

1 IN THE COURT OF COMMON PLEAS
 2 CLINTON COUNTY, PENNSYLVANIA
 3 CIVIL

5 PATRICIA LEIGEY, et al)
 6 vs.) No. 654-2022
 7 NICHOLAS MEAT, LLC, et. al)

10 TRANSCRIPT OF PROCEEDINGS held in
 11 Courtroom No. 1 at the Courthouse, Lock Haven, Pennsylvania,
 12 beginning at ^ a.m. on December 10, 2025, before the Honorable
 13 Craig P. Miller, President Judge of the Twenty-fifth Judicial
 14 District of the Commonwealth of Pennsylvania.

15 APPEARANCES:

16 Christopher Nidel, Esq., William Cowles,
 17 Esquire, Zachary Kelsay, Esquire, John E. Kotsatos, Esquire,
 18 on behalf of the Plaintiffs.

19 James C. Clark, Esquire, Jeremy R. Lacks,
 20 Esquire, Robert J. Schena, Esquire, on behalf of the
 Defendants.

23 Maureen L. Pritchard
 24 Official Court Reporter
 Clinton County, Lock Haven, Pennsylvania

25 R O U G H D R A F T

1 THE COURT: We're still waiting for one juror.

2 Mr. Nidel anything before the jury gets here.

3 MR. NIDEL: No, Your Honor.

4 THE COURT: Anything for you guys.

5 MR. CLARK: No, Your Honor.

6 THE COURT: Good.

7 So you'll have Dr. Yoxtheimer when all the
 8 jurors get here.

9 All right. I'll be back in when they're here.

10 All right. I'll let you know.

11 (Time noted, 8:27 a.m.)

12 THE COURT: Mr. Yoxtheimer do you want come up
 13 here real quick. The jury will be coming in.

14 (Whereupon, the jurors were escorted into the
 15 courtroom.)

16 (Time noted, 8:28 a.m.)

17

18 THE COURT: Ladies and gentlemen, thank you
 19 for coming back timely. And I appreciate how long you stayed
 20 last night. We're going to trying to get done hopefully with
 21 the testimony today so we can do closings tomorrow but notes a
 22 definite. That's our goal. And so we lucked out on the
 23 weather, Joe Snedeker was right.

24 We'll get going right here. Dr. Yoxtheimer
 25 was being cross-examined by Plaintiffs' counsel. We'll pick

R O U G H D R A F T

2

4

1 INDEX TO WITNESSES

1 up where we were.

2 Go ahead, Mr. Nidel.

3 MR. NIDEL: Thank you, Your Honor. May it
 4 please the Court.

5 Good morning Dr. Yoxtheimer.

6 A Good morning.

7 Q Do you know we were talking yesterday about the
 8 fields, F1 F2 and F3. And do you know how long Nicholas Meats
 9 has been applying at those fields?

10 A I am -- not off the top of my head, no.

11 Q Is that something that you looked into? Do you
 12 know how long those fields have been applied and managed by
 13 Nicholas Meats?

14 A I do not.

15 Q Do you know how long they've been farmed?

16 A Probably for decades just given the
 17 agricultural history of the area but not definitively.

18 Q Over a century?

19 A Possibly.

20 Q Do you know anything about the crops that are
 21 grown there?

22 A Typical crops for you know a lot of corn I
 23 suppose but I don't know specifically. That would tea take
 24 field by field survey to verify that.

25 Q You said typical crops. But that's just a

R O U G H D R A F T

3 EXAMINATION

4 David Yoxtheimer

5 Herschel Elliott

25 R O U G H D R A F T

1 guess, right? You're just saying if it's a typical farm it's
 2 typical crops, right?
 3 A Again, you know, I'm generalizing the kinds of
 4 crops that are grown in the region are typical for the region.
 5 Q I really want to be careful to only testify to
 6 what you know. So if you have any knowledge about whether they
 7 grow crops?
 8 A I have not conducted a normal field by field
 9 survey of what crops are grown on each field.
 10 Q Do you know anything about what crop was grown
 11 on field at any time?
 12 A I do not.
 13 Q Have you done an informal survey?
 14 A I have not.
 15 Q You haven't done any survey?
 16 A Not just beyond having driven through the area
 17 and worked in the area and been by the fields in the region and
 18 seeing things like corn and soybean grown in the area. I've
 19 walked through the fields in the previous work that I've done
 20 in the area.
 21 Q But you don't -- when you did drive by can you
 22 identify what you saw in terms of any crop on these fields?
 23 A I haven't done a formal survey of those
 24 particular fields.
 25 Q I'm talking informal. Just that driveby. Did

ROUGH DRAFT

1 Q Well, initially they take a sample bottle, they
 2 take a sample. They take off their gloves. They pack it up and
 3 they sign it say on this date they sampled three bottles and
 4 they ship it to the will be, right?
 5 A Typically.
 6 Q And then the lab has that chain of custody,
 7 right?
 8 A That's how you're getting the samples to the
 9 lab. If you're driving the samples to the lab my experience
 10 has been you hand it to the lab manager or their front offers
 11 person who then they sign off so you can see that the sampler
 12 gave the bottles and the samples to the laboratory and they
 13 were received at a time on a certain date on a certain date.
 14 Q Either way the lab is given the chain of
 15 custody, right?
 16 A Ultimately, yes.
 17 Q So the lab has the chain of custody, right, not
 18 Ms. Leigey?
 19 A Correct.
 20 Q So it's not any fault of hers that she doesn't
 21 have a chain of custody; is that fair?
 22 A I don't believe I said it was.
 23 Q Well, you wouldn't expect Ms. Leigey to have
 24 the chain of custody when the custody of those samples was last
 25 left with the lab, right?

ROUGH DRAFT

1 you notice specific crop on any one of these?
 2 A I did not take a formal survey.
 3 Q You have no idea how long they've had nutrients
 4 applied to them?
 5 A Not specifically, no
 6 Q You have not identified any other source that
 7 you attribute potential impacts to these wells, right?
 8 A Beyond that there is widespread livestock in
 9 the region.
 10 Q There's typical farming but you haven't
 11 identified a specific farm or activity other than these fields
 12 that you attribute to the contamination of these wells; is that
 13 fair?
 14 A If I were to do a more detailed hydrogeologic
 15 investigation that would be part of that investigation.
 16 Q And you've talked about there not being a
 17 sufficient hydrogeologic investigation, right?
 18 A To the best of my knowledge, there's not been a
 19 hydrogeologic investigation conducted.
 20 Q And we talked about -- you talked about with
 21 counsel chain much custody, right?
 22 A We did talk about that.
 23 Q You and chain of custody is something that's
 24 filled out by the person taking the sample?
 25 A Yes, initially.

ROUGH DRAFT

1 A Correct. If they are transferred according to
 2 the typical protocol.
 3 Q The septic tests that you reviewed -- well, you
 4 did you review the septic investigations or assessments?
 5 A I reviewed the evaluations that were --
 6 assessments that were conducted on each of the Plaintiffs'
 7 septic systems, yes.
 8 Q Let's take a look at the first of those. D 99.
 9 It's up on the screen?
 10 MR. LACKS: Your Honor, can we get these
 11 screens turned on.
 12 THE COURT: Okay.
 13 MR. LACKS: Thank you.
 14 BY MR. NIDEL:
 15 Q You're not a septic system installer or
 16 maintainer, are you?
 17 A I am not.
 18 Q You're not a civil engineer, right?
 19 A I am not.
 20 Q And but you were reviewed these, right?
 21 A I did.
 22 Q Now this first one it's Exhibit D 99. It's the
 23 septic system for Ms. Patrice Leigey; is that right?
 24 A Yeah, that's what it says.
 25 Q And in that inspection of the septic system,

ROUGH DRAFT

1 that report is there any mention of the word leak?
 2 A Not beyond the word leakage.
 3 Q It didn't find leaks?
 4 A Not, based on that.
 5 Q In fact, what it found was that the tank was
 6 pumped on this date by Schrack the tank's physical condition
 7 was found to be in good overall condition, right?
 8 A It said there is high liquid levels and based
 9 on the distance compliance there should be no negative affects
 10 on the private well.
 11 Q I'm not sure I asked you about the high liquid
 12 levels but that doesn't indicate it's leaking, right?
 13 A Correct.
 14 Q And it found with the system distance
 15 compliance there should be no negative effect on the private
 16 well, right?
 17 A That's what it says.
 18 Q There's no indication of leaks; there's no
 19 indication that the tank is leaking; and there's no indication
 20 it's had any affect or will have any effect in its current
 21 condition on the private well, right?
 22 A From this assessment that's what it says.
 23 Q Do you know how much this assessment cost?
 24 A I do not.
 25 Q Did you do your own assessment?

ROUGH DRAFT

1 Q You didn't test your hypothesis on these septic
 2 systems, did you?
 3 A What would be the hypothesis?
 4 Q They're leaking, that they may be attributing
 5 according to your figure 2?
 6 A Well, figure 2 showed you can actually provide
 7 recharge for a carbonate aquifer via the effluent that comes
 8 out of the septic system is what that figure showed.
 9 Q But these septic systems there's no evidence
 10 that they're leaking, right?
 11 A Based on this, correct. However, as I
 12 mentioned before, by nature, the design of a septic system is
 13 to allow the effluent to drain into the soils so, there's
 14 really not been any significant removal of contaminants at that
 15 point and you're relying on soils ability to break down any of
 16 the contaminants.
 17 Q What you're relying on is that filtration
 18 mechanism that you discussed yesterday?
 19 A Correct.
 20 Q And there's been nothing found with Ms.
 21 Patricia Leigey's septic system that according to the
 22 professional with 25 years experience with septic systems
 23 thought it would be impacting her well, right?
 24 A I don't know the inspector's background or his
 25 experience. I don't see that they are an civil engineer or

ROUGH DRAFT

10

1 A I did not. I was not commissioned to do so.
 2 Q Do you know if Nicholas Meat did its own
 3 assessments?
 4 A I'm not aware of that.
 5 Q Do you know if this was more than 200 dollars?
 6 A I do not know what the price was.
 7 Q How much are you getting shall getting paid for
 8 your testimony in this case?
 9 A It depends how long I'm herein.
 10 Q How much per hour sir?
 11 A 200 per hour.
 12 Q For less than one hour of your time you could
 13 have had your own inspection from your own professional
 14 unbiased inspector, right?
 15 A If I was commissioned to do so and given the
 16 opportunity to be on the Plaintiff's property.
 17 Q You could have gotten permission to be on the
 18 plaintiff's property?
 19 A Again, I wasn't commissioned to do so.
 20 Q You're a scientist, right?
 21 A I like to think so, yeah.
 22 Q You don't just do -- you inquire, you
 23 investigate, you look for new information and evidence as a
 24 scientist, right? You test your hypothesis?
 25 A Correct.

ROUGH DRAFT

12

1 enforcement of any type positive I don't know what their
 2 experience is.
 3 Q You've reviewed these documents, right?
 4 A I reviewed the document, but there is no resume
 5 or curriculum vitae for this inspector so whether or not what
 6 their background is or human years experience they've had
 7 necessarily.
 8 Q You're making this harder on me, sir.
 9 Look at the conclusion.
 10 A I've read it.
 11 Q The first line. I don't know if you did.
 12 I've been collecting on Domestic Relations --
 13 I've been conducting on-lot septic evaluations for over 25
 14 years. I know it's a short resume but there is it is, right.
 15 A Okay. He could have done 25 years ago and did
 16 one that particular gay and that would be 25 years of
 17 experience. How your yes or no how expensive his experience
 18 is. He's a home inspector service so he dots lots of different
 19 things. He's not specifically just a sewage inspection
 20 specialist.
 21 Q Do you know he's getting paid \$200 an hour to
 22 do those inspections?
 23 A Potentially. Again I didn't see his invoice.
 24 Q Let's take a look at D 100. That's the Rockey
 25 inspection?

ROUGH DRAFT

1 You reviewed that Rockey inspection, right.
 2 A Correct.
 3 Q No mention of leaks, right?
 4 MR. LACKS: Your Honor, I can give the
 5 witness a copy rather than go off the screen.
 6 THE COURT: Sure.
 7 Q You reviewed these as part of the your septic
 8 assessment?
 9 A Yes.
 10 Q You were looking to see if these tanks were
 11 damaged, if they were leaking, right?
 12 A Yeah, to see if there were indications that
 13 they could be potential source of fecal contamination to the
 14 aquifer.
 15 Q You didn't conclude that they were in fact a
 16 source, right?
 17 A I did not say that they were defend,
 18 definitively a source. I said something to the affect they
 19 could potentially be a source.
 20 Q Plausibly?
 21 A Sure.
 22 Q You didn't find any evidence in Ms. Rockey's
 23 assessment done by the same company for over 25 years that they
 24 found that there were leaks, right?
 25 A This says that this system -- the absorption

ROUGH DRAFT

1 opinion at this, and its current condition likely has no
 2 negative effect on the private well on site.
 3 Q So not only did he not find leaks but he found
 4 in each of these two testings we've looked at or these
 5 inspections that he concluded with this 25 years of experience
 6 that there was likely no effect, right?
 7 A He's saying that the septic system not
 8 functioning as designed. So I'm not sure how you would derive
 9 the opinion without some sampling to say that there's no
 10 potential for a septic system that's not operating according to
 11 design, that it's not having an effect. I'm not sure. That's
 12 a bit of a leap of faith scientifically in my opinion, and
 13 maybe Mr. Hancock has great incites that I don't have.
 14 Q I want you to stick what you know. And you've
 15 nerve done a septic inspection, have you?
 16 A I've done septic system investigations.
 17 Q You've never been paid to do a septic
 18 investigation like Hancock here, right?
 19 A Not an evaluation this level, no.
 20 Q Right. And you haven't formed an opinion that
 21 in fact those tanks, any of the four tanks, were in fact
 22 leaking or caused a contamination of the wells, right?
 23 A Excuse me.
 24 Q You have not reached an opinion that these
 25 septic tanks were in fact the cause of contamination of any of

ROUGH DRAFT

1 area was not functioning properly as designed and had high
 2 liquid levels.
 3 Q Sir, I understand there's things you want to
 4 point out in there that you think are indicative of there's
 5 high liquid levels, there's lots of solids in some of these.
 6 We could get into the gut health of folks. But you didn't find
 7 any evidence of leaks, right?
 8 A Well, again this one says this system isn't
 9 operating as -- functioning properly as designed.
 10 Q What's the absorption levels. What does that
 11 mean?
 12 A The absorption area is where the sewage sewage
 13 effluent is being discharged into the soils.
 14 Q Is it? Do you know that to be the case?
 15 A In a conventional system that's how they work.
 16 Q What's the drain field?
 17 A It's basically the absorption area. It's
 18 synonymous.
 19 Q This inspector who has been doing this 25 years
 20 did he have any concerns about that system that it was a
 21 problem affecting the well.
 22 A He is saying the system is not the currently
 23 functioning satisfactorily as designed. However, is not
 24 surfacing or discharging to the surface and is well beyond the
 25 recommended distant guidelines from the private well, in my

ROUGH DRAFT

1 those wells?
 2 A I have not definitively concluded that because
 3 there is not enough data to make such a conclusion.
 4 Q You didn't do your own inspection, right?
 5 A I was not commissioned to do so.
 6 Q I thought you just had to hire someone for \$150
 7 but your testimony is you could have done it yourself?
 8 A I would have suggested that sampling of the
 9 wells occur to see what the quality of the wells is, and then
 10 make an evaluation to see if there's some potential impact to
 11 the wells from the septic system.
 12 Q We'll get there. But you can take samples and
 13 we talked about those samples. They are 10, 25, somewhere for
 14 less than \$100 and the sampling which you do yourself you could
 15 have found out what was in those wells and done that
 16 investigation, right?
 17 A Again I was not commissioned to do so but that
 18 level of work would be part of the hydro geologic
 19 investigation.
 20 Q You're getting paid \$200 an hour?
 21 A Correct.
 22 Q Did you ask if you could do that?
 23 A No.
 24 Q Why not?
 25 A I'm not the project director here.

ROUGH DRAFT

1 Q So you only do what you are told to do even
 2 though you're a scientist and one of your, I think probably
 3 your entire opinion, is that there's just not enough
 4 information, right?

5 A Basically I was commissioned to look at the
 6 existing data and derive some conclusion, if possible, as to
 7 what the nature of the potential impacts to the Plaintiffs'
 8 wells are.

9 Q You said you're not the project director?

10 A Correct.

11 Q Who is the project director?

12 A I leave that up to the defendants legal team.

13 Q You said you're not the project director.

14 Could you tell us who that was?

15 A I just said I would leave that --

16 MR. LACKS: Objection.

17 THE COURT: I guess he's looking for the name.

18 MR. LACKS: He didn't ask for a number.

19 BY MR. NIDEL:

20 Q Who? Do you understand that to be ask for a
 21 name? Who? Who is the project director?

22 A Well, I again will defer to my previous
 23 statement that the defendants' legal team, Mr. Lacks,
 24 Mr. Clark, and Mr. Schena collectively directed me as to what
 25 my scope of work was, so I followed the narrow work of scope

ROUGH DRAFT

1 to make scientific conclusions. And so additional data and I
 2 believe your expert said the same thing. You need a more
 3 detailed hydro geologic investigation. I concur with that.

4 Q To determine the full extent -- what do you
 5 call it? The full delineation of contamination you need -- to
 6 see how far this contamination has spread, right?

7 MR. LACKS: Objection. Mischaracterizes what
 8 Dr. Grobbel wrote.

9 MR. NIDEL: It's a question.

10 MR. LACKS: You were trying to characterize.
 11 THE COURT: Stop. Don't interrupt him. Go
 12 ahead.

13 MR. LACKS: He presented a question in a way
 14 that mischaracterized what Dr. Grobbel's recommendation was

15 THE COURT: Rephrase the question. Go ahead.

16 Q Did you read Dr. Grobbel's testimony?

17 A Parts of it, yes.

18 Q Why only parts of it?

19 A I was directed to look at certain sections of
 20 it so I read most of it and focused on certain sections.

21 Q You're a scientist, right?

22 A Yeah.

23 Q You didn't want to know what he said as a
 24 scientist?

25 MR. LACKS: Objection. Your Honor, may we

ROUGH DRAFT

1 that was commissioned to me. Again, if you're asking to
 2 conduct a more detailed hydro geologic investigation, I wasn't
 3 commissioned to do that. I feel that that would be helpful in
 4 this regard to better understand and characterize the nature of
 5 the potential impacts to the Plaintiffs' wells.

6 Q Part of that investigation would be to do
 7 inspections of those septic tanks, right?

8 A Well, see, like there's been inspections done.
 9 I would do those -- suggest an independent inspection and
 10 evaluation.

11 Q Do you have anything to suggest that
 12 Mr. Hancock or the Hancock company here is not independent?

13 A I'm not saying he's not. I'm just saying if I
 14 was given the ability to direct how to manage characterization
 15 of how plaintiffs' wells may have been impacted, I would
 16 independently conduct that investigation and not rely
 17 necessarily on data from other parties who I've not had any
 18 communication with, do not know their credentials and I would,
 19 you know, just not necessarily rely on that data without
 20 another independent investigation that I was in charge of as a
 21 professional geologist.

22 Q All the information you've relied on in this
 23 case is from other people, right?

24 A You know basically my conclusion is you can't
 25 make any conclusion from the data. You don't have enough data

ROUGH DRAFT

1 approach.

2 THE COURT: Sure.

3 (Discussion held at sidebar on the record.)

4 MR. LACKS: Your Honor, Dr. Grobbel, as you
 5 know, covered three topics as part of his report, agricultural
 6 management, groundwater contamination, and odors.

7 Dr. Yoxtheimer was hired and as sets forth in
 8 his report to respond to the groundwater contamination
 9 opinions. I think it's been made clear he has not been hired
 10 to opine on the agricultural management or odor aspects of the
 11 opinion. We would stipulate to that. I think counsel has
 12 established that and I think continuing to beat him up on the
 13 fact he may not have read the testimony about parts of
 14 opinions he's not hired to respond to is A, cumulative, B,
 15 time wasting, and C, misleading.

16 THE COURT: Your turn.

17 MR. NIDEL: I completely disagree. If he's
 18 relying on lawyers to tell him what parts of a scientific
 19 testimony are relevant to his opinions, I think that's
 20 relevant to the jury's assessment of his testimony.

21 THE COURT: You can ask him if he believes the
 22 other parts of Dr. Grobbel's testimony are relevant to his
 23 opinion that he didn't read.

24 MR. NIDEL: He's relying on nonscientists to
 25 determine what is relevant to his scientific opinion, and I

ROUGH DRAFT

1 think that's the point I'm allowed to make.
 2 THE COURT: Sure. You're not allowed to beat
 3 him up over it. Ask him if he read the other parts and why he
 4 didn't read them.
 5 MR. LACKS: Can we clarify what those parts
 6 are.
 7 THE COURT: Odor and --
 8 MR. LACKS: And agricultural management.
 9 THE COURT: Agricultural management. The
 10 other is water. Anything about water he read.
 11 MR. LACKS: I believe so. I don't know
 12 exactly what he read. But --
 13 MR. NIDEL: The management is absolutely
 14 relevant to them being a source of these contaminants.
 15 MR. LACKS: They can establish he didn't read
 16 that part, but I don't think continuing to ask him questions
 17 about the parts he didn't read.
 18 THE COURT: You can establish he didn't read
 19 it.
 20 MR. NIDEL: Thank you, Your Honor.
 21 THE COURT: Go ahead, Mr. Nidell.
 22 MR. NIDEL:
 23 Q Dr. Yoxtheimer, you only reviewed a portion of
 24 the transcript, right?
 25 MR. LACKS: Of Dr. Grobbel.

ROUGH DRAFT

1 A Yeah, presumably.
 2 Q One of the ways you would get that information
 3 is by drilling wells, right?
 4 A Potentially.
 5 Q One of the ways you would get that information
 6 we've heard about air samples. You could have taken air
 7 samples, right?
 8 A I'm not an air quality specialist so that would
 9 not necessarily be within my form take of expertise.
 10 Q Would you agree with me air samples probably no
 11 relevance to the inquiry here?
 12 A Which inquiry?
 13 Q The inquiry here about Nicholas Meats impacting
 14 these wells?
 15 A If you're asking me if potential pollutants in
 16 the air could be affecting plaintiffs' groundwater? Is that
 17 what you're asking me.
 18 Q Well, I'm asking if you believe that the air
 19 pathway -- we looked at figure 2. If you think the air pathway
 20 is the significant pathway for contaminants into these wells.
 21 A The nature of the potential contaminants I
 22 don't believe you would see, you know, fecal material or bovine
 23 DNA floating through the air and landing on the ground and
 24 ultimately getting in to somebody's drinking water well. I
 25 think that would be a very unique pathway.

ROUGH DRAFT

1 MR. NIDEL: Of Dr. Grobbel?
 2 A Correct.
 3 Q And those portions are selected for you by
 4 counsel?
 5 A Correct.
 6 Q Do you know if the other portions you didn't
 7 read have anything relevant to your opinions in this case?
 8 A I mean, again I reviewed a little bit beyond
 9 what I was directed to review. So I saw some additional
 10 comments.
 11 Q And in this case for your work in this case
 12 your scientific work in this case you've testified that you did
 13 what the project director -- it wasn't within your chart so
 14 that there were things you didn't do that were not within what
 15 the project director -- you've identified the legal team --
 16 allowed you to do or charged you to do, right?
 17 A I conducted what was asked of me.
 18 Q But you are the scientist, right?
 19 A I am a scientist, yes.
 20 Q One of your criticisms is there's not enough
 21 information, right?
 22 A Yeah, there is limited information from which
 23 to draw scientific conclusions.
 24 Q One of the ways that you would get additional
 25 information is by doing things like taking samples, right?

ROUGH DRAFT

1 Q It's not something that you are seeking more
 2 information on, right?
 3 A I would not chase that, no.
 4 Q Chase that. I like that.
 5 So there's information that you didn't have --
 6 it was not within your charge to gather, right?
 7 A I don't know which information you're referring
 8 to.
 9 Q Sampling the wells, drilling additional wells,
 10 doing additional stamping, those type of things?
 11 A Again, yeah, I was not commissioned to do that
 12 level of work. That would be part of a hydro geologic
 13 investigation.
 14 Q Taking soil samples around the septic as you
 15 talked about?
 16 A Potentially.
 17 Q All of those things you did not do them and you
 18 did not them because the legal team did not charge you?
 19 A That was not within my scope of work.
 20 Q Are any of the legal team -- are any of them
 21 know scientists or hydro geologists?
 22 A They're attorneys.
 23 Q You the scientist weren't telling them what
 24 information you needed to gather that you would gather for 50
 25 or a hundred dollars but they were telling you where to focus,

ROUGH DRAFT

1 right?
 2 A Well, I don't think that's a fair
 3 characterization. They asked me to review existing data and to
 4 determine if any conclusions could be derived from that data,
 5 and I had indicated that you know a more detailed hydro
 6 geologic investigation would be necessary to collect enough
 7 data from which scientific conclusions could be derived.
 8 Q Part of that detailed hydro geologic
 9 investigation would be take additional samples, right?
 10 A Yes.
 11 Q Part of that might be to take soil samples,
 12 right?
 13 A Could be.
 14 Q Part of that might be to drill a well here and
 15 there?
 16 A Could be.
 17 Q Let's look at that a look at D 101. It's the
 18 Owens septic inspection. Did you identify -- did the inspector
 19 Hancock Home Inspection in their on-lot septic system
 20 evaluation, did they use the word leaks or leaking?
 21 A Not based on my review there.
 22 Q They reached the conclusion the system in its
 23 present would have no negative effect on the well on site,
 24 right?
 25 A That's correct.

ROUGH DRAFT

1 interrogatory responses, right.
 2 A It says the first set of interrogatories. So I
 3 don't see where it says first set.
 4 Q Well, there is an entry there. I just read it.
 5 Defendant Nicholas Meat LLC's responses and objections to
 6 Plaintiffs' interrogatories?
 7 A It says first set of interrogatories here.
 8 Q Well, you reviewed the documents. So can you
 9 tell me what set that bullet point refers to if it doesn't
 10 refer to the first set because you have the first set and you
 11 have the second set. So that in fact what you're referring to
 12 or you don't remember what you reviewed?
 13 A Again, this was back in you know almost 18
 14 months ago. So I'm just comparing the title of that versus the
 15 title of the information contained here and it does not match.
 16 Q Do you know if there was a document with the
 17 title that you've listed in your bullet?
 18 A I would have to look back.
 19 Q You've testified about the existence after of a
 20 sinkhole in F3, right?
 21 A Yes.
 22 Q I want to show you a photo that's been admitted
 23 into evidence as P-82. That's on the screen behind you.
 24 Do you recognize that as the sinkhole at F3.
 25 A It's kind of hard to see from that up close

ROUGH DRAFT

1 Q And if we look at D-102. It's inspection
 2 report of Dave and Carolyn Leigey. And did that identify or
 3 use the word leaks or leaking?
 4 A Not based on my review.
 5 Q You relied -- do you have a your report?
 6 A Not in front of me, no.
 7 Q In your review of the documents in this case,
 8 you relied on discovery?
 9 MR. LACKS: Here is the report.
 10 MR. NIDEL: Thank you.

BY MR. NIDEL:

12 Q You relied on discovery? You list documents
 13 you've relied on, right?
 14 A Yeah.
 15 Q And did you -- I'm going to hand you a document
 16 here. It's Exhibit D 15. Did you rely on that for preparation
 17 of your opinions? Is that listed in your report?
 18 A I'm looking. Not that I see.
 19 Q So you did not review that to prepare your
 20 opinions in this case?
 21 A Not that I recall.
 22 Q You've got an entry Defendant Nicholas Meat LLC
 23 responses and objections to Plaintiffs' interrogatories request
 24 for production of documents and request for admission.
 25 That's what this is. This is the

ROUGH DRAFT

1 picture so I can't verify that.
 2 Q So you can't verify that. You went to the
 3 fields. You can't verify that that's in fact the sinkhole?
 4 A I was there in June of 2024. There clearly is
 5 not June based on the snow on the ground. So it's difficult to
 6 verify. I'm not disputing that that's the sinkhole but I can't
 7 verify that.
 8 Q I'm going to show you another photo. It's from
 9 Google earth. Do you recognize that as the sinkhole?
 10 A Again, that's zoomed in too tight. I can't see
 11 the geometry of the landscape.
 12 Q Let me orient you. We have 1256 East Valley
 13 Road right here. Do you see that?
 14 A Yep.
 15 Q Behind that you have this. Do you recognize
 16 that as the sinkhole location there?
 17 A I believe this would be the F3 field over here.
 18 So if that's the case then that would be the general vicinity
 19 of the sinkhole.
 20 Q It's a Google area photo, rights?
 21 A That's what it says.
 22 Q
 23 MR. LACKS: Can I see that a second.
 24
 25 (Counsel confer.)

ROUGH DRAFT

1 MR. LACKS: I'm going to object to the
 2 publication of this. We can't see the full area and I can't
 3 determine if it is in fact what he's represented it to be.
 4 MR. NIDEL: Your Honor, the witness has
 5 testified that he understands. Counsel is not testifying.
 6 MR. LACKS: I'm allowed to object on that
 7 basis.
 8 THE COURT: You're allowed to object. Let me
 9 look at this.
 10 I'm going to let the placed on the screens for
 11 demonstrative evidence at this point are for the Plaintiffs'
 12 counsel to use. The objection is overruled. The action of
 13 that is if the witness identified F3 and said that's where it
 14 appears that the sinkhole would be.
 15 Go ahead.
 16 MR. NIDEL:
 17 Q Dr. Yoxtheimer, you recognize this area here as
 18 being F3, right?
 19 A If that address is correct, and that's the, you
 20 know, Leigey property and if you're telling me that's F3. But
 21 again I can't see East Valley Road there which would be helpful
 22 just to basically help me put it into geographical context.
 23 But --
 24 Q You told me -- I didn't tell you that was F3.
 25 You told me that was F3.

ROUGH DRAFT

1 Q Do you know which one of those is Carolyn
 2 Leigey?
 3 A I believe her address is 1256.
 4 Q 1256 you believe to be Carolyn Leigey. Which
 5 of those homes is 1256?
 6 A I don't know without having the addresses laid
 7 out for each.
 8 Q I can't use my laser pointing. But it's the
 9 second from the right is Carolyn Leigey, 1256 actually Patricia
 10 Leigey, the one with the marker there. Do you see?
 11 A Okay.
 12 Q Now you can see the road and now you can see
 13 F3. Right?
 14 A Yes, that is helpful.
 15 Q And now you can see the sinkhole, right?
 16 A I can see the area of the sinkhole.
 17 Q The massive sinkhole, right?
 18 A I can see the forested area in which the
 19 sinkhole is contained.
 20 Q Do you know how big that sinkhole is?
 21 A I did not measure it.
 22 Q Do you know how deep it is?
 23 A I do not.
 24 Q Having seen this does that allow you to place
 25 the sinkhole that we looked at on the exhibit as being what in

ROUGH DRAFT

30
 1 A I said if this is F3, then I believe that would
 2 be the sinkhole is what I said, and you said, yes, that is F3.
 3 Q Dr. I'm not sure that's happened. But we'll
 4 let the record speak for itself.
 5 Just for clarification, I will tell you, let's
 6 assume this is F3. If this is F3, this would be what you
 7 believe to be the area of the sinkhole.
 8 MR. LACKS: Your Honor, I'm going to object
 9 again. The witness has testified he's not certain that that
 10 is F3 and now he's being asked to assume it and I still -- I'm
 11 going to renew my objection because we can't see the top of
 12 the photo where East Valley Road would be. We can't say where
 13 Carolyn Leigey's home would be. All we've seen is one home
 14 and as we've seen time and time and again, the homes are lined
 15 up right one after the other. So I think if we could have a
 16 more zoomed in photo, I think that would help us clarify this.
 17 THE COURT: It looks like they're doing that.
 18 MR. LACKS: Thank you.
 19 MR. NIDEL:
 20 Q How do you feel now?
 21 A How do I feel about that image or just in
 22 general?
 23 Q We can see the road, we can see the houses,
 24 right?
 25 A Yes.

ROUGH DRAFT

1 fact it is?
 2 A That appears to be -- yeah -- zoomed in version
 3 of similar imagery.
 4 MR. NIDEL: Your Honor, the Plaintiffs request
 5 to move the Google aerial shot into evidence as Exhibit No. P
 6 103.
 7 THE COURT: Any objection.
 8 MR. LACKS: No objection, Your Honor.
 9 THE COURT: Okay. You'll have to print it off
 10 and mark it.
 11 MR. NIDEL: Thank you, Your Honor.
 12 Q The figure 2, your figure 2, that came from
 13 USGS, right?
 14 A Figure 2 in my report, yes.
 15 Q And that was something that USGS -- was it a
 16 report or some other -- I think you told me it was from the
 17 Nittany Valley?
 18 A It was a figure showing a simplified block
 19 diagram showing conceptualized recharge mechanisms in the
 20 Spring Creek watershed.
 21 Q And that was part of the references that you
 22 relied on in so much so that you incorporated that figure into
 23 your report, right Brock delete?
 24 A I added it as a visual to aid any reviewers to
 25 understand the significant recharge mechanisms typical of a

ROUGH DRAFT

1 karst valley in this region.

2 Q That would be typical of a karst valley, in
3 fact, your opinion as you present in your report is that's
4 typical of Sugar Valley which is a karst valley?

5 A Similar geology.

6 Q And so it is representative of the mechanisms
7 of groundwater recharge in the area of -- that we're talking
8 about here, right?

9 A Yeah. I think that's a fair statement.

10 Q The dolomite, limestone, all those things we
11 talked going back 500 million years, right?

12 A Yeah.

13 Q And that figure 2 -- what was --

14 MR. NIDEL: Your Honor, Plaintiffs seek to
15 admit figure 2 from USGS as P104.

16 THE COURT: Any objection.

17 MR. LACKS: No objection, Your Honor.

18 THE COURT: It will be admitted.

19 MR. NIDEL:

20 Q This figure shows -- we talked about it at
21 length last evening. It shows the hydro geologic transport
22 mechanism for contaminants at the surface to impacted
23 groundwater in the area, right?

24 A Well, it's showing recharge mechanisms.

25 Groundwater recharge mechanisms, how surface water can

ROUGH DRAFT

1 Q I understand that. We're just talking about
2 mechanisms. These are the both the direct and the indirect
3 pathways -- let's call it pathways -- for nutrients and
4 bacteria if they are applied to reach the groundwater; is that
5 fair?

6 A Yeah, generally speaking.

7 Q So we have both direct and we have indirect
8 pathways that by which nutrients, nitrogen, nitrates, and
9 bacteria, fecal coliform, E. Coli could reach the groundwater
10 by mechanisms in figure 2, right?

11 A Yeah, if those potential contaminants exist at
12 the land surface or within the recharge.

13 Q Just to be clear that I understand your
14 opinion. These are the mechanics you believe explain USGS
15 study and Pennsylvania study about the impact of surface
16 agriculture on the groundwater, the ambient groundwater in this
17 area, right?

18 A Yeah, I think it's -- again it's a diagram that
19 shows the viewer how groundwater is recharged. That's the
20 purpose of it. And therefore potentially could draw
21 contaminants into the subsurface if they are contained in that
22 water or on that land surface.

23 Q So you don't -- you're not just identifying
24 hypothetical mechanisms. You're identifying the mechanisms
25 that exist in this geology, in this karst geology, right?

ROUGH DRAFT

1 infiltrate into the subsurface and recharge the groundwater is
2 what the figure shows.

3 Q What that does -- as it was relevant to your
4 opinion about the impact in the area and the ambient levels of
5 pollutants in the water, is that this shows how those
6 pollutants are carried in the water down into the aquifer,
7 right?

8 A No, this is showing you know everything from
9 precipitation to storm water to surface runoff and does include
10 on-lot septic systems as a potential groundwater recharge
11 mechanism or source?

12 Q These are the mechanism, fate and transport
13 mechanisms by which pollutants reach the groundwater in this
14 area, right?

15 A These are recharge mechanisms. So if there
16 were pollutants in the recharge, then you could begin to make
17 that statement.

18 Q If there are pollutants -- I'm indicating on
19 the screen here for your benefit. If there are pollutants
20 being applied to the surface -- and we talked about this at
21 some length last night -- if there are pollutants being applied
22 to the surface these are mechanisms by which the pollutants
23 could reach the water.

24 A They could. Depends on the nature of the
25 pollutant in question.

ROUGH DRAFT

1 A I'd characterize them as more hypothetical.
2 They are potential mechanisms. They are not definitive in this
3 particular case.

4 Q Well, they are definitive in this region
5 because that's what you relied on them for to explain why there
6 is this impact from agriculture generally in this area as a
7 region, right?

8 A Yeah, I think that's fair to say.

9 Q And we have identified specific examples of
10 these very things? Right. We've identified a few stipulation.
11 There is surface drainage, rights. So we see these mechanisms,
12 we see septic systems that have been inspected, right?

13 A Yes.

14 Q We see spring flow losses because we have
15 Fishing Creek running through here?

16 A Yes.

17 Q We see direct infiltration of soil and rock,
18 these soils are gravelly loam and there's penetration?

19 A They were not all gravelly loam. Some of them
20 are.

21 Q Can you tell me where the gravelly loam is
22 versus the other loam?

23 A Not specifically without detailed soils
24 mapping, but they are not the predominant soil type in the
25 area.

ROUGH DRAFT

1 Q Well, they are the predominant soil type for
2 these fields up here, right?
3 A I'd have to look at a soils map. Soils mapping
4 is very complex. You can have soil types vary over short
5 distances. Without a soils map I can't answer you definitely
6 there.
7 Q You can't answer me definitely as to whether
8 all of this is gravelly loam or five percent is gravelly loam,
9 right?
10 A I can't put a percent on it. But the gravelly
11 loam basically it says soil description says silt loam with,
12 you know, some gravel or something to that effect. So it
13 doesn't indicate that gravelly loam is the predominant soil
14 type in the area.
15 Q In the area. I want to make sure the jury
16 understands because it's very important.
17 You're talking about the whole area, this
18 Sugar Valley, right.
19 A I mean, we're talking about the area on the
20 diagram right now. That's not all Sugar Valley.
21 Q I didn't hear you right then.
22 You don't know what percentage is gravelly
23 loam versus silty loam?
24 A Not without a detailed soils map.
25 Q You can't say -- in terms of a precise

ROUGH DRAFT

1 A Diffuse surface runoff from uplands.
2 Q We've all these mechanisms in this karst
3 limestone dolomite geology, right?
4 MR. NIDEL: You can watch but I'd appreciate
5 if you don't.
6 MR. LACKS: I was looking to see what you were
7 pointing at the map.
8 MR. NIDEL: I appreciate you not stand at my
9 notes.
10 THE COURT: Guys, examine the witness.
11 MR. NIDEL: I will, Your Honor.
12 BY MR. NIDEL:
13 Q So we have each of these, right?
14 A Yeah I believe so. You know potentially.
15 Again, I haven't physically witnessed runoff from the uplands.
16 I haven't physically witnessed runoff into the sinkholes. So
17 based on the drainage if you did have surface runoff presumably
18 it would run into the sinkhole. But having not seen that, you
19 know, that's something I can't verify that occurs typically or
20 not.
21 Q Okay?
22 A That would be part of the hydro geologic
23 investigation to understand these various mechanisms in more
24 detail on a site specific level.
25 Q Fair point.

ROUGH DRAFT

1 percentage you can't tell me it's more gravelly loam or less
2 gravelly loam than silty loam with respect to the soils on
3 these three fields, right?
4 A Not specifically, no.
5 Q So we've got direct infiltration, storm water
6 runoff into sinkholes, right?
7 A Shown on the map, correct.
8 Q And we've got slopes so we don't just have
9 number 2 but we have number 3. Runoff from uplands into
10 sinkholes, right.
11 A That's what's shown on the block diagram.
12 That's not shown on your map.
13 Q These fields slope. We went through that right
14 here. These fields slope to the sinkhole, right?
15 A They do.
16 Q We have number 3?
17 A You have to have surface runoff for the surface
18 runoff to go into the sinkhole.
19 Q We have that pathway. This is the mechanism.
20 We're not talking about confirmation?
21 A Hypothetically that's what this is.
22 Q Hold on. We're talking about pathway, a
23 mechanism?
24 A We're talking about a mechanism.
25 Q And we have number 4 as well, right?

ROUGH DRAFT

1 I'm just asking you about mechanisms. You
2 agree we have mechanisms, right?
3 A Yes.
4 Q You agree that we have both direct and indirect
5 pathways, right?
6 A I'm not sure what you mean by direct versus
7 indirect in this context.
8 Q What I mean by direct and in direct directly
9 into the sinkhole versus runoff from uplands into the sinkhole.
10 Is that fair?
11 A Yeah. I can understand that distinction.
12 Q How would you use direct versus indirect?
13 A Well, you know, when they're saying direct
14 infiltration here they're saying you know rainfall lands on the
15 ground and directly infiltrates into the subsurface because the
16 rainfall did not exceed the infiltrative capacity of the soils
17 at that time. Once you saturate the soils and they can no
18 longer infiltrate any precipitation then that's where you begin
19 to have surface runoff.
20 So by direct they're saying the rain is
21 falling out of the sky landing on the ground and directly
22 infiltrating into the subsurface. So that's in this context
23 what direct means.
24 Q Direct is rainfall going through and picking up
25 pollutants and going down into the subsurface.

ROUGH DRAFT

1 A If there's pollutants there. It depends if
2 there' pollutants or not.
3 Q We're talking a mechanism or pathway, right?
4 A You are, yes.
5 Q Sir your report is about these issues, right?
6 A Yeah.
7 Q So you've identified what the direct pathway
8 would be is rainfall on the surface and then directly
9 penetrating to the groundwater, right?
10 A A direct pathway of groundwater recharge, yes.
11 Q It thee are pollutants at the surface they can
12 be picked up that could be a pathway for the pollutants to be
13 picked up?
14 A Potentially what would be an indirect.
15 A In this context, you know, again I guess you
16 could have surface runoff, you know, again in this context it's
17 assuming that direct means that the precipitation is directly
18 infiltrating into the ground surface where it lands on the
19 ground surface, so indirect would therefore mean there would be
20 some level of transport of the precipitation before it
21 infiltrates.
22 Q I think that's where we started this
23 discussion. My example was an indirect pathway would be rain
24 water landing on the uplands draining to the sinkhole and
25 getting to the groundwater through that sinkhole, right?

ROUGH DRAFT

1 Q You provided figure 2 and that's all we needed
2 to have to identify those mechanisms and pathways, right?
3 A I provided potential transport mechanisms
4 directly or indirectly. What I'm saying here is in the context
5 of this statement that your expert, Dr. Grobber, did not
6 provide any of those specific transport mechanisms.
7 Q Let's pull that apart a little bit.
8 So you agree there are those pathways and
9 mechanisms.
10 A They exist potentially. Yeah. We can't define
11 in this case which one is dominating or -- again we don't have
12 that information. That would be part of the a hydro geologic
13 determination to determine what the pathways are if they exist.
14 Q We're a long way from that hydro geologic
15 investigation because we've identified them. The slopes, the
16 runoff, the sinkholes, right?
17 A There are potential pathways but we didn't
18 confirm that they are the causational pathways.
19 Q Sir, you're statement is not potential
20 pathways. Your statement was no pathways or mechanisms. I'm
21 not asking if they are -- hold on.
22 A I'm saying they weren't identified.
23 Q Hold on. I'm not asking if they are causal or
24 active or they actually applied nutrients that were migrated.
25 I'm asking if there are pathways and mechanisms. We agree

ROUGH DRAFT

1 A Using that context of indirect versus direct,
2 yes.
3 Q Is that your context?
4 A Yeah. We can make that the context now that
5 we've better delineated what that means.
6 Q Is that the context you used in your report?
7 A I don't know that I said direct versus
8 indirect.
9 Q If you would have said direct versus indirect
10 that's the context you would use in your report?
11 A Yeah. I think those would be the kind of terms
12 I would use.
13 Q And we agree that we have mechanisms or
14 pathways or direct and indirect contaminant transport -- no,
15 sir north saying they're active. But we have pathways and
16 mechanisms for direct and indirect transport of pollutants from
17 the surface down to the groundwater?
18 A I would agree with that.
19 Q On page 9 of your report, your statement was:
20 However, no hydro geologic transport mechanism or evidence of a
21 direct or indirect pathway has been provided.
22 A Do you see that.
23 Q I'm reading it.
24 Q Did you write that?
25 A Yeah, I did.

ROUGH DRAFT

1 there are.
2 A There are potential pathways and mechanisms.
3 Q There are mechanisms and pathways?
4 MR. LACKS: Objection. Argument.
5 THE COURT: He can answer. Overruled.
6 A There are potential pathways.
7 Q If there are pollutants --
8 A We don't know which ones are say the dominant
9 or active pathways.
10 Q We don't know which are active or dominant?
11 A That's what I'm saying.
12 Q We've got -- withdraw that question.
13 Is it your testimony that Dr. Grobber made no
14 mention of sinkholes and runoff?
15 A I'd have to again review his report. But, you
16 know, based on my statement, from review of his report, he did
17 not provide what may be causing any of the contaminants to
18 exist in the Plaintiffs' wells.
19 Q Sir, your statement was that plaintiffs didn't
20 identify these mechanisms and pathways, but Dr. Grobber
21 identified sinkholes, right?
22 A Okay.
23 Q Did he?
24 A I would have to look back at his report to
25 verify that.

ROUGH DRAFT

1 Q Your entire opinion is just a criticism of Dr.
 2 Grobbl's opinion, right?
 3 A I don't say it's a criticism. I'd say it's a
 4 critical review.
 5 Q It's a critical review versus a criticism; is
 6 that fair?
 7 A Sure.
 8 Q I'm wondering what the difference is. But we
 9 will move on.
 10 He did identify surface drainage, that direct
 11 pathway, rainfall going into the earth.
 12 A Again, I don't have his, you know, report in
 13 front of me to review it. If you're saying that's what he
 14 said, then, you know, I can't say I can refute that right now.
 15 Q Let me do it this way.
 16 Do you know if he identified sinkholes?
 17 A Again, I would have to look back at his report
 18 to see what's contained in his figures?
 19 Q You don't know if this statement is accurate?
 20 A What statement?
 21 Q The statement that you wrote, Plaintiffs' --
 22 however no hydro geologic transport mechanism or evidence of a
 23 direct or indirect pathway has been provided by Dr. Grobbl?
 24 A Yeah. I'm saying that in my report. Then
 25 based on my review of his report he's not providing any

ROUGH DRAFT

1 can. So I think that's an important distinction to make.
 2 Q And you haven't determined whether or not they
 3 have in this case, right?
 4 A I have not been commissioned to conduct the
 5 type of investigation you need to verify that with scientific
 6 certainty.
 7 Q You haven't even reviewed the application
 8 records at all of nutrient or bacteria, right?
 9 A Not specifically, no.
 10 Q You've also identified that there are direct
 11 conduits or pathways to the groundwater, right?
 12 A Wells, Your Honor, again in the context of
 13 direct versus indirect if there's rainfall landing on the
 14 surface and it directly infiltrates then that would be a direct
 15 recharge mechanism to the groundwater system.
 16 Q And if the bobcat or the bear defecates near
 17 the sinkhole, that rain water, that's another direct conduit is
 18 the sinkholes, right?
 19 A Yep, could be. If it lands -- if the rainfall
 20 is falling directly in the sinkhole then that would be direct.
 21 If it was runoff into the sinkhole that would be more so
 22 indirect.
 23 Q We also have indirect. You identified indirect
 24 pathways, right? Is that right?
 25 A Yep, as we just discussed.

ROUGH DRAFT

1 explanation as to how the -- any contaminants of concern are in
 2 plaintiffs' well, how they got there. You know, saying they
 3 are there, but doesn't provide a mechanism for how they got
 4 there.
 5 Q Your testimony is -- do you know if he provided
 6 reference to sinkholes?
 7 A Again, I would have to see a copy of the report
 8 and be able to you know specifically identify that.
 9 Q Do you know if he referenced groundwater
 10 recharge or surface runoff?
 11 A Again, I'd have to, you know, have his report
 12 in front of me right now to be able to verify that.
 13 Q Do you know if referenced rainfall penetrating
 14 the surface and going to the groundwater?
 15 A Once again, I would have to see his report
 16 directly and review it just like I was able to review some of
 17 the previous documents you provided.
 18 Q I want to talk to you about the things that
 19 you've done in this case. Right?

20 And one of the things you've done you've
 21 identified surface application of nutrients and bacteria can
 22 contaminate groundwater, right?

23 A Can.
 24 Q Okay. Surface contaminant?
 25 A Doesn't mean they will, but potentially they

1 Q And you identified that there are agricultural
 2 activities in this region that do in fact in your opinion
 3 impact the groundwater, right?
 4 A Yeah. Based on the Pennsylvania geological and
 5 U.S. geological survey reports, they also concluded that
 6 agricultural land juice can impact groundwater quality on a
 7 regional basis.
 8 Q And you always -- the other thing that you did
 9 was you spent a date touring the Nicholas Meats slaughterhouse,
 10 right?
 11 A I visited their facility, yes.
 12 Q What was the relevance to you visiting the
 13 facility?
 14 A To basically understand their process and how
 15 the food processing residuals were generated.
 16 Q You didn't have to do with you identifying
 17 hydro geologic impact. Is that fair?
 18 A Not when I was doing the tour of the facility,
 19 itself, no.
 20 Q Let's talk about the things that you didn't do.
 21 Okay.
 22 You didn't sample any of the Plaintiff's well,
 23 right?
 24 A I was not commissioned to do so.
 25 Q You didn't take soil samples at the septic?

ROUGH DRAFT

1 A I was not commissioned to do so.
 2 Q You didn't inspect the septic tanks?
 3 A Again, I was not commissioned to do so.
 4 Q You mentioned in your report that there was no
 5 specific fingerprint or tracer that was identified by Dr.
 6 Grob, right? Unique tracer?
 7 A Tracer to.
 8 Q To link the FPR to the contamination in the
 9 wells?
 10 A From the limited data that was available, those
 11 indicators that were in the Plaintiffs' wells could be from
 12 multiple sources.
 13 Q You didn't identify unique tracer, right?
 14 A I did not do any sampling that would identify
 15 any unique tracers.
 16 Q You didn't -- well, you didn't inspect the
 17 septic tanks. You didn't assess the available nutrient and
 18 bacterial application information for the surface, right?
 19 A From.
 20 Q From Nicholas Meat on these fields?
 21 A No. That was not within my --
 22 Q Assess pollutant located. Is that fair?
 23 A Nutrient loading, sure.
 24 Q Nutrient and bacterial loading?
 25 A Yeah.

ROUGH DRAFT

1 available. Do you know if there was construction data
 2 available for the wells, depth data?
 3 A Not that I recall.
 4 Q You don't know if it exists or not?
 5 A I don't recall.
 6 Q Did you ask for it?
 7 A Again, I don't recall. This was almost 18
 8 months ago.
 9 Q Did you ask to review the bacteriological data?
 10 A I only was provided the data that I can recall
 11 that was from the Plaintiff's well from Helix labs.
 12 Q Do you normally do your scientific
 13 investigations by getting limited data and information
 14 attorneys?
 15 A Well, this is, you know, legal proceedings. So
 16 I'm working with attorneys in that regard. So in this specific
 17 instance, that's sort of the chain of command.
 18 Q Did you understand that the septic tanks were
 19 available for you to inspect?
 20 A Again, that wasn't made clear to me, I guess
 21 that, I had that sort of latitude with this project.
 22 Q Do you understand that -- well, were you given
 23 that sort of latitude with this project?
 24 A I was given you know a fairly discrete work
 25 scope to look at the available data. So at know time go did I

ROUGH DRAFT

1 Q And by that, we mean the application of FPR,
 2 right?
 3 A In this context.
 4 Q Didn't assess the application of FPR. And you
 5 did not assess the nutrient loading of any other of the local
 6 agricultural activities, right?
 7 A Again, that was beyond the context of what I
 8 was hired to do initially.
 9 Q You didn't address any other agricultural
 10 loading locally, right?
 11 A Not with this preliminary evaluation. Again
 12 that would be part of a more detailed hydro geologic
 13 investigation.
 14 Q You didn't do any well inspection data or, for
 15 any of the wells, right?
 16 A Other than the original Leigey well that data
 17 was available.
 18 Q Other than closed well?
 19 A Correct.
 20 Q And you did not inspect the wells?
 21 A Again, I was not commissioned to do so.
 22 Q And you also did not even review the available
 23 bacteriological data for the wells, right?
 24 A Not to my knowledge.
 25 Q So, the bacteriological data for the wells

ROUGH DRAFT

1 propose that I would make a site visit to make any -- collect
 2 any site specific data. It was really just a review of the
 3 existing available data.
 4 Q I want to make sure that your word available is
 5 understood by everyone, including myself.
 6 What was made available to you or what exists
 7 and was available this case? So we know there is FPR located
 8 data, for example, right.
 9 A If you're telling me that, I guess there is. I
 10 don't know.
 11 Q You reviewed deposition transcripts, right?
 12 A Again, 18 months ago. So I don't recall.
 13 Q You've identified in your reports and you've
 14 reviewed transcripts and that FPR loading data was exhibits in
 15 those depositions, right?
 16 A I suppose it was.
 17 Q So you know that's available, right?
 18 A Again, if I don't have it in front of me I
 19 can't say that.
 20 Q I just want to make sure that we understand.
 21 You reviewed -- when you say data that was
 22 available, you mean made available to you by the attorneys,
 23 right.
 24 A Yes.
 25 Q You're not testifying that there is no nutrient

ROUGH DRAFT

1 FPR located data that would be available in this case to
 2 review, right?
 3 A Could you rephrase that.
 4 Q Sure.
 5 You're not saying that this data doesn't
 6 exist, right.
 7 A I'm not saying that.
 8 Q You're not saying that you could not have
 9 inspected the septic. You don't know?
 10 A Again there was never any talk of me setting my
 11 feet on the Plaintiffs' property to collect any data. It was
 12 never a discussion point to conduct that that. That would be
 13 part of more detailed hydro geologic investigation.
 14 Q These would be more detailed hydro geologic
 15 investigations, right?
 16 A Those are the types of pieces of information
 17 that I would collect, yeah.
 18 Q You didn't stamp wells, you didn't take soil
 19 samples septic, you didn't inspect those septic, you didn't
 20 come up with your own tracer. You didn't assess the loading
 21 data for these fields. You didn't do any assessment of any
 22 loading on any other farms in the area looking at CAFOs looking
 23 at field application, talking to the Amish. You didn't review
 24 well construction data for the wells in this case, the handful
 25 of wells in this case. You didn't inspect those wells and you

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1 initially. Again, it was a while ago that I did my initial
 2 review and developed this report.
 3 Q And you didn't ask to gather any additional
 4 data, right?
 5 A Again, I was tasked with looking at the
 6 existing data and drawing initial conclusions based on that and
 7 that was basically the end of my scope of work.
 8 Q I just want to make sure we completely
 9 understand. I thought I was done?
 10 You were tasked with analyzing the existing
 11 data. Is that your testimony.
 12 A The existing data that was made available to
 13 me.
 14 Q That's a sharp distinction. The existing data
 15 that was made available to you. Not all of the data on the
 16 land application of FPR, not all of the data that was available
 17 for these wells, not all of the information that was available
 18 from the sampling of these wells, right?
 19 A Again, I may have reviewed some of that. I
 20 didn't include it in my report if I did so I feel like if I had
 21 reviewed it and it seemed relevant it would be contained in my
 22 report.
 23 Q You keep making this more difficult for me?
 24 You've identified everything that you reviewed
 25 and relied on in your report, right.

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1 didn't even review the available testing -- all of the
 2 available testing on those wells, right?
 3 A Again, some of what you mentioned there, I
 4 wasn't commissioned to do.
 5 Q But you didn't do those things, right?
 6 A I wasn't hired to do them so I didn't go out of
 7 the scope for which I was hired and conduct work that I wasn't
 8 commissioned to do.
 9 Q And yet you don't know which of these is
 10 available, although you would agree with me that at least some
 11 of this is available. It's part of the case, right?
 12 A Yeah. I've reviewed the septic inspection
 13 reports.
 14 Q It's like you put your hands behind your back
 15 and said well you didn't even review all of the information but
 16 your conclusion in this case is that there is simply not enough
 17 information to reach any conclusion to a sufficient certainty
 18 as to whether or not the FPR, the hundreds of thousands of
 19 gallons, millions of gallons of nutrients and bacteria that
 20 were applied to these fields reached those wells, right?
 21 A I reached conclusion that there was not
 22 sufficient data to reach any conclusion along the lines of
 23 which you're discussing.
 24 Q You didn't even review all of the data, right?
 25 A I may have reviewed some of that data

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1 A If it was relevant and I reviewed it, it's in
 2 this report.
 3 Q You just said I might have reviewed it but if I
 4 did review it I likely would have put it in my report and so
 5 we're back to the only things that you reviewed are those
 6 things you identified in your report, right?
 7 A If it's relevant and then I reviewed it then
 8 it's -- it should be in the report.
 9 Q The bacteriological testing would be relevant,
 10 right?
 11 A And I did look at the DNA testing which was
 12 made available to me.
 13 Q The fecal coliform and E. Coli testing, not the
 14 DNA -- the bacteria that would be relevant, right?
 15 A Yeah.
 16 Q In fact all of these things are relevant,
 17 right?
 18 A Yes. Some of those are relevant. But they are
 19 part of a more detailed hydro geologic investigation of which I
 20 believe anyone else conducted today.
 21 Q Is there a more detailed hydro geologic
 22 information that you did not do?
 23 A I was not commissioned to do so.
 24 Q Thank you.
 25 THE COURT: Redirect.

R O U G H D R A F T

1 MR. LACKS: Yes, Your Honor. I just I want to
 2 put up -- it play take a second.

4 EXAMINATION

5
 6 BY MR. LACKS:

7 Q Dr. Yoxtheimer, Mr. Nidel just asked you a
 8 number of questions about things you did or didn't do or looked
 9 or didn't look at it in the course of preparing your report.

10 Obviously you recall that. It just happened?

11 I want to be really clear about this. What
 12 was your understanding of the scope of your assignment.

13 A To primarily focus on the impacts to the
 14 alleged impacts to the Plaintiffs' wells by looking at both the
 15 Plaintiff's expert's report.

16 Q Dr. Grobbel?

17 A Dr. Grobbel's report. And reviewing available
 18 hydro geologic information for the region to in essence try to
 19 reach an initial conclusion as to whether or not any
 20 scientifically valid conclusions could be made.

21 Q Dr. Grobbel's report included a number of
 22 opinions. And if you recall from his testimony they were
 23 broken down into categories like agricultural management,
 24 groundwater contamination and odor. Do you recall that?

25 A Yeah.

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1 needed to be done as part of the a robust hydro geological
 2 study, is your understanding that those things were outside the
 3 scope of your assignment?

4 A Yes, they were.

5 Q Again is it your understanding that Dr. Grobbel
 6 conducted or performed a robust hydro geological study?

7 A Based on my review of his report, he did not.

8 Q I understand that the questions about -- both
 9 last night and today -- about what you did and didn't look at
 10 were fired at you at a somewhat frenetic pace. I wasn't able
 11 to get everything down. But do you have an understanding
 12 whether Dr. Grobbel looked at some of the things Mr. Nidel
 13 asked you about. To you knowledge did Dr. Grobbel study the
 14 sinkhole depth of any of the sinkholes on the fields F1 F2 or
 15 F3?

16 A I don't recall any sinkhole geometry or
 17 dimensions specifically mentioned.

18 Q Do you know if Dr. Grobbel looked those
 19 sinkholes visually?

20 A From reading the testimony it sounds like he
 21 made an initial site visit last week, so that would not have
 22 been contained in his I believe July 2024 report.

23 Q Did Dr. Grobbel's analysis account for the well
 24 depth of Plaintiffs' wells to your knowledge?

25 A I cant recall that it mentioned them

ROUGH DRAFT

1 Q And of those, was the scope of your assignment
 2 to look at certain opinions?

3 A As a hydro geologist a focused on the
 4 groundwater. Again I'm not air quality specialist nor nutrient
 5 management specialist.

6 Q Were you asked to review Dr. Grobbel's opinions
 7 regarding agricultural management?

8 A Not as far as land application of nutrients or
 9 anything to that degree, no.

10 Q Were you asked to review Dr. Grobbel's opinions
 11 about best management practices for land applying FPR?

12 A No.

13 Q Were you asked to review Dr. Grobbel's opinions
 14 about odor?

15 A No.

16 Q Were you asked to develop your own definitive
 17 determination about the cause of any contamination in the
 18 Plaintiffs' wells?

19 A Not definitively, no.

20 Q Were you asked to conduct your own row because
 21 hydro geologic study of the area to determine the source or
 22 cause of any contamination in the Plaintiff's wells?

23 A I was not.

24 Q So to the extent you were asked about things
 25 you did or didn't look at by Mr. Nidel and you said would be

ROUGH DRAFT

1 specifically.

2 Q Did Dr. Grobbel's analysis account for the
 3 construction features of Plaintiffs' wells?

4 A Again, I don't recall having any well depth or
 5 construction information of the Plaintiffs' wells.

6 Q Did Dr. Grobbel take soil samples at the septic
 7 tanks?

8 A Not to my recollection based on the review of
 9 his report, no.

10 Q Do you know of anything that prevented Dr.
 11 Grobbel from getting access to the plaintiffs' properties?

12 A I'm not aware of anything.

13 Q Did Dr. Grobbel conduct an inspection of the
 14 septic systems at Plaintiffs' properties?

15 A The only inspection I saw were from Hancock
 16 Home Inspection services.

17 Q We know that Dr. Grobbel did review information
 18 about application of FPR at part of his agricultural management
 19 opinions. You're aware of that?

20 A Yes.

21 Q Did Dr. Grobbel conduct a survey of other
 22 agricultural loading locally in the region?

23 A Not that I recall, no.

24 Q Did Dr. Grobbel do any assessment of the
 25 intensity of any other agricultural operations in the vicinity

ROUGH DRAFT

1 of Plaintiffs' homes?

2 A Not to my recollection of the review of the
3 report, no.

4 Q I may have covered this one earlier. Did Dr.
5 Grobbl do any kind of inspection of the Plaintiffs' wells?

6 A I don't recall any sort of inspection or
7 evaluation of the Plaintiff's wells, no.

8 Q I think there was a mention of a term last
9 night, capture zone analysis. Do you recall that?

10 A Yeah.

11 Q What does that mean?

12 A Well, capture zone is basically a delineation
13 of the portion of the groundwater aquifer that provides water
14 to the well, in essence.

15 Q Do you remember whether Dr. Grobbl performed
16 any kind of capture zone analysis on these wells?

17 A There was no capture zone analysis in the
18 report.

19 Q Okay. Now we talked about talked about the
20 septic systems and the evaluation that you looked at. Did Dr.
21 Grobbl provide any analysis of the proximity of the septic
22 systems to the Plaintiffs' wells to your knowledge?

23 A I don't recall specifically. I think he did
24 refer to the evaluations and just kind of accepted the
25 conclusions.

ROUGH DRAFT

1 Q And we saw the evaluations referred to the
2 distance of the wells -- of the systems to the Plaintiffs'
3 wells, right?

4 A Correct.

5 Q But did the Hancock evaluations do anything to
6 assess the proximity of the multiple septic drain fields to one
7 another?

8 A No. I think it just handles each septic system
9 as a stand alone evaluation.

10 Q And now Mr. Nidel asked you about leaking from
11 the septic systems in the reports. Do you recall that?

12 A Yes.

13 Q Is it your understanding that he was referring
14 to leaking from the septic tanks?

15 A He didn't really specify whether it was tanks.

16 Q In an on-lot septic system is there leaking
17 from the absorption area?

18 A Again, from the system evaluations, it doesn't
19 say there's specific leaks, but in this context, I think it's
20 important to again emphasize that by design a septic system
21 discharges effluent into the subsurface into the soils through
22 the absorption field. That's the function of the absorption or
23 leach field, whatever term you like to say to use there.

24 Q The very nature of the septic system is that
25 there is effluent leaching into the soil?

ROUGH DRAFT

1 A Correct.

2 Q Even if there is not leakage from the tank
3 itself, could there be leaching of bacteria from the
4 absorption area into the soils surrounding plaintiffs' homes?

5 MR. NIDEL: Objection. Calls for speculation
6 and improper opinion. Could there be.

7 MR. LACKS: Hypothetically he's been asked
8 about his septic analysis of septic.

9 THE COURT: Overruled. He can answer.

10 BY MR. LACKS:

11 Q Go ahead and answer.

12 A Could you repeat the question for me, please.

13 MR. LACKS: Can I have it read back.

14 (Question read.)

15 A Yes. By design, again, the leachate discharges
16 from the absorption field into the subsurface into the soils
17 and so by nature the leachate is not in any way or the effluent
18 is not disinfected meaning that you do have you know a
19 bacterial load associated with that. So that would leach into
20 the soils.

21 Q If you have multiple on-lot septic systems
22 within close proximity to each other can the leachate from one
23 septic system potentially contaminate the groundwater of a
24 neighboring property?

25 MR. NIDEL: I'm going to object again. It's

ROUGH DRAFT

1 pure speculation

2 THE COURT: Overruled. You can answer.

3 A Yes. Groundwater flow does not respect
4 property boundaries so groundwater can flow from one property
5 to an adjacent property down groundwater flow gradient. And so
6 anything included in that water, groundwater on one property
7 that's flowing to the next property would be transported to the
8 next property.

9 Q You were asked extensive questions about the
10 potential that the sinkholes adjacent to field F1 or F3 could
11 provide a pathway for groundwater contamination. Do you recall
12 that?

13 A Yes.

14 Q Have you seen any proof in this case that
15 defendants FPR actually entered into the sinkholes adjacent to
16 F1 or F3?

17 A I do not recall see seeing any direct evidence
18 that there was runoff of FPR containing fluids into the
19 sinkhole.

20 Q During his examination did Mr. Nidel show you
21 any direct evidence that defendants' FPR has actually flowed
22 into the sinkholes adjacent to fields F1 or F3?

23 A No.

24 Q I know that the questioning got well into the
25 weeds on the science. I'm going to try simplify a few

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1 concepts. I've been hoping to avoid subjecting the jury to my
 2 handwriting but it looks like we're going to have to do that.
 3 I want to circle back to the 1938 Pennsylvania
 4 geological survey study of the west Susquehanna subsurface
 5 basin. One thing we discussed is the well at 1256 East Valley
 6 Road which is now owned by Patricia Leigey was sampled as part
 7 of that study. Do you recall that?

8 A Yes.

9 Q And do you remember what the nutrient
 10 concentration was for that well as part of that study?

11 A The nitrate concentrations.

12 Q Nitrate?

13 A I believe approximately 4.1 milligrams per
 14 liter.

15 Q What was that number.

16 A I believe it was 4.1 milligrams per liter.

17 Q 4.1?

18 A 4.18.

19 Q And that's -- you also provided information on
 20 the median for the carbonate bedrock wells as part of that
 21 study. Do you recall that?

22 A Yes, the 1983 study.

23 Q Yes. What was that number?

24 A That was -- I believe it was 3.08 milligrams
 25 per liter.

ROUGH DRAFT

1 Q So which of those numbers is bigger?
 2 A 4.18, 3.08, which of those numbers is greater.
 3 Q I'll put a greater than sign.
 4 Do we know from the 1983 study what was the
 5 source of the nitrate levels in the 1256 East Valley Road well
 6 when it was sampled in 1981.

7 A Based on my recollection, they don't offer
 8 specific explanations of regional study so it doesn't narrow
 9 down to specific single wells. But it basically does say in
 10 that study that they attribute increased levels of things like
 11 nitrates to extensive fertilization of the intensively
 12 cultivated soils overlying these rock units, and by rock units
 13 they are referring to carbonate bedrock.

14 Q But we don't know what the precise source of
 15 that nitrate concentration in the Leigey well was?

16 MR. NIDEL: Objection. Leading. Asked and
 17 answered.

18 BY MR. LACKS:

19 Q Do we know from the study of the precise source
 20 of the nitrate concentration the Leigey well was in 1981?

21 MR. NIDEL: Objection. Asked and answered.

22 A Again it's a regional study.

23 MR. NIDEL: Objection, asked and answered.

24 THE COURT: Overruled. You can answer.

25 BY MR. LACKS:

ROUGH DRAFT

1 Q Go ahead?
 2 A Again, no. The 1983 study didn't specifically
 3 talk about the nitrate results at 1256 East Valley Road.
 4 Q Can we deduce something was impacting the well
 5 that caused nitrate levels in at this level in 1981?

6 A I think that 4.18 milligrams liter is likely
 7 indicative of again as the authors of the study indicated the
 8 extensive fertilization of the intensively corrugated soils.

9 Q And can we deduce from the study that the
 10 nitrate concentration in the Leigey well was greater than the
 11 median for the bedrock carbonate wells in the region?

12 A Correct, yes.

13 Q And I know you were asked about when -- if you
 14 knew when Nicholas started applying FPR on these fields and I
 15 believe you didn't know. But I'm going to ask you for the
 16 purposes of this question to assume that it happened -- that it
 17 began sometime between 1998 and 2010, okay.

18 First of all do we know how long there's been
 19 agricultural activities in this area prior to the early
 20 1980s.

21 A Again, it's something that's measured in
 22 decades.

23 Q Decades. Okay?

24 And now if we were to test the Leigey well
 25 again sometime after FPR has begun being applied on those

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1 fields -- I any Mr. Nidel mentioned 2009. I'm not sure if
 2 that number was accurate. But if we test it again and there
 3 were nitrate concentrations again, can we just assume that FPR
 4 is the cause.

5 A No. I mean, there's lots of different kinds of
 6 agricultural fertilizers that are applied, you know, regionally
 7 in these carbonate valleys, so there would be a variety of
 8 fertilizers that have been added.

9 Q And if we assume that Nicholas didn't begin
 10 applying FPR to those fields until sometime between 1998 and
 11 2010, and 2010, can we assume that FPR was not the cause of the
 12 nitrate concentrations observed as part of the 1983 study at
 13 the Leigey well?

14 MR. NIDEL: Objection. Leading.

15 THE COURT: He can answer. Overruled.

16 A Yeah. I believe if FPR was not being applied
 17 to any of the fields in, you know, proximity to the Leigey well
 18 at 1256 East Valley Road, then it would have been impossible
 19 for the FPR to impact the groundwater quality there.

20 Q Would you agree with me writing not FPR under
 21 the 4.18?

22 A Yes. If it occurred in 1998 and thereafter.

23 Q If you're saying the FPR application occurred?

24 A Right. Correct.

25 Q Now?

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1 THE COURT: Mr. Lacks, how much do you have.
 2 MR. LACKS: Not very much.
 3 THE COURT: Okay. Finish.
 4 BY MR. LACKS:
 5 Q Mr. Nidel asked you about your visit to the
 6 fields and I believe you said -- when was your visit to the
 7 fields, the Nicholas fields?
 8 A June 4, 2024.
 9 Q I'm going to put -- this is getting a little
 10 cramped.
 11 June 24. Do you recall what time of day you
 12 visited those fields.
 13 A It was in mid afternoon. Probably 2 or 3 in
 14 the afternoon.
 15 Q Was it daylight?
 16 A Yes.
 17 Q This is supposed to be a sun. Poorly drawn
 18 sun.
 19 Do you recall reading when Dr. Grobber visited
 20 -- well actually let me back up.
 21 Did you actually go on the fields.
 22 A Yes.
 23 Q Do you recall reading when Dr. Grobber visited
 24 the fields?
 25 A I do from the testimony from last week, yes.

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1 there. It was approaching 5:00 p.m. was Dr. Yoxtheimer's
 2 answer. So, go ahead.
 3 BY MR. LACKS:
 4 Q Do you recall reading whether Dr. Grobber
 5 actually went onto fields?
 6 A It sounds like he did not. He did in essence a
 7 driveway or windshield survey.
 8 Q I asked you a lot of questions last night about
 9 as aspects about Dr. Grobber's opinion you disagreed with. I
 10 want to ask you two more CHK statements and ask you if you
 11 agree with them and I'll give you a copy of his report.
 12 MR. LACKS: I can just pull up one of the
 13 statements.
 14 MR. LACKS:
 15 Q This is from page 14 of Dr. Grobber's -- hang
 16 on?
 17 MR. NIDEL: Your Honor, I object. They are
 18 now doing the same thing they objected to me doing which is
 19 showing statements from reports.
 20 THE COURT: That's true.
 21 MR. LACKS: And he was permitted to do it if I
 22 recall.
 23 MR. NIDEL: No, I was not.
 24 THE COURT: You were.
 25 MR. NIDEL: Once but then I was prohibited

ROUGH DRAFT

1 Q What do you recall? When did he visit the
 2 fields. I believe he went there last Tuesday evening?
 3 Q That would have still been December, right?
 4 A Yes.
 5 Q .
 6 Yes, December 2.
 7 Q Do you recall reading what time of day Dr.
 8 Grobber visited the fields?
 9 A It sounded like it was pretty late in the
 10 afternoon approaching 5:00.
 11 Q I know there was some back and forth about
 12 whether it was still daylight but I'll just for purposes of
 13 simplicity I'll say 5:00 p.m. in December of 2025?
 14 MR. NIDEL: Objection -- I don't think the
 15 witness knows what time. And he just wrote down 5 p.m.
 16 THE COURT: The witness said approaching 5:00
 17 p.m.
 18 MR. LACKS: I think the testimony was closer
 19 to 5:30 but I want to give the doctor the benefit of the
 20 doubt.
 21 MR. NIDEL: Now you're testifying for the
 22 witness.
 23 MR. LACKS: I can show the transcripts if
 24 you'd like.
 25 THE COURT: Stop. Overruled. 5:00 p.m. is on

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1 beyond that.
 2 THE COURT: I'm going to let him do it.
 3 BY MR. LACKS:
 4 Q
 5 THE COURT: Can you read that.
 6 THE WITNESS: Yes, I can.
 7 THE COURT: Go ahead and ask the question.
 8 MR. LACKS:
 9 Q Do you agree with the statement that
 10 groundwater within karst formation may flow at a complex manner
 11 at a relatively high velocity making source identification in
 12 groundwater contamination in flume definition and remediation
 13 very difficult ?
 14 A Yes. Based on my experience, I would concur
 15 with that statement.
 16 Q Do you agree with Dr. Grobber that a valid and
 17 reliable hydro geological investigation is needed within the
 18 vicinity of the impacted residential drinking wells to
 19 determine contamination sources, the vertical and horizontal
 20 extent of groundwater contamination, groundwater direction and
 21 velocity, and the fate and transport of contaminants within
 22 this impacted aquifer?
 23 A Yes, I concur with that.
 24 MR. LACKS: Nothing further, Your Honor.
 25 THE COURT: Everybody put their tablets away.

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1 . Do you want move those.
 2 Ladies and gentlemen we're taking our mid
 3 morning break. About 20 minutes or so. Don't discuss it. As
 4 I told you before, have a snack, go to the bathroom. Come
 5 back in, hopefully finish UP with Dr. Yoxtheimer and move onto
 6 next witness.
 7 All right.
 8 (Whereupon, the jurors were escorted from the
 9 courtroom.)
 10 (Time noted, 10:07 a.m.)
 11
 12 THE COURT: Anything before we go.
 13 MR. NIDEL: No, Your Honor.
 14 THE COURT: Anything.
 15 MR. LACKS: I move demonstrative I wrote into
 16 evidence as D 197.
 17 THE COURT: Any objection to D 197.
 18 MR. NIDEL: No. But we will be moving our
 19 demonstrate I was into evidence.
 20 THE COURT: Just I'll come back and you mark
 21 them be ready to go. Make sure if you have any objection to
 22 be noted.
 23 This is a demonstrative with Dr. Yoxtheimer
 24 197 admitted without objection.
 25 MR. LACKS: Thank you.

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1 septic tank septic tank, septic tank.
 2 THE COURT: (Whereupon the jurors were
 3 escorted.
 4 THE COURT: Label we're back.
 5 (Time noted, 10:31 a.m.)
 6
 7 We're going to have the further examination of
 8 Dr. Yoxtheimer. Hopefully that will conclude here rather
 9 quickly and then we'll move on to another witness.
 10 Mr. Nidel I believe it's you.
 11 MR. NIDEL: It is, Your Honor. I apologize.
 12 THE COURT: No problem. I just want to make
 13 sure I was right. I make mistakes everyday.
 14 MR. NIDEL: As do I, Your Honor, as do we all.
 15
 16
 17 EXAMINATION
 18
 19
 20 BY MR. NIDEL:
 21 Q We started our discussion I think we were
 22 talking about the sinkholes, right?
 23 A Yes.
 24 Q We were talking about the bobcat and the bear?
 25 A Yes.

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1 THE COURT: Your other witness is here,
 2 correct.
 3 MR. LACKS: Yes.
 4 THE COURT: So, recross and hopefully that
 5 will be it. We'll get the other one on. Neither party speak
 6 to Dr. Yoxtheimer while we're in break.
 7
 8 THE COURT: Septic tank, septic, septic
 9 sponge, sponge, septic, septic tank.
 10 (Time noted, 10:28 a.m.)
 11
 12 THE COURT: Anything Mr. Nidel before we get
 13 back going here.
 14 MR. NIDEL: No, Your Honor.
 15 THE COURT: You wanted to mark your things.
 16 MR. NIDEL: I do. I may add to them. It's
 17 possible.
 18 THE COURT: We'll leave it go until later
 19 today. Come on down, Dr. Yoxtheimer. You're anticipating it.
 20 We go.
 21 MR. LACKS: Your Honor, we would ask before
 22 Dr. Elliott takes the stands shall stand you give the
 23 instruction about Dr. Brandt.
 24 THE COURT: Okay. I have it right here.
 25 THE COURT: Septic tank, septic tank septic

R O U G H D R A F T

1 Q And we talked about how a sinkhole represent a
 2 direct conduit, they can represent it -- they actually
 3 represent a direct conduit that may or may not be a source of
 4 contamination depending on what's applied, right?
 5 A Yeah, that can be the case.
 6 Q And I believe you used the words like it's a
 7 significant source, right?
 8 A Significant volume, I believe, is what we use.
 9 Q If it's a sinkhole source I think some of the
 10 studies you reference that you relied on reference intensive
 11 agriculture, right?
 12 A Yes.
 13 Q And so if there is a significant source, those
 14 sinkholes become a direct conduit for the contaminant to reach
 15 the groundwater?
 16 A If you have a significant volume of a
 17 particular contaminant running into a sinkhole, that can
 18 represent a conduit to the groundwater system.
 19 Q And if you have a significant source of
 20 nutrients and bacteria and they have slopes and they are
 21 applied in a significant volume then that will be a conduit for
 22 those pollutants to reach the groundwater, right?
 23 A Again, I mean, significant is kind of a
 24 relative term. But if you're in that context meaning if you're
 25 applying, you know, some sort of we'll say agricultural

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1 fertilizer on top of a field at a rate greater than the roots
 2 and the system can uptake those nutrients, then that could
 3 represent a potential contaminant pathway.

4 Q And I just want to be clear.

5 Significant source was your language. So if
 6 it was a significant source.

7 A I think I said significant volume.

8 Q If there is a significant volume of those
 9 nutrients where that material containing nutrients then that
 10 would become -- that would then be a pathway for those
 11 contaminants to get to the groundwater, right?

12 A Through the -- by infiltration through the
 13 soils?

14 Q Yes.

15 A Yes.

16 Q And through the sinkholes?

17 A Potential, yes.

18 Q Those sinkholes would be a direct conduit for
 19 that, right?

20 A It kind of it depends. Again, if the bottom of
 21 the sinkhole is in direct contact with the top of the water
 22 table elevation, then I would concur that that would be a
 23 direct conduit; however, the depth the water is significantly
 24 deeper than the bottom of the sinkhole, you know, then there
 25 would still be potential for, you know, filtration of any of

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1 get a representative groundwater sample and you did that over a
 2 sufficient duration, you could begin to make some conclusions
 3 if you have enough data points.

4 Q If you have you have a significant enough
 5 source and you have evidence of runoff into that sinkhole, you
 6 can start to draw conclusions about what the impact -- what
 7 impact what impacted the groundwater?

8 A If you had samples that were collected properly
 9 and taken to a certified lab and you got those results back and
 10 you collected a sufficient number of samples over a sufficient
 11 duration under varying hydrological conditions then you could
 12 begin to reach some conclusions.

13 Q Well, the USGS studies concluded that
 14 agricultural activities at the surface impacted the
 15 groundwater, right?

16 A Yeah, on a regional basis.

17 Q With seven wells in the Sugar Valley, right?

18 A Yes.

19 Q Not monitoring wells contemporaneous with
 20 discalculation, right?

21 A Correct.

22 Q So they had seven wells, and they concluded
 23 without a hydro geologic study without monitors and samples of
 24 the runoff at the time of the runoff, they took samples of
 25 seven wells in the Sugar Valley and they determined that the

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 1 the contaminants, so just kind of depends on the geometry and
 2 that's why having a more detailed geologic understanding of the
 3 sinkholes is important to evaluate the potential vulnerability
 4 to impacting the groundwater.

5 Q You have a general understanding of this
 6 limestone karst, and there's not just sinkholes but there's
 7 preferential pathways basically cracks and fissures that are
 8 additional direct pathways to the groundwater, right?

9 A Yeah. If there's fractures, then they
 10 represent a significant groundwater flow pathway.

11 Q And in this geology, as you described, there
 12 are those fractures, right?

13 A Fractures do exist.

14 MR. LACKS: Objection, Your Honor, I think
 15 we're going over the same grounds covered in the cross and was
 16 not reopened during the redirect.

17 THE COURT: I think he's trying to lay a
 18 foundation. Move along, Mr. Nidel.

19 MR. NIDEL: Absolutely I am, Your Honor.

20 BY MR. NIDEL:

21 Q So, if -- and if you had a significant enough
 22 source, you could reach a conclusion as to whether that pathway
 23 was affecting the groundwater, right?

24 A If you have a sampling point in close proximity
 25 to that sinkhole and you're able to sample the groundwater and

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1 cause of that contamination that they found in the Sugar Valley
 2 was from agricultural activities at the surface, right?

3 A Yeah. They had that in addition to

4 Q The 1983 study that reached similar conclusions
 5 in if we look at the USGS conclusions we can see the conclusion
 6 was most of the elevated nitrate concentration were associated
 7 with E. Coli detections in the carbonate aquifer where
 8 transmissive bedrock can facilitate groundwater contamination
 9 by human activities at the land surface, right?

10 A Yes.

11 Q They determined it was those human activities
 12 at the land surface particularly the application of nutrients
 13 and bacteria that led to the contamination, right?

14 A That was their conclusion.

15 Q And they did that based on sampling those seven
 16 wells, right?

17 A They did.

18 Q They did not require samples at the time the
 19 farmer was out there applying or photos of over application or
 20 runoff, right?

21 A I mean, it's a snapshot in time.

22 Q But they drew that conclusion and you relied on
 23 it, right?

24 A Yep.

25 Q And the Pennsylvania study that you've referred

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1 to, right, that also made conclusions. Here are some of its
 2 conclusions. It talks about the natural quality of groundwater
 3 in the basin is generally acceptable for most uses.

4 Right.

5 A Yep.

6 Q The natural quality. Remember we talked about
 7 back background. This is refer to the background. Within
 8 intensive agricultural that's what the Call of the List is.
 9 It's generally acceptable, free of bacteria below levels of
 10 nitrates?

11 A Generally acceptable, yes.

12 Q They concluded based on their sampling of
 13 drinking water wells that contamination of groundwater was the
 14 result of the heavy fertilization of crop lands and that's the
 15 problem, right?

16 A Yeah. And they probably, you know, unless
 17 there is some other source of nitrates in the area, that makes
 18 that conclusion easier to reach.

19 Q And you -- so it's possible then, depending on
 20 the significance of the source, to based on samples of the
 21 number of wells in the area -- and we're just talking about --
 22 how big is the area we're talking about here?

23 A Sugar Valley?

24 Q No the area of these four wells?

25 A The four wells are clustered pretty closely

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1 together.

2 Q We have four wells clustered closely together
 3 and we have one identified source of intensive agriculture,
 4 right?

5 A Well, intensive agriculture is occurring all
 6 throughout that valley.

7 Q You don't know where there is intensive
 8 agricultural, right? You know it's occurring but you don't
 9 know how intensive it is, right?

10 A There is agriculture occurring in the valley.

11 Q You don't know how significant it is, right?

12 A By significant, do you mean the level of
 13 nutrient application.

14 Q Significant volume of nutrient application to
 15 use your words. You don't know what's happening on the Amish
 16 fields, you don't know what's happening on those fields, right?

17 A No. Again, that would be part of a more
 18 detailed evaluation.

19 Q And how close are the fields that we're talking
 20 about to the wells?

21 A Which fields.

22 Q F1 F2 it was F3?

23 A It looks like within -- I don't have a scale of
 24 the map there. But it looks like 300 to upwards of 700 feet
 25 away.

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1 Q Somewhere the well that Ms. Rockey's house? Is
 2 it in the front or the back?

3 A I don't know. I haven't visited her property.

4 Q You don't know if her well is in the front or
 5 the back?

6 A I haven't visited her property.

7 Q You don't know how close it is to F3?

8 A Again, I believe -- that yellow line represents
 9 the buffer. That looks like it would be somewhere in the area
 10 of 300 feet.

11 Q Is that from the house or from the well?

12 A Again, it depends -- I'm looking at the house.

13 Q You don't know how far the well is from the
 14 field, do you?

15 A Not specifically, no.

16 Q You don't know how far that is from any other
 17 intensive agriculture?

18 A Not specifically.

19 Q You don't know where -- where is her statistic
 20 system. I'm not sure. Invited her residence?

21 Q Front yard or become yard?

22 A I don't know. I haven't visited her residence.

23 Q How deep is it?

24 A Her septic system or her well.

25 Q Her septic system.

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1 A I don't believe it was contained in that
 2 evaluation. But it wouldn't be very deep. They're not
 3 typically very deep.

4 Q Do you know if this field is sloped toward her
 5 well?

6 A I'd have to look at the top graphic map.

7 Q How far are these fields?

8 A Which field?

9 Q F2?

10 A Again, similar distance, approximately 300 or
 11 so feet from the edge of the field -- yeah.

12 Q Do you know where the wells are. Are the wells
 13 in the front of Patricia Leigey's home or the back?

14 A I saw one picture that looked like the well was
 15 in the front of the house toward the road.

16 Q Do you know how far from F2 it is?

17 A Again, I haven't done any deterministic
 18 measuring.

19 Q Do you know if this field gets nutrients
 20 applied to it, this pasture field right here?

21 A I do not.

22 Q Do you know if they apply manure there?

23 A I do not.

24 Q Do you know how far the wells are from Carolyn
 25 Leigey's, do you know if it's in the front or the back?

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1 A I do not.
 2 Q Do you know where either of the septic are for
 3 the Leigey property, front or back?
 4 A Not specifically.
 5 Q Do you know how far they are from the well?
 6 A It's contained in the sewer septic system
 7 evaluation.
 8 Q You don't know how far from the other intensive
 9 agriculture these wells are?
 10 A Not specifically, no, again that would be part
 11 of a more detailed hydro geologic investigation.
 12 Q You don't know how intensive the agricultural
 13 or the spreading of nutrients and bacteria was on these fields
 14 because you didn't review those records, right?
 15 A I did not, no.
 16 Q So in this area, the only source that you know
 17 of -- the only source you have access to records of for
 18 nutrient application and bacterial application are the records
 19 that are available for those fields, the Nicholas Meat fields,
 20 right?
 21 A Yeah, I think that's fair to say.
 22 Q But you didn't review those, right?
 23 A Again, I think it was determined that wasn't
 24 really part of my review.
 25 Q You didn't review records of -- do you know if

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1 A I would imagine that would be part of their
 2 nutrient management plan.
 3 Q You don't know, right?
 4 A I haven't reviewed it in enough detail to know
 5 those numbers or anything to that affect.
 6 Q You don't know if they applied nutrients and
 7 bacteria at rates above that hydraulic loading, right?
 8 A I do not specifically, no.
 9 Q You don't know if there is direct evidence of
 10 runoff from those fields, right?
 11 A That is correct.
 12 Q You don't know if there is indirect evidence of
 13 runoff from those fields?
 14 A That's correct.
 15 Q You talked about the fact that Dr. Grobbel,
 16 when I asked you questions -- you talked about the fact that
 17 Dr. Grobbel, your opinion was, he didn't identify any of these
 18 mechanisms or pathways, right?
 19 A Correct.
 20 Q And it was your testimony that you didn't
 21 believe he even identified sinkholes, right?
 22 A I don't remember him.
 23 A I don't recall him specifically identifying or
 24 characterizing sinkholes. He might have mentioned that they
 25 are in the area, but.

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1 they apply during the rain?
 2 A I do not.
 3 Q Do you know about something called hydraulic
 4 loading?
 5 A Somewhat familiar with the term.
 6 Q Hydraulic loading is the ability of the soil to
 7 absorb what's -- liquids that are applied to the surface?
 8 A Right.
 9 Q If liquids are applied to the surface in above
 10 the hydraulic loading of the soils -- if you have a field that
 11 has some slope and you apply liquids above the hydraulic
 12 loading, you're going to get runoff?
 13 A Right.
 14 Q Do you know if they ever calculated a hydraulic
 15 loading for fields?
 16 MR. LACKS: Objection. This is a continuation
 17 of what was asked on cross and was not within the scope of the
 18 limited redirect.
 19 THE COURT: Stop.
 20 Overruled. Answer the question.
 21 A Could you repeat the question?
 22 MR. NIDEL: Sure.
 23 MR. NIDEL:
 24 Q Do you know if they ever calculated a hydraulic
 25 loading for these soils?

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1 Q But he didn't identify them associated with the
 2 Nicholas Meats application?
 3 A He may have identified the sinkhole on field
 4 F3, but again I can't recall specifically.
 5 Q Let's be clear because I asked you if he
 6 identified these pathways and you said that he hadn't. Right?
 7 A I did say that.
 8 Q In fact it's not just you saying it to me
 9 today, it's what you wrote a year and a half ago in your report
 10 that the Plaintiff have failed to identify these pathways,
 11 right?
 12 A I don't recall Dr. Grobbel's report actually
 13 specifically saying like he has characterized that the nutrient
 14 application on the fields has definitely entered the sinkhole
 15 and definitely impacted the wells. That would be my definition
 16 of a transport mechanism.
 17 Q Sir, we can go back to your quote on page 9.
 18 It says plaintiffs have not identified the mechanisms or
 19 pathways, right?
 20 A Yes.
 21 Q But we've gotten to a point of agreement.
 22 Mechanism or a pathway is not one that is currently got traffic
 23 on it. It's just that there is a pathway, right?
 24 A Right. Potential pathway and it's only
 25 potential until it becomes a pathway.

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1 Q Dr. Grobber's report, which I'll read:
 2 According to USGS Nicholas Meats' disposal sites are underlain
 3 by or in very close proximity to karst and sinkhole areas.
 4 Indeed Nicholas Meats consultant TeamAg identified a sinkhole
 5 to the south west of field F1 and northwest of field F2 and
 6 another sinkhole on the western edge of field F3.
 7 Additionally, TeamAg identified a subsurface drain by accepting
 8 field F1 from north to south and appearing to lead directly
 9 into the sinkhole area. Right?

10 MR. LACKS: Objection. Again going over
 11 grounds asked on cross and following up on it with Dr.
 12 Grobber's report. He could have done that during the cross.

13 THE COURT: Overruled. You can answer. But
 14 Mr. Nidel you need to wrap this up.

15 MR. NIDEL: I'm working on that, Your Honor.

16 THE COURT: You should answer the question,
 17 Dr. Yoxtheimer.

18 A So, just to recap your question, you're saying
 19 the sinkholes identified by TeamAg nutrient management plan,
 20 Dr. Grobber identified those as sinkholes.

21 Q He identified those as direct pathways just
 22 like you identify sinkholes as direct pathways?

23 A They would be potential direct pathways but,
 24 again, you can't verify whether they are an actual pathway or
 25 not towards anybody's drinking water well unless you have more

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1 detailed geologic and hydro geologic information to verify
 2 that. Just because there's a sinkhole and there's a well
 3 doesn't mean one is affecting the other.

4 Q Doctor, you wrote a report in 2014 where you
 5 made this statement. And I asked you if you agreed with it.

6 A sinkhole represents a direct conduit into
 7 the aquifer which in turn could have direct adverse impacts on
 8 regional drinking water quantity if significant volumes of
 9 surface runoff are channeled into a sinkhole.

10 A I didn't write a study 2014.

11 Q You wrote a report in 2014?

12 A No, I did not.

13 Q Okay. Sir, is this your AquaLith Technologies?

14 A Yes.

15 Q Okay. Is that a report that you wrote on

16 October 31, 2014 for AquaLith Technologies?

17 A Yes, but this is a different site. This isn't
 18 this particular site. So I didn't write a study in 2014 for
 19 this particular project that we're talking about right now.

20 Q But you did for the Nittany Valley, right?

21 A You didn't specify that. You said 2014. I
 22 published lots of studies back across my career. You have to
 23 be more specific than that so I know what you're talking about.

24 Q I was yesterday when I asked you about this
 25 study. It's in the Nittany Valley, the same karst dolomite

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1 polite limestone?

2 A Yes.

3 Q You say that statement in here a sinkhole
 4 represents a direct conduit to the aquifer which in turn could
 5 have direct adverse impacts on regional drinking water quality
 6 as significant volumes of surface water are channeled into a
 7 sinkhole?

8 A But this is a study that is from over 10 years
 9 ago that's not related to this particular area. So I don't
 10 understand why you're bringing up something that was for a
 11 completely different area for a completely different client for
 12 a completely different project.

13 Q You wrote a three page report. That's your
 14 signature, right?

15 A Yes, sir.

16 MR. LACKS: Could I have a copy.

17 MR. NIDEL:

18 Q Three page report. You said it's not directly
 19 related but it's this very same geology that you've talked
 20 about having unique features that it shares that this Sugar
 21 Valley shares with Nittany Valley?

22 A They have similar geology, yes. They are not
 23 the exact same geology. This is a different formation in this
 24 the unrelated study that you're bringing up. It's a different
 25 scenario. So it's not an apples to apples comparison that

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1 you're bringing up.

2 Q There is a method to my madness. And I asked
 3 you if in fact the Nittany Valley had the same geology as we
 4 have in the Sugar Valley?

5 A It has similar geology but there are different
 6 formations exposed in Nittany Valley than in Sugar Valley so
 7 it's not the same because different formations have different
 8 susceptibilities to karst formation. So you can draw some
 9 general comparisons but they're not a direct comparison.

10 Q They both have sinkholes that have conduits?

11 A They can, yes.

12 Q And you were asked about the list of things
 13 that you did not do. And you were asked if Dr. Grobber or the
 14 plaintiffs did, but the plaintiffs sampled their own wells,
 15 right?

16 A Generally that wouldn't be admissible because
 17 that's a biased sample. You need to have an independent party
 18 who is knowledgeable with the collection of samples collect
 19 samples. So that would call and question quality the samples
 20 themselves. Again we went through a whole diatribe on how
 21 samples collected. Where were collected from. Did the people
 22 who collected the samples wear gloves. We went through a
 23 whole litany of potential issues with that.

24 THE COURT: Stop.

25 The jury is to disregard Dr. Yoxtheimer's

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1 comment that they are not admissible. The Judge, the law
 2 determines whether they are admissible, not Dr. Yoxtheimer.

3 THE WITNESS: Understood.

4 THE COURT: Please do not say those things
 5 again, Dr. Yoxtheimer.

6 THE WITNESS: I will not.

7 THE COURT: Go ahead, Mr. Nidel.

8 BY MR. NIDEL:

9 Q Dr. Yoxtheimer, that wasn't my question at all.

10 My question was simply, did plaintiffs sample their wells?

11 A They had their as well as sampled. It's the
 12 first I heard them sampled them themselves.

13 Q The plaintiffs had their wells sampled, right?

14 A Yes.

15 Q And they had their septic tanks inspected, right?

16 A They did.

17 Q They identified a tracer, you believe it's not
 18 unique but identified cow DNA as a tracer to link to FPR,
 19 right?

20 A I wouldn't necessarily agree that's a unique
 21 tracer in.

22 Q I understand you don't agree it's a unique
 23 tracer. But it is a tracer. It's called source tracking,
 24 right. The DNA DNA testing by these labs it's called microbial
 25 source tracking. It's for tracking the source of microbial or

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1 bacterial contamination, right?

2 A And by source you're talking about what species
 3 it came from but not specifically where it came from.

4 Q We'll leave that to the jury to decide.

5 The Plaintiffs sampled theirs septic tanks, the
 6 plaintiffs identified a tracer, right.

7 A A tracer.

8 Q They assessed -- Dr. Grobber assessed the
 9 nutrient loading of the FPR, right?

10 A I guess you did but that's not my forte to know
 11 whether he did a good or bad job of that.

12 Q Sir, you were asked whether he did -- whether
 13 plaintiffs did these things. And you quickly said, no, they
 14 didn't do these things but you agree he did this, right?

15 A He did look at that, yes.

16 Q And do you know what he did to assess other
 17 farm fields in the area?

18 A I do not, no.

19 Q Do you know if he assessed in his assessment of
 20 the FPR loading if he determined that that was a significant
 21 source or a significant volume or intensive?

22 A I don't know what qualifier or descriptor he
 23 used.

24 Q Do you know what -- you didn't know he
 25 identified sinkholes, right? You had forgotten that.

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1 MR. LACKS: Objection form. Misstates the
 2 testimony.

3 THE COURT: Overruled. Answer the question,
 4 Dr. Yoxtheimer.

5 A You know he may have referred to the sinkholes
 6 that were in the nutrient management plan. But I don't know
 7 that went out -- I don't know how he would have specifically
 8 gone out and identified specific sinkholes if he had never
 9 visited the site until last week.

10 Q Do you dispute the nutrient management plan in
 11 TeamAg's maps?

12 A No, I'm not.

13 Q So he reviewed that information and you don't
 14 know to what degree he assessed the other local loading of
 15 nutrients?

16 A No, I don't.

17 Q And you don't know -- so, you don't know. You
 18 don't know to what degree he reviewed well construction data?

19 A I don't remember seeing any specific well
 20 construction data beyond I believe the construction of the
 21 original well on the Leigey property.

22 Q Did Dr. Grobber review the available bacterial
 23 aqua data from the wells you did not review?

24 A Again, I don't recall specifically if there was
 25 bacteriological data. I don't recall it. I didn't include it

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1 in my report.

2 Q You didn't review the fecal coliform and E.
 3 Coli testing that was done in any of the Plaintiffs' wells,
 4 right?

5 A I don't recall reviewing that. I didn't
 6 address it in my report.

7 Q You talked about -- you were asked on your
 8 examination by counsel about the absorption area and you said
 9 the function or the purpose of that absorption area was to
 10 drain bacteria, right?

11 A I said it was to have the effluent discharged
 12 into the soils.

13 Q Well, the function of that drain field --
 14 probably a lot of people -- I've got a septic system. The
 15 function, the purpose is for those bacteria to decay and go
 16 away in that area, right? The function, is to allow the water
 17 to be purified so that you do not have contamination of the
 18 environment or the groundwater, right?

19 A Yeah. You're relying on the natural
 20 degradation in the soils.

21 Q Just like you talked about how if you had a
 22 small source at the surface when it goes down through the soil
 23 your expectation that would disappear, those bacteria will go
 24 to nothing. Nondetect?

25 A Generally.

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1 Q The hope of a well functioning septic system
 2 and a well functioning absorption area is that that bacteria by
 3 the time it reaches the end of that absorption area there is no
 4 more bacteria alive to cause a problem for anyone's well,
 5 right?
 6 A It discharges out of the perforated pipes in
 7 the absorption area and then drains vertically down through the
 8 soil profile and it's the vertical drainage and filtration down
 9 through the soil profile that allows the natural breakdown to
 10 occur.
 11 Q Which you refer to as a filter for that
 12 bacteria, right?
 13 A It can be.
 14 Q So absorption area is for filtration of the
 15 bacteria to reduce it down to zero, right?
 16 A Well, the absorption -- the pipes discharge it
 17 into the subsurface and then that volume -- not an area below
 18 the absorption field you're relying on those soils to naturally
 19 break down any of the contaminants in the wastewater effluent.
 20 Q So to be clear what you said, the purpose of
 21 that area when you were asked by counsel, the purpose is not
 22 for bacteria to go out into the environment. The purpose of
 23 having that absorption area is to remove that bacteria, right?
 24 A It is, yeah.
 25 Q And you talked about there being no direct

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1 Q Let's be clear. You saw a video of a blue
 2 piece of equipment that had nozzles and it sprayed it down and
 3 there was some aeration on the front of that and it surface
 4 applied. You saw that video?
 5 A I didn't see a video. I saw that in person
 6 because I made a site visit.
 7 Q You saw that equipment?
 8 A Yes.
 9 Q Do you know if that was what was used in 2020,
 10 2021, 2022 on not these fields?
 11 A No.
 12 Q Do you know if it was sprayed on the field with
 13 broadcast spraying?
 14 A I don't.
 15 Q And you don't know anything about the volume,
 16 right?
 17 A Not specifically, no.
 18 Q You don't know anything about the infiltration
 19 rates and whether they applied at rates greater than those
 20 infiltration rates?
 21 A Correct. That's out of the scope of my initial
 22 evaluation here.
 23 Q You reviewed testimony from some of the
 24 witnesses that testified in this case, in this trial prior to
 25 your appearance, correct?

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1 evidence of runoff into the field. That was one of your
 2 conclusions that you talked about with Mr. Lacks, right?
 3 A Yes.
 4 Q But you haven't reviewed photos of the
 5 applications on these fields?
 6 A I have not.
 7 Q You have not reviewed photographs of ponding on
 8 these fields, have you?
 9 A Not to my knowledge, no.
 10 Q Do you know how the materials apply to these
 11 fields?
 12 A It's basically -- there's different types of
 13 application from my understanding.
 14 Q Do you know how it's --
 15 A A drag line is one method.
 16 Q How is that drag line applied?
 17 A Basically just kind of sprays it down on the
 18 field.
 19 Q Sprays it directly down on to the field?
 20 A That's my general understanding but that's not
 21 my specialty.
 22 Q Do you know how it's applied to these fields?
 23 A I saw a -- basically a large -- I don't
 24 remember the exact term. But somewhat like an aerator where it
 25 injects the FPR into these soils.

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1 A Correct.
 2 Q Did you review the testimony of TeamAg?
 3 A Not specifically, no.
 4 Q You didn't review the testimony of TeamAg when
 5 they talked about the subsurface drainage that directed the
 6 runoff and the seepage and the flow, the nutrients and bacteria
 7 that were applied to F1 that it directed them over toward field
 8 P 1 where the sinkhole is?
 9 A No.
 10 Q You didn't review that, right?
 11 A I'm not sure that that was available to me.
 12 Q That would be some evidence of a potential for
 13 direct runoff into sinkholes, right?
 14 A It could be.
 15 Q Did you review testimony about the way these
 16 fields T, F3, sloped towards that sinkhole that you yourself
 17 have identified?
 18 A I don't remember that specifically testimony.
 19 But I'm not disputing that the field don't slope toward the
 20 sinkhole.
 21 Q But you don't know if the application, how
 22 based on how the application was done, the timing of the
 23 application, the season of the application, the volume of the
 24 application, whether it resulted in runoff into that sinkhole,
 25 right?

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<p>1 A At this point in my evaluation I have not 2 reviewed that, but again, that would be the kind of evaluation 3 that would be part of a more detailed hydro geologic I had to 4 look at, you know, determine what the potential contaminant 5 sources are and their transport mechanisms.</p> <p>6 Q Sir, you had this information available. You 7 could have looked at the infiltration rates if they had them. 8 You could have looked at their volume applied, you could have 9 actually figured out how they applied rather than taking a look 10 at one piece of equipment out of a various piece of equipment 11 that's used, right?</p> <p>12 A I suppose I could have, but again that wasn't 13 really designed to be part of my purview.</p> <p>14 Q You don't know when FPR application started, 15 right?</p> <p>16 A I don't know a specific date, no.</p> <p>17 Q You talked about the sample in 1983 where it 18 was 4.18 and you identified for everyone that that's greater 19 than 3.08, right?</p> <p>20 A Correct.</p> <p>21 Q And we talked -- you and I talked about how 22 these nutrients will -- you said they are fairly persistent, 23 right?</p> <p>24 A Nitrate does not necessarily break down 25 naturally in the environment.</p>	<p>101</p> <p>1 Q Did you review Mr. Nicholas's testimony in this 2 case?</p> <p>3 A I do not believe I did.</p> <p>4 Q You learned about 500 million years ago -- part 5 of what you told the jury. You could give a whole course on it 6 but you don't know what was going on just before 1983?</p> <p>7 A That's a very specific piece of knowledge to 8 have.</p> <p>9 Q It's highly relevant to what this 4.18 10 milligrams per liter of the nutrients means in this well, 11 right?</p> <p>12 A Yeah. Again, I relied on you know historical 13 reports and in the associated data to understand something 14 about what the regional nitrate concentrations were in 15 carbonate aquifers first in 1983.</p> <p>16 Q What you note from this study, you were asked 17 by Mr. Lacks, did they conclude, what specifically contaminated 18 the Leigey well, right?</p> <p>19 A Correct.</p> <p>20 Q They didn't conclude what contaminated the 21 Leigey well but what they did conclude what we can show from 22 the USGS that it was agricultural activities, application at 23 the surface that was causing contamination in the region that 24 included the 4.18 Leigey well?</p> <p>25 MR. LACKS: Objection. Misstated the source</p>
<p>102</p> <p>1 Q But it dilutes and it migrates, right?</p> <p>2 A Yes.</p> <p>3 Q So if you have an application. I'm stuck here 4 with red. If you have an application of nitrates and you 5 contaminate the groundwater with those nitrates, over time if 6 you stop the application, if you cut that off over time, that 7 will decrease, right?</p> <p>8 A Yeah. Correct.</p> <p>9 Q If you continue to apply, it will -- assuming 10 similar rates, pathways, it will maintain. And if you start to 11 apply even more, you will get increased, right?</p> <p>12 A Correct.</p> <p>13 Q So in 1983, the Leigey well was greater than 14 the median, right?</p> <p>15 A The regional median, yes.</p> <p>16 Q Do you know if these fields, this area, the 17 local -- if there was intensive agriculture on not just in the 18 area, but on these fields?</p> <p>19 MR. LACKS: Objection to these fields.</p> <p>20 MR. NIDEL: F1 F2 F3.</p> <p>21 THE COURT: Overruled.</p> <p>22 A I was 13 at the time so I wasn't trying to be a 23 hydro geologist at that young age. Unless there's records 24 available that would support that, then I can't say that I'm 25 aware of the application rates back in 1983.</p>	<p>104</p> <p>1 of the study. You said USGS.</p> <p>2 MR. NIDEL:</p> <p>3 Q The Pennsylvania study?</p> <p>4 A Correct.</p> <p>5 Q We saw its conclusions. This 4.18 wasn't 6 pulled out and identified in the Leigey well. But it was due 7 -- the conclusion was that would be due to intensive 8 agriculture at the surface there, right?</p> <p>9 A The statement in the context is you know, you 10 know, regional basis that agricultural activities are causing 11 nitrates. Again you just noted it doesn't specifically call 12 out the Leigey well.</p> <p>13 Q But the most likely source of contamination of 14 these wells and these wells would be the sinkholes that are 15 approximate to those wells, right?</p> <p>16 A I mean, they are potential contaminant 17 pathways.</p> <p>18 Q They are the most likely -- well, this sinkhole 19 over here is not more likely than this one right here, right?</p> <p>20 A Again, without having more detailed hydro 21 geologic data you can't really reach those kinds of 22 conclusions.</p> <p>23 Q You can't reach a conclusion that one that is 24 closer by say a quarter mile or a half a mile would be more 25 likely than one that's a quarter mile or a half mile away?</p>

1 A Yeah, it's a complicated plumbing system. You
 2 have very discrete groundwater flow, three discrete fractures.
 3 One fracture may bypass a particular well or property and you,
 4 you know, it could convey contaminants from a quarter mile
 5 away, you know, around a particular property whereas something
 6 even further away, the fractures that that particular sinkhole
 7 is in hydraulic communication -- could be directly more
 8 communicating with a particular well. So, again, it's a very
 9 complex plumbing system and so I would greatly hesitate to
 10 provide any conclusion as to which fractures are causing or
 11 dominating the groundwater flow system versus another that are
 12 attached to one sinkhole versus another.

13 Q I understand anything is possible. Can you
 14 agree with me as far as your testimony to this jury that
 15 sinkholes that are closer would be the more likely source than
 16 sinkholes that are farther away?

17 MR. LACKS: Objection. He just answered the
 18 question.

19 THE COURT: You can answer it again. Shortly.

20 A Depends on. The nature of the sinkhole, how
 21 deep it is. If you have a sinkhole that is not in direct
 22 communication with the aquifer, but it's closer, versus a
 23 sinkhole that's farther away and in more direct communication
 24 with the aquifer, then you can't say that the closer sinkhole
 25 is more likely to contaminant the well than the one that's

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1 farther away because the one that's farther away could be in
 2 more direct communication with the aquifer and therefore the
 3 wells.

4 BY MR. NIDEL:

5 Q Just to be clear -- well, you would agree that
 6 the more likely sources -- something that would affect the
 7 likelihood would be the proximity, right?

8 A That would be a factor.

9 Q The proximity of sinkholes, right?

10 A Proximity of sinkholes to wells would be a
 11 factor to consider but not the only one.

12 Q And the proximity of the source, right?

13 A To the sinkholes?

14 Q Right.

15 A Yes.

16 Q And the intensity or significance of the
 17 source, right?

18 A Yeah.

19 Q And we talked about the capture zone. And this
 20 is sort of going down into the earth. But if we visualize the
 21 capture zone and you have a well, the location of the well, the
 22 capture zone looking down from above is showing you that water
 23 goes into a well not just from the tip of the well but it
 24 captures water from the region around the well, right?

25 A Yes, but I wouldn't necessarily draw a circle

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1 to represent that capture zone, especially until a karst
 2 setting.

3 Q This could be different shapes depending on the
 4 geology, but the concept is the same that you are -- because
 5 you are sucking from that well, you have a capture zone and
 6 that extends radially from that well depending on the geology.

7 Is that fair?

8 A Yeah. A well is going to have -- it may have
 9 one major water bearing zone where the water enters the well.
 10 It might have multiple water bearing zones or fractures where
 11 the water enters the well. You have to understand which
 12 fractures are primarily feeding the groundwater into the well
 13 to really make some conclusion as to that. But there is some
 14 area around the well from which groundwater is feeding into it.
 15 It's just vertically difficult to resolve without, you know,
 16 doing some sort of bore hole geophysics or sending a camera
 17 down the well or doing again more detailed testing to
 18 understand what the primary water bearing zone is in a well.

19 Q These wells are depending on their pumping
 20 rates or someone is thinking of that, if they are refilling,
 21 their bathtub, it will capture beyond just the point just below
 22 the well. You're not sure what that capture zone is for any of
 23 these wells, right?

24 A I don't think anybody is because nobody has
 25 done the necessary testing to understand that.

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1 Q You're a scientist retained by one of the
 2 largest slaughterhouse corporations in the country, I believe.
 3 Is that right?

4 MR. LACKS: Objection. Foundation.

5 THE COURT: Sustained.

6 MR. NIDEL:

7 Q Do you know if Nicholas Meats is one of the
 8 largest slaughterhouses in the country?

9 A I don't know how they stack up in the industry.

10 Q You were retained by one of the largest
 11 slaughterhouses in the State of Pennsylvania, right?

12 A Presumably.

13 Q And they apply millions of gallons -- they
 14 generate -- do you know how many millions of gallons of FPR
 15 they generate every year?

16 A I do not.

17 Q It's around 53 million gallons last time I saw
 18 a report. Do you understand that?

19 A Yep.

20 Q Dr. Grobbl was hired by three individuals,
 21 right?

22 MR. LACKS: Objection. What's the relevance?

23 THE COURT: Sustained. Go ahead, next

24 question.

25 MR. NIDEL:

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1 Q Do you know who hired Dr. Grobbel?
 2 A I don't know the nature of their hiring of Dr.
 3 Grobbel, specifically.
 4 Q You never looked into the sinkhole when you did
 5 your visits, right?
 6 A Not into the sinkhole, no.
 7 Q You didn't -- not only did you not look into
 8 the sinkhole down here, you didn't even know about this
 9 sinkhole up here, right?
 10 A Not at the time of my site visit, no.
 11 Q Up until today, you didn't know about it,
 12 right?
 13 A No, not specifically.
 14 Q You didn't know about a sinkhole over here,
 15 right?
 16 A Again, I didn't do a site specific sinkhole
 17 survey.
 18 Q You didn't know about the subsurface drainage
 19 and the surface diversion for flow from F1 toward that are
 20 sinkhole, right?
 21 A I did not, no.
 22 MR. NIDEL: That's all I have.
 23 THE COURT: Mr. Lacks.
 24 MR. LACKS: Very brief, Your Honor.
 25 THE COURT: Thank you.

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1 Grobbel's theory?
 2 MR. NIDEL: Objection. Leading.
 3 THE COURT: Overruled. Go ahead and answer.
 4 A Yes I do. I think that's necessary to really
 5 understand the nature of the impacts to the Plaintiffs' wells.
 6 MR. LACKS:
 7 Q Again just to recap, Mr. Nidel went over -- Dr.
 8 Grobbel had access to data from the samples of the wells?
 9 A Yes.
 10 Q Dr. Grobbel had access to data from the septic
 11 evaluations?
 12 A Yes.
 13 Q Dr. Grobbel had a tracer analysis?
 14 A Yes.
 15 Q Dr. Grobbel had nutrient balance -- nutrient
 16 bacterial loading information?
 17 A Yes.
 18 Q And did Dr. Grobbel also recommend a robust
 19 hydrogeologic study to be performed to determine the source of
 20 the contamination?
 21 A Yes.
 22 MR. NIDEL: Objection. Misstates Dr.
 23 Grobbel's testimony.
 24 THE COURT: Overruled.
 25 BY MR. LACKS:

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1 Examination
 2
 3 BY MR. LACKS:
 4 Q Dr. Yoxtheimer, would you agree that Plaintiffs
 5 through their expert, Dr. Grobbel, presented a theory as to the
 6 source of the contamination of Plaintiffs' wells?
 7 A He did, yeah.
 8 MR. NIDEL: Objection. Leading.
 9 THE COURT: It's cross -- no, it's direct.
 10 I'm very confused.
 11 MR. LACKS: I'm getting confused myself.
 12 THE COURT: All right. I'll let the answer
 13 stand. Go ahead.
 14 MR. LACKS:
 15 Q Dr. Yoxtheimer were you asked to evaluate the
 16 theory presented by Dr. Grobbel?
 17 A Yes, I was.
 18 Q Were you asked to develop your own competing
 19 theory as to the source of the contamination of Plaintiffs'
 20 wells?
 21 A Not necessarily competing theory, but looked at
 22 -- I was in my view asked to look at whether his theory was
 23 sufficiently scientifically founded.
 24 Q And is it your belief that a more robust hydro
 25 geological study would be needed to test or confirm Dr.

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1 Q You can answer.
 2 A Yeah, I believe he used the term detailed hydro
 3 geologic investigation.
 4 MR. LACKS: Thank you. I don't have anything
 5 further.
 6 MR. NIDEL: Your Honor, quickly.
 7 THE COURT: Very limited.
 8
 9 EXAMINATION
 10
 11 MR. NIDEL:
 12 Q Did you review Dr. Grobbel's testimony in this
 13 trial?
 14 A I believe I said I reviewed most of it but not
 15 necessarily every word on every page.
 16 Q You reviewed what the lawyers asked you to?
 17 A I reviewed -- focused on certain sections and
 18 read a little beyond that.
 19 Q Did Dr. Grobbel testify as to a theory or did
 20 he testify as to a reasonable degree of scientific certainty?
 21 A I don't recall his exact phrasing of what he
 22 concluded.
 23 Q Did he use the word theory?
 24 A Again, I don't recall, but I don't think -- I
 25 think he concluded that the, you know, plaintiffs wells were

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1 impacted by Nicholas Meats' FPR application practices.
 2 Q He concluded to a reasonable degree of
 3 scientific certainty that these wells were impacted by Nicholas
 4 Meats' land application of FPR, right?
 5 A Yes.
 6 Q He did not present that as a theory, like you
 7 have presented your own opinions today, right?
 8 A I don't know what will actual theory you're
 9 referring to that I've provided.
 10 Q Well, let's be clear?
 11 Dr. Grobbl did not testify as to a theory.
 12 He testified as to a scientific conclusion that the land
 13 application of FPR have impacted these wells, right.
 14 A That was his conclusion, yes.
 15 Q That was his scientific conclusion, right?
 16 A Again, that was his scientific conclusion.
 17 Q And you were asked about your theory, the
 18 theory that you presented, right, and you answered what your
 19 theory is, right?
 20 A I don't think I use the term theory.
 21 Q Counsel asked you about Dr. Grobbl's theory
 22 which we now have clarified was not a theory. It was his
 23 scientific opinion, right?
 24 A Scientific opinion or conclusion.
 25 Q It was his scientific conclusion, right?

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1 A That's what he said.
 2 Q And you were asked about your theory, right?
 3 A I was asked about what I thought about his
 4 conclusion.
 5 Q You were asked about your theory, right, about
 6 his conclusion?
 7 MR. LACKS: Objection. Asked and answered.
 8 THE COURT: Sustained.. move on, Mr. Nidel.
 9 MR. NIDEL:
 10 Q You've presented your theory to the jury,
 11 right?
 12 A I presented my thoughts to the jury.
 13 Q MR. NIDEL: Thank you for your thoughts.
 14 THE COURT: Done.
 15 MR. LACKS: Yes. Nothing further.
 16 THE COURT: Can he be excused.
 17 MR. LACKS: Yes.
 18 THE COURT: Any objection.
 19 MR. NIDEL: Yes, Your Honor. We move to admit
 20 the exhibits. The witness can be excused.
 21 THE COURT: You can wait for that.
 22 MR. NIDEL: Yes. I didn't know when.
 23 THE COURT: Can you wait for that you guys.
 24 MR. LACKS: Yes.

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1 THE COURT: We can get another witness on and
 2 get started.
 3 MR. LACKS: Yes.
 4 THE COURT: Dr. Yoxheimer can be excused.
 5 MR. NIDEL: Yes, Your Honor.
 6 THE COURT: Dr. Yoxheimer, you can go or you
 7 can stay.
 8 THE WITNESS: Thank you, Your Honor.
 9 MR. LACKS: Defendants call Herschel Elliott.
 10 THE COURT: Do you want bring him forward get
 11 him sworn.
 12 ^ , called as a witness, being sworn/affirmed,
 13 testified as follows:
 14 THE COURT: Do you want swear him.
 15 Ladies and gentlemen while they're getting
 16 things set up I need to address you before Dr. Elliott
 17 testifies. Dr. Herschel A Elliott is seated here, co-authored
 18 a report for the Defendant with doctor Robin C Brandt.
 19 Dr. Brandt will not be called to testify in this matter. Not
 20 because Dr. Brandt is not available or not because he has a
 21 different opinion than what is in the report. But as you may
 22 realize, we need to move this along. And the parties have
 23 reached an agreement to manufacture forward without you
 24 hearing from Dr. Brandt.

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1 Go ahead, Mr. Lacks.
 2 MR. LACKS: Your Honor.
 3
 4 EXAMINATION
 5
 6
 7 Q Could you introduce yourself?
 8 A Herschel A Elliott.
 9 Q And how did you come to be involved in this
 10 matter?
 11 A I was engaged by your law firm.
 12 Q And what was the scope of your assignment so to
 13 speak as you understood it?
 14 A As I ununderstood it it was to evaluate the
 15 expert report of the Plaintiffs.
 16 Q Who was the expert whose report you were
 17 evaluating?
 18 A Dr. Grobbl.
 19 Q What do you do for a living?
 20 A I am retired.
 21 Q And what did you do before you retired?
 22 A I was on the faculty at Penn State in the
 23 agricultural and biological engineering department.
 24 Q What is agricultural and biological
 25 engineering?

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<p>1 A It's a very broad field. But my particular 2 specialty in that field is soil and water quality.</p> <p>3 MR. NIDEL: Your Honor, plaintiffs are will 4 stipulate in order to save time the Plaintiffs are willing to 5 stipulate to Dr. Elliott's qualifications.</p> <p>6 THE COURT: What are you offering as an expert 7 in.</p> <p>8 MR. LACKS: Your Honor, we offer Dr. Elliott 9 as an expert in the use of residuals for agricultural purposes 10 and water quality.</p> <p>11 THE COURT: Ladies and gentlemen of the jury, 12 you've heard the doctor being offered as an expert in the use 13 of residuals for agricultural purposes and water quality.</p> <p>14 You're to accept him as an expert. Experts are called once 15 again I gave you this instruction before -- to assist injuries 16 in deciding cases such as this one involving scientific 17 technical or other specialized knowledge. I don't understand 18 that possess it had by a layperson. The law laws an expert 19 with special education and experience to present opinion 20 testimony. An expert witness gives their opinion to a 21 reasonable degree of professional certainty based upon the 22 assumption of certain facts. You do not have to accept an 23 expert opinion just because they are considered an expert in 24 their field, and evaluating an expert's testimony and/or 25 resolve any conflicting expert witness's testimony you should</p>	<p>1 any departments at Penn State?</p> <p>2 A Yes. Form a number of years I was in charge of 3 the environmental pollution control program which was masters 4 program at Penn State which was a multi disciplinary program.</p> <p>5 Q And have you had teaching positions at any 6 other universities or institutions?</p> <p>7 A Yes, prior to coming to Penn State I was on the 8 faculty at the University of Delaware in the agricultural 9 engineering department for five years.</p> <p>10 Q Do you have any experience that you feel is 11 particularly relevant to the manner -- to this matter?</p> <p>12 A Yes. I retired from Penn State about four and 13 a half years ago. But I've stayed active on their wastewater 14 management committee. Now Penn State has a system called the 15 living filter where they spray, irrigate they're treated 16 effluent and they have for over 50 years and it's about 600 17 acres they spray their effluent on to cropped areas as well as 18 forested areas.</p> <p>19 Q Have you conducted any -- or participated in 20 any research studies that you feel are relevant to this matter, 21 particularly relevant?</p> <p>22 A Yes. In 2019 there is a publication in the 23 C.V. where we looked at pharmaceuticals in private water wells. 24 26 in the West Branch of the Susquehanna water basin and so we 25 were looking at whether there were pharmaceuticals in the</p>
<p>1 R O U G H D R A F T</p> <p>118</p> <p>1 consider the following: The witness's knowledge, skill, 2 experience, training, and education. And whether you find 3 that the fact the witness relied upon in reaching their 4 opinion are accurate and all of the believability factor I 5 gave you concerning all witnesses earlier in this trial.</p> <p>6 So go ahead, Mr. Lacks.</p> <p>7 MR. LACKS: Thank you, Your Honor.</p> <p>8 Q Just to give the jury a sense of your 9 background, even know you've not now been admitted around as an 10 expert. Could you tell us about your educational history 11 briefly?</p> <p>12 A Yes, I have an under graduate degree in 13 chemical engineering which I got in 1972. Then I spent two 14 years in US army in the medical service corp and I went to 15 graduate school and got a masters and Ph.D. from civil 16 engineering department but in the area of environmental 17 engineering.</p> <p>18 Q Where was that?</p> <p>19 A At the University of Delaware.</p> <p>20 Q And can you tell us a little about your 21 teaching career at Penn State?</p> <p>22 A Yes. I taught in the water and soil area for 23 25 years. I taught a course called land based waste disposal. 24 And I also taught water quality chemistry.</p> <p>25 Q Did you have any leadership positions within</p>	<p>120</p> <p>1 R O U G H D R A F T</p> <p>1 drinking water wells</p> <p>2 Q Generally speaking when did you and your 3 colleagues find as part of that study?</p> <p>4 A We found of the 26 wells tested all of them had 5 at least one pharmaceutical. We looked for Tylenol, we looked 6 for Naproxen, which is Aleve, we look for caffeine as well as 7 for antibiotics.</p> <p>8 Q And were you able to determine a source or an 9 origin of the pharmaceuticals?</p> <p>10 A We were -- the conclusion was that they must 11 have come from nearby septic systems.</p> <p>12 Q Now are you familiar with the Pennsylvania 13 Department of Environmental Protection food processing 14 residuals management manual?</p> <p>15 A Yes.</p> <p>16 Q And were you involved in the preparation of the 17 manual?</p> <p>18 A I was -- I reviewed the manual.</p> <p>19 Q How did you come to be a reviewer?</p> <p>20 A Well, it was authored by Dr. Brandt and he was 21 in my department.</p> <p>22 Q How long have you known Dr. Brandt?</p> <p>23 A Probably 40 years.</p> <p>24 Q And what did you do as a reviewer? La types of 25 things?</p>

<p style="text-align: right;">121</p> <p>1 A It was basically to look at the document to 2 make sure that it was technically and scientifically sound. 3 Q And do you remember when the manual was 4 written? 5 A The first manual want to say I think published 6 in 1992. 7 Q And do you recall when it was last updated? 8 A I think it was updated by the DEP in the late 9 '90s. 10 Q And have you consulted the FPR manual over the 11 years as part of your work? 12 A Could you repeat that. 13 Q Have you reviewed or consulted the manual as 14 part of your work over your career? 15 A Yes. I've used that manual. 16 Q Now, do you have an understanding as to why the 17 Department of Environmental Protection developed the formula 18 manual? 19 A Yes. It was basically a group of the food 20 processors and the DEP as well as an he educational institution 21 at experts came together. It was a great need because there 22 were in fact regulations for things like land application of 23 biosolids. And there were guidelines for manure application. 24 But there was really no set of management guidelines for food 25 processing residuals. And Pennsylvania has many food</p>	<p style="text-align: right;">123</p> <p>1 A The FPR manual is to provide -- it's a guidance 2 manual that food processor can use in their land application 3 activities. 4 Q Are the directives or is the information in the 5 FPR manual considered to be mandatory in your experience? 6 A It's advisory in nature. 7 Q We looked at some of the FPR manuals 8 introductory language, statement of purpose, definitions with 9 Dr. Grobbl so I won't retread that ground. 10 Generally speaking, though, is a farmer or 11 other operator who wishes to land apply FPR in Pennsylvania 12 required by the manual to obtain a permit. 13 A No. 14 Q Are there circumstances when a farmer or other 15 operator could be required to obtain a permit to apply FPR? 16 MR. NIDEL: Objection. Calls for a legal 17 conclusion. 18 MR. LACKS: According to the manual. 19 A Oh. 20 A Yes. 21 THE COURT: Overruled. 22 A Yes. 23 Q Do you understand the question? 24 A Repeat the question. 25 Q Are there circumstances according to the FPR</p>
<p style="text-align: center;">R O U G H D R A F T</p> <p style="text-align: right;">122</p> <p>1 processors. So the food processors did not want to go through 2 to have say permits, like would be required for land 3 application of other materials. And the DEP was also getting 4 you know complaints from people and so we want to continue to 5 have a set of guidelines that could formalize a set of 6 management practices so that food processors would know how to 7 land apply these materials in an environmentally sound way. 8 Q To be clear, were food processors generating 9 food processing residuals before the manual was developed in 10 the earlier '90s? 11 A Yes. 12 Q Were farmers applying food processing residuals 13 as a fertilizer or soil conditioner before the manual was 14 written? 15 A Yes. 16 Q For how long has that practice been going on in 17 Pennsylvania? 18 A Probably as long as the food processors have 19 been generating residuals. 20 Q Decades? 21 A Yes. 22 Q Decades before the early '90s? 23 A Yes. 24 Q What's your understanding of the objective of 25 the FPR manual?</p>	<p style="text-align: center;">R O U G H D R A F T</p> <p style="text-align: right;">124</p> <p>1 manual when a farmer or other operator could be required to 2 obtain a permit in order to land apply? 3 A Yes. 4 Q Who decides whether a permit is or is not 5 required? 6 A That would be the department. 7 MR. NIDEL: Objection. Calls for a legal. 8 BY MR. LACKS: 9 Q According to the manual? 10 A Department of Environmental Protection. 11 THE COURT: Overruled. 12 BY MR. LACKS: 13 Q One aspect of the manual that I would like to 14 ask you about is the hierarchy that we've seen before. I put 15 it up herein. You can feel free to step off of stand if you 16 need to be able to see it. 17 Are you familiar with this diagram. 18 A I am. 19 Q And can you describe what it is? 20 A It's basically a logical progression for 21 dealing with food processing residuals in order to maximize the 22 benefit of those materials. 23 Q Does this diagram appear in the FPR manual? 24 A It does. 25 Q Can you explain to the jury just generally what</p>

1 is depicted on the left-hand side of the diagram?

2 A Those are different options. And it's a
3 hierarchy. So the top option would be a preferred option which
4 says recycle for human use is that what it says?

5 Q You can feel free to stand up.

6 A Recovery for human use. If we had a food
7 processing residual and there was something in it that we could
8 use for humans, we would. An example might be aortic valves
9 from pigs, if they could transplanted into humans. That is
10 something we wouldn't want to further down the hierarchy.

11 Q To be clear, the hierarchy doesn't just address
12 the type -- does the hierarchy only address the type of FPR
13 that's generated at Nicholas Meat?

14 A No. It's very general.

15 Q What is the next most beneficial use after
16 recovery for human use?

17 A It would be recovery for animal use.

18 Q What might that include?

19 A Well, for example taking material that's not
20 going to go into the final product and send it to rendering,
21 for example.

22 Q Okay. Any other examples that come to mind?

23 A Well, since it's somewhat connected with the
24 next one which is apply the material to the land because if
25 you're growing crops that are refed to the animals that in a

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1 sense would be using the material for animal use.

2 Q And you mentioned the next one. Can you
3 identify what the third category is on the hierarchy?

4 A That would be recovery of the benefits of
5 nutrients and organic matter for improving soil conditions.

6 Q And what is -- what are the last two that are
7 at the bottom of the hierarchy?

8 A The last two are basically discarding the
9 material. Either into a conventional landfill or a hazardous
10 waste landfill. It is it was a particular material that met
11 the requirements of a hazardous waste under Federal
12 regulations.

13 Q When you talk about benefit of these different
14 uses, is it only the benefit to the processor that's being
15 considered?

16 A No. It's the benefit to -- for example, the
17 humans, the animals, the soil. Those would be other benefits.

18 Q What about to the environment?

19 A To the environment, too, because you want to
20 make sure you do this in an environmentally sounds way.

21 Q So why is disposal in a landfill or a hazardous
22 waste management facility at the bottom of the hierarchy?

23 A In a sense that's wasting the useful material.
24 And also if you put things in a landfill there is a potential
25 for methane generation was a greenhouse gas. Essentially

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1 that's discarding the useful material which is something we
2 want to repurpose and reuse and recycle materials as much as we
3 can.

4 Q Thank you.

5 Are you familiar with Nicholas Meats'
6 operation?

7 A I am.

8 Q And when did you first become aware of Nicholas
9 Meat?

10 A Could you repeat that yes.

11 Q Sorry. When did you first become aware of
12 Nicholas Meat?

13 A 2015.

14 Q In what context did you become aware of
15 Nicholas Meat?

16 A I was engaged to provide expert testimony on a
17 previous lawsuit.

18 Q Have you ever visited Nicholas Meat's facility
19 in Loganton?

20 A I have.

21 Q How many times?

22 A I think five times.

23 Q And are you familiar with Nicholas Meat's
24 operation?

25 A Yes.

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1 Q Are you aware of it from those visits that
2 you've made?

3 Q We've heard from a number of people over the
4 course of this trial what Nicholas Meats does at its facility
5 so I'm not going to ask that.

6 Can you describe your understanding of what is
7 in the FPR that Nicholas Meats generates

8 A Yes, it's a material that is a nitrogen source.

9 So it's basically the wastewater that generated in the
10 processing of the meat as well as the wash water. They
11 typically wash the facility down every night, and so there's
12 wash water where they clean the equipment, et cetera. And
13 that's part of the wastewater as well.

14 Q Did you prepare a written report as part of
15 this case?

16 A I did.

17 Q I'm going to hand you what's been marked as
18 Exhibit D 28. Do you recognize Exhibit D 28.

19 A I do.

20 Q What do you recognize it to be?

21 A This is our joint report with myself and Dr.
22 Brandt.

23 Q And in your report, did you describe the
24 contents of the FPR as you understand it?

25 A

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1 MR. NIDEL: Objection. Leading.
 2 THE COURT: Overruled.
 3 MR. LACKS: I just asked if he described.
 4 THE COURT: You can answer.
 5 A Would you repeat the question.
 6 BY MR. LACKS:
 7 Q Do you recall if you described the percentage
 8 of FPR that is comprised of blood as part of your report?
 9 A I did.
 10 Q And do you remember what you wrote or what you
 11 wrote about that?
 12 A Yes. I concluded from not only looking at the
 13 total wastewater generated and the amount of blood in each of
 14 the roughly 620 head per day, that they process as well as the
 15 BOD, which is the strength of the wastewater. I concluded
 16 that blood represented 2 to maybe 4 percent of the FPR.
 17 Q Now is Nicholas Meat the only beef producer in
 18 Pennsylvania that you know of that generates FPR?
 19 A No.
 20 Q Is it common?
 21 A Yes.
 22 Q And based on your knowledge, is the composition
 23 of Nicholas Meats FPR typical for other beef processing
 24 operations?
 25 MR. NIDEL: Objection. Foundation.

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1 THE COURT: Probably lay a foundation.
 2 MR. LACKS:
 3 Q Are you familiar with the FPR content of other
 4 beef processors?
 5 A Yes.
 6 Q And based on that, is the composition of
 7 Nicholas Meat's FPR, is it your understanding that the
 8 composition of Nicholas Meats FPR is typical of other beef
 9 processing operations that you've educated yourself about?
 10 A It would be typical of those that process beef
 11 in the same way that Nicholas Meats does.
 12 Q To your knowledge, are there any large solids
 13 or cow body parts in in FPR?
 14 A No.
 15 Q To your knowledge, is there any human sanitary
 16 waste mixed in with Nicholas Meat's FPR?
 17 A No.
 18 Q I also want to ask about your knowledge of the
 19 other defendant in this case, Nicholas Farms. Are you familiar
 20 with farms?
 21 A To some minor extent.
 22 Q And what did you first become aware of Nicholas
 23 Farms?
 24 A Well they're part of the -- they own some of
 25 the fields that are used for application of the FPR.

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1 Q Are you familiar with Gene Nicholas?
 2 A Yes.
 3 Q And have you ever visited Gene Nicholas's farm
 4 fields that are subject of this case, F1 F2 F3 SN1 SN2 SN3?
 5 A I have.
 6 Q Have you personally observed the land
 7 application of FPR on fields?
 8 A I have.
 9 Q And approximately when did you do that?
 10 A I think it was June of 2024.
 11 Q And just generally speaking, what do you recall
 12 about the composition of fields in relation to the surrounding
 13 properties?
 14 A
 15 MR. NIDEL: Objection objection to form.
 16 A Could you can clarify the question.
 17 THE COURT: Overruled.
 18 MR. LACKS:
 19 Q Do you recall anything about the composition of
 20 the field in relation to the surrounding properties in terms of
 21 distance, things likes that?
 22 A I'm not sure what the question is.
 23 Q Did you see crops growing on the fields?
 24 A Yes.
 25 Q Based on your understanding of both Nicholas

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1 Meat's operation and what you've seen at Nicholas Farms, as
 2 well as the FPR manual, do you have an opinion as to where on
 3 the hierarchy Nicholas Meats and Nicholas Farms application of
 4 FPR would situate?
 5 A Yes. It would be in the sense of combination
 6 of the third -- of the second and third option. One, their
 7 recovering as a soil condition and fertilizer but they are
 8 growing crops that are being refed -- being fed to the animals,
 9 as well.
 10 Q So would you agree with me writing Nicholas
 11 somewhere in between those two on the hierarchy?
 12 A In between or collectively both of those.
 13 Q According to this hierarchy that's set forth in
 14 the manual, is Nicholas Meat's use more or less beneficial than
 15 sending FPR to a landfill or wastewater -- or sewage treatment
 16 facility?
 17 A It's more beneficial.
 18 MR. NIDEL: Objection.
 19 THE COURT: What's the objection?
 20 MR. NIDEL: Beneficial to food.
 21 THE COURT: Rephrase.
 22 BY MR. LACKS:
 23 Q According to the hierarchy is Nicholas Meat's
 24 use of FPR more or less beneficial to processors and the
 25 environment than sending it to a landfill or a waste management

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1 facility?
 2 MR. NIDEL: Objection. Compound.
 3 THE COURT: Overruled. You can answer.
 4 MR. LACKS:
 5 A What they are doing gets more benefit from the
 6 FPR than sending it to a landfill.
 7 BY MR. LACKS:
 8 Q Does the FPR manual, to your understanding,
 9 define the term normal farming operation?
 10 A Yes.
 11 Q Do you recall what that definition is? We can
 12 bring it up if not.
 13 A It's in the report, the actual definition, I
 14 believe.
 15 MR. NIDEL: We're going to object, Your Honor.
 16 It's possible we should have a sidebar.
 17 THE COURT: Sure. Come on up. Talk among
 18 yourselves. Plan where you're going for lunch.
 19 (Discussion held at sidebar on the record.)
 20 THE COURT: What's the objection?
 21 MR. NIDEL: The objection that I was raising
 22 and now I'm distracted by another objection that's concerning
 23 me significantly. But the objection was the phrase normal
 24 agriculture operation is used in this manual. It's also a
 25 legal conclusion. Plaintiffs were prohibited from Dr. Grobbel

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1 are used interchangeable not just in the manual but in the
 2 law, and I think it is very prejudicial and confusing.
 3 THE COURT: Okay. Anything else.
 4 MR. LACKS: No, Your Honor. I would just say
 5 that the jury is not being asked to decide normal farming
 6 operation. I think Your Honor has broken those down in the
 7 verdict sheet which avoids them having to make that judgment.
 8 MR. NIDEL: I disagree, Your Honor.
 9 MR. LACKS: Avoid confusion.
 10 MR. NIDEL: The manual says if you do not
 11 comply with normal farming operations or normal agricultural
 12 operations you're required to have a permit. So there is some
 13 overlap with issues that the jury will have to decide.
 14 THE COURT: Disclosing your cross-examination
 15 way too quickly.
 16 MR. NIDEL: Sometimes I do that, Your Honor.
 17 THE COURT: You done.
 18 MR. LACKS: I'm done.
 19 THE COURT: Done.
 20 MR. NIDEL: No I'm not, Your Honor.
 21 My other concern he was handed exhibits that
 22 are highlighted. He's reviewing documents -- his report I
 23 believe has highlights.
 24 MR. LACKS: That was not intentional.
 25 MR. NIDEL: He was reviewing them with the

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1 testifying as to whether normal agriculture operation was
 2 because of the fact it could be interpreted as a legal
 3 conclusion. That phrase is used in this manual. Dr. Grobbel
 4 was prohibited from using phrase to describe whether he
 5 thought that this was normal or not. Now the defendants are
 6 back dooring the legal argument through this phrase that's
 7 used in the manual the same way Dr. Grobbel used it but was
 8 prohibited.

9 MR. LACKS: I think the distinction is Dr.
 10 Grobbel was talking about it in the context of the Right to
 11 Farm Act and normal farming operation, whereas this is Dr.
 12 Elliott talking about a different term as used in the manual
 13 which is well within his area of expertise.

14 THE COURT: What was the term that you were
 15 using.

16 MR. LACKS: I believe I said normal.

17 MR. NIDEL: Agricultural operation.

18 THE COURT: I thought he said normal farming.

19 MR. LACKS: I did say normal farming
 20 operation, I apologize, which is defined in the manual.

21 THE COURT: What else.

22 MR. NIDEL: We were trying to read that. They
 23 objected to that same phrase being used and I do think as we
 24 are all confused it is significantly confusing to the jury as
 25 to whether normal farming, normal agriculture, those phrased

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1 highlight looking at the highlights. That is totally
 2 inappropriate.

3 THE COURT: Do you want give him a different
 4 copy.

5 MR. LACKS: I will certainly do that. I
 6 apologize.

7 THE COURT: Go way.

8 MR. NIDEL: Can I see the exhibit that he was
 9 reviewing.

10 THE COURT: Do you have an objection.

11 MR. LACKS: No.

12 THE COURT: Go ahead. I'm going to talk to
 13 the jury.

14 We will talk about that at lunch.

15 Wait for her.

16 Ladies and gentlemen, I have some

17 clarification here. We talked about the Right to Farm Act.

18 And in the Right to Farm Act -- gentlemen -- there is a term
 19 normal agricultural operation. You're going to hear this

20 expert witness talk about normal farming operation has nothing
 21 to do with the Right to Farm Act at this point. So don't get

22 those confused. Okay. Go ahead, Mr. Lacks.

23 MR. LACKS: I'm concerned being accused of
 24 something I did not do and continue sidebar.

25 MR. NIDEL: We're reviewing of what was handed

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1 to the witness.
 2 THE COURT: Can you question him while they
 3 review and we can go at noon.
 4 MR. LACKS: That's fine
 5 Here is the replacement.
 6 THE COURT: We don't need comments, just look
 7 at it and you can give it to him.
 8 MR. NIDEL: A clean copy.
 9 It's still annotated.
 10 MR. LACKS: That's part of the original
 11 report. You can look at your copy.
 12 THE COURT: All right. Mr. Lacks, go ahead.
 13 MR. LACKS: I believe.
 14 MR. LACKS:
 15 Q I believe I had asked you if the FPR manual
 16 defines the term normal farming operation.
 17 A From the expert report, page 10, it says this
 18 term, that is, normal farming operations, refers to accepted
 19 practices that routinely used in the nurturing and production
 20 of agronomic, agricultural, horticultural, livestock, poultry
 21 or silvo culture commodities.
 22 Q Based on your understanding of Nicholas Meat's
 23 operation, your understanding of the FPR manual, do you have an
 24 opinion on whether Nicholas Meats generation of FPR and the
 25 application of FPR at the Nicholas Farm fields is a normal

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1 Q And does the FPR manual talk about the concept
 2 of best management practices?
 3 A Yes.
 4 Q What's your understanding of that concept?
 5 A The concept is practices that are ideal or at
 6 least good for improving the soil for crop production.
 7 Q And is it your understanding that someone who
 8 wishes to apply FPR is expected to implement all of the best
 9 management practices that are discussed in the FPR manual?
 10 A It's a guidance document.
 11 Q So is it your understand that they are expected
 12 to implement all of those best management practices?
 13 MR. NIDEL: Objection. Leading. Asked and
 14 answered.
 15 THE COURT: Overruled. I don't think he
 16 answered. Go ahead, Dr. Elliott.
 17 A No.
 18 BY MR. LACKS:
 19 Q Can you explaining why that is?
 20 A Because every practice is not particularly
 21 relevant to every operation.
 22 Q Is it is it possible for any operation applying
 23 FPR to implement every best management practice that's
 24 recommended in the FPR manual?
 25 A That's a hypothetical question. I can't

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1 farming operation?
 2 A It is my opinion that it is a normal farming
 3 operation.
 4 Q Can you explain why that is your opinion?
 5 MR. NIDEL: I'm going to preserve our
 6 objection to the discussion of normal farming operation.
 7 THE COURT: Overruled. Go ahead. You can
 8 answer the question, Dr. Elliott.
 9 A Because they are using a residual material for
 10 the growing -- for the improving of soil for growing crops.
 11 MR. LACKS:
 12 Q Did you also form an opinion on whether
 13 Nicholas Meats generation in pre-treatment of FPR facility is
 14 consistent with well run practices?
 15 A Yes.
 16 Q What is your opinion?
 17 A My opinion is that the way they process and
 18 pre-treat their wastewater is consistent with good practice.
 19 Q What's the basis for that opinion? What do you
 20 have in mind that you've seen that gives you a basis for that
 21 opinion?
 22 A Well they have screens, et cetera, to remove
 23 anything bigger than a quarter of an inch from the wastewater
 24 and then they have two tanks where they aerate the wastewater
 25 prior to putting it in trucks and taking it to the fields.

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1 answer.
 2 Q Did you also form an opinion on wether Nicholas
 3 Meat and Nicholas Farms implement best management practices
 4 with respect to their application of FPR?
 5 A Yes.
 6 Q And what is your opinion?
 7 A My opinion is that they are following best
 8 management practices.
 9 Q And how did you go about forming that opinion?
 10 A Looking at all the information that was
 11 provided to me.
 12 Q And did you also look at -- did you look at
 13 anything else in order to reach that opinion?
 14 A I'm not sure what you mean.
 15 Q Did you look at the manual?
 16 MR. NIDEL: Objection. Leading.
 17 A Yes.
 18 THE COURT: That was leading.
 19 MR. NIDEL: That was spoon fed.
 20 THE COURT: Okay.
 21 BY MR. LACKS:
 22 Q What are some of the -- what were some of the
 23 best management practices that you considered in forming the
 24 opinion that Nicholas Meat and Nicholas Farms implement best
 25 management practices?

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<p>1 A The things like setback distances, appropriate 2 application methods, and quantities.</p> <p>3 Q I want to unpack some of those. Well, are you 4 familiar with the fact that Nicholas Meat is engaging in 5 nutrient management planning?</p> <p>6 A Yes.</p> <p>7 Q And do you find that to be significant in terms 8 of your assessment of whether Nicholas Meat implements best 9 management practices?</p> <p>10 A Absolutely.</p> <p>11 Q And is having a nutrient management plan itself 12 a best management practice?</p> <p>13 A Yes.</p> <p>14 Q What kind of information do nutrient management 15 plans include?</p> <p>16 A Nutrient management plans are basically an 17 accounting for all of the nutrients that are in the material 18 and using them most appropriately as -- for crop production.</p> <p>19 Q Are you aware of whether Nicholas Meat samples 20 the FPR that it generates at its facility?</p> <p>21 A Yes.</p> <p>22 Q And what's -- what is your understanding of 23 what sampling Nicholas Meat does?</p> <p>24 A They sample the material at different intervals 25 either once a year before they do the nutrient management plans</p> <p style="text-align: center;">R O U G H D R A F T</p>	<p>141</p> <p>1 Q Have you also -- are you also familiar with the 2 history of DEP enforcement with respect to Nicholas Meats FPR 3 application practices?</p> <p>4 A Yes.</p> <p>5 THE COURT: All right.</p> <p>6 Do you want stop there before we get into that 7 area.</p> <p>8 Ladies and gentlemen, put your tablets and 9 pens away. I'm going to release you. And come back about 10 1:30. Don't discuss it, don't go to Loganton, don't do 11 anything you're not supposed to do. Anybody tries to talk to 12 you let us know. Remember about bringing your receipts back 13 or using the cards. So commissioners stay happy with us.</p> <p>14 Thank you very much. Have a good lunch. See 15 you at 1:30.</p> <p>16 (Whereupon, the jurors were escorted from the 17 courtroom.)</p> <p>18 (Time noted, 11:57 a.m.)</p> <p>19 THE COURT: Doctor, you can get down and 20 wander around or whatever you're going to do.</p> <p>21 THE WITNESS: Thank you.</p> <p>22 Are we going to do something now?</p> <p>23 MR. NIDEL: Yes, Your Honor.</p> <p>24 MR. LACKS: I told the doctor he can get down 25 from the witness stand. Go ahead.</p> <p style="text-align: center;">R O U G H D R A F T</p>
	<p>142</p> <p>1 MR. NIDEL: I don't have -- this is not about 2 -- well, this -- I mean, I don't know what to say. The 3 highlights on the first page.</p> <p>4 THE COURT: I don't have it so someone needs 5 to present it as an exhibit is we can get it into evidence and 6 then we can talk about it.</p> <p>7 MR. NIDEL: We certainly will do that. I was 8 trying to translate the highlights.</p> <p>9 THE COURT: Do you want do this when we come 10 back? We can do it at like 1:15 as opposed to now.</p> <p>11 MR. NIDEL: That might be --</p> <p>12 THE COURT: We'll be back. Be here about 1:10 13 so we can get this thing taken care of.</p> <p>14 MR. LACKS: Do you want me -- can I address 15 this now.</p> <p>16 THE COURT: He wants to read over.</p> <p>17 MR. LACKS: I understand that. But I've been 18 accused of lying which I did not lie or intentionally feed the 19 expert a highlighted copy and I would like to be able to 20 address that.</p> <p>21 THE COURT: Do you want to do it now. I don't 22 know -- I haven't heard any accusations. So you're responding 23 to accusations I haven't heard.</p> <p>24 MR. LACKS: Understood.</p> <p>25 THE COURT: I just think it would be better to</p> <p style="text-align: center;">R O U G H D R A F T</p>

1 say what they're actually going to say.

2 MR. LACKS: It's already been said to me. I
3 guess that's what I'm reacting to.

4 THE COURT: I can understand why you might be
5 a little upset but I don't know what you're upset about
6 because I don't have it in front of me. All right.

7 MR. LACKS: Yes.

8 THE COURT: 1:10 be back.

9 (Time noted, 12:00 p.m.)

10 (Luncheon recess.)

11 (Time noted, 1:15 p.m.)

12 THE COURT: Let the record reflect we're
13 convening. The jurors are not here. First thing I want to
14 know, Mr. Clark, you sent two people back from DEP. How many
15 witnesses out of those two are there?

16 MR. CLARK: Just one.

17 THE COURT: You scared me.

18 MR. CLARK: One is counsel.

19 THE COURT: I just wanted to say that.

20 MR. CLARK: Just one.

21 THE COURT: Who wants to talk? You want to
22 continue talk or they want to continue talk.

23 MR. LACKS: I'm happy to talk.

24 THE COURT: Do you want say anything.

25 MR. NIDEL: Other than I'm thoroughly

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1 sheet. And I only found it because we were at the sidebar and
2 I saw it and the sanction I think is appropriate that they
3 don't have the benefit of his testimony. I don't know what
4 other witnesses might have had similar highlighting on their
5 documents that they were handed. I didn't look that closely.

6 THE COURT: Anything else.

7 MR. NIDEL: That's all, Your Honor.

8 THE COURT: Your turn.

9 MR. LACKS: Thank you, Your Honor. I can
10 clear up the misunderstanding and I'm happy to do so. Myself
11 and Mr. Clark, we have highlighted versions of key documents
12 in our binders including the expert report helps me keep on
13 track of the points I want to hit during the examination, help
14 me find things I'm trying to find. In the course of printing
15 a set of documents for the witness that we put in the red
16 well, the person who printed that report printed the document
17 that had the highlighting. I was not aware of that. I should
18 have checked it this morning. I take full responsibility from
19 that. It was not intentional. It was not some part of some
20 scheme. The fact the highlighting is on the first page should
21 be a very clear signal it was to the not intentional because
22 as we know Mr. Nidel spends most of his examinations right
23 next to the witness and if we had been trying to hide the
24 highlight it would have been a pretty stupid way to do it to
25 highlight the first page. And I understand he has a very low

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1 appalled.

2 THE COURT: Go ahead. You go first.

3 MR. NIDEL: Your Honor, the witness was
4 provided a copy. Marked up with highlights and underlines.
5 It's not three hole punched. It's not the copy he's been
6 given that's 250 pages. With three hole punch which clearly
7 came from their file of exhibits. His copy was highlighted
8 starting on the front page with under lines for emphasis. I
9 don't know -- I've never encountered such a thing in
10 deposition, in court. It's appalling. It's not -- facts show
11 it can't have been a mistake.

12 THE COURT: Do you want to hand it me so I can
13 look at it. This is D 28.

14 MR. LACKS: Yes.

15 THE COURT: What relief are you asking for,
16 Mr. Nidel? Go away.

17 MR. NIDEL: Sorry.

18 THE COURT: There is no need for you to be up
19 here.

20 MR. NIDEL: I understand, Your Honor. I
21 apologize.

22 THE COURT: What's the relief?

23 MR. NIDEL: I think that the witness's
24 testimony should be struck and we should move on. Had I not
25 seen this at all, we would have gotten through with a cheat

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1 opinion of my character by knowing virtually nothing about me,
2 but I would like to think he has a higher opinion of my
3 intellect than to think I would be so stupid to do that. As
4 for the underlines, I didn't underline the documents. I
5 suspect the witness when we were at sidebar may have done
6 that. I'm not sure.

7 I'm not a liar and I didn't do it
8 intentionally and I don't appreciate being accused of that in
9 open court in front of the jury, and there have been other
10 times over the course of trial we have observed things from
11 the other side we thought were questionable and in those
12 circumstances we've talked to the lawyer face-to-face outside
13 the presence of the jury, outside the presence of the judge.
14 We got an explanation. We took the explanation at face value
15 and that was the end of it and I would have appreciated if the
16 same courtesy was extended to me that we have extended to
17 them.

18 MR. NIDEL: Your Honor, if I may.

19 THE COURT: Sure.

20 MR. NIDEL: I don't believe I've accused
21 anyone of lying. I do not see how the facts are consistent
22 with what's being said. I don't see that at all. In fact the
23 underlining is done in acrobat. It's electronic highlighting.
24 So now we're hearing a new story that the witness underlined,
25 but the underlining is electronic. It's embedded in the

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1 document. We've heard they have witness binder but the
 2 witness binders are three hole punch. That's the type of
 3 paper now at the witness stand. That's not what was handed to
 4 the witness. As far as me having seen it I don't know if I
 5 would have seen it or not but certainly the attorney walking
 6 up to hand it to the witness would have seen the highlighting.
 7

8 I have no opinion of Mr. Lacks' character. I
 9 have opinion as to whether this was appropriate to hand to the
 10 witness and to conduct an examination with him having this in
 11 his hand and clearly when we were up at Your Honor's sidebar,
 12 he was refreshing his recollection as to those highlights as
 13 we were being distracted.

14 MR. LACKS: Can I respond?

15 THE COURT: Yeah.

16 MR. LACKS: I was accused of being liar. I
 17 wrote it down he said you're a liar it was intentional and he
 18 stared at me menacingly.

19 THE COURT: Okay. I'm not going to referee
 20 language between you two. I'm disappointed it wasn't brought
 21 to sidebar immediately but that's beside the point. The Court
 22 is going to mark the document you gave me, Mr. Nidel, as court
 23 D 28 A. I'll have the reporter mark it here in a second. The
 24 Court is going to deny the motion to strike testimony.

25 I note that the witness was only testifying
 26 for a half hour, probably what's going to be several hours of

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1 testimony. And any harm that may have came from the
 2 highlighting is very small in the Court's opinion at this
 3 point. And that the defense counsel could do this -- could
 4 have handed it to him while he was waiting up in the gallery
 5 here and waited for him to get on the stand. To give him a
 6 highlighted sections. That's the Court's ruling. You wanted
 7 to do -- we'll do the exhibits later if they're all here.

8 MR. NIDEL: We can do the exhibits later, Your
 9 Honor. I'm not sure that the Exhibit D, I'm not sure of the
 10 number -- but as far as the highlights, we would not ask that
 11 they become an exhibit in evidence.

12 THE COURT: They're going to go into evidence
 13 but they're not going out with the jury. I just want it
 14 known. If you want to complain about it at the higher court
 15 it's in.

16 MR. NIDEL: Okay. I appreciate that, Your
 17 Honor. And I would request permission to use that as part of
 18 cross, as well.

19 THE COURT: Use what, the highlighting.

20 MR. NIDEL: Yeah, the version, yeah.

21 THE COURT: Position?

22 MR. LACKS: I mean, it's the report. It's
 23 sections of the report. You can cross him on the report. I
 24 don't really have a problem with it.

25 THE COURT: Okay.

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1 MR. NIDEL: Thank you, Your Honor.
 2 THE COURT: I'm going to check on the jury
 3 because I told them not to be back until 1:30. If they're
 4 here early we can start early. And you're still on direct.
 5 MR. LACKS: Yes.

6 THE COURT: We were at DEP when we quit. I
 7 didn't want you to go any further.

8 MR. NIDEL: Your Honor, I don't know if
 9 they're coming back. I just wanted to make sure Mr. Karschner
 10 and his counsel have sequestered.

11 THE COURT: They are in the smaller courtroom.
 12 So they'd be away to from everybody.

13 Ms. Pritchard do you want mark that as court
 14 exhibit D 28 A.

15 The jury is here so they'll be coming in.

16 They got back early. They didn't want to frolic in the snow.

17 Doctor, you want come back down.

18 (Whereupon, the jurors were escorted court
 19 into the courtroom.)

20 (Time noted, 1:26 p.m.)

21 THE COURT: Ladies and gentlemen, thank you
 22 for getting back early. We're going to get started. Dr.
 23 Elliott is or not stand. Mr. Lacks will be continuing his
 24 direct examination on behalf of the defendants. I've checked
 25 checked with the court reporter. He told me by the time we

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1 get out of here there will be nothing on the roadway. It's
 2 supposed to get warmer and I said thank you because I don't
 3 want to go home and shovel and do my driveway.

4 Go ahead, Mr. Lacks.

5 MR. LACKS: Thank you, Your Honor.

6 Good afternoon, Dr. Elliott.

7 A Good afternoon.

8 Q Before the break we were talking about your
 9 opinion that Nicholas Meat implements best management
 10 practices. Do you recall that?

11 A Yes.

12 Q I think we had gotten up to the fact that as
 13 part of your analysis you reviewed certain activity by the
 14 department of environmental protection, correct?

15 A Yes.

16 Q Try to keep your voice close to the mic.

17 What did you find from your review of the DEP
 18 activity with regard to Nicholas Meat.

19 A You -- I need to be -- you need to be more
 20 specific, I think, in terms.

21 Q Did you see any enforcement actions by the
 22 DEP?

23 A No. NOV's but no enforcement actions.

24 Q Can you explain your understanding of the
 25 difference between an NOV and an enforcement action by the

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1 DEP?

2 A An NOV, notice of violation, means that there's
3 something amiss in what they're doing, but it doesn't rise to
4 the level where they need to cease operation.

5 Q And what did you take -- how did the lack of
6 enforcements activity beyond NOV's influence your opinion about
7 whether or not Nicholas Meat is implementing best management
8 practices?

9 A With the.

10 A The fact that an incident doesn't go beyond an
11 NOV, to me, indicates that the seriousness is not of the nature
12 where they would need to cease operation.

13 A Stop doctor when there is an objection. Piece
14 stop.

15 MR. NIDEL: Objection to foundation. Calls
16 for speculation.

17 THE COURT: You agree he's an expert. So I'm
18 going to leave him. Go ahead, give his opinion. Overruled.

19 MR. LACKS:

20 Q Were you finished with your answer?

21 A Yes.

22 Q Now, with regard to your opinion that Nicholas
23 Meat implements best management practices, did you assess
24 whether or not Nicholas Meat applies FPR with regard to the
25 agronomic needs of the soil?

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1 A Yes.

2 Q And what did you determine about that?

3 A That they are following standard agronomic
4 practices with their FPR.

5 Q And what was your basis for reaching that
6 determination?

7 A I spot check some of the nutrient management
8 plans.

9 Q You were herein in the court when Dr. Grobber
10 testified, right?

11 A Yes.

12 Q And do you remember that are that Dr. Grobber
13 testified that in his opinion, Nicholas Meat does not implement
14 best management practices because it over applies FPR without
15 regard to the agronomic needs of the soil. Do you recall that?

16 A I couldn't hear quite good enough when I was
17 sitting back there, but.

18 Q But did you get the gist of his opinion?

19 A Yes.

20 Q And what's your response to that?

21 A I would disagree with that opinion.

22 Q There's been a lot of discussion over the
23 course of this trial about the GAL 9,000 gallons per acre
24 number. Are you familiar with that?

25 A Yes? Is there anything you're aware of in the

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1 FPR manual that prohibits farmers from exceeding 9,000 gallons
2 per acre in the course of a single application.

3 A No

4 Q What's your understanding of the 9,000 gallons
5 per acre number?

6 A The 9,000 gallons per acre was based on a
7 typical soil, and not exceeding basically infiltration
8 capacity. And 9,000 gallons is a third of an inch.

9 If you were to cover an acre with an inch of
10 water that would be 27,000 gallons. So 9,000 gallons is a
11 third of an inch.

12 Q When you said that -- the origin of the
13 9,000 gallons per acre number, was that created in regard to
14 FPR originally?

15 A No.

16 Q How did it come about?

17 A It was based on soils.

18 Q Other -- was it created in regard to other
19 substances applied to soils?

20 A Yes. It's in the manure management manual.

21 Q Understood.

22 Dr. Grobber also expressed the view that the
23 lack of crop yield records suggests that Nicholas Meat is not
24 -- Nicholas Farms are not implementing best management
25 practices. Are you familiar with that?

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1 A No, but I'll respond to it.

2 Q Is there anything in the FPR manual that you're
3 aware of that required a farmer to maintain crop yield records?

4 A No.

5 Q Based on your understanding of best management
6 practices, would an error in a nutrient management plan
7 disqualify or mean that an operator is not engaged in best
8 management practices?

9 A No, there is an unintentional error.

10 Q Dr. Grobber also referred to the fact that
11 Nicholas Meat has applied FPR in rain or on snow covered
12 ground. Do you recall that?

13 A Yes.

14 Q Does that suggest -- does the fact that
15 Nicholas Meat may apply FPR in the rain or on snow covered
16 ground, does that mean it's not implementing best management
17 practices in your opinion?

18 A Not necessarily.

19 Q Why do you say that?

20 A The definition of rain can vary, you know, from
21 a mist to a downpour. There are conditions under which you can
22 apply with concern kinds of equipment on snow covered soil.

23 Q And do you have any understanding of whether
24 Nicholas Meat is permitted to apply on snow covered soil
25 currently?

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1 A They are per the agreement, I believe, of what
 2 was it 2019 that if they use that equipment, the bazooka
 3 injector which is designed to apply materials underneath the
 4 soil.

5 Q What's your understanding as to who that
 6 agreement is with?

7 A I thought it was between the DEP and Nicholas
 8 Meats.

9 Q That's what I just wanted to clarify. DEP.

10 A Right.

11 Q Dr. Grobbl has also stated that in his view
 12 Nicholas Meat does not do enough to prevent odor from the FPR;
 13 are you familiar with that?

14 A Yes.

15 Q And what is your view on that?

16 A They have a number of practices that actually
 17 reduce odors.

18 Q And what are some of those practices?

19 A Well, they are aerating their wastewater and as
 20 well as applying very close to the surface of the soil which is
 21 a technique that reduces odor emissions.

22 Q In your opinion does the fact that FPR, that
 23 Nicholas Meat applies, does the fact that that FPR gives off an
 24 odor necessarily mean that Nicholas Meat is not implementing
 25 best management practices?

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1 A No. Most agricultural residues have an odor.
 2 Q So to sum up based on your knowledge and
 3 experience, do you consider the defendants' generation and land
 4 application of FPR to be adhering to best management practices
 5 as set forth in the FPR manual?

6 A Yes.

7 Q And is that your opinion to a reasonable degree
 8 of professional certainty?

9 A Yes.

10 Q The only other topic I want to cover with you
 11 briefly is a couple of the opinions from Dr. Grobbl's report
 12 that you reviewed?

13 Q First of all how did you go about analyzing
 14 Dr. Grobbl's opinions about groundwater contamination.

15 A Well I read his opinion and then based on my
 16 knowledge I responded accordingly.

17 Q Did you review any documents in addition to his
 18 report?

19 A Yes. I reviewed all of the water quality data
 20 in the evidentiary material.

21 Q Did you review any outside studies?

22 A Yes.

23 Q Which ones did you review?

24 A There's one in particular that's in my expert
 25 report. I think it's by Aschebrook-Kilfoy et al, 2012. It was

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1 a study of -- it in Lancaster, Chester and Lebanon County where
 2 they evaluated about 3600 groundwater -- well water samples.
 3 Q And you were here when Dr. Yoxtheimer was
 4 testifying. Do you recall he referenced studies by USGS and
 5 the Pennsylvania Department of Environmental Resources?

6 A Yes.

7 Q Did you review those studies, as well?

8 A Yes. The 1983 study.

9 Q And the USGS study?

10 A In 2020, yes.

11 Q Are you aware that Patricia Leigey reported
 12 having brown water coming through her faucets in 2019?

13 A Yes.

14 Q We saw photos of those during this trial?

15 A I haven't seen the photos.

16 Q And are you aware that Dr. Grobbl has opined
 17 that presence of the brown water supports his opinion that

18 Plaintiffs' groundwater was contaminated by FPR. Are you aware
 19 of that?

20 A I don't recall that in his report.

21 Q Did you come to any opinions about what may
 22 have caused it had offed the brown water?

23 A Very typical for groundwater wells particularly
 24 deep groundwater wells to have water iron. In fact the
 25 Department of Health report indicated that 42 percent of

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1 groundwater wells Clinton County had iron above the secondary
 2 maximum contaminant level, which is .03 parts per million.

3 Q Why would the presence of iron in the water
 4 appear brown?

5 A When it's deep underground it's under
 6 anaerobic conditions, so the iron happens to be in a form
 7 that's soluable. When that water is brought to the surface and
 8 exposed to oxygen, it converts from iron 2 to iron 3 which
 9 participate and is a brown

10 Q Now, did you also study the nitrate
 11 concentrations in Plaintiffs' water sampling data?

12 A Yes.

13 Q Just so we can all understand, what, in your
 14 opinion, or in your understanding is the significance of
 15 nitrate concentrations when it comes to evaluating potential
 16 water contamination by FPR?

17 A Well, nitrate there is a Federal drinking water
 18 standard of 10 milligram per liter as nitrate nitrogen. It is
 19 protecting a very vulnerable part of the demography and that's
 20 neonates, infants of under roughly six months of age because
 21 they're gastric juices aren't totally formed. That nitrate is
 22 converted to nitrite which impacts the iron in the hemoglobin.
 23 It prohibits them caring oxygen and so it's called the blue
 24 baby syndrome. The child turns blue.

25 Q We've heard various forms of potential

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1 contamination during this year trial. There's been references
 2 to certain bacterias, like E. Coli and total coliform. Are you
 3 aware of that?

4 A Yes.

5 Q There's been references to the nitrate
 6 concentrations. Are you of that?

7 A Yes.

8 Q Of throws which do you consider most
 9 significant in trying to determine if FPR may be causing
 10 contamination?

11 A I would guess E. Coli.

12 Q Why is that?

13 A Because E. Coli.

14 MR. NIDEL: Objection. These are not opinions
 15 that were disclosed in his report.

16 MR. LACKS: That's fine. I can move on.

17 THE COURT: Okay.

18 BY MR. LACKS:

19 Q Sticking with the nitrate concentrations. If
 20 it were the case that defendants FPR was impacting Plaintiffs'
 21 wells what would you expect see with respect to the nitrate
 22 levels?

23 A If it was a sustained application program where
 24 the nitrogen was being over applied, I would expect the nitrate
 25 levels to be above the drinking water standard.

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1 Q Could you turn to page 17 of your report?
 2 Do you see anything in the first paragraph
 3 that references sampling from one of the Plaintiffs' wells in.
 4 MR. NIDEL: Objection. Leadings.

5 MR. LACKS: I'm trying to refresh his
 6 recollection what's in his report.

7 MR. NIDEL: He said he didn't recall anything
 8 and now he's being shown a document and taken to a page.

9 MR. LACKS: It's his report.

10 MR. NIDEL: It's his report. It's hearsay.
 11 THE COURT: You can refresh someone's
 12 recollection with hearsay. Go ahead.

13 MR. LACKS:

14 Q Do you see anything on page 17 that references
 15 sampling data of one of the Plaintiffs' wells in the 1983
 16 study?

17 A Yes. There is one sample from the DER report
 18 of 1981 in June, I believe, of the well designated C N 284 for
 19 Clinton County, 284, for Patricia Leigey's well.

20 Q That's the well at 1256 East Valley Road?

21 A Yes.

22 Q What was the nitrate concentration measured in
 23 that sampling?

24 A 4.18 milligrams per liter nitrate nitrogen.

25 Q Do you recall -- well, you can try to do it

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1 Q So above 10?

2 A Above 10.

3 Q In looking at all of the data that was provided
 4 to you from the plaintiffs' well sampling data what did you
 5 actually see?

6 A There is one well water sample of 10.7
 7 milligrams per liter nitrate nitrogen.

8 Q Do you remember how many other sampling results
 9 you reviewed from plaintiffs?

10 A There's about nine others, I believe.

11 Q And you looked at the 2020 in 1983 studies as
 12 well?

13 A Yes.

14 Q And did those provide any information about
 15 nitrate concentrations that you took into consideration?

16 A Yes. The 1983 study I believe said that the
 17 median nitrate nitrogen level in the carbonate bedrock area was
 18 3.08, I believe. And the 2020 USGS reports for Clinton County
 19 said that the -- the median, the median nitrate nitrogen was
 20 3.26, I believe.

21 Q Did those studies also contain any data that
 22 was specific to any of the plaintiffs' properties in this case?

23 A I suspect that in the USGS study, they -- I'm
 24 not certain, but they may have in fact sampled Patricia
 25 Leigey's well.

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1 this way.

2 I want to walk through what the different
 3 nitrate concentrations levels were that you reviewed all
 4 together.

5 So we prepared-- to save time and spare the
 6 jury of my handwriting -- we prepared a list of various sample
 7 data. I'm going to ask if you reviewed those and what nitrate
 8 concentration was. Okay.

9 You've just testified about the testing.

10 MR. NIDEL: Your Honor. I have an objection.

11 THE COURT: What's the objection.

12 MR. NIDEL: He's pre-drafted something that he
 13 didn't show to us and now he's just shown it to the jury.

14 THE COURT: Do you want to take a minute and
 15 take a look at it.

16 MR. NIDEL: I can see it from here.

17 MR. LACKS: I didn't want the jury to see it.

18 MR. NIDEL: That ship has sailed.

19 THE COURT: Good to go.

20 MR. NIDEL: Yes, Your Honor.

21 THE COURT: Go ahead, Mr. Lacks.

22 THE COURT: Thank you, Your Honor.

23 BY MR. LACKS:

24 Q Dr. Elliott, just remind us what was the
 25 nitrate concentration as measured from Patricia Leigey's old

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1 well according to the 193 study when it was tested in 1981?
 2 A 4.18 milligrams per liter.
 3 Q And what was the median for the carbonate
 4 bedrock region according to the 1983 study?
 5 A 3.08, I believe.
 6 Q And then I believe you testified that your
 7 understanding is that the Patricia Leigey's well was then
 8 tested again as part of the 2020 USGS study?
 9 MR. NIDEL: Objection. Miss the states the
 10 witness's testimony. He's completely leading the witness.
 11 The witness couldn't recall if the well was tested and now
 12 he's just testified for him that it was tested so that he
 13 could get a number on his chart.

14 THE COURT: Rephrase. Go ahead and ask the

15 question.

16 BY MR. LACKS:

17 Q Do you have a recollection of whether Ms.
 18 Leigey's well was tested as part of the USGS study?
 19 A Yes. I don't think it was part of the original
 20 study. But, yes, it was tested.
 21 Q Did you review.
 22 A I did review it. It was about nine pages long.
 23 Q Did you review -- let me get the question out.
 24 Did you review sampling data from Patricia
 25 Leigey's old well when it was tested in 2017?

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1 A Yes.
 2 Q Do you recall what the nitrate concentration
 3 was when it was tested in July of 2017?
 4 A 10.7 milligrams per liter.
 5 Q So that's just above the 10?
 6 A Yes.
 7 Q EPA?
 8 A Yes.
 9 Q I want it in red.
 10 Do you recall if the well was tested again?
 11 A It was tested 27 days later and it was 9.03.
 12 Q And then do you remember what the median was
 13 for the Clinton County bedrock wells from the 2020 USGS study?
 14 A 3.26 milligrams per liter.
 15 Q And then you said you reviewed sampling data
 16 from the plaintiffs' wells as well. Do you recall reviewing
 17 sampling data from Patricia Leigey's new well in February of
 18 2020?
 19 A Yes. It was 0.91 milligrams per liter.
 20 Q And then did you review sampling data from
 21 Patricia Leigey's new well in November 2020?
 22 A Yes. It was 1.1 milligrams per liter.
 23 Q And did you review sampling data from Leanna
 24 Rockey well when it was tested in November 2020?
 25 A Yes. I believe it was 5 milligrams per liter.

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1 Q Did you review sampling data from Carolyn
 2 Leigey's well when it was tested in November of 2020?
 3 A Yes. It was 1.7 milligrams per liter.
 4 Q Carolyn Leigey's well?
 5 A Okay.
 6 MR. NIDEL: Objection, Your Honor.
 7 A That was 3.7.
 8 THE COURT: What's your objection?
 9 MR. NIDEL: He asked him what it was. The
 10 witness responded with an answer. And then he responded with
 11 a leading response, Carolyn Leigey's well.
 12 THE COURT: I don't think that's leading.
 13 Certainly telling him he didn't have the right number. I
 14 think the jury realizes that.
 15 MR. NIDEL: I hope they do.
 16 THE COURT: Go ahead, Mr. Lacks.
 17 BY MR. LACKS:
 18 Q Do you recall what the level was on Carolyn's
 19 Leigey's well when it was tested in November of 2020?
 20 A I believe it was 3.7.
 21 Q And lastly, do you recall what the nitrate
 22 concentration was in Patricia Leigey's new well when it was
 23 tested in August of 2021?
 24 A That one was 1.7.
 25 Q You just got the numbers?

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1 A Yes, transposed.
 2 Q I think that was pretty good memory given the
 3 amount of data.
 4 Looking at all of this in a row, what do you
 5 conclude about the nitrate concentrations that were measured
 6 at these various times and these various data points from
 7 plaintiffs as well as broader studies of the region.
 8 A Well, I would conclude that it is only one,
 9 that it's above the Federal drinking water standard.
 10 Q And what do you conclude as regards to the
 11 measurements from 2020 on?
 12 A They are all below the Federal drinking water
 13 standard.
 14 Q And how do though post 2020 results compare to
 15 the median for the broader region as part of those studies?
 16 A They are comparable or lower.
 17 Q MR. LACKS: Thank you.
 18 A And what does that tell you or what do you
 19 take away from that with regard to the likelihood or the
 20 possibility that it's defendants FPR that is contaminating the
 21 plaintiffs' wells as asserted or as opined by Dr. Grobbel.
 22 A There's really insufficient evidence to draw
 23 the conclusion that Dr. Grobbel drew. If one wants to
 24 determine if a particular processor activity has affected

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1 groundwater, there needs to be significant baseline data
 2 collected from numerous locations and multiple times. And that
 3 doesn't exist. The Nicholas Meat operation began in 2010 and
 4 there's really only two data point up herein prior to 2010,
 5 because if you want to make an inference about whether a
 6 particular operation impacted well water, you have to have
 7 baseline data to serve as a point of comparison. So you can
 8 say it's not different, it's above, or it's below.

9 So the data -- there's not enough nitrate data
 10 to draw the conclusion that Dr. Grobbl drew.

11 Q Dr. Grobbl also talked shall talked about --
 12 well, one of the other possibilities that he considered was the
 13 on-lot septic systems at the plaintiffs' properties. Do you
 14 recall that?

15 A Yeah.

16 Q And he ruled that out as a potential cause of
 17 contamination of the Plaintiffs' wells. Are you aware of that?

18 A Yes.

19 Q What -- do you have a view on that?

20 A I don't think those can be ruled out as a
 21 possible source.

22 Q Why not?

23 A Well in those sewage system inspection reports,
 24 one said it was clearly not functioning correctly.

25 Q And can effluent from septic systems be a

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1 be giving comments about things that are admissible or not
 2 admissible. Please disregard it. That's what I do. I
 3 determine, every judge that's their job, determining what's
 4 admissible and not admissible, not an expert witness.

5 Go ahead, Mr. Lacks.

6 MR. LACKS:

7 Q Were there other aspects of the DNA marker
 8 analysis that in your view or that you disagreed with with
 9 regard to how Dr. Grobbl interpreted them?

10 A Yes. The DNA tests are absence presence tests.
 11 So essentially you only need one little fragment of DNA to get a
 12 positive result.

13 Now, what that means is it's very easy to
 14 contaminate DNA samples in collection. There were no field --

15 MR. NIDEL: Objection. Beyond the scope of
 16 his expert report. This opinion was not disclosed in his
 17 report.

18 MR. LACKS: He talked the criticisms --

19 THE COURT: Come to sidebar. Talk.

20 (Discussion held at sidebar on the record.):

21 THE COURT: Do you have it in your report.

22 MR. LACKS: Him discussing the chain of
 23 custody of DNA on page 1 and he was present in court when DNA
 24 was testified about the DNA analysis. And I believe that he
 25 can comment on that based on being in the court during that.

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1 source of groundwater contamination?

2 A Absolutely.

3 Q Can that result in the presence of E. Coli or
 4 total coliform in drinking water?

5 A Yes, it can.

6 Q Could effluent from a faulty septic system
 7 contaminate water on a neighboring property?

8 A Yes.

9 Q Dr. Grobbl also talked about the bovine DNA
 10 marker analysis. Are you familiar with that?

11 A Yes.

12 Q And do you agree with Dr. Grobbl that the DNA
 13 marker analysis supports his opinion that it's the FPR that
 14 contaminated Plaintiffs' drinking water?

15 A No.

16 Q Why not?

17 A Several issues. One, I think it was brought up
 18 previously that there was not complete chain of custody form.
 19 And one knows and I'm sure all of the attorneys here realize
 20 that without a completed flawless chain of custody report, DNA
 21 damages -- DAN results are inadmissible in a court of law.

22 MR. NIDEL: Objection to form.

23 THE COURT: Once again, ladies and gentlemen,
 24 Dr. Elliott is not a judge. He doesn't know the law. You
 25 should disregard the last comment by the doctor. He's not to

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1 THE COURT: What paragraph in 19.

2 MR. LACKS: The last three -- really the
 3 entire page.

4 THE COURT: Okay. I need to read it.

5 He had one little fragment to get DNA results
 6 post.

7 MR. LACKS: I believe.

8 THE COURT: Where does that come from? That's
 9 what you objected to.

10 MR. NIDEL: Yeah. I didn't object to the
 11 chain of custody.

12 THE COURT: He addresses that.

13 MR. NIDEL: Right. That's why I didn't
 14 object.

15 MR. LACKS: Okay. We can strike that in the
 16 comment about field and I'll cover the chain of custody.

17 MR. NIDEL: You already did.

18 THE COURT: I don't know a little but I don't
 19 know if he has further questions.

20 Go away.

21 Ladies and gentlemen of the jury. I'm
 22 directing you to ignore Dr. Elliott's testimony that you only
 23 need one little fragment to get DNA result positive basically
 24 that was not in the report positive never disclosed. So the
 25 Plaintiff never had an opportunity to go check and see if

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1 that's true and consult their expert and things of that
 2 nature.
 3 We'll move on now.
 4 BY MR. LACKS:
 5 Q Are will there other ways -- are there other
 6 ways that you're aware of that a bovine DNA marker could wind
 7 up in drinking water sample?
 8 A Yes. Realize bovine DNA will be in any kind of
 9 dairy products or anything that people eat. If someone
 10 collecting a sample had perhaps dairy products or hamberger or
 11 something for lunch, and potentially touched the cap or
 12 whatever in the collection tube, then phone there might be a
 13 contamination of the sample.
 14 Q And was there anything with regard to the
 15 manner in which -- did you have any information from looking at
 16 the Helix biolab DNA marker analysis that indicated to you how
 17 the samples were collected?
 18 A No.
 19 Q Did you have any information about how the
 20 samples were stored?
 21 A No.
 22 Q Did you have anything indicating how the
 23 samples were transported?
 24 A No.
 25 Q How did that influence your opinion or your

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1 A I would disagree with that assessment.
 2 Q Is that your opinion to a reasonable degree of
 3 professional certainty?
 4 A It is.
 5 MR. LACKS: Nothing further, Your Honor. Pass
 6 the witness.
 7 THE COURT: Mr. Nidel.
 8 MR. NIDEL: May it please court Your Honor.
 9 Good afternoon Dr. Elliott.
 10 A Good afternoon.
 11
 12
 13
 14 EXAMINATION
 15
 16 Q I want to start a little where we were left
 17 off.
 18 And you talked about the iron in the well,
 19 right, iron in the wells.
 20 A Yes.
 21 Q You talked about testing that showed that there
 22 was zero, 0.03 parts per million iron in the local groundwater?
 23 A No. That's the secondary maximum contaminant
 24 level.
 25 Q The secondary MCL?

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1 understanding as to the significant of the DNA marker analysis?
 2 A In my mind it calls into question the validity
 3 of the results.
 4 Q I just want to ask you one more question about
 5 the nitrate concentrations.
 6 Of the two broad other studies that you looked
 7 as, 1983 Pennsylvania Department of Environmental Resources
 8 median was 3.08. Is that right.
 9 A Yes.
 10 Q In the 2020 study the median was 3.26?
 11 A Yes.
 12 Q So looking at the Plaintiffs' results as
 13 compared to those studies, -- let me strike that.
 14 If it was the case that there this intense
 15 application of FPR on the fields adjacent or in the vicinity
 16 of Plaintiffs' properties was infiltrating the groundwater and
 17 contaminating their wells, what nitrate levels would you
 18 expect to see in the plaintiffs' samples after 2020?
 19 A I would expect to see higher levels.
 20 Q So based on your knowledge, your expertise,
 21 your conversations, how how do you view Dr. Grobels opinion
 22 that it's the defendants' FPR that contaminated the surrounding
 23 groundwater in a away that has impacted Plaintiffs' wells?
 24 A Was that based on nitrate?
 25 Q Just overall in general.

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1 Q 30 parts in a billion parts, right? Right?
 2 A Yes.
 3 Q I think --
 4 A Actually .3 -- wouldn't that be 300 parts per
 5 billion.
 6 Q I have .03. So 30 parts per billion. So 30 to
 7 teaspoons in an olympic size swimming pool?
 8 A It's a small number.
 9 Q Very small. It's 30 billionths. Is it your
 10 testimony that -- let's take a look at what we saw. You were
 11 herein and you saw those drinking water samples, rights, those
 12 drinking water -- this water. Right here. Up on the screen?
 13 A I was not here.
 14 Q Have you seen those?
 15 A No.
 16 Q You've never seen them?
 17 A No.
 18 Q So you don't even know what the water looked
 19 like?
 20 A No.
 21 Q That's not 30 parts per billion, right?
 22 A I don't know.
 23 Q Well, that's not 30 parts of iron in a billion,
 24 right?
 25 A I don't know that.

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1 A I don't know.
 2 Q You were asked a question about the levels that
 3 we see and you were asked about -- the nitrate levels that we
 4 see and you said well if there was sustained intensive
 5 agriculture you would expect to see levels above 10?
 6 A That's true.
 7 Q And we talked earlier with Dr. Yoxtheimer about
 8 the nature of nitrates. And were you here for that discussion?
 9 A I wasn't here for his whole testimony. You'll
 10 have to remind me?
 11 Q Nitrates go into the groundwater and then they
 12 don't dissolve or degrade necessarily, but they migrate and
 13 they dilute, right?
 14 A Yes.
 15 Q And so if you -- you qualified it being
 16 sustained because what will happen -- and we did a bit of a
 17 demonstrative with Dr. Yoxtheimer.
 18 And can you see that?
 19 A Yes.
 20 Q So when you have nitrate contamination that's
 21 short lived, it may -- if there is a conduit or pathway it can
 22 get to the groundwater and contaminate the groundwater, right?
 23 A What do you mean by short lived.
 24 Q So if there is -- sigh one seasonal application
 25 that may impact the groundwater but then you would expect to

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1 Q You need fancy laboratory equipment and chains
 2 of custody to see -- to analyze and find 30 parts per billion.
 3 You can't see iron at 30 parts per billion in water, can you?
 4 A I don't think so.
 5 Q 30 parts per billion is not visible to the
 6 naked eye, right?
 7 A Right.
 8 Q But there is visible to the naked eye?
 9 A Right.
 10 Q Is it your testimony to a reasonable degree of
 11 scientific certainty that this contamination we see in these
 12 photographs is from this 30 parts per billion of iron?
 13 MR. LACKS: Objection. Misstates the report.
 14 THE COURT: Overruled. You can answer, Dr.
 15 Elliott.
 16 A That appears to be above the drinking water
 17 standard.
 18 Q You didn't analyze this water?
 19 A I did not.
 20 Q We don't know if that's iron, do we?
 21 A No.
 22 Q We don't know if that's FPR?
 23 A No.
 24 Q You don't have an opinion that that's not FPR,
 25 right?

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1 see it dilute over time, right?
 2 A That's true.
 3 Q And so and if you sustain that application
 4 you're -- you're not just going to maintain that concentration,
 5 but eventually if the -- if the surface application exceeds
 6 this solution you'll start to decrease and you'll get above
 7 that 10?
 8 A Sounds logical.
 9 Q You agree with that?
 10 A Yes.
 11 Q If you apply for a period you would see a
 12 spike. If you were to apply as we have here and we were
 13 graphing that, you would see a spike and then it would start to
 14 degrade and if you apply again you would see another spike and
 15 it would start to degrade. If you applied periodically over
 16 time, right?
 17 A Right. Right. You'd -- there's assumptions on
 18 what you're going there.
 19 Q I'm not putting a time series. I'm not saying
 20 how much. I haven't given us a number.
 21 But your testimony was that for it to exceed
 22 -- for there to be sustained agriculture to -- you'd have to
 23 sustained agriculture to exceed 10, right?
 24 A When I said sustained, I meant multiple year
 25 application.

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1 Q And so over time if you now sustain the
 2 application as I've indicated here, you would start to then
 3 increase and get above that limit of 10, right?
 4 A I agree.
 5 Q That's because over the time of a few years,
 6 you can have spikes and then it can degrade if you're not
 7 applying and then you apply more and then it increases with
 8 that application and then at some point in you exceed the
 9 dilution rate, you will then start to increase and then go
 10 above that limit, right?
 11 A Right.
 12 A But you also need to take into account that the
 13 source at the surface can be continuously producing nitrate.
 14 Q Okay. The source at the surface being --
 15 A In other words, organic nitrogen put on the
 16 surface continues to break down.
 17 Q So you have a direct application and you have
 18 continued break down, smaller releases of nitrates into --
 19 A Right.
 20 Q And you have a large fresh application and then
 21 you have the breakdown of that as well, right?
 22 A Why would the initial application be larger.
 23 Q Because you're going to have free nitrate there
 24 and that's going to degrade?
 25 A That's wrong. There is no nitrate in the FPR.

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1 applying nitrogen source. So that the plant aren't taking it
 2 up.
 3 Q There's nitrates also in septic tanks?
 4 A Definitely.
 5 Q But we didn't go above 10 with that but we do
 6 have bacteria in the wells, right?
 7 A Yes.
 8 Q The bacteria makes those wells unsafe to drink,
 9 right?
 10 A What kind of bacteria?
 11 Q Fecal coliform and E. Coli?
 12 A There are no fecal coliform analyses.
 13 Q Are there E. Coli analysis?
 14 A There's E. Coli.
 15 Q That makes the water unsafe to drink?
 16 A Yes.
 17 Q We go back to 1981 and see a 4.18 compared to
 18 the regional area and this is from I believe the Pennsylvania
 19 study, right?
 20 A Yes. That's the DER study.
 21 Q And the conclusion from this DER study was that
 22 it was agriculture surface, application for agriculture that
 23 were contaminating the wells, right?
 24 A Yes.
 25 Q So you're not disputing that the conclusion of

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1 Very little.
 2 Q Your source of nitrogen to form the nitrate is
 3 going to be greatest when you land apply it and then that will
 4 start to convert and then it will continue converting over time
 5 as that sort is maintained there, right?
 6 A Right. The source -- the total nitrogen is
 7 high initially. But the nitrate will be a slow bleed.
 8 Q So you'll have a slow bleed over time as these
 9 nutrients are in the soil, right?
 10 A Yes.
 11 Q And you'll see depending on hour, our time
 12 series here, you'll see fluctuations in those levels, right?
 13 A Right. It's very complicated because you also
 14 have other groundwater sources coming in and you know if you
 15 just had one aquifer that was only impacted by that aboveground
 16 source then I agree with your analysis.
 17 Q But you have -- so you have delusion, you have
 18 delusion by migration and you have delusion by fresh recharge,
 19 right?
 20 A Yes.
 21 Q But you expect to see fluctuations?
 22 A You definitely do.
 23 Q And in only if you have intense continuous
 24 agriculture, do you start to increase at some point, right?
 25 A Right. That would imply that you're over

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1 the study from which this data was generated is that the most
 2 likely source of these nitrates was the nutrient application
 3 from agriculture, right?
 4 A Yes.
 5 Q And then the well was tested some -- I can it
 6 not do the math at this point. 34 years later. And gone up,
 7 right?
 8 A At that snapshot it went up.
 9 Q And that confirms that there's a pathway for
 10 contaminants from the surface to impact the drinking water,
 11 right?
 12 A It may not be from the surface. It could be
 13 from the leach field which would not be called the surface
 14 source.
 15 Q It confirms that there is a pathway, at least
 16 one pathway, maybe multiple pathways, right?
 17 A True.
 18 Q So it confirms that there are contaminants
 19 coming either from surface application of nutrients or from the
 20 leach fields but those would be the two most likely sources
 21 that would -- that are confirmed by this increase, right?
 22 A Yes. I would say those would be the two most
 23 likely sources.
 24 Q And just to be clear, you don't know at the
 25 time of any of these results what the intensity of agriculture

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1 was that was going in this proximity to these wells?
 2 A I do not.
 3 Q You don't know if we're up here and associated
 4 with you know -- you don't don't know where in this symphony we
 5 are, right?
 6 A That's correct.
 7 Q And then the old well was tested again. It's
 8 9.03. We see some fluctuation there?
 9 A That was only 27 days later. It dropped from
 10 10.7 to 9.03.
 11 Q But we still see impacts, right?
 12 A Yes.
 13 Q We have a new well and that new well -- do you
 14 know how deep the old well was?
 15 A 260 feet.
 16 Q We have a new well. Do you know how deep?
 17 A 346 feet.
 18 Q That 346 foot well, that would be harder to
 19 reach by those nitrates, right?
 20 A Yes.
 21 Q So when you drill that new well it's going to
 22 take a little more pathway to get there, right?
 23 A In fact we don't even know whether the new and
 24 the old well were accessing the same water baring zone.
 25 Q So there's a water baring zone in this old

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1 A No.
 2 Q Did you review her deposition testimony?
 3 A I'm not -- is there a most recent one? In this
 4 trial I haven't reviewed her.
 5 Q You don't know if you reviewed her deposition?
 6 A Original deposition, I did.
 7 Q When you reviewed the depositions, did you also
 8 review the exhibits?
 9 A I'm not sure.
 10 Q Would you typically?
 11 A Was that picture in there.
 12 Q I honestly don't know if it was?
 13 A That's the first time I've seen that picture.
 14 Q Would you typically when you review the
 15 depositions, do you also review the transcript, do you also
 16 review the exhibit that are shown to the witnesses?
 17 A Sporadically. I guess it depends. I don't
 18 typically -- there's so much information to review, I may or
 19 may not. Depending whether I think it's relevant.
 20 Q You listed the depositions that you reviewed in
 21 your report, right?
 22 A Yes.
 23 Q Did you review the exhibits to those
 24 depositions when you reviewed them or no?
 25 A Not totally.

ROUGH DRAFT

1 well?
 2 A Yes.
 3 Q The last evidence we have of that water baring
 4 zone we just looked at, right, it looked like the water we saw
 5 up there; is that right?
 6 Q Do you want me to show it again?
 7 A No, no. I mean, as I said I hadn't seen that
 8 picture before. But if it was old then if it was before the
 9 new well was dug then it must be in reference to the old well
 10 Q The last time we looked at the water baring on
 11 the that shallow water baring zone it was contaminated with
 12 something. You're not sure what, right?
 13 A Right.
 14 Q And the last time that old well was tested it
 15 had 9.03 nitrates in it, right?
 16 A Right.
 17 Q So it had high nitrates. It was funky. And we
 18 don't know what was in that funk, right?
 19 A When, when was the funky picture taken.
 20 Q Did you review the testimony of Ms. Leigey in
 21 this case?
 22 A I did. I saw it in the original complaint, I
 23 believe. I don't know whether it had a date.
 24 Q Did you review the trial testimony of Ms.
 25 Leigey?

ROUGH DRAFT

1 Q Now we have testing done of the replacement
 2 well. And the new well dropped down to .91?
 3 A Yes in .91 that's not the naturally occurring
 4 background, right.
 5 A According to Grobbl, it is. He said one to
 6 two milligrams per liter is background.
 7 Q My question, it was naturally occurring
 8 background. Nitrates are not naturally found in groundwater,
 9 right?
 10 A They can be. They are in rain water.
 11 Q They're found from the continued pollution of
 12 the environment through agriculture and other nutrient runoff,
 13 right?
 14 A They are in rain water.
 15 Q The natural background of nitrates in
 16 groundwater, drinking water, is nondetect, right?
 17 A Not according to Grobbl's report.
 18 Q I'm asking you, sir. You're the scientist on
 19 the stand. The background is basically nondetect, right?
 20 A Nitrate is ubiquitous in the environment.
 21 Q In deep groundwater of 200, 300 feet?
 22 A I suspect if you have sufficient analytical
 23 detection you can detect in deep groundwater.
 24 Q You can detect it but you're saying at some
 25 point in we can look close enough, well beyond the one part per

ROUGH DRAFT

1 million here, you might be like to detect it, right?
 2 A Yes.
 3 Q But as a part per million level it's basically
 4 nondetected, it's not visible to the equipment?
 5 A At one part per million?
 6 Q No. If our detection limits are in the Order
 7 of one part per million it would be below those detection
 8 limits. That's what you would expect in the natural
 9 background, right?
 10 A I don't think you can make a general statement
 11 about that because it depends on where you are.
 12 Q And we see an increase from .91 -- it's tested
 13 again as 1.1 and tested again 1.7?
 14 A I'm not sure I would call it a significant
 15 increase.
 16 Q That's why I didn't call it a significant
 17 increase, Doctor. But you do see an increase, though?
 18 A Yes. One could argue whether those are
 19 statistically significant in terms of difference.
 20 Q Understand. But when you were asked by counsel
 21 for Mr. Nicholas and Nicholas Meats, you were asked to put a
 22 greater than or less than, right?
 23 A Yes.
 24 Q So we go greater than and we go greater than,
 25 right?

ROUGH DRAFT

1 median was 3.08, well below the 10, right?
 2 A Yes, yes.
 3 Q So even well below the 10 less than a third of
 4 the 10, the USGS or State of Pennsylvania concluded it was
 5 intense agriculture -- sustained intense agriculture that was
 6 impacting the nitrate levels in the groundwater, right?
 7 A Yes.
 8 Q So sustaining intense agriculture can lead to
 9 groundwater and nitrate levels that are just a median of 3.08,
 10 right?
 11 A Yes. It depends on how that agriculture was
 12 managed.
 13 Q Right. What was happening in 1983 we get a
 14 median 3.08 but the conclusion they could scientifically
 15 withdraw that you relied on was that that 3.08 was due to
 16 intense sustained agriculture on the surface of the land in
 17 this area, right?
 18 A That's the conclusion they drew. And everyone
 19 needs to understand that nutrient management has improved
 20 drastically over the past couple of decades. There weren't
 21 nutrient management plans back in 1983. So to some extent,
 22 farmers were winging it a little bit in terms of saying how
 23 much manure or how much other material needs to be put on the
 24 soil.
 25 Q Some may say they are still winging it, Doctor.

ROUGH DRAFT

1 A Yes.
 2 MR. LACKS: Objection. I believe he's
 3 describing testimony from a different witness.
 4 MR. NIDEL: Sorry
 5 BY MR. X:
 6 Q The testimony you heard of Mr. Lacks summarized
 7 greater than. You would agree the second test was greater than
 8 the first the third greater the second?
 9 A They are. The numbers are bigger in the second
 10 and third.
 11 Q For all these wells we don't know where they
 12 are in this symphony?
 13 A I do not.
 14 Q We don't know on the date of these tests you
 15 didn't look at any records as to recent application for any
 16 nutrients, right?
 17 A No.
 18 Q Just to be clear, the conclusion of both those
 19 studies -- sorry.
 20 The conclusion of both those studies was that
 21 it was surface agriculture that was causing the nitrates
 22 contamination of the groundwater, right?
 23 A Right. I think they made some statement about
 24 intense agricultural activities or something to that effect.
 25 Q And though concluded that even though the

ROUGH DRAFT

1 But if we look at -- if we look at what those
 2 numbers indicate -- so you just went to sort my next point.
 3 You anticipated I think we see a little bit the same here.
 4 Back in 1983 we didn't have nutrient management plans, right.
 5 A That's true.
 6 Q We had -- our intense agriculture was winging
 7 it. We were applying nutrients like they were going out of
 8 style, right?
 9 A There tended to be an over application of
 10 nitrogen.
 11 Q There continued to be an over application back
 12 in 1983 and I forgot when the EPA was formed?
 13 A 1970.
 14 Q But we didn't have NMPs on these fields and
 15 your testimony we had over application back in the early '80s?
 16 A I'm saying there are many examples of over
 17 application because the farmers were not sending their soil to
 18 the soil testing lab. And putting on nutrients based on
 19 anticipated crop yields.
 20 Q So they weren't putting on the nutrients
 21 consistent with the agronomic needs of the crops?
 22 A In some cases.
 23 Q And they were over applying, but we didn't have
 24 the same nutrient management requirements, right?
 25 A Yes.

ROUGH DRAFT

1 Q We didn't have the same nutrient management
 2 plan oversight, right?
 3 A Right.
 4 Q We didn't have all of these stems in place to
 5 limit over application at the time, right?
 6 A That's right.
 7 Q And we still ended up with 3.08. 3, 08at, as
 8 the median despite all of that over application, right?
 9 A Well you have to quantify over application.
 10 Q You just told us that they were back in the day
 11 they were over applying. And they still resulted in something
 12 that was well below 10, right?
 13 A There was a tendency to put on more nitrogen
 14 than the crops needed.
 15 Q And that's tendency has been decreasing since
 16 that time period, right?
 17 A I would say so, because nutrient management
 18 plans are required now as of 2011, I believe.
 19 Q So if the agricultural on the surface is
 20 impacting the groundwater, we would expect the numbers that are
 21 reflective of that impact to be less than what they were
 22 independent '80s because back in the '80s they were winging it,
 23 right?
 24 A You need to distinguish between regional and
 25 individual and something on a smaller scale. That is the

ROUGH DRAFT

1 what was the median over application rate then?
 2 A I don't know.
 3 Q We don't know?
 4 A We don't know.
 5 Q We just know from the regulatory perspective,
 6 which you have, from an understanding of how these rules have
 7 changed over time, which you have, that they would be -- they
 8 would have been more likely to be over applying back in that
 9 day in '83 because they were winging it than they are now?
 10 A Yes.
 11 Q That resulted in a median of 3.08?
 12 A Right.
 13 Q Before I let someone tell me what the average
 14 is in a way that surprises, did they tell what the average was?
 15 A I don't know if the average is in there.
 16 Q Did they tell you what the range is?
 17 A I don't that original report had all the data.
 18 I didn't see it in that table.
 19 Q Do you know what the upper 95 percentile
 20 confidence was?
 21 A No.
 22 Q All we have is the median?
 23 A Median.
 24 Q The median is 3.08?
 25 A That's the middle value.

ROUGH DRAFT

1 immediate, right -- I'm not sure how many the USGS was 54
 2 samples. I don't really know how many samples were used to
 3 calculate that median in 1983.
 4 Q Okay. What was -- 3.08. So back in the '80s
 5 the median -- you don't know how many samples?
 6 A I don't.
 7 Q But, again, I think the point -- I think you
 8 see the point, right? Back in the day they were winging it.
 9 They didn't have NMPs, they were over applying nutrients and
 10 the result was a median range in the carbonate region, a median
 11 figure of 3.08, right?
 12 A Yes, and you can't say that everyone was was
 13 over applying.
 14 Q We're not here to excuse somebody's grandfather
 15 of over applying in the '80s. I'm use using what you told us
 16 so I can educate myself and so I can try to educate the jury?
 17 What we see from the data from the studies you
 18 relied on is that over application leads to levels that are
 19 about 3, 3.08.
 20 A That's a median value. So you can't just say
 21 over application leads to 3.08. You could say the median over
 22 application rate leads to 3.08.

ROUGH DRAFT

1 Q We don't know if that's a normal distribution,
 2 we don't know if that's a log normal distribution?
 3 A We don't.
 4 Q You talked about the septic and you said one
 5 was tested and inspected and it was not functioning properly?
 6 A I believe that's the language in the report.
 7 Q Did it say the septic wasn't functioning
 8 properly or some aspect of the septic level functioning
 9 properly?
 10 A The absorption field was malfunctioning.
 11 Q But did it say that the well was threatened?
 12 A No.
 13 Q Did it say there were any leaks?
 14 A No. I think it said there were no leaks.
 15 Q And no septic report said there were any leaks?
 16 A Right. That's the tank itself.
 17 Q All of the septic reports indicated that there
 18 would be likely no impact on the wells, right?
 19 A No. They did not.
 20 Q They did not?
 21 A No. If the septic tank isn't functioning -- if
 22 the leach field is not functioning correctly one cannot draw
 23 the conclusion that there is no impact on the wells.
 24 Q You're not a biologist, right?
 25 A I'm not.

ROUGH DRAFT

1 Q You're not -- we talked about DNA. You're not
 2 a biochemist, right?
 3 A I'm not.
 4 Q You're not a DNA scientist, right?
 5 A No, I'm not.
 6 Q You're not a toxicologist?
 7 A No, I'm not.
 8 Q Did you review the septic reports?
 9 A I did.
 10 Q Did that co, they conclude that it was unlikely
 11 or not likely that those septic tanks are were impacted the
 12 wells?
 13 A I would like to see the final paragraph
 14 in each one of those, which to me looked like a boilerplate. I
 15 standard verbiage that the inspector puts.
 16 Q Does that make it false?
 17 A No.
 18 Q It doesn't make it false, you use boilerplate
 19 language in your report, right?
 20 A We all do.
 21 Q We all do. Right.
 22 A Could I see the report if you want to talk
 23 about those.
 24 Q In your report you use boilerplate language,
 25 right?

ROUGH DRAFT

1 A We always do.
 2 Q That doesn't mean it's false?
 3 A No.
 4 Q Let's look at the reports then, I guess?
 5 A I'd like to look at the report.
 6 Q I didn't really want to, but I will.
 7 D 99. We got it up on the screen. You've
 8 reviewed that document, right?
 9 A Yes.
 10 Q With the system --
 11 A And this is Patricia Leigey's report; is that
 12 correct?
 13 Q This is Patricia Leigey's, yes.
 14 With the system and distance compliance there
 15 should be no negative effect on the private well, right.
 16 A That's what the report says.
 17 Q Is that what you're referring to as
 18 boilerplate?
 19 A Yes.
 20 Q Do you know if it's the same in every report?
 21 A Well, I think the first line is the same in
 22 every report.
 23 Q I have been conducting on-lot septic system
 24 evaluations for 25 years?
 25 A I believe that's the same.

ROUGH DRAFT

1 Q You handed me a small gift. You're C.V. is the
 2 same in everyone of your reports, right?
 3 A Okay.
 4 Q It's basically the guy's qualification, right?
 5 A Yes.
 6 Q Let's forgive him of that boilerplate. And
 7 let's look at the next --
 8 A Realize he's put that in the conclusion of his
 9 report.
 10 Q Okay. You didn't inspect the septic tanks, did
 11 you?
 12 A I did not.
 13 Q He's the only guy here that inspected the
 14 septic tanks?
 15 A I'm taking issue with the fact you're talking
 16 about ate boilerplate and a C.V. and a boilerplate in a report.
 17 Q They are both in the report?
 18 A Which has a conclusion.
 19 Q So it's your testimony that everyone of these
 20 concludes with the same exact boilerplate language?
 21 A I would have to look at them all but I believe
 22 that first line is the same.
 23 Q The first line he's been conducting?
 24 A In the conclusion.
 25 Q That he's been conducting these for 25 years?

ROUGH DRAFT

1 A I think that's the same. Isn't it?
 2 Q If I look at one of your reports for one of the
 3 other industries you testify to, the sewage sludge industry or
 4 one of these other guys, same C.V., right?
 5 MR. LACKS: Objection.
 6 THE COURT: Stop, Dr. Elliott.
 7 MR. LACKS: Argumentative and I would ask we
 8 show the doctor the reports, ask the questions that need to be
 9 asked about them and continue the examination.
 10 THE COURT: All right. Do you want just move
 11 on. I think the jury understands.
 12 MR. NIDEL: I would like to address the point
 13 about boilerplate Your Honor.
 14 MR. NIDEL:
 15 Q Let's take a look at the next exhibit. Exhibit
 16 D 100.
 17 It does say I've been conducting on-lot septic
 18 system evaluations for over 25 years, right.
 19 A It does.
 20 Q So he's stated his conversations in the same
 21 manner in both of these reports in the same way that you state
 22 your conversationings in the same manner in some of your
 23 reports; is that fair?
 24 A Agreed.
 25 MR. LACKS: Do you mind if I give him a copy

ROUGH DRAFT

1 so he doesn't have to strain.
 2 MR. NIDEL: That's fine. I am highlighting.
 3 You can give it to him.
 4 MR. LACKS: No I want to make sure you had a
 5 chance to see it.
 6 MR. NIDEL: So it doesn't have highlights on
 7 it.
 8 MR. LACKS: That's why I was giving it to you
 9 to make sure.
 10 Q You see it says in my opinion at this time and
 11 in its current condition it likely has no negative effect on
 12 the private well on site, right?
 13 A That's the final line, yes.
 14 Q That's a different final line than the previous
 15 final line, right? That's not boil per plate?
 16 A Right, that is not boilerplate because the two
 17 foreshank going lines are not the same as the two reports.
 18 Q You were asked about the chain of custody.
 19 Right?
 20 A Yes.
 21 Q And the chain of custody is something we talked
 22 about this and we now have two experts testifying for the same
 23 thing. We'll have to cover it again.
 24 But chain of custody is when you take the
 25 sample out of the spigot. You fill out. On this date -- I

ROUGH DRAFT

1 don't know what day today is -- Wednesday I took a sample at
 2 there time. And I'm sending it to the lab, right.
 3 A Yes.
 4 Q And you include that chain of custody in the
 5 box or the cooler when you send it to the lab?
 6 A Yes.
 7 Q So the person who took the sample in this case,
 8 if I'm the Plaintiff, I don't have that chain custody any
 9 longer, right?
 10 A That's right.
 11 Q So you've testified that you question the
 12 validity or voracity of the sample results because you don't
 13 have information about how the chain of custody was done,
 14 right?
 15 A There was an exhibit that was reported to be
 16 the chain of custody.
 17 Q There was an exhibit that was blank that was --
 18 that you understand to be the completed chain of custody?
 19 A That's all they had in the evidentiary
 20 material.
 21 Q Do you understand that the plaintiffs were
 22 asked to produce every document that they had in this case?
 23 MR. LACKS: Objection, Your Honor.
 24 Foundation. Getting into the discovery process.
 25 THE COURT: I think he asked if he was aware

ROUGH DRAFT

1 of that. Overruled. You can answer, Dr. Elliott.
 2 Q Plaintiffs were asked to produce all of the
 3 documents they have in this case. Do you understand that?
 4 A Yes.
 5 Q Do you understand that, sir?
 6 A I'm sorry.
 7 Q Do you understand that plaintiffs were asked to
 8 provide every --
 9 A Yes.
 10 Q And if they were emailed a blank form to fill
 11 out and printed that, they would have that blank form to then
 12 produce to the Defendants, right?
 13 A Yes.
 14 Q If they sent a completed chain of custody to
 15 the lab they would no longer have that completed chain of
 16 custody, right?
 17 A Yes.
 18 Q That is the typical chain of custody. It goes
 19 with the sample to document the custody of that sample, right?
 20 A Yes.
 21 Q So the lab might have that but the Plaintiff
 22 would not?
 23 A Yes.
 24 Q Do you know if counsel for Nicholas Meats or
 25 Nicholas Meats every subpoenaed the lab?

ROUGH DRAFT

1 A I don't know.
 2 Q Did you listen to the testimony from Ms. Leigey
 3 about how she took those samples?
 4 A No. I wasn't here.
 5 Q So you have a criticism you don't know if there
 6 were gloves used what methods were used or if rules were
 7 followed but you didn't review that evidence, right?
 8 A I didn't. I was told about it.
 9 Q And you were asked -- you testified that dairy
 10 -- someone draining dairy. Touched a hamburger -- touched a
 11 hamburger or ate beef product?
 12 A What I was saying there was bovine DNA in any
 13 dairy products and any beef products.
 14 Q Do you know what marker is used by the lab,
 15 Helix Biolabs? It's a fragment of DNA, right.
 16 A Right. And it's channeled to bovine, the
 17 bovine species.
 18 Q Do you know what adenine, quanine, -- I don't
 19 remember my DNA. Do you know?
 20 A Adenine, quanine, four building blocks of DNA.
 21 Cytocine.
 22 Q I don't know it's kind of like a helix or
 23 something like that. That's about all I know.
 24 Do you know anything more than that?
 25 A A little bit. Maybe the building blocks.

ROUGH DRAFT

1 Q But what's happening is they are looking at a
 2 very discrete section of DNA, right?
 3 A Yes. In fact that Helix is broken and they're
 4 just looking at one part of it, one side of it in that test.
 5 Q You reminded me. They split the DNA, submit
 6 the Helix?
 7 A Yes.
 8 Q And they ^ FIX/DROPPED on one side?
 9 A Yes.
 10 Q And they looked at a very small section for
 11 that bovine marker?
 12 A Yes.
 13 Q Do you know what that section is?
 14 A No
 15 Q Do you know how it's affected by cooking?
 16 A It can be destroyed in cooking.
 17 Q Do you know how it's affected by the human gut?
 18 A No, but I know that you can find it. If you
 19 eat a hamburger you'll find bovine DNA in your feces.
 20 Q For how long?
 21 A I don't know.
 22 Q And when that goes out into a septic tank how
 23 long does that stay detectable in that septic system?
 24 A I don't know.
 25 Q You don't know if it's a day, an hour or six

ROUGH DRAFT

1 years, right?
 2 A No.
 3 Q You said -- they followed standard agronomic
 4 practices, right?
 5 A Yes.
 6 Q Are you familiar with the Penn State's agronomy
 7 guide?
 8 A I am.
 9 Q Is that an authoritative reference that you
 10 rely on?
 11 A It is.
 12 Q Is that a reference that you relied on -- well
 13 do you rely on that in your professional consulting work?
 14 A Yes.
 15 Q Is it something you relied on in this case?
 16 A Yes.
 17 MR. NIDEL: The plaintiffs would seek to admit
 18 the Penn State agronomy guide into evidence as exhibit P-53?
 19 THE COURT: P-53.
 20 MR. NIDEL: P-53, yes.
 21 THE COURT: Any objection.
 22 MR. LACKS: No objection, Your Honor.
 23 THE COURT: It's admitted without objection.
 24 Plaintiffs' 53.
 25 MR. NIDEL:

ROUGH DRAFT

1 Q Are you familiar with the Penn State farming
 2 extension. Penn State's extension
 3 A Yeah, the extension service, yes.
 4 Q They are an authority on agronomic rates and
 5 farming?
 6 A Yes, each county has its own extension office
 7 to provide information to the farmers.
 8 Q Penn State provides that information to
 9 farmers, right?
 10 A Yes.
 11 Q And you said that you spot checked?
 12 A I'm sorry.
 13 Q You said you spot checked. You spot checked
 14 their applications?
 15 A I'm not sure I said that.
 16 Q I wrote it down. I'm pretty sure you spot
 17 checked their applications?
 18 A What application were you referring to?
 19 Q You were asked if they follow standard
 20 agronomic practices.
 21 A Oh, okay. I did not look at every nutrient
 22 management plan.
 23 Q You didn't look at every nutrient management
 24 plan?
 25 A I did not look at every nutrient management

ROUGH DRAFT

1 plan.
 2 Q You didn't look at every FPR report, right?
 3 A Which reports.
 4 Q The drag line reports?
 5 A No.
 6 Q Did you look at any of the drag line reports?
 7 A Some.
 8 Q You didn't look at them all, right?
 9 No
 10 Q You didn't calculate whether they were applying
 11 -- how much nutrients they were applying, right?
 12 No
 13 Q You didn't compare that -- you didn't calculate
 14 how many gallons per acre they were applying?
 15 A Not specifically. I mean I took the FPR
 16 analysis and then I could determine the plan available nitrogen
 17 and then you know the pound of nitrogen per gallon and then
 18 that's how you can surmise whether they are putting enough on
 19 or the right amount on for a particular crop.
 20 Q That's interesting.
 21 So you took the nitrate number from -- sorry
 22 the nitrogen number, total nitrogen number from the analysis
 23 and you used that to check what the pound available nitrogen
 24 were being applied to the field.
 25 A Yes.

ROUGH DRAFT

1 Q Which of those numbers did you use?
 2 A Well I just said I just looked at one of the
 3 nutrient management plans and went through it to determine that
 4 they had properly calculated the amount of planned available
 5 nitrogen.
 6 Q My question you said there were -- there was a
 7 time where they took five samples every month. Sorry one
 8 sample each in five months?
 9 A I believe it was in 2021 they monthly samples
 10 for five months in a row.
 11 Q And that was included in one of the NMPs?
 12 Where was that data?
 13 A That must have been -- it was in the
 14 evidentiary material.
 15 Q It's your testimony that they took -- they took
 16 one sample every month for five consecutive months. So five
 17 samples?
 18 A Yes.
 19 Q Can you tell me what the variation was from
 20 sample to sample?
 21 A I can't -- the mean of those values was 9.65
 22 pound of nitrogen per thousand gallons.
 23 Q Do you know?
 24 A They ranged up to 14 I believe.
 25 Q Do you know what the total range is what we've

ROUGH DRAFT

1 A Yeah. Right. We have no multiple samples from
 2 the same day which is kind of what you're getting at. We have
 3 one sample per month for five month the.
 4 Q What is the variability?
 5 A I don't know exactly.
 6 Q Do you know if it's fairly consistent?
 7 A I think it ranged -- I'm not sure. I know the
 8 highest number was about 14 or 15 pounds per thousand gallons.
 9 Q Do you know if it tested higher than that at
 10 any point in time?
 11 A I don't know.
 12 Q You said -- what was the spot checking that you
 13 did?
 14 A What I meant was I did not look through every
 15 nutrient management plan.
 16 Q So you testified that they applied in standard
 17 agronomic practices, right?
 18 A Right.
 19 Q Your basis for that is you spot check the NMPs,
 20 right?
 21 A Right.
 22 Q You did not -- you did not spot check the FPR
 23 annual reports, right?
 24 A FPR -- I'm not sure what reports you're
 25 referring to.

ROUGH DRAFT

1 seen in this case for that FPR tank?
 2 A Range of what.
 3 Q Low to high. Nitrogen levels?
 4 A In the tank -- in which tank.
 5 Q FPR tank?
 6 A What tank? Are you talking about a truck or
 7 are you talking about the aeration tank?
 8 Q Where do they sample the FPR to get those
 9 nutrient numbers?
 10 A I'm not certain but I would assume it would be
 11 tank number 2.
 12 Q So what's the range of tank number 2's nitrogen
 13 content?
 14 A I don't know.
 15 Q Do you know if it goes from 3 to 4 up to 9?
 16 A It's well mixed so you would expect pretty
 17 consistent.
 18 Q Your expectation because it's well mixed you
 19 would expect it to be pretty consistent?
 20 A Yeah, if it's well mixed.
 21 Q So variability on the Order of what, 20, 30, 40
 22 percent?
 23 A I can't say.
 24 Q Well you said -- I want you to tell the jury
 25 what you mean by fairly consistent?

ROUGH DRAFT

1 Q The FPR annual reports. You know what the NMP
 2 is, right?
 3 A Yes.
 4 Q Did you rely on anything else for your opinion
 5 that the standard agronomic practices were followed?
 6 A No.
 7 Q Well the NMPs don't contain how much was
 8 actually applied, right?
 9 A No. But the gallonage -- through the gallon
 10 values you can get how much was actually applied.
 11 Q I think I see where we're going?
 12 The NMP is a plan.
 13 A Yes.
 14 Q It's a nutrient management plan. And that plan
 15 identify what the consultant has identified what they should
 16 apply on a field?
 17 A Yes. Team TeamAg.
 18 Q TeamAg, yes. But it does not report what was
 19 actually applied, right?
 20 A Right.
 21 Q So when you say that they followed standard
 22 agronomic practices what you mean is that their plans were
 23 consistent with agronomic practices, right?
 24 A Yes.
 25 Q You don't know what they actually did, how that

ROUGH DRAFT

1 compared to agronomic practices, right?
 2 A No. Other than looking at the gallons they
 3 applied to some fields and saying that that was reasonable with
 4 the plan.
 5 Q You didn't do a thorough review of the
 6 gallonage, right?
 7 A No, not a thorough review.
 8 Q All you did was look and see their plan was
 9 9,000 gallons and you can see in those nutrient management plan
 10 which we have all seen and been bored to death by but those
 11 columns that zero out the nutrient as you apply each seasons?
 12 Q You check that map which is part of a
 13 spreadsheet provided by the State,
 14 A By TeamAg, yes.
 15 Q Other than that you didn't check what happened
 16 in the field?
 17 A I didn't check them all, no.
 18 Q And so you're not offering an opinion that they
 19 actually applied the FPR in standard agronomic practices. Your
 20 opinion is that their plans were consistent with standard
 21 agronomic practice, right?
 22 A Yes.
 23 Q Now, you were asked about whether FPR had a
 24 requirement of 9,000 gallons per acre or what this guideline
 25 requirement was?

ROUGH DRAFT

1 A Yes.
 2 Q You've testified in front of the environmental
 3 hearing board on behalf of Nicholas Meats, right?
 4 A Yes.
 5 Q You've testified before on behalf of Nicholas
 6 Meats in other litigation, right?
 7 A Yes.
 8 Q And you've testified for other defendants in
 9 litigation, right?
 10 A Yes.
 11 Q And you've testified on behalf of the sewage
 12 sludge or the biosolids industry, industry, yes?
 13 A
 14 Q What is sewage sludge or sewage solids?
 15 A What is it.
 16 Q Yes?
 17 A That is the solid material that's removed from
 18 treatment of domestic wastewater.
 19 Q So it's treated domestic wastewater, it's the
 20 sludge, the solid?
 21 A It's the solids separated out and further
 22 treated.
 23 Q Those are land applied?
 24 A They are.
 25 Q And you've he testified on their behalf?

ROUGH DRAFT

1 A I have.
 2 Q Sinegrow?
 3 A Yes.
 4 Q And you were asked about this at the
 5 environment hearing board -- not about biosolids. We're going
 6 back to 9,000. You were asked about the limitations how much
 7 they could apply. Do you remember testifying at the hearing
 8 board?
 9 A Yes, I have my testimony here somewhere.
 10 Q You have a copy of your testimony?
 11 A No. I don't think I have it here.
 12 Q You have it, you have a copy of it, right?
 13 A Yes.
 14 Q Do you have it with you today?
 15 A No.
 16 Q You know -- you've reviewed that recently?
 17 A Yes.
 18 Q You reviewed that to prepare for your testimony
 19 here, right?
 20 A Yes.
 21 Q And did you review all of the testimony or just
 22 your own testimony?
 23 A Just my own.
 24 Q You testified you were asked if there were
 25 limit as to how much they could apply, right?

ROUGH DRAFT

1 A Could you be more specific.
 2 Q I'm with you.
 3 How much they could apply in the winter.
 4 A I'm not sure that was a specific question.
 5 Q How much they could apply on frozen ground?
 6 A I think it was more about how or whether they
 7 could apply on frozen ground not about how much.
 8 Q There was also a question about what the limit
 9 would be, right? You testified it was 9,000 gallons per acre
 10 on -- in the winter on frozen ground, right?
 11 A I don't remember that.
 12 Q Is there I limit of 5,000 gallons per acre on
 13 frozen ground?
 14 A I don't know of one.
 15 Q You don't know of one?
 16 A I don't think there is.
 17 Q You were asked very specifically if the FPR
 18 manual had the 9,000 gallons per acre limit?
 19 A It does not.
 20 Q Thank you for that.
 21 That wasn't my question.
 22 You were asked that though, right.
 23 A I don't recall.
 24 Q Are you familiar with the NMP nutrient
 25 management plan technical manual?

ROUGH DRAFT

1 A Yes.
 2 Q That has a limit of 9000 gallons?
 3 A Yes.
 4 Q That has a limit that cannot exceed 9000
 5 gallons?
 6 A That is for a single application. It doesn't
 7 say 9,000 gallons per day. It says 9,000 gallons for any
 8 single application.
 9 Q Right. And it's a limit in the nutrient
 10 management plan technical guide, right?
 11 A Yes. It's in Act 38.
 12 Q It's a requirement, right?
 13 A A requirement for single application.
 14 Q It's a requirement for single applications that
 15 you cannot exceed, right?
 16 A Right. I think it's a general guideline and
 17 it's a requirement. You testified to that, right.
 18 A It's in the document, yes.
 19 Q It's part of Act 38's requirements, right?
 20 A Yes.
 21 Q And do you know if they applied more than 9,000
 22 gallons per acre per application?
 23 A I think there's some instances where they did.
 24 Q Do you know if they applied more than 9000
 25 gallons per acre for applicationi by 10, 20, 30 and 70,000

ROUGH DRAFT

1 Q Is it your testimony that's not above the
 2 limit?
 3 MR. LACKS: Objection. Mischaracterizes the
 4 limit. The question was about bad management practices?
 5 Q Is it your testimony that's not involved --
 6 A That's not my testimony.
 7 Q Is this a bad management practice?
 8 A I can't say.
 9 Q I'm going to -- I'll go 9100. Are we getting
 10 warmer?
 11 MR. LACKS: Objection. Argumentative.
 12 Q Are we getting closer to a bad management
 13 practice?
 14 A It depends on the soil and the conditions.
 15 Q What's under what soil? Would that be a best
 16 management practice?
 17 A Under a soil that's not prone to runoff.
 18 Q On a soil prone to runoff this would start to
 19 be a bad management practice?
 20 A It depends. To be prone to runoff is a very
 21 general term. It's not quantified.
 22 Q If we get above 9100 on soil that's prone to
 23 runoff, you would agree that's not the best management
 24 practice, right?
 25 A Yes, in general.

ROUGH DRAFT

1 gallons?
 2 A I don't know. I don't have the documentation
 3 to make a judgment there.
 4 Q Over applying the 9,000 gallons per acre that
 5 is not -- that is a bad management practice, right?
 6 A I'm sorry.
 7 Q That is a bad management practice, right?
 8 A A bad way?
 9 Q A bad management practice?
 10 A It's guideline. In other words, if you put on
 11 9,050 gallons per acre I wouldn't say that's a bad nutrient
 12 management practice.
 13 Q 9,050. All right?
 14 So, the limit from Act 38 per application is
 15 9,000 gallons per acre, right.
 16 A Correct. That's the number.
 17 Q Now, you said that 9,050 would not be -- well,
 18 if we did our greater than less than that would be greater
 19 than?
 20 A That's greater than.
 21 Q But you're your testimony is that's not above
 22 the weight?
 23 MR. LACKS: Objection. Mischaracterizes
 24 testimony.
 25 THE COURT: Sustained..

ROUGH DRAFT

1 Q And in fact, you would agree that if we were at
 2 let's say 9500, that would start to be --certainly on soil
 3 that's prone to runoff that would be a bad management practice,
 4 right?
 5 A It depends on the antecedent moisture content
 6 of the soil.
 7 Q For the jury --
 8 A Antecedent means the soil moisture content
 9 before the application.
 10 Q And you bring up a good point. Because if the
 11 antecedent soil moisture content was high, applying 9,000
 12 gallons per acre may also be a bad management practice?
 13 A Potentially.
 14 Q It would be a bad management practice to apply
 15 on soils that are wet, saturated?
 16 A Depends. Depends on the slope, depends on how
 17 much you're putting on. So when you say saturated, that's not
 18 a very specific term.
 19 Q Well, you said it dependent soils, it dependent
 20 slopes, right?
 21 A Correct.
 22 Q Do you know if the soils on F1 F2 and F3 are
 23 rated high for runoff potential?
 24 A I know the slopes. Those are -- that's a
 25 buccanan soil, I believe. That is, I think, hydrologic soil

ROUGH DRAFT

1 group D, perhaps. I'm not sure. I can't say with
 2 specifically.

3 Q Do you know if they're rated high for runoff
 4 potential?

5 A I don't believe.

6 Q But you would agree with me, if soils are rated
 7 high for runoff potential it would be bad management to be
 8 applying above 9100 gallons per acre, right?

9 A Yeah. More care should be taken.

10 Q And you did not review the soils as part of
 11 your opinion on their best management practices, right?

12 A Right. I know a couple of soil series that are
 13 in those fields.

14 Q Do you know what the slopes are?

15 A Yes.

16 Q What are the slopes?

17 A The slopes in fields what are -- what if, F1
 18 and 2, are B and C. In other words, when you look at the soil
 19 designations it will say BUB or BUC. And the last parameter in
 20 that -- in the soils description give you the slope. If it
 21 says A, it's Zero to Three percent slope. If it says B it's
 22 three to eight percent slope. If it says C it's 8 to 15
 23 percent slope. Those are B and C. So those would be 3 to 15
 24 percent slope.

25 Q So the B C -- some of those are 8 to 15 percent

ROUGH DRAFT

1 Q And you were asked by counsel about the 9,000
 2 and you said well on typical soils. That's a conservative
 3 limit. I think your report says conservative limit for typical
 4 soils?

5 A I don't know if it's typical soils or not. I
 6 think -- I think they did it on a soil more prone to runoff
 7 because they want to be conservative. They want to be under
 8 the bag.

9 THE COURT: Stop. Stop. We're going to take
 10 a break.

11 Label put your tablets away. In the nice
 12 little are you here all day.

13 Don't discuss the testimony. We were not done
 14 yet. Don't deliberate. Have a good snack. Go to the
 15 bathroom. We'll see you in a little bit. You can move that.

16 Get it out of the way. Thank you deputy.

17 (Whereupon, the jurors were OES court from the
 18 courtroom.)

19 THE COURT: Mr. Nidel anything while they're
 20 out.

21 MR. NIDEL: No, Your Honor.

22 THE COURT: Mr. Lacks.

23 MR. LACKS: No, Your Honor.

24 THE COURT: Neither one of you talk to Dr.
 25 Elliott during the break p.m.

ROUGH DRAFT

1 slopes, right?

2 A Potentially, yeah. It's a very broad ranges.
 3 C would be 8 to 15. They are just saying that soil tends to be
 4 -- tends to be on topography that has those slopes.

5 Q And you didn't do -- other than having those
 6 numbers you didn't do any assessments of slopes, right?

7 A No

8 Q You don't know if they're 8 or 14.5?

9 A Right.

10 Q You said it would -- applying on wet ground
 11 whether that was the best management practice would depend on
 12 the slope?

13 A Yes.

14 Q At the C level at the 8 to 15 applying on wet
 15 ground that would start to be a best management practice,
 16 right?

17 A One should be more careful when it's steeper
 18 slopes.

19 Q At what point would that become a bad
 20 management practice. You should not apply on is the grade of
 21 ground. Is that fair

22 A The FPR management document basically says you
 23 can apply up to 15 percent slope, and they actually say -- the
 24 footnote of the table says you can go to 20 percent slope if
 25 you have adequate vegetative cover.

ROUGH DRAFT

1 Thank you very much. We'll see you in about
 2 20 minutes.

3 (Time noted, 3:07 p.m.)

4 (Recess.)

5 (Time noted, 3:22 p.m.)

6 THE COURT: Everyone can be seated. Mr. Nidel
 7 before the jury comes back, anything.

8 MR. NIDEL: No, Your Honor.

9 MR. LACKS: No, Your Honor.

10 THE COURT: Doctor do you want come down here
 11 and have a seat. Do you want tell the jurors to come on over.
 12 (Whereupon, the jurors were escorted into the
 13 courtroom.)

14 (Time noted, 3:23 p.m.)

15 Well come back everyone. I'm hope you had a
 16 nice break. We'll go with Dr. Elliott on cross examination.

17 Mr. Nidel.

18 BY MR. NIDEL:

19 Q Good afternoon again, Dr. Elliott.

20 A Good afternoon.

21 Q You were a reviewer on the FPR manual, right?

22 A Correct.

23 Q And were you paid for that review?

24 A No.

25 Q So that was something you did as just part of

ROUGH DRAFT

1 your professional experience?
 2 A Correct.
 3 Q And you were asked about, whether it was a
 4 violation of -- I think it was best management practice, if
 5 there were unintentional errors. I think there was testimony
 6 that you gave testimony well, if they had unintentional errors
 7 that wouldn't be a violation, right?
 8 A I think when we're evaluating any operation, we
 9 have to determine whether they're following the spirit or the
 10 letter of the law.
 11 Q Well, is there an exception for unintentional
 12 errors with respect to setbacks?
 13 A I don't know.
 14 Q The setbacks I think what I read in your
 15 report, they are a requirement, right?
 16 A Right.
 17 Q And you were asked -- well, you were asked what
 18 the best management practices that they followed and I think
 19 broadly you were asked to identify the best management
 20 practices that Nicholas Meat followed. Right?
 21 A Correct.
 22 Q And the shorthand for that is by the Court BMP?
 23 A Correct.
 24 Q You've identified best management practices
 25 which -- well let's talk about the best management practice for

ROUGH DRAFT

1 A I can think of other ones but I'm not sure if
 2 they did or not.
 3 Q You can think of other best management practice
 4 but these are the two that you think that they did?
 5 A Yes.
 6 Q How about BMPs -- how about other BMPs. What
 7 other BMPs did they do?
 8 Q You testified previously about this. And I can
 9 maybe help you out.
 10 I believe your testimony was they followed
 11 setbacks.
 12 A Setbacks is one of the BMPs, yes.
 13 Q It's your testimony that they followed
 14 setbacks?
 15 A Yes.
 16 Q Is there any other BMP that they implemented
 17 that you can identify?
 18 A Appropriate nitrogen application for the crop
 19 grown. Matching the nutrients in the material to the specific
 20 crop being grown.
 21 Q Appropriate N 2, is that nitrogen rate?
 22 A That's nitrogen gas.
 23 Q I'm not going to try my chemical?
 24 Appropriate nitrogen rates, right.
 25 A Right.

ROUGH DRAFT

1 odors since I have my notes. You identified odor best
 2 management practices that they were using, right?
 3 A Yes.
 4 Q Har those?
 5 A Through.
 6 Q What are those?
 7 A For example, they are aerating their wastewater
 8 prior to application.
 9 Q And by wastewater you mean FPR?
 10 A FPR.
 11 Q And what else are they doing?
 12 A Are you talking about in general?
 13 Q BMP to control odor?
 14 A You could incorporate the material.
 15 Q I want to know what they did.
 16 A They used load trajectory application.
 17 Q Your testimony was they applied close to the
 18 surface?
 19 A Right. There's that's what I meant.
 20 Q You meant low trajectory?
 21 A Yes, close to the surface as opposed to
 22 spraying it up into the air.
 23 Q Anything else that -- any other best management
 24 practice that they did -- that they implemented to control
 25 odor?

ROUGH DRAFT

1 Q Any other BMPs that they follow?
 2 A I believe the one about the one on we had on
 3 odors is also a BMP in terms of near surface application of the
 4 material in that would be a BMP for multiple reasons, right.
 5 A Yes.
 6 Q That would be to prevent runoff as well as to
 7 minimize odors?
 8 A Correct.
 9 Q Anything else that they did?
 10 A I didn't think of anything at this moment.
 11 Q When you say that they apply the appropriate
 12 amount, you only know what they plan to apply. That's what you
 13 review the NMPs?
 14 A Right. Other than if you can look at gallonage
 15 applied and see if that's and knowing the nitrogen content of
 16 the material and the nitrogen requirement of the crop to be
 17 grown, you can look and see whether there's a match there.
 18 Q But you didn't do the magic, right? You just
 19 looked at what their plan was, right?
 20 A I may have spot checked some of them.
 21 Q But you cannot testify under oath that they
 22 were consistent with those nitrogen?
 23 A I cannot testify that everyone was exactly
 24 right.
 25 Q And I asked you about the agricultural

ROUGH DRAFT

1 extension at Penn State. I'm handing an a printout for the
 2 agricultural extension at Penn State for orchard grass. Do you
 3 see that?

4 A Yes.

5 Q Does that appear to be Penn State's
 6 agricultural information for farmers updated February 10, 2025?

7 A It appears to be.

8 Q Is that a reliable and authoritative resource
 9 for farming in the State of Pennsylvania?

10 A It is.

11 MR. NIDEL: Your Honor, request to seek to
 12 admit Plaintiffs' exhibit P 112 into evidence which is the
 13 orchard grass from the Pennsylvania agricultural extension,
 14 Penn State University.

15 THE COURT: Orchard grass.

16 MR. NIDEL: Orchard grass, yes.

17 THE COURT: Is that actually the grass?

18 MR. NIDEL: It's may be a mixture of grass
 19 seeds. Commonly called hay.

20 THE COURT: Any objection?

21 MR. LACKS: Other than give it a name that
 22 better identifies what information it contains.

23 MR. NIDEL: Penn State extension orchard
 24 grass. All it says is orchard grass. I'm trying to be
 25 creative.

ROUGH DRAFT

1 MR. LACKS: Orchard grass sheet.

2 MR. NIDEL: I'm fine with sheet.

3 MR. LACKS: What's the number.

4 THE COURT: P 112. Any objection.

5 MR. LACKS: No.

6 MR. NIDEL:

7 Q If we take a look at the third physical page,
 8 it's the last page of text just before the summary?

9 A Yes.

10 Q The last sentence of the second paragraph under
 11 fertility it says the nitrogen should be applied in split
 12 applications of 50 pound per acre in early spring when the
 13 orchard grass begins to green up and 50 pounds per acre after
 14 each cutting?

15 Do you see that.

16 A I do.

17 Q Do you agree with that?

18 A Yeah. I'm not going to dispute what the
 19 agronomic guide says.

20 Q You would agree that's the agronomic rate of
 21 for orchard, right? That's a description of how your
 22 agronomically apply nutrients to orchard grass, right?

23 A Right. It says annual applications of 150
 24 pounds per acre or economical.

25 Q This is total an all of 150 pounds per acre and
 ROUGH DRAFT

1 an agronomic rate you apply 50 before it's planted and 50 after
 2 each cut?

3 A Right, that's to maximum your yields.

4 Q If we look at what was the NMP -- doctor if you
 5 can look over here. In the NMP's it was identified with
 6 seasonal applications early fall, winter, spring NMP, summer.

7 And then back to fall, right?

8 A Right.

9 Q And these applications would have been in 9,000
 10 gallons seasonal applications depending on the crop, right?

11 A Right. For grasses after a cutting you put on
 12 more. If there's something like corn you put it on once.

13 Q So corn you would put it all at once in the
 14 spring before it's planted?

15 A Right.

16 Q Part of that is because you can't run equipment
 17 over?

18 A Yes.

19 Q And something like orchard grass you would
 20 apply periodically and, in discrete amounts, feareidically
 21 before the harvest, before the planting and then after each
 22 cutting?

23 A After each cutting.

24 Q That's how the NMP was written, right?

25 A I'm sorry, you're referring to this?

ROUGH DRAFT

1 Q The nutrient management plan that you reviewed
 2 for Nicholas Meats. Is that how they were written?

3 A I'm not sure. For, for orchard grass. I
 4 looked at the total amount, the 150 pounds per per acre.
 5 That's reasonable form orchard grass go do you know if they
 6 applied 150 pounds or 200 pounds or how many pounds did they
 7 apply to orchard grass.

8 A The plan call for 150 and then you can
 9 calculate based on the concentrations in the analysis, how many
 10 gallons would be needed.

11 Q Did the plans call for 150 or 200 or 250?

12 A It depends on the soil. Different soils have
 13 different productivity ratings.

14 Q Which did Nicholas Meats NMPs call for?

15 A I don't know specifically.

16 Q You don't know if it was 150 or 200 or 250?

17 A It could be more.

18 Q You don't know, right?

19 A I don't know.

20 Q So the NMP was structured like this, you had
 21 seasonal applications?

22 A Yeah.

23 Q That's what the columns were, every season you
 24 applied 9,000 gallons sometimes two times in a season, right?

25 A Right. Try to split the nitrogen applications.

ROUGH DRAFT

1 Q You don't want to cluster all of the nitrogen
 2 -- it would not be a best management practice to, for example,
 3 cluster here just multiple applications at one time, right?
 4 A Yeah. And the split application is to maximize
 5 the yields, you come and cut the grass. You put more on.
 6 Q I've used the analogy. I don't know if you've
 7 been here and heard. Probably some people are sick of hearing
 8 it. You don't eat all your meals for the week on Monday
 9 morning?
 10 A Right.
 11 Q The agronomic feeds of the crop is those
 12 nutrients need to be spread out, right?
 13 A Yeah. I mean, obviously for something like
 14 corn it's not spread out.
 15 Q Can't be spread out?
 16 A Right.
 17 Q Something for what hay or orchard grass it
 18 would be spread out like the black indicates?
 19 A Yes.
 20 Q That would be the agronomic -- that would be
 21 based on the agronomic needs, right?
 22 A Yes, that's maximizing the value of the
 23 nitrogen material.
 24 Q It's minimizing the chances for nutrient
 25 runoff, right?

ROUGH DRAFT

1 A Hard to say for runoff. It may not be any
 2 runoff.
 3 Q Nitrification?
 4 A That's related to runoff.
 5 Q It's groundwater runoff?
 6 A Nitrification is surface water.
 7 Q So is it to supply what the crop needs at the
 8 time it needs it?
 9 A Yes, to optimize the diet.
 10 Q That would be the best management practice,
 11 right?
 12 A That would be.
 13 Q Do you know if they applied consistent with the
 14 NMP's plan?
 15 A I don't know.
 16 Q You didn't review their?
 17 A I didn't review everyone of those on orchard
 18 grass.
 19 Q And I know you said not everyone. Did you but
 20 you did not focus your review on how they actually applied?
 21 A No
 22 Q You don't know if --
 23 A I don't.
 24 Q You said that they -- you talked about they
 25 were permitted to apply on snow covered fields if they had the

ROUGH DRAFT

1 right equipment?
 2 A Correct.
 3 Q Were they allowed to before that hearing board
 4 testimony?
 5 A No.
 6 Q They were found in violation, they were not
 7 allowed when they were initial applying on snow covered frozen
 8 ground?
 9 A That's right.
 10 Q You testified on their behalf and you actually
 11 were quoted in I think some articles as saying well saying the
 12 bazooka was the way to do this in the snow?
 13 A Right. It's permitted in other states to apply
 14 on snow covered grounds if you use the appropriate equipment.
 15 Q And you felt that the bazooka was the
 16 appropriate equipment?
 17 A That's one type of equipment.
 18 Q You testified I believe you said in 2020, but
 19 do you know when they actually had that hearing board testimony
 20 and when they got the bazooka?
 21 A I don't know. I mean -- I don't know when they
 22 got the bazooka.
 23 Q I want to make sure it's clear. I believe you
 24 testified 2020 but you do not know when they started?
 25 A Purchased that equipment, I don't know.

ROUGH DRAFT

1 Q So you don't know when they were applying on
 2 frozen ground without permission in violation, right?
 3 A In violation. The FPR manual was written in
 4 1992 originally. And there are certain kinds of equipment that
 5 weren't in existence then. And equipment to apply under the
 6 snow was one of the those types of equipment that wasn't in
 7 existence at the time.
 8 Q I understand. I was going to talk to you a bit
 9 about the manual. The manual that I have is 1994. Is that the
 10 latest?
 11 A I believe it's 94. I think we got started in
 12 maybe 92. And that was when it was the DER and he then the DEP
 13 -- the DER was split in 1995. So everything after that is DEP.
 14 Q And the manual indicates at the beginning of it
 15 that it's meant to be periodically updated, related?
 16 A Yes.
 17 Q Hasn't been updated for -- I don't want to give
 18 too much away. But it hasn't been updated for several years,
 19 right?
 20 A The DEP did some updates when they published it
 21 online.
 22 Q The version that we have here has the date what
 23 you download online is 1994. Is that the current version?
 24 A If it's dated 1994 -- I think they updated it
 25 after that.

ROUGH DRAFT

1 Q I want to show you -- I want to clear up some
2 of the things that we heard earlier.
3 This is a manure analysis five year running
4 average. It's from D 167, which is in evidence.
5 Is that the table that you were talking about
6 showing monthly -- that you not was monthly yield, monthly
7 nitrogen content.
8 A No, it isn't. I was referring to a report that
9 had five monthly analyses. And this -- this doesn't appear.
10 Application. This does not appear to be that same -- maybe it
11 is. October, December, February, January.
12 No, the one I was referring to had five
13 consecutive months of analysis.
14 Q Do you know what years that was?
15 A I think it was 2021.
16 Q Here we have five analyses. It's consistent
17 with your testimony that the high is 4.8. I think your
18 testimony was in the 14's. Low is 2.25. Do you see that?
19 A Yes.
20 Q And it is -- it claims to be a five year
21 running average but it's sort of average over samples
22 sporadically between 2021 and 2024; is that right?
23 A Yes.
24 Q And there's two samples that were taken within
25 a month of each other. This is the only sampling that I've

ROUGH DRAFT

1 seen that is within a one month of each other, right?
2 A Yes.
3 Q And we have a variation from 4 and quarter to
4 12.6, right?
5 A Yes, according to that table.
6 Q And I want to be clear. The requirement is
7 that the FPR be tested every year, right?
8 A Yes.
9 Q And that is a requirement not a guideline,
10 right?
11 A Well, it's in the management document.
12 Q As a requirement, right? Must be tested
13 everyone year. The NMP management manual which we can dive
14 into it says it must be analyzed every year?
15 A The best management practice, yes.
16 Q It's a best management practice, rights?
17 A Is to test it at least yearly.
18 Q It's also a requirement from the NMP management
19 manual?
20 A Yes.
21 MR. LACKS: Objection. You're referring to
22 the NMP technical manual or the FPR management manual.
23 MR. NIDEL: The technical. He is capable of
24 correcting or clarifying.
25 MR. NIDEL:

ROUGH DRAFT

1 Q It's a requirement of the NMP requirements,
2 right. Is that fair?
3 A Yes.
4 Q And which nitrogen did you use to see if their
5 plans were consistent with the NMP -- well, withdraw the
6 question.
7 You never looked at what they actually applied
8 so you only determined whether their plans were consistent
9 what you believe to be normal.
10 A The analysis they were using for that year.
11 Q And you did not -- you're, your opinion is that
12 their plans are consistent with a best management practice,
13 right?
14 A Yes.
15 Q How they plan to apply nutrients, right?
16 A Yes.
17 A Yes.
18 Q Your testimony is that their plans were
19 consistent with it being a normal farming operation, right?
20 A Yes.
21 Q You don't know how they actually did this,
22 right. You didn't review the records of the actual?
23 A I did not review all of the records.
24 Q And?
25

ROUGH DRAFT

1 Q I want to kind of step back a bit. You talked
2 earlier at the very beginning about studying on pharmaceuticals
3 and drinking water wells?
4 A Yes.
5 A Yes.
6 Q Septic systems are designed to specifically
7 treat and filter bacteria, right?
8 A I would say their primary purpose is to reduce
9 BOD.
10 Q And they're also expected to reduce the risk of
11 fecal or fecal coliform of your well?
12 A Yes?
13 Q They're not designed to it treat
14 pharmaceutical?
15 A That's right.
16 Q Is that a paper you published?
17 A I was a coauthor on the study.
18 Q Pharmaceuticals have been identified as
19 persistent organic pollutants because they don't degrade
20 easily, right?
21 A That's a very general statement. Some degrade
22 relatively easily and others hang around for a while.
23 Q Right. And we see norafistrome in waterways,
24 birth control?
25 A Yeah.

ROUGH DRAFT

1 Q We see some of these are maintained in the
2 environment because they are persistent, right?
3 A Right.
4 Q And that is not what we're talking about here.
5 We're talking about nitrates and we're talking about bacteria
6 contamination, right?
7 A Correct. I mean, once below the roots nitrate
8 pretty much -- there are mechanisms but nitrate pretty much
9 stays as is in groundwater.
10 Q The FPR manual hasn't been updated in over 30
11 years, rights?
12 A Other than what DEP did.
13 Q The minor tweaks?
14 A Yeah. I mean, something as simple as changing
15 all of the references from DER to DEP.
16 Q Like changing all of the references from
17 wastewater to FPR. Is that fair?
18 A Probably not a good analogy, but that's okay.
19 Q It felt good.
20 Do you agree with the statement that a person
21 managing food processing waste shall implement best management
22 practices.
23 A State that again.
24 Q I person managing food processing waste shall
25 implement best management practices, shall implement best

ROUGH DRAFT

1 management practices?
2 A A person -- what was the first part.
3 Q Managing?
4 A Managing. Yes.
5 Q Food processing waste. You do agree with that?
6 A I agree.
7 Q That's a statement that you have published in
8 the FPR manual, right?
9 A Yes.
10 Q And you talked -- you were asked about the
11 hierarchy, right?
12 A Yes.
13 Q
14 Q And you've got an exhibit that illustrates the
15 hierarchy, right?
16 A Yes.
17 Q And you talked about the food processing
18 residuals. I want to make sure that everyone in the courtroom
19 understand, food processing residuals it's not just -- it
20 includes things like hooves, and hearts, and stomachs, right?
21 A In a broad sense if you use the word residuals
22 but in this context we're talking about something that can be
23 land applied.
24 Q You're talking rendering plants?
25 A Right.

ROUGH DRAFT

1 Q For the recover for animal uses?
2 A Right.
3 Q It's not just the liquid wastewater. There is
4 examples in the FPR manual where you're talking about hides and
5 other body parts of animals that are used in other ways for
6 either human use, such as -- I heard a word -- I don't know if
7 it was tripe?
8 A Tripe, yeah.
9 Q Stomach?
10 A Yeah. The guts in could be used by humans,
11 right.
12 A I don't know. I don't know who eats that.
13 There are parts of animals that are FPR --
14 that are actually consumed by humans, right? A plant that
15 maybe was harvesting the T-bone or the certain steaks could
16 have been at some point disposing of those and now finding a
17 new use for human use, right.
18 A Yeah. I mean, there's talo and things like
19 that and the FPR can be used for things like cosmetics.
20 Q And potato chips?
21 A Yeah.
22 Q French fries?
23 A Yes.
24 Q It includes things like all of the unused parts
25 of the animal, right?

ROUGH DRAFT

1 A What does.
2 MR. LACKS: Objection, unused.
3 BY MR. NIDEL:
4 Q The term food process residuals that were
5 addressing it in this. It could be anything from the tails and
6 the ears and the organs if there is a use for them, the goal is
7 to try and fit it into in hierarchy?
8 A Yes.
9 Q And so when a truck, goes offer to a rendering
10 plant with parts of animals that would also be going off to
11 take that FPR for recovery for animal use, right?
12 A Yes. I think maybe we need to distinguish to
13 using the word residual in two different ways. We've been
14 talking about it as the material that gets lands applied versus
15 unwanted.
16 Q That's exactly the point I'm trying to address.
17 I'm not -- I want to make sure the jury understands what was
18 being -- your understanding of what was being applied was the
19 blood, wastewater mixture that has been described throughout
20 this trial, right?
21 A Yes.
22 Q With respect to what we refer to generally as
23 FPR, not to confuse anyone. But what you were referring to in
24 this manual was something more general that could be the fat,
25 it could be the hide, it could be other things. Right?

ROUGH DRAFT

1 A The manual doesn't address those.
 2 Q Well you talked about rendering, right?
 3 A Right.
 4 Q And there are references in the examples in the
 5 back?
 6 A Yeah.
 7 Q That reference?
 8 A Companies that do that.
 9 Q As part of the FPR hierarchy?
 10 A Right.
 11 Q So there is some reference to those other uses
 12 including, you know, parts that animals would eat that are not
 13 just drinking the wastewater, but that are recovered for use
 14 under this FPR definition, right?
 15 A But the majority of the manual is not dealing
 16 with those other materials.
 17 Q I understand. But it falls within the
 18 definition, rights?
 19 A Yes.
 20 Q And the -- you talked about how Nicholas is --
 21 what's going on with Nicholas meets and that they are recovery
 22 younging for soil conditioning and fertilizing, right?
 23 A Yes correct.
 24 Q And you also made the claim that they are also
 25 recovering for animal use?

ROUGH DRAFT

1 higher. But this is about one percent solids, right?
 2 A Right.
 3 Q You have to put a lot of energy and effort into
 4 distilling that down?
 5 A Dewatering it.
 6 Q Better word. And down to that 20 percent?
 7 A Right.
 8 Q You could put it in the landfill but in your
 9 view that would be sort of Wawa?
 10 MR. LACKS: Objection. I don't know how to
 11 interpret that.
 12 THE COURT: Sustained.
 13 MR. NIDEL: In there would be no benefit
 14 according to this -- it would be a disposal.
 15 A In some states you could not put it in a
 16 landfill.
 17 Q But you what you could do is send it to an
 18 sewage treatment plant?
 19 A Correct.
 20 Q So you could send that.
 21 A To a wastewater treatment plant.
 22 Q WW T T?
 23 A We call them water reclamation facilities now.
 24 Q And they have water that goes out to Fishing
 25 Creek or the river?

ROUGH DRAFT

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1 A If they are refeeding the crops grown, that's
 2 true.
 3 Q We could look at the manual. But in the manual
 4 when you talk about animal use it's primarily feed, right,
 5 direct feed, mean parts of animals that are not fit for human
 6 consumption?
 7 A Pet goods or whatever.
 8 Q Typically in the manual what you're talking
 9 about at this stage of the hierarchy it's pet food, right?
 10 A I'm sorry.
 11 Q It's pet food?
 12 A Yes.
 13 Q And you've indicated that, well, since we're
 14 getting some crop benefit we're going from into this and then
 15 we're sort of loop being back into that second?
 16 A Yes.
 17 A I want to talk to you about another -- there is
 18 the FPR that's generated. And that could go to -- you're you
 19 talked about it could go to a landfill and that would be
 20 disposed of.
 21 A Most landfills would not accept that material.
 22 Q Because it's too much water?
 23 A Too much water. They want something 20 percent
 24 solids or higher.
 25 Q That want something 20 percent solids or

ROUGH DRAFT

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1 A Right, or gets spray irrigated as Penn State
 2 does.
 3 Q I was going to ask you that. I might have
 4 forgotten. Thank you for reminding me.
 5 When you talk of them spraying the effluent
 6 hat's after the treatment.
 7 A Yes.
 8 Q Absolutely? You have the sludge, the solids?
 9 A Right.
 10 Q And that is where you sequester the nutrients,
 11 rights?
 12 A Yes.
 13 Q So you have solids that go out and those solids
 14 contain the nutrients that came in this the sewage treatment
 15 including what would come in the FPR, right?
 16 A Right. The reason form that is the
 17 municipality is going to have limits, discharge limits on the
 18 water that goes to the stream.
 19 Q So the solids come out -- well that was a poor
 20 choice. Blue should probably be water. But blue is solids.
 21 And the water goes out. And that can -- that now being treated
 22 water, that can go out to the river?
 23 A Right.
 24 Q And those solids -- they are actually used --
 25 this is something that you've worked on -- they are used to

ROUGH DRAFT

1 then go into trucks, and then and they go to -- I had a sick
 2 cow yesterday?
 3 If I could spots.
 4 But that goes out to farm fields, right.
 5 A A certain percentage does if the solids that
 6 come out of the sewage treatment plant or the wastewater
 7 treatment plant, that can be recycled and reused beneficially,
 8 right.
 9 A Yes.
 10 Q By taking all of those nutrients that were in
 11 whatever the feed stream is including the FPR and it can go out
 12 to a field for recovery for animal use and recovery for
 13 fertilizer and soil condition, right?
 14 A Correct.
 15 Q So if we were to -- and I don't know that I
 16 have permission and I don't know that -- I am being told I have
 17 no permission.. if I had permission, if it was a guideline and
 18 not a requirement, I could write sewage treatment plant
 19 biosolids right here, right? That would be the same recovery?
 20 That would be the same point on the hierarchy as what Nicholas
 21 is doing, right?
 22 A Yes. I agree you would have to say okay.
 23 Because there is the flow of the potential FPR. You'll
 24 probably have to have a little side.
 25 Q You would. You'd have to pay to truck it to

ROUGH DRAFT

1 Q And then you would have a cost on average five
 2 to 10 cents a gallon?
 3 A Yeah. It really depends on the treatment
 4 plant. Many of them don't want to extra nutrients and extra
 5 waste to treat.
 6 Q But it would be typical that they would charge
 7 about five to 10 cents a gallon?
 8 A Yeah, that's probably a reasonable number.
 9 Q Okay. And then you would get treated solids
 10 out of that, not as a one percent solid, but you get something
 11 out that was like 30, 40, maybe let's say 25 to 40 percent
 12 solids, right?
 13 A Depends on what you do with the solids. As
 14 generated from the treatment plant, they may only be one
 15 percent. So they might thicken them, and they might go to
 16 centrifuges or belt presses or something like that. Maybe get
 17 up to 20 solids. To get the 30 or 40 percent solids you would
 18 have to add -- they're going to have to have probably dryers to
 19 actually dry some of the water off.
 20 Q So you would get a product out of that that
 21 could then be beneficially reused on farm fields and that would
 22 fit right in here, right?
 23 A Yes.
 24 Q And all of those nutrients would be preserved,
 25 right?

ROUGH DRAFT

1 the sewage treatment plant?
 2 A Right.
 3 Q So there would be an economic cost?
 4 A Right.
 5 Q There be an economic cost in treating it. Is
 6 that yes?
 7 A Yes. The treatment plants is going to charge
 8 you based on the B U D, nitrogen content, the total gallons.
 9 Q And they're going to charge you -- they're
 10 going to charge you based on the total gallons, right?
 11 A Yeah. Those surcharges are very complicated.
 12 Used to BOD and total gallons.
 13 Q They charge based on the percent of solids,
 14 right?
 15 A They're talking liquid waste so it's usually
 16 the gallons and maybe the BOD content, maybe the nitrogen,
 17 maybe the phosphorous. So surcharges vary from one treatment
 18 plant to another.
 19 Q Surcharge is around five to 10 cents a gallon;
 20 does that sound right?
 21 A Yeah, that's typical.
 22 Q So if you were to truck it to a treatment plant
 23 you would have the transportation cost, right, of trucking it
 24 to the treatment plant?
 25 A Right.

ROUGH DRAFT

1 A Yes. Although you tend to lose some nitrogen
 2 in the treatment if they have nitrification.
 3 Q You might lose a little bit. Now you would
 4 have treated treatment and they would actually be treated --
 5 the pathogens would be reduced?
 6 A The pathogen reduction because you aerobically
 7 treated it.
 8 Q They would be either aerobically digested or
 9 anaerobically digested?
 10 A Right.
 11 Q Or lime stabilized?
 12 A Right. Those are probably the three major
 13 ways. The solids come out are treated before you put it in the
 14 trucks.
 15 Q They're treated to that what we call
 16 stabilized?
 17 A That's true.
 18 Q The stabilization is to reduce the pathogens
 19 which would reduce the contamination of wells, right?
 20 A Yes.
 21 Q And it will reduce the risk of odors, right?
 22 A Right. And there's one other thing, vector
 23 attraction reduction.
 24 Q Vector attraction reduction. So they stabilize
 25 -- they'll stabilize the materials to reduce the risks of

ROUGH DRAFT

1 vectors?
 2 A Yes.
 3 Q To reduce the risk of odors and the intensity
 4 of the odors?
 5 A Yes. I mean, biosolids still have an odor.
 6 Q I would agree with you on that.
 7 But it's a step to reduce those odors, right.
 8 A Relative to what.
 9 Q To the start starting material. To the higher
 10 content, bacterial content?
 11 A Okay.
 12 Q And it's to reduce the risk of pathogen
 13 contamination and health and safety issues, right?
 14 A Yes.
 15 Q And the -- you talked about the treatment that
 16 occurred at Nicholas Meats, right?
 17 A Yes.
 18 Q There is no treatment plant, right?
 19 A Well they ever two aeration tanks. It's not a
 20 conventional west water treatments plant shall waster water
 21 reclamation facilities.
 22 Q It's not a waste treatment plant. It's not
 23 what is outlined here?
 24 A No. Because the end result is not something
 25 that's suitable for discharge to surface water.

ROUGH DRAFT

1 Doesn't eliminate them.
 2 Q It's not an approved method for stabilizing
 3 waste waters?
 4 A It is not in that set of stabilization process
 5 because those are pleasant for biosolids and solids materials.
 6 Something -- not something you pump, something you shovel.
 7 Q Well, that's interesting because in your report
 8 -- I'm not going to go there. I feel like you knew where I was
 9 going. There are things that you shovel. We're not going to
 10 talk about them today.
 11 Now I'm distracted.
 12 You talked in report about the fact that the
 13 FPR manual actually gives an example of the use of
 14 slaughterhouse materials for FPR, right.
 15 A Yes.
 16 Q Okay. And that example that it gives for the
 17 use of slaughterhouse FPR, that example -- that's not what's
 18 happening at this plant, right?
 19 A I don't remember what the example is.
 20 Q Well, you said that your opinion in your report
 21 is that they're doing at best management practice with this FPR
 22 and in fact it's consistent with -- the example given in the
 23 NRP manual, right?
 24 A I don't think I ever said that. You can still
 25 be consistent with the FPR manual and not mirror what's in the

ROUGH DRAFT

1 Q They have not stabilized the material, right,
 2 not at Nicholas Meats?
 3 A I'm not sure what you mean by stabilize.
 4 Q We talked about pathogen reduction. In the FPR
 5 manual there are -- it's a whole table of stabilization
 6 methods, anaerobic digestion, aerobic digestion blind
 7 stabilization?
 8 A Those are for solid slurries they are not for
 9 the waste water.
 10 Q The material is only -- the FPR material
 11 coming out it's just -- it's just -- they're blowing bubbles?
 12 That's all it is?
 13 A It's only one hundred percent solids. But
 14 that's very effective to reduce the BOD.
 15 Q It reduces BOD. It doesn't reduce the
 16 pathogens, right?
 17 A No, it does.
 18 Q It does not eliminate the pathogens?
 19 A It does not eliminate.
 20 Q All they're doing is it blowing bubbles?
 21 A But that's a very effective way of treat waste
 22 materials.
 23 Q It's not a way to stabilize or reduce the
 24 pathogens, right?
 25 A You just said it reduces the pathogens.

ROUGH DRAFT

1 example.
 2 Q Well, I want to -- I want to be clear about
 3 what is in the manual. And there is an example -- I'm going to
 4 show you the FPR manual which is in evidence. It's D 110. And
 5 it has example of a meat case study, right?
 6 A Okay.
 7 Q And it's got a flow chart of what goes on in
 8 that case study, right?
 9 MR. LACKS: Could you provide a page number.
 10 MR. NIDEL: PDF page 165.
 11 BY MR. NIDEL:
 12 Q And you -- in your report said it was
 13 consistent with this but -- I'll have to zoom in. But we see
 14 aeration over here, right?
 15 A Yes.
 16 Q That's where Nicholas Meats stops, right?
 17 A Yes in terms of actually treating of the
 18 material before it's land applied.
 19 Q In terms of treating the actual material before
 20 it's land applied, this is where it stops, right here?
 21 A Right.
 22 Q Okay. And none of this is hang, right?
 23 A Yes. This is -- it looks like they are de
 24 watering material. Yeah, because it says 17 to 18 percent
 25 solids right above that S1 circle there.

ROUGH DRAFT

1 Q They are actually doing the steps that you talk
 2 about. They are de watering, they shall returning a belt
 3 press. They're getting up to that roughly 15 to 20 solids.
 4 They get secondary sludge and then they land apply that along
 5 with the primary sludge that's dump pressed?
 6 A And they stream discharge the liquid portion.
 7 Q So they are actually doing treatment, right,
 8 they're not just blowing bubbles?
 9 A Right. That's more consistent with your
 10 wastewater treatment plant over here.
 11 Q And that's the example that's provided in the
 12 FPR manual, right?
 13 A Yeah.
 14 Q That's the example that you put in your report
 15 that they were consistent with Nicholas Meats, right?
 16 A Did I put that in there?
 17 Q I don't know if the lawyers put that in there?
 18 MR. LACKS: Objection, Your Honor.
 19 A I didn't say that the Nicholas Meat operation
 20 is identical to this.
 21 THE COURT: Stop. What's the objection.
 22 MR. LACKS: That he was misstating the report
 23 and.
 24 THE COURT: I guess I'll strike. Do you mean
 25 where he said the lawyers put it 234 there.

ROUGH DRAFT

1 it if you get to it.
 2 MR. NIDEL:
 3 Q I'm trying to find on the fly here.
 4 You don't recall making that comparison.
 5 A No.
 6 Q I will have someone find that for me and we can
 7 come back to it.
 8 You agree with me this not what's happening at
 9 Nicholas Meat, right.
 10 A I agree.
 11 Q This is a best management practice, right?
 12 A That's an example of a facility that follows
 13 best management practices.
 14 Q And this is not consistent with what Nicholas
 15 Meats does, right?
 16 A No. That's different. Different plant,
 17 different operation.
 18 Q Different management practice, right?
 19 A Yes.
 20 Q It's not treated at Nicholas Meat. It's only
 21 getting the bubbles, right?
 22 A Most people would say that aeration is a
 23 treatment.
 24 Q Let's be clear. The frac tanks don't have
 25 aeration. Do the frac tanks?
 ROUGH DRAFT

1 MR. LACKS: Prior question how he
 2 characterized statement in the report as well.
 3 MR. NIDEL: I join up in striking that
 4 statement if let me ask a different way.
 5
 6 MR. NIDEL:
 7 Q Did you write your report?
 8 A Yes.
 9 Q And is there a statement in your report that
 10 the Nicholas Meat operation is consistent with this example
 11 we're looking at?
 12 A I don't think so.
 13 Q Let me make sure I understand that you mean by
 14 consistent. You use consistent throughout your report and
 15 you've used it in your opinions. Do you agree that consistent
 16 with means free from contradiction?
 17 A I never referenced this diagram in that process
 18 in my report.
 19 Q You reference that process as being an example
 20 of why Nicholas Meats process is a best management practice?
 21 A Could you show me where that is.
 22 Q Mine is not highlighted in the same way that
 23 yours was, but?
 24 THE COURT: Mr. Nidel P. Please, don't. We
 25 didn't get to that yet. Let's keep that out until you get to

ROUGH DRAFT

1 A No, they are mixed but they don't have
 2 aeration.
 3 Q And there is the possibility of aeration, but
 4 do you know what the residence time is in the aeration tanks at
 5 Nicholas Meat?
 6 A I could calculate it if you if you tell me --
 7 the volume -- so we could calculate it. What is it. About
 8 20,000 gallons and I'm not sure what the volume of those tanks
 9 are about but it would be easy. Divide the total flow, 120
 10 gallons by the sum of the volumes in those two tanks.
 11 Q And I'm glad you brought up 120,000 gallons
 12 that was another thing. You said the total cows slaughtered
 13 620 a day?
 14 A Yes.
 15 Q They're up to 750?
 16 A I don't know.
 17 Q You mentioned that they were processing 120,00
 18 of gallons of wastewater but they're up to 200,000?
 19 A I don't know that.
 20 Q Do you agree an ideal land application site
 21 would be isolated?
 22 A Ideal?
 23 Q Yeah?
 24 A Isolated from what.
 25 Q Isolated from people, other than residences?
 ROUGH DRAFT

1 A Yes, potentially if odors is an issue.
 2 Q It would be isolated, it would be a growing of
 3 a variety of crops. Do you agree with that?
 4 A Not necessarily.
 5 Q I'm just -- I'm just reading from the manual.
 6
 7 A Many farms grow corn continuously year after
 8 year so I don't think that would qualify as a variety of crops.
 9 A But many farms do crop rotation.
 10 Q Why don't I just go ahead and present your FPR
 11 manual.
 12 The ideal land application site would be an
 13 isolated farm, right.
 14 A Yes.
 15 Q Growing of a various of animal feed crops in
 16 large acre lots? It would be flat to gently sloping, right.
 17 A Yes.
 18 Q And it would detailed have well drained medium
 19 textured loamy soils?
 20 A Yes.
 21 Q Well draing not the high runoff potential,
 22 right?
 23 A Yes.
 24 Q And it would not have streams, wetlands, wells
 25 or sinkholes near the field, right?

ROUGH DRAFT

1 Q So Nicholas Meats system is not consistent with
 2 that system, right?
 3 A No, it's not the same.
 4 Q But in your record, reports it stays Nicholas
 5 Meats operations are consistent with that case study example.
 6 The plant separates material not suitable for land application,
 7 EG bones and offal. The FPR contains paunch manure and plant
 8 water from sews and FPR is stored aerated in tanks and the land
 9 application occurs using a nutrient management plan, right
 10 ^ FIX/DROPPED?
 11 A What page are you on.
 12 Q On on page 10. Middle of the page.
 13 Do you see that.
 14 A Yes.
 15 Q Okay.
 16 You left out the part about treatment, right?
 17 The whole belt press and dewatering and lime stabilization,
 18 right.
 19 A Yes.
 20 Q They are not consistent, right?
 21 A Any other not the same. And I think this must
 22 have been referring to the up front portion of that flow
 23 diagram that you showed.
 24 Q But once you get to the treatment, Nicholas
 25 Meats just takes it out to the field and sprays it, right?

ROUGH DRAFT

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1 A Yes.
 2 Q Do you know how many sinkholes are near these
 3 fields?
 4 A I know of at least two.
 5 Q Do you know how many wells are near these
 6 fields?
 7 A Do you mean private residential wells?
 8 Q Wells that people use for drinking?
 9 A How many.
 10 Q Yeah?
 11 A No.
 12 Q Would you agree that the -- that the example
 13 that we looked at, the meat example that we looked at, that
 14 that's consistent with -- that Nicholas Meats processing is
 15 consistent with that or no?
 16 A Two different facilities.
 17 Q You said I would never have said that they were
 18 the same, right?
 19 A Yeah, they're not the same obviously from all
 20 of the processes you showed.

21 Q They're not consistent, right?
 22 A They're not much identical.
 23 Q Well, it's lacking the whole treatment part of
 24 the process, right?
 25 A Right. They are different systems.

ROUGH DRAFT

1 MR. LACKS: Objection.
 2 THE COURT: What's the objection.
 3 MR. LACKS: Use of the word sprays.
 4 THE COURT: Applies it.
 5 MR. NIDEL: Applies it.
 6 BY MR. NIDEL:
 7 Q Do you know if they spray the material?
 8 MR. LACKS: Objection.
 9 MR. NIDEL: Do you know if they spray the
 10 material.
 11 THE COURT: What's the objection.
 12 MR. LACKS: He asked about application methods
 13 before and Dr. Elliott testified to his knowledge. Been
 14 scanned.
 15 MR. NIDEL: Objection to.
 16 THE COURT: Just wait.
 17 MR. NIDEL: I'll ask a question.
 18 Q Dr. Elliott do you know how they applied -- I
 19 believe you said that -- I believe it was your testimony that
 20 they follow BMP's by applying it low at the time ground, rights?
 21 A Yes.
 22 Q Do you know if they've ever sprayed it?
 23 A In the past, I believe they have.
 24 Q Do you know how recently?
 25 A There was a picture of a truck, a tanker truck,

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1 slinging it out -- I wasn't sure if that was FPR or manure.
 2 Q There are tanker trucks that sprayed it and
 3 there is a duck bill that sprayed it, right?
 4 A Right.
 5 Q Do you know if they use that on these fields?
 6 A I don't know on fields.
 7 Q That would not be a best management practice,
 8 right?
 9 A It wouldn't be ideal but it wouldn't be
 10 prohibited.
 11 Q I didn't ask if it was be prohibited -- there
 12 is a long way from prohibited to best, right?
 13 A Okay.
 14 Q And that's not a best management practice. You
 15 identified a applying close to the ground would be best
 16 management practice?
 17 A Okay. Under your definition I agree.
 18 Q I'm going by your definition. Your definition
 19 was the best thing you could do is put it down here?
 20 A Put it down low, right.
 21 Q Not to spray it, right?
 22 A Correct.
 23 Q And you don't know if they sprayed it, right?
 24 A Those fields I don't know.
 25 Q And if you reviewed pictures of how they

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1 applied it?
 2 A Yes.
 3 Q Let me be clear with you.
 4 Have you reviewed pictures of how they applied
 5 it in 2019, 2020, 2021.
 6 A No.
 7 Q You've seen video of the machine putting it
 8 down there, right?
 9 A Yes.
 10 Q But you don't know how it was applied in 2019,
 11 2020?
 12 A No. Everyone of those fields over those years,
 13 I don't know.
 14 Q You don't know if it was applied with best
 15 management practice, right?
 16 A I don't know right if they had the ideal
 17 management practice.
 18 Q All we want is best?
 19 A Best.
 20 Q Right. You idea identified best as down here
 21 and I'm talking about something that's finely sprayed out in a
 22 miss, right. That would not be best?
 23 A Not the best.
 24 Q And your continue that they followed best
 25 management practices is -- well, it's based on reviewing their

ROUGH DRAFT

1 NMP?
 2 A Yes.
 3 Q Not based on what they actually did in these
 4 fields?
 5 A No. It was based on overall. They have an
 6 being excellent nutrient management program.
 7 Q They had an excellent -- let's check our --
 8 let's make sure we've got the right words here?
 9 They have an excellent nutrient management
 10 plan, rights.
 11 A Yes.
 12 Q You don't know if they followed that plan,
 13 right?
 14 A I know that they follow it. I don't know in
 15 every instance exactly how they followed it.
 16 Q You didn't review the records that show whether
 17 they followed it, right?
 18 A I did not review all of the records.
 19 Q You don't know if they followed setbacks,
 20 right?
 21 A I have some indication when I viewed it that
 22 they were following -- I watched them apply it. That was in --
 23 it was in SN 1. And I was also in F3. And I observed an
 24 observation that the grass was greener about 300 feet from the
 25 Rockey property when they only needed to maintain 100 foot

ROUGH DRAFT

1 setback.
 2 Q Super best management practices?
 3 MR. LACKS: Objection. Argumentative.
 4 A They were actually doing better.
 5 THE COURT: Stop. He makes an objection,
 6 everybody needs stop. What's your objection.
 7 MR. LACKS: That the use of the term super
 8 best was argumentative.
 9 THE COURT: Strike it. Ask him another
 10 question.
 11 BY MR. NIDEL:
 12 Q Better than the best?
 13 A Can you get better than the best.
 14 Q Apparently.
 15 There was setbacks that are required from
 16 neighboring properties, right.
 17 A Right.
 18 Q Those are required setbacks, right?
 19 A Yes.
 20 Q The blue was shaded in by the people that land
 21 applied this material. Do you see that?
 22 A Yes. Is that F3.
 23 Q This is F3. F2. But F3 -- the blue goes all
 24 the way to the property line, right blue?
 25 A I don't know where the property lines are.

ROUGH DRAFT

1 Q Well, do you know if?
 2 A It could be just a field boundary.
 3 Q Well, right here we have the Rockies's
 4 property?
 5 A Right. I don't know about the other sides.
 6 Q And the road, there's a 50 foot setback from
 7 property lines, right?
 8 A Write. 1245 the for the line. Is that someone
 9 else's property.
 10 Q Do you know?
 11 A I don't know.
 12 Q Have you reviewed it had SN fields that -- I
 13 know you were given testimony that's happened during this
 14 trial. Were you given the indications the testimony from Brett
 15 Bowes and Todd Bowes about where they applied?
 16 A No.
 17 Q On SN1 SN2 and SN3?
 18 A No.
 19 Q Do you know if they applied to the property
 20 line?
 21 A I don't.
 22 Q But there is a setback, a required setback, not
 23 a guideline. A required setback that you setback 50 feet at
 24 least from property lines, right?
 25 A Okay.

ROUGH DRAFT

1 identified setbacks but they didn't identify all of the
 2 setbacks because they didn't identify the property line
 3 setbacks, did they?
 4 A I don't know.
 5 Q You looked at the NMPs they have these
 6 identified -- this is one from the NMP. There is no yellow
 7 line identifying a setback from the property or from the
 8 roadway?
 9 MR. LACKS: I object. There are so many marks
 10 on there I don't know the witness could even identify.
 11 MR. NIDEL: Let's put pull it up on the
 12 computer.
 13
 14 MR. NIDEL: In do you see any setbacks for
 15 property lines there.
 16 A No.
 17 Q Let's take a look at the SN field. Do you see
 18 any setbacks with property lines there?
 19 A No, but I don't know where the property lines
 20 are. If it's the same owner then there no property lines.
 21 Q You have to get have a waiver, right?
 22 A Yes.
 23 Q And you have to a written waiver included with
 24 your NMP documentation, right?
 25 A Yes.

ROUGH DRAFT

1 Q Is that correct?
 2 A Yes.
 3 Q You wrote?
 4 A Yes.
 5 Q You helped write the manual. Does that apply
 6 to roadways as well?
 7 A Yes.
 8 Q So property boundaries. You have to have a
 9 setback, right?
 10 A Yes.
 11 Q You don't know if they met those setbacks
 12 A I don't.
 13 Q So you said -- we talked what best management
 14 practices they did. You identify sided setbacks. That was one
 15 of your answers, setbacks?
 16 A Right.
 17 Q But you don't know if they followed setbacks?
 18 A No. I just know that on all their maps they
 19 have setbacks identified.
 20 Q So they have identified -- TeamAg identified
 21 setbacks for them?
 22 A Right.
 23 Q You don't know if they were followed?
 24 A I don't.
 25 Q In fact, we can look at these maps, TeamAg

ROUGH DRAFT

1 Q You haven't seen that have you?
 2 A No. Are those different owners at those
 3 properties.
 4 Q We could talk about this right here. There's a
 5 residence there that's not buffered, right? It doesn't have
 6 the 300 foot buffer around it?
 7 A Right.
 8 Q So you testified that they followed setbacks
 9 but you do not know if they followed setbacks, right?
 10 A I don't know because I didn't observe every
 11 application.
 12 Q You testified that they identified setbacks.
 13 So first you said well they used setbacks, right?
 14 A Right.
 15 Q Now you've testified that they identify it had
 16 the setbacks, right?
 17 A I mean, on this particular -- on this
 18 particular map I can see the setbacks around Fishing Creek.
 19 And some other ones, but I don't -- I don't see one around
 20 that.
 21 Q You don't see a setback for the property line,
 22 you don't see a setback for the house, right?
 23 A Again I don't know if those are property lines.
 24 Q Understood but there is a house there?
 25 A Right. That's the one.

ROUGH DRAFT

1 Q We didn't see a setback from the other property
 2 line, right?
 3 A Which one.
 4 Q On the previous?
 5 A Right. But we don't know where the property
 6 lines are. I don't know who owns the property.
 7 Q Okay.
 8 So you're not testifying that they accurately
 9 -- that they followed setbacks, right? You don't know.
 10 A No, I assumed they did.
 11 Q And you cannot say that they identified all of
 12 the setbacks because you he don't know where their property
 13 boundaries are and we do is see a house that doesn't have a 300
 14 foot setback, right?
 15 A This is very curious because it looks like the
 16 setback is on the other side of the road. I'm not sure how
 17 this diagram was made. It's something that's rather
 18 nonsensical. It looks like the setback goes parallel to the
 19 road where it says Snook Road. Do you see it on the right-hand
 20 side of Snook Road. So that doesn't make sense.
 21 Q Okay. You're the one who testified that they
 22 followed setbacks but you don't know if they actually followed
 23 setbacks, right?
 24 A No. I assume they did.
 25 Q You're assuming that they did, but you did not

ROUGH DRAFT

1 out?
 2 A Right.
 3 Q Do you know if they did that?
 4 A I don't know.
 5 Q So you don't know if they followed setbacks?
 6 You have some indication in 2024 that there was greener stuff
 7 next to the less green stuff?
 8 A I don't believe if they consistently followed
 9 BMP because I haven't observed everyone of their applications.
 10 Q You can't testify under oath that they followed
 11 setbacks; is that fair?
 12 A Yes. I did not observe them following setbacks
 13 in every situation.
 14 Q You didn't look at how much -- you looked at
 15 what they planned in terms of nitrogen, but you don't know if
 16 they actually an applied that?
 17 A Right. I don't know that at the every.
 18 Q And you side that -- you saw equipment where
 19 they near surface applied. You've also seen equipment that
 20 included broadcasting or spraying, right?
 21 A Right. And I'm not -- I'm not certain where
 22 that was.
 23 Q And so you don't know for sure that they
 24 consistently near surface applied either, right?
 25 A Yes. Again, if the field is question here, I

ROUGH DRAFT

1 review any information that would allow you to determine if
 2 they did?
 3 A Except my observation that they apparently were
 4 observing more than the minimum setback around the Rockey
 5 property.
 6 Q When was that?
 7 A When was that.
 8 Q Yes?
 9 A June 2024.
 10 Q So you were there in June 2024 and you saw some
 11 green stuff and brown stuff or not as green stuff and you
 12 thought well done. Best management practice?
 13 A Yeah. That was my inference from seeing the
 14 fact that it was much greener in the one place than when was on
 15 the other.
 16 Q You did not review information to confirm that
 17 they followed setbacks?
 18 A Right.
 19 Q Do you know how they marked their setbacks?
 20 A They usually use flags. I don't know how they
 21 did it.
 22 Q The best management practice would be to use
 23 flags, right?
 24 A Right. Or GPS.
 25 Q The best would be to use GPS and then flag it

ROUGH DRAFT

1 don't know.
 2 Q And if we go back to the odor NMP, he said they
 3 aerate their wastewater. It appears they aerate their
 4 wastewater?
 5 A They do.
 6 Q They don't have?
 7 A No.
 8 Q And you said they apply close to the surface
 9 but again you don't know if they did that consistently?
 10 A Consistently, no^ FIX/DROPPED.
 11 Q And that would be a means of not just limiting
 12 runoff but also reducing or eliminating odors, right?
 13 A Yes.
 14 Q Can you think of other BMPs to reduce odors?
 15 A They could take weather into account.
 16 Q Any other BMPs that they could do?
 17 A Specifically for odors?
 18 Q Yeah?
 19 A No.
 20 Q With are you familiar with the odor management
 21 manual?
 22 A Yes.
 23 Q And who wrote that?
 24 A Are you referring to the one that Dr. Brandt
 25 wrote.

ROUGH DRAFT

1 Q Was it Dr. Brandt?
 2 A Yes.
 3 Q That would be convenient.
 4 A I think I was involved in it as well. I wrote
 5 one chapter, the one on characterization of odors.
 6 Q You're familiar with that?
 7 A Yes.
 8 Q Is that the odor management and agricultural
 9 food process?
 10 A Yes.
 11 Q Is that what Dr. Brandt wrote and that you
 12 helped him write?
 13 A Yes go is that authoritative? Is that a
 14 reliable.
 15 MR. NIDEL: I don't have an extra copy. You
 16 can take a look at this though.
 17 A I guess that's for other people to evaluate.
 18 BY MR. NIDEL:
 19 Q That's put out by Penn State University,
 20 university, right?
 21 A Yes.
 22 Q You're an author of that?
 23 A Of yes, in cooperation with Pennsylvania
 24 department of Ag.
 25 Q In cooperation with your co-author on this

ROUGH DRAFT

1 righted?
 2 A Yes.
 3 Q Do you know how quickly they incorporated the
 4 materials if they ever did?
 5 A I don't.
 6 Q You know what their NMP says, right?
 7 A Relative to in incorporation?
 8 Q What was the method of application according to
 9 the NMP?
 10 A Surface application.
 11 Q No incorporation, right?
 12 A Right.
 13 Q So the NMP says they weren't doing that, right?
 14 A Right?
 15 Q The NMP says they weren't doing that?
 16 A And upon a determination of reasonable
 17 suspicion allow full access of your electronic communications
 18 doing that, right.
 19 A I actually don't think that refers to -- this
 20 is referring to something like raw biosolids. Something that's
 21 unstablized.
 22 Q This is not stabilized, right?
 23 MR. LACKS: Objection.
 24 THE COURT: What's the objection.
 25 MR. LACKS: This.

ROUGH DRAFT

1 report with Dr. Brandt?
 2 Q Yes if we go to page 67 and 68. 67 and 68 has
 3 field application best management practices to control odors,
 4 right.
 5 A Field -- okay. Yes. I see it.
 6 Q It says land application of unstablized
 7 residuals containing significant amounts of easily
 8 biodegradeable can you say that word for me?
 9 A Putrescible.
 10 Q Material that has become septic(anaerobic often
 11 results in particularly offensive odors. Such materials should
 12 be promptly applied and incorporated, right?
 13 A Yes, that's what it says.
 14 Q That's referring to unstablized materials,
 15 right?
 16 A Yes. That's what it says check check.
 17 Q And the BMP example of cow that we looked at
 18 from your FPR manual, there was a lime stabilization process,
 19 right, in that flow chart?
 20 A Yes.
 21 Q They don't do stabilization here?
 22 A No. And that's really referring to solid
 23 materials not wastewaters.
 24 Q Well, this is saying that it should be
 25 immediately -- sorry promptly applied and incorporated,

ROUGH DRAFT

1 THE COURT: Ask the question again.
 2 BY MR. NIDEL:
 3 Q Nicholas Meats is not stabilized?
 4 A Not stabilized by the definition of those
 5 processing to significantly reduce pathogens.
 6 Q Stabilized by the definition that's used in the
 7 context of your and Dr. Brandt's official publications, right?
 8 A Right. Here we were talking about raw
 9 biosolids that haven't been stabilized.
 10 Q It this is food processing, right?
 11 A Raw materials that haven't had any kind of
 12 treatment at all.
 13 Q And we heard Brian Miller's testimony we could
 14 look at that. They don't have it -- other than blowing bubbles
 15 there is no treatment, right?
 16 MR. LACKS: Objection.
 17 THE COURT: What's the objection.
 18 MR. LACKS: Blowing bubbles.
 19 THE COURT: Rephrase.
 20 BY MR. NIDEL:
 21 Q Aeration is blowing bubbles, right?
 22 A Aeration, right, they ever subsurface aerators
 23 that have real small bubbles that come up and transfer oxygen
 24 into the waste.
 25 Q Air sparg?

ROUGH DRAFT

1 A Sparg.
 2 Q They are throwing bubbles through a bubble?
 3 A Right.
 4 Q Just blowing bubbles, righted?
 5 A Yeah, if that's what you want to call it.
 6 Q And they are not -- that's not a stabilization
 7 method, right?
 8 A That's not a stabilization method that they use
 9 for bios or solid materials.
 10 Q And just to be clear, this is not just
 11 materials that are not stabilized. It's those that are septic
 12 and have particularly offensive odors, right?
 13 A Yes, it -- if they have a lot of material
 14 readily biodegradeable they can become septic because they use
 15 up the oxygen.
 16 Q A best management practice is no matter how you
 17 got there, a best management practice for materials that's
 18 particularly odorous is to promptly apply and incorporate it,
 19 right?
 20 A That would be good.
 21 Q So incorporate, right?
 22 A Incorporate. However -- incorporation is a
 23 soil disturbance method which increases its soil erosion. So
 24 there's trade-offs. If you're going to independent.
 25 Q There's trade-offs if you're going to create

ROUGH DRAFT

1 It's page 68?
 2 A Yeah, I'd have to go back and see what
 3 publication that is.
 4 Q It's citing you, right?
 5 A Right.
 6 Q I'm not asking you for exact publication but it
 7 cites you for that, right?
 8 A Right. That was a publication we did for the
 9 department of environmental resources. It's called
 10 atmospherics dispose alleg of nitrogen.
 11 Q And it says -- it also says land application
 12 through spray irrigation results in the greatest release of
 13 volatile compounds accompanying odor emissions, right. So
 14 spray irrigation is the worst odors you can get, right?
 15 A Yes
 16 Q And it also says higher application rates
 17 result in higher odor intensity, right?
 18 A Yes.
 19 Q So you could lower application rates to reduce
 20 odors, right?
 21 A Right.
 22 Q And that would be over say a day or a short
 23 period you could lower those rates on a given period so that
 24 the impacts on others would be less, right?
 25 A Right.

ROUGH DRAFT

1 mal odors and offensive odors to and your beneficial practice
 2 for those living in the community, right?
 3 A Yeah.
 4 Q You incorporation might actually violate their
 5 erosion and sediment control plan?
 6 Q Were you here -- you could inject, right?
 7 A You can inject.
 8 Q That's not going to violate that plan?
 9 A Depends on how much soil disturbance occurs.
 10 Q You inject with less soil disturbance that?
 11 A Yeah, you can inject to minimize
 12 Q In fact, that what the bazooka does?
 13 A Yes.
 14 Q So they have the equipment now, right?
 15 A Yes.
 16 Q And that would reduce odors, that would be a
 17 means incorporation or injection, right?
 18 A Yes.
 19 Q And do you know if there's any reason why they
 20 could not incorporate or inject to eliminate or reduce odors?
 21 Q It's probably just easier for them to surface
 22 apply?
 23 Q This also mentions -- this is your publication
 24 again. Direct subsurface injection of liquid or slurry
 25 materials and minimizes odors emissions and guess who is cited.

ROUGH DRAFT

1 Q Of the?
 2 MR. NIDEL: Plaintiffs would move to admit
 3 odor management and agricultural in food processing January
 4 2002 written by Dr. Elliott and Brandt as P116.
 5 THE COURT: What's his name of it again.
 6 MR. NIDEL: Odor planning. In agricultural
 7 and food process. In agriculture and food processing.
 8 THE COURT: Any objection.
 9 A Just for clarification.
 10 THE COURT: Hold it. Mr. Lacks any objection.
 11 MR. LACKS: Only so far we have been provided
 12 a copy.
 13 THE COURT: Do you have a copy.
 14 MR. NIDEL:
 15 THE COURT: There you go.
 16 MR. LACKS: Is this to keep.
 17 MR. NIDEL: You can read my notes. You can
 18 check it out.
 19 MR. LACKS: No objection.
 20 THE COURT: It's admitted without objection.
 21 Go ahead, Mr. Nidel. Next question.
 22 BY MR. NIDEL:
 23 Q
 24 A Can I make one clarification. We were editors
 25 here, we're not authors.

ROUGH DRAFT

1 Q I was -- I hadn't paid that close attention.
 2 So it's something that you edited.
 3 A Yes.
 4 Q It's cites some of your work?
 5 A Yes.
 6 Q Who is minor? Do you know minor? Colleague of
 7 yours. I'll withdraw the question.
 8 A I think he's in the animal science department.
 9 Q Now, we identified BMPs for odor aeration, we
 10 believe that their tanks may have -- these are BMPs that reduce
 11 odor but you don't that they are using them, right,
 12 consistently?
 13 A Yes. That's true.
 14 Q And you, you cannot testify as to any specific
 15 BMP that they are using in their -- for the other means of
 16 control that other BMPs that we identified, right?
 17 Q You had talked about them setbacks but we don't
 18 know, right?
 19 A Right. I did not observe all their
 20 applications.
 21 Q I want to be clear I'm not asking you if you
 22 were out there in the tractor every time I heard maybe you've
 23 been out in the tractor before but I'm not asking -- can you
 24 testify under oath that in fact they observed these things
 25 consistently?

ROUGH DRAFT

1 practice and incorporate it.
 2 Q I get that it's a menu. I get they don't have
 3 to do everyone. In some cases they probably couldn't do
 4 everyone because it wouldn't apply?
 5 A Right.
 6 Q But we're starving on this menu. There is
 7 nothing. We're not eating. We got no choice?
 8 MR. LACKS: Objection. I don't know what the
 9 question is.
 10 THE COURT: Sustained. Do you want ask a
 11 question.
 12 BY MR. NIDEL:
 13 Q You said the management manual -- the FPR
 14 manual is a menu of best management practices that they can
 15 implement, right?
 16 A Right.
 17 Q And you can't -- I asked you which ones are
 18 they implementing. We went through these. We are back to
 19 square one. We're going straight to desert is there?
 20 A What I testified to is I cannot verify that
 21 they followed all those exactly in every application.
 22 Q I'm not asking if they followed them all
 23 exactly in their applicants. You didn't review information.
 24 That would tell you if they followed setbacks if they applied
 25 the appropriate nitrogen and if they always used mere surface

ROUGH DRAFT

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1 A I cannot.
 2 Q And there are other BMPs that are in your
 3 manual that I plan to go through and I will tell you it's a lot
 4 of them. But there are other BMPs that you identify in this
 5 manual with Dr. Brandt that they are not following on these
 6 fields, right?
 7 A What are you holding up there.
 8 Q Your manual?
 9 A FPR.
 10 Q FPR manual?
 11 A Okay.
 12 Q Would you agree with knee there are a number of
 13 other best management practices that you did not even identify
 14 Catholic examined as being followed, right?
 15 MR. LACKS: Your Honor, there is a document on
 16 the screen. I apologize that's not been -- I don't know if
 17 it's been admitted but it hasn't been discussed.
 18 MR. NIDEL: That was a technical error.
 19 A Yes. The purpose of the manual is not to
 20 suggest that every operation has to incorporate every best
 21 management practice.
 22 Q You've described the manual as a management
 23 manual, right?
 24 A Right. In a sense it's a menu that a
 25 particular operation doesn't have to pick every best management

ROUGH DRAFT

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1 application, right?
 2 A What information would I review to indicate
 3 that they followed setbacks.
 4 Q I don't know you're supposed to be asking
 5 questions. Did you review all of the deposition testimony of
 6 -- you did you review all of the NMPs because in your FPR
 7 Management Manual, you identify what the setbacks that are
 8 required are, right?
 9 A Yes.
 10 Q That manual identifies and table is it 8.1?
 11 A Yes.
 12 Q That's all of the required setbacks? Is it
 13 8.10.
 14 A 8.10.
 15 Q It identified all those setbacks that are
 16 guidelines to requirements?
 17 A Yeah but the overall all document is
 18 guidelines.
 19 Q I understand the overall document is but those
 20 setbacks for example are requirements, they are required in the
 21 zones of that would be best management practice?
 22 Q They are all required -- in fact your report in
 23 this case identifies the setbacks as requirements, right?
 24 A Yes.
 25 Q So and we hood at their maps. You said that

ROUGH DRAFT

1 they identified them. But they don't even identify all of the
 2 setbacks that are in your table 8.10 opinion?
 3 A It looks like you found an example where they
 4 didn't.
 5 Q You don't know how they actually applied. In
 6 fact we have testimony as to how they applied and not only did
 7 they not identify them but based on the testimony of the two
 8 land FPR application supervisors, they applied to the property
 9 boundaries, right?
 10 A I don't know.
 11 MR. LACKS: Objection. Misstates the
 12 testimony.
 13 MR. NIDEL:
 14 Q Do you know?
 15 THE COURT: Wait . Sustained. Rephrase the
 16 question.
 17 BY MR. NIDEL:
 18 Q Do you know if they applied to the boundaries?
 19 A I do not
 20 Q If they applied to the boundaries and there
 21 were adjacent properties there would be a required setback?
 22 A Yes.
 23 Q And you don't know anything about their
 24 compliance with their nutrient management plan, right?
 25 A I don't.

ROUGH DRAFT

1 heavily traveled roadways?
 2 A Heavily traveled roadways.
 3 Q Yeah. High traffic areas?
 4 A I'm not sure there are any of those in this
 5 county.
 6 Q My understanding is?
 7 THE COURT: You should have here last night
 8 when they had's water break out.
 9 BY MR. NIDEL:
 10 Q Someone testified that there is only three
 11 roads Loganton, I think. I don't know if that was on the
 12 record or not. BUP it's near -- I think maybe called Main
 13 Street when it goes through Loganton, right NFRMENT 880, East
 14 Valley Road?
 15 A I don't believe.
 16 Q Did they avoid traveled roads, heavily traveled
 17 roads?
 18 A Avoid them in what sense.
 19 Q In terms of their sighting, in terms of their
 20 site selection?
 21 A Some are adjacent to roadways.
 22 Q And some of them are adjacent to people's
 23 houses, right?
 24 A Yeah, with the appropriate setbacks.
 25 Q And adjacent to people's wells, right?

ROUGH DRAFT

1 Q So it would be a best management practice to
 2 have a nutrient management plan and a best practice to adhere
 3 to a nutrient management plan, right?
 4 A Yeah, I didn't check a particular field where
 5 they were planting orchard grass with where they split their
 6 application.
 7 Q And I was wrong. Well, you and I were both
 8 close. But neither of us was right it's table 8.11. Is that
 9 fair?
 10 A I think in the original -- okay.
 11 Q As far as the book?
 12 A Okay. Setbacks are in table 8.11.
 13 Q I might get in trouble for this. But it's
 14 going to have like the king James have the new American edition
 15 of the Bible. We've got some slight changes but over the same?
 16 A I think I would say the king James and the new
 17 King James.
 18 Q Now you're out of my league.
 19 I was with you for a minute there. Now I
 20 can't do it.
 21 Okay.
 22 What about Ph adjustment? Do did they do Ph
 23 adjustment.
 24 A Not that I know of.
 25 Q Did they avoid land application sites near

ROUGH DRAFT

1 A Yeah, with appropriate setbacks.
 2 Q But in your ideal sense -- when we looked at
 3 the language from the FPR manual, in the YALTD you would be
 4 away from homes entirely, isolated, right?
 5 A Right.
 6 Q And they didn't use consistently use -- they
 7 used surface application, right?
 8 A Agree.
 9 Q And at times they may have used spray
 10 application, right?
 11 A Yes. And I don't know. I cannot testify one
 12 way or the other whether spray application was used on these
 13 fields in the period of consideration.
 14 Q The requirement in the nutrient imagine
 15 management technical guide is that for something to be a normal
 16 farming operation, it must adhere to best management practice,
 17 right?
 18 A Yes.
 19 Q And if a normal farming operation does not add
 20 leer to best management practices, it is no longer a normal
 21 farming operation, right, is that?
 22 A I guess that's corrected.
 23 Q And if at no longer a normal farming operation,
 24 it's required to get a permit, right?
 25 A Yes, that's the language.

ROUGH DRAFT

1 Q And that in fact is the requirement, right?
 2 A Yes.
 3 Q What does it mean to threaten public health?
 4 It says a beneficial reuse is defined as something that does not threaten public health. Is that right?
 5 A Yeah. In other words, I mean, that's a pretty broad, you know -- what threatens public health? That's obviously a very general description of negative impact.
 6 Q What could threaten public health here is contamination of wells with either toxic bacteria or toxic nitrates, right?
 7 A Right. Pathogenic bacteria.
 8 Q It's actually part of the nutrient management plan technical manual that if there are impacts to local water supplies, that that is no longer a normal agricultural operation, right?
 9 A That's a very general statement. You'd have to look at the details to.
 10 Q Do you agree that beneficial use must not threaten public health, health or the environment?
 11 A Yes.
 12 Q And was the land application here, do you know if it was done in a manner you would call sustainable?
 13 A I need definition of sustainable.

ROUGH DRAFT

1 Q Who gets the benefit of benefits of this you were everyone gets the benefits. Who gets the benefits of this FPR application?
 2 A Nicholas Meats.
 3 Q Okay. And farm fields or farmers, I guess?
 4 A Well?
 5 A It's not all their property, so some other property owners.
 6 Q Benefits. Nicholas Meats. And farm fields?
 7 A Yes.
 8 Q The farmers. The owners of the fields?
 9 A Right.
 10 Q In this case that's Gene and Heidi Nicholas?
 11 A If they're applying on their own fields.
 12 Q Do you know if these fields are their own field?
 13 A I believe they are. I don't actually know for SN fields.
 14 Q What are the other benefits?
 15 A Told be -- I think there's kind of a benefit in the sense that there's less energy usage instead of putting it in trucks so there's some benefit to the environment. You're not trucking the material, using up the energy needed to take it to a wastewater treatment plant.
 16 Q You're talking my game there. But do you know

ROUGH DRAFT

1 Q I think it's a word that I used from you. Do you know, if you used that word? Do you use that word?
 2 A Sustainable meaning I guess that you can continue with it year after year.
 3 Q Are you offering the opinion -- can you offer the opinion based on what information you know that the land application was done in a sustainable manner?
 4 A Yes.
 5 Q You don't know how it was lands applied, right?
 6 A Right. But I'm defining sustainable as something they can do, continue to do year after year without negatively impacting the environment.
 7 Q But you don't know how they did it, right?
 8 A I know how they did it. What do you mean I don't know how they did it.
 9 Q You don't know how many gallons per acre they applied. You don't know if they created runoff. You don't know if they applied when the crops need the food or don't need the food, right?
 10 A I don't know in every situation.
 11 Q I'm not talking about in every situation. You can't say that more often than not they were out there doing things in a sustainable manner, right, because you don't know?
 12 A Again, I don't know what sustainable means in that situation.

ROUGH DRAFT

1 how far treatment plant is?
 2 A Well maybe 40 miles.
 3 Q Okay. Do you know what the farthest field is that they apply?
 4 A No.
 5 Q So you don't know if they're saving energy or wasting energy, right?
 6 MR. LACKS: Objection.
 7 THE COURT: What's the objection.
 8 MR. LACKS: Seems to be talking about field that are not at issue in this case.
 9 MR. NIDEL: We're talking about their application program.
 10 THE COURT: Rephrase the question because I think everybody is confused what you were talking about.
 11 MR. NIDEL: Fair enough.
 12 BY MR. NIDEL:
 13 Q Do you know how far and wide they apply the Nicholas Meats FPR?
 14 A No, not exactly.
 15 Q Do you know if they apply to local counties?
 16 A I don't think they do.
 17 Q Do you know?
 18 A I don't believe they do. I believe it's all within Clinton County.

ROUGH DRAFT

1 Q But your understanding is they apply throughout
 2 Clinton County, right?
 3 A Not throughout pipe know they don't go far up
 4 into the Allegheny plateau.
 5 Q What's the nearest sewage treatment plant?
 6 A It might be Lock Haven or Milton.
 7 Q Do you know?
 8 A I don't. I don't know.
 9 Q What are the other benefits?
 10 A So my benefit there was generally you know less
 11 energy use. So there's sort of a benefit to society as a
 12 whole, as opposed to you know -- if they're taking it all the
 13 way to a treatment plant further away, you've got cost and
 14 environmental cost associated with that.
 15 Q But you don't know, right?
 16 Q You don't know how far they go to take to this
 17 various fields. How far is Jersey State (sic) from?
 18 A I don't know. In my recollection they probably
 19 are within 10 miles.
 20 Q So these fields are close but you don't know
 21 how much energy they're saving or wasting?
 22 A I've not done an energy analysis.
 23 Q And what other benefits, any other benefits?
 24 A I guess you could put the animals that consume
 25 the crops. It's a benefit to them.

ROUGH DRAFT

1 taking you be your up -- you're not consuming space the
 2 landfill.
 3 Q It's a benefit to the landfill?
 4 A Yes. And so society in general because we want
 5 to reserve our landfill space for things that have to be land
 6 filled.
 7 Q Okay. But we went through this with biosolids.
 8 It could go to a sewage treatment plant. It could be treated
 9 and then it could be applied on these fields in a post
 10 treatment way, right?
 11 A Could be.
 12 Q And that would have the same benefit to the
 13 landfill?
 14 A Depending on what you do -- yeah, if you land
 15 apply.
 16 Q And the same benefit to the animals?
 17 A Yes.
 18 Q But it would cost money to the Nicholas Meats.
 19 It would provide same benefits to the farmers?
 20 A Assuming you got the same nutrients back after
 21 you sent it to the wastewater treatment plant.
 22 THE COURT: Mr. Nidel, Mr. Lacks, have a seat.
 23 Put your papers in the envelopes.
 24 THE COURT: Get you out of here and get your
 25 dinner which should be here. Mr. Powers did his job. If it's

ROUGH DRAFT

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1 Q That's another benefit back to the farm owners?
 2 MR. LACKS: Objection. Stating the testimony.
 3 BY MR. NIDEL:
 4 MR. NIDEL: The animals. Anything else.
 5 A I can't think of any.
 6 Q So do you know who owns the fields? You don't
 7 know if it's Gene and Heidi you all of them?
 8 A They own some of them I don't believe they own
 9 all of them.
 10 Q They own the animals?
 11 A Yes, they own some of the animals.
 12 Q They pay for the energy it takes to truck this
 13 to these fields?
 14 A Right, if they did, yes.
 15 Q So there is -- this is -- the benefit to the
 16 animals is also a benefit to the farmers, right?
 17 A Yes.
 18 Q And the reduce it had energy is also a benefit
 19 to Nicholas Meats, right?
 20 A Yes
 21 Q And the benefit to Nicholas Meats is money,
 22 right?
 23 A I was going to add one other benefit. There's
 24 benefit -- if you go to your hierarchy it's not going to a
 25 landfill. So that's a benefit to the landfill. You're not

ROUGH DRAFT

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1 not here it's Court Administrator powers fault. Don't talk
 2 about this, don't start deliberating. You'll about back in
 3 about hour 15 minutes, hour 20 minutes. Take your time
 4 eating. You don't have to rush.
 5
 6 THE COURT: Ed anything Mr. Nidel before we go.
 7 MR. NIDEL: Other than to apologize how long
 8 we took.
 9 THE COURT: Are you done.
 10 MR. NIDEL: I am very close to done.
 11 THE COURT: Mr. Lacks.
 12 MR. LACKS: Well subject to that last comment
 13 I was going to raise a concern we're getting towards the
 14 economics and to the edge of the bifurcation Order. But
 15 assuming it's not going any further than I would not.
 16 THE COURT: You're not going any further with
 17 the cost analysis.
 18 MR. NIDEL: No. I just wanted to cover the
 19 benefits because it's clearly part of his testimony.
 20 THE COURT: Don't go any further with the cost
 21 analysis. You're going to fish up in a few minutes when we
 22 come back.
 23 MR. NIDEL: Correct, Your Honor.
 24 THE COURT: You'll have redirect.
 25 MR. LACKS: Briefer.

ROUGH DRAFT

1 THE COURT: And brief recross because we have
 2 someone from DEP here so he should stay.
 3 MR. LACKS: Yes. If the intention is to go
 4 into the evening.
 5 THE COURT: They're going. They are going to
 6 around 610. We'll go until 8. Going past 8 last night was
 7 not going to be good for them. If you saw them.
 8 MR. LACKS: Understood.
 9 MR. NIDEL: I agree, Your Honor.
 10 THE COURT: Court is in recess until 6:15.
 11 (Whereupon, the jurors were escorted from the
 12 courtroom.
 13 (Time noted, 4:58 p.m.)
 14 THE COURT: Anything before the jury comes
 15 back.
 16 MR. NIDEL: Could I use the new exhibit.
 17 THE COURT: It's right here. You can come get
 18 it right now.
 19 MR. NIDEL: Yes.
 20 THE COURT: In addition else.
 21 MR. NIDEL: That's the only thing I have.
 22 THE COURT: Anything.
 23 MR. LACKS: No, Your Honor.
 24 THE COURT: Tell him to get on the stand.
 25 I'll go get the jury. I want to get out of here by 8. See

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1 where we're going.
 2 (Time noted, 6:10 p.m.)
 3 (Whereupon, the jurors were escorted into the
 4 courtroom.)
 5 THE COURT: Ladies and gentlemen, Dr. Elliott
 6 is still on the stand. We're on cross-examination by Mr.
 7 Nidel. You have pens and papers. Thank you for being so
 8 atone. Go ahead, Mr. Nidel.
 9 MR. NIDEL: May it please the Court, Your
 10 Honor. And good evening Dr. Elliott and identifying thank you
 11 guys for your patience.
 12 It's pretty amazing.
 13 MR. NIDEL:
 14 Q I just have a few more questions for you, Dr.
 15 Elliott.
 16 And I want to start by -- I think I said
 17 Jersey city. I could screw that one up a lot of different
 18 ways. That's how I did it. Sorry about that.
 19 I'm going to show you you an exhibit. Have
 20 you seen exhibit before.
 21 THE COURT: Do you know what exhibit it is.
 22 MR. NIDEL: It's a Pennsylvania Department of
 23 Environmental Protection notice.
 24 THE COURT: It's a new exhibit.
 25 MR. NIDEL: Right now it's not being offered

R O U G H D R A F T

1 into evidence.
 2 THE COURT: Okay.
 3 A I've seen this working report
 4 BY MR. X:
 5 Q You've seen that report before?
 6 A Yes.
 7 Q And is it your understanding that the DEP is
 8 considering more stringent requirements and regulations with
 9 respect to FPR?
 10 MR. LACKS: Objection. Can we approach.
 11 THE COURT: Sure. Come on up.
 12 (Discussion held at sidebar on the record.)
 13 THE COURT: Go ahead.
 14 MR. LACKS: It seems like this is heading
 15 where the direction with the law maybe in the future we object
 16 to that A irrelevant and B seeking a potentially legal
 17 conclusion that doesn't apply at this point in time.
 18 THE COURT: Relevance.
 19 MR. LACKS: Relevance.
 20 THE COURT: Go ahead.
 21 MR. NIDEL: I don't know if Your Honor, Your
 22 Honor, would like with you I did discussion this.
 23 THE COURT: Let me see.
 24 MR. NIDEL: The large number of complaint due
 25 to odor and contamination of water that the State has

R O U G H D R A F T

1 received.
 2 MR. LACKS: Specifically to Nicholas Meat.
 3 MR. NIDEL:
 4 Mr. Cowels: Our opening was broad about the
 5 whole State.
 6 MR. LACKS: You're talking to him or Moore.
 7 MR. COWLES: I'm talking to you -- I'm talking
 8 to the judge actually.
 9 MR. NIDEL: Taco Bell. Dominoes.
 10 THE COURT: What are you going to ask?
 11 MR. NIDEL: Whether as a result -- whether
 12 there's been a number of complaint.
 13 THE COURT: You should ask he's seen this
 14 report.
 15 MR. NIDEL: He said he had.
 16 MR. LACKS: He said he was familiar with the
 17 working ground.
 18 MR. NIDEL: I showed it to him and he said yes
 19 I'm familiar with the work, but I asked if he's seen it.
 20 THE COURT: You're going to go if there was a
 21 large of complaints and he's in the working group.
 22 MR. NIDEL: Yes, Your Honor. I was being
 23 distracted.
 24 THE COURT: That's it.
 25 MR. NIDEL: I believe so. Maybe I'll do

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1 something authorize with Mr. Karshner.
 2 THE COURT: Okay. We'll cross that bridge
 3 when we get to Mr. Karshner. Hoping to get to him very soon.
 4 THE COURT: Number of complaints only.
 5 MR. NIDEL: Type.
 6 THE COURT: Odor and water, whatever the is
 7 THE COURT: Go ahead. I had the SUMENT I
 8 PANTED you TP hae you seen that document.
 9 A I have and WUR aware of a working group that
 10 has been impaneled by the Department of Environmental
 11 Protection.
 12 A Yes.
 13 Q That is to address the fact that DEP
 14 Pennsylvania Department of Agricultural and State Lawmakers
 15 have received several comments and complaints related to FPR
 16 use in Pennsylvania, right?
 17 A Yes. That's what it says.
 18 Q And the most common of those complaints are
 19 related to odor concerns and about potential threats to
 20 drinking water sources like groundwater, right?
 21 A Yes.
 22 Q I heard your testimony and you testified as to
 23 the fact that there are quarter-inch screens in the FPR
 24 slaughterhouse in the slaughterhouse before the FPRs came out
 25 of the system, right?

ROUGH DRAFT

1 A Right.
 2 Q Did you see those screens yourself?
 3 A No.
 4 Q You did not see those screens?
 5 A No.
 6 Q How did you get the information that there were
 7 screens?
 8 A From Doug Nicholas and Brian Miller, both
 9 confirmed that.
 10 Q To you personally a conversations?
 11 A Yes.
 12 Q Did they confirm that they were quarter-inch
 13 screens Bush my understanding they're quarter-inch screens.
 14 That your understanding?
 15 A That's my understanding.
 16 Q Your testimony is you were provided that
 17 information by both Doug Nicholas and Brian Miller, right?
 18 A Right.
 19 Q Do you ever if they have finer screens I think
 20 they were called rotary screens?
 21 A Yes. You can get -- the ones they have are
 22 basically stationary. But you can get rotary screens that acts
 23 as a rotate around and eventually finer. I don't know the
 24 smallest opening on those.
 25 Q But the screens -- your understanding of the

ROUGH DRAFT

1 screens at Nicholas Meats slaughterhouse is that they have the
 2 quarter-inch screens?
 3 A Yes.
 4 Q And that information was provided to you by
 5 both Doug Nicholas and Brian Miller, right?
 6 A Correct.
 7 Q And you have haven't anything to verify that
 8 fact one way or the other, but your opinions and your
 9 understanding is based on that fact, right?
 10 A Yes.
 11 Q And do you know -- I don't know if you were
 12 here for the testimony. Were you here for the testimony of
 13 Alaina Leigey?
 14 A No. Yes.
 15 Q Do you know why they use magnets in cow's
 16 stomachs?
 17 A Yes.
 18 Q Why do they use magnets in cow a stomach's?
 19 A Thing they use them to prevent hardware disease
 20 when animals when they graze they're not very discriminate and
 21 they can pick up nails and wire and other pieces of metal which
 22 would hurt them if they ingested them.
 23 Q So those magnets are inserted into the cows
 24 first stomach?
 25 A Yes.

ROUGH DRAFT

1 Q And they are an if I inches lock?
 2 A It's different shapes. Some are just two to
 3 three inch long bars basically.
 4 Q Those two three inch bars are inserted to the
 5 stomachs of the cows to collect any metal that they would
 6 consume?
 7 A Right. It might puncture their insides.
 8 Q And can you think of any way that those metal
 9 magnets would get through a -- the drains that you were told
 10 about?
 11 A No. I think -- I don't know specifically, but
 12 I would surmise they are too big to go through a quarter-inch
 13 screen.
 14 Q The magnets you're aware of used with cows are
 15 much bigger -- they are a few inches rather than a quarter?
 16 A Yes.
 17 Q They are much bigger than 40,000 of an inch,
 18 right?
 19 A I te right.
 20 Q Were you ever told by anyone that they had
 21 40,000 of an inch screens at the Nicholas Meat processing
 22 facility?
 23 A 40,000 of an inch, no.
 24 Q So you've had conversations with -- you've
 25 toured the plant, right?

ROUGH DRAFT

1 A I'm sorry.
 2 Q Have you tour the facility?
 3 A No, I haven't actually gone through the meat
 4 processing facility part.
 5 Q But you've had conversations with Doug
 6 Nicholas, Brian Miller; is that right?
 7 A Yes.
 8 Q And have you had conversations with Gene
 9 Nicholas, as well?
 10 A Yes.
 11 Q And to the best of your knowledge, and you've
 12 had conversations about their screens, right?
 13 A Yes. The first two people you mentioned.
 14 Q In your report you included it had fact that
 15 they have quarter-inch screens?
 16 A Yes.
 17 Q And so your understanding based on
 18 conversations with at least three people that were worked for
 19 Nicholas Meats that they have quarter-inch screens, right?
 20 A Two people.
 21 Q And you have no knowledge of on any of their
 22 process screens they have a rotary screen that would limit down
 23 to 40,000 of an inch, right?
 24 No
 25 Q And is it possible that small parts of the

ROUGH DRAFT

1 Q And is this that copy of your report that you
 2 were provided?
 3 A It appears to be.
 4 Q And copy of your report you were provided
 5 another copy of your report, a subsequent copy of your report.
 6 Is that?
 7 A Yes.
 8 Q And that copy -- does contain any highlights?
 9 A No.
 10 Q That that is three ring punch holes in it,
 11 right?
 12 A Right.
 13 Q That copy although of also came with the
 14 attachments, right?
 15 A That was -- I was handed that subsequent to --
 16 you taking that one.
 17 Q And when you were given that copy of the
 18 report, you were also given the full -- that copy came with the
 19 full stack of attachments, right?
 20 A Yes? You have a copy that's this thick with
 21 three ring binder punch holes, right.
 22 A Yes.
 23 Q You have a copy that's this thick that's
 24 highlighted, right?
 25 A Yes

ROUGH DRAFT

1 animals could get through the quarter-inch screen?
 2 A If they're small enough.
 3 Q We talked about your work on the FPR manual.
 4 And we've -- I think everyone -- it's about an a 300-page
 5 document. Encyclopedia I would say.
 6 At least one volume of an encyclopedia, right
 7 p.m. you said you were not paid for your work.
 8 A Correct.
 9 Q On that? Right?
 10 Your -- how much are you paid to testify.
 11 A 250 -- to testify? 5 highway.
 12 Q 500 an hour to testify?
 13 A Yeah in 2500 an hour to come here and to sit in
 14 court.
 15 A No, to testify.
 16 Q \$250 an hour to come here and sit in court?
 17 A Yes.
 18 Q \$500 an hour for your testimony in this case?
 19 A Yes.
 20 Q You were not paid anything for your work on the
 21 manual, right?
 22 A No.
 23 Q Earlier at the beginning of your testimony you
 24 were provided a copy of your report?
 25 A Yes.

ROUGH DRAFT

1 Q The highlights that were provided to you on
 2 your report, did you make those highlights?
 3 A No.
 4 Q There's also under lines?
 5 MR. LACKS: Objection. Your Honor, can we
 6 approach.
 7 THE COURT: Sure. Come on up. Talk among
 8 yourselves.
 9 (Discussion held at sidebar on the record.
 10 MR. LACKS: I'm concerned where he's going.
 11 Given the Court's rule earlier I would object to him going any
 12 further into this issue. Sundays AEAT going to unFAURL
 13 prejudice my. With the jury and we're not going to have an
 14 opportunity to address it knew, MAU Emoji full WAU with the
 15 witness short of me having to take the stand and given, Your
 16 Honor's ruling, I don't think this is a, appropriate to go
 17 into.
 18 MR. NIDEL: I think I need to make a factual
 19 regard of what happened.
 20 THE COURT: The highlight that there were
 21 already there when he got it.
 22 MR. NIDEL: The highlightS were there and
 23 certain questions he was, he was asked that he provided answer
 24 to were NAVBLTH highlighted.
 25 MR. LACKS: How is he going to establish that.

ROUGH DRAFT

1 MR. NIDEL: I know what you asked and I any
2 what the answers are have I have the highlights.

3 MR. LACKS: How are we going to VERIFY that
4 with the transcript.

5 MR. NIDEL: Because he sat and gave numbers
6 form a demonstrative that you created that is specifically
7 highlighted.

8 THE COURT: Stop, stop. You can ask him about
9 the highlights. A couple questions. THOEN you're done.

10 MR. NIDEL: Well stiff one more -- one small
11 -- one separate subject very short and that's it.

12 THE COURT: All right. Three or four
13 questions on this and then you're done.

14 MR. LACKS: I had a concern.

15 THE COURT: I'll stop if it starts --

16 MR. NIDEL: Dr. Elliott were some of the
17 questionings that you were asked by concurrent, were the
18 answers to some of those questions highlighted in the copy
19 that you were given.

20 A I can't be specific because some of these I
21 knew from my memory.

22 Q They are all?

23 A I don't recall every question they asked.

24 Q They're, there are also under lines in there,
25 correct?

ROUGH DRAFT

1 A Those are. I see that.

2 Q And I'm referring specifically to you were
3 asked questions about -- you were asked questions about the
4 wells. Sorry about that, Doctor.

5 You were asked questions about the wells and
6 you went through an entire discussion of the results of the
7 USGS and the Pennsylvania studies and the well results were
8 nitrates. Do you recall that.

9 A Yes.

10 Q And are some of those answers HIENTED on page
11 17 of that?

12 A

13 MR. LACKS: I object, Your Honor. I think
14 he's misstating the timing of when those questions were asked
15 and when he still had the highlighted copy.

16 THE COURT: Okay.

17 MR. LACKS: It's confusing misleading and
18 highly prejudicial.

19 THE COURT: This is it.

20 MR. NIDEL: This is it.

21 THE COURT: Okay. Overruled. You're done,
22 move on to something else.

23 MR. NIDEL: I don't know if I got an answer.

24 THE COURT: Okay.

25 MR. NIDEL:

ROUGH DRAFT

1 Q Dr. Elliott those well results were
2 highlighted, some of those well result were highlighted in the
3 version you were given, right?

4 A Yes. But I didn't have that when I ecited the
5 values.

6 Q It was taken away from you?

7 A Right.

8 Q And you said you were here for the testimony of
9 young Alaina Leigey, right?

10 A Yes.

11 Q You've testified in your report and you have
12 testified to some degree about the beneficial use of FPR in
13 this case, right?

14 A Yes.

15 Q What are the benefits of Nicholas Meats use of
16 FPR to miss Alaina Leigey?

17 A I don't know.

18 Q You can't think of any, can you?

19 A No, I can't think of any.

20 Q Would you agree with me that removing a cost is
21 always a benefit?

22 A Yes.

23 Q So if there's a cost to the community by
24 eliminating that cost that would be also a beneficial use,
25 right?

ROUGH DRAFT

1 A Could you reep that.

2 Q Yes. If all you did is RE move costs paid by
3 the community, that could the result in a beneficial use in and
4 it of of itself?

5 A Yes, it would shall beneficial to remove some
6 of the costs.

7 Q Beneficial to the community not to Nicholas
8 Meats, right?

9 A What specific costs are you talking about.

10 Q The impacts of nutrient runoff, the impacts of
11 runoff animal odors, offensive, odors, migraines, those type of
12 things?

13 A Yes.

14 MR. NIDEL: SHGSZ.

15 MR. NIDEL: No other questions.

16 THE COURT: Redirect.

17 MR. LACKS: Brief, yes, thank you.

18

EXAMINATION

19 BY MR. LACKS:

20 Q Dr. Elliott I've come to learn over these weeks
21 that sometimes less is more so I'll try to be a brief as
22 testimony.

23 You were asked questions about your testimony

ROUGH DRAFT

1 before the environmental board about applying on snow covered
 2 ground.
 3 A Yes in just to clarify for the record. Did you
 4 give that testimony before or after Nicholas Meats entered into
 5 an agreement with DEP about applying on snow covered ground.
 6 A I think it would have been before.
 7 Q And there was a question and I didn't quite
 8 hear the wording O I want to clarify. I believe you were asked
 9 -- your understanding Nicholas Meat is now permitted to apply
 10 on SNOEF discovered grouped but I wasn't sure if the question
 11 -- if your answer was permitted as in allowed or permitted as
 12 in required to on tan a permit. Could you CLIER fire, if I?
 13 A Allow.
 14 Q Permitted?fy
 15 A Yeah.
 16 Q Permitted as in allowed.
 17 There were questions about the NMP technical
 18 manual and Act 38. Do you recall knows.
 19 A Yes.
 20 Q I don't want to go book in time to last week
 21 opinion but is it your understanding that the NMP technical
 22 manual and Act 38 requirements are applicable to FPR?
 23 A No, they're not.
 24 Q Mr. Nidel asked you questions about the concept
 25 of a bad management practice. Do you recall those questions?

ROUGH DRAFT

1 A Yes.
 2 Q In comparison to best management practice?
 3 A Yes.
 4 Q Is that a binary -- in other words, if
 5 something is not a best management practice, does that mean
 6 it's necessarily a bad management practice?
 7 A No. I would say more continuum than a binary.
 8 Q Mr. Nidel has referred to analogy feeding a
 9 human all of his food on Monday and tried to compare that to
 10 applying multiple applications of FPR or nutrients to soil in a
 11 GIRP season. Are you familiar with that analogy?
 12 A Yes.
 13 Q Do you believe that's an accurate analogy?
 14 A No.
 15 Q Can you explain why not?
 16 A No. When we do FLP NMP the nitrogen is
 17 basically divided into two plainly or component ENS. The read
 18 MRI plan available is which is usually SW ammonia and OSHG an
 19 nitrogen which is a slow release nutrient source.
 20 Q And so does soil uptake of nutrients, is that
 21 comparable to the way the human stomach digest food?
 22 A No. I don't think that's a good analogy in the
 23 sense that we put the slow release organic nitrogen in and over
 24 time it becomes plant available.
 25 Q

ROUGH DRAFT

1 A Plants only use nitrate and ammonia for
 2 nitrogen source.
 3 Q Understood?
 4 You were asked questions about a portion of
 5 the FPR manual that refers to an ideal site -- ideal site for
 6 applying FPR. Do you recall that.
 7 A No.
 8 Q I'm going to try to bring it up?
 9 A Yes. I remember it but it would be good if we
 10 put it up.
 11 MR. LACKS: We'll try to get that up and come
 12 back to it.
 13 You were shown an a NRP NRP map of the SN
 14 fields. Do you recall that.
 15 A Yes.
 16 Q You were asked about the setbacks. And under,
 17 you were, you were shown a house hypoBURN do you know who owns
 18 that house that was JAPTD to the SN fields?
 19 A No. That DWSH in FAFSHTH at dinner I looked at
 20 my copy and there is a setback around that house.
 21 Q P the particular map of the version that I had
 22 had a setback around that?
 23 Q And do you happen to know the person who owns
 24 those farm fields?
 25 A I do not. I don't know who owns those.

ROUGH DRAFT

1 Q With respect to the ideal site for land
 2 application, dogs a site need to be ideal in order for a farmer
 3 to be able to land apply on it?
 4 A No.
 5 Q Is that a typical situation that the site will
 6 be ideal?
 7 A No. In most cases we don't deal with the ideal
 8 ^ CHECK WORD dogs.
 9 Q Understood. I want to go very briefly to the
 10 bacterial testimony?
 11 I just want to be very DLEER. P.
 12 Have you seen any nitrate sampling
 13 results from any of the Plaintiffs' wells after the rapment of
 14 practice punish Leigey's well in September 2019 that showed
 15 nitrate concentrations in excess of 10 milligrams per liter.
 16 A No.
 17 Q With respect to Leanna Rockey and Carolyn
 18 Leigey's wells, are you aware of any reason why those wells
 19 could not have been tested or retested since November 2020?
 20 A No. I know of no reason why they couldn't have
 21 been retested.
 22 Q And finally, Mr. Nidel asked you about the
 23 benefits of applying FPR. Do you recall that. You walked
 24 through a chart of LO Ben frets from FPR?
 25 A Yes.

ROUGH DRAFT

1 Q What's your -- I know this is taking us back to
 2 day one. But what's your understanding of what Gene Nicholas
 3 does with FPR?
 4 A He uses them beneficially for crop production.
 5 Q What does he do with the crops?
 6 A NEEMENTD I think back to his animals.
 7 Q What does he do with those animals?
 8 A They get grazed and maybe he sends some to his
 9 facility as well.
 10 Q What is does his facility do with the cattle?
 11 A Saturdays a slaughterhouse. Processes P meat.
 12 Q What do they do with the meat?
 13 A They sell it.
 14 Q And so who benefits from that?
 15 A The recipients of the meat.
 16 Q People who eat meat?
 17 A Yes.
 18 MR. LACKS: Thank you no further questions.
 19 THE COURT: Recross.
 20 MR. NIDEL: Yes, Your Honor. May it please
 21 the Court Ordered.
 22
 23 EXAMINATION
 24 S
 25 MR. NIDEL:
 ROUGH DRAFT

1 and when you testified tonight that they had identified a
 2 setback on that house, do you know if they had identified it
 3 every year on their maps?
 4 A I do not.
 5 Q Do you know if they applied theirs fields
 6 consistent with the setback every year on those maps?
 7 A I do not.
 8 Q You were ask about whether the plaintiffs would
 9 have been able to retest their wells after the 2020 test,
 10 right?
 11 A Yes.
 12 Q And those tests would have been \$50 or less?
 13 A Yeah. That's a rough estimate of what it cost,
 14 I think.
 15 Q You're the scientist, right? Have you ever
 16 asked to test the plaintiffs' wells?
 17 A No.
 18 Q Do you know if you would have you would have
 19 been given permission to test plaintiffs wells?
 20 A I don't know. I never asked.
 21 Q You have participated in litigations for years,
 22 right?
 23 A Yes.
 24 Q You've testified on behalf of companies like
 25 Nicholas Meats for years, right?

ROUGH DRAFT

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 1 Q Nutrient Act 38, the requirements for the
 2 nutrient management plans, they are not required for FPR, they
 3 are required for nutrient management plan, the technical No,
 4 ma'am from the manual?
 5 A Yeah Act 38 is focused on manures.
 6 Q It's nor nutrient management plan?
 7 A Right.
 8 Q Those are requirements for nutrient management
 9 plan, right?
 10 A Yes.
 11 Q And you were asked about best management
 12 practices and they were a continuum?
 13 A Yes.
 14 Q But the right under the FPR manual that you
 15 helped write is best management practices not okay management
 16 practices or bad, but best. Right?
 17 A Right. That's the ideal.
 18 Q And the setback you identified that on the map
 19 that you have there is in fact a setback around that house?
 20 A Yes.
 21 Q Because those setbacks -- do you know if those
 22 setbacks are at every single one of those naps that they use
 23 year after year?
 24 A I don't know.
 25 Q When you sailed that they identified setbacks

324
 1 A Yes.
 2 Q You understand that if the lawyers need access
 3 to test a well they can get access from the Court to test the
 4 well, right?
 5 A I presume that's true.
 6 Q You never asked to test the wells?
 7 A I never did and and you were asked who benefits
 8 from the sale of Nicholas Meats, right. Nicholas Meats gets
 9 paid for that, right.
 10 A Right.
 11 Q So -- you didn't mention Nicholas Meats
 12 benefits, right?
 13 A You put it up there on the chart.
 14 Q You were asked who benefits when they ever that
 15 final stake BUR O OE?
 16 A I was answering based on my understanding of
 17 the question in do you also understand that Nicholas Meats
 18 charges money for that.
 19 A Absolutely.
 20 Q And you were asked about the crops and the cows
 21 that were grazed opinion. Do you know what crops were grown on
 22 these fields?
 23 A Yes.
 24 Q During the yield of years 2019 do you know who
 25 YORPS crops were grown on these fields?

ROUGH DRAFT

<p style="text-align: right;">325</p> <p>1 A Which particular fields. 2 Q Most were grasses and can be born, corn, some 3 corn in there? 4 Q Do you know what was grown on F1 F2 F3? 5 A I think or CLARD grass. 6 Q Let me ask you a different way. Do you know 7 what was in the nutrient management plan for those fields? 8 A I would assume orchard grass and do you know if 9 you have any independent evidence of that's in fact what they 10 grew. 11 A No. 12 Q You don't have any evidence that they grew 13 those crops on those fields other than the plants, corrected? 14 A Other than, corrected. I didn't come back and 15 verify their plans every time they had a field where they FWRU 16 a crop. 17 Q Do you know if they did? 18 A I assume they did. 19 Q You don't know, right? 20 A I don't know. 21 Q You were asked about whether keeping yields was 22 a requirement of the nutrient management plans, right, I'm 23 sorry, of the FPR manual? 24 A Right. 25 Q It's a requirement of the nutrient management</p> <p style="text-align: center;">R O U G H D R A F T</p>	<p style="text-align: right;">327</p> <p>1 Q Has inform your other testimony been your own 2 speculation? 3 A I can't think of any. 4 MR. NIDEL: Thank you. 5 THE COURT: Re. 6 MR. LACKS: Nothing, Your Honor. 7 THE COURT: Is he free to go. 8 MR. LACKS: He is from our perspective. 9 THE COURT: Is he free to go. 10 MR. NIDEL: Yes, Your Honor. 11 THE COURT: Dr. Elliott you can go. You can 12 stay and watch the rest of the trial. 13 THE WITNESS: Thank you, Your Honor. 14 THE COURT: Of. 15 MR. CLARK: We're having a technical issue. 16 Can we try to fix that. We'll call Dustan Karschner setbacks. 17 Setbacks. Setback. 18 19 ^ , called as a witness, being sworn/affirmed, 20 testified as follows: 21 THE COURT: Swear him in, Maureen. 22 23 24 ***, called as a witness, being 25 sworn/affirmed, testified as follows: <p style="text-align: center;">R O U G H D R A F T</p> </p>
<p style="text-align: right;">326</p> <p>1 plan technical manual, correct? 2 A I don't believe that. 3 Q You don't know it's not, right? 4 A Right. 5 Q And you were asked about what they did with 6 their crops, right? 7 A Right. 8 Q You don't know what they do with their crops, 9 do you? 10 A No. Other than I assume that they were 11 refeeding it to some of their animals. 12 Q You know what they say about assume? 13 A Yes, right. 14 Q You've testified under oath but you don't know 15 what they do with their crops, right? 16 A No. VR PFS SPESHG speculation. 17 Q You NOERPT don't flow what they do with any 18 cows that might graze on those crops, right? 19 A I did not. 20 Q You don't know if they go to the factory or if 21 they go like puppy dog in the front yard? 22 A I thought it was a logical inference. 23 Q But you testified as to your speculation, right 24 he? 25 A Yes.</p> <p style="text-align: center;">R O U G H D R A F T</p>	<p style="text-align: right;">328</p> <p>1 2 3 EXAMINATION 4 5 6 MR. CLARK: Good evening in Karschner. Thank 7 you for being here. You've been here how long. 8 A Since about FLOOR. 9 Q I will do if I best PO move things along. 10 You're here under subpoena? 11 A Yes. 12 Q And who is the gentleman that accompany you 13 into the courtroom? 14 A He is a lawyer for the Department of 15 Environmental Protection. 16 Q Where are you currently employed? 17 A I am employed in Williamsport for the 18 Department of Environmental Protection. 19 THE COURT: I guess before we go further. I 20 have no idea who he is machine I don't think anybody else 21 knows who he is. 22 BY MR. CLARK: 23 Q Please introduce yourself to the jury? 24 A Sorry. Name Dustan Karschner. I'm an 25 environmental protection specialist notice waste management</p> <p style="text-align: center;">R O U G H D R A F T</p>

1 program for the Pennsylvania Department of Environmental
 2 Protection.
 3 Q When did you start working for the department
 4 of environmental protection?
 5 A I've worked for the department since 2007.
 6 Stiff 18 years experience.
 7 Q Just so I can shorten the way I speak, when I
 8 say DEP are we on the same page?
 9 A Yes.
 10 Q How long have you been in your current role at
 11 the DEP?
 12 A The current role as environmental protection
 13 specialist since 2012 but my entire 18 year plus career has
 14 been with the waste management program.
 15 Q What are your responsibilities an an
 16 environmental protection specialist at the DEP?
 17 A I do inspections of industries. I also handle
 18 complaints for waste related complaints and inspect landfills,
 19 transfer stations, those kind of entities.
 20 Q It sounds like your responsibilities have
 21 changed over those 18 years?
 22 A Somewhat. The mostly there's those are the
 23 things I've done my entire career.
 24 Q Prior -- who do you report to at the DEP?
 25 A Jason you've is my direct supervisor.

ROUGH DRAFT

1 Q What's Jason YOOU's title?
 2 A He is a OPS chief. Environmental OPS CLEECH
 3 for our program.
 4 Q Who does Jason YOOU report to?
 5 A Lisa Houser currently did you have do you ever
 6 any who reports to you.
 7 A I do not.
 8 Q Tell me -- tell the jury about what you did
 9 prior to coming to DEP?
 10 A I have a latch VR Bachelor's degree of science
 11 from Pennsylvania State University in meteorology. And I just
 12 worked some various jobs like mowed lawns prior to my job here.
 13 Q A you've been with DEP?
 14 A Yes my entire post college.
 15 Q Penn State and then DEP?
 16 A Yes.
 17 Q I'd like to turn your attention to this case.
 18 As part of your work with the DEP, are you
 19 familiar with the term food processing reacids or FPR?
 20 A Yes.
 21 Q What is FPR in your understanding?
 22 A It is a waste byproduct of any food production
 23 plant, whether that be for animals or for humans. It's usually
 24 a byproduct of some kind that just all falls under the general
 25 purview of food processing residuals.

ROUGH DRAFT

1 Q Do you have an understanding of whether food
 2 processing residuals can be used an a fertilizer or soil
 3 amendment?
 4 A Yes, they can.
 5 Q Does the DEP oversee food processing
 6 residuals in Pennsylvania?
 7 A Yes, we do.
 8 Q How so?
 9 A The regulations that we have direct us to --
 10 there's various difference ways. Some things have permits but
 11 in this instance food processing residuals are directly
 12 outlined in -- that there would be a manual developed that
 13 would outline their way to land apply them without a permit.
 14 Q So you've got to my next question.
 15 Does the DEP require every farmer who wants to
 16 apply FPR for fertilizer or soil amendment to obtain a permit?
 17 It sounds like no.
 18 A No, they do not.
 19 Q Are you -- talk about the DEP. Are you aware
 20 of any other governmental agency in Pennsylvania that oversees
 21 the use of FPR?
 22 A Not really, no.
 23 Q You mentioned the manual?
 24 A Yes.
 25 Q Who in Pennsylvania is responsible for

ROUGH DRAFT

1 determining in a person is generally in examine compliance with
 2 the FRN man FPR manual?
 3 A As far as my career it's been we've
 4 administered that manual as a way to show best management
 5 practices.
 6 Q So I asked a poor question.
 7 What agency in Pennsylvania is responsible.
 8 A The DEP, we do.
 9 Q Does the DEP have any ability to take action
 10 against someone who is applying FPR in an away that they deem
 11 is not skin with the manual?
 12 A Yes, we do in what type of actions can I DEP
 13 take against a person or entity if they deem them not come
 14 MRI ENLT with the manual ^ CHECK WORD. We could put them in
 15 violation, send them a FLTS of violation skin. There could be
 16 further enforcement involving penalties as well.
 17 Q You have the ability to fine?
 18 A Yes.
 19 Q Do you have the abilities to stop someone from
 20 applying FPR?
 21 A Yes, we would.
 22 Q Who at DEP would make those decisions?
 23 A It would be someone above my -- I EFRM just the
 24 inspector. So someone -- I supervisor or program manager or
 25 something would make that decision first above me.

ROUGH DRAFT

1 Q Understood. Again, you get to my next
2 question?
3 You don't have the authority to Order someone
4 to stop applying FPR.
5 A Correct.
6 Q You personally?
7 A Correct.
8 Q But the DEP does?
9 A Yes.
10 Q Do you have authority to issue move's?
11 A Yes, I typically write NOV's as part of my job.
12 Q You have to get sign off from that from anyone
13 above you ^ CHECK WORD NOVR?
14 A Not necessarily. I sometimes have the ability
15 to determine that myself p.m. but I usually would consult with
16 my supervisor before sending a notice of violation.
17 Q I want to focus on the defendants. Well the
18 parties in that is about are you familiar with the Defendant,
19 Nicholas Meat?
20 A Yes, I am.
21 Q Are you familiar with the Defendant, Nicholas
22 Farms or Eugene Nicholas and his wife, Heidi?
23 A Yes.
24 Q Have you had interactions -- I want to focus on
25 specific time periods here. Have you had interactions with

ROUGH DRAFT

1 Nicholas Meats since 2020?
2 A Yes, we have.
3 Q Have you had -- have you visited Nicholas
4 Meat's facility at 508 East Valley Road since 2020?
5 A Yes, I have.
6 Q How did Gene Nicholas. Have you ever visited
7 his farm properties on East Valley Road and the fields nearby
8 since 2020?
9 A Yes, I have.
10 Q From your visits, do you ever an understanding
11 of what Mr. Nicholas does on his farm fields?
12 A Yes, I do.
13 Q What is your understanding?
14 A They apply the food processing residuals from
15 the plant at a specified rates and they have various fields in
16 that area on which to do so.
17 Q And have you been to those fields?
18 A I've been to several of them, yes.
19 Q We've been referring to fields in this case F1,
20 F2, F3, SN1, SN2, SN3. Are you familiar with those fields?
21 A Yes, I'm familiar with those fields.
22 Q Have you been to those GREEFRMTHSDZ, I have?
23 Q And you've been to knows fields since 2020?
24 A Correct, yes ^ CHECK WORD those.
25 Q I want to focus on the Plaintiffs now. Are you

ROUGH DRAFT

1 familiar with Patricia Leigey?
2 A I know who she is, yes.
3 Q I assume you've not had interactions request
4 Alaina Leigey?
5 A Not that I recall.
6 Q Have you had any interactions with Carolyn
7 Leigey?
8 A Not that I recall.
9 Q Well, let's me ask those questions differently.
10 Would your answer be different if I said are you familiar with
11 them?
12 A I don't know. I don't know them at all.
13 Q Are you familiar with Leanna Rockey?
14 A I might have spoken to her at one point.
15 Q In what context are you familiar with Patricia
16 Leigey?
17 A You know I've spoken with letter on the phone.
18 I've spoken with her in person.
19 Q You met with her?
20 A I few times, yeah go.
21 Q Did you meet with her out by the fields at
22 issue in this case, her home, DEP office?
23 A I think I met at her home maybe once.
24 Q Do you recall when you first interacted with
25 Patricia Leigey?

ROUGH DRAFT

1 A It was probably sometime in the 2010. It was a
2 while ago.
3 Q You've had interaction with Patricia Leigey
4 back before 2020?
5 A Yes.
6 Q And did those interactions have to do were FPR?
7 A Yes.
8 Q And did those interactions have to do with
9 Nicholas Meats land application of FPR?
10 A Yes.
11 Q And again that was prior to 2020?
12 A Correct.
13 Q Prior to 2019?
14 A ISHLT I BLTSZ, I can't he.
15 Q How about 2018?
16 A I think so.
17 Q And again those interactions were about FPR,
18 Nicholas Meats lands application?
19 A Yes.
20 Q Did you have any interactions with Ms. Leigey
21 prior to 2018?
22 A I think so. I'm pretty sure I did.
23 Q Implicit on what we're been talking about but I
24 don't confirm. Are you aware Nicholas Meats generate FPR?
25 A Yes.

ROUGH DRAFT

1 Q Are you Eugene Nicholas using FPR general raid
 2 by Nicholas Meat at his personal farm fields F1 F2 F3 SN1, 2,
 3 and 3?
 4 A Yes? Do you know whether Mr. Nicholas uses
 5 that FPR as an aisle amendment soil amendment or fertilizer.
 6 A He does.
 7 Q Have you been to those fields?
 8 A Yes ^ CHECK WORD.
 9 Q Have you seen crop growth in those fields?
 10 A Yes.
 11 Q Have you seen crop growth in those years in
 12 2020?
 13 A I don't recall specifically if I did. I'd
 14 assume that there was.
 15 Q Do you recall if you've seen crop growth in
 16 those fields prior to 2020?
 17 A Yes, there have been.
 18 Q Has there ever been a time you've been to toes
 19 fields where you haven't seen crop growth?
 20 MR. NIDEL: Objection to form. Those
 21 SGLEELTSDZ the fields at issue in that is which I'll define.
 22 F1, F2, F3, SN 12, SN3. You're familiar with those fields.
 23 A Yes.
 24 Q Have you ever been a time you've been to those
 25 fields where you have not seen crop growth?

ROUGH DRAFT

1 A Not that I recall.
 2 Q Do you know whether Nicholas Meats has a
 3 nutrient management plan that TRAESs its generation in exPORPTS
 4 of FPR?
 5 A They do.
 6 Q Have you reviewed that plan before?
 7 A I have looked at it, yes.
 8 Q Does Nicholas Meats nutrient management plan
 9 address Gene Nicholas's lands application of FPR on the fields
 10 we've just been talking about, the field at issue in this case?
 11 A Yes, it does.
 12 Q From your perspective as an environment Olivia
 13 protection specialist with dope, is Nicholas Meat allowed to
 14 generate FPR at all?
 15 A Yes, they are ^ CHECK WORD Olivia.
 16 Q In your perspective as an environmental
 17 protection SPIGS at the Department of Environmental Protection,
 18 is Nicholas farms allowed to land apply that FPR to its farm
 19 fields?
 20 A Yes, they are.
 21 Q I want to focus us even further to a specific
 22 time period of 2020. I want to put our blinders on and I'm not
 23 asking you about periods outside that right now.
 24 June through September of 2020. You're with
 25 me.

ROUGH DRAFT

1 A Yes.
 2 Q The role that you described environmental
 3 protection specialist, was that your role with the DEP from
 4 June to September of 2020?
 5 A Yes, it was.
 6 Q And do you recall learning of an alleged runoff
 7 incident at 17745 Mr. Nicholas's fields on or around June 12,
 8 2020?
 9 A Yes.
 10 Q What do you recall about that event?
 11 A We were, SWEED notice. I believe maybe late
 12 Friday or Monday that there had been an incident on the Friday
 13 CHK 17745. Of runoff that went down along the main road from a
 14 field that they had applied to up on the hill, one of the F
 15 fields. They -- so I responded to that complaint or incident
 16 report the following Monday.
 17 Q Do you recall that you communicated with others
 18 at DEP by email about the incident when it was reported?
 19 A Yes.
 20 Q Do you recall what you wrote?
 21 A Not specifically, but I just remember that I
 22 was going to go to this complaint to check out what happened.
 23 Q I'm going to show you a document that has been
 24 pre-admitted as Exhibit D 47, and for Mr. NIRLD?
 25 MR. NIDEL: 'S benefit the BRAK on here for

ROUGH DRAFT

1 redocks that were on there and produced.
 2 MR. NIDEL: Yes.
 3 MR. CLARK:
 4 Q Do you recognize that document?
 5 Q Do you recognize that document?
 6 A Yes.
 7 Q Do you recognize the email at the top of the
 8 page?
 9 A DWREP.
 10 A Yes.
 11 A Yep, THAGS mine.
 12 Q Did you write this email?
 13 A Yes, I did.
 14 Q What is there email?
 15 A It looks like I was responding O to one of our
 16 waterways and WAET lands program. They typically respond to a
 17 lot of farm related complaints, thing, manure spread VR
 18 spreading and stuff. But because it was food processing
 19 residuals or waste, the waste manager program tends -- review
 20 the responses for those kinds of incidents and they don't
 21 really have any jurisdiction in that sense. So I was just kind
 22 of giving him information about what -- that it was definitely
 23 food processing waste and just for his information.
 24 Q
 25 MR. CLARK: Your Honor, this document was

ROUGH DRAFT

1 pre-admitted. But I FALTD to request permission to publish it
 2 to the jury.
 3 THE COURT: Any objection.
 4 MR. NIDEL: No, objection, Your Honor.
 5 THE COURT: It's admitted. You can show it to
 6 the jury.
 7 BY MR. CLARK:
 8 Q So I just want to focus on a couple different
 9 parts of this.

10 It's definitely food processing waste I
 11 believe you were just talking about that. So it was under,
 12 your understanding at the time that when you did your
 13 investigation that it's food processing waste from Nicholas
 14 Meat.

15 A Correct.

16 Q Next sentence: They have an NMP to apply on
 17 those fields that are across the Ford the complainant. Do you
 18 see that?

19 A Yes.

20 Q The examine complainant, is that Patricia
 21 Leigey?

22 A I believe it was.

23 Q ^ CHECK WORD CHM DMR if it is 9,000 gallons per
 24 acre as it is at their other locations there's about 30 acres
 25 there so it could be 60 trucks to complete?

ROUGH DRAFT

1 Did I read that accurately.
 2 A Yes.
 3 Q I want to focus on the next sentence. I talked
 4 to her at least a year ago when they were applying another
 5 time?

6 So this Niel was written on June 12, 2020. Is
 7 that right.

8 A Yes.

9 Q So if you spoke to her a year ago, Ms. Leigey a
 10 year ago, you would have certain spoken to her in 2019 and FPR
 11 application?

12 A You would agree with that, yes ^ CHECK WORD
 13 email.

14 Q Your conclusion at the bottom the last time I
 15 talked to her is the last time they applied and they're not
 16 applying as they're what because they have to be able to do two
 17 applications per year. Did I read that accurately?

18 A Yes.

19 Q Does this email refresh your RESHGS Nicholas
 20 Meats had ray in in place in 2020, yes, they did?

21 Q NRP VR nutrient management plan?

22 A Yes, they did.

23 Q And did go and I investigate the runoff either?

24 A I did, yes.

25 Q And I think you said it was of it was the next
 ROUGH DRAFT

1 BHIS day. You said maybe Friday, Monday?
 2 A I think it occurred Friday. I responsibilities
 3 Monday.
 4 Q How TU SKRETH? What did you do?
 5 A I went to the site. I spoke with a
 6 representative P Nicholas Meats on site. I viewed -- they had
 7 cleaned it pretty much by that point. So I just got an
 8 explanation from them what occurred that day on Friday, and
 9 their mitigation effort that they made.

10 Q Who at Nicholas Meat did you speak to? Do you
 11 recall?

12 A I believe it was Mr. Miller.

13 Q And did you record your observations from your
 14 investigation in any ways?

15 A Yes p.m. I wrote an inspection report that I
 16 provided.

17 Q I'm going to provide you a copy of what's been
 18 pre-admitted as D 43, which is your inspection report. And
 19 request?

20 MR. CLARK: Request permission to publish.

21 THE COURT: Any objection NOD no, Your Honor.

22 THE COURT: It's admitted.

23 BY MR. CLARK:

24 Q Please take a look at the document.

25 A

ROUGH DRAFT

1 ? The inspection report you generated.
 2 A Yes, it is.
 3 Q SFLP the report refers -- is that referring to
 4 the same runoff incident we were just talking about, June 12,
 5 2020?

6 A Yes, it \$does.

7 Q Can you read it had marks metal not guilty of
 8 the page, second paragraph?

9 A Entire paragraph.

10 Q Yeah?

11 A Based on information provides, application had
 12 occurred in the field above the pasture area. Surface flow of
 13 the FPR was able to concentrate and cross past to your field
 14 about it00 feet down him and pool along the shoulder of the
 15 area of the roadway impacting distance of 20 yards or so along
 16 the road P employees came out and placed old corn vegetation to
 17 soak up pooled FPR and used a skid steer to block off the low
 18 area from the upper field to prevent additional runoff. Stone
 19 had also been placed along the road to where FPR had been
 20 impacted the shoulder area.

21 Q You used the interim shoulder term SHOELD. Can
 22 you describe what you're referring to?

23 A A long the roadway there is maybe a one or two
 24 foot wide area of stone, like driveway stone or just crushed
 25 stone that would be placed there to help sort up the road along

ROUGH DRAFT

1 the AEJS.
 2 Q Do you recall learning WLRN whether the FPR
 3 ever crossed the road?
 4 A It never did cross the road.
 5 Q And if assuming from your report that you
 6 learned that Nicholas representatives basically fixed the
 7 problem?
 8 A They basically address it had the issue as soon
 9 as they noticed it right away on Friday as far as I was aware.
 10 Q When you went out on that Monday, did you see
 11 any remaining FPR?
 12 A Not that I recall, no.
 13 Q Did you send an email to DEP colleagues
 14 following your visual inspection?
 15 A I don't recall specifically what I might have
 16 said is follow-up, but I might have.
 17 Q I'm going to show you an email that has been
 18 previously marked as exhibit D 46 and ask if you recall this
 19 document?
 20 A Yes.
 21 Q And what is that?
 22 A I sent this -- an email to my program manager
 23 as a follow-up to the -- my response, I believe.
 24 Q Does this refresh your recollection about what
 25 you wrote to your program manager?

ROUGH DRAFT

1 A Yes.
 2 Q Following your site inspection?
 3 A Yes yes.
 4 Q Does it fairly and accurately state your
 5 observations from your site inspection?
 6 A Yes.
 7 Q
 8 MR. CLARK: Your Honor, I'd like to move to
 9 move D 46 into evidence and publish it to the jury.
 10 THE COURT: Any objection, Mr. Nidel.
 11 MR. NIDEL: No objection, Your Honor.
 12 THE COURT: It's admitted without objection.
 13 You can publish it.
 14 MR. CLARK:
 15 Q Having read that email, what do you recall
 16 about what you related to your colleagues at DEP?
 17 A I might have just -- I think I just wrote
 18 basically a slightly more detailed response to -- basically the
 19 same information as my inspection report, but I might have been
 20 really more detail in a couple areas what I saw when I was
 21 there.
 22 Q It seems this confirms that the FPR was
 23 confined to the shoulder area?
 24 A Yes.
 25 Q Did you make any observation ES about whether

ROUGH DRAFT

1 setbacks were being followed?
 2 A I did.
 3 Q And what was your observation about whether or
 4 not this incident resulted from violating setbacks?
 5 A It did not. They were following setbacks.
 6 Q They were following setbacks?
 7 A Yes.
 8 Q Did you reach any conclusions about what caused
 9 it had runoff?
 10 A My conclusion was that maybe the area was dry,
 11 more dry than usually or something and because the land
 12 application wasn't soaking in as quickly as it would have under
 13 maybe slightly damp ground or normal conditions that ended up
 14 just kind of staying on the surface and ended flowing downhill
 15 really more than it would have normally.
 16 Q Did DEP take any kind of action in connection
 17 with this June 12, 2020 incident?
 18 A Yes. I did put them in violation for the
 19 incident and sent a notice of violation to them for this -- for
 20 the incident.
 21 Q Can you explain what a notice of vials means?
 22 A I notice of violation is just -- it's basically
 23 our force enforcement step if there is a violation of
 24 environmental regulation of some kind ^ CHECK WORD vials that
 25 we deem needs further enforcement we would send notice of

ROUGH DRAFT

1 violation just as -- just further information for the party
 2 that there was a violation of environmental law and that some
 3 actions need to be taken to correct the violation.
 4 Q Does the notice of violation mean that a party
 5 needs to stop land applying FPR?
 6 A It does not, no.
 7 Q Is it a notice of violation a final action by
 8 the DEP?
 9 A No.
 10 Q Is a notice of violation mean someone is fined
 11 because of what you observed?
 12 A No, it doesn't.
 13 Q In this instance, this June 12 IEFRNT event,
 14 was Nicholas Meat fined?
 15 A I don't remember if we took a penalty or not.
 16 Q Do you remember if you told them that they
 17 couldn't land apply any more?
 18 A I do not recall them them that. I don't
 19 believe I did.
 20 Q Does -- giving someone a notice of violation
 21 mean that they then have to go get a permit?
 22 A No, it doesn't.
 23 Q Can you explain the difference between a notice
 24 of violation and an Order or a final action?
 25 A A notice of violation is like a said our first

ROUGH DRAFT

1 step after a violation occurs. An Order for something of that
 2 knit further would be usually a following step or some step we
 3 might take in the very serious, very serious situations.

4 Q What's the most significant step that DEP can
 5 take?

6 A Probably an Order or a field Order would be the
 7 most significant step that I can think of. Maybe a penalty.
 8 I'm not sure.

9 Q Above you pay grade?

10 A Yes, above my pay grade.

11 Q Fair enough.

12 I want to focus us a little bit later that
 13 summer to the August time frame. Do you recall inspecting the
 14 Nicholas Meat land application on Gene Nicholas's fields again
 15 between August and September of 2020.

16 A Yes.

17 Q What did you do? Why did you do that?

18 A We had received a call or a complaint about a
 19 lot of storm water runoff from a heavy rain event and the
 20 Complaint was that they had applied to those fields therefore
 21 the FPR was also running off of off because of the rain event.

22 Q ^ CHECK WORD?

23 Q Did you record your observations of your
 24 inspections in any way?

25 A Yes. I believe our observations were included
 ROUGH DRAFT

1 in an inspection report.

2 Q I'm going to show you you what's been
 3 pre-admitted as D Clark, Your Honor, may a public you be will
 4 issue to the jury?

5 THE COURT: Any objection.

6 MR. NIDEL: No, Your Honor.

7 THE COURT: It's admitted. .

8 Q

9 BY MR. CLARK:

10 Q Do you recognize this document?

11 A Yes.

12 Q And what is it?

13 A Inspection report that I wrote for time period
 14 covering a couple months of observations that the department
 15 took.

16 Q And this SNNGS report talks about the SN fields
 17 and refers to Snook Road?

18 A Yes.

19 Q And you understand those to be the SN1, SN2
 20 fields we were just talk early?

21 MR. NIDEL: Objection he's been leading for a
 22 while.

23 THE COURT: Try not to lead.

24 BY MR. CLARK:

25 Q The document references Snook Road. What field
 ROUGH DRAFT

1 do you understand that to be referencing?

2 A SN 1 SN2 and SN3.

3 Q Let's start with your first entry here. August

4 7. . Can you read that an aloud?

5 A On August 7 department visited the SNOK road
 6 location after pictures were sent following a heavy
 7 thunderstorm in the morning that day. PINTH showed storm water
 8 runoff and flash FOOGD that occurred from needles had not been
 9 applied to for several weeks. A couple pictures also SHOELD
 10 SFORM water runoff down the access road to fields SN1 and 2,
 11 where application occurred the previous day more than 12 hours
 12 prior to the storm. On site observations later that morning
 13 showed no runoff issues from new application despite the wet
 14 soil and FPR was still soaking into the ground completely
 15 within 20 minutes of application.

16 Q So when you refer to storm water RUF, runoff,
 17 what are you referring to?

18 A Just rainfall, rainfall that was buried, very
 19 heavy for a short period of time so that runs off do you know
 20 the slope or something that ran down the access road in that
 21 instance ^ CHECK WORD buried.

22 Q And you said that your on site observations
 23 later in the morning showed no runoff issues from new
 24 application despite the wet SOIM?

25 A Correct.

ROUGH DRAFT

1 Q And the FPR you observed was soaking into the
 2 grounds within 20 minutes?

3 A Correct.

4 Q Did the department take any action relating to
 5 this August 7, 2020, inspection?

6 A Not that I recall.

7 Q So you don't recall whether the department
 8 assessed any fine to Gene Nicholas or Nicholas Meat based on
 9 your August 7 E. 2020 SNNGS?

10 A No.

11 MR. NIDEL: Objection. He asked him a
 12 nonleading question and then followed up with a leading
 13 question.

14 THE COURT: I don't think that's leading.
 15 Overruled. The answer was no. At answer will stand. FWED
 16 next question.

17 MR. CLARK: Let's move to the rest of the
 18 report.

19 According to your report, did you begin
 20 conducting routine daily surveillance of track track in
 21 application locations of FPR from Nicholas Meats facility.

22 MR. NIDEL: I believe that is leading.
 23 Objection.

24 THE COURT: I don't think it suggests an
 25 answer. So that's my definition of an air leading question.

ROUGH DRAFT

1 It's either yes or no WLRN whether he conducted daily
 2 surveillance of whenever he's going to surveil. Go ahead and
 3 answer.

4 A Yes, I did.

5 Q

6 MR. CLARK:

7 Q What was the result? Let me ask it this way.

8 How long did that surveillance last?

9 A Like about a month.

10 Q A month?

11 A Yeah.

12 Q Does this report summarize all the days on
 13 which you were out there?

14 A Yes.

15 Q And I'm not going to take you or the jury
 16 through the TEEDium of going through each day.

17 But can I direct you as to what your ultimate
 18 conclusion was based on seeing this report.

19 A Yes. The purpose of us going out there was to
 20 just count the trucks and the applicator would document number
 21 of trucks that they were applying to certain fields and so we
 22 asked for the application records to be provided to us so that
 23 we could compare CHA we observed to what they documented was
 24 applied.

25 Q Did you of did you draw any conclusions about
 ROUGH DRAFT

1 Nicholas's application of FPR during the time that you were
 2 performing this is your violence?

3 MR. NIDEL: Your Honor. I object. Sidebar,
 4 please.

5 THE COURT: Sure. Talk among UFRLSZ.
 6 # # # # is #.

7 THE COURT: Go right ahead.

8 MR. NIDEL: This is surveillance was regarding
 9 lots of field other than the field rat issue. I think it's
 10 extremely confusing. It was confusing me that suggests
 11 surveillance on NEELTSZ. It's field K 1 I've seen fields not
 12 related to this that were being applied during this period. I
 13 think it's going into issues defendants' have refused to
 14 produce discovery on.

15 THE COURT: Certainly K 1 and K 2, K 3.

16 MR. NIDEL: There was's significance strong
 17 suggestion it was out at these FAE LTD for an entire month
 18 watching truck WUGS not the cause and we have been denied to
 19 discovery to know how many TWRUOKS.

20 THE COURT: There's also F 6 A, F 5, F 4. So.

21 MR. CLARK: You can couldn't BIEN my question
 22 SZ to the field that are issue in DLAGS and I can confine my
 23 questioning to the FULTD that are at issue in that is that are
 24 referenced in this report and if it will MAUK Mr. Nidel happy
 25 I can take the document down and can ask hum questions about

ROUGH DRAFT

1 just those days and his observations without the document on
 2 screen.

3 MR. NIDEL: You've already asked how long he
 4 was out there surveilling.

5 THE COURT: I'm going to let them. I'll give
 6 curative instruction, FEERLD. He's going to follow up on
 7 these particular fields only. That solves the problem.

8 SZ # # # #.

9 THE COURT: Ladies and gentlemen, I PIPTD out
 10 pointed out Dwight right any that this D 44 which was up here
 11 has been taken down. It does not just teal with the field
 12 that are in question here. F1 F2 F3 SN1, 2, and 3 deal with a
 13 bunch of other fields. The surveillance were on all of these
 14 fields. So ignore the testimony that there was a surveillance
 15 for that time period of about a month. That's not what was
 16 going on just with the fields of F1 F2 three SN1, 2, and 3.

17 Now, Mr. Clark is going to go ask out of this
 18 report just on THEELD on those DATSDZ, not the other fields.

19 So the month surveillance was not -- just put
 20 it out of your mind because it included a bunch of other
 21 fields. They are watching where all these trucks were going
 22 andy heard you applies to FEERLD.

23 FWED, Mr. Clark.

24 MR. CLARK:

25 Q Mr. Karschner as part of your is your rail ENS,
 ROUGH DRAFT

1 did you have opportunity to observe the SN1 and SN2 fields?

2 A Yes.

3 Q And was that examined?

4 Q Do you know the date when that took place

5 ^ CHECK WORD?

6 A It was like one of them was August 10 and there
 7 MAFSH a couple other ones.

8 Q As part of the surveillance did you have an
 9 opportunity to surveil the F fields?

10 A Yes.

11 Q By the F fields let me be clear. Fields F1?

12 A Yes.

13 Q Would you have also I assume in watching F of
 14 DWRCHLT F1 WACHLD TWOEF YFRMENT?

15 Q Was part of there surveillance did you have an
 16 opportunity -- well whether there multiple taste within this
 17 time period that you observed the SN fields?

18 A Yes.

19 Q Were there plumb days within this time period
 20 that you observed the F fields?

21 A I believe so.

22 Q Did you come to any conclusion ^ CHECK WORD
 23 plumb?

24 Q I'm going could up confine my question to those
 25 particular fields, as to whether or not there was any

ROUGH DRAFT

1 violations of setbacks?
 2 A There were not.
 3 Q Did you come to any conclusions about whether
 4 or not there were any runoff issues?
 5 A There were no.
 6 Q Did you come to any conclusions as it relates
 7 to those fields, about whether or not there was any evidence of
 8 over application?
 9 A We did not find any evidence of that.
 10 Q During that time period, did you come to any --
 11 I'll withdraw the question.
 12 Were you looking at their application records
 13 at this point.
 14 A I believe they provided it to us at a later
 15 date after the time period that we were watching.
 16 Q And when you say they provided, do you mean on
 17 a routine basis?
 18 A I think we -- at some point during there time
 19 frame we may have requested that they #13419 #3419 them to us
 20 when they were available.
 21 Q And has Nicholas Meats and Nicholas Farms
 22 provided their DRIEN reports to you?
 23 A They have, yes.
 24 Q Drag line reports to you?
 25 A They have, yes.

ROUGH DRAFT

1 sites in some fashion since 2020?
 2 A Yes.
 3 Q Do you still receive Nicholas Meats drag line
 4 reports?
 5 A Currently we do not.
 6 Q You do not.
 7 When did that stop.
 8 A I believe last year I talked with the plan
 9 writer, the nutrient management plan plan WRIERT writing who
 10 was relaying those reports to us and Nicholas Meats provide
 11 yours use an an an rule north that were provides the entire
 12 year land application so that's included with that so I decided
 13 it DPTD need to be submitted to us monthly or every month other
 14 or something of that nature.
 15 Q The drag line reports are attached to the
 16 annual report?
 17 A Correct.
 18 Q That is there ever been a time that you have,
 19 that you've requested the drag line reports from Nicholas Meat
 20 and they've not provided them?
 21 A No.
 22 Q To your knowledge, has the DEP ever ordered
 23 Nicholas Meat or Gene Nicholas to stop land applying FPR on
 24 fields F1 F2 F3 SN1 SN2 SN3?
 25 A No.

ROUGH DRAFT

1 Q In the year since 2020 has DEP received any
 2 additional complaints about application of FPR on Gene
 3 Nicholas's farm fields F1 F2 F3 SN 1 SN2 SN3?
 4 MR. NIDEL: Objection. Foundation.
 5 THE COURT: Is the questions asked did he get
 6 records.
 7 MR. NIDEL: He asked if DEP got any not him.
 8 He should SKSH asked if he knows or if got any.
 9 THE COURT: Rephrases the yes.
 10 BY MR. CLARK:
 11 Q Do you know -- are you with me?
 12 A Yes.
 13 Q If DEP has gotten any additional complaints in
 14 the year since 2020 regarding the land application of FPR on
 15 Gene Nicholas's farm fields F1 F2 F3 SN 1 SN2 SN3?
 16 A I believe we've got a couple.
 17 Q A couple. Do you know who those came from?
 18 A I don't remember recall specifically.
 19 Q Has DEP conducted additional inspections of
 20 those fields?
 21 A I don't know if -- I don't recall if I've been
 22 on actually set foot on those fields if they're mostly
 23 observable from the main road so I might have driven by them to
 24 make observations.
 25 Q Fair qualification. Have you gone out to those

ROUGH DRAFT

1 A Let me rephrase that. Early on when the --
 2 their application there first began, we asked that they
 3 correctly get a NRP NRP so we don't believe they had one in
 4 place at the time which was early 2010 or something. That may
 5 have the only time request request they cease. But I don't
 6 know it that was an actual request we made we just said please
 7 follow the best management practice.
 8 Q Is it your understand Nicholas Meats has had a
 9 food processing residuals since somewhere end 2010?
 10 A Yes.
 11 Q And have you or had DEP had access to that
 12 nutrient management plan every year since 2010?
 13 A I don't remember if it was every year but most
 14 of the time we've had that on hand or been able to get it from
 15 them ^ CHECK QUESTION NMP.
 16 Q Has there ever been a time DEP -- to your
 17 knowledge has there been a time DEP asked Nicholas Meat for the
 18 nutrient management plan and not been provided it?
 19 A No.
 20 Q We spoke earlier about whether DEP considers
 21 Nicholas Meat allowed to generate FPR?
 22 A Yes.
 23 Q I want to focus your attention specifically --
 24 again, I'm narrowing the time period. On a time period from
 25 June 102021 until June fern tendering tension, 2021 DWURNGS,

ROUGH DRAFT

1 2022 which I'll represent is the date the plaintiffs filed
 2 their case in this case. Are you with me?
 3 A Yes.
 4 Q To the best of your knowledge between June
 5 102021 and June 2020, 2022, did DEP assess any fines to plea
 6 agreemented to the generation of FPR?
 7 A No.
 8 Q To the best of your knowledge between June 10,
 9 2021 and June 10, 2022, did deep assess DEP assess any fine to
 10 any of Nicholas Meat or Gene Nicholas, Heidi Nicholas, relate
 11 LD to the land application of FPR on F1 F2 F3 SN1 SN2 or SN3?
 12 A I don't recall.
 13 Q Using that same time period, did DEP take any
 14 action to prohibit Nicholas Meat from generating FPR at its
 15 facility during that time period?
 16 A No.
 17 Q Same time period. Did DEP take any action to
 18 prohibit Nicholas Farms from land applying FPR on W F2 F3, SN1
 19 SN2 SN3?
 20 A Not that I recall.
 21 Q CLARNG nothing further Clark nothing further?
 22 THE COURT: Cross-examination examination.
 23 BY MR. NIDEL:
 24 Q #?
 25 Cross.

ROUGH DRAFT

1 right?
 2 A Yeah. I recall -- I don't know if it was
 3 mostly for those fields, but offhand, but that might have been
 4 TSH that might have been one of them. Harped to remember
 5 exactly. But I think they didn't -- that might have been one
 6 of the issues ROOE we ran across initially at the very, very
 7 FWING did they were applying FPR without on NMP, right.
 8 MR. CLARK: Objection, asked and answered.
 9 THE COURT: Overnights. Go ahead and answer
 10 the yes CHK.
 11 A From what I recall that was something that
 12 happened at that original point.
 13 BY MR. NIDEL:
 14 Q Have you have you met with Nicholas Meat's
 15 lawyers?
 16 A I've met with them before, yes.
 17 Q Have you met with them before this trial?
 18 A Yes.
 19 Q When did you meet with them?
 20 A We -- there was a case a couple years ago that
 21 I FSZ part of I was part of and we also had a short phone
 22 interview prior to the trial just to discuss timing and stuff
 23 lining that like that.
 24 Q You had a phone interview with the Nicholas
 25 Meats attorneys this case?

ROUGH DRAFT

1
 2
 3 EXAMINATION
 4
 5
 6 MR. NIDEL: I think, Sr. Mentioned an OT and
 7 Costello OE exit. I think we've achieved that.
 8 MR. NIDEL:
 9 Q Good evening, Mr. Karschner. May it please the
 10 Court and, Your Honor.
 11
 12 BY MR. NIDEL:
 13 Q I understand from your testimony that you've
 14 been overseeing Nicholas Meat land application since at least
 15 2010; is that right?
 16 A That sound correct, yes.
 17 Q And you said that they started applying but
 18 didn't have an NMP?
 19 A That was one of the original issues that we ran
 20 across when they began applying.
 21 Q When they began applying FPR they didn't have
 22 an NMP, right?
 23 A They might not have. It might have been
 24 partial or it might not have been developed yet quite fully.
 25 Q Your recollection is they didn't have one,

ROUGH DRAFT

1 A Yes.
 2 A Yes.
 3 Q Prior to there trial?
 4 A Correct.
 5 Q To discuss your testimony?
 6 A Essentially, yes, and time frame.
 7 Q Wow. Does your lawyer know that?
 8 A Yes. He was present.
 9 Q Okay. You brought a lawyer with you today,
 10 right?
 11 A Yes.
 12 Q You're not a lawyer, right?
 13 No
 14 Q You don't know what the rules are that apply in
 15 courts, right?
 16 A Not offhand, no.
 17 Q You have a lawyer that you referred to know
 18 when a permit is needed when enforcement action should be
 19 taken, when the authority is there for you to take action,
 20 right?
 21 A Correct.
 22 Q Okay. You don't make those decisions, right?
 23 A Correct.
 24 Q You don't even have the authority to issue a
 25 cease and desist, right?

ROUGH DRAFT

1 A I do not, no.
 2 Q You were asked if you ever issued a cease and
 3 desist but you don't have the authority to do that, right?
 4 A I don't understand the exact question you're
 5 asking. I don't have -- I might have made an observation and
 6 took it back to my supervisors and said hay this is an SHISH,
 7 and they said well tell him to get a nutrient management plan
 8 or something like that.

9 Q When did you have your call with Nicholas Meats
 10 folks?

11 A Maybe two weeks okay.

12 Q The DEP's client is the public, right?

13 A Yes, we're public.

14 Q Why are you putting plan together with Nicholas
 15 Meats attorneyings Clark objection. Characterization. Aid we
 16 spoke about timing, Your Honor?

17 THE COURT: Stop. Stop. Stop.

18 Do you want sustain the objection. Y you said
 19 plan. You can go further with the phone call.

20 BY MR. NIDEL:

21 Q You didn't just speak about time?

22 A Not just timing, no.

23 Q Y talked about your testimony, what you would
 24 say in court, right Clark objection. Miss character
 25 characterizes his testimony?

ROUGH DRAFT

1 MR. NIDEL: It's a question.

2 THE COURT: Overruled if you can ask him. Go
 3 ahead.

4 A We discussed what exhibits they might bring up
 5 and what we -- what they might ask about the exhibits.

6 BY MR. NIDEL:

7 Q Your testimony, right, discussed your testimony
 8 DLASHG same objection?

9 MR. NIDEL: You relettered it with NIM.

10 THE COURT: Overruled.

11 A I didn't rehearse my testimony per se. They
 12 pro provided the documents that they would refer to and I was
 13 the inspect he were that was the one that responded to the
 14 site. So I had the most knowledge as the ropetive of the
 15 department for observations that we took.

16 Q Who is your client, sir? Is the public your
 17 client or Nicholas Meats cooperation?

18 A The public is.

19 Q The public is, right. But you're go behind
 20 THARP back to talk to the lawyers for the regulated entity,
 21 right?

22 MR. CLARK: Objection. Argumentative
 23 SFWLAEFRJTS. You don't answer that.

24 MR. NIDEL: You were going to talk to the
 25 regulated entity rather than talk to the public, right.

ROUGH DRAFT

1 A I am allowed to the regulated entity.

2 Q Talk to their lawyers?

3 A If they ask you know we just had a call about
 4 -- they subpoenaed me.

5 Q Let me be clear. So you went and talked to
 6 them two weeks before trial because they served a subpoena on
 7 you?

8 A I believe the subpoena might have been after.

9 Q You hadn't even got the subpoena and you were
 10 talking to them about what documents you would be shown and
 11 what testimony you would give about those indictments, right
 12 classic objection. Mischaracterizes his testimony?

13 THE COURT: Overruled. You can answer.

14 A The official subpoena might have been after we
 15 talked, but they had reached out to our department lawyer that
 16 I would be subpoenaed.

17 Q So there's a lot of I want to talk to you about
 18 sir. But you've been -- you received on NMP RP NMP from then
 19 in 2010 after they were applying?

20 A Something like that.

21 Q And you've been reviewing and studying their
 22 NMPs ever, EFRN, ever since, yes?

23 A Yes they've had within in place.

24 Q You've been the one responsible form ensuring
 25 that they comply with those NMPs ever since 2010?

ROUGH DRAFT

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 3 ahead.

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 25 regulated entity rather than talk to the public, right.

ROUGH DRAFT

1 A Yes, I believe ES I've been the SFLPTer that's
 2 done that.

3 Q Up here people are there that are responsible
 4 for Nicholas Meat's compliance with the management practices
 5 and rules and regulations requirements, guidelines for FPR
 6 application at these sites?

7 THE COURT:

8 A Could you retrays the question.

9 Q How many people, other than you, oversee
 10 Nicholas Meat's application?

11 A I'm the only official inspector by my
 12 supervisors have some say and you know maybe they visited also.

13 Q You're the only one, right?

14 A I'm the only inspector that's SPORNL responded
 15 to their complaints.

16 Q What's your region? URP at Williamsport?

17 A I'm Williamsport, yes if what's your total
 18 region.

19 A I actually respond to just about every FPR
 20 related complaint that comes in for our entire region which is
 21 4 counties.

22 Q I have responsibility form FPR applications in
 23 4 counties, right?

24 A Yeah ^ CHECK QUESTION number.

25 Q How many sites?

ROUGH DRAFT

1 A I don't know off lands. There is a few
2 entities that we have that have -- WAEFRP gotten complaints
3 about.
4 Q Several hundred sets, sites?
5 A There's not that many.
6 Q There's more than 50, right ^ CHECK WORD sets?
7 A I don't think that many YEERT.
8 Q There's more than 50 fields that are applied by
9 Nicholas Meats, right?
10 A I don't know exactly how many fields they apply
11 to.
12 Q How many total fields do you have
13 responsibility for?
14 A I don't know. It's more -- I think more of
15 generator, more as a generator than -- than the different
16 fields that are applied to.
17 Q I understand that's how you may see it but my
18 question was how many sites. Let me specify. How many days VR
19 how many fields do you have responsibility for oversight?
20 A I don't know how many there are.
21 Q More than a when you were, right?
22 A DWRM define fields in the NRP NRP there could
23 be several but there could be five of them in one location so I
24 would consider that one location.
25 Q How many field, sir?

ROUGH DRAFT

1 A That seems accurately.
2 Q And in fact you didn't go out to the field pipe
3 sort of overstated things. You did a drive by, right?
4 A In most instances, a drive by.
5 Q A WIRND SWHIENLD she would inspection. Bishop?
6 A Turn the head.
7 A Yeah.
8 Q And and you said they didn't violate setbacks,
9 right?
10 A Correct.
11 Q La did you do? F1 -- you saw F1 up here from
12 buzzing down the road. Is this the road you go on?
13 A Yes.
14 Q You can tell if they violated setbacks from
15 those wind SLEELDZ inspections?
16 A Yes, that field DONL have any setback issues
17 with it.
18 Q Well, it does have a sinkhole down here, right?
19 A It looks like there's a sinkhole, yes go can
20 you tell me where the sinkholes are on these fields. You've
21 been managing them, overseeing them.
22 A Whatever is marked on that map is where they
23 are defined setback IESHS SHR.
24 Q You've been the last 15 years?
25 A Yeah.

ROUGH DRAFT

1 A I do not know.
2 Q More than a hundred?
3 A It might have been shall might be nor than a
4 hundred.
5 Q So since 2010 you've been doing inspections
6 ^ CHECK ANSWER. You were asked about this period where you
7 were doing surveillance and you were asked the question if if
8 you went out to SN fields and you said yeah I went out one day
9 and it might have been a few more, right when you did the drive
10 byes?
11 A Yes.
12 Q And then you were asked again and you said yeah
13 on multiple days?
14 A Yeah go do you have a recollection of being he
15 at the SN fields doing drive buys more than the one day that
16 you first forming responded.
17 A Yes, it was multiple days.
18 Q You know for sure?
19 A Yes and more than two.
20 A I believe it was more than two.
21 Q How many days, days?
22 A I'd to consult this.
23 Q How many days did you go out to the F fields?
24 A I handful. Probably no more than five.
25 Q Probably more TWLIEK or three?

ROUGH DRAFT

1 Q Where are the sinkholes?
2 A I don't know. I haven't investigated them that
3 closely. I count on the plan writer to find and define the
4 sinkholes.
5 Q Where are they? You do inspections, you see
6 they are applying best management practice?
7 A Correct there they are required to apply best
8 management practices.
9 A Right.
10 Q Required by law to do that, right?
11 A Correct.
12 Q And your testimony is they do that, right?
13 A Correct.
14 Q But you don't know where the sinkholes are
15 after 15 years?
16 A As far as I'm aware there is no sinkholes on
17 those fields inside the -- THLS there are mark marked on there
18 I don't believe there are any.
19 Q Do you know if there's underground drainage on
20 these GLUNDZ go to sinkholes?
21 A Not that I'm aware of.
22 Q Do you know what the setbacks are?
23 A I vaguely know it's a hundred feet, 150 feet,
24 300 feet, depending on the leaks.
25 Q Is there a setback from a FLABing property?

ROUGH DRAFT

1 A Yes.
 2 Q What's the setback from a neighboring property?
 3 A I believe from a property line it is 50 feet
 4 from a home it is 300 feet from a well water well is 300 feet.
 5 Q And how about from a drainage -- how about from
 6 a sinkhole?
 7 A Sinkhole I can't remember exactly what the --
 8 it is, either 50 or a hundred feet maybe.
 9 Q 50 or a hundred feet maybe. Your testimony was
 10 they never violated setbacks when you go by and do the bird
 11 dogging?
 12 A Correct.
 13 Q There RP there were no runoff issues, right?
 14 A ? You said when you did your driver buys no
 15 runoff issues.
 16 A Correct.
 17 Q It didn't slash up on your car?
 18 A Are you referring to what time frame.
 19 Q When you were doing the two to three time have
 20 your VARLS veil ENS?
 21 A No.
 22 Q You've talked about two incidents with runoff,
 23 right?
 24 A Correct.
 25 Q And the testimony you might have discussed the

ROUGH DRAFT

1 provided and my observations of going out there the following
 2 Monday.
 3 Q And your conversations with Brian Miller and
 4 Gene Nicholas?
 5 A Correct.
 6 Q Okay. Again the regulated entity, right?
 7 A Correct.
 8 Q But you didn't Larry input from the public?
 9 A Not specifically, no.
 10 Q Or the photos at the of the LALGed of alleged
 11 runoff ^ CHECK WORD were?
 12 A They were the only photos that it pulled along
 13 the L shoulder on the north side of the roads.
 14 Q Pulled along the shoulder by the mailboxes?
 15 A Somewhere in that VIPT.
 16 Q And the setbacks -- it was well into the
 17 setbacks, right?
 18 A Yes, but they didn't apply it within setbacks.
 19 Q But it ran off into the satisfaction?
 20 A Yes FW it's not allowed to runoff into the
 21 setbacks, is it.
 22 A Briefer it not. That is why they did receive a
 23 violation.
 24 Q And they did receive a violation for it, right?
 25 A Correct.

ROUGH DRAFT

1 exhibits that you discussed talking about two weeks ago with
 2 defendants, right?
 3 A Correct.
 4 Q And you weren't there on that Friday, were you?
 5 A No.
 6 Q How do you know there was no runoff?
 7 A Based on the NAKTS I observed and then any like
 8 staining left from what happened.
 9 Q Any staining? You were looking for staining?
 10 A There was a little bit of staining that showed
 11 where the material that they applied leaves a little of a black
 12 brownish stain on the ground so I can kind of see where it last
 13 gone.
 14 Q After two days of traffic on the road?
 15 A It wasn't on the road.
 16 Q Well, we're talking about about THOED right
 17 here, right?
 18 A Correct, yes.
 19 Q Did you ask Ms. Leigey if there was runoff that
 20 went onto road?
 21 A Not that I recall, I didn't ask her,
 22 specifically.
 23 Q But you rode wrote in the report there was no
 24 runoff based on what?
 25 A The observations of pictures that I was

ROUGH DRAFT

1 Q Because it went into the setbacks, right?
 2 A A that and exited essentially the property by
 3 accessing the RRP to the road, the shoulder would be included
 4 in.
 5 Q And then the later -- the later one at issue in
 6 ends of August you weren't there then either?
 7 A No.
 8 Q You wrote there was no runoff then, right?
 9 A Correct.
 10 Q And how do you know that?
 11 A The runoff that we were provider provided for
 12 in the pictures was just of rainwater that I could tell. There
 13 would be no way to tell if there was FPR in it anyway.
 14 Q Did he take any samples?
 15 A No, there was no samples to take.
 16 Q There would be no way to tell if there was FPR
 17 in it but if there were be that would be to sample it?
 18 A Yes, I would sample if that was a possibility.
 19 Q Who gave you the photos?
 20 A I don't recall who gave me the photo.
 21 Q Brian Miller, Gene Nicholas, somebody from
 22 Nicholas Meats Clark objection. Misstates his testimony. Said
 23 he doesn't recall?
 24 THE COURT: He's allowed to follow up.
 25 Overruled.

ROUGH DRAFT

1 A Which incident is there referring to.
 2 MR. NIDEL:
 3 Q In August?
 4 A I don't recall who submitted those pictures.
 5 Q But you never got a sample of material, right?
 6 A No.
 7 Q The pictures that you were looking at in June,
 8 who gave you those?
 9 A I don't recall who specifically submitted
 10 those.
 11 Q Somebody from Nicholas Meats?
 12 A It might have been but I don't remember.
 13 Q You never took samples, right?
 14 A No.
 15 Q You took their word for it that there was no
 16 runoff off the property, right?
 17 A Correct.
 18 Q And so it's just you, right, it's just you
 19 watching multiple generators of FPR, right 4 counties?
 20 A Yes.
 21 Q And you testified that you were out there CHK
 22 New Jersey last 4 the last time in 2020, right?
 23 A I was out there 2342020.
 24 Q You were asked if you been there since and you
 25 said I might have driven by?

ROUGH DRAFT

1 A Yes.
 2 Q And then you were asked well have you been out
 3 there sort of follow up and you said yes I've been out there
 4 driving by?
 5 A Yes.
 6 Q Do you know if you've actually been out there
 7 since 2020?
 8 A Yes, I've been.
 9 Q How many times?
 10 A Probably between five and 10, I would say.
 11 Q Between five and 10. As part of your work
 12 you've been out there or just driving?
 13 A Sometimes part of work sometimes I just drove
 14 through the area.
 15 Q Five and 10 but some of those were just driving
 16 through the area?
 17 A Correct.
 18 Q In the last five years you've been out there
 19 between five and 10 times TP is it half times for fun and half
 20 the FIERMENTS firearms times for kind of work?
 21 A I TD say about five to six or so of those times
 22 were DB probably more than half times were for actual making
 23 observations. The remaining times I was through the area.
 24 Q In the last five years but of you've been out
 25 there six times and by out there I mean driving by, right?

ROUGH DRAFT

1 A Correct.
 2 Q Didn't get out -- do you drive a truck?
 3 A I have a Ford escape.
 4 Q Didn't get out of the Ford escape?
 5 A I don't recall if I got out any of those times.
 6 Q You have no recollection of getting out and
 7 doing anything on these fields or around these fields, right?
 8 A No.
 9 Q You said that you've been reviewing the NMP and
 10 I believe you said that -- that they haven't violated the NMP,
 11 right?
 12 A Not recently.
 13 Q They have violated the NMP?
 14 A There have been some violations, yes and and
 15 when we say over application -- we've heard this phrase quite a
 16 bit -- over FLIKS, that was, that would be the 9,000 gallons
 17 per acre per application.
 18 A That is part of it.
 19 Q That is a limit, right?
 20 A Yes.
 21 Q Okay.
 22 And so if they apply more than that that is
 23 called over application, right.
 24 A Correct.
 25 Q Have you ever taken their FPR reports, their

ROUGH DRAFT

1 drag line reports, and done the math?
 2 A We've done some basic math on the reports.
 3 Q Have you done it on all of their entries. You
 4 were getting them and there's been a big point made about the
 5 fact they just gave them to you. Did you ever do that math on
 6 each and everyone of those entries?
 7 A I don't recall if we did or not.
 8 Q So when you say we, it would be you, right?
 9 A We -- as the department. Like some of my
 10 supervisors might have helped review those always at some
 11 point.
 12 Q I just want to make it clear for the jury. Who
 13 is two eyes are watching these reports? It's you, right?
 14 A Correct.
 15 Q So when you say we, it's me, right?
 16 A Correct.
 17 Q And you have not gone and checked each and
 18 everyone of those faculty members to make sure that they are in
 19 compliance, right?
 20 A Not every time.
 21 Q Not even half the time, right?
 22 A Maybe not. I don't remember.
 23 Q Not a facts of the time, right. You may be
 24 spot checked a few of those numbers ^ CHECK WORD fraction?
 25 A They maybe provide detailed reports it's east

ROUGH DRAFT

1 WRER to compare totals so I don't have to do the math any more.
 2 Q It's not just the totals, sir. The NMP -- you
 3 got an email about it because in 2020 you didn't know 10 years
 4 into the game you didn't know how the NMP worked, right?
 5 A I disagree.

6 Q You had to ask TeamAg how to interpret their
 7 NMP 10 years ago, years after you had been enforcing and
 8 inspecting compliance with that NMP, right?

9 A I don't recall.

10 Q Well, let me help you refresh you shall
 11 recollection.

12 THE COURT: Do you have an consistent number.

13 MR. NIDEL: It's D 119. .

14 BY MR. NIDEL:

15 Q Exhibit D 119, is that an email chain?

16 A

17 ? Is that an email chain where you had to ask
 18 Corey GROEFR how to THERPT the NMPs on July 28 of 2020.

19 A I may have asked limb some specific questions
 20 on what how it how to interpret the nutrient management plan
 21 yes.

22 Q You sent an email bottom of the page from you,
 23 Dustan Karschner, right?

24 A Yes.

ROUGH DRAFT

1 Q Judgment 28, 2020?
 2 A Yes.
 3 Q And you seven that email. And you said: --
 4 what did you say in you said also my program manager has
 5 expressed interest in maybe trying to have a KFRPTS call with
 6 you, him myself and my supervisor to go over a little bit of
 7 the methodology for NMP development and discuss any KWETSS we
 8 might have about how these are setup and how to interpret them.

9 Right.

10 A Yes.

11 Q So you had been responsible foreign forcing and
 12 inspecting this application of Nicholas Meats for 10 years and
 13 en enforcing their NMPs and you still DRN did not know how to
 14 do your job, right?

15 A I disagree.

16 Q You didn't know how to interpret they're NMPs,
 17 right?

18 A I knew mostly how to THERPT RN THERPT interpret
 19 P nutrient management plan. We might have had specific
 20 questions. We always have a waterways that deals with nutrient
 21 management plan frequently and we've also bounced questions off
 22 of them to make sure we understand what that entails.

23 Q Well, you didn't know how to interpret the
 24 season by season application of the NMP, the 9,000 gallons PRK
 25 some say GIEN, you say limit, right?

ROUGH DRAFT

1 A Right.

2 Q You didn't know how to interpret that because
 3 in the nutrient management plans, that application, occurs in
 4 this type of fashion, right? It's 9,000 gallons per acre in
 5 seasonal amounts, right?

6 A Essentially, yes.

7 Q There's limit to it. Not just in terms of an
 8 ARNL an annual total and not just in terms of a per application
 9 9,000 gallons but it's also meant to be applied by the seats
 10 on, with the agronomic needs of the crop, right?

11 A Yes.

12 Q To the extent that that's written in the NMP,
 13 the answer is yes, right?

14 A Yes.

15 Q Did you know -- you might have done some
 16 calculations as to whether there was individual applications
 17 above 9,000 gallons per acre spot checked, right?

18 A Correct.

19 Q But have you ever collected to see if they are
 20 doing what they're supposed to do odor in early fall, winter
 21 spring and SMURM RP SMURNL ^ CHECK WORD odor?

22 A I have at time but not all of the time.

23 Q Do you know in blue we have applications that
 24 occur all through the spring or all throughout the summer. Do
 25 you know if they do that?

ROUGH DRAFT

1 Q What Corey Grove, TeamAg no contest EE
 2 consultant told you there's supposed to 9,000 gallons per acre
 3 in seasonal applications, right?
 4 A Whatever the nutrient management plan said. I
 5 don't recall.
 6 Q We got an email he sent to you, Dustan?
 7 A Yeah.
 8 Q And he told you, it's what the nutrient
 9 management plan says is it's 9,000 gallons per acre per
 10 seasonal application, right?
 11 A I guess that's what's written there, yes.
 12 Q That's what he told you, right?
 13 A I believe so, yeah.
 14 Q Have you ever ever FOERNsed that limit?
 15 A I don't recall that we've ever had an
 16 enforcement of that.
 17 Q Have you ever assessed, inspected, done more
 18 than a drive by to see if they in fact comply with this?
 19 A I don't remember.
 20 Q For the NMP?
 21 A I don't recall any specific instances of that.
 22 Q You don't recall making any assessment other
 23 than a drive by as to whether any can comply with their NMP
 24 nand the way that AERTS it's written in the way that Mr. Corey
 25 Grove emailed you and exMRIEND to you, do you?

ROUGH DRAFT

1 Q But you don't know if you should be giving them
 2 a fine, right?
 3 A You don't know if they are over applying 9,000
 4 gallons per acre per application, right.
 5 A I don't specifically.
 6 Q You don't know if they're complying with their
 7 NMP the way it's written not just the way it's written but the
 8 way it was explained to you, right?
 9 A Correct. I don't.
 10 Q You haven't bothered to inspect what they're
 11 doing? Right. Not to see if it complies with what they're
 12 required to do. You've done drive business?
 13 A Right.
 14 Q Sometimes for fun, sometimes for work, right?
 15 A Correct.
 16 Q Have you heard of the term FWAS lighting?
 17 A I've heard of it, yes.
 18 Q When somebody is complaining Mr. Something and
 19 they might be right but area, you're telling them they're
 20 wrong?
 21 MR. CLARK: Objection. Argue IMENTive.
 22 THE COURT: Sustained.. next question. How
 23 much longer do you have.
 24 MR. NIDEL: I have two minutes.
 25 THE COURT: Two minutes.

ROUGH DRAFT

1 A Correct.
 2 Q You receive complaints about FPR, right?
 3 A Correct and and you're aware of that the DEP
 4 has received more and more complaints about FPR primarily for
 5 the reasons of water contamination and runoff and offensive and
 6 damaging odors, right.
 7 A Correct.
 8 Q Okay. And you said you've known Trish Leigey,
 9 right?
 10 A Correct.
 11 Q She called and complained, right?
 12 A The I believe RS I believe so, yeah and you
 13 told her they were come Mr. Dewing with their BRP BMP, right.
 14 A I don't recall exactly what I have told her
 15 pardon Lock Haven I've spoken with her.
 16 Q You haven't taken any enforcement action, right
 17 ^ CHECK QUESTION Dewing?
 18 A Other than the notice of violation for that
 19 instance referenced in 2020. That's the time frame we're
 20 speaking off, of, that's the only recollection I have.
 21 Q Y have never find them, right?
 22 A I personally have not. I don't know if they
 23 received penalties.
 24 Q You haven't find them for these fields, right?
 25 A I don't recall.

ROUGH DRAFT

1
 2 MR. NIDEL:
 3 Q You were asked about what crops are out in
 4 fields. You said I've seen crops?
 5 A Yeah.
 6 Q You haven't been by there by five, six times,
 7 right?
 8 A Correct.
 9 Q You don't know what crops were on F1 F2 F3 SN1
 10 SN3 OERNG weeds and FWRAS at any specific year at NE any
 11 specific time sitting here today?
 12 MR. CLARK: Objection misstates his testimony.
 13 THE COURT: Overruled feminine you can answer.
 14 A I know I've seen corn on those fields and hay
 15 silage.
 16 Q Which fields?
 17 A I know F3 has had corn. I don't recall if F1
 18 or F2 have had corn on them. I believe SN1, 2, and 3 fields
 19 have had corn on them at least once once.
 20 Q When has F3 had corn?
 21 A Within the last couple years.
 22 Q Within the last year or two?
 23 A Correct.
 24 Q After this lawsuit was filed, right?
 25 A Yes.

ROUGH DRAFT

1 Q Okay. And SN1, 2, and 3, do you know when they
2 had corn on them?
3 A I don't remember Theft by Unlawful Taking.
4 Q And the last thing you did with respect to
5 Nicholas Meats prior to coming to trial, what was that ^ CHECK
6 WORD?
7 A With -- I don't understand the question.
8 Q The last thing that you did -- let me ask you
9 this. Are you paid for being here today, are you collecting
10 your salary or did you take time off?
11 A I'm working for the Commonwealth currently.
12 Q You're working for the Commonwealth. What was
13 the last thing that you did with respect to Nicholas Meats
14 before coming to trial?
15 A I believe we had a complaint this year.
16 Q When was that?
17 A Sometime earlier in the year, LIERJ like June
18 or something.
19 Q Back in June, right YERJT?
20 Q That wasn't the last thing you did with respect
21 it Nicholas Meats, right? What was the last thing you did?
22 A That was the lasso figures.
23 Q Last official thing you did was the Complaint
24 back in June, right?
25 A That's the last thing.

ROUGH DRAFT

1 Q You've never talked to me, have you?
2 A No.
3 Q You didn't talk to Ms. Leigey before trial, did
4 you?
5 A No.
6 Q You didn't talk to Carolyn Leigey before trial,
7 did you FLOFRMENT?
8 Q You didn't talk to Leanna Rockey before trial,
9 did you?
10 A No.
11 Q You didn't talk to Alaina Leigey before trial,
12 did you?
13 A No can.
14 MR. NIDEL: No further questions.
15 THE COURT: All right. Can he be excused.
16 MR. CLARK: Just one last question.
17 Did any of the FOKTS that they just referenced
18 ask to meet with you.
19 A No.
20 MR. CLARK: Nothing further.
21 THE COURT: Can he be excused.
22 Mr. Clark.
23 MR. CLARK: Yes sir.
24 THE COURT: I'm trying to ask you first.
25 Mr. Nidel can he be excused.

ROUGH DRAFT

1 Q What was the last unofficial thing you did?
2 A Are you referring to the speaking with his
3 lawyers.
4 Q The last thing you did with respect to Nicholas
5 Meats was meet with them to discuss the exhibits and the
6 violations and the things that you would be talking about here
7 at trial, right?
8 A I met with them, yes, we did.
9 MR. NIDEL: No further questions.
10 THE COURT: Redirect.
11 MR. CLARK: Examination during during HAUR
12 conversation was your lawyer present every time.
13 A Yes.
14 Q At any TOINT during those SKFRGSs did I suggest
15 look answer a question to you?
16 No Clark thank you. No further questions.
17 THE COURT: Recross.
18 MR. NIDEL: Yes, Your Honor.

EXAMINATION

19
20
21
22
23 MR. NIDEL:
24 Q Mr. Karschner, you've never met me, have you?
25 A No.

ROUGH DRAFT

1 MR. NIDEL: The sooner the better.
2 THE COURT: Stay there for a second.
3 SIRDZ have a seat. Don't move.
4 All right, ladies and gentlemen, pack
5 everything up.
6
7 THE COURT: (Whereupon, the jurors were
8 escorted from the courtroom.
9
10 THE COURT: Mr. Karschner I didn't want you
11 interfering with the jurors as they left.
12 THE WITNESS: Thank you, Your Honor.
13 THE COURT: You're good to go.
14
15 THE COURT: Do you rest Clarks defendants
16 rest, Your Honor.
17 THE COURT: Are you going to have any rebuttal
18 tomorrow morning -- Mr. KFC. Are you going to say something.
19 MR. KELSAW: Yes, Your Honor, we move for
20 direct verdict on their and I want to mark exhibits.
21 THE COURT: Are you going to have any
22 rebuttal.
23 MR. KELSAW: No, Your Honor.
24 THE COURT: All right. . I'm not going to
25 hear the directed VERT, verdict now. See you at 8:is a. It's

ROUGH DRAFT

1 been a long day.

2 MR. LACKS: I didn't want to miss my CHARNG
3 chance.

4 THE COURT: In the get you guys ally for your
5 arguments. 8:15 we will start and I'll go through your
6 submitted points to charge. Tell what I'm giving what I'm not
7 giving and then you'll close first. Then you'll close second.

8 Okay and then I'll instruct the jury and they'll be gone. Any
9 questions.

10 MR. NIDEL: No, Your Honor.

11 THE COURT: Any questions.

12 MR. CLARK: No, Your Honor. Thank you.

13 MR. LACKS: Will there be an opportunity to
14 SNIT any additional point for the charge.

15 THE COURT: Sure. If you want to submit them
16 tomorrow morning I'll look at them.

17 THE COURT: We'll go through the exhibit list.

18 Your exhibit list has been admitted, too, tomorrow morning.

19 8:15. See you then.

20 (Time noted, 8:03 p.m.)

21
22
23
24
25

ROUGH DRAFT

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