specialist; is that correct?
9 A That's correct.
10 Q Okay. So when I asked you if you knew how the
11 waste--or what the waste in the winery looked like, that's
12 not within your expertise, is it?
13 A No. I've done a little bit of reading since you
14 asked that question just to familiarize myself a little bit
15 more about some publications that relate to winery waste
16 treatment processes.
17 Q Okay. So you are aware of how the water would
18 interact with say a vegetable waste versus an animal
19 by-product waste?
20 A What do you mean by how it would interact, in
21 which application?
22 Q I'm just asking you are you aware of how the two
23 would interact, that they would interact differently.
24 A I understand the basic process associated with
25 winery waste treatment from the readings that I've done over

1 the last month. And I understand the overall lagoon treat-
2 ment process that is utilized for that, yes.
3 Q Let me ask you this. What the waste would look
4 like, the waste from say Duplin Winery versus Carolina
5 By-Product, vegetable or fruit, and versus an animal--
6 you--would you expect them to look the same?
7 A No.
8 Q Okay. Do you know whether any solids were removed
9 from lagoon number 1?
10 A Solids removed; at what time?
11 Q When you went out to look at the lagoon--you only
12 went out there twice; correct?
13 A Correct.
14 Q Do you know if in the course of the life of lagoon
15 number 1 if solids were ever removed from lagoon number 1?
16 A I don't recall anything directly. I do--I believe
17 I read in someone's deposition that someone admitted they had
18 removed solids in the past from the primary lagoon, but I
19 don't recall.
20 Q Could that be Mr. Teachey's deposition?
21 A It quite possibly could have been.
22 Q Are you familiar with the term "septic"?
23 A Yes.
24 Q And what is your understanding of the term
25 "septic"?

1 A My understanding of the term "septic" is you have
2 a condition in which oxygen is dramatically depleted due to
3 breakdown of organic matter. And you have a dark coloration
4 that's often associated with that and a strong odor.
5 Q Is there--is there an odor always associated with
6 a septic event as far as you know?
7 A Well, I'm not sure I fully understand the
8 question. What type of odor are you talking about?
9 Q No, I'm saying do you know whether or not there's
10 always an odor associated with something being septic?
11 A I wouldn't be willing to make that absolute of a
12 statement, that there would always be an odor.
13 Q And over the holiday, did you have a better under-
14 standing of sludge or acquire a greater understanding of
15 sludge?
16 A I think I had a pretty good understanding of
17 sludge to start with.
18 Q And what is your understanding?
19 A Sludge is a process--by-product from wastewater
20 treatment that--it involves solids.
21 Q So when---
22 A (interposing) Solids---
23 Q ---you were on your--I'm sorry. Did I cut you
24 off?
25 A Yeah.

1 Q I'm sorry.
2 A Let me clarify. It's solids generated by a waste-
3 water treatment process.
4 Q So when you were in the boat with Clay and others,
5 you didn't see solids in that boat ride, did you?
6 A We were on top of the water. Solids of what type?
7 I mean solids is a broad category.
8 Q Okay. In your--in the petitioner's exhibits, you
9 pointed to algae and algae blooms, did you not?
10 A Yes.
11 Q You pointed to various particles on top of the
12 water in Cabin--when you were in Cabin Branch; is that not
13 correct?
14 A That's correct.
15 Q But you never referenced to a sludge consistent
16 with the definition that you just gave us, did you?
17 A In January or April of 2011, no.
18 Q When you did the--when you were on the---
19 A (interposing) In the boat?
20 Q The boat, in the boat.
21 A That was in April of 2011.
22 Q There were two--I'm sorry?
23 A That was April of 2011.
24 Q Okay. So in your January trip you didn't take the
25 boat?

1 A No.
2 Q It was in April of 2011?
3 A Uh-huh.
4 Q So it's fair to say that it was in the spring; is
5 that correct?
6 A Yes.
7 Q It's also fair to say that you didn't grab any
8 water samples at Valley Protein, did you?
9 A I wasn't allowed, you know, access to Valley
10 Protein. I observed Valley Protein from outside the fence
11 along the railroad tracks.
12 Q So the answer to that is you did not grab any
13 water samples at Valley Protein/North Carolina By-Products?
14 A No, I did not collect any samples of any sort.
15 Q You also testified that both Duplin Winery and
16 Valley Proteins/North Carolina By-Products, and I'll use
17 those names interchangeably and try to use them together, had
18 prior water quality violations. Wasn't that in fact your
19 testimony?
20 A Yes.
21 Q But did you determine whether or not House of
22 Raeford had prior water quality violations?
23 A I just reviewed the records that were provided to
24 me associated with this case through discovery. I didn't see
25 any documentation of prior issues preceding this September

1 2009 event. There were no documents associated with anything
2 prior to that, other than I know there was a document asso-
3 ciated with a fish kill report from the spring of 2009---
4 Q (interposing) Okay. So you---
5 A ---on---
6 Q (interposing) I'm sorry.
7 A ---on the Beaverdam Branch.
8 Q Okay. So in fact those--that earlier 2009 fish
9 kill just prior to September 9th, those were also House of
10 Raeford companies, were they not, that were investigated in
11 that earlier fish kill---
12 A (interposing) I don't know---
13 Q ---or the last fish kill?
14 A I think they never assigned a responsible source
15 to the fish kill. There were several mentioned potential
16 contributors in the report that I reviewed, and I believe
17 those contributors included the Duplin Winery. I believe a
18 mention was made of potential from House of Raeford and from
19 the Carolina By-Products facilities. All three of those
20 were---
21 Q (interposing) Okay. So you mentioned House of
22 Raeford, but actually House of Raeford wasn't--this--House of
23 Raeford Rose Hill was not investigated. It was the chicken
24 hatchery that was investigated, was it not, and the turkey
25 hatchery?

1 A It wasn't clear to me in that statement who they
2 were referring specifically to. It mentioned House of
3 Raeford kind of in a general sense. It didn't go into
4 specifics about--it was a one page summary that I saw that
5 was produced in the documents.
6 Q Are you familiar or aware of a relationship
7 between the chicken and the turkey hatcheries and House of
8 Raeford?
9 A I understand that House of Raeford is a company
10 that has multifacets to it, not just the poultry processing,
11 but also growing operations, so I would say yes.
12 Q And so you're also aware that the chicken hatchery
13 is actually adjacent to the Magnolia Elementary School, are
14 you not?
15 A I don't know details about what's a chicken
16 hatchery. I haven't visited any of those facilities to know
17 exactly where they are.
18 Q What about the turkey hatchery?
19 A I saw a building that was identified to me as
20 being a turkey hatchery.
21 Q But they're both off of Cabin Branch; is that not
22 correct?
23 A The turkey hatchery facility I would say is within
24 the Cabin Branch watershed, yes.
25 Q But you didn't investigate the turkey hatchery,

1 did you?
2 A No.
3 Q And they're both upstream of House of Raeford, are
4 they not?
5 A I don't know about the chicken one. I know that
6 the one that was identified to me as being the turkey
7 hatchery would be upstream, yes.
8 Q Did you have an occasion at the House of Raeford
9 to look at lagoon number 1?
10 A Yes.
11 Q Please describe lagoon number 1 as you remember
12 seeing it in 2011.
13 A Lagoon number 1 is a--I believe is an anaerobic
14 primary lagoon for receiving the first water coming off of
15 the diffused aeration--diffused air flotation system. It
16 receives the first water from their wastewater process. It's
17 an earthen lagoon that has accumulated wastewater in it.
18 Q Did you--did you observe lagoon number--you did
19 observe lagoon number 1 when you were out there?
20 A Yes.
21 Q So you saw the berm between the two lagoons; is---
22 A (interposing) Uh-huh.
23 Q ---that correct?
24 A Yes.
25 Q And did you also observe a ditch between the two?

1 A I did not see a ditch in between the two lagoons.
2 Q Okay. You indicated that you did have--you may
3 have had some conversations with Joe Teachey because he may
4 have been with the group in the boat. Did you talk with him
5 about what he observed on or about September the 10th, 2009?
6 A Let me--let me help clarify your question. He was
7 not, I don't believe, in the boat---
8 Q (interposing) Okay.
9 A ---in April of 2011. I think I met him in January
10 on our first visit, January 2011.
11 Q Okay. So when you spoke with Joe Teachey in
12 January of 2011, did you talk with him about what he observed
13 on or about September the 10th, 2009?
14 A Yes, I believe so.
15 Q And what do you remember him telling you?
16 Mr. Jones: Objection.
17 The Court: It's overruled.
18 A I don't recall a whole lot of details. I know
19 I've read his testimony in more detail, and I might be
20 confusing what I've read from that versus what he might have
21 related in oral conversation. But I don't recall any
22 inconsistencies between what he and I discussed or he may
23 have mentioned in January versus what he testified to.
24 Q Would it surprise you that--to know that Joe
25 Teachey noted that there were weeds and duckweed and a

1 floating material, gray in color, not moving, a floating gray
2 matter in the creek? Would that observation surprise you?
3 A No, that seems to be consistent with the photo-
4 graphs.
5 Q And what do you think that floating gray matter,
6 not moving, in the creek was? Do you have an opinion?
7 A I think it was an impairment to the stream of a
8 substantial amount of organic matter. Its source is undeter-
9 mined.
10 Q In your investigation wouldn't you think that it
11 was essential that you spend more time with Joe Teachey since
12 he did in fact observe the gray matter or the sludge-like
13 sludge material in the creek?
14 A My expertise is in hydrology, and my focus was to
15 observe the conditions of the stream system that was impaired
16 and gain an independent understanding of the hydrology of the
17 stream and the facts in the case as they relate to that
18 environment.
19 Q But isn't it also your purpose to try to secure an
20 opinion as to the cause of the sludge that happened to
21 accumulate right behind the lagoon of House of Raeford?
22 A I believe it was my role to evaluate the condi-
23 tions of the steam and the hydrology of the stream and to
24 determine the potential for unidentified sources that may
25 have been overlooked by the state and not considered in the

1 overall arguments related to the incident of question.
2 Q Did you know that there had been in the months
3 prior to the September about 10th--September 10, 2009
4 discharge--did you know that there had been a request from
5 DWQ, my clients, for the House of Raeford to secure a storm-
6 water permit?
7 A I believe I reviewed some documents in the record
8 that mentioned that they as well as Parker Bark had some
9 stormwater permit compliance issues that need to be
10 addressed. That's all I recall was that comment out of
11 the---
12 Q So without getting to Parker Bark, you are aware
13 that House of Raeford did not have a stormwater permit for a
14 long period of time; is that correct?
15 A I can't say that with any specificity. All I know
16 is I read a reference to a compliance issue related to storm-
17 water for the House of Raeford Farms.
18 Q Were you also aware of the fact that House of
19 Raeford has a sludge permit, which they have never used?
20 A I did read that.
21 Q Now, you've indicated that you didn't inspect the
22 chicken hatchery on Brooks Quinn Road, which is owned in part
23 by House of Raeford. And you indicated that you didn't
24 inspect the turkey hatchery, and both discharge to Cabin
25 Branch just like House of Raeford. Did you inspect Big Ed--

1 it's a corn storage silo--which is also associated or owned
2 by House of Raeford?
3 A You made two declarative statements, some of which
4 I don't agree with. You declared that--I believe you said
5 that those two hatchery facilities discharge into Cabin
6 Branch, and I don't think there's any--I don't have any
7 knowledge of them having any discharge into Cabin Branch. So
8 I think that's an incorrect statement. I believe--I don't
9 know where their wastewater goes. I'll just say that---
10 Q (interposing) Okay, so---
11 A ---at those facilities. Now, you also mentioned
12 another facility. Could you please bring that one up again
13 to help me understand the question?
14 Q I'd be more than happy to repeat the question.
15 A Thank you.
16 Q If there was evidence that showed that the turkey
17 plant owned by House of Raeford and the chicken plant owned
18 by House of Raeford discharge to the Cabin Branch, wouldn't
19 you in your investigation think that that was important to
20 investigate those two facilities?
21 A I believe I asked a question of Clay Howard about
22 their potential wastewater handling operations, and he said
23 that their water consumption was very small and they didn't--
24 I don't believe--I may be wrong, but I believe his response
25 was that they didn't have a separate wastewater handling

1 facility, and I believe they went to maybe the sewer--the
2 sanitary sewer system or something, but I don't recall for
3 certain.
4 Q Okay. You don't recall for certain?
5 A But I remember that conversation made me think
6 that there wasn't anything that I needed to be looking at on
7 those facilities.
8 Q Well---
9 A (interposing) Because they didn't--I don't think
10 they had permitted wastewater handling facilities was what
11 was relayed to me.
12 Q Okay. Did you inspect Big Ed's, which is the corn
13 storage silo, which is right across Highway 117?
14 A I saw it from the road. I didn't know it as Big
15 Ed's, but there is a corn silo, a grain silo facility, I
16 believe--yes.
17 Q Okay. So anyone in that area inspecting that area
18 it would seem to me that to do a thorough inspection they
19 would seem--they would have to have some familiarity with the
20 area, would they not?
21 A Yes.
22 Q So is it fair to say that two visits doesn't quite
23 give you the familiarity with the area that say a representa-
24 tive from DWQ might have. Is that a fair statement?
25 A I don't know what knowledge a representative from

1 DWQ might have. You know, if you were talking about a
2 specific person that had specific on the ground knowledge,
3 that's different. So I don't think I can agree with that
4 statement.
5 Q Is it fair to say that when you gather samples for
6 example for dissolved oxygen levels that the season is
7 relevant because it may be--it may vary from season to
8 season; isn't that correct?
9 A Certainly, yes.
10 Q And it may vary from year to year. Isn't that a
11 fair statement?
12 A Depending upon the conditions, yes.
13 Q Depending upon the conditions; correct?
14 A Yes.
15 Q And it is true, is it not, that in September 9,
16 2009, that area had just come out of a drought, or do you
17 know?
18 A I know that in that month and I believe into
19 October the North Carolina Division of Water Resources
20 established that they were in a drought level zero 0, which
21 is abnormally dry, throughout that period. So I don't
22 believe the drought--the minimal drought had been lifted up
23 and through October.
24 Q So in January of 2011, not only were we not in a
25 drought but we were in--coming out of the winter season; is

1 that not correct?
2 A Yes.
3 Q In the data that you produced, you show dissolved
4 oxygen levels, but you didn't show all the locations that
5 were visited by DWQ, did you?
6 A I'm not certain of all the locations listed by
7 DWQ. I created a summary of sample results that I gleaned
8 from the records, and I may have missed a station. I'm not
9 positive of that. I tried to make a map that was as compre-
10 hensive of the minimum dissolved oxygen as what was available
11 from the records provided to me.
12 Q Can we see that map again?
13 A Uh-huh. You're asking for the September 2009
14 minimum dissolved oxygen map?
15 Q Yeah, where you--where you were--that shows Cabin
16 Branch where it drains to and the dissolved oxygen results
17 that you secured in 2011.
18 A I'm sorry, in when?
19 Q Just the big, overbroad map that you had. You put
20 it up there last time.
21 A I put two maps.
22 Q Okay.
23 A I had one that summarized 2009 data and one that
24 summarized 2010 data. Which one---
25 Q (interposing) Okay. I'm interested in the map

1 that you had that shows the big--and I don't know which one
2 it is. It's the big picture, and so that I can look at the
3 influences into Cabin Branch alone, so if you could show me
4 that.
5 A And I don't know how to operate this projector.
6 Is there a way to turn this on?
7 Ms. Jones: I think they told me last time
8 you have a switch to turn it from the---
9 The Court: Okay.
10 (Pause.)
11 The Reporter: And Your Honor, I think--if I'm
12 not mistaken, I think for the record that is in Petitioner's
13 Exhibit 26.
14 Ms. LeVeaux: It is in petitioner's exhibits.
15 By Ms. LeVeaux:
16 Q Is this the one that also shows the drainage to
17 Cabin Branch, or did you use another picture to show---
18 A (interposing) Two separate maps, and one that
19 showed aeros just to illustrate the---
20 Q (interposing) Okay, yeah. I can tell you which
21 exhibit that is. It's in Exhibit 26, Petitioner's Exhibit
22 26, and is the first map, Figure 1.
23 Mr. Jones: Is it that one or is it the
24 next page?
25 Mr. Poupart: It's the third slide.

1 Ms. LeVeaux: Oh, the third slide?
2 Mr. Poupart: Yes.
3 Ms. LeVeaux: Oh, sorry, it's the third
4 slide.
5 The Witness: Figure 2? Okay.
6 By Ms. LeVeaux:
7 Q Okay. Is that--is that in there?
8 A Yeah. This one (indicating)?
9 Q Okay, yes. Okay. So in this--in Petitioner's
10 Exhibit 26, Figure 2, you're showing the flow. And the
11 irony, or at least--it is fair to say, is it not, that Cabin
12 Branch flows north; correct?
13 A It flows--it initially flows north-northeast.
14 Q Right, so most rivers or stream you expect to flow
15 down, but this is a--it's flowing up, correct, according to
16 this map?
17 A It is--it is flowing from a high elevation to a
18 low elevation. North or south doesn't have anything to do
19 with up or down.
20 Q Okay. And you're showing Carolina By-Products
21 with a purple little house. And actually the headwaters are
22 right there, are they not?
23 A A portion of the headwaters of Cabin Branch exist
24 right there adjacent to---
25 Q (interposing) Okay.

1 A ---Carolina By-Products.
2 Q And then but down on the other side, if we were to
3 go south of that little red house that shows Carolina
4 By-Products or Valley Proteins, there's another system.
5 There's a Taylor Creek system. Are you aware of that?
6 A Yeah, there's a separate stream. There's a
7 divide. And I'll sketch it right here. I believe this will
8 work. There's a topographic divide that runs right along
9 Yellow Cut Road, and it divides the two drainage basins.
10 Q Right, so some of it, very little--some of it goes
11 off to Cabin Branch and some of it goes off to the Taylor
12 Creek system; is that---
13 A (interposing) Some of---
14 Q ---correct?
15 A Some of what? Some of what?
16 Q Drainage waters. There's a ridge there, is it not
17 correct?
18 A There is a ridge there. That's correct.
19 Q Okay. So some of the drainage water would go to
20 one side and some would go the other. Is that a fair---
21 A (interposing) Yeah.
22 Q ---statement?
23 A Yeah. If rainfall landed on the ground on this
24 side to the north of this divide line (indicating), then it
25 would stay inside Cabin Branch drainage system. If it fell

1 to the south of that divide line, it would be in a separate
2 drainage system, but I don't know the name of that one.
3 Q Well, you really don't know if it would go to the
4 south of Cabin--of Carolina By-Products system only--or Cabin
5 Branch. You don't know where it would drop because you
6 didn't go onto the property. You just observed the property
7 from the fence, did you not?
8 A I reviewed USGS topographic maps that I believe to
9 be true and accurate representations of topography, and they
10 can be used to determine drainage basins and assign
11 directions of drainage and flow. I didn't have to enter upon
12 the property to make that assessment. That's kind of a
13 standard geological interpretation that can be made from
14 elevation data.
15 Q Right, and I'm also aware of that topo. Thank
16 you. But the thing is, is that some of it goes off to Taylor
17 Creek and some goes to Cabin Branch?
18 A Water that falls to the south of that line would
19 stay in that separate drainage basin. Water that falls to
20 the north of that line would drain in Cabin Branch. I think
21 that's clear.
22 Q And show me, if you will--you have the arrows
23 going down. Show me about at what point the turkey hatchery
24 is located, if you know.
25 A I think it--it may be in this--in this area

1 (indicating). I'm not positive, but I think that might be
2 it.
3 Q And then the chicken hatchery?
4 A I don't know about the chicken hatchery.
5 Q Okay. What about Big Ed's?
6 A The grain silos, I believe, are--and it's hard to
7 tell on this map. I could tell maybe on an air photograph,
8 but I think they're roughly in this area (indicating) along
9 117. I could be a little bit off on that.
10 Q But again, it's your understanding--or you're not
11 aware of it discharging to Cabin Branch at all. Is that a
12 fair---
13 A (interposing) Of what discharging?
14 Q ---statement? That there's any discharge to Cabin
15 Branch off of those two facilities; are you aware?
16 A Of---
17 Q (interposing) You said you were not aware of any
18 discharges to Cabin Branch. Is that a correct statement?
19 A Discharges of what?
20 Q Discharges of wastewater.
21 A Wastewater, okay; no, I'm not aware of any
22 discharge of wastewater. I am--I believe Mr. Teachey
23 mentioned that there had been a grain spill on the railroad
24 track somewhere close to that grain silo within the basin
25 about this same time. But there wasn't a whole lot of detail

1 available to understand exactly the magnitude of that and
2 where exactly it occurred.
3 I just knew that in general terms that something
4 associated with the grain operation and the railroad had--I
5 think a railroad car fell off the track and spilled grain
6 into part of the Cabin Branch drainage system.
7 Q Do you know when that occurred?
8 A Very similar time frame is my understanding, but
9 there's no solid documentation of the exact timing of that.
10 I think that's---
11 Q (interposing) So the---
12 A ---something Joe Teachey mentioned to me.
13 Q So the answer is you don't know when it occurred?
14 A No.
15 Q And just to back up on a statement that I made
16 earlier, when you produced your various levels of dissolved
17 oxygen, you went to some of the locations visited by DWQ but
18 you didn't go to all the locations. Is that a fair
19 statement?
20 A I didn't measure any dissolved oxygen anywhere. I
21 created maps to summarize data that were available to me.
22 The subsequent data not produced by DWQ that I presented in
23 the second map of dissolved oxygen was from September 2010.
24 That was data collected by a laboratory, Environmental
25 Chemists, on behalf of House of Raeford.

1 Q Okay.
2 A I simply looked at it in context of where it was
3 collected to consider it relative to the drainage basin.
4 Q Okay. Just to--it was not data that was not
5 produced by DWQ. It was separate data that you acquired
6 separate and apart from---
7 A (interposing) It was given to me.
8 Q Okay.
9 A It was shared with me.
10 Q But again, whether a DO level is high or low is
11 relative to the conditions that are occurring at that
12 particular time. Is that a correct statement?
13 A Dissolved oxygen levels vary based upon a wide
14 variety of things. Temperature can influence dissolved
15 oxygen levels. Nutrient loading plays a big role in
16 dissolved oxygen levels.
17 Groundwater contribution to stream flow can play a
18 big role in dissolved oxygen levels in a stream because
19 generally groundwater is very low dissolved oxygen. And if
20 the larger portion of a stream flow is base flow from a
21 groundwater system, then you will tend to see a decrease in
22 dissolved oxygen in the stream due to that contribution of
23 low dissolved oxygen in the groundwater that's feeding the
24 stream.
25 Q So your answer is yes, they will vary--dissolved

1 oxygen levels will vary from day to day, season to season,
2 time to time.
3 (No audible response.)
4 Q Okay. Would it surprise you---
5 The Reporter: (interposing) I'm sorry. I
6 didn't hear a verbal answer, if there was one.
7 A I would say yes.
8 Q Would it surprise you to know that sludge or
9 sludge-like appearances change the longer they sit?
10 A No, that doesn't surprise me at all.
11 Q And what would you expect that--what would you--
12 what would be the process that you would expect with a sludge
13 or sludge-like substance the longer it sits? What would you
14 expect to see?
15 A Well, I would expect--excuse me. I would expect
16 for microbes, especially aerobic microbes, to consume the
17 available carbon source by using oxygen. And that would lead
18 to the depletion of oxygen in the waters surrounding it.
19 Q Mr. Holley, I want to direct your attention to
20 Petitioner's Exhibit Number 6.
21 (Witness complies.)
22 A Okay.
23 Q And I know you said that you didn't pull these
24 samples, but in fact they were pulled by Environmental
25 Chemists. But these high levels of fecal coliform, weren't

1 you alarmed by such high levels of fecal?
2 A Yeah, I was surprised at that. And actually, with
3 permission from House of Raeford, I called Mr. Baker, Jay
4 Baker, and asked him what he thought that meant. And he said
5 that they had sampled shortly after a large rain event and
6 that it's not uncommon when you have a lot of stormwater
7 runoff that you have new contribution of fecal coliform
8 bacteria into the system. It's not unusual to have those
9 type of results.
10 Q Did you also talk with Mr. Baker about the holding
11 times of that fecal?
12 A No, I didn't discuss the holding times with him.
13 Q But you've conceded that you've used much of the
14 data from DENR other than this data; correct?
15 A I considered it.
16 Q Did you see high levels like that in the DENR--or
17 the DWQ data?
18 A I saw a number of levels that were of similar
19 value in some of the locations that DWQ sampled.
20 Q But as high as 60,000, greater than 60,000, for
21 the fecal, did you see anything like that?
22 A I believe--I can't recall off the top of my head.
23 I know I saw some that were in the 50,000 range. I can pull
24 up the slide---
25 Q (interposing) Okay.

1 A ---that I had as a summary and we can---
2 Q (interposing) Okay.
3 A ---consider that.
4 (Witness peruses document.)
5 Yeah. There's one--there's one collected by the
6 DWQ directly out of the House of Raeford Farms lagoon that
7 was greater than 60,000. There was one collected---
8 Q (interposing) Well, let me just stop you there.
9 But that was right after the discharge; correct? That's the
10 discharge?
11 A That was collected by DWQ I believe sometime
12 around September 15th or 17th. I can't recall the exact
13 date.
14 Q But still that's the discharge, or the alleged
15 discharge?
16 A It was during the time of the investigation in
17 September of---
18 Q (interposing) Okay.
19 A ---2010, yeah. Isn't that what you were asking
20 was---
21 Q (interposing) But I'm looking for another
22 location other than the discharge point.
23 A Well, there was the one that I just mentioned.
24 And there's a similar level of 49,000 at Carolina
25 By-Products, which you'll see is actually from June of 2009,

1 collected by Carolina By-Products at that time.
2 Q In June?
3 A June of 2009 is when their stormwater sampling
4 occurred and they had 49,000, which is a pretty similar order
5 of magnitude number.
6 Mr. Jones: And Your Honor, we obviously
7 object to the use of the term "discharge" in this context.
8 That's what's the issue in this case.
9 The Court: Okay.
10 By Ms. LeVeaux:
11 Q Your evaluation, Mr. Holley---
12 The Court: (interposing) I'll let her use
13 the term and then you can in cross-examination refute that.
14 Mr. Jones: I'm sorry?
15 The Court: I'll let her use the term she
16 wishes to use, and in cross-examination you can clarify that
17 on the record.
18 Ms. LeVeaux: Thank you, Your Honor.
19 By Ms. LeVeaux:
20 Q Your evaluation occurred 16 months after the
21 incident; isn't that correct?
22 A I was first, I believe, requested to get involved
23 in this case around December of 2010. I first visited the
24 site in early January of 2011.
25 Q And that was about 16, 15 months after the fact;

1 is that correct?
2 A I guess so.
3 Q And you've already testified that you had limited
4 access to the headwaters; is that correct?
5 A Yeah. It was private property that I wasn't given
6 permission to enter upon and didn't pursue that permission.
7 Q And it's also correct that none of your observa-
8 tions occurred on or about September the 10th, 2009, did
9 they?
10 A That's correct.
11 Q It's further correct to say that you're really not
12 familiar with that area other than what you observed in
13 January and April, is that correct, of 2011?
14 A What do you mean by am I familiar with that area?
15 I'd done work in Duplin County before.
16 Q I'm sorry?
17 A I had done--done work, project work, in Duplin
18 County before, if that's what you're asking.
19 Q But the area in question, the Cabin Branch, this
20 whole area, your familiarity was limited to those two times
21 you went out there; is that correct?
22 A I had not visited that part of the area around
23 Rose Hill prior to being hired by House of Raeford Farms in
24 this case.
25 Q So again, you would defer, would you not, to the

1 expertise of DWQ as far as their familiarity is with that
2 area as having a greater understanding of the area than you?
3 A I would say that they would have had eyewitness
4 opportunities that I did not have. Their expertise is some-
5 thing I can't testify to.
6 Q Did you know that Magnolia Middle School's system
7 is served by the Town of Rose Hill's sewer system?
8 A I assumed that it was. I could tell that the old
9 wastewater handling facility seemed to be in disrepair and
10 probably was inactive, but--and it appeared to me that there
11 was an active sanitary sewer system connected to it. My best
12 expectation was that it was by the Town of Rose Hill.
13 Q Well, didn't you reference to the sewer system in
14 your conclusions as a possible cause?
15 A I referenced it as a potential source of release
16 of untreated wastewater into Cabin Branch due to the dis-
17 repair of the sewer manhole that I observed and showed photo-
18 graphs of right adjacent to Cabin Branch behind Magnolia
19 Elementary School.
20 Q But that manhole is an inflow. It's not--water is
21 not coming out. Water is going in. And if it's connected to
22 the Town of Rose Hill, wouldn't that be taken up by the
23 system?
24 A Wastewater handling facilities like Town of Rose
25 Hill and other, especially smaller, wastewater systems have

1 persistent problems with what is called I & I, influent
2 infiltration, where breaches in their sewer system allow
3 stormwater to enter the system and it overcomes their ability
4 to handle and process that water with the existing pipes.
5 When that occurs, oftentimes sewer manholes will
6 overflow with untreated sewage. It's a very common
7 occurrence that I would believe DWQ personnel are very
8 familiar with. They investigate these types of releases all
9 the time.
10 Q Okay. But that's just an opinion, is it not,
11 because you didn't read any report that said that there was
12 such a spill, did you?
13 A No.
14 Q You walked the railroad tracks, but you didn't
15 take any water samples, did you?
16 A I did not.
17 Q But you're aware of the fact that water samples
18 can be taken at any point, are you not?
19 A It wasn't my property to be sampling, and I wasn't
20 asked to do any sampling. I was supposed--I was asked to
21 become familiar with the hydrology and the setting of the
22 site and the data available that's been produced by DWQ to
23 support their case. In the process of becoming familiar with
24 that, I visited and put my feet on the ground, so to speak,
25 several accessible parts of the drainage system that I could

1 visit and observe.
2 Q Well, the railroad tracks isn't really anyone's
3 property. You could get it from the railroad tracks,
4 couldn't you?
5 A That belongs to the railroad system.
6 Q Right, so are you saying it's not possible to take
7 a sample?
8 A Well, it could be possible, but I wasn't asked to
9 do sampling.
10 Q Okay. When Environmental Chemists pulled their
11 samples, you weren't with them, were you?
12 A No. That was before I got involved in the case.
13 Q But you said it was either during or a huge rain
14 event had occurred right before the sampling?
15 A According to Mr. Baker, a rain event happened
16 maybe the day or so prior to when he sampled.
17 Q Wouldn't that bother you that they took samples
18 during a rain event, since that could skew the results and
19 not really reflect what accurately was usually going on in
20 that area?
21 A Well, I think it would represent the conditions of
22 the day they were there.
23 Q I'm sorry?
24 A It would represent the conditions at the time of
25 sampling.

1 Q But at the time of the discharge if it were
2 drought-like conditions and then you take samples after a
3 rain event, there's no similarity, though. What are you
4 trying to discern?
5 A I didn't make decisions about how to collect those
6 samples. That was a decision by Environmental Chemists. I
7 simply reviewed the data and considered it in the context of
8 the drainage system and when it was collected, but--well,
9 I'll stop there.
10 Q Okay. Mr. Holley, I'm going to ask you to--you
11 have the petitioner's exhibits in front of you, do you not?
12 A I do.
13 Q I'm going to ask you to go to Exhibit Number 3.
14 (Witness complies.)
15 Q And did you get that exhibit in front of you?
16 A I do. I have it.
17 Q Okay. Your client in Exhibit Number 3--and I
18 don't know, you may want to read the letter again, but he did
19 identify sludge-like material in that letter to be--to be
20 distinguished from algae blooms or duckweed, which are things
21 that you observed; isn't that correct?
22 A That's what his statement is, a "sludge-like
23 material in the creek at that time, but its origin [is]
24 unknown."
25 Q And further in that exhibit he admitted that over

1 a million gallons were put back into the lagoons; is that
2 correct?
3 A He says, "In all, we estimate that we oversaw the
4 pumping of approximately 1,000,031 gallons over a four day
5 period into a Company lagoon from the creek."
6 Q So is it fair to guess that there was more than a
7 million gallons in the creek?
8 A I believe--my understanding is from the testimony
9 and the records that that is liquids, and he has not
10 characterized what portion of those liquids was the floating
11 material versus the inevitable water that is generated from
12 that process. So my opinion is that a majority of that
13 water--of that fluid would have been water from the creek.
14 Q But your client didn't describe it as fluid. He
15 didn't describe it as water. He described it as sludge-like
16 material, did he not?
17 A Well, he doesn't say gallons of what in that
18 particular sentence. He says, "In all, we estimate we
19 oversaw pumping of approximately 1,000,031 gallons over a
20 four day period into a Company lagoon from the creek." He
21 doesn't distinguish gallons of what.
22 Q Okay. But if you go further up, "There was some
23 amount of sludge-like material in the creek at that time, but
24 its origin was unknown." Do you---
25 A (interposing) Uh-huh.

1 Q ---see that sentence?
2 A Yes.
3 Q Is it fair to say that we're talking about the
4 same material?
5 A I think it's fair to say from the testimony that
6 Mr. Howard gave that helped to clarify that process that they
7 were pumping material from the creek that included a lot of
8 water. And they were attempting to get as much of this
9 floating material as possible using squeegee brooms, but it
10 was not a very efficient process. I think that's been
11 testified to.
12 Q Okay. And you did hear Mr. Howard's testimony
13 where he said it was pumped back into the lagoon, did you
14 not?
15 A I saw him use that term, yes.
16 Q And also if you'll look at paragraph 5 of that
17 same exhibit, this time there is no reference to sludge-like.
18 There's an actual reference to sludge; is that not correct?
19 A I'm sorry. I'm trying to find paragraph 5.
20 There's a---
21 Q (interposing) Paragraph 5 is on page 2.
22 A Oh, the numbered 5, bulleted number 5?
23 Q Yes, sir.
24 A Let me look at that for a minute.
25 (Witness peruses document.)

1 A You're talking about the statement he says:
2 "The principal representing the laboratory could
3 not conclude that the sludge material in the creek
4 had originated from the company lagoons, although
5 he reported a number of other potential sources
6 and possible contributors in the nearby vicinity"?
7 Q Yes, sir. I'm just referencing to the fact he
8 does use the word "sludge." Is that not true?
9 A He calls it sludge material. I think it's---
10 Q (interposing) Okay.
11 A ---just a semantic---
12 Q (interposing) But he didn't say sludge-like, did
13 he?
14 A No.
15 Q Okay. Mr. Holley, in your earlier testimony, you
16 gave us some calculations, and I apologize if I wrote them
17 down incorrectly, but I think you said that the calculations
18 of the primary and secondary lagoon were 795 by 329 feet?
19 A I don't recall the numbers off the top of my head
20 and I don't have my notes with me from that, but that sounds
21 about right.
22 Q So you don't have your notes with you today?
23 A I don't, no. I'm sorry.
24 Q Okay. And the 6.09, what did that represent? Was
25 that the acreage?

1 A I believe that was the acreage, the acres. That
2 was estimated from geographic information system software
3 using air photographs. So it's---
4 Q (interposing) Okay.
5 A ---a rough estimate.
6 Q Did you walk--I'm sorry.
7 A It's a rough estimate.
8 Q Okay. But I would gather that in making that
9 estimate and in drawing those calculations, did you also talk
10 with Mr. Teachey or Mr. Howard?
11 A No, that was just pulled straight off of an air
12 photograph to try to--using GIS software to try to determine
13 the sizes of those features from looking at the air photo.
14 Q But wouldn't the--wouldn't depth also be relevant
15 in determining the size?
16 A Well, I wasn't trying to--I was trying to
17 determine the surface expression acreage, not the depth and
18 volume. It was simply acreage, not volume.
19 Q It is true, is it not, if you know, that at least
20 1,000,000 gallons per day go into the primary lagoon? Are
21 you aware of that?
22 A I don't recall what the volume is that goes into
23 the lagoon. I remember hearing someone testify to it, but I
24 can't tell you what the numbers are off the top of my head.
25 Q Okay. You gave us a formula for flow?

1 A Uh-huh.
2 Q And you said volume times area equals flow?
3 A I said discharge, which is Q, is equal to velocity
4 times cross sectional area of a stream through which water is
5 flowing.
6 Q Okay. So the bottom of the creek has no relevance
7 in that equation?
8 A Yes, it's used to determine the cross sectional
9 area of the stream. The cross sectional area is the width
10 times the depth of the stream.
11 Q But you didn't know what the depth was?
12 A I was making a general example that the size of
13 the creek is--has a very small cross sectional area as
14 compared to the cross sectional area of this incredibly large
15 abandoned quarry pond that the creek flows into. I don't
16 have to do a calculation to demonstrate that.
17 Q In your conclusions, one of the things or--that
18 you mention was that there was low DO even at the time that
19 you visited the creek or---
20 A (interposing) We didn't measure DO when I was at
21 the creek, so I don't know what the condition---
22 Q (interposing) Okay. Let me back that up and
23 rephrase it, then. The results that you secured from
24 Environmental Chemists seem to indicate that there was low DO
25 on--at times that were--times other than the September the

1 9th, 10th, 2009; is that correct?
2 A Yes. There was low dissolved oxygen in September
3 of 2010.
4 Q Okay. And your point, and correct me if I'm
5 incorrect on this, was to show that there are various times
6 when the DO is just low other than when there is a sludge-
7 like discharge event?
8 A Correct.
9 Q And so you indicated that the creek was slow
10 moving. Is that a fair statement?
11 A What I observed in January and even more closely
12 in April of 2011 was very slow flow on the stream.
13 Q Well, Mr. Holley, isn't that sort of counter to
14 more than a million gallons of sludge resting right behind or
15 deposited itself right behind the House of Raeford lagoon?
16 A I don't think there's been any demonstration of a
17 volume calculation of actual floating material in the creek
18 by DWQ or anyone. There's been a quantification of the
19 volumes of material, liquids, pumped from the creek,
20 which--of which has been testified to be mostly water.
21 I did a brief calculation of my own across a
22 section of the stream starting behind House of Raeford Farms
23 and going down to the Sheffield Bridge area where the largest
24 accumulated material was reported by DWQ in September of
25 2009. That's about an 1800 foot length of stream.

1 If you take that and the reported width of the
2 creek being--and DWQ's records say between 10 and 20 feet
3 width, you can get an area of the stream section along that
4 1800 foot section. If you then apply some estimates of
5 thickness of the observed floating material, you can play
6 with a range of possibilities of how much might be there.
7 Across that area, if you used a quarter inch thick
8 accumulation as an average over that 1800 foot length of
9 section, you get about 5,000 gallons of floating material.
10 If you--if you assume that there is up to an inch thick
11 average across that same length, then you might have as much
12 as 22,000 gallons.
13 There hasn't been an assessment of thickness, a
14 characterization of thickness and mapping of thickness, done
15 by DWQ at the time of the investigation to be able to
16 ascertain exactly how much was there, but I think that it is
17 certainly nowhere close to the volumes that you are
18 asserting.
19 Q Well, Mr. Holley, isn't it fair to say that the
20 only person that's engaging in guesswork here is you based
21 upon your calculation since you weren't there on September
22 the 10th, 2009? Isn't that correct?
23 A I'm just gleaning what I can from the records that
24 are produced by DWQ and statements that it was in some places
25 a scum. And I've looked at some photographs of those areas

1 described as a scum, and I consider them to be sort of very,
2 very thin, and create some number of how thick it might be
3 able to be.
4 I also saw other statements that--I believe by Ms.
5 Lewis that it was up to 6 inches thick, but she didn't get in
6 the creek and measure that thickness to know. So that was an
7 estimate. But there's no good assessment of how much was in
8 there, but I think to use terms as broad as has been used in
9 referring to that area as having millions of gallons or over
10 a million gallons of sludge is incorrect. I don't---
11 Q (interposing) Well, Mr.---
12 A ---think it's supported by the evidence.
13 Q Well, Mr. Holley, you just read from a letter that
14 your client prepared. He referenced over a million gallons
15 on or about that date. Those were his words, not mine.
16 A He referenced to a million gallons pumped from the
17 creek. And my understanding from the testimony and what was
18 recovered is that most of that was water. I think Mr. Howard
19 attested to that during his testimony.
20 Q But in spite of your testimony, they didn't
21 describe it as water. They described it as sludge or sludge-
22 like; is that correct?
23 A He didn't--I don't think he--let me look at that
24 statement again.
25 (Witness peruses document.)

1 As I mentioned earlier, in that sentence he simply
2 says, "In all, we oversaw the pumping of approximately
3 1,000,031 gallons over a four day period." He doesn't
4 specify gallons of what in that sentence.
5 Q But you would read the whole document, would you
6 not?
7 A I did read the whole document.
8 Q So you don't--you think he was talking about over
9 a million gallons of water?
10 A I think he was talking about that they made an
11 effort to pump what they could out of the creek, and they
12 pumped over a million gallons.
13 Q Of sludge or sludge-like material?
14 A Of whatever they could recover from the creek.
15 Q Okay. So they had an incentive to pump whatever
16 was in the creek into their lagoon?
17 A No, I think it's a factor of what is feasible to
18 do. When you have such thin accumulations on the surface of
19 water, you can't just recover the floating material. It's
20 inevitable that you get large amounts of water intermixed
21 with that.
22 Q Will you please look at Petitioner's Exhibit
23 Number 5 and describe for the Court what you have before you?
24 (Witness peruses document.)
25 A It is a statement to House of Raeford from

1 Register's Septic Tank Pumping.
2 Q And read what it says, please, if you can, in that
3 statement.
4 A Yeah. It says, "Pumping sludge, 155 loads at"--I
5 believe it says "$25 each and double diaphragm 4 days at $600
6 each."
7 Q Does that change your opinion on what was---
8 A (interposing) No.
9 Q Okay.
10 A It doesn't.
11 Q Okay, thank you. So your calculations are based
12 on your observations, but it did not take into effect the
13 depth or the channel shapes and flows, did it?
14 A The depth of the channel would not affect floating
15 substances.
16 Q Wouldn't the---
17 A (interposing) They would be on the surface.
18 Q Wouldn't the shape of the channel, the fact that
19 there were curves in the channel--wouldn't that affect it?
20 A It would certainly serve--as I testified to
21 earlier, it serves to help trap floating material, yes.
22 Q You reviewed DWQ's materials. They didn't
23 reference to any stains or any trappings as they walked the
24 creek, did they?
25 A I couldn't ascertain exactly how far they walked

1 the creek. It seemed to me that they stopped going upstream
2 at the--at this location right here (indicating) at--I
3 believe that's Brooks Quinn Road. I couldn't find---
4 Q (interposing) Do you know why these---
5 A I couldn't find records that they explored any
6 further up, nor did they visit Carolina By-Products or Duplin
7 Winery to follow up with them about a possible discharge that
8 they may have.
9 Q Yeah, that would be correct. Isn't it fair that
10 they didn't do that because the dissolved oxygen levels
11 didn't indicate that there had in fact been a discharge
12 upstream of House of Raeford?
13 A If you look at the records of continued monitoring
14 of that location, that same somewhat higher, slightly above
15 4, DO level that first day then dropped lower over time. As
16 we talked about, DO can vary from location to location over
17 time. And an instantaneous single low DO at one spot doesn't
18 mean that there aren't other areas contributing upstream that
19 have a higher or lower dissolved oxygen from potential
20 sources.
21 Q Mr. Holley, it is true, is it not, that DWQ didn't
22 just point at House of Raeford. They walked the entire--they
23 walked much of Cabin Branch, did they not?
24 A I don't know. I've already testified that I don't
25 know that they went any further upstream than this location

1 where Cabin Branch goes underneath of Brooks Quinn Road.
2 Q And it is also true that they didn't find any
3 staining or any trappings upstream of House of Raeford, from
4 the notes that you looked at. Is that a fair statement?
5 A The notes that I read said that they didn't see
6 floating material upstream of that location behind the House
7 of Raeford Farms.
8 Q Did you evaluate the flow in the stream upgradient
9 of House of Raeford?
10 A In terms of like velocity or anything of that
11 nature?
12 Q Just did you evaluate the flow.
13 A I looked at and observed portions of the stream
14 upgradient, upstream from House of Raeford Farms. I visited
15 the stream behind Magnolia Elementary School here
16 (indicating), which I think I testified to, and looked at the
17 nature of the stream channel and its characteristics there.
18 And I also visited at US 117 here (indicating), stopped at
19 that crossing. And I visited this stretch along the railroad
20 tracks at the Carolina By-Products (indicating), which we've
21 talked about.
22 Q So again, your evaluation is limited by the fact
23 that you don't have a familiarity with the area and your
24 limited observation of the various areas that were impacted?
25 A I think that I observed more of the creek than

1 probably the DWQ did.
2 Q Thank you. Would it surprise you to know then
3 that there have been series--issues of inadequate freeboard
4 as it relates to lagoon number 1 for House of Raeford?
5 A The records and the testimony I've seen from Joe
6 Teachey were that he maintained adequate freeboard in the
7 lagoons. I don't--I don't have any eyewitness knowledge
8 other than his testimony to say what the conditions were with
9 regard to the lagoons. I wasn't there.
10 Q If you'll look at Petitioner's Exhibit Number 4?
11 (Witness complies.)
12 Q Have you seen Exhibit Number 4 before?
13 A I believe so, yes.
14 Q Would it surprise you to know that that area did
15 not recover as quickly as noted in the letter, that it wasn't
16 until the beginning of December that the creek started to
17 recover?
18 A Recover in what way?
19 Q Well, Mr. Howard referenced to the three week--he
20 says about three weeks later that the creek started
21 recovering. I'm asking you if it would surprise you that it
22 was actually about double that time period.
23 A Can you point me to which paragraph that statement
24 is being said so I can look at it?
25 (Ms. LeVeaux peruses document.)

1 Q Paragraph number 6.
2 A Okay.
3 (Witness peruses document.)
4 Yes. In paragraph 6 it says, "The visible
5 indications of any discharge substantially abated over a
6 three week period due to extraordinary mitigation efforts and
7 periodic rain events."
8 Q And my question, and I'll rephrase it, is would it
9 surprise you that it actually--the visible indications
10 actually didn't abate till about six weeks after the event?
11 Would that surprise you?
12 A Well, I don't know. I don't know how to respond
13 to that.
14 Q Would that be maybe arguably indicative of it
15 being a large, sludge-like discharge?
16 A I think that's more indicative of the nature of
17 stream flow in proximity to the large quarry pond that I've
18 testified to. It tends to trap floating material and
19 prevents it from moving effectively downstream as it would in
20 a more normal, natural stream channel.
21 Q In paragraph number 5 on page 2---
22 A I'm sorry, paragraph number?
23 Q I'm sorry. Strike that, please. Okay. Going
24 to--I'm sorry, still in Exhibit Number 5.
25 A Okay.

1 Q Sorry, Exhibit Number 4, there's another document
2 behind it, and it's dated October 23rd, 2009. It's actually
3 a--it's an attachment, but it's a letter that was attached to
4 that first exhibit. Do you have that?
5 A I believe so, October---
6 Q (interposing) October 23rd.
7 A ---23rd, 2011.
8 Q Uh-huh; and then on page 2, paragraph 5.
9 A Okay.
10 Q Would it surprise you to know that it wasn't--that
11 DWQ didn't engage in a split sampling with House of Raeford?
12 Would that surprise you?
13 A Could you say that again? DWQ---
14 Q (interposing) That DWQ didn't engage in a split
15 sample with House of Raeford.
16 A Is that what--is that what is stated? I'm---
17 Q (interposing) Well, how do you--how do you
18 construe "Your department and the Company engaged a
19 laboratory in Wilmington, North Carolina"? Does that not
20 sound like they did it together in your understanding of just
21 that--just reading that? What would be your understanding?
22 A Let me read it and then I'll tell you.
23 (Witness peruses document.)
24 Now, could you ask me the question again? I've
25 read the statement.

1 Q Is your understanding in just reading that first
2 sentence that the department and House of Raeford pulled that
3 together--the sample together?
4 A I think he was pointing out that during their
5 subsequent sampling and during DWQ's sampling in September
6 they both had used the same laboratory.
7 Q Would it surprise you to know that they didn't use
8 the same laboratory? They did use the same laboratory only
9 for fecal. Would that surprise you?
10 A He doesn't distinguish, you know, what level of
11 testing are done by them. He just says that y'all engaged
12 the same laboratory.
13 Q Do you find it compelling that in the next
14 sentence in paragraph 5 the laboratory--and will you read
15 that, please, that next sentence?
16 A "The laboratory reported inconclusive results:
17 that is, there were similarities in the creek
18 material and material in the lagoons but there
19 were also distinct dissimilarities in the creek
20 material and material in the Company's lagoons as
21 well."
22 Q Does that sway you one way or another to the fact
23 that there was sludge or sludge-like material in the creek
24 that was pumped out?
25 A I don't know what to make of this. This is a

1 letter from someone else giving their opinion, from Robert
2 Johnson. I'm not sure what his evidence is that he's basing
3 his statements on. I can't really attest to what his opinion
4 is.
5 Q Well, would it surprise you to know that Clay
6 Howard prepared this letter, your client?
7 A Well, even so.
8 Q Okay. Thank you. You indicated that--sorry;
9 strike that, sorry. There was reference--or there is
10 reference in this letter to the fact that samples were
11 pulled. Do you know where House of Raeford pulled their
12 samples?
13 A When?
14 Q On or about September the 9th, 10th--sorry,
15 September 16, 2009?
16 A 2009? I don't recall.
17 Q So you don't know which creek they pulled their
18 samples, from which creek they pulled their samples?
19 A I just don't recall. I focused mostly on DWQ's
20 data. I probably did see some lab results that they
21 produced, but I can't recall what they showed.
22 Q Okay. And we've already covered Petitioner's
23 Exhibit Number 5. Do you know why there were two--only if
24 you know, do you know why there are two different dates
25 on--in Petitioner's Exhibit Number 5?

1 A How would I know?
2 Q No, I'm just asking you if you know.
3 A I see two stamps. There's a date at the top of
4 Petitioner's Exhibit 5. It's September 21, 2009, received
5 September 25th, 2009, and received September 28th, 2009. I
6 don't know. Someone stamped it twice.
7 Q And then on the second page?
8 A That one says "Received September 25th, 2009."
9 Q And in Petitioner's Exhibit Number 26 (sic), these
10 locations, are these--are the locations for these samples--
11 were they--are they set out in your chart, in your
12 conclusions?
13 A Which samples?
14 Q Look at Exhibit Number 6. Do you know what
15 these---
16 A (interposing) Number 26?
17 Q I'm sorry; example number 6--I mean Petitioner's
18 Exhibit Number 6.
19 A Petitioner's Exhibit Number 6, okay. Okay.
20 Q Do you know where these locations are situated?
21 A Let me look at this. So these are the samples
22 that were collected, I believe, by Jay Baker in September of
23 2010. And he provided his locations to me to be able to put
24 them on a map.
25 Q Did you do that?

1 A We to the best of our ability put them on the map
2 for my presentation.
3 Q And that's in your Exhibit 26?
4 A It should be, yes.
5 Q Those locations?
6 A Yes.
7 Q Okay. Again, these were pulled on September 28,
8 2010; correct?
9 A That's correct.
10 Q And you referenced earlier to your understanding
11 and use of the USGS; correct?
12 A Yes.
13 Q So on a USGS when there are dash and dots, what
14 does that usually represent?
15 A Do you mean on the topographic---
16 Q (interposing) On the USGS---
17 A ---survey?
18 Q Uh-huh.
19 A I believe you're referring to dashed and dots,
20 blue lines?
21 Q I'm just saying if you see a broken line or dash
22 and dots in your review of that topo, what---
23 A (interposing) It generally means intermittent
24 flow in a stream.
25 (Pause.)

1 The Court: At this point let's take about
2 a ten minute break, please.
3 Ms. LeVeaux: Okay. Thank you.
4 The Reporter: Off the record. 11:16 a.m.
5 (A brief recess was taken.)
6 The Reporter: On the record. 11:33 a.m.
7 The Court: This hearing will come to
8 order. It is now 11:30 on November the 29th, 2011, and all
9 parties present when we recessed are again present. Ms.
10 LeVeaux?
11 Ms. LeVeaux: Thank you, Your Honor.
12 By Ms. LeVeaux:
13 Q Mr. Holley, looking at Exhibit Number--
14 Petitioner's Exhibit Number 6 again, we've already talked
15 briefly--I'll let you open up that---
16 A (interposing) Sure.
17 Q ---exhibit.
18 A I have it. Exhibit Number 6, I have it.
19 Q You do have it---
20 A (interposing) Uh-huh.
21 Q ---in front of you? Okay. We've already talked
22 briefly about the high levels of fecal here, did we not?
23 A Yes.
24 Q Okay, and--but do you have an understanding as to
25 whether or not sludge was observed?

1 A All I have is the lab results.
2 Q Okay. And you indicated when you reviewed the DO,
3 or dissolved oxygen pulls, you observed that there were
4 minimum DOs of 4, there were some highs, and there were some
5 lows; is that correct?
6 (Witness peruses document.)
7 A All but one were below 4.
8 Q In September the 7th, 2010; correct?
9 A I'm sorry. This lab data is--yeah, this is
10 September of 2010. And that one location I couldn't get on
11 the map. You'll notice that's--Chinquapin is the last page,
12 page 3. Chinquapin northeast Cape Fear River, we went to the
13 boat launch there and collected a sample there to show that--
14 to show the conditions there way away from this system.
15 Q Okay. But it is fair, Mr. Holley, is it not, that
16 DO data can be confusing depending upon when you take the DO
17 data; isn't that correct?
18 A No, I don't think there's anything confusing about
19 dissolved oxygen data. It measures the dissolved oxygen in
20 the water.
21 Q Okay. But it is fair to say that the regulators
22 have a protocol, do they not?
23 A I believe that they're supposed to. And from the
24 records presented, it seemed that they had a process of
25 trying to calibrate their instrument every day, so I assume

1 they're trained to use the instrument properly.
2 Q And in fact there's nothing to indicate that they
3 deviated from their protocol, is there?
4 A I don't know their full protocol. I don't think
5 that was produced. But I didn't see any discrepancies in the
6 data collection process that was presented in their field
7 notes.
8 Q In fact it's fair to say that to pick a day a year
9 and a half later is just not the same, since there could be
10 different industrial contributors or more agricultural
11 runoff; isn't that correct?
12 A I believe that the intent of the samples in 2010
13 was to characterize the nature of the stream conditions a
14 year later in areas where there is no visible floating
15 material.
16 Q But in that assessment, you came to certain
17 conclusions which seemed to indicate that the regulators were
18 doing something other than that; isn't that correct?
19 A These data in Exhibit 6 aren't related to the
20 regulators. These are Environmental Chemists---
21 Q (interposing) I understand that, but now I'm
22 asking you a question about your understanding of the
23 regulators' work on---
24 A (interposing) Okay.
25 Q ---or about September the 10th, 2009.

1 A Okay.
2 Q Your conclusions seem to indicate that they were
3 not doing what they were supposed to do. Is that a fair
4 statement?
5 A The only statement I believe I made with that
6 regard was whether they had done an adequate spatial
7 investigation of all the available facts in the case to make
8 conclusions about source.
9 Q So you do concede, then, that they did a good job
10 in inspecting the site on or about 2009 September the 10th?
11 A I don't have any opinion about how good their
12 inspection was. I wasn't there. I could just glean
13 information from what they've reported in the record. Its
14 adequacy I can't judge.
15 Q But it was adequate enough for you to use that
16 same information in forming your opinion; is that not
17 correct?
18 A Well, it's the data available, so I do what I can
19 with it.
20 Q For all intents and purposes, it appears that the
21 regulators, or DWQ, were trying to protect the system, the
22 water, and doing their job; is that correct?
23 A I'm assuming so.
24 Q I'm sorry?
25 A I assume so.

1 Q While you plotted the DO, which--was that helpful
2 to you in drawing your conclusions, plotting the DO that was
3 pulled in 2010?
4 A In 2010?
5 Q Yes. Isn't that when you secured your dissolved
6 oxygen results?
7 A That was just another set of data that I looked at
8 that gave some indication of what the dissolved oxygen
9 conditions were in September of 2010 as compared to the year
10 prior.
11 Q But wouldn't a USGS be just as helpful to you?
12 A You don't get dissolved oxygen from a USGS map.
13 Q What do you get from the USGS? How--you
14 referenced to it a couple of times. You referenced the fact
15 that you---
16 A (interposing) It's a--it's a--
17 Q (interposing) What would you expect---
18 A (interposing) I'm sorry. Go ahead and finish.
19 Q What would you expect to get from the USGS?
20 A The USGS topographic map provides a depiction of
21 the land surface elevation and its change across the area
22 that's been mapped. It provides some spot elevations. It
23 provides contour lines that you can interpret elevation of
24 the land surface. And it also maps steam features on that
25 location to give some idea of where stream channels, stream

1 valleys, occur.
2 Q And would the elevations and the channels and--
3 wouldn't all of that affect dissolved oxygen?
4 A Dissolved oxygen would simply be how much oxygen
5 is dissolved in the water. It would be independent of
6 elevation.
7 Q I understand that, but if there's curves in the
8 steam, wouldn't that affect the DO?
9 A No. A curve in a stream doesn't necessarily
10 affect DO. DO has to deal with saturation of the water with
11 available oxygen. If there are nutrients that are present in
12 the water that cause breakdown or use of those nutrients by
13 microbes, then you may have a decrease in dissolved oxygen as
14 the oxygen is stripped out of the water to be used by
15 microbial population.
16 Q Okay. So if there's a curve and if water
17 stagnates or it moves very, very slow and there's an accumu-
18 lation of nutrients that covers that water, that would affect
19 the DO, would it not?
20 A Nutrients don't necessarily cover water.
21 Nutrients often are dissolved. But the presence of elevated
22 nutrients will lead to an accelerated growth of bacteria in
23 similar microbial populations that utilize oxygen, and the
24 result would be a reduction in dissolved oxygen in the water
25 sample location.

1 Q When nutrients hit the water, it could cause a
2 bloom of aquatic vegetation and the vegetation in the stream
3 would result in a lower DO; correct?
4 A It depends on the variety of vegetation. You
5 know, some photosynthetic vegetations actually produce
6 oxygen, whereas others might--and I'm not a biologist, but I
7 believe that I have heard that others will actually consume
8 or reduce oxygen. I think the biggest indication from
9 aquatic vegetations is that they are utilizing available
10 nutrients in the water to help spurn their growth.
11 Q You indicated in your conclusions, or you
12 challenged the adequacy of DWQ's investigation, but it is
13 true, is it not, that DWQ responded to the spill by taking
14 upstream and downstream samples for comparison?
15 A They did take upstream samples a short distance
16 upstream of the place where conditions were observed.
17 Q And it's also true that DWQ walked the stream,
18 isn't that correct---
19 A (interposing) As I---
20 Q ---as far as you know?
21 A As I've testified, I don't know how far they went
22 upstream of Brooks Quinn Road physically walking the stream.
23 I've seen no---
24 Q (interposing) But I didn't--I'm sorry.
25 A I've seen no record of documentation of the

1 condition of the stream from this investigation by DWQ
2 upstream of Brooks Quinn Road immediately south and east of
3 the House of Raeford Farms property other than the Highway
4 117 bridge access point where they took some monitoring
5 there. And subsequently in late September, I believe the
6 23rd, they visited Duplin Winery and Carolina By-Products.
7 Q Well, it is true, is it not, in Ms. Willis'
8 transcript she did reference to what was going on upstream
9 and downstream and all around, did she not?
10 A Which portion? That's a very broad statement and
11 not---
12 Q (interposing) And it is true--I'm sorry.
13 A I'm sorry. I don't know how to respond to that
14 question. It's very broad and not specific enough for me to
15 give you a yes or no answer.
16 Q And you also reviewed the statements of Geoff
17 Kegley, did you not?
18 A I did.
19 Q And you also reviewed the reports of Kenneth Rhame
20 with the EPA, did you not?
21 A I did.
22 Q Did any of that data that you reviewed, which was
23 just a portion of it, seem to indicate that they only
24 isolated their review to the House of Raeford?
25 A I appeared to me that based upon their visual

1 observation, they limited the scope of their assessment.
2 Q Isn't it true that DWQ walked the stream looking
3 for visual evidence of the sludge upgradient and stopped when
4 they could no longer find visual evidence of sludge
5 upgradient of the House of Raeford?
6 A That is similar to the statements that they have
7 made in their reports, that they walked upstream some
8 distance and did not see any more floating---
9 Q (interposing) But they did--in their investiga-
10 tion, they did observe evidence of the sludge downgradient of
11 the House of Raeford and behind the House of Raeford; isn't
12 that correct?
13 A Correct.
14 Q When you looked at the lagoon number 1 for the
15 House of Raeford, did you observe any floating vegetation on
16 the primary lagoon?
17 A I saw rooted vegetation that was growing up from
18 the bottom like typical wetlands grass.
19 Q But you didn't observe any floating---
20 A (interposing) I really didn't spend---
21 Q ---vegetation?
22 A I really didn't spend much time looking at the
23 primary lagoon. I was more interested in the creek.
24 Q Well, you were interested in the creek but weren't
25 you also interested in how the sludge might have got to the

1 creek?
2 A When I visited, it was in 2011. You know, the
3 incident had been observed in 2009. I didn't have the
4 opportunity to come back and look at things after the fact.
5 I wasn't there, so it wasn't really pertinent for me to spend
6 time looking at the lagoon.
7 Q Thank you. You produced the compliance records of
8 Duplin Winery and Valley Protein, Petitioner's Exhibits
9 Number 13.
10 A Okay.
11 Q And if you'll look to the second page of
12 Petitioner's Exhibit Number 13, this is actually a record
13 from Valley Proteins; correct?
14 A Yes.
15 Q And there's some concern--or this is the
16 compliance inspection as it relates to stormwater; correct?
17 A I believe so.
18 Q And if you'll--if you'll look at Petitioner's
19 Exhibit Number 18, this is Duplin Winery, is it not?
20 A Yes.
21 Q And it's related to stormwater; correct?
22 A The question area is stormwater.
23 Q The violation--the question area is storm waters.
24 They're there---
25 A (interposing) That's what's highlighted.

1 Q ---looking at the storm waters; correct?
2 A That's what's highlighted.
3 Q And they note "Not Compliant"; correct?
4 A Yes.
5 Q And Petitioner's Exhibit Number 19, again there
6 was reference to the stormwater; correct?
7 A "Question Areas: Storm Water," yes.
8 Q I'm sorry?
9 A Yes.
10 Q And that they were not compliant; correct?
11 A Correct.
12 Q And Petitioner's Exhibit Number 20, Duplin
13 Wineries; correct?
14 A Yes.
15 Q And again reference to stormwater; correct?
16 A Yes, it has "Question Areas: Storm Water."
17 Q And not compliant; correct?
18 A No, they did not mark whether it was compliant or
19 not on that particular sheet.
20 Q Just a questioned area?
21 A Yeah.
22 Q And Exhibit Number 21 references stormwater for
23 Duplin Wineries; correct?
24 A Yes.
25 Q And not compliant; correct?

1 A Correct.
2 Q And Petitioner's Exhibit 22, stormwater; correct?
3 A Yes.
4 Q And not compliant; correct?
5 A Yes.
6 Q And Exhibit Number 23, stormwater--or I'm sorry;
7 stormwater is referenced to Permit Inspection Type?
8 A I'm sorry. Can you say that again?
9 Q Permit Inspection Type references to stormwater.
10 I'm on "Food/Tobacco/Soaps/Cosmetics/Public Warehousing,
11 Stormwater Discharge COC"; correct?
12 A It's the--yes, this is the type of inspection they
13 were doing.
14 Q Correct. And then not compliant; correct?
15 A Correct.
16 Q But the fact of the matter is House of Raeford
17 just got their stormwater permit; correct?
18 A As I testified earlier, I knew that there was an
19 issue related to their stormwater that they were questioned
20 about in the past.
21 Q So---
22 A (interposing) I don't know the timing of their
23 permit.
24 Q Okay. So if there were issues with the storm-
25 water, we couldn't even look at whether or not they were

1 compliant because a stormwater permit didn't exist; correct?
2 A I can't say whether they had a permit or not. A
3 compliance issue might be that they aren't abiding by the
4 current permit. I don't know.
5 Q Well, if they don't have a permit, it's hard to
6 know whether they're compliant with the permit; correct?
7 A If they didn't have a permit, then they didn't
8 have a permit. I don't know.
9 Q Do you know whether or not--or in speaking--strike
10 that. In speaking with Mr. Teachey or Mr. Howard, did they
11 have an occasion to talk to you about lagoon number 1, the
12 freeboard being an issue?
13 A No. In fact I believe Mr. Teachey said he'd never
14 had a problem with his freeboard in his lagoons.
15 Q If there were problems with the freeboard in
16 lagoon number 1, would that affect your conclusions in this
17 case?
18 A No, they had an operating system with available
19 capacity in lagoon number 2 to take any material from lagoon
20 number 1 by simply opening an operational valve. They could
21 transfer it there. And what I understand is that their
22 pumping systems to move water from lagoon 2 back to their
23 spray field storage area, lagoon 3, was fully operational
24 throughout this time, so---
25 Q But again, this is your understanding from the---

1 A (interposing) From review of the records and the
2 testimony.
3 Q And you didn't go out to lagoon number 3, to their
4 storage lagoon---
5 A (interposing) Yes.
6 Q ---did you?
7 A We did visit lagoon number 3. We did visit that
8 facility and look at the condition of it. We looked at the--
9 a little bit of the spray field area. And Joe Teachey talked
10 to us about how they irrigate to grow hay, I believe it is.
11 Q In 2011; correct?
12 A 2011, yes.
13 Q Okay. You testified that you were aware of the
14 House of Raeford treatment system and sludge disposal and the
15 fact that they used a dissolved air flotation system, or DAF,
16 to separate the floating and the settleable sludge; is that
17 correct?
18 A Yes.
19 Q Do you have an opinion as to what happens if the
20 DAF is not performing adequately?
21 A I'm not an engineer, and I don't understand a
22 whole lot about the treatment side of that process. I'm a
23 groundwater hydrologist. I really don't--it's outside of my
24 area of expertise to testify about the equipment used for
25 treatment.

1 Q Do you have an opinion as to whether the presence
2 of a sludge accumulation on top of a lagoon will provide less
3 treatment space for wastewater?
4 A Well, you have a lagoon that has a set volume
5 within the constraints of the freeboard. And if something
6 takes up part of that volume, then it reduces the available
7 volume for other water handling.
8 Q Like a sludge on top of that lagoon?
9 A Yeah.
10 Q Do you know if lagoon number 1 is a facultive
11 (phonetic)--I don't know if I'm saying this right--a faculta-
12 tive lagoon?
13 A I don't know a whole lot about---
14 Q (interposing) Okay. And so you don't know what
15 that is?
16 A ---the intention of the process there.
17 Q But you are aware of the fact that the House of
18 Raeford sends their DAF sludge to a rendering plant; is that
19 correct?
20 A I know they send the skimmings from the DAF unit
21 into a--it goes into a tanker truck which is then carried to
22 the Valley Proteins facility and Carolina By-Products.
23 Q Okay. And so would you never--would you have an
24 occasion to define or describe the skimmings as sludge?
25 A I believe it's been referenced to skimmings in

1 the--in the process. This is still a product that is being
2 reused and recycled. It's not a waste, so I probably
3 wouldn't call it sludge. It's not part of a wastewater. It
4 is a separate product that is filtered off and reused for
5 beneficial secondary use.
6 Q Okay. So this sludge material has a beneficial
7 recycling at the point that it's taken off the DAF; correct?
8 A Yes.
9 Q It is a recycling material at that point; correct?
10 A Yes.
11 Q Would it surprise you to know that House of
12 Raeford, once the material went to the lagoon, processed or
13 put that lagoon--that material back through the DAF?
14 A When?
15 Q Just would it surprise you to know that they did
16 that.
17 A I can't recall if I saw that in the records or
18 not. I may have seen some statement about them doing that,
19 but I can't recall.
20 Q So you don't recall talking to Joe Teachey about
21 putting it back---
22 A (interposing) No.
23 Q ---through?
24 A No, we didn't discuss anything like that.
25 Q If they could put the materials back through and

1 if Joe Teachey said in fact he did put the material back
2 through once it went to lagoon number 1, then that would mean
3 that they did have pumping equipment capable of sending
4 sludge to the stream, wouldn't it?
5 A I don't know that I could ever say that.
6 Q Well, House of Raeford indicated that the distance
7 from the lagoon to the stream is about 670 feet. Would you
8 agree with that?
9 A That sounds about right.
10 Q And you have been on site so you can---
11 A (interposing) Yes.
12 Q That seems about right to you? Okay. You said
13 that you could not recall that there was a drainage ditch
14 next to the lagoon system; correct?
15 A No, I did not say that. You asked me if there was
16 a drainage ditch between the primary and secondary lagoon. I
17 have not observed a drainage ditch between the primary and
18 secondary lagoon at the House of Raeford Farms facility.
19 Q I'm sorry. So let me rephrase that, then. Did
20 you observe whether or not there was a drainage ditch next to
21 the lagoon?
22 A I did.
23 Q And what would you say that distance is between
24 the ditch and--the drainage ditch and the lagoon?
25 A It's not a real great distance, probably a couple

1 hundred feet or less.
2 Q What if I were to tell you that it was about 86
3 feet? Is that---
4 A (interposing) That---
5 Q (interposing) Okay.
6 A That could be within the realm of possibility.
7 Q Okay. If you will turn to Petitioner's Exhibit
8 Number 11?
9 (Witness complies.)
10 Q And you indicated that you--I'm sorry. Do you
11 have that in front of you?
12 A Petitioner's Exhibit Number 11, yes, I do.
13 Q Okay. And do you remember seeing this exhibit?
14 A Yes.
15 Q And what is it?
16 A It is a summary of I believe stormwater monitoring
17 by the Valley Proteins facility.
18 Q And in this exhibit there's a reference to flow.
19 Do you know how they measured flow?
20 A I'm not sure what that refers to, the VMA flow.
21 I'm not sure.
22 Q So you--where it says "VMA Total Flow," you
23 wouldn't construe that as flow?
24 A Well, it's flow of something. I'm not sure what
25 it's referencing to.

1 Q I'm sorry?
2 A I'm not sure what it is referencing the flow to,
3 the flow of what. I'm not positive about---
4 Q (interposing) Okay. So you don't know whether
5 that's an actual flow?
6 A I don't--it's a reported flow---
7 Q (interposing) Where it says VMA--I'm looking at
8 the column that says "VMA Total"---
9 A (interposing) Yes.
10 Q ---"Flow."
11 A I don't know what VMA stands for at this moment.
12 Q But it does say "Flow," does it not?
13 A I see the word "Flow," yeah.
14 Q And we can assume that they're talking about
15 Valley Proteins. Is that a fair assumption?
16 A Yes.
17 Q And so--but you don't know. Your point is if this
18 is flow, you don't know if this is actual flow or if it's
19 metered based upon a drainage area; is that correct?
20 A I'm not sure what they're monitoring or measuring
21 at this point. It's a summary table that is I believe
22 supposed to provide documentation of their stormwater
23 monitoring where they are required to monitor fecal coliform.
24 I did see a map of some outfall locations that
25 they monitor on a regular basis. And I'm assuming that

1 that's what it relates to is their monitoring of stormwater
2 at their facility.
3 Q But again--so what does this document show you, or
4 does it have any relevance at all to you in your evaluation?
5 A Well, because this is supposed to represent storm-
6 water monitoring in accordance with their permit, it's
7 showing elevated fecal coliform in their stormwater system
8 that is available to run off into surface water.
9 Q When you say elevated fecal, what do you base that
10 on?
11 A Well, in this last column on the right they have
12 fecal coliform levels greater than 12,000. They are
13 apparently off scale for several of their samples. And
14 others are greater than 6,000 EST, which I believe he's
15 estimated.
16 Q But nowhere near the fecal that we--that was
17 represented in earlier reports, is it?
18 A It could be, because greater than 12,000 is an
19 undetermined number. It's off scale. Their scale stopped at
20 12,000. It could have been higher than any other sample ever
21 taken in the whole drainage basin. All we know is it's
22 greater than 12,000. It could be greater than 100,000. You
23 can't determine from this data.
24 Q But again, we wouldn't even have this report for
25 House of Raeford because they just recently got their

1 stormwater permit; correct?
2 A That's what you've been saying. I'm assuming
3 that's true. I don't know.
4 Q Would it surprise you at all to know that much of
5 this area actually drains to Taylor's Creek?
6 A No, I'm sure that a good portion of the Carolina
7 By-Products property includes drainage that is on the south
8 side of that drainage divide and goes to Taylor's Creek.
9 Q And wouldn't the better evidence be to actually
10 see it, to actually go on site?
11 A You're talking about for me?
12 Q Yes.
13 A Well, I never had a chance to go on the property.
14 Q But wouldn't that be even better than just
15 observing--your (inaudible)---
16 A (interposing) Well, it certainly gives me a
17 closer---
18 The Reporter: (interposing) I'm sorry; than
19 just observing what?
20 Q I said wouldn't you observe--wouldn't your
21 observations be better than just observing it from your
22 limited access?
23 The Reporter: Thank you.
24 A It certainly would be nice to have a direct on the
25 ground eyewitness inspection of the property.

1 Q And actually at that point you could say defini-
2 tively exactly where it drained; correct?
3 A I don't know what I could say from that observa-
4 tion because I haven't made that observation. So I can't
5 specify what definitively I would be able to say without
6 making that observation.
7 Q Thank you. Do you know who prepared this document
8 specifically?
9 A This Exhibit Number 11?
10 Q Yes.
11 A It was included in a set of production documents
12 from DWQ that were shared with me by counsel for House of
13 Raeford Farms.
14 Q Okay. And I actually misspoke. If you'll look at
15 Petitioner's Exhibit Number 12?
16 (Witness complies.)
17 A Okay.
18 Q Do you know who prepared this document?
19 A Give me a moment to look at it.
20 (Witness peruses document.)
21 This appears to be a DWQ site inspection by Jean
22 Conway, Van--I don't know what "Van Jones contacted Tingen"
23 means. But it is a stormwater permit and site inspection by
24 Ms. Jean Conway of DWQ on April 16, 2009.
25 Q Did you have an occasion to talk with Ms. Conway

1 at all?
2 A No.
3 Q So you can't speak to the items that have been
4 enumerated, can you?
5 A All I can do is summarize what is presented from
6 this inspection report that says in item 11 "Ponding/or
7 Stagnated Water By [the railroad tracks]."
8 Q Do you know why this document was generated?
9 A It appears to be an inspection by a representative
10 of DWQ to evaluate the stormwater permit compliance by Valley
11 Protein.
12 Q And Exhibit Number 13, it's a notice of violation
13 for Valley Proteins/North Carolina By-Products; correct?
14 A Yes.
15 Q And it was issued on May 11th, 2009; correct?
16 A Yes.
17 Q And it's indicative of the fact that Carolina
18 By-Products or Valley Proteins had its share of problems;
19 correct?
20 A Yes.
21 Q But it's also indicative of DWQ not showing any
22 bias, not being arbitrary, is it not?
23 A I don't know how to judge whether they're being
24 arbitrary or not. All I see is a notice of violation being
25 sent to someone that they've inspected and found a violation,

1 and that's what they're supposed to do.
2 Q But DWQ seems to be doing its job in the area;
3 correct?
4 A I can't judge that with specificity because I'm
5 not an employee or involved with all these people. All I can
6 say is the record is--speaks for itself.
7 Q And looking at Petitioner's Exhibit Number 14,
8 again it's a letter. Did you have an occasion to look at
9 this letter?
10 A Yes, I did.
11 Q And again it looks that Carolina By-Products on
12 May 27, 2009 had its share of problems; correct?
13 A Yes.
14 Q And Exhibit Number 15, this--have you had an
15 occasion to look at Petitioner's Exhibit Number 15?
16 A Yes, I have.
17 Q And this letter seems to indicate that beaver dams
18 continued upstream of House of Raeford; correct?
19 A It references at this time, in June of 2009, that
20 there were--let me see if I can find this.
21 (Witness peruses document.)
22 It says in the third paragraph, "However, the
23 volume of standing water in this drainage system has been
24 improved by removal of beavers and beaver dams obstructing
25 the flow of water."

1 Q Okay. It's a fact, is it not, that beavers will--
2 once they--you tear down a dam, he'll put it right back up;
3 isn't that correct?
4 A If the beavers are still there, but they say they
5 removed beavers and beaver dams. So if the beavers have been
6 removed, then they're not there anymore to build them right
7 back.
8 Q If the dam has been removed or the beavers have
9 been removed?
10 A Well, they reference both. They say the beavers--
11 "removal of beavers and beaver dams." So if the beavers have
12 been removed, then how can they build back in that location
13 if they're not there anymore?
14 Q Well, wouldn't you expect to see beavers in these
15 swamp waters?
16 A They are common.
17 Q Okay. Do you have an opinion as to whether the
18 waste from House of Raeford and Carolina By-Products looks
19 alike?
20 A Well, I haven't seen waste from Carolina
21 By-Products other than from a air photograph I can see their
22 lagoon system. My review of air photographs suggests that
23 they have multiple wastewater treatment lagoons, some of
24 which appear to have a floating substance on top of them,
25 others that have aerators that seem to be active, and then

there are others that don't seem to have an aerator system.

Q So in your opinion, from the documents that you've reviewed, the pictures that you've observed, do you have an opinion as to whether their waste products look alike?

A As I say, I haven't seen their waste product eyewitness at Carolina By-Products, so I can't say with any specificity whether they'd be alike or not. The only thing I have seen at Carolina By-Products is accumulation of material in the ditch adjacent to the railroad tracks right outside of their fence line that appears to represent impaired water quality, most likely from stormwater runoff as they've been cited with repeatedly by DWQ.

Q The letter does seem to indicate, however, that Cabin Branch is slow moving, or at least in this particular area; correct?

A Where does it say that?

Q I'm just asking you to look at the exhibit. I'm assuming you're reading the entire--you read the entire exhibit. You said you have---

A (interposing) I have before.

Q You said you have familiarity with the exhibit.

A I do. Let me look at it for a moment.

(Witness peruses document.)

Well, he references the two drainage systems, one which is part of Cabin Branch and then the other that goes to

1 the south. And let's see. This exhibit is hard to see, but
2 I'm trying to decide which one is drainage 1 and which is
3 drainage 2 because the map is poor. I believe drainage
4 system 2 is part of the headwaters of Cabin Branch.
5 Q The one thing they don't reference to, even though
6 they talk about the drainage systems, in June of 2009 they
7 don't reference to observing any sludge or sludge-like
8 material, do they?
9 A They were just reporting that they had removed
10 beavers to improve drainage. They removed beavers and beaver
11 dams that were obstructing the flow of water.
12 Q So your answer is they did not reference to
13 sludge; is that correct?
14 A I don't see any reference to that.
15 Q Do you see any reference to algae?
16 (Witness peruses document.)
17 A No, I don't see any reference to algae.
18 Q Okay. Do you have an opinion as to whether the
19 observation that's set out in Petitioner's Exhibit Number 15
20 shows a flow that is sufficient to push hundreds or hundreds
21 of thousands or maybe even a million gallons of sludge behind
22 House of Raeford?
23 A What I see reference to is removal of beavers to
24 improve flow. There is certainly a large area of ponded
25 water prior to removal of the beavers that would have been

1 drained away in a rapid manner.
2 When you pull out a beaver dam, like the example I
3 showed in my presentation earlier, you are changing the base
4 level of the stream and allowing a rapid drainage of the
5 entire swamp upstream of that location to match the new lower
6 base level that you've created in the stream downstream.
7 I can't tell you what volume of fluids would have
8 drained out of the headwaters section of that swamp. It is a
9 large swamp. If you look on my map, you'll see this area in
10 blue that the county has done on the GIS where they show a
11 large swampland. And that's the part--that's the portion
12 that would have been drained out by removal of beaver dams
13 between Carolina By-Products and Highway 117.
14 Q So is it your opinion, then, that Cabin Branch is
15 so naturally obstructed that the removal of these obstruc-
16 tions would result in hundreds or thousands or a million
17 gallons of sludge or sludge-like material to accumulate
18 behind the House of--behind the House of Raeford lagoon?
19 A It would release most likely millions of gallons
20 of water and whatever else is entrained in that water from
21 the wastewater discharges that have been occurring into the
22 upper headwaters of that stream to be released rapidly down-
23 stream at the time the beaver dams were removed. If there
24 were sludge associated with that, then it would be trans-
25 ported downstream.

1 Q But they never referenced to observing any sludge,
2 did they?
3 A They weren't hired to look at sludge. They were
4 hired to remove beavers.
5 Q So it's your opinion, then, that if they saw
6 sludge they wouldn't comment on it; correct?
7 A I don't think that's their area of expertise.
8 They are a beaver--beaver management agency.
9 Q Even if they saw hundreds of gallons or thousands
10 of gallons or millions of gallons?
11 A How can I know what they would say or what they
12 would observe? I don't know if they visited all the aspects
13 of that entire swamp where material might have been trapped.
14 Q Well, wasn't it also your opinion earlier that
15 given the turns and twists of this creek that it was so slow
16 that DO dropped and resulted in a high fecal?
17 A No. I don't think I said that the turns and
18 twists in the creek caused DO to drop. I think I testified
19 that DO drops from other mechanisms that consume oxygen from
20 water.
21 But I thought what I did testify to is that the
22 hydrology of the stream including most specifically the large
23 impounded quarry immediately downstream of the House of
24 Raeford Farms facility is a dramatic, man-made change in
25 stream channel geometry that causes a large decrease in flow

1 velocity and leads to the trapping of anything being trans-
2 ported by that stream to that position.
3 Q So if I take what you--the opinion you just
4 rendered just now, it would seem that there would be staining
5 of the sludge as it moved to House of Raeford, wouldn't it?
6 A You're assuming that it causes a stain. I don't
7 know that that's the case. And I'm not even sure that we've
8 documented sludge in the material behind the House of Raeford
9 Farms. That material in the creek was certainly organic in
10 nature. It included a lot of different things including---
11 Q (interposing) But you're---
12 A ---aquatic vegetation and probably waste products
13 from these upstream discharges.
14 Q But your clients on or about September the 15th,
15 2009, did describe it as sludge, did--or sludge-like;
16 correct?
17 A They were using your term.
18 Q And the service that they used, Register's, they
19 described it as sludge, did they not?
20 A I guess they did, yeah.
21 Q And you agree yourself that Cabin Branch has many
22 culverts; correct?
23 A Yes, it has some culverts.
24 Q And it's fair to guess that within a culvert if
25 there were sludge or a sludge-like material moving through

1 that it would be trapped at various points; is that not
2 correct?
3 A The problem with the premise is that you have an
4 episodic release of a large quantity of material that moves
5 rapidly and can be trapped. I believe my testimony was that
6 you could accumulate at this trapping point behind the House
7 of Raeford Farms continued wastes from continuous discharges
8 over time that might have even been in small quantities that
9 move after rainfall events to that point behind House of
10 Raeford Farms where the--where they become trapped due to the
11 change in the stream channel geometry.
12 Q Looking at Petitioner's Exhibit Number 16 and
13 looking at the second page--again, you've not been to
14 Carolina By-Products, have you?
15 A No, I have not. I've seen it across the fence.
16 Q I'm sorry?
17 A I have looked at it across the fence.
18 Q But in Part B there are some lab results that were
19 given, and one of the references is to fecal coliform. Do
20 you see that in the last column?
21 A Yes, I do.
22 Q Would it surprise you to know that this flow is
23 south for this fecal coliform on 6/9/09?
24 A No, it doesn't surprise me at all.
25 Q But if the flow were south, wouldn't it--I mean

1 wouldn't it take a huge amount of fecal and a huge flow to
2 push it all the way behind House of Raeford?
3 A I think your premise is flawed. The only use of
4 this term was to show releases of fecal coliform from storm-
5 water at the Carolina By-Products facility.
6 Q Do you know whether these samples were taken from
7 the same ditch?
8 A The locations are listed as VP-1, 2, and 3. And I
9 believe there's a map in one of these exhibits that tries to
10 ascertain where those sampling points are, but I can't tell
11 you that I know exactly where they are.
12 Q If they were taken from the same ditch, that would
13 be redundant sampling, would it not?
14 A I would think so.
15 Q If the flow is south, as it seems to indicate
16 here, it won't go into Cabin Branch, will it?
17 A From this particular sample location, no. But
18 these sample locations do not characterize all stormwater
19 leaving the property and some of which enters Cabin Branch.
20 It shows noncompliance with stormwater runoff because of
21 activities on the property, some of which more than likely
22 are going into Cabin Branch.
23 Q Now, we've already gone through Petitioner's
24 Exhibit Number 17, which is Carolina--Carolina By-Products as
25 it relates to their stormwater permit; correct?

1 A Yes.
2 Q And--but there's no reference to sludge in this
3 exhibit, is there?
4 A Give me a moment to look at this exhibit.
5 (Witness peruses document.)
6 I didn't see lab reports.
7 Q You are aware that Carolina By-Products is a
8 rendering facility for beef and swine; correct?
9 A I know they're a rendering facility. I can't tell
10 you what--what they take from various sources. That's---
11 Q (interposing) So in your---
12 A ---their business.
13 Q ---in your review, you didn't discern whether or
14 not it's for beef and swine?
15 A No. I believe Clay told me that they take
16 products from a variety of locations, but I can't say that I
17 know much about their process other than they accept animal
18 by-products and make---
19 Q (interposing) Animal by-products, okay.
20 A Animal by-products is all I've got.
21 Q Okay. And what is your understanding of what the
22 House of Raeford does?
23 A House of Raeford--at the Rose Hill facility that
24 we've been talking about?
25 Q I'm sorry?

1 A You're asking about the production---
2 Q (interposing) Uh-huh.
3 A ---of what they do?
4 Q Uh-huh.
5 A My understanding is they process chickens.
6 Q I'm sorry?
7 A They process chickens. They kill chickens and
8 prep them for use for human food.
9 Q And actually I said for Carolina By-Products beef
10 and swine, but it's just swine and turkey. Is that correct,
11 or do you know?
12 A I don't know.
13 Q You don't know.
14 A Well, I would say that because the House of
15 Raeford Farms facility is involved with chickens and they're
16 sending some of their products for reprocessing that
17 certainly chickens would be involved as part of what is
18 accepted at Carolina By-Products.
19 Q Okay. What about Duplin Winery? Do you know what
20 their waste includes?
21 A I would say it's the by-products from processing
22 grapes. I don't know specific details about their process,
23 but I've read about wastewater treatment facilities from
24 other wineries that are published and available on the
25 Internet. I have some idea of what type of waste they

1 probably generate from looking at case studies from other
2 wineries.
3 Q Did you gather that understanding of Duplin Winery
4 from Mr. Howard or Mr. Teachey or---
5 A (interposing) What understanding? I'm sorry.
6 Q Your understanding of what they produced.
7 A I read the records that you folks have that the
8 DWQ produced with regard to their inspections. And they talk
9 about wastewater being discharged into the ditch from their
10 lagoon and illicit discharges, undetermined piping that
11 seemed to be point sources of discharge from their wastewater
12 system directly into the ditch behind their facility.
13 Q So you reviewed the materials that DWQ produced.
14 Did you have an occasion to walk behind Duplin Winery?
15 A I walked a little part of the ditch, not behind
16 Duplin Winery but downstream of them, close to the railroad
17 tracks near--between Carolina By-Products and Duplin Winery.
18 Q Have you heard the term "7Q10 data"?
19 A Yes.
20 Q And what does that mean?
21 A 7Q10 is the seven day low flow condition of a
22 stream.
23 Q And I didn't see in any of your reports any
24 reference or analysis of 7Q10 data. Did you secure any?
25 A There are no monitoring stations on Cabin Branch

1 to determine what the flow characteristics are and to
2 quantify the 7Q10. I looked for those data. There are no
3 gauging stations on Cabin Branch, and I don't believe I could
4 find any on Beaverdam Branch either, to be able to ascertain
5 what the flow characteristics are of these streams.
6 Q How did you discern, or from whom did you discern,
7 that there were not--there was not any monitoring data?
8 A I did a search on the USGS web site where they
9 catalog available gauging stations in North Carolina through
10 their stream--I don't remember the exact web site. They have
11 a stream monitoring program that helps with flood evalua-
12 tions. And you can query active gauging stations from
13 different drainage basins across the state and glean informa-
14 tion from those. I didn't see any available gauging stations
15 operated by USGS.
16 Q So if there was reference to a monitoring station
17 at Beaverdam Branch above State Road 1915 near Rose Hill or a
18 station at Cabin Branch at State Road 1911 near Rose Hill,
19 that would be incorrect?
20 A I haven't seen those information. If they're out
21 it wasn't something I was able to find in preparation for
22 this trial.
23 Q But that would have been helpful, would it not?
24 A Yes.
25 Q Okay. You indicated in your testimony that you

1 did not take any samples of the stream crossing at the
2 railroad trestle; correct?
3 A I didn't take any samples anywhere.
4 Q You didn't take any samples at all. Mr. Holley,
5 the topography that you observed on Cabin Branch, isn't that
6 typical for swamp waters?
7 A Well, the topography of the area is typical of a
8 coastal plain, especially the central coastal plain part of
9 the state, where you have broad plains that are part of a
10 previous high stand of sea level that has caused a generally
11 planer, relatively flat lying area that dips gently to the
12 east and has been incised by a number of tributaries through-
13 out that area that cause these small drainages within this
14 broad, flat, planer area of the coastal plain of North
15 Carolina.
16 Q Mr. Holley, just in your opinion, would you expect
17 waste from an animal by-product facility to float or to sink?
18 A It could--it could be a variety of character-
19 istics. There are--there are settleable solids and
20 floatable--floating solids associated with a variety of
21 wastewater processes. I would imagine they have both.
22 Q And what about waste from Duplin Winery or a
23 vegetable plant-like vegetation, again, same question?
24 A The same statement: you could have floating
25 wastes as well as settleable solids that would settle out to

1 the bottom.
2 Q So you're saying it could float and it could sink;
3 correct?
4 A I said you could produce materials in a winery
5 waste stream that could float, yes.
6 Q And if you will turn to Petitioner's Exhibit 26?
7 A Okay.
8 (Witness complies.)
9 Q Do you know if--and looking at--and I'm at--it's
10 Petitioner's Exhibit 26. And then I'm looking at a map that
11 you had--that you have on the screen right now.
12 A Okay.
13 Q Do you know if this data was taken all in the same
14 day or if it was taken on---
15 A (interposing) No. It's a composite throughout
16 the--it's the highest numbers that I was able to glean from
17 the records provided to me from September of 2009. And it's
18 supplemented by another spot reading at the Carolina
19 By-Products that was June 9th, 2009.
20 Q I'm sorry?
21 A I also overlaid a single data point from June 9th,
22 2009 from stormwater monitoring conducted by---
23 Q (interposing) Where did you get this?
24 A That value came from the records of stormwater
25 monitoring from Carolina By-Products in the reporting that we

1 were just looking at.
2 Q So you inserted this figure here, but the other
3 figures were drawn from--by DWQ, as far as you know?
4 A They were locations and sets of data that DWQ
5 produced that I assimilated and put on this map.
6 Q And this was data that was secured on or about
7 September the 10th, 2009 other than the 49,000 that you
8 inserted here from June?
9 A It would have been sometime in the month of
10 September, whatever was the highest value from the various
11 monitoring points collected by DWQ.
12 Q All the data other than the figure you put in
13 there?
14 A Other than the extra one I added to it, yes.
15 Q Okay. And you've--the next document you have
16 identified as the timeline of noncompliance for Carolina
17 By-Products, was this captioned this way or did you caption
18 it this way?
19 A That was my own caption.
20 Q And the noncompliance goes primarily to the
21 stormwater; correct?
22 A Yes.
23 Q And just before we leave this map, you didn't put
24 all the data that was provided by DWQ. You just put--oh, did
25 I do that?

1 A I did it. I'm sorry.
2 Q Oh, okay.
3 A I just wanted to change the slide number that I
4 was going back to.
5 Q Okay. You didn't put all the data that was
6 provided by DWQ. You just put the worst data; correct?
7 A Yes, yes. That's what it says, "Maximum."
8 Q And now I'm in your photos, and I'm looking at the
9 photo right before photo number 1. So it's captioned Site
10 Inspection--still in your Exhibit Number 26.
11 A Okay.
12 Q And it's captioned Site Inspection of Cabin
13 Branch.
14 (Witness displays photograph on monitor.)
15 Q Yes.
16 A Okay.
17 Q And if you will, show me where House of Raeford is
18 on this map.
19 A Well, this is the secondary lagoon for House of
20 Raeford right here (indicating).
21 Q Okay. So House of Raeford isn't on this?
22 A No, not--just the secondary lagoon is shown in
23 this view.
24 Q And what about Carolina By-Products and Duplin
25 Winery?

1 A They're on another map. This is just---
2 Q (interposing) So they would be north of this
3 juncture; correct?
4 A No, they would be south and west. Carolina
5 By-Products and Duplin Winery are south and west of this
6 location.
7 Q I'm sorry. You're correct. You're right, south
8 and west. Okay. But they'd be off the map; correct?
9 A Yes.
10 Q And again, the flow being--the flow is north;
11 correct?
12 A North and northeast.
13 Q So your observations in Exhibit--photos 1 and 8
14 are downstream, correct, of House of Raeford?
15 A Yes.
16 Q And again, these photos were taken in April of
17 2011?
18 A Yeah, as stated on the slide.
19 Q And if you go to photo 1, we have no color here,
20 but this is--oh, there it is. Okay. It is green, is it not?
21 A Yes.
22 Q And you've identified it as floating duckweed;
23 correct?
24 A That's correct.
25 Q And photos 2 and 3?

1 A Okay.
2 Q Again, there is some duckweed and there's
3 floating--some trappings, but you've referenced to the fallen
4 tree; correct?
5 A Yes.
6 Q Again, downstream?
7 A (interposing) Yes.
8 Q Correct? And photo 4, fallen tree?
9 A Yes.
10 Q Photo 5, another view of photo 4; correct?
11 A Yes.
12 Q And again, algae blooms and the tree; correct?
13 A It appears to be duckweed and the tree.
14 Q Sorry; duckweed. And in photo 5--oh, I'm sorry;
15 we already did photo 5. In photos 6 and 7, again, floating
16 materials but no sludge or sludge-like material?
17 A I don't know what that is that's floating there.
18 It appeared to be floating probably organic material.
19 Q I'm sorry?
20 A It appeared to be some sort of floating organic
21 material, probably algae, if I had to guess. But I'm not a
22 biologist, so---
23 Q And in fact these photos were taken about a year
24 and a half later, but it's pretty much what you would expect
25 to see in swamp waters; correct?

1 A Yes.
2 Q Photo 9---
3 A Do you want photo 9 or do you want the map that
4 precedes photo number 9?
5 Q I'm sorry?
6 A Do you want the map that precedes photo 9 or do
7 you want photo 9?
8 Q Well, yeah. First let's look at the map that
9 precedes photo 9.
10 A Okay.
11 Q Now--and you have that right there?
12 A Uh-huh.
13 Q Okay. And so we have the Magnolia school. And in
14 fact, right next to Magnolia school is the Nash Johnson
15 chicken hatchery; correct?
16 A I believe right here is a hatchery facility
17 (indicating), and I believe this is as well (indicating).
18 Q Okay. So that--the small--the closer one is the
19 turkey hatchery and the one---
20 A (interposing) I think that's---
21 Q ---above it is the chicken hatchery; correct?
22 A I think that's correct.
23 Q And do you know if Big Ed's is on this map?
24 A I'm sorry. Can you say that again?
25 Q Do you know if Big Ed's Feed Mill is on this map?

1 A I'm not sure I can tell from this figure.
2 Q It may have---
3 A (interposing) It might be. I think it's on--I
4 think it's on the west side of 117, so it probably is not
5 shown.
6 Q Okay. Oh, yeah.
7 A Okay.
8 Q And House of Raeford is also on that other side;
9 correct?
10 A The House of Raeford would be to the north.
11 Q Yeah. And if you'll go to photo number 9?
12 (Witness complies.)
13 A Okay.
14 Q Again, this is part of the school---
15 A (interposing) Yes.
16 Q ---which is upstream of House of Raeford; correct?
17 A Correct.
18 Q And we see here in photo number 10--we see a photo
19 of a sanitary sewer manhole; correct?
20 A Yeah, there are three. There's one in the fore-
21 ground here (indicating), and then there's this other
22 structure here that has two manholes (indicating).
23 Q And again, dealing with an inflow, not an outflow;
24 correct?
25 A Well, it just simply is part of the piping system

1 for handling sewage.
2 Q Which we know is connected to the Town of Rose
3 Hill or City of Rose Hill; correct?
4 A Yes. Well, I believe that to be true.
5 Q But if this were something from the school system,
6 you would expect that to be accompanied by a smell, would you
7 not?
8 A You could smell sewage right here at this opening.
9 I put my face up close to it and it stunk like a sewer. So
10 yeah, you could smell sewage from that open pipe.
11 Q If this volume of sludge that was observed was in
12 the millions of gallons, this would not be something you
13 would expect from a school system, is it?
14 A I don't think it's been demonstrated that there
15 was millions of gallons of sludge as I've already testi-
16 fied---
17 Q (interposing) No, I prefaced that with if it was.
18 I'm just asking you to give me your opinion since you have
19 been tendered as an expert.
20 A My opinion is that if there were an obstruction in
21 the sewer system that caused a backup, you could have sub-
22 stantial volumes of water that would flush out from this
23 location and enter Cabin Branch, which the drainage ditch
24 leading to Cabin Branch is right back here at the top of the
25 screen (indicating).

1 Q And wouldn't you expect to see staining or some-
2 thing evidencing that drainage?
3 A It depends on when it occurred. I'm here in 2011
4 when I visited. No one inspected this in September of 2009,
5 so we don't have any way to verify what evidence there might
6 have been of a release at that time from this location if one
7 had occurred subsequent to that large 3 inch rainfall event
8 at the end of August.
9 Q Except that DWQ said they didn't observe anything
10 upgradient, so you do have that evidence, do you not?
11 A They didn't go to this position upgradient, so we
12 have no evidence of what might have been the condition at
13 that location. And continued rainfall of that volume could
14 easily have carried material downstream and accumulated it at
15 that trapping point that we've been talking about throughout
16 my testimony. And it may not leave a substantial trace in
17 the upstream areas if there's that much stormwater runoff
18 coming through the system.
19 Q And again, you're just giving me a speculative
20 opinion; is that not correct?
21 A I'm giving you my opinion based upon the data
22 available and the possibilities and plausibilities for this
23 drainage system.
24 Q Well, actually none of the data even indicated
25 that there was a discharge at this point. So what data are

1 you relying upon other than this picture that you took?
2 A I'm talking about the available data about the
3 nature of stream flow and this being a structure in dis-
4 repair that if it were blocked up or if there were sub-
5 stantial volumes of water from the large rainfall event that
6 had just occurred at the end of August that it could have
7 overwhelmed the system and caused a contribution of sewage,
8 untreated sewage, into Cabin Branch from this area. That's
9 all I'm saying. I'm just saying it's a potential source.
10 Q And now photo number 13.
11 A Okay.
12 Q And photo number 12.
13 A Okay.
14 Q These are relic structures, are they not?
15 A I don't know their operational status, but given
16 the disrepair of the old apparent wastewater disposal
17 facility behind the school, I would assume that it's no
18 longer connected to the sanitary sewer, but I can't say that
19 with certainty.
20 Q Would it surprise you to know that this--if this
21 were functioning, if it were not relic, it wouldn't discharge
22 to Cabin Branch?
23 A Could you say that again, please?
24 Q Would it surprise you to know that if this were
25 not a relic system, that if it were functioning, it would not

1 discharge to Cabin Branch?
2 A That would surprise me because this is the swamp
3 adjacent to Cabin Branch that feeds into Cabin Branch.
4 Q So you're saying because it's next to it that
5 that's your--the basis for your belief?
6 A This standing water is part of Cabin Branch that
7 you see here (indicating). This is impounded water asso-
8 ciated with that beaver dam that showed in that earlier
9 figure that backs up to this location. So this would be a
10 direct discharge to surface waters of the state if this were
11 functioning and actively discharging.
12 Q On April--you took this in April of 2011?
13 A I did.
14 Q Okay. You're aware of the fact that beaver dams
15 actually oxygenate the water, are you not?
16 A Water cascading over the beaver dam can contribute
17 oxygen.
18 Q And you're also aware of the fact that even if the
19 water encounters a beaver dam, the flow doesn't stop. It
20 just slows?
21 A That's correct. There's usually water that
22 continues past the beaver dam.
23 Q And there can be snags; correct?
24 A Yes.
25 Q And if there were snags or slowdowns, you might

1 see something there if it were in the water; correct?
2 A Something; what do you mean, something?
3 Q Sludge, sludge-like materials, algae, algae
4 blooms.
5 A And I've showed evidence of some of that, so I
6 don't---
7 Q (interposing) I'm just asking the question.
8 A Yeah, it could trap floating material.
9 Q And photo number 14, this is upstream, correct, of
10 House of Raeford?
11 A Yes.
12 Q In the next photo you show the precipitation at
13 House of Raeford Farms for the summer of 2009. The 3 inch
14 rain for that area isn't--it isn't something that's unusual,
15 is it?
16 A That was the largest rainfall that summer, so it
17 was a substantial rain event.
18 Q But this area has been known on occasion to have
19 large rainfalls; correct?
20 A Absolutely; Hurricane Floyd, which I think has
21 been talked about. We--certainly, there are big rains that
22 occur.
23 Q And the wetlands have a huge storage capacity;
24 correct?
25 A Well, I haven't seen any quantification of how

1 large the wetlands are to be able to ascertain the storage
2 capacity, but that is part of their function is that they--
3 they become wetter after rain events and they do hold back
4 some storage of water that is passing through the system.
5 Q And ditches also would have held onto some of the
6 water; correct?
7 A Ditches will retain some amount of water.
8 Q But if you recall, the evidence on the day that
9 this occurred or on or about September the 10th, 2009 was
10 that the creek was hardly moving; correct?
11 A That's the testimony I read.
12 Q Do you have an opinion as to why the DWQ didn't go
13 further north after they discovered--after they saw that
14 there was no sludge upgradient of House of Raeford?
15 A Do I have an opinion?
16 Q Yes, sir.
17 A Would you repeat that? Do I have an opinion as to
18 why DWQ didn't go upstream? I don't know why they didn't go
19 upstream. If it had been me, knowing that there are ongoing
20 violations upstream, I would have gone and visited them to
21 see if any new discharges had happened. That would have been
22 one of the first things I did because you have known sources
23 of release and stormwater problems in the upstream section
24 that would be worthy of investigating.
25 Q So Mr. Holley, if there was--let's say in any

1 number of the scenarios that you've painted, if there was a
2 discharge upgradient, upstream, how does it avoid all the
3 turns and just deposit itself right behind House of Raeford
4 downstream?
5 A Well, I think I've told you that the large volume
6 of water that entered the system during that rain event would
7 have flushed out these open stream sections in the headwater
8 reaches until you get to the abandoned quarry that is a fixed
9 structure with a dramatic effect on the flow velocity of the
10 stream. Everything has to stop at that position because of
11 that large, open quarry that is significantly deeper than the
12 main stream and orders of magnitude wider than the main
13 stream.
14 Q With no staining, no accumulations, no trappings,
15 with nothing more, I mean everything pristine to that point?
16 A I wouldn't go to the everything pristine comment
17 because you know you have upstream discharges that are in the
18 ditch behind Duplin Winery observed prior to and subsequent
19 to the beginning of this investigation. There was no
20 pristine condition anywhere in the stream. From the
21 headwaters at Carolina By-Products and Duplin Winery all the
22 way down, there's no pristine condition in this stream. It
23 is severely impacted.
24 Q Is it common to see sludge in the summer months?
25 A Where?

1 Q Would you--is it--in your opinion, would you be
2 surprised to see sludge in the summer months?
3 A Where?
4 Q Up--Cabin Branch.
5 A In Cabin Branch? I would be surprised to see
6 sludge in Cabin Branch ever unless someone was releasing
7 wastewater like Duplin Winery or other wastewater sources.
8 Q If that same sludge was upgradient, if it was
9 deposited let's say for example if it ran the ditch and just
10 ran into House of Raeford, wouldn't that also be consistent--
11 isn't that also a possibility of how that sludge accumulated
12 right next to the lagoon?
13 A I'm sorry. Can you--I didn't understand your
14 question.
15 Q Isn't it also a possibility that the sludge came
16 off the lagoon onto--off the ditch and into Cabin Branch?
17 A Only if there was a mechanism to get it there.
18 You have a lagoon that has a reportedly adequate freeboard
19 and was functional. You have an adjacent lagoon that is
20 functional that has capacity to take fluids. I can't see any
21 reason why you would ever have anything go into that ditch,
22 and---
23 Q (interposing) So---
24 A ---and the state observe no evidence of anything
25 in that ditch when they investigated on September 10th, I

1 believe. Their documents suggest that there was no evidence
2 of a discharge to that ditch, so I have to conclude that
3 that's not a mechanism to go into the creek.
4 Q Except for your client did indicate that he put
5 the stuff back through, or that it was possible to put what
6 came off of his first lagoon back through the DAF system,
7 which indicates that somewhere there's a hose that actually
8 does have the capacity to reach the--to reach the creek;
9 isn't that true?
10 A I don't know that to be true.
11 Q Okay. If there was a hose that could take the
12 material off the lagoon and put it back on the DAF, couldn't
13 that same hose be used to run it to the creek?
14 A I don't see why anybody would do such a thing. It
15 would benefit no one.
16 Ms. LeVeaux: Your Honor, if I could have a
17 minute, I think I'm almost through.
18 The Court: Okay.
19 (Pause.)
20 By Ms. LeVeaux:
21 Q Just one last question, Mr. Holley: are you
22 familiar with the 303(d) list, which identifies impaired
23 streams?
24 A I'm not a regulatory expert. I probably can't
25 recall that off the top of my head, no. If we---

1 Q (interposing) Would it---
2 A (interposing) Okay.
3 Q Would it surprise you to know that neither one of
4 these streams are on that list?
5 A I don't even know what that list is. You haven't
6 told me.
7 Ms. LeVeaux: Okay. Thank you; no further
8 questions.
9 The Court: Okay. That being the case, I
10 think we'll break for lunch and return back here at 2
11 o'clock, please.
12 Mr. Jones: All right. Thank you.
13 Ms. LeVeaux: Thank you, Your Honor.
14 (The hearing was recessed at 12:48 p.m. to
15 reconvene at 2:00 p.m. this same day.)

1 **F U R T H E R P R O C E E D I N G S** 2:06 p.m.
2 (Whereupon,
3 **JAMES K. HOLLEY, P.G.**
4 the witness on the stand at the time of recess, resumed the
5 stand and testified further as follows:)
6 The Court: This hearing will come to
7 order. It's now two minutes after 2:00 on November the 29th,
8 2011, and all parties present when we recessed are again
9 present. Redirect, Mr. Jones?
10 Mr. Jones: Thank you, Your Honor.
11 **R E D I R E C T E X A M I N A T I O N** 2:06 p.m.
12 By Mr. Jones:
13 Q The last time you were here, Mr. Holley, back in
14 October, you testified about the winery process, and then
15 again today on cross-examination you testified about the
16 winery process.
17 And I think between those two points you have gone
18 back and done some more thinking about the technicalities of
19 the winery process. Tell me again what you discovered about
20 the process of making wine and the kind of by-products that
21 come from that process.
22 A Well, at certain times of the year during the
23 growing season or the harvest season there are a variety of
24 wastes that are brought into the winery process and some of
25 which end up in the waste stream including the stems, some

1 leaves, hulls. They try to filter out most of that and use
2 it as a separate waste product, but some of it can get in.
3 I read some articles about how to improve the
4 treatment of winery wastes in a wastewater lagoon system.
5 And a lot of them focused on the need for aerating the lagoon
6 so that the organic solids that settle to the bottom don't
7 become anaerobic and start to generate high amounts of
8 methane and $C0_2$.
9 Those gases that they produce will cause some
10 portion of that material to float to the surface and creating
11 a floating scum. That may turn over from daytime to night-
12 time from one article I read, where as that stuff is exposed
13 to the atmosphere's oxygen, some of the air that gets in
14 that--creates that floating scum can breathe off and then the
15 solids will settle back to the bottom again.
16 But there is clear evidence that you can have that
17 type of process, and I even found some photographs of
18 floating what looked like algal mats or similar floating
19 solids in lagoons from wineries that had--that were poorly
20 functioning.
21 Q Do you have a photograph like that today?
22 A I do. Let me find that. I have an excerpt from
23 an article on the Conn Creek Winery. And I'm sorry that this
24 is kind of blurry. You may not be able to see it very well.
25 This top slide here (indicating) shows a lagoon with a

1 significant problem with floating solids. This is before
2 this treatment process that these people are marketing was
3 employed that helped the functionality of this winery lagoon.
4 So you can see the floating solids that look quite similar to
5 what we see in other lagoons, other wastewater lagoons of a
6 variety of types.
7 Q So this isn't the Duplin wine---
8 A (interposing) No.
9 Q ---facility?
10 A This is one, I believe, in California. And
11 there's web site links so that people can go back and read
12 the articles later. And this second picture is showing this
13 aerator system that they were deploying to try to improve the
14 functionality of that particular lagoon. This is the after
15 picture you'll see here that shows an improvement in the
16 amount of oxygen and a reduction in the amount of floating
17 solids in the lagoon.
18 Q Tell me, are there times during the year that are
19 worse than others for a winery in terms of producing these
20 kinds of solids?
21 A Yes. Several articles I read talk about during
22 the harvest season, which is late summer up into early fall,
23 up through September, October, including sometimes July and
24 August. So that's the--at least in the northern hemisphere
25 that's the main time frame when the bulk of that occurs.

1 Q And do you recall the time frame that the House of
2 Raeford was being investigated for those conditions?
3 A It's September, September of 2009.
4 Q Which is the same--part of this time---
5 A (interposing) The same time period, yes. And
6 that's consistent with one of the inspection reports from DWQ
7 where they made a reference to the discharge from Duplin
8 Winery into the ditch was worse during the growing season and
9 then (inaudible)---
10 Q (interposing) And they reference the late summer,
11 early---
12 The Reporter: (interposing) I'm sorry. I
13 didn't hear the very end of your answer. During the growing
14 season---
15 A (interposing) During the harvest season.
16 Q Which generally there would be late summer, early
17 fall?
18 A Early fall, correct.
19 Q And that was in DENR reports concerning Duplin
20 Winery?
21 A Duplin Winery, one of their inspections of the
22 ditch.
23 Q There was discussion about the beaver dam activity
24 upstream from House of Raeford. Do you have any evidence to
25 show the evolution of the beaver dam activity in Cabin

1 Branch---
2 A (interposing) Yes.
3 Q ---between the time--Ms. LeVeaux had a letter
4 from--I think it was the Department of Agriculture about
5 removing the beaver--you know, some time that would be
6 relevant to that letter?
7 A Yeah. It was the Natural Resources Conservation
8 Service had mentioned that they had removed beavers prior
9 to--and I don't remember the exact date in June of 2009. The
10 letter was listed. I was able to find some aerial photo-
11 graphs that predate that time, and here is one that shows the
12 conditions.
13 Right in here is the lagoon system for Carolina
14 By-Products (indicating). This is Duplin Winery
15 (indicating). And this is December 18th, 2008, so it's
16 almost a year prior to this whole study. The thing that's
17 interesting about this figure is you see the condition of
18 backing up of water in the ditches along the railroad tracks.
19 And if you'll allow me to zoom in a bit, maybe I can--I'm not
20 familiar with this particular program for zooming, so I hope
21 this works. It's not.
22 But you can see right in this area in particular
23 (indicating) a lot of impounded water and aquatic--what
24 appears to be--from an air photo it's hard to say. It
25 appears to be aquatic vegetation or algal growth, this green

1 coloration of the ditches. And this seems to be consistent
2 with a flooded swamp region at the headwaters associated with
3 the beaver activities being prevalent.
4 Q Show me roughly where Cabin Branch would be.
5 A Well, Cabin Branch crosses the railroad tracks
6 right through here (indicating), and it continues to go down-
7 stream and turns toward Highway 117. This is Highway 117 in
8 the northeast corner of this photo (indicating). This is the
9 railroad tracks right here running roughly north and south
10 (indicating).
11 Q And this would be a matter of months before that
12 letter was written about the removal of the beavers---
13 A (interposing) That's correct.
14 Q ---and beaver dams?
15 A That's correct. So it shows that impounded,
16 backed up swamp condition that is so common when you have
17 heavy beaver activities. This is part of that drainage
18 problem that the state was citing them with and saying "Your
19 stormwater drainage doesn't drain off the property as well as
20 it should."
21 And that's what prompted them to subsequently
22 remove the beavers and the beaver dams so that these ditches
23 wouldn't stay with all this impounded water, the standing
24 water. It would allow some of the surface water stormwater
25 drainage off the Carolina By-Products facility to happen more

1 effectively.
2 Q Okay. Do you have any other photographs that show
3 that same region?
4 A I do. Here's one from October 22nd, 2009. And at
5 this point you can see--right here at that railroad trestle
6 (indicating) you'll see exposed light colored gravel. That
7 is the crushed rock that makes the base of that railroad
8 bridge.
9 And this whole region has been drained. You don't
10 see the standing water along the ditches here (indicating).
11 You don't see the impounded swamp up in here (indicating).
12 It's been drained out because they've removed the beavers and
13 it facilitated the movement of all this stored water in the
14 headwater swamp to be drained away and moved to downstream
15 areas.
16 Q Does this help illustrate a portion of your expert
17 report that you testified to a few weeks ago---
18 A (interposing) Yes.
19 Q ---when you were on direct examination? How so?
20 A Well, it helps to further illustrate the impact of
21 removing the beavers from the headwaters of Cabin Branch.
22 And if beaver dams are present, then they tend to slow water
23 down and trap anything that's moving with that water and
24 temporarily store it.
25 Without that set of beaver dams being present,

1 then stormwater runoff goes more directly into the channel,
2 where it can more rapidly move uninhibited to downstream
3 areas carrying whatever is with it.
4 Q So the first photograph was taken before the
5 incidents at House of Raeford. The second one was done less
6 than two months after?
7 A That's correct. When I visited in 2011, this area
8 was impounded again. And it appeared that there were new
9 logjams and newly established beaver activity recreating that
10 condition that existed prior.
11 Q Because the beavers---
12 A (interposing) Because the beavers were
13 reestablishing themselves.
14 Q On direct exam you talked about some material in
15 some of your previous photographs that I think you even
16 showed earlier today where there was material on top of Cabin
17 Branch, and you said this was a proxy---
18 A (interposing) Yes.
19 Q ---for material that could have existed a couple
20 of years prior. Have you got that picture?
21 A Yes.
22 Q Show that picture again to the Court.
23 A If you'll bear with me---
24 (Pause.)
25 I believe this is the one you're talking about.

1 Q I think that's it.
2 A So we have a lot of floating duckweed and other
3 aquatic vegetation and sticks and twigs and things of that
4 nature.
5 Q And I think this comes out of Exhibit 26---
6 A (interposing) That's correct.
7 Q ---if I'm not mistaken, a picture of you on the
8 boat or someone on the boat with Clay Howard. Now, you said
9 that this represented a proxy for other material. And I
10 think there was some confusion---
11 A (interposing) Yes.
12 Q ---about that. You're not trying to say that is
13 the same material, are you?
14 A No.
15 Q Because you don't know?
16 A I'm saying that this accumulation of floating
17 material on the surface of the water can be considered like a
18 substitute for any floating material that might enter the
19 creek. It can be paper cups. It could be--you know, plastic
20 bottles, things of that nature that would float on the
21 surface, will accumulate at certain points in the creek.
22 But the aquatic vegetation accumulating all
23 through this stretch is the same area where a large portion
24 of the floating material from September 2009 was observed.
25 This is showing the nature of the stream and its tendency to

1 trap anything that floats in this stretch of the creek.
2 Q There was also some testimony last time about
3 weather conditions during the summer of 2009 and then right
4 before the incident giving rise to this action. And you had
5 collected data, weather data, to show either drought
6 conditions or rainfall conditions. Where was that data
7 collected?
8 A Well, what I showed in my graph in this particular
9 presentation, which I think is one of my last slides, if I
10 can find it--this one here (indicating)--was just simply an
11 accumulation of gauge readings from Joe Teachey's monitoring
12 at the spray field area. He has a rain gauge there.
13 Well, one of the things that I thought about was
14 how reliable is this information about this 3 inch rainfall
15 event and is there some independent source of information
16 that would show that there was indeed a large rain event
17 nearby.
18 I was able to find a weather station at the
19 airport in Kenansville, which is a little less than 11 miles
20 away. That seemed to be the closest one that I could readily
21 find. There may be others that I just--I could not find.
22 But about that same point in time, there were two days of
23 rain. The largest day was slightly over 1 inch.
24 So 11 miles away they had--over a two day period,
25 it was about an inch and a half accumulated in Kenansville,

1 indicating a correspondence with this large rain event.
2 Apparently here at--near House of Raeford's spray field moni-
3 toring station, the storm event was a little heavier because
4 Joe had a 3 inch rainfall recorded at his station.
5 Q And the spray field in relation to this area of
6 Cabin Branch is how far?
7 A It's not very far. I have a map or an aerial
8 photograph that shows the spray field. If you give me a
9 moment, I'll find it.
10 (Pause.)
11 I believe the spray field sits up in this region
12 (indicating), the far western edge of this slide of maximum
13 fecal coliform from September of 2010.
14 Q And the--show where the Cabin Branch area is.
15 A Cabin Branch starts up through here (indicating)
16 and works its way on down to that point (indicating). That's
17 Cabin Branch.
18 Q And right behind those red dots would be the major
19 area?
20 A Yes, that's right.
21 Q And so the information that you collected for that
22 weather data graph was that area that you showed on the left
23 of this picture?
24 A Yes.
25 Q From the spray field?

1 A From the spray field area.
2 Q But you verified it by weather reports from
3 Kenansville---
4 A (interposing) I looked at an independent weather
5 station at the airport in Kenansville to verify that indeed
6 there was a substantial rain event over that two day period
7 at the end of August of 2009.
8 Q Now, on cross-exam, you were crossed about various
9 aspects of your résumé and your professional background and
10 experience. One thing we may have glossed over: are you
11 licensed by anybody in North Carolina?
12 A I'm licensed by the State of North Carolina as a
13 geologist.
14 Q By what licensing board?
15 A The North Carolina board for licensing of
16 geologists.
17 Q Okay. It's an independent licensing board that
18 licenses geologists?
19 A Yes, and they are a member of the national
20 association of boards of geologists that has a national set
21 of standards for testing people to establish their
22 qualifications to practice geology.
23 Q That licensing board is established and is
24 described in the general statutes---
25 A (interposing) Yes.

1 Q ---as a state licensing board, isn't it?
2 A Yes, it is.
3 Q Did you have to meet educational requirements to
4 meet licensing?
5 A I did.
6 Q Did you have to sit for an exam?
7 A I did.
8 Q Okay. Briefly tell me about the exam.
9 A The exam was a pretty grueling all day
10 standardized test that was administered that the first half
11 of the day was 100 multiple choice questions. The second
12 half was a more applied examination of mineral and rock and
13 fossil hand samples, as well as mapping evaluation projects,
14 cross section developments, testing my basic knowledge of
15 geology.
16 Q And you successfully surmounted that exam and
17 became licensed?
18 A First try.
19 Q First try. Does the licensing board have canons
20 of ethics or ethical standards that they've also promulgated?
21 A Yes. We have a code of ethics that we must abide
22 by, and we have to maintain truthfulness in our practice or
23 we could lose our license.
24 Q And that governs the--those canons of ethics or
25 standards of ethics, have--do they guide you in what you do

1 on cases---
2 A (interposing) Yes.
3 Q ---such as this?
4 A Yes, they do. In fact, if someone approaches me
5 and provides me information and asks to employ me, but I--if
6 I find any evidence that they're asking for me to try to lie
7 or something that I will turn down the work. I will not work
8 for them.
9 Q Okay. And those standards were applicable to you
10 as you entertained and performed your work on this case?
11 A Absolutely.
12 Q And as you are sitting here today?
13 A Yes.
14 Q There was talk earlier this morning about your
15 inspection of the areas around the turkey and the chicken
16 hatcheries in the Rose Hill area.
17 A Yes.
18 Q And there was a question about discharge, you
19 know, what do these hatcheries discharge to. Do you recall
20 getting any information about the discharge systems for those
21 two facilities now?
22 A Yeah. When I met with Clay Howard in January of
23 2011 and we drove through the area and looked at the general
24 lay of the land, so to speak, I asked him about those two
25 facilities. I said, "What are those?" He identified them as

1 hatcheries. I showed a little confusion this morning about
2 which one was which.
3 But I inquired at that time about whether or not
4 they had wastewater handling facilities and what do they do
5 with their wastewater. And he reported to me that they are
6 connected to the Rose Hill sanitary sewer system for all
7 their waste. So there wasn't a wastewater generating plant
8 at either of those facilities for me to inspect. That's why
9 we didn't go on those properties and do any inspection of
10 those facilities.
11 Q Well, let me rephrase this so I can understand it.
12 They discharge to the City of Rose Hill wastewater system?
13 A Yes.
14 Q Okay. They don't discharge to a stream?
15 A No.
16 Q There was also discussion this morning about
17 different weather conditions and how those different weather
18 conditions would affect your report and your conclusions
19 about where this material could have come from, how a stream
20 operates, et cetera. Did your expert report take into
21 consideration the different weather conditions that could
22 have existed at the time?
23 A Absolutely; I believe I testified that I
24 considered the evidence from the Division of Water Resources
25 that we were in a drought season, but there were also

1 episodes of large rain events that occurred that would have
2 loaded up the stream system with nutrients from surface water
3 runoff, which is a common occurrence after a big rain event.
4 Q There was also discussion this morning about Clay
5 Howard's testimony this morning when the company provided
6 that the water in the creek was pumped to a lagoon after
7 September the 9th at some time.
8 A Yes.
9 Q And Ms. LeVeaux said that--do you remember hearing
10 that Mr. Howard testified that they pumped the water in the
11 creek back into the lagoon owned by House of Raeford? Do you
12 remember that?
13 A I remember that.
14 Q Okay. Do you remember Mr. Howard clarifying that
15 testimony?
16 A Yes.
17 Q What did he say?
18 A He was implying it was back up the hill to go into
19 the lagoon, not that it originated from the lagoon, that that
20 was just the destination and the direction that he was having
21 the material pumped.
22 Q Also in that same connection, Mr. Holley, did you
23 as a part of your work in this case have occasion to review
24 the field notes from a fellow by the name of Rufino Salgado?
25 A I did.

1 Mr. Jones: If I might ask you to---
2 (Petitioner Exhibit 27 was
3 marked for identification.)
4 Q Do you recognize this document, Mr. Holley?
5 A Yes, I do.
6 Q Did you use this in preparing your expert report?
7 A I did review it and consider it.
8 Q If you would, these pages--by the way, do you know
9 who Mr. Salgado is?
10 A I believe he is a contractor who was working for
11 the EPA to do some sample collection associated with this
12 release investigation. I believe the company he works for is
13 OTIE Associates.
14 Q And if you recall, what does this document repre-
15 sent?
16 A It shows a list of his observations of various
17 locations that he visited during his time investigating and
18 sampling. He shows a variety of dissolved oxygen measure-
19 ments that were collected and conductivity measurements and
20 other observations.
21 Q Okay. So he was not employed by the company, was
22 he?
23 A Which company?
24 Q Mr. Salgado.
25 A Oh---

1 Q (interposing) He was not employed by House of---
2 A (interposing) House of Raeford.
3 Q ---Raeford?
4 A No, sir.
5 Q He was there on behalf of---
6 A (interposing) The EPA.
7 Q ---the EPA? On the date 9/21/09, on page 11---
8 (Witness peruses document.)
9 A Okay.
10 Q Have you--have you found those notes, Mr. Holley?
11 A I believe I have.
12 Q Over on the left margin there's a 16 and a 27
13 there?
14 A Yes.
15 Q Then I think there's a reference to SMPL, which
16 probably means sample number 6 or something. And then
17 there's kind of a bullet mark about halfway down that
18 paragraph, and it says "Met with."
19 A Yes. Do you want me to read that sentence?
20 Q Yeah, read that paragraph, if you would.
21 A "Met with Chris Murry (sic) and he said that they
22 pumped 1,035,000 gallons of water from Cabin Branch creek
23 sample number 6 to lagoons 1 and 2 of House of Raeford."
24 Q Okay. So you reviewed this when you were doing
25 your report. From your reading, what does that reference

1 indicate?
2 A It's referring to the remediation efforts that
3 House of Raeford Farms undertook using pumper trucks and then
4 eventually a double diaphragm pump where they were pumping
5 fluids from the creek. And this seems to state that they
6 were pumping water.
7 Q Okay. And that was not sludge. That was water?
8 A That's what it says here.
9 Q Do you know when this--these field notes would
10 have been taken?
11 A It looks like September 21st, 2009.
12 Q Okay. Close to the incident?
13 A Yeah.
14 Q And the term was used "water" as opposed to
15 "sludge"?
16 A That's what it says.
17 Q Also, Mr. Holley, you were here on October the
18 25th when Clay Howard testified, weren't you?
19 A Yes, I was.
20 Q I'm going to hand you just a copy of the tran-
21 script from the October 25th, 2011 hearing that you were
22 present for. If you would read the question and answer
23 beginning on line 11 of the transcript?
24 A Line 11, page 98?
25 Q Yes.

1 A "Question: Okay. Do you happen to know how many
2 gallons of material you pumped---" Answer:
3 (interposing) We took and we measured the trucks.
4 We took a count of all the trucks that we used and
5 that we pumped. And then we took Register and
6 calculated with their pump the volume. And we
7 pumped a little bit over a million gallons of
8 water and muck into our lagoons."
9 Q All right, next question?
10 A Line 18, "So that would be water and waste
11 material?" Answer: "Yes, sir."
12 Q And you were here for that testimony?
13 A I was.
14 Q So based upon that evidence, when you hear that
15 the pumpers pumped a million and some additional gallons of
16 material, what are they talking about in terms of that
17 material?
18 A Well, it's a mixture---
19 Ms. LeVeaux: (interposing) Objection. Your
20 Honor, he's going into what someone else thought. He just
21 read from a transcript for this hearing which Your Honor sat
22 through. You observed the witnesses as a matter of fact, so
23 now he's trying to give you his understanding of what that
24 person was saying, when the best person to review this as the
25 trier of fact is the Court and not Mr. Holley.

1 The Court: It's overruled.
2 By Mr. Jones:
3 Q You can answer the question.
4 A So it seems to represent that the material pumped
5 from Cabin Branch into the lagoons at the House of Raeford
6 Farms was a mixture of water and some muck.
7 Q During cross there was a reference to some
8 citations that were issued by the state to Carolina
9 By-Products and also Duplin Wine Cellars. I don't recall the
10 exact exhibits right now, but specifically referring to the
11 Duplin Wine Cellar citation, Ms. LeVeaux said doesn't that
12 indicate that there was no bias towards anyone that the state
13 was also citing Duplin Wine Cellars for an apparent violation
14 that they have committed as well. And she asked you a
15 question about that.
16 Does it--what does this indicate to you in terms
17 of the state's enforcement of the environmental laws towards
18 Duplin Wine Cellars?
19 A In my opinion, when I reviewed the record of the
20 various inspections of Duplin Wine Cellars conducted by the
21 NCDWQ, I note that on each occasion they visited they found
22 them to be noncompliant, and yet a notice of violation was
23 not issued.
24 Every time they visited they would say not
25 compliant, and then oftentimes they would make a note that

1 there was direct evidence of an illicit discharge directly to
2 a ditch from their wastewater process. I find it odd that
3 they would not issue a notice of violation upon first seeing
4 that condition. And on numerous visits I felt like that they
5 were not being as diligent at enforcing upon Duplin Wine
6 Cellars as maybe they should have been.
7 Q Do you recall how long a period of time lapsed
8 between the findings or the inspection reports and the
9 issuance of the violation, the citing of the violation?
10 A I believe there are inspections that noted non-
11 compliance more than a year prior to the eventual notice of
12 violation that was issued.
13 Q And you walked through one by one those inspection
14 reports, and there were references to the fact that there
15 were stormwater examinations--stormwater inspections for
16 stormwater compliance. Did you consider this when you were
17 making your expert report that you testified on last month?
18 A I did.
19 Q What difference does it make whether they were
20 stormwater inspections?
21 A Well, the notes on the standardized form just
22 simply highlight an area of concern. What I found to be more
23 compelling was the description that often accompanied that on
24 a second page, where it gave details of what the observations
25 were that the state was concerned about.

1 And those details included descriptions of black
2 septic wastewater with a putrid odor in the ditch, a pipe
3 leading from the Duplin Wine Cellars wastewater lagoon that
4 was allowing an illicit discharge of waste from their waste-
5 water system into the ditch.
6 Q I notice on Exhibit Number 21 there--on the last
7 page of that, there are--that's an inspection report
8 concerning Duplin Wine Cellars on 9/23/2009. Have you found
9 that, Mr. Holley?
10 A Yes. This is Exhibit 21, the second page?
11 Q Correct.
12 A I have that.
13 Q Look at that comment there.
14 A Yes. The comment says, "The illicit discharge
15 from the lagoon appeared to have been removed, however, the
16 ditch was full of wastewater again."
17 Q So regardless of the topic of the inspection, a
18 comment is attached that says there was an illicit discharge
19 from their lagoon that had been removed?
20 A Correct.
21 Q Meaning that there had been one there to begin
22 with---
23 A (interposing) Yes.
24 Q ---and it had been removed. And the ditch was
25 full of wastewater again?

1 A That's correct.
2 Q This morning there was discussion of I think the
3 process whereby House of Raeford pumped water from the
4 primary lagoon back into its DAF unit. Now, you inspected
5 the House of Raeford property that included both lagoons?
6 A Yes.
7 Q All right. And you saw the DAF?
8 A I saw where it is located, yes.
9 Q Okay. Show us generally where that DAF is
10 located.
11 A I'm not sure I have a good figure that I can show
12 that on.
13 Q Maybe we can help you.
14 (Witness peruses documents.)
15 A No, it's not going to be on that figure.
16 (Witness approaches photograph.)
17 Okay. On this map or this aerial photo, this is
18 the primary lagoon and this is the secondary lagoon at House
19 of Raeford---
20 The Court: (interposing) Can you verbally
21 describe that for the record?
22 The Witness: I'm sorry; yes.
23 The Court: Can you verbally describe where
24 in the picture, the center or that sort of thing?
25 A Yes, the primary lagoon at the House of Raeford

1 Farms facility is located east of the plant, and the
2 secondary lagoon is located farther to the east of the
3 primary lagoon (indicating). The DAF unit, which is very
4 difficult to see here, is back closer to the west, back
5 closer to the main plant facilities, probably on the order of
6 100 feet or more away from the primary lagoon.
7 Q Okay. And again, show where the ditch is that you
8 were referring to on cross-examination earlier today that
9 runs beside---
10 A (interposing) The ditch south of the lagoon?
11 Q Yes.
12 A This ditch runs from Highway 117 past the guard
13 shack all the way to the east where it eventually meets up
14 with Cabin Branch (indicating).
15 Q And I think you testified earlier that was about
16 87 feet from the lagoon?
17 A It appears to be within that kind of distance,
18 yes.
19 Q Okay. Do you recall what observances were
20 made--observations--yeah, you can sit down---
21 (Witness complies.)
22 Q ---observations were made by the state with regard
23 to the condition of the ditch around the time that they
24 discovered that material in the creek after September the
25 9th?

1 A I believe I reviewed reports from Linda Willis
2 that said that she inspected that ditch during this
3 investigation in early September and that there was no
4 evidence of a spill into the ditch.
5 Q Did you see in all the mass of evidence you've
6 seen any evidence that wastewater would have gone from the
7 lagoon to the ditch to the creek?
8 A Not in the records that I reviewed, no.
9 Q In your experience with--if the wastewater had
10 gone that way, if it had been conveyed by any means from the
11 lagoon to the ditch or from anywhere to the ditch, wouldn't
12 it have left some sort of trace or mark or something?
13 A You would expect to see some of the residuals from
14 that process. There would be---
15 Q (interposing) Okay. Did you see any evidence of
16 that in the record?
17 A I didn't see any evidence of that in the record.
18 Q Now, in terms of the pumping to the DAF, do you
19 remember where any reference of that might have occurred in
20 the record?
21 A I believe I read that in Joe Teachey's deposition.
22 Q Okay. And what did Mr. Teachey say about that?
23 A That it was a new project that they had enacted in
24 2011, that they had purchased a pump and were pumping the
25 floating solids out of the primary lagoon into the DAF, and

1 it was a--it was a new thing that they had started in 2011.
2 Q Do you remember when he said they started that?
3 A I believe April of 2011 is the date---
4 Q (interposing) Okay.
5 A ---that I recall.
6 Q Had they done that as early as 2009?
7 A No. He was asked that question and he said no.
8 Q Did he indicate why they may have instituted that
9 procedure?
10 A I don't recall him saying that specifically, but
11 it seemed to be in response to interaction with DWQ and them
12 expressing concerns about the condition of the primary
13 lagoon.
14 Q So at their urging they pumped back to the DAF.
15 There was a bit of discussion about sampling in 2009 and
16 2010.
17 A Yes.
18 Q Separate and apart from the sampling that was done
19 by House of Raeford in 2010, did you see any results of
20 sampling that had been done through the years by the state?
21 A You shared some new documentation with me recently
22 that had some monitoring by the state that continued up until
23 January of 2011, and there was some new information there
24 throughout 2009 I had not seen when I prepared my expert
25 report.

1 Mr. Jones: This will be a new exhibit,
2 Kay.
3 The Reporter: 28.
4 (Petitioner Exhibit 28 was
5 marked for identification.)
6 By Mr. Jones:
7 Q Have you seen this document before, Mr. Holley?
8 A I have.
9 Q What is this document?
10 A It is a summary of sample results, continued
11 monitoring, at various stations throughout the Cabin Branch
12 and Beaverdam Branch area conducted by NCDWQ. The dates
13 range from September 23rd, 2009 up until January 4th, 2011.
14 Q Well, we don't really have time to go through each
15 one of these line items, but just briefly for the Court, with
16 regard to the DO levels that are shown here about four
17 columns from the right, the far---
18 A (interposing) Yes.
19 Q ---right, what does this show in terms of all
20 these stations on Cabin Branch at various times between
21 September of '09 and 2011?
22 A It seems to indicate that dissolved oxygen levels
23 rise up above--into normal ranges throughout the winter and
24 spring, and then as you go through the summer and approach
25 August and September, the dissolved oxygen values drop

1 dramatically and become quite low, very similar to the
2 results reported in September of 2010 by Environmental
3 Chemists on behalf of House of Raeford Farms.
4 Q Would it be correct to say that this included
5 stations both downstream and upstream of House of Raeford
6 on---
7 A (interposing) Yes.
8 Q ---Cabin Branch?
9 A Yes.
10 Q So it shows nonconforming or violating levels of
11 dissolved oxygen along Cabin Branch both upstream and down-
12 stream of House of Raeford on Cabin Branch?
13 A Correct.
14 Q At various times during the year---
15 A Yes, at various times during the year.
16 Q ---during '09, 2010, and 2011?
17 A Correct.
18 Q Okay. And again, frequently the worst levels of
19 dissolved oxygen occur when, now?
20 A They occur late summer in usually August and
21 September.
22 Q And this report reflects that?
23 A And this report reflects that, yes.
24 Q Is there some reason why they would be lower
25 during the late summer or early fall?

1 A Well, some of that is related to the dry weather
2 conditions, the high evapotranspiration, the high tempera-
3 tures that occur at that time of the year. Also, that
4 corresponds fairly closely with the time--the timing of
5 harvest and processing of grapes for the Duplin Winery and
6 the increase of their discharges that would occur.
7 Mr. Jones: And I'm going to offer another
8 one, which will be Exhibit Number 29.
9 (Petitioner Exhibit 29 was
10 marked for identification.)
11 Q Have you seen this report before, Mr. Holley?
12 A I believe I have.
13 Q And what is it?
14 A It is a summary of water quality monitoring at
15 various stations throughout Cabin Branch and Beaverdam
16 Branch. I believe these data were collected by DWQ and the
17 EPA. And it summarizes dates--various dates within September
18 of 2009.
19 Q Did you review this in terms of preparing your
20 expert report?
21 A I did.
22 Q Are there areas on here that are upstream from
23 House of Raeford on Cabin Branch?
24 A I believe there are some.
25 Q Can you point out a few?

1 A Yes. Station 55, for instance, south branch of
2 Cabin Branch at U.S. Highway 117, that's the fourth item down
3 from the top.
4 Q And---
5 A (interposing) That is upstream.
6 Q ---the DO level there was what on 9/23?
7 A 2.2.
8 Q Which is lower than 4, which is the legal---
9 A (interposing) That's correct.
10 Q ---standard?
11 A Any other areas here that are upstream---
12 A (interposing) Yes.
13 Q ---from the House of Raeford?
14 A Beaverdam Branch next to Parker Bark--that's item
15 31--on 9/32 had a dissolved oxygen of 1.3 milligrams per
16 liter.
17 Q And again, that has not--was not contributed to---
18 A (interposing) That's upstream---
19 Q ---by House of Raeford?
20 A ---in the area where Cabin Branch and Beaverdam
21 converge.
22 Q Any other areas not impacted by House of Raeford?
23 A I'm sure there are. Maxwell Creek at Teachey Max
24 Road, number 21, is a totally different drainage system that
25 doesn't connect up with Beaverdam Branch until a great

1 distance downstream from the facility.
2 Q And that was on 9/23/09?
3 A 9/23/09 at a .1 dissolved oxygen reading.
4 Q And I notice there is a reference here that says,
5 "stagnant, no visible flow, bubbles on surface"?
6 A That's correct.
7 Q That would probably be what, a visible observa-
8 tion?
9 A Yes.
10 Q How about the second page here, Mr. Holley?
11 A Tributary to--number--station number 7, tributary
12 to Beaverdam Branch at U.S. Highway 117, that's quite a ways
13 upstream from House of Raeford Farms.
14 Q Are there--what standards there are relevant?
15 A Well, I don't see on that second page a summary of
16 dissolved oxygen. What I see is some elevated fecal coliform
17 at that location.
18 Q Is the---
19 A (interposing) The second page doesn't seem to
20 report dissolved oxygen.
21 Q Anything else on that page?
22 (Witness peruses document.)
23 A Yeah, station number 7--I'm sorry. Station number
24 55--that's that same one we talked about earlier--south
25 branch of Cabin Branch at U.S. 117, that's upstream and it

1 shows elevated fecal coliform.
2 Q That's even higher fecal coliform?
3 A Yes. And item number 4, which is Cabin Branch at
4 Brooks Quinn Road, has a fecal coliform of 31,000, and that
5 is upstream of the area that the state asserts had visible
6 floating material in the creek. And I believe that's the
7 upstream limit in Cabin Branch that I've seen data reported
8 by the state. Should I---
9 Q (interposing) Go back to the map, yeah, and show
10 where that would be, Mr. Holley.
11 A That would be at this location, at Brooks Quinn at
12 Cabin Branch (indicating).
13 Q That's as far upstream as the state showed data?
14 A Showed data up until about September 23rd, when
15 they finally decided to come visit Carolina By-Products and
16 Duplin Winery.
17 Q And ultimately they cited Duplin Winery for
18 violations?
19 A Yes.
20 Q On the previous exhibit, Number 28, just quickly,
21 which station numbers would be upstream or not impacted by
22 House of Raeford?
23 A Station number 1, South Branch of Cabin Branch at
24 Highway 117, which is House of Raeford spill station 55 it
25 says; Beaverdam Branch at the railroad tracks, which they

1 dropped for safety reasons.
2 Q That's number 2?
3 A Number 2. Number 3, Beaverdam Branch at the head
4 of Johnson's Lake; number 4, Beaverdam Branch at Highway 117;
5 number 5, north unnamed tributary of Beaverdam Branch at
6 Highway 117, HOR spill station 7.
7 (Witness peruses document.)
8 I always get confused by the state road numbers
9 that they use as to where they are. I wish they used
10 Cabin--I mean Brooks Quinn Road and Sheffield in their
11 notation.
12 Q Did you say number 6 is upstream or number 5?
13 A Let me see.
14 (Witness peruses document.)
15 I can't recall if number 6--I can't recall exactly
16 where that is. I would have to look at their map that helps
17 me see that. This says "east unnamed tributary to Beaverdam
18 at state road 1916." I think that is this Johnson Parker
19 Creek that comes down--or the creek beneath Johnson Parker
20 Road that's an unnamed tributary, and that would not be
21 related to anything associated with water that passed the
22 House of Raeford Farms facility.
23 Q And that's number 6? That's station number 6?
24 A That's correct.
25 Q The reason I ask that is the DO levels are

1 extremely low during September '09 at that particular
2 station?
3 A Yes.
4 Q Any others on that report that are not impacted by
5 House of Raeford or are upstream?
6 (Witness peruses document.)
7 A There probably are. I'm having trouble discerning
8 the state road number and picking the location.
9 (Witness peruses document.)
10 I would have to look at their map to figure out
11 those other locations and determine if there were up or
12 downstream.
13 Q Okay. You can put that down. The--you were
14 cross-examined this morning and there was reference to
15 freeboard, whether there was available freeboard in the
16 lagoon number 1, the primary lagoon.
17 Mr. Jones: Let me hand you this from the
18 state record that I guess will be Number 30.
19 (Petitioner Exhibit 30 was
20 marked for identification.)
21 Q Did you review this in doing your expert report?
22 A I believe I did.
23 Q Do you recall what this is?
24 A It's the civil penalty assessment prepared by Jeff
25 Poupart on August 10th, 2010.

1 Q Okay. Go down to paragraph 6.
2 A Okay.
3 Q Did you pay any particular attention to the repre-
4 sentation made here?
5 A I did.
6 Q What does that tell you, Mr. Holley?
7 A It indicated that in the opinion of the state when
8 they were assessing civil penalties that there was no indica-
9 tion of an accident and there was sufficient freeboard in the
10 lagoons.
11 Q Okay. And lagoons is plural?
12 A Yes.
13 Q Okay. What does that mean, then, if there was
14 sufficient lagoon--freeboard in the lagoons?
15 A Then there would be an adequate quantity--or
16 adequate space available in the lagoons to accept wastewater
17 without the potential for overbanking and spillage.
18 Q And that was a representation made by Mr. Poupart?
19 A That's correct.
20 Q I know further up on paragraph 1 it says,
21 "Assessment Factors," "The degree and extent of harm to the
22 natural resources of the State, to the public health, or to
23 private property resulting from the violation." And it says,
24 "Depressed DO and solids would have a severely adverse effect
25 on water environment."

1 Mr. Holley, what is your response to that
2 particular finding there?
3 A Well, I don't believe that the state has demon-
4 strated that the depressed DO throughout Cabin Branch is
5 related to the activities by House of Raeford Farms.
6 Q Didn't they find depressed DO throughout Cabin
7 Branch?
8 A Throughout Cabin Branch and Beaverdam Branch,
9 upstream, downstream, side tributaries, throughout the whole
10 drainage system.
11 Q Then number 2 says, "The duration and gravity of
12 the violation," and it says, "DO very depressed for 13 days."
13 Do you have a response for that?
14 A Well, it appears that there was a similar
15 condition in 2010. For months at a time DO was depressed in
16 these same locations.
17 Q How about 2011?
18 A Well, I wasn't--it hadn't been monitored, to my
19 knowledge, in September of 2011, so I don't have that data.
20 Q Then it says the--on paragraph 3, "The effect on
21 ground or surface water quantity or quality." It says,
22 "Water in creek was septic for a significant stretch." Do
23 you have a response for that?
24 A Well, I find it interesting that that's the same
25 term used to describe the discharge of wastewater from Duplin

1 Winery into the ditch that is in the headwaters of Cabin
2 Branch and eventually drains past this same location.
3 Mr. Jones: Finally, Number 31.
4 (Petitioner Exhibit 31 was
5 marked for identification.)
6 Q Did you look at this report also, Mr. Holley, in
7 doing your expert report?
8 A Yes, I believe I did.
9 Q What does this represent?
10 A This is a North Carolina Division of Water Quality
11 civil penalty assessment document. It's unsigned and undated
12 but prepared by Matt Matthews. And it lists a number of
13 factors that were considered in calculating the civil penalty
14 that was issued against House of Raeford Farms.
15 Q Now, you know, paragraph 1 talks about the degree
16 and extent of the harm, which we talked about in a
17 predecessor document. But take a look at that representation
18 there and let me know when you're finished.
19 (Witness peruses document.)
20 A Okay.
21 Q Do you have any response to that particular
22 finding?
23 A Well, the assertion is that the House of Raeford
24 Farms has had an effect on water quality for mixing waste-
25 water and sludge into Beaverdam Branch and Cabin Branch, that

1 that's a violation that includes depleting dissolved oxygen
2 below the stream standard for Class C-Sw waters.
3 I don't think they've demonstrated that. There's
4 evidence that dissolved oxygen is depressed throughout the
5 summertime throughout this drainage basin at almost every
6 location that has been monitored over time.
7 Q And includes areas upstream of House of Raeford---
8 A (interposing) Upstream, downstream.
9 Q ---and tributaries that are not affected by House
10 of Raeford?
11 A That's correct.
12 Q How about paragraph 2? Take a look at that.
13 (Witness peruses document.)
14 A Okay.
15 Q All right. Do you have a response to that?
16 A It talks about the duration and gravity of the
17 violation. And the violations were found on September 10th,
18 2009, and the dissolved oxygen had recovered by November 4th,
19 2009 at the Sheffield Road crossing station to 6.2 milligrams
20 per liter.
21 That's a similar pattern to what is shown in 2011,
22 this change of very low dissolved oxygen conditions in
23 September--August and September--and then recovering by the
24 time you enter and approach the wintertime.
25 Q So those findings were true at various times?

1 A Yes.
2 Q Unrelated to House of Raeford?
3 A Yes.
4 Q Paragraph 3, the effect on ground or surface
5 water, take a minute to look at that.
6 (Witness peruses document.)
7 A Okay.
8 Q All right. Do you have a response to that
9 finding?
10 A Well, that finding talks about:
11 "The effects on surface waters were removal of
12 best usage due to the floating sludge and film,
13 depressed dissolved oxygen below water quality
14 standards for class C-Sw waters of the State,
15 excessive input of nutrients resulting in
16 excessive of growth for aquatic vegetation and the
17 input of excessive concentrations of fecal
18 coliform bacteria."
19 My response to that is that there's evidence of
20 depleted dissolved oxygen in areas throughout the drainage
21 system that aren't shown to be tied to the floating material
22 in the creek. There are growth of aquatic vegetation
23 throughout the area up until today associated with the
24 nutrient load of the creek from a variety of sources
25 throughout the drainage system.

1 And we've also seen evidence of elevated fecal
2 coliform bacteria in a number of locations throughout the
3 Cabin Branch drainage system even during times when there's
4 no observable floating material that the state has been
5 calling sludge.
6 Q So the findings in the creek that you've discerned
7 are that there is higher elevated fecal coliform and lower
8 than legal DO standards even where there is no sludge or film
9 or---
10 Ms. LeVeaux: (interposing) Objection, Your
11 Honor. This is his witness, and he's--he's testifying,
12 leading the witness, Your Honor.
13 Mr. Jones: I'm just trying to help him
14 summarize his testimony, Your Honor.
15 The Court: Well, let's let him summarize
16 that. I'll sustain the objection, but you can try---
17 By Mr. Jones:
18 Q (interposing) Can you summarize your testimony,
19 then, on paragraph 3?
20 A On paragraph 3?
21 Q Yes.
22 A I've attempted to do that, but it appears to me
23 that there is evidence of a number of impacts to water
24 quality throughout the Cabin Branch drainage system that
25 cause a depression in dissolved oxygen and an elevated

1 nutrient loading that helps lead to aquatic vegetation
2 growth. And these are evident even in the absence of a
3 floating sludge-like material in the creek.
4 Q All right, thank you. The--at the end there you
5 were talking about the Magnolia school---
6 A Yes.
7 Q ---and the system they have there for dealing with
8 wastewater. And Ms. LeVeaux asked you if the--the only
9 reason you made a consideration of that and put it into your
10 testimony was because of its I think proximity to Cabin
11 Branch?
12 A That was one issue, but I also was interested to
13 see the state's initial opinion when they observed the
14 floating material in the creek, that they thought it was
15 human sewage. I believe the record showed some of that. And
16 I wanted to know whether or not the state had adequately
17 considered all the potential sources for sewage contribution
18 that could have added to the conditions in the creek in
19 September 2009.
20 Through my process of considering that, I observed
21 this old abandoned wastewater handling facility at the
22 school. We subsequently visited that location and saw active
23 sanitary sewer system facilities that were in disrepair and
24 could have been in disrepair back in September of 2009. It
25 could be a contributor to conditions in the creek if an

1 overflow occurred into the sewer system.
2 Mr. Jones: Your Honor, if I could pause
3 just a minute?
4 The Court: All right.
5 (Pause.)
6 Mr. Jones: Your Honor, I believe that's
7 all I have for this witness. And I would move admission of
8 Exhibits 10 through 31 at this time.
9 The Court: Any objection to those
10 admissions?
11 Ms. LeVeaux: No.
12 The Court: Petitioner's Exhibits 10
13 through 31 are admitted.
14 (Petitioners Exhibits 10-31
15 were received in evidence.)
16 The Court: Recross, Ms. LeVeaux?
17 Ms. LeVeaux: Yes, Your Honor, just briefly.
18 **R E C R O S S - E X A M I N A T I O** 3:10 p.m.
19 By Ms. LeVeaux:
20 Q Mr. Holley, in Petitioner's Exhibit Number 27 on
21 page 6 at 13:40, or 1:40 p.m.--do you see that?
22 A Give me just a moment.
23 (Witness peruses documents.)
24 Exhibit 27; can you tell me where again?
25 Q Do you see the 13:40?

1 A On which page?
2 Q On page 6.
3 A Page 6, okay, thank you.
4 (Witness peruses document.)
5 Yes.
6 Q Could you read the sentence that begins "He said,"
7 just that one sentence?
8 A Okay. "He said the (sic) didn't pump any sludge
9 today because they were waiting on a larger pumping truck."
10 Q So the inference there being that they had pumped
11 on previous days; isn't that fair?
12 A Yes.
13 Q And the next sentence--could you read the next
14 sentence, please?
15 A "Yesterday they did some pumping to lagoon 2 from
16 Cabin Branch Creek with a 200 gallons per minute pumping
17 truck."
18 Q Pumping to lagoon 2; correct?
19 A That's what it says.
20 Q Okay, thank you. Would your opinion of the
21 waste--you talked at the outset of your testimony in redirect
22 and you talked about a winery facility that you did some
23 reading on in California. And in that research you
24 referenced to your opinion of waste and its ability to float;
25 correct?

1 (No audible response.)
2 Q Would your opinion of waste, and in this
3 particular instance the waste from Duplin Winery facility,
4 change if you knew that that facility had a machine that
5 removed the leaves and the stems and the hulls, which
6 basically attribute to that?
7 A No, because a lot of what's happening is--in
8 articles I've read is that the settle solids that settle out
9 of these lagoons will break down over time and will change,
10 and they will let off gases like carbon dioxide and methane
11 as they break down. Those gases will entrap some of that
12 material and float it to the surface. And it is not unusual
13 for that to happen.
14 In fact, it's quite similar to the deposition
15 testimony that I've reviewed of Ms. Willis where she
16 described the nature of the material in the creek behind
17 House of Raeford Farms after it had been pumped for a few
18 days, that some of it sunk to the bottom and then started to
19 effervesce and give off gas bubbles, and then it would
20 resurface at the surface of the water.
21 Q Okay. So did you do some research on the nutrient
22 concentration in winery waste?
23 A I did actually look at a dissertation from an
24 individual who was evaluating treatment of winery wastes. It
25 was---

1 Q (interposing) Do you have that dissertation with
2 you so we might---
3 A (interposing) I do.
4 Q ---look at it?
5 A Yes, I do. I have---
6 Q (interposing) We'd like to see a copy of that.
7 A It was over my head. It was out of my field, so
8 there was a lot that I didn't understand, so I didn't spend a
9 lot of time reviewing it.
10 Q But does your understanding today reference to
11 that research?
12 A No.
13 Q Okay. Also, Mr. Holley, is it fair to say that
14 there is a stormwater discharge to Cabin Branch from the
15 chicken hatchery and the turkey hatchery, or do you know?
16 A I would say that when it rains water will run off
17 to whatever--stormwater will run off to whatever available
18 drainage features there are. And stormwater will move toward
19 creeks and drainages. So if water were to rain on the
20 hatchery facility, then some of that water would undoubtedly
21 run off.
22 Q And wouldn't it--isn't it fair to say that DWQ in
23 its responsibilities to the integrity of the waters of the
24 state--shouldn't they be abreast of the discharges, even
25 stormwater, to Cabin Branch?

1 A I would say that's within their realm of regula-
2 tion and enforcement to evaluate stormwater and protection of
3 the surface water, yes.
4 Q But again, you didn't secure any information as it
5 related to a discharge of stormwater to Cabin Branch from
6 either the turkey hatchery or the chicken hatchery, did you?
7 A No. I didn't evaluate potential for stormwater
8 related issues at those facilities.
9 Q Mr. Holley, how much are you being paid an hour
10 for your expert testimony?
11 A My normal billing rate is $150 an hour.
12 Q Is that what you're billing?
13 A When I am on the stand, my rate is double.
14 Q I'm sorry?
15 A When I'm on the stand, my rate is doubled. That's
16 a company policy for expert witness testimony. But normal
17 consulting on the case has been at $150 an hour.
18 Q So what is your fee, then, on the stand today?
19 A It will be $300 an hour.
20 Q $300?
21 A Yes.
22 Ms. LeVeaux: Thank you. No further
23 questions, Your Honor.
24 The Court: Redirect?
25 Mr. Jones: None, Your Honor.

1 The Court: You may step down. Thank you
2 very much. And with that, let's take about a 15 minute
3 break.
4 Mr. Jones: Okay. Thank you, Your Honor.
5 The Reporter: Off the record. 3:16 p.m.
6 (A brief recess was taken.)
7 The Reporter: On the record. 3:33 p.m.
8 The Court: This hearing will come to
9 order. It's now 3:33 on November the 29th, 2011. All
10 parties present when we recessed are again present. Mr.
11 Jones, your next witness?
12 Mr. Jones: The next witness is Mr. Kenneth
13 Register, and he's going to be examined by Ms. Jones.
14 The Court: All right. If you'll step
15 forward, Mr. Register, our normal procedure is to swear you
16 in unless you prefer to be affirmed.
17 Mr. Register: Whatever normal--the normal is.
18 (Whereupon,
19 **KENNETH WAYNE REGISTER, JR.**
20 was called as a witness, duly sworn and testified as
21 follows:)
22 The Court: And if you would for the record
23 state your first and last name and spell them both.
24 The Witness: Kenneth Register,
25 K-e-n-n-e-t-h, Register, R-e-g-i-s-t-e-r.

1 The Court: Thank you. You may direct your
2 attention to Ms. Jones.
3 **D I R E C T E X A M I N A T I O N** 3:35 p.m.
4 By Ms. Jones:
5 Q Mr. Register, thank you for being here today. I
6 know you're busy. Would you tell us where you live and what
7 you do?
8 A I live in Warsaw, North Carolina, and I do a
9 septic--own a vacuum truck, which is called Register's Septic
10 Tank Pumping.
11 Q How long have you owned that?
12 A Seven years.
13 Q And what type of business do you do with the
14 truck?
15 A We vacuum about anything we're asked to, but we
16 mainly do septic tank work.
17 Q Okay. And your wife works with you in the
18 business?
19 A Yes. She's my secretary.
20 Q And do you have other people that work with you?
21 A Yes, my brother and one more guy.
22 Q Okay. And how many trucks do you have?
23 A Three.
24 Q Do you ever do work for House of Raeford Farms,
25 the Rose Hill facility?

1 A Yes, ma'am.
2 Q And what kind of work do you do for them?
3 A Clean out--clean grit, storm drains or--they have
4 septic tanks, and they have--which it contains some kind of
5 grease matter.
6 Q Okay. And how long have you been doing work for
7 House of Raeford?
8 A Ever since I've been in business.
9 Q And do you do work for other people as well?
10 A Yes, ma'am.
11 Q Now, were you involved back in September of 2009
12 in the cleanup of a creek that's located behind that Rose
13 Hill facility?
14 A Yes, ma'am.
15 Q And how did you get involved in that?
16 A They called me up and asked me to--if I could--if
17 I'd help them out.
18 Q Okay. And what specifically did they ask you to
19 do?
20 A They asked me to pull stuff from the creek and
21 discharge it in lagoon number 1.
22 Q Okay. And did you do that?
23 A Yes, ma'am.
24 Q And how--what was the process? How did you go
25 about doing that?

1 A We had a hose that went from my truck down to the
2 creek, which was about 100 feet. And we picked up--we pulled
3 from the creek and we discharged--we took our truck and took
4 it to lagoon number 1 and discharged through a hose that was
5 about 25 feet.
6 Q Okay. Let me make sure I understand. So you took
7 the truck and you parked it near the creek; is that accurate?
8 A Yeah, on the--it was on the dam between lagoon
9 number 2 and the creek.
10 Q Okay. And so you had a hose that went from your
11 truck to the creek?
12 A Yes, ma'am.
13 Q And was there a pump involved in getting that
14 water to the truck?
15 A Yeah, my truck has a pump that's built onto the
16 truck.
17 Q Okay. So the truck itself has the pump in it?
18 A Yes.
19 Q And so what would happen when you filled up the
20 truck?
21 A I'd take it to lagoon number 1 and dump it.
22 Q Did you have to unhook the hose from--that went
23 from the truck to the creek?
24 A Yes.
25 Q And I believe you said that was about 100 foot

1 long?
2 A Yes. You had to leave that one there. It's too
3 long to move. And we had a separate hose that we left at
4 lagoon number 1.
5 Q Okay. Actually, let me show you what we can mark
6 as Petitioner's Exhibit Number 32, I believe.
7 (Petitioner Exhibit 32 was
8 marked for identification.)
9 Q Mr. Register, if you could take a look at the
10 photo in the top of that page, there's a photo of a hose
11 there. Do you recognize that hose?
12 A Yes, that's my hose.
13 Q And how long is that hose? If you see the caption
14 in the picture, it says that it's going from the primary
15 lagoon, I believe. Do you know how long that hose was?
16 A It's about 25 feet.
17 Q Okay. And was that the hose that you took--drove
18 your truck from the creek to the lagoon and hooked it to the
19 truck so that you could empty the truck?
20 A Yes, that's the discharge hose. We only used it
21 to discharge at lagoon number 1.
22 Q Okay. And you said lagoon number 1. Is that
23 where you first started putting the material from the creek?
24 Is that where you first put it into?
25 A Yes.

1 Q Okay. At some point did you change the location
2 of where you were putting the material?
3 A We put some in lagoon number 2, but it was later
4 that week.
5 Q Okay. And when we're talking about material, what
6 were you basically pulling out of the creek with your truck?
7 A About 90 percent water, and I don't know what the
8 other stuff was.
9 Q Okay. But you observed some matter that was
10 floating on the creek. Is that fair to say?
11 A Yes.
12 Q Okay. And so when you were pulling out of the
13 creek, you were pulling about 90 percent water and the other
14 10 percent was other types of material?
15 A Yes, ma'am.
16 Q Okay. And you mentioned that the hose from the
17 creek to the truck was about 100 feet long?
18 A Yes, ma'am.
19 Q Is that the longest hose that you have?
20 A Yes.
21 Q Did you have one--did you buy that one special for
22 this job?
23 A Yes, ma'am.
24 Q What is the typical length of the hoses that you
25 use?

1 A It comes in a 100 feet roll, but we cut all of
2 ours 25 feet because that's what fits on our truck.
3 Q Okay. Do you have a hose long enough to go from
4 lagoon number 1 to the creek?
5 A No, ma'am.
6 Q Did you ever see a hose out at the House of
7 Raeford Farms facility that was long enough to go that far?
8 A No, ma'am.
9 Q Do you remember how many days you did work out
10 there?
11 A Not exactly; it was six, seven, a week maybe.
12 Q Okay. Did you observe any sort of pump at the
13 facility there that could have been used to pump material
14 from lagoon number 1 to the creek?
15 A No, ma'am.
16 Q Did anyone ask you to pump anything from the
17 lagoon into the creek?
18 A No, ma'am.
19 Q Did anyone ask you to dump anything from the
20 lagoon into the creek?
21 A No, ma'am.
22 Q Do you have any idea how much material was pumped
23 out of the creek back towards the lagoons?
24 A It was more than a million gallons, I think.
25 Q Do you remember who called you to come out to the

1 facility?
2 A No, ma'am.
3 Q And do you know what the material was that you saw
4 out there?
5 A No, ma'am.
6 Q Do you know where it came from?
7 A No, ma'am.
8 Q If you would take a look at that book that's in
9 front of you and turn to--I believe it's tab number 5?
10 (Witness complies.)
11 Q And let me know when you're there.
12 A I'm there.
13 Q Okay. Do you recognize that document?
14 A Yes, ma'am.
15 Q And what is that?
16 A That's my invoice.
17 Q Okay, made out to--invoice to House of Raeford?
18 A Yes, ma'am.
19 Q And what does that invoice relate to?
20 A That's doing that work from the creek.
21 Q Okay. And it looks like there was a $20,000
22 charge for that work; is that correct?
23 A Yes, ma'am.
24 Q Okay. And did House of Raeford pay you that
25 $20,000?

1 A Yes, ma'am.
2 Q If you look at the top of that invoice, you've got
3 you were pumping sludge there. Does that say "155 loads"?
4 A Yes, ma'am.
5 Q And when you used the word "sludge," did you
6 actually know what that material was in the creek?
7 A No, ma'am.
8 Q What was involved--actually, strike that. How did
9 you get the material out of the creek into the hose?
10 A We actually skimmed from the creek and pushed it
11 with--we had skimmers and we pushed it down the creek to the
12 hose.
13 Q Okay. When you say skimmers, can you describe
14 what that looks like?
15 A Kind of like a squeegee or maybe like a push broom
16 that floats.
17 Q Okay. So were you down in the creek?
18 A Yes.
19 Q Were you by yourself?
20 A No.
21 Q Who else was in the creek with you?
22 A My brother, another guy I had working, and my
23 wife.
24 Q I'm sure she did not appreciate that. And so did
25 you all have these squeegees or these skimmers?

1 A Yes.
2 Q And so you were working to try to push material
3 towards the hose that was in the creek?
4 A Yes.
5 Q Is that your understanding? And again, the
6 majority--the vast majority of what you pulled out of the
7 creek was water?
8 A About 90 percent water, I'm sure.
9 Q Could you see a noticeable difference in what was
10 left on top of the water when you were through?
11 A Yes.
12 Q So you did get some of it?
13 A Yes.
14 Q Was there still some out there?
15 A Yeah, I'm sure there was.
16 Q Did you ever go back to House of Raeford Farms to
17 the creek after this work was done?
18 A Never been back.
19 Ms. Jones: Those are all my questions.
20 The Court: Cross-examination, Ms. LeVeaux?
21 Ms. LeVeaux: Thank you, Your Honor.
22 **C R O S S - E X A M I N A T I O N** 3:45 p.m.
23 By Ms. LeVeaux:
24 Q How are you, Mr. Register?
25 A I'm good.

1 Q Good. I only have a few questions. First I'd ask
2 you to turn to Petitioner's Exhibit Number 5, Mr. Register.
3 That's in front of you.
4 A Okay. I'm ready.
5 Q You have that in front of you? Is that your
6 statement?
7 A Yes, ma'am.
8 Q And you identified the substance as sludge. Why
9 did you call it sludge?
10 A Because most of the work we do we put like--I mean
11 if I was to pump a grease trap, I would put trap. I mean
12 this is--this is actually not what we do every day, so I
13 just--I mean I don't know. I don't know why I named it
14 sludge.
15 Q Is it fair to say that it might have looked like
16 sludge to you on that day?
17 A Yes.
18 Q And when you--you indicated in direct examination
19 that you pump from storm drains. Can you tell me what you
20 would pump from a storm drain?
21 A From the storm drains?
22 Q Uh-huh. You said you did some work--you pump from
23 storm drains.
24 A Yes, it is--just like the Walmart storm drains, I
25 know there would be rocks and grit and just parts of pallets

1 and stuff like that they would have laying around, just
2 trash, pretty much trash.
3 Q And that trash was like obstructing the flow of
4 the water?
5 A Yes.
6 Q Going back to Petitioner's Exhibit Number 5, look
7 at the second page. My copy is not that clear. Can you tell
8 me what it says?
9 (Witness peruses document.)
10 A That's not mine.
11 Q I'm sorry?
12 A This is---
13 Q (interposing) Oh, this is not yours?
14 A No.
15 Q Okay. I'm sorry. Yes, it does say "House of
16 Raeford" at the top. So you didn't provide this document
17 here?
18 A No, ma'am.
19 Q Do you remember receiving this document?
20 A No, I mean it's not--it's--no.
21 Q Okay. Do you live in Rose Hill?
22 A No, ma'am. I live in Warsaw.
23 Q And you drove down today?
24 A Yes.
25 Ms. LeVeaux: Thank you. No further

1 questions.
2 The Court: Redirect?
3 Ms. Jones: I just have a couple questions.
4 **R E D I R E C T E X A M I N A T I O N** 3:47 p.m.
5 By Ms. Jones:
6 Q Mr. Register, do you know what the definition of
7 the word "sludge" is?
8 A To be--no.
9 Ms. Jones: Okay. I don't have any further
10 questions, Your Honor. And I would just move Exhibit 31 be
11 admitted into evidence--32, I'm sorry.
12 The Court: Any objection, Ms. LeVeaux?
13 Ms. LeVeaux: No objection, Your Honor.
14 The Court: Do you have any further
15 questions?
16 (Pause.)
17 The Reporter: She might not have heard you,
18 Your Honor.
19 Ms. LeVeaux: I'm sorry?
20 The Court: I'm sorry. Do you have any
21 further questions?
22 Ms. LeVeaux: Oh, I'm sorry, Your Honor; no
23 further questions.
24 The Court: Okay.
25 **E X A M I N A T I O N** 3:47 p.m.

1 By The Court:
2 Q Let me ask real quick, Mr. Register, did--when you
3 were in the creek with the stuff, did it have an odor or
4 anything or---
5 A (interposing) No, sir.
6 Q Tell me about--just it was odorless to you?
7 A I mean just like every other swamp where water has
8 sat there for a long time, it all stinks. I mean it all
9 just---
10 Q So it had that kind of swamp stink odor?
11 A I mean just all swamp will just have--I don't
12 know, just---
13 Q (interposing) Okay. And then when you were
14 pumping into the lagoon, was there stuff that already looked
15 like it in the lagoon or was this totally different looking
16 stuff going back?
17 A It looks different in the lagoon.
18 The Court: Okay. Any questions based on
19 my questions by either party?
20 (No audible response.)
21 The Court: You may step down. Thank you,
22 sir.
23 The Reporter: Your Honor, I don't think you
24 actually said for the record, but is Exhibit 32 received?
25 The Court: It is.

1 The Reporter: Thank you.
2 (Petitioner Exhibit 32 was
3 received in evidence.)
4 The Court: Thank you. Any more witnesses?
5 Mr. Jones: Your Honor, we find ourselves
6 in the embarrassing situation where I thought Mr. Holley and
7 Mr. Register were going to take a little bit longer, and our
8 next witness is also coming from Rose Hill and had a full
9 workday so we told him to report at 9:30 in the morning. I
10 apologize, but---
11 The Court: (interposing) Okay. Well, I
12 don't think there will be too many tears if we leave a little
13 early today. Is that all right with everyone?
14 (No audible response.)
15 The Court: Okay. With that being said,
16 then, we'll be in recess till tomorrow morning at 9:30.
17 Mr. Jones: Thank you.
18 (The hearing was adjourned at 3:49 p.m. to
19 reconvene at 9:30 a.m. on Wednesday, November 30,
20 2011.)

STATE OF NORTH CAROLINA

COUNTY OF WAKE

C E R T I F I C A T E

I, Kay K. Rohde, do hereby certify that the foregoing pages 400 through 567 represent a true and accurate transcript of the proceedings held at the Office of Administrative Hearings on Tuesday, November 29, 2011.

I do further certify that the witnesses on this day of the proceedings in the above action were duly sworn or affirmed by me in my capacity as a notary public in and for the County of Wake, State of North Carolina.

I do further certify that I am not counsel for or employed by any party to this action, nor am I interested in the results of this action.

In witness whereof, I have hereunto set my hand this 9th day of January, 2012.

_____

Kay K. Rohde, CVR-CM
Notary No. 19971050205