

<div>1</div> <div>1 IN THE COURT OF COMMON PLEAS CLINTON COUNTY, PENNSYLVANIA CIVIL</div> <div>2</div> <div>3</div> <div>4</div> <div>5 PATRICIA LEIGEY, et al ) 6 vs. ) No. 654-2022 7 NICHOLAS MEAT, LLC, et. al )</div> <div>8</div> <div>9</div> <div>10</div> <div>11 TRANSCRIPT OF PROCEEDINGS held in Courtroom No. 1 at the Courthouse, Lock Haven, Pennsylvania, beginning at ^ a.m. on December 10, 2025, before the Honorable 12 Craig P. Miller, President Judge of the Twenty-fifth Judicial District of the Commonwealth of Pennsylvania.</div> <div>13</div> <div>14 *****</div> <div>15</div> <div>16 APPEARANCES:</div> <div>17 Christopher Nidel, Esq., William Cowles, Esquire, Zachary Kelsay, Esquire, John E. Kotsatos, Esquire, on behalf of the Plaintiffs.</div> <div>18</div> <div>19 James C. Clark, Esquire, Jeremy R. Lacks, Esquire, Robert J. Schena, Esquire, on behalf of the Defendants.</div> <div>20</div> <div>21 *****</div> <div>22</div> <div>23 Maureen L. Pritchard Official Court Reporter Clinton County, Lock Haven, Pennsylvania</div> <div>24</div> <div>25</div> <div>ROUGH DRAFT</div>	<div>3</div> <div>1 THE COURT: We're still waiting for one juror.</div> <div>2 Mr. Nidel anything before the jury gets here.</div> <div>3 MR. NIDEL: No, Your Honor.</div> <div>4 THE COURT: Anything for you guys.</div> <div>5 MR. CLARK: No, Your Honor.</div> <div>6 THE COURT: Good.</div> <div>7 So you'll have Dr. Yoxtheimer when all the</div> <div>8 jurors get here.</div> <div>9 All right. I'll be back in when they're here.</div> <div>10 All right. I'll let you know.</div> <div>11 (Time noted, 8:27 a.m.)</div> <div>12 THE COURT: Mr. Yoxtheimer do you want come up</div> <div>13 here real quick. The jury will be coming in.</div> <div>14 (Whereupon, the jurors were escorted into the</div> <div>15 courtroom. )</div> <div>16 (Time noted, 8:28 a.m.)</div> <div>17</div> <div>18 THE COURT: Ladies and gentlemen, thank you</div> <div>19 for coming back timely. And I appreciate how long you stayed</div> <div>20 last night. We're going to trying to get done hopefully with</div> <div>21 the testimony today so we can do closings tomorrow but notes a</div> <div>22 definite. That's our goal. And so we lucked out on the</div> <div>23 weather, Joe Snedeker was right.</div> <div>24 We'll get going right here. Dr. Yoxtheimer</div> <div>25 was being cross-examined by Plaintiffs' counsel. We'll pick</div> <div>ROUGH DRAFT</div>
<div>2</div> <div>1 INDEX TO WITNESSES</div> <div>2</div> <div>3</div> <div>4 EXAMINATION</div> <div>5 David Yoxtheimer</div> <div>6 Herschel Elliott</div> <div>7</div> <div>8</div> <div>9</div> <div>10</div> <div>11</div> <div>12</div> <div>13</div> <div>14</div> <div>15</div> <div>16</div> <div>17</div> <div>18</div> <div>19</div> <div>20</div> <div>21</div> <div>22</div> <div>23</div> <div>24</div> <div>25</div> <div>ROUGH DRAFT</div>	<div>4</div> <div>1 up where we were.</div> <div>2 Go ahead, Mr. Nidel.</div> <div>3 MR. NIDEL: Thank you, Your Honor. May it</div> <div>4 please the Court.</div> <div>5 Good morning Dr. Yoxtheimer.</div> <div>6 A Good morning.</div> <div>7 Q Do you know we were talking yesterday about the</div> <div>8 fields, F1 F2 and F3. And do you know how long Nicholas Meats</div> <div>9 has been applying at those fields?</div> <div>10 A I am -- not off the top of my head, no.</div> <div>11 Q Is that something that you looked into? Do you</div> <div>12 know how long those fields have been applied and managed by</div> <div>13 Nicholas Meats?</div> <div>14 A I do not.</div> <div>15 Q Do you know how long they've been farmed?</div> <div>16 A Probably for decades just given the</div> <div>17 agricultural history of the area but not definitively.</div> <div>18 Q Over a century?</div> <div>19 A Possibly.</div> <div>20 Q Do you know anything about the crops that are</div> <div>21 grown there?</div> <div>22 A Typical crops for you know a lot of corn I</div> <div>23 suppose but I don't know specifically. That would tea take</div> <div>24 field by field survey to verify that.</div> <div>25 Q You said typical crops. But that's just a</div> <div>ROUGH DRAFT</div>

<p style="text-align: center;">5</p> <p>1 guess, right? You're just saying if it's a typical farm it's</p> <p>2 typical crops, right?</p> <p>3 A Again, you know, I'm generalizing the kinds of</p> <p>4 crops that are grown in the region are typical for the region.</p> <p>5 Q I really want to be careful to only testify to</p> <p>6 what you know. So if you have any knowledge about whether they</p> <p>7 grow crops?</p> <p>8 A I have not conducted a normal field by field</p> <p>9 survey of what crops are grown on each field.</p> <p>10 Q Do you know anything about what crop was grown</p> <p>11 on field at any time?</p> <p>12 A I do not.</p> <p>13 Q Have you done an informal survey?</p> <p>14 A I have not.</p> <p>15 Q You haven't done any survey?</p> <p>16 A Not just beyond having driven through the area</p> <p>17 and worked in the area and been by the fields in the region and</p> <p>18 seeing things like corn and soybean grown in the area. I've</p> <p>19 walked through the fields in the previous work that I've done</p> <p>20 in the area.</p> <p>21 Q But you don't -- when you did drive by can you</p> <p>22 identify what you saw in terms of any crop on these fields?</p> <p>23 A I haven't done a formal survey of those</p> <p>24 particular fields.</p> <p>25 Q I'm talking informal. Just that driveby. Did</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">7</p> <p>1 Q Well, initially they take a sample bottle, they</p> <p>2 take a sample. They takeoff their gloves. They pack it up and</p> <p>3 they sign it say on this date they sampled three bottles and</p> <p>4 they ship it to the will be, right?</p> <p>5 A Typically.</p> <p>6 Q And then the lab has that chain of custody,</p> <p>7 right?</p> <p>8 A That's how you're getting the samples to the</p> <p>9 lab. If you're driving the samples to the lab my experience</p> <p>10 has been you hand it to the lab manager or their front offers</p> <p>11 person who then they sign off so you can see that the sampler</p> <p>12 gave the bottles and the samples to the laboratory and they</p> <p>13 were received at a time on a certain date on a certain date.</p> <p>14 Q Either way the lab is given the chain of</p> <p>15 custody, right?</p> <p>16 A Ultimately, yes.</p> <p>17 Q So the lab has the chain of custody, right, not</p> <p>18 Ms. Leigey?</p> <p>19 A Correct.</p> <p>20 Q So it's not any fault of hers that she doesn't</p> <p>21 have a chain of custody; is that fair?</p> <p>22 A I don't believe I said it was.</p> <p>23 Q Well, you wouldn't expect Ms. Leigey to have</p> <p>24 the chain of custody when the custody of those samples was last</p> <p>25 left with the lab, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">6</p> <p>1 you notice specific crop on any one of these?</p> <p>2 A I did not take a formal survey.</p> <p>3 Q You have no idea how long they've had nutrients</p> <p>4 applied to them?</p> <p>5 A Not specifically, no</p> <p>6 Q You have not identified any other source that</p> <p>7 you a attribute potential impacts to these wells, right?</p> <p>8 A Beyond that there is widespread livestock in</p> <p>9 the region.</p> <p>10 Q There's typical farming but you haven't</p> <p>11 identified a specific farm or activity other than these fields</p> <p>12 that you attribute to the contamination of these wells; is that</p> <p>13 fair?</p> <p>14 A If I were to do a more detailed hydrogeologic</p> <p>15 investigation that would be part of that investigation.</p> <p>16 Q And you've talked about there not being a</p> <p>17 sufficient hydro geologic investigation, right?</p> <p>18 A To the best of my knowledge, there's not been a</p> <p>19 hydro geologic investigation conducted.</p> <p>20 Q And we talked about -- you talked about with</p> <p>21 counsel chain much custody, right?</p> <p>22 A We did talk about that.</p> <p>23 Q You and chain of custody is something that's</p> <p>24 filled out by the person taking the sample?</p> <p>25 A Yes, initially.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">8</p> <p>1 A Correct. If they are transferred according to</p> <p>2 the typical protocol.</p> <p>3 Q The septic tests that you reviewed -- well, you</p> <p>4 did you review the septic investigations or assessments?</p> <p>5 A I reviewed the evaluations that were --</p> <p>6 assessments that were conducted on each of the Plaintiffs'</p> <p>7 septic systems, yes.</p> <p>8 Q Let's take a look at the first of those. D 99.</p> <p>9 It's up on the screen?</p> <p>10 MR. LACKS: Your Honor, can we get these</p> <p>11 screens turned on.</p> <p>12 THE COURT: Okay.</p> <p>13 MR. LACKS: Thank you.</p> <p>14 BY MR. NIDEL:</p> <p>15 Q You're not a septic system installer or</p> <p>16 maintainer, are you?</p> <p>17 A I am not.</p> <p>18 Q You're not a civil engineer, right?</p> <p>19 A I am not.</p> <p>20 Q And but you were reviewed these, right?</p> <p>21 A I did.</p> <p>22 Q Now this first one it's Exhibit D 99. It's the</p> <p>23 septic system for Ms. Patrice Leigey; is that right?</p> <p>24 A Yeah, that's what it says.</p> <p>25 Q And in that inspection of the septic system,</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">9</p> <p>1 that report is there any mention of the word leak?</p> <p>2 A Not beyond the word leakage.</p> <p>3 Q It didn't find leaks?</p> <p>4 A Not, based on that.</p> <p>5 Q In fact, what it found was that the tank was</p> <p>6 pumped on this date by Schrack the tank's physical condition</p> <p>7 was found to be in good overall condition, right?</p> <p>8 A It said there is high liquid levels and based</p> <p>9 on the distance compliance there should be no negative affects</p> <p>10 on the private well.</p> <p>11 Q I'm not sure I asked you about the high liquid</p> <p>12 levels but that doesn't indicate it's leaking, right?</p> <p>13 A Correct.</p> <p>14 Q And it found with the system distance</p> <p>15 compliance there should be no negative effect on the private</p> <p>16 well, right?</p> <p>17 A That's what it says.</p> <p>18 Q There's no indication of leaks; there's no</p> <p>19 indication that the tank is leaking; and there's no indication</p> <p>20 it's had any affect or will have any effect in its current</p> <p>21 condition on the private well, right?</p> <p>22 A From this assessment that's what it says.</p> <p>23 Q Do you know how much this assessment cost?</p> <p>24 A I do not.</p> <p>25 Q Did you do your own assessment?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">11</p> <p>1 Q You didn't test your hypothesis on these septic</p> <p>2 systems, did you?</p> <p>3 A What would be the hypothesis?</p> <p>4 Q They're leaking, that they may be attributing</p> <p>5 according to your figure 2?</p> <p>6 A Well, figure 2 showed you can actually provide</p> <p>7 recharge for a carbonate aquifer via the effluent that comes</p> <p>8 out of the septic system is what that figure showed.</p> <p>9 Q But these septic systems there's no evidence</p> <p>10 that they're leaking, right?</p> <p>11 A Based on this, correct. However, as I</p> <p>12 mentioned before, by nature, the design of a septic system is</p> <p>13 to allow the effluent to drain into the soils so, there's</p> <p>14 really not been any significant removal of contaminants at that</p> <p>15 point and you're relying on soils ability to break down any of</p> <p>16 the contaminants.</p> <p>17 Q What you're relying on is that filtration</p> <p>18 mechanism that you discussed yesterday?</p> <p>19 A Correct.</p> <p>20 Q And there's been nothing found with Ms.</p> <p>21 Patricia Leigey's septic system that according to the</p> <p>22 professional with 25 years experience with septic systems</p> <p>23 thought it would be impacting her well, right?</p> <p>24 A I don't know the inspector's background or his</p> <p>25 experience. I don't see that they are an civil engineer or</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">10</p> <p>1 A I did not. I was not commissioned to do so.</p> <p>2 Q Do you know if Nicholas Meat did its own</p> <p>3 assessments?</p> <p>4 A I'm not aware of that.</p> <p>5 Q Do you know if this was more than 200 dollars?</p> <p>6 A I do not know what the price was.</p> <p>7 Q How much are you getting shall getting paid for</p> <p>8 your testimony in this case?</p> <p>9 A It depends how long I'm herein.</p> <p>10 Q How much per hour sir?</p> <p>11 A 200 per hour.</p> <p>12 Q For less than one hour of your time you could</p> <p>13 have had your own inspection from your own professional</p> <p>14 unbiased inspector, right?</p> <p>15 A If I was commissioned to do so and given the</p> <p>16 opportunity to be on the Plaintiff's property.</p> <p>17 Q You could have gotten permission to be on the</p> <p>18 plaintiff's property?</p> <p>19 A Again, I wasn't commissioned to do so.</p> <p>20 Q You're a scientist, right?</p> <p>21 A I like to think so, yeah.</p> <p>22 Q You don't just do -- you inquire, you</p> <p>23 investigate, you look for new information and evidence as a</p> <p>24 scientist, right? You test your hypothesis?</p> <p>25 A Correct.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">12</p> <p>1 enforcement of any type positive I don't know what their</p> <p>2 experience is.</p> <p>3 Q You've reviewed these documents, right?</p> <p>4 A I reviewed the document, but there is no resume</p> <p>5 or curriculum vitae for this inspector so whether or not what</p> <p>6 their background is or human years experience they've had</p> <p>7 necessarily.</p> <p>8 Q You're making this harder on me, sir.</p> <p>9 Look at the conclusion.</p> <p>10 A I've read it.</p> <p>11 Q The first line. I don't know if you did.</p> <p>12 I've been collecting on Domestic Relations --</p> <p>13 I've been conducting on-lot septic evaluations for over 25</p> <p>14 years. I know it's a short resume but there is it is, right.</p> <p>15 A Okay. He could have done 25 years ago and did</p> <p>16 one that particular gay and that would be 25 years of</p> <p>17 experience. How your yes or no how expensive his experience</p> <p>18 is. He's a home inspector service so he dots lots of different</p> <p>19 things. He's not specifically just a sewage inspection</p> <p>20 specialist.</p> <p>21 Q Do you know he's getting paid \$200 an hour to</p> <p>22 do those inspections?</p> <p>23 A Potentially. Again I didn't see his invoice.</p> <p>24 Q Let's take a look at D 100. That's the Rockey</p> <p>25 inspection?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">13</p> <p>1 You reviewed that Rockey inspection, right.</p> <p>2 A Correct.</p> <p>3 Q No mention of leaks, right?</p> <p>4 MR. LACKS: Your Honor, I can give the</p> <p>5 witness a copy rather than go off the screen.</p> <p>6 THE COURT: Sure.</p> <p>7 Q You reviewed these as part of the your septic</p> <p>8 assessment?</p> <p>9 A Yes.</p> <p>10 Q You were looking to see if these tanks were</p> <p>11 damaged, if they were leaking, right?</p> <p>12 A Yeah, to see if there were indications that</p> <p>13 they could be potential source of fecal contamination to the</p> <p>14 aquifer.</p> <p>15 Q You didn't conclude that they were in fact a</p> <p>16 source, right?</p> <p>17 A I did not say that they were defend,</p> <p>18 definitively a source. I said something to the affect they</p> <p>19 could potentially be a source.</p> <p>20 Q Plausibly?</p> <p>21 A Sure.</p> <p>22 Q You didn't find any evidence in Ms. Rockey's</p> <p>23 assessment done by the same company for over 25 years that they</p> <p>24 found that there were leaks, right?</p> <p>25 A This says that this system -- the absorption</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">15</p> <p>1 opinion at this, and its current condition likely has no</p> <p>2 negative effect on the private well on site.</p> <p>3 Q So not only did he not find leaks but he found</p> <p>4 in each of these two testings we've looked at or these</p> <p>5 inspections that he concluded with this 25 years of experience</p> <p>6 that there was likely no effect, right?</p> <p>7 A He's saying that the septic system not</p> <p>8 functioning as designed. So I'm not sure how you would derive</p> <p>9 the opinion without some sampling to say that there's no</p> <p>10 potential for a septic system that's not operating according to</p> <p>11 design, that it's not having an effect. I'm not sure. That's</p> <p>12 a bit of a leap of faith scientifically in my opinion, and</p> <p>13 maybe Mr. Hancock has great incites that I don't have.</p> <p>14 Q I want you to stick what you know. And you've</p> <p>15 nerve done a septic inspection, have you?</p> <p>16 A I've done septic system investigations.</p> <p>17 Q You've never been paid to do a septic</p> <p>18 investigation like Hancock here, right?</p> <p>19 A Not an evaluation this level, no.</p> <p>20 Q Right. And you haven't formed an opinion that</p> <p>21 in fact those tanks, any of the four tanks, were in fact</p> <p>22 leaking or caused a contamination of the wells, right?</p> <p>23 A Excuse me.</p> <p>24 Q You have not reached an opinion that these</p> <p>25 septic tanks were in fact the cause of contamination of any of</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">14</p> <p>1 area was not functioning properly as designed and had high</p> <p>2 liquid levels.</p> <p>3 Q Sir, I understand there's things you want to</p> <p>4 point out in there that you think are indicative of there's</p> <p>5 high liquid levels, there's lots of solids in some of these.</p> <p>6 We could get into the gut health of folks. But you didn't find</p> <p>7 any evidence of leaks, right?</p> <p>8 A Well, again this one says this system isn't</p> <p>9 operating as -- functioning properly as designed.</p> <p>10 Q What's the absorption levels. What does that</p> <p>11 mean?</p> <p>12 A The absorption area is where the sewage sewage</p> <p>13 effluent is being discharged into the soils.</p> <p>14 Q Is it? Do you know that to be the case?</p> <p>15 A In a conventional system that's how they work.</p> <p>16 Q What's the drain field?</p> <p>17 A It's basically the absorption area. It's</p> <p>18 synonymous.</p> <p>19 Q This inspector who has been doing this 25 years</p> <p>20 did he have any concerns about that system that it was a</p> <p>21 problem affecting the well.</p> <p>22 A He is saying the system is not the currently</p> <p>23 functioning satisfactorily as designed. However, is not</p> <p>24 surfacing or discharging to the surface and is well beyond the</p> <p>25 recommended distant guidelines from the private well, in my</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">16</p> <p>1 those wells?</p> <p>2 A I have not definitively concluded that because</p> <p>3 there is not enough data to make such a conclusion.</p> <p>4 Q You didn't do your own inspection, right?</p> <p>5 A I was not commissioned to do so.</p> <p>6 Q I thought you just had to hire someone for \$150</p> <p>7 but your testimony is you could have done it yourself?</p> <p>8 A I would have suggested that sampling of the</p> <p>9 wells occur to see what the quality of the wells is, and then</p> <p>10 make an evaluation to see if there's some potential impact to</p> <p>11 the wells from the septic system.</p> <p>12 Q We'll get there. But you can take samples and</p> <p>13 we talked about those samples. They are 10, 25, somewhere for</p> <p>14 less than \$100 and the sampling which you do yourself you could</p> <p>15 have found out what was in those wells and done that</p> <p>16 investigation, right?</p> <p>17 A Again I was not commissioned to do so but that</p> <p>18 level of work would be part of the hydro geologic</p> <p>19 investigation.</p> <p>20 Q You're getting paid \$200 an hour?</p> <p>21 A Correct.</p> <p>22 Q Did you ask if you could do that?</p> <p>23 A No.</p> <p>24 Q Why not?</p> <p>25 A I'm not the project director here.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">17</p> <p>1 Q So you only do what you are told to do even</p> <p>2 though you're a scientist and one of your, I think probably</p> <p>3 your entire opinion, is that there's just not enough</p> <p>4 information, right?</p> <p>5 A Basically I was commissioned to look at the</p> <p>6 existing data and derive some conclusion, if possible, as to</p> <p>7 what the nature of the potential impacts to the Plaintiffs'</p> <p>8 wells are.</p> <p>9 Q You said you're not the project director?</p> <p>10 A Correct.</p> <p>11 Q Who is the project director?</p> <p>12 A I leave that up to the defendants legal team.</p> <p>13 Q You said you're not the project director.</p> <p>14 Could you tell us who that was?</p> <p>15 A I just said I would leave that --</p> <p>16 MR. LACKS: Objection.</p> <p>17 THE COURT: I guess he's looking for the name.</p> <p>18 MR. LACKS: He didn't ask for a number.</p> <p>19 BY MR. NIDEL:</p> <p>20 Q Who? Do you understand that to be ask for a</p> <p>21 name? Who? Who is the project director?</p> <p>22 A Well, I again will defer to my previous</p> <p>23 statement that the defendants' legal team, Mr. Lacks,</p> <p>24 Mr. Clark, and Mr. Schena collectively directed me as to what</p> <p>25 my scope of work was, so I followed the narrow work of scope</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">19</p> <p>1 to make scientific conclusions. And so additional data and I</p> <p>2 believe your expert said the same thing. You need a more</p> <p>3 detailed hydro geologic investigation. I concur with that.</p> <p>4 Q To determine the full extent -- what do you</p> <p>5 call it? The full delineation of contamination you need -- to</p> <p>6 see how far this contamination has spread, right?</p> <p>7 MR. LACKS: Objection. Mischaracterizes what</p> <p>8 Dr. Grobbel wrote.</p> <p>9 MR. NIDEL: It's a question.</p> <p>10 MR. LACKS: You were trying to characterize.</p> <p>11 THE COURT: Stop. Don't interrupt him. Go</p> <p>12 ahead.</p> <p>13 MR. LACKS: He presented a question in a way</p> <p>14 that mischaracterized what Dr. Grobbel's recommendation was</p> <p>15 THE COURT: Rephrase the question. Go ahead.</p> <p>16 Q Did you read Dr. Grobbel's testimony?</p> <p>17 A Parts of it, yes.</p> <p>18 Q Why only parts of it?</p> <p>19 A I was directed to look at certain sections of</p> <p>20 it so I read most of it and focused on certain sections.</p> <p>21 Q You're a scientist, right?</p> <p>22 A Yeah.</p> <p>23 Q You didn't want to know what he said as a</p> <p>24 scientist?</p> <p>25 MR. LACKS: Objection. Your Honor, may we</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">18</p> <p>1 that was commissioned to me. Again, if you're asking to</p> <p>2 conduct a more detailed hydro geologic investigation, I wasn't</p> <p>3 commissioned to do that. I feel that that would be helpful in</p> <p>4 this regard to better understand and characterize the nature of</p> <p>5 the potential impacts to the Plaintiffs' wells.</p> <p>6 Q Part of that investigation would be to do</p> <p>7 inspections of those septs, right?</p> <p>8 A Well, see, like there's been inspections done.</p> <p>9 I would do those -- suggest an independent inspection and</p> <p>10 evaluation.</p> <p>11 Q Do you have anything to suggest that</p> <p>12 Mr. Hancock or the Hancock company here is not independent?</p> <p>13 A I'm not saying he's not. I'm just saying if I</p> <p>14 was given the ability to direct how to manage characterization</p> <p>15 of how plaintiffs' wells may have been impacted, I would</p> <p>16 independently conduct that investigation and not rely</p> <p>17 necessarily on data from other parties who I've not had any</p> <p>18 communication with, do not know their credentials and I would,</p> <p>19 you know, just not necessarily rely on that data without</p> <p>20 another independent investigation that I was in charge of as a</p> <p>21 professional geologist.</p> <p>22 Q All the information you've relied on in this</p> <p>23 case is from other people, right?</p> <p>24 A You know basically my conclusion is you can't</p> <p>25 make any conclusion from the data. You don't have enough data</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">20</p> <p>1 approach.</p> <p>2 THE COURT: Sure.</p> <p>3 (Discussion held at sidebar on the record.)</p> <p>4 MR. LACKS: Your Honor, Dr. Grobbel, as you</p> <p>5 know, covered three topics as part of his report, agricultural</p> <p>6 management, groundwater contamination, and odors.</p> <p>7 Dr. Yoxtheimer was hired and as sets fort in</p> <p>8 his report to respond to the groundwater contamination</p> <p>9 opinions. I think it's been made clear he has not been hired</p> <p>10 to opine on the agricultural management or odor aspects of the</p> <p>11 opinion. We would stipulate to that. I think counsel has</p> <p>12 established that and I think continuing to beat him up on the</p> <p>13 fact he may not have read the testimony about parts of</p> <p>14 opinions he's not hired to respond to is A, cumulative, B,</p> <p>15 time wasting, and C, misleading.</p> <p>16 THE COURT: Your turn.</p> <p>17 MR. NIDEL: I completely disagree. If he's</p> <p>18 relying on lawyers to tell him what parts of a scientific</p> <p>19 testimony are relevant to his opinions, I think that's</p> <p>20 relevant to the jury's assessment of his testimony.</p> <p>21 THE COURT: You can ask him if he believes the</p> <p>22 other parts of Dr. Grobbel's testimony are relevant to his</p> <p>23 opinion that he didn't read.</p> <p>24 MR. NIDEL: He's relying on nonscientists to</p> <p>25 determine what is relevant to his scientific opinion, and I</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">21</p> <p>1 think that's the point I'm allowed to make.</p> <p>2 THE COURT: Sure. You're not allowed to beat</p> <p>3 him up over it. Ask him if he read the other parts and why he</p> <p>4 didn't read them.</p> <p>5 MR. LACKS: Can we clarify what those parts</p> <p>6 are.</p> <p>7 THE COURT: Odor and --</p> <p>8 MR. LACKS: And agricultural management.</p> <p>9 THE COURT: Agricultural management. The</p> <p>10 other is water. Anything about water he read.</p> <p>11 MR. LACKS: I believe so. I don't know</p> <p>12 exactly what he read. But --</p> <p>13 MR. NIDEL: The management is absolutely</p> <p>14 relevant to them being a source of these contaminants.</p> <p>15 MR. LACKS: They can establish he didn't read</p> <p>16 that part, but I don't think continuing to ask him questions</p> <p>17 about the parts he didn't read.</p> <p>18 THE COURT: You can establish he didn't read</p> <p>19 it.</p> <p>20 MR. NIDEL: Thank you, Your Honor.</p> <p>21 THE COURT: Go ahead, Mr. Nidel.</p> <p>22 MR. NIDEL:</p> <p>23 Q Dr. Yoxtheimer, you only reviewed a portion of</p> <p>24 the transcript, right,?</p> <p>25 MR. LACKS: Of Dr. Grobbel.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">23</p> <p>1 A Yeah, presumably.</p> <p>2 Q One of the ways you would get that information</p> <p>3 is by drilling wells, right?</p> <p>4 A Potentially.</p> <p>5 Q One of the ways you would get that information</p> <p>6 we've heard about air samples. You could have taken air</p> <p>7 samples, right?</p> <p>8 A I'm not an air quality specialist so that would</p> <p>9 not necessarily be within my form take of expertise.</p> <p>10 Q Would you agree with me air samples probably no</p> <p>11 relevance to the inquiry here?</p> <p>12 A Which inquiry?</p> <p>13 Q The inquiry here about Nicholas Meats impacting</p> <p>14 these wells?</p> <p>15 A If you're asking me if potential pollutants in</p> <p>16 the air could be affecting plaintiffs' groundwater? Is that</p> <p>17 what you're asking me.</p> <p>18 Q Well, I'm asking if you believe that the air</p> <p>19 pathway -- we looked at figure 2. If you think the air pathway</p> <p>20 is the significant pathway for contaminants into theses wells.</p> <p>21 A The nature of the potential contaminants I</p> <p>22 don't believe you would see, you know, fecal material or bovine</p> <p>23 DNA floating through the air and landing on the ground and</p> <p>24 ultimately getting in to somebody's drinking water well. I</p> <p>25 think that would be a very unique pathway.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">22</p> <p>1 MR. NIDEL: Of Dr. Grobbel?</p> <p>2 A Correct.</p> <p>3 Q And those portions are selected for you by</p> <p>4 counsel?</p> <p>5 A Correct.</p> <p>6 Q Do you know if the other portions you didn't</p> <p>7 read have anything relevant to your opinions in this case?</p> <p>8 A I mean, again I reviewed a little bit beyond</p> <p>9 what I was directed to review. So I saw some additional</p> <p>10 comments.</p> <p>11 Q And in this case for your work in this case</p> <p>12 your scientific work in this case you've testified that you did</p> <p>13 what the project director -- it wasn't within your chart so</p> <p>14 that there were things you didn't do that were not within what</p> <p>15 the project director -- you've identified the legal team --</p> <p>16 allowed you to do or charged you to do, right?</p> <p>17 A I conducted what was asked of me.</p> <p>18 Q But you are the scientist, right?</p> <p>19 A I am a scientist, yes.</p> <p>20 Q One of your criticisms is there's not enough</p> <p>21 information, right?</p> <p>22 A Yeah, there is limited information from which</p> <p>23 to draw scientific conclusions.</p> <p>24 Q One of the ways that you would get additional</p> <p>25 information is by doing things like taking samples, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">24</p> <p>1 Q It's not something that you are seeking more</p> <p>2 information on, right?</p> <p>3 A I would not chase that, no.</p> <p>4 Q Chase that. I like that.</p> <p>5 So there's information that you didn't have --</p> <p>6 it was not within your charge to gather, right?</p> <p>7 A I don't know which information you're referring</p> <p>8 to.</p> <p>9 Q Sampling the wells, drilling additional wells,</p> <p>10 doing additional stamping, those type of things?</p> <p>11 A Again, yeah, I was not commissioned to do that</p> <p>12 level of work. That would be part of a hydro geologic</p> <p>13 investigation.</p> <p>14 Q Taking soil samples around the septs as you</p> <p>15 talked about?</p> <p>16 A Potentially.</p> <p>17 Q All of those things you did not do them and you</p> <p>18 did not them because the legal team did not charge you?</p> <p>19 A That was not within my scope of work.</p> <p>20 Q Are any of the legal team -- are any of them</p> <p>21 know scientists or hydro geologists?</p> <p>22 A They're attorneys.</p> <p>23 Q You the scientist weren't telling them what</p> <p>24 information you needed to gather that you would gather for 50</p> <p>25 or a hundred dollars but they were telling you where to focus,</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">25</p> <p>1 right?</p> <p>2 A Well, I don't think that's a fair</p> <p>3 characterization. They asked me to review existing data and to</p> <p>4 determine if any conclusions could be derived from that data,</p> <p>5 and I had indicated that you know a more detailed hydro</p> <p>6 geologic investigation would be necessary to collect enough</p> <p>7 data from which scientific conclusions could be derived.</p> <p>8 Q Part of that detailed hydro geologic</p> <p>9 investigation would be take additional samples, right?</p> <p>10 A Yes.</p> <p>11 Q Part of that might be to take soil samples,</p> <p>12 right?</p> <p>13 A Could be.</p> <p>14 Q Part of that might be to drill a well here and</p> <p>15 there?</p> <p>16 A Could be.</p> <p>17 Q Let's look at that a look at D 101. It's the</p> <p>18 Owens septic inspection. Did you identify -- did the inspector</p> <p>19 Hancock Home Inspection in their on-lot septic system</p> <p>20 evaluation, did they use the word leaks or leaking?</p> <p>21 A Not based on my review there.</p> <p>22 Q They reached the conclusion the system in its</p> <p>23 present would have no negative effect on the well on site,</p> <p>24 right?</p> <p>25 A That's correct.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">27</p> <p>1 interrogatory responses, right.</p> <p>2 A It says the first set of interrogatories. So I</p> <p>3 don't see where it says first set.</p> <p>4 Q Well, there is an entry there. I just read it.</p> <p>5 Defendant Nicholas Meat LLC's responses and objections to</p> <p>6 Plaintiffs' interrogatories?</p> <p>7 A It says first set of interrogatories here.</p> <p>8 Q Well, you reviewed the documents. So can you</p> <p>9 tell me what set that bullet point refers to if it doesn't</p> <p>10 refer to the first set because you have the first set and you</p> <p>11 have the second set. So that in fact what you're referring to</p> <p>12 or you don't remember what you reviewed?</p> <p>13 A Again, this was back in you know almost 18</p> <p>14 months ago. So I'm just comparing the title of that versus the</p> <p>15 title of the information contained here and it does not match.</p> <p>16 Q Do you know if there was a document with the</p> <p>17 title that you've listed in your bullet?</p> <p>18 A I would have to look back.</p> <p>19 Q You've testified about the existence after of a</p> <p>20 sinkhole in F3, right?</p> <p>21 A Yes.</p> <p>22 Q I want to show you a photo that's been admitted</p> <p>23 into evidence as P-82. That's on the screen behind you.</p> <p>24 Do you recognize that as the sinkhole at F3.</p> <p>25 A It's kind of hard to see from that up close</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">26</p> <p>1 Q And if we look at D-102. It's inspection</p> <p>2 report of Dave and Carolyn Leigey. And did that identify or</p> <p>3 use the word leaks or leaking?</p> <p>4 A Not based on my review.</p> <p>5 Q You relied -- do you have a your report?</p> <p>6 A Not in front of me, no.</p> <p>7 Q In your review of the documents in this case,</p> <p>8 you relied on discovery?</p> <p>9 MR. LACKS: Here is the report.</p> <p>10 MR. NIDEL: Thank you.</p> <p>11 BY MR. NIDEL:</p> <p>12 Q You relied on discovery? You list documents</p> <p>13 you've relied on, right?</p> <p>14 A Yeah.</p> <p>15 Q And did you -- I'm going to hand you a document</p> <p>16 here. It's Exhibit D 15. Did you rely on that for preparation</p> <p>17 of your opinions? Is that listed in your report?</p> <p>18 A I'm looking. Not that I see.</p> <p>19 Q So you did not review that to prepare your</p> <p>20 opinions in this case?</p> <p>21 A Not that I recall.</p> <p>22 Q You've got an entry Defendant Nicholas Meat LLC</p> <p>23 responses and objections to Plaintiffs' interrogatories request</p> <p>24 for production of documents and request for admission.</p> <p>25 That's what this is. This is the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">28</p> <p>1 picture so I can't verify that.</p> <p>2 Q So you can't verify that. You went to the</p> <p>3 fields. You can't verify that that's in fact the sinkhole?</p> <p>4 A I was there in June of 2024. There clearly is</p> <p>5 not June based on the snow on the ground. So it's difficult to</p> <p>6 verify. I'm not disputing that that's the sinkhole but I can't</p> <p>7 verify that.</p> <p>8 Q I'm going to show you another photo. It's from</p> <p>9 Google earth. Do you recognize that as the sinkhole?</p> <p>10 A Again, that's zoomed in too tight. I can't see</p> <p>11 the geometry of the landscape.</p> <p>12 Q Let me orient you. We have 1256 East Valley</p> <p>13 Road right here. Do you see that?</p> <p>14 A Yep.</p> <p>15 Q Behind that you have this. Do you recognize</p> <p>16 that as the sinkhole location there?</p> <p>17 A I believe this would be the F3 field over here.</p> <p>18 So if that's the case then that would be the general vicinity</p> <p>19 of the sinkhole.</p> <p>20 Q It's a Google area photo, rights?</p> <p>21 A That's what it says.</p> <p>22 Q</p> <p>23 MR. LACKS: Can I see that a second.</p> <p>24</p> <p>25 (Counsel confer.)</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">29</p> <p>1 MR. LACKS: I'm going to object to the</p> <p>2 publication of this. We can't see the full area and I can't</p> <p>3 determine if it is in fact what he's represented it to be.</p> <p>4 MR. NIDEL: Your Honor, the witness has</p> <p>5 testified that he understands. Counsel is not testifying.</p> <p>6 MR. LACKS: I'm allowed to object on that</p> <p>7 basis.</p> <p>8 THE COURT: You're allowed to object. Let me</p> <p>9 look at this.</p> <p>10 I'm going to let the placed on the screens for</p> <p>11 demonstrative evidence at this point are for the Plaintiffs'</p> <p>12 counsel to use. The objection is overruled. The action of</p> <p>13 that is if the witness identified F3 and said that's where it</p> <p>14 appears that the sinkhole would be.</p> <p>15 Go ahead.</p> <p>16 MR. NIDEL:</p> <p>17 Q Dr. Yoxtheimer, you recognize this area here as</p> <p>18 being F3, right?</p> <p>19 A If that address is correct, and that's the, you</p> <p>20 know, Leigey property and if you're telling me that's F3. But</p> <p>21 again I can't see East Valley Road there which would be helpful</p> <p>22 just to basically help me put it into geographical context.</p> <p>23 But --</p> <p>24 Q You told me -- I didn't tell you that was F3.</p> <p>25 You told me that was F3.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">31</p> <p>1 Q Do you know which one of those is Carolyn</p> <p>2 Leigey?</p> <p>3 A I believe her address is 1256.</p> <p>4 Q 1256 you believe to be Carolyn Leigey. Which</p> <p>5 of those homes is 1256?</p> <p>6 A I don't know without having the addresses laid</p> <p>7 out for each.</p> <p>8 Q I can't use my laser pointing. But it's the</p> <p>9 second from the right is Carolyn Leigey, 1256 actually Patricia</p> <p>10 Leigey, the one with the marker there. Do you see?</p> <p>11 A Okay.</p> <p>12 Q Now you can see the road and now you can see</p> <p>13 F3. Right?</p> <p>14 A Yes, that is helpful.</p> <p>15 Q And now you can see the sinkhole, right?</p> <p>16 A I can see the area of the sinkhole.</p> <p>17 Q The massive sinkhole, right?</p> <p>18 A I can see the forested area in which the</p> <p>19 sinkhole is contained.</p> <p>20 Q Do you know how big that sinkhole is?</p> <p>21 A I did not measure it.</p> <p>22 Q Do you know how deep it is?</p> <p>23 A I do not.</p> <p>24 Q Having seen this does that allow you to place</p> <p>25 the sinkhole that we looked at on the exhibit as being what in</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">30</p> <p>1 A I said if this is F3, then I believe that would</p> <p>2 be the sinkhole is what I said, and you said, yes, that is F3.</p> <p>3 Q Dr. I'm not sure that's happened. But we'll</p> <p>4 let the record speak for itself.</p> <p>5 Just for clarification, I will tell you, let's</p> <p>6 assume this is F3. If this is F3, this would be what you</p> <p>7 believe to be the area of the sinkhole.</p> <p>8 MR. LACKS: Your Honor, I'm going to object</p> <p>9 again. The witness has testified he's not certain that that</p> <p>10 is F3 and now he's being asked to assume it and I still -- I'm</p> <p>11 going to renew my objection because we can't see the top of</p> <p>12 the photo where East Valley Road would be. We can't say where</p> <p>13 Carolyn Leigey's home would be. All we've seen is one home</p> <p>14 and as we've seen time and time and again, the homes are lined</p> <p>15 up right one after the other. So I think if we could have a</p> <p>16 more zoomed in photo, I think that would help us clarify this.</p> <p>17 THE COURT: It looks like they're doing that.</p> <p>18 MR. LACKS: Thank you.</p> <p>19 MR. NIDEL:</p> <p>20 Q How do you feel now?</p> <p>21 A How do I feel about that image or just in</p> <p>22 general?</p> <p>23 Q We can see the road, we can see the houses,</p> <p>24 right?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">32</p> <p>1 fact it is?</p> <p>2 A That appears to be -- yeah -- zoomed in version</p> <p>3 of similar imagery.</p> <p>4 MR. NIDEL: Your Honor, the Plaintiffs request</p> <p>5 to move the Google aerial shot into evidence as Exhibit No. P</p> <p>6 103.</p> <p>7 THE COURT: Any objection.</p> <p>8 MR. LACKS: No objection, Your Honor.</p> <p>9 THE COURT: Okay. You'll have to print it off</p> <p>10 and mark it.</p> <p>11 MR. NIDEL: Thank you, Your Honor.</p> <p>12 Q The figure 2, your figure 2, that came from</p> <p>13 USGS, right?</p> <p>14 A Figure 2 in my report, yes.</p> <p>15 Q And that was something that USGS -- was it a</p> <p>16 report or some other -- I think you told me it was from the</p> <p>17 Nittany Valley?</p> <p>18 A It was a figure showing a simplified block</p> <p>19 diagram slowing conceptualized recharge mechanisms in the</p> <p>20 Spring Creek watershed.</p> <p>21 Q And that was part of the references that you</p> <p>22 relied on in so much so that you incorporated that figure into</p> <p>23 your report, right Brock delete?</p> <p>24 A I added it as a visual to aid any reviewers to</p> <p>25 understand the significant recharge mechanisms typical of a</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">33</p> <p>1 karst valley in this region.</p> <p>2 Q That would be typical of a karst valley, in</p> <p>3 fact, your opinion as you present in your report is that's</p> <p>4 typical of Sugar Valley which is a karst valley?</p> <p>5 A Similar geology.</p> <p>6 Q And so it is representative of the mechanisms</p> <p>7 of groundwater recharge in the area of -- that we're talking</p> <p>8 about here, right?</p> <p>9 A Yeah. I think that's a fair statement.</p> <p>10 Q The dolomite, limestone, all those things we</p> <p>11 talked going back 500 million years, right?</p> <p>12 A Yeah.</p> <p>13 Q And that figure 2 -- what was --</p> <p>14 MR. NIDEL: Your Honor, Plaintiffs seek to</p> <p>15 admit figure 2 from USGS as P104.</p> <p>16 THE COURT: Any objection.</p> <p>17 MR. LACKS: No objection, Your Honor.</p> <p>18 THE COURT: It will be admitted.</p> <p>19 MR. NIDEL:</p> <p>20 Q This figure shows -- we talked about it at</p> <p>21 length last evening. It shows the hydro geologic transport</p> <p>22 mechanism for contaminants at the surface to impacted</p> <p>23 groundwater in the area, right?</p> <p>24 A Well, it's showing recharge mechanisms.</p> <p>25 Groundwater recharge mechanisms, how surface water can</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">35</p> <p>1 Q I understand that. We're just talking about</p> <p>2 mechanisms. These are the both the direct and the indirect</p> <p>3 pathways -- let's call it pathways -- for nutrients and</p> <p>4 bacteria if they are applied to reach the groundwater; is that</p> <p>5 fair?</p> <p>6 A Yeah, generally speaking.</p> <p>7 Q So we have both direct and we have indirect</p> <p>8 pathways that by which nutrients, nitrogen, nitrates, and</p> <p>9 bacteria, fecal coliform, E. Coli could reach the groundwater</p> <p>10 by mechanisms in figure 2, right?</p> <p>11 A Yeah, if those potential contaminants exist at</p> <p>12 the land surface or within the recharge.</p> <p>13 Q Just to be clear that I understand your</p> <p>14 opinion. These are the mechanics you believe explain USGS</p> <p>15 study and Pennsylvania study about the impact of surface</p> <p>16 agriculture on the groundwater, the ambient groundwater in this</p> <p>17 area, right?</p> <p>18 A Yeah, I think it's -- again it's a diagram that</p> <p>19 shows the viewer how groundwater is recharged. That's the</p> <p>20 purpose of it. And therefore potentially could draw</p> <p>21 contaminants into the subsurface if they are contained in that</p> <p>22 water or on that land surface.</p> <p>23 Q So you don't -- you're not just identifying</p> <p>24 hypothetical mechanisms. You're identifying the mechanisms</p> <p>25 that exist in this geology, in this karst geology, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">34</p> <p>1 infiltrate into the subsurface and recharge the groundwater is</p> <p>2 what the figure shows.</p> <p>3 Q What that does -- as it was relevant to your</p> <p>4 opinion about the impact in the area and the ambient levels of</p> <p>5 pollutants in the water, is that this shows how those</p> <p>6 pollutants are carried in the water down into the aquifer,</p> <p>7 right?</p> <p>8 A No, this is showing you know everything from</p> <p>9 precipitation to storm water to surface runoff and does include</p> <p>10 on-lot septic systems as a potential groundwater recharge</p> <p>11 mechanism or source?</p> <p>12 Q These are the mechanism, fate and transport</p> <p>13 mechanisms by which pollutants reach the groundwater in this</p> <p>14 area, right?</p> <p>15 A These are recharge mechanisms. So if there</p> <p>16 were pollutants in the recharge, then you could begin to make</p> <p>17 that statement.</p> <p>18 Q If there are pollutants -- I'm indicating on</p> <p>19 the screen here for your benefit. If there are pollutants</p> <p>20 being applied to the surface -- and we talked about this at</p> <p>21 some length last night -- if there are pollutants being applied</p> <p>22 to the surface these are mechanisms by which the pollutants</p> <p>23 could reach the water.</p> <p>24 A They could. Depends on the nature of the</p> <p>25 pollutant in question.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">36</p> <p>1 A I'd characterize them as more hypothetical.</p> <p>2 They are potential mechanisms. They are not definitive in this</p> <p>3 particular case.</p> <p>4 Q Well, they are definitive in this region</p> <p>5 because that's what you relied on them for to explain why there</p> <p>6 is this impact from agriculture generally in this area as a</p> <p>7 region, right?</p> <p>8 A Yeah, I think that's fair to say.</p> <p>9 Q And we have identified specific examples of</p> <p>10 these very things? Right. We've identified a few stipulation.</p> <p>11 There is surface drainage, rights. So we see these mechanisms,</p> <p>12 we see septic systems that have been inspected, right?</p> <p>13 A Yes.</p> <p>14 Q We see spring flow losses because we have</p> <p>15 Fishing Creek running through here?</p> <p>16 A Yes.</p> <p>17 Q We see direct infiltration of soil and rock,</p> <p>18 these soils are gravelly loam and there's penetration?</p> <p>19 A They were not all gravelly loam. Some of them</p> <p>20 are.</p> <p>21 Q Can you tell me where the gravelly loam is</p> <p>22 versus the other loam?</p> <p>23 A Not specifically without detailed soils</p> <p>24 mapping, but they are not the predominant soil type in the</p> <p>25 area.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">37</p> <p>1 Q Well, they are the predominant soil type for</p> <p>2 these fields up here, right?</p> <p>3 A I'd have to look at a soils map. Soils mapping</p> <p>4 is very complex. You can have soil types vary over short</p> <p>5 distances. Without a soils map I can't answer you definitely</p> <p>6 there.</p> <p>7 Q You can't answer me definitely as to whether</p> <p>8 all of this is gravelly loam or five percent is gravelly loam,</p> <p>9 right?</p> <p>10 A I can't put a percent on it. But the gravelly</p> <p>11 loam basically it says soil description says silt loam with,</p> <p>12 you know, some gravel or something to that effect. So it</p> <p>13 doesn't indicate that gravelly loam is the predominant soil</p> <p>14 type in the area.</p> <p>15 Q In the area. I want to make sure the jury</p> <p>16 understands because it's very important.</p> <p>17 You're talking about the whole area, this</p> <p>18 Sugar Valley, right.</p> <p>19 A I mean, we're talking about the area on the</p> <p>20 diagram right now. That's not all Sugar Valley.</p> <p>21 Q I didn't hear you right then.</p> <p>22 You don't know what percentage is gravelly</p> <p>23 loam versus silty loam?</p> <p>24 A Not without a detailed soils map.</p> <p>25 Q You can't say -- in terms of a precise</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">39</p> <p>1 A Diffuse surface runoff from uplands.</p> <p>2 Q We've all these mechanisms in this karst</p> <p>3 limestone dolomite geology, right?</p> <p>4 MR. NIDEL: You can watch but I'd appreciate</p> <p>5 if you don't.</p> <p>6 MR. LACKS: I was looking to see what you were</p> <p>7 pointing at the map.</p> <p>8 MR. NIDEL: I appreciate you not stand at my</p> <p>9 notes.</p> <p>10 THE COURT: Guys, examine the witness.</p> <p>11 MR. NIDEL: I will, Your Honor.</p> <p>12 BY MR. NIDEL:</p> <p>13 Q So we have each of these, right?</p> <p>14 A Yeah I believe so. You know potentially.</p> <p>15 Again, I haven't physically witnessed runoff from the uplands.</p> <p>16 I haven't physically witnessed runoff into the sinkholes. So</p> <p>17 based on the drainage if you did have surface runoff presumably</p> <p>18 it would run into the sinkhole. But having not seen that, you</p> <p>19 know, that's something I can't verify that occurs typically or</p> <p>20 not.</p> <p>21 Q Okay?</p> <p>22 A That would be part of the hydro geologic</p> <p>23 investigation to understand these various mechanisms in more</p> <p>24 detail on a site specific level.</p> <p>25 Q Fair point.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">38</p> <p>1 percentage you can't tell me it's more gravelly loam or less</p> <p>2 gravelly loam than silty loam with respect to the soils on</p> <p>3 these three fields, right?</p> <p>4 A Not specifically, no.</p> <p>5 Q So we've got direct infiltration, storm water</p> <p>6 runoff into sinkholes, right?</p> <p>7 A Shown on the map, correct.</p> <p>8 Q And we've got slopes so we don't just have</p> <p>9 number 2 but we have number 3. Runoff from uplands into</p> <p>10 sinkholes, right.</p> <p>11 A That's what's shown on the block diagram.</p> <p>12 That's not shown on your map.</p> <p>13 Q These fields slope. We went through that right</p> <p>14 here. These fields slope to the sinkhole, right?</p> <p>15 A They do.</p> <p>16 Q We have number 3?</p> <p>17 A You have to have surface runoff for the surface</p> <p>18 runoff to go into the sinkhole.</p> <p>19 Q We have that pathway. This is the mechanism.</p> <p>20 We're not talking about confirmation?</p> <p>21 A Hypothetically that's what this is.</p> <p>22 Q Hold on. We're talking about pathway, a</p> <p>23 mechanism?</p> <p>24 A We're talking about a mechanism.</p> <p>25 Q And we have number 4 as well, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">40</p> <p>1 I'm just asking you about mechanisms. You</p> <p>2 agree we have mechanisms, right?</p> <p>3 A Yes.</p> <p>4 Q You agree that we have both direct and indirect</p> <p>5 pathways, right?</p> <p>6 A I'm not sure what you mean by direct versus</p> <p>7 indirect in this context.</p> <p>8 Q What I mean by direct and in direct directly</p> <p>9 into the sinkhole versus runoff from uplands into the sinkhole.</p> <p>10 Is that fair?</p> <p>11 A Yeah. I can understand that distinction.</p> <p>12 Q How would you use direct versus indirect?</p> <p>13 A Well, you know, when they're saying direct</p> <p>14 infiltration here they're saying you know rainfall lands on the</p> <p>15 ground and directly infiltrates into the subsurface because the</p> <p>16 rainfall did not exceed the infiltrative capacity of the soils</p> <p>17 at that time. Once you saturate the soils and they can no</p> <p>18 longer infiltrate any precipitation then that's where you begin</p> <p>19 to have surface runoff.</p> <p>20 So by direct they're saying the rain is</p> <p>21 falling out of the sky landing on the ground and directly</p> <p>22 infiltrating into the subsurface. So that's in this context</p> <p>23 what direct means.</p> <p>24 Q Direct is rainfall going through and picking up</p> <p>25 pollutants and going down into the subsurface.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">41</p> <p>1 A If there's pollutants there. It depends if</p> <p>2 there' pollutants or not.</p> <p>3 Q We're talking a mechanism or pathway, right?</p> <p>4 A You are, yes.</p> <p>5 Q Sir your report is about these issues, right?</p> <p>6 A Yeah.</p> <p>7 Q So you've identified what the direct pathway</p> <p>8 would be is rainfall on the surface and then directly</p> <p>9 penetrating to the groundwater, right?</p> <p>10 A A direct pathway of groundwater recharge, yes.</p> <p>11 Q It thee are pollutants at the surface they can</p> <p>12 be picked up that could be a pathway for the pollutants to be</p> <p>13 picked up?</p> <p>14 A Potentially what would be an indirect.</p> <p>15 A In this context, you know, again I guess you</p> <p>16 could have surface runoff, you know, again in this context it's</p> <p>17 assuming that direct means that the precipitation is directly</p> <p>18 infiltrating into the ground surface where it lands on the</p> <p>19 ground surface, so indirect would therefore mean there would be</p> <p>20 some level of transport of the precipitation before it</p> <p>21 infiltrates.</p> <p>22 Q I think that's where we started this</p> <p>23 discussion. My example was an indirect pathway would be rain</p> <p>24 water landing on the uplands draining to the sinkhole and</p> <p>25 getting to the groundwater through that sinkhole, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">43</p> <p>1 Q You provided figure 2 and that's all we needed</p> <p>2 to have to identify those mechanisms and pathways, right?</p> <p>3 A I provided potential transport mechanisms</p> <p>4 directly or indirectly. What I'm saying here is in the context</p> <p>5 of this statement that your expert, Dr. Grobbel, did not</p> <p>6 provide any of those specific transport mechanisms.</p> <p>7 Q Let's pull that apart a little bit.</p> <p>8 So you agree there are those pathways and</p> <p>9 mechanisms.</p> <p>10 A They exist potentially. Yeah. We can't define</p> <p>11 in this case which one is dominating or -- again we don't have</p> <p>12 that information. That would be part of the a hydro geologic</p> <p>13 determination to determine what the pathways are if they exist.</p> <p>14 Q We're a long way from that hydro geologic</p> <p>15 investigation because we've identified them. The slopes, the</p> <p>16 runoff, the sinkholes, right?</p> <p>17 A There are potential pathways but we didn't</p> <p>18 confirm that they are the causational pathways.</p> <p>19 Q Sir, you're statement is not potential</p> <p>20 pathways. Your statement was no pathways or mechanisms. I'm</p> <p>21 not asking if they are -- hold on.</p> <p>22 A I'm saying they weren't identified.</p> <p>23 Q Hold on. I'm not asking if they are causal or</p> <p>24 active or they actually applied nutrients that were migrated.</p> <p>25 I'm asking if there are pathways and mechanisms. We agree</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">42</p> <p>1 A Using that context of indirect versus direct,</p> <p>2 yes.</p> <p>3 Q Is that your context?</p> <p>4 A Yeah. We can make that the context now that</p> <p>5 we've better delineated what that means.</p> <p>6 Q Is that the context you used in your report?</p> <p>7 A I don't know that I said direct versus</p> <p>8 indirect.</p> <p>9 Q If you would have said direct versus indirect</p> <p>10 that's the context you would use in your report?</p> <p>11 A Yeah. I think those would be the kind of terms</p> <p>12 I would use.</p> <p>13 Q And we agree that we have mechanisms or</p> <p>14 pathways or direct and indirect contaminant transport -- no,</p> <p>15 sir north saying they're active. But we have pathways and</p> <p>16 mechanisms for direct and indirect transport of pollutants from</p> <p>17 the surface down to the groundwater?</p> <p>18 A I would agree with that.</p> <p>19 Q On page 9 of your report, your statement was:</p> <p>20 However, no hydro geologic transport mechanism or evidence of a</p> <p>21 direct or indirect pathway has been provided.</p> <p>22 Do you see that.</p> <p>23 A I'm reading it.</p> <p>24 Q Did you write that?</p> <p>25 A Yeah, I did.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">44</p> <p>1 there are.</p> <p>2 A There are potential pathways and mechanisms.</p> <p>3 Q There are mechanisms and pathways?</p> <p>4 MR. LACKS: Objection. Argument.</p> <p>5 THE COURT: He can answer. Overruled.</p> <p>6 A There are potential pathways.</p> <p>7 Q If there are pollutants --</p> <p>8 A We don't know which ones are say the dominant</p> <p>9 or active pathways.</p> <p>10 Q We don't know which are active or dominant?</p> <p>11 A That's what I'm saying.</p> <p>12 Q We've got -- withdraw that question.</p> <p>13 Is it your testimony that Dr. Grobbel made no</p> <p>14 mention of sinkholes and runoff?</p> <p>15 A I'd have to again review his report. But, you</p> <p>16 know, based on my statement, from review of his report, he did</p> <p>17 not provide what may be causing any of the contaminants to</p> <p>18 exist in the Plaintiffs' wells.</p> <p>19 Q Sir, your statement was that plaintiffs didn't</p> <p>20 identify these mechanisms and pathways, but Dr. Grobbel</p> <p>21 identified sinkholes, right?</p> <p>22 A Okay.</p> <p>23 Q Did he?</p> <p>24 A I would have to look back at his report to</p> <p>25 verify that.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">45</p> <p>1 Q Your entire opinion is just a criticism of Dr.</p> <p>2 Grobbel's opinion, right?</p> <p>3 A I don't say it's a criticism. I'd say it's a</p> <p>4 critical review.</p> <p>5 Q It's a critical review versus a criticism; is</p> <p>6 that fair?</p> <p>7 A Sure.</p> <p>8 Q I'm wondering what the difference is. But we</p> <p>9 will move on.</p> <p>10 He did identify surface drainage, that direct</p> <p>11 pathway, rainfall going into the earth.</p> <p>12 A Again, I don't have his, you know, report in</p> <p>13 front of me to review it. If you're saying that's what he</p> <p>14 said, then, you know, I can't say I can refute that right now.</p> <p>15 Q Let me do it this way.</p> <p>16 Do you know if he identified sinkholes?</p> <p>17 A Again, I would have to look back at his report</p> <p>18 to see what's contained in his figures?</p> <p>19 Q You don't know if this statement is accurate?</p> <p>20 A What statement?</p> <p>21 Q The statement that you wrote, Plaintiffs' --</p> <p>22 however no hydro geologic transport mechanism or evidence of a</p> <p>23 direct or indirect pathway has been provided by Dr. Grobbel?</p> <p>24 A Yeah. I'm saying that in my report. Then</p> <p>25 based on my review of his report he's not providing any</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">47</p> <p>1 can. So I think that's an important distinction to make.</p> <p>2 Q And you haven't determined whether or not they</p> <p>3 have in this case, right?</p> <p>4 A I have not been commissioned to conduct the</p> <p>5 type of investigation you need to verify that with scientific</p> <p>6 certainty.</p> <p>7 Q You haven't even reviewed the application</p> <p>8 records at all of nutrient or bacteria, right?</p> <p>9 A Not specifically, no.</p> <p>10 Q You've also identified that there are direct</p> <p>11 conduits or pathways to the groundwater, right?</p> <p>12 A Wells, Your Honor, again in the context of</p> <p>13 direct versus indirect if there's rainfall landing on the</p> <p>14 surface and it directly infiltrates then that would be a direct</p> <p>15 recharge mechanism to the groundwater system.</p> <p>16 Q And if the bobcat or the bear defecates near</p> <p>17 the sinkhole, that rain water, that's another direct conduit is</p> <p>18 the sinkholes, right?</p> <p>19 A Yep, could be. If it lands -- if the rainfall</p> <p>20 is falling directly in the sinkhole then that would be direct.</p> <p>21 If it was runoff into the sinkhole that would be more so</p> <p>22 indirect.</p> <p>23 Q We also have indirect. You identified indirect</p> <p>24 pathways, right? Is that right?</p> <p>25 A Yep, as we just discussed.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">46</p> <p>1 explanation as to how the -- any contaminants of concern are in</p> <p>2 plaintiffs' well, how they got there. You know, saying they</p> <p>3 are there, but doesn't provide a mechanism for how they got</p> <p>4 there.</p> <p>5 Q Your testimony is -- do you know if he provided</p> <p>6 reference to sinkholes?</p> <p>7 A Again, I would have to see a copy of the report</p> <p>8 and be able to you know specifically identify that.</p> <p>9 Q Do you know if he referenced groundwater</p> <p>10 recharge or surface runoff?</p> <p>11 A Again, I'd have to, you know, have his report</p> <p>12 in front of me right now to be able to verify that.</p> <p>13 Q Do you know if referenced rainfall penetrating</p> <p>14 the surface and going to the groundwater?</p> <p>15 A Once again, I would have to see his report</p> <p>16 directly and review it just like I was able to review some of</p> <p>17 the previous documents you provided.</p> <p>18 Q I want to talk to you about the things that</p> <p>19 you've done in this case. Right?</p> <p>20 And one of the things you've done you've</p> <p>21 identified surface application of nutrients and bacteria can</p> <p>22 contaminate groundwater, right?</p> <p>23 A Can.</p> <p>24 Q Okay. Surface contaminant?</p> <p>25 A Doesn't mean they will, but potentially they</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">48</p> <p>1 Q And you identified that there are agricultural</p> <p>2 activities in this region that do in fact in your opinion</p> <p>3 impact the groundwater, right?</p> <p>4 A Yeah. Based on the Pennsylvania geological and</p> <p>5 U.S. geological survey reports, they also concluded that</p> <p>6 agricultural land juice can impact groundwater quality on a</p> <p>7 regional basis.</p> <p>8 Q And you always -- the other thing that you did</p> <p>9 was you spent a date touring the Nicholas Meats slaughterhouse,</p> <p>10 right?</p> <p>11 A I visited their facility, yes.</p> <p>12 Q What was the relevance to you visiting the</p> <p>13 facility?</p> <p>14 A To basically understand their process and how</p> <p>15 the food processing residuals were generated.</p> <p>16 Q You didn't have to do with you identifying</p> <p>17 hydro geologic impact. Is that fair?</p> <p>18 A Not when I was doing the tour of the facility,</p> <p>19 itself, no.</p> <p>20 Q Let's talk about the things that you didn't do.</p> <p>21 Okay.</p> <p>22 You didn't sample any of the Plaintiff's well,</p> <p>23 right?</p> <p>24 A I was not commissioned to do so.</p> <p>25 Q You didn't take soil samples at the septic?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">49</p> <p>1 A I was not commissioned to do so.</p> <p>2 Q You didn't inspect the septic?</p> <p>3 A Again, I was not commissioned to do so.</p> <p>4 Q You mentioned in your report that there was no</p> <p>5 specific fingerprint or tracer that was identified by Dr.</p> <p>6 Grobbel, right? Unique tracer?</p> <p>7 A Tracer to.</p> <p>8 Q To link the FPR to the contamination in the</p> <p>9 wells?</p> <p>10 A From the limited data that was available, those</p> <p>11 indicators that were in the Plaintiffs' wells could be from</p> <p>12 multiple sources.</p> <p>13 Q You didn't identify unique tracer, right?</p> <p>14 A I did not do any sampling that would identify</p> <p>15 any unique tracers.</p> <p>16 Q You didn't -- well, you didn't inspect the</p> <p>17 septic. You didn't assess the available nutrient and</p> <p>18 bacterial application information for the surface, right?</p> <p>19 A From.</p> <p>20 Q From Nicholas Meat on these fields?</p> <p>21 A No. That was not within my --</p> <p>22 Q Assess pollutant located. Is that fair?</p> <p>23 A Nutrient loading, sure.</p> <p>24 Q Nutrient and bacterial loading?</p> <p>25 A Yeah.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">51</p> <p>1 available. Do you know if there was construction data</p> <p>2 available for the wells, depth data?</p> <p>3 A Not that I recall.</p> <p>4 Q You don't know if it exists or not?</p> <p>5 A I don't recall.</p> <p>6 Q Did you ask for it?</p> <p>7 A Again, I don't recall. This was almost 18</p> <p>8 months ago.</p> <p>9 Q Did you ask to review the bacteriological data?</p> <p>10 A I only was provided the data that I can recall</p> <p>11 that was from the Plaintiff's well from Helix labs.</p> <p>12 Q Do you normally do your scientific</p> <p>13 investigations by getting limited data and information</p> <p>14 attorneys?</p> <p>15 A Well, this is, you know, legal proceedings. So</p> <p>16 I'm working with attorneys in that regard. So in this specific</p> <p>17 instance, that's sort of the chain of command.</p> <p>18 Q Did you understand that the septic were</p> <p>19 available for you to inspect?</p> <p>20 A Again, that wasn't made clear to me, I guess</p> <p>21 that, I had that sort of latitude with this project.</p> <p>22 Q Do you understand that -- well, were you given</p> <p>23 that sort of latitude with this project?</p> <p>24 A I was given you know a fairly discrete work</p> <p>25 scope to look at the available data. So at know time go did I</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">50</p> <p>1 Q And by that, we mean the application of FPR,</p> <p>2 right?</p> <p>3 A In this context.</p> <p>4 Q Didn't assess the application of FPR. And you</p> <p>5 did not assess the nutrient loading of any other of the local</p> <p>6 agricultural activities, right?</p> <p>7 A Again, that was beyond the context of what I</p> <p>8 was hired to do initially.</p> <p>9 Q You didn't address any other agricultural</p> <p>10 loading locally, right?</p> <p>11 A Not with this preliminary evaluation. Again</p> <p>12 that would be part of a more detailed hydro geologic</p> <p>13 investigation.</p> <p>14 Q You didn't do any well inspection data or, for</p> <p>15 any of the wells, right?</p> <p>16 A Other than the original Leigey well that data</p> <p>17 was available.</p> <p>18 Q Other than closed well?</p> <p>19 A Correct.</p> <p>20 Q And you did not inspect the wells?</p> <p>21 A Again, I was not commissioned to do so.</p> <p>22 Q And you also did not even review the available</p> <p>23 bacteriological data for the wells, right?</p> <p>24 A Not to my knowledge.</p> <p>25 Q So, the bacteriological data for the wells</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">52</p> <p>1 propose that I would make a site visit to make any -- collect</p> <p>2 any site specific data. It was really just a review of the</p> <p>3 existing available data.</p> <p>4 Q I want to make sure that your word available is</p> <p>5 understood by everyone, including myself.</p> <p>6 What was made available to you or what exists</p> <p>7 and was available this case? So we know there is FPR located</p> <p>8 data, for example, right.</p> <p>9 A If you're telling me that, I guess there is. I</p> <p>10 don't know.</p> <p>11 Q You reviewed deposition transcripts, right?</p> <p>12 A Again, 18 months ago. So I don't recall.</p> <p>13 Q You've identified in your reports and you've</p> <p>14 reviewed transcripts and that FPR loading data was exhibits in</p> <p>15 those depositions, right?</p> <p>16 A I suppose it was.</p> <p>17 Q So you know that's available, right?</p> <p>18 A Again, if I don't have it in front of me I</p> <p>19 can't say that.</p> <p>20 Q I just want to make sure that we understand.</p> <p>21 You reviewed -- when you say data that was</p> <p>22 available, you mean made available to you by the attorneys,</p> <p>23 right.</p> <p>24 A Yes.</p> <p>25 Q You're not testifying that there is no nutrient</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">53</p> <p>1 FPR located data that would be available in this case to</p> <p>2 review, right?</p> <p>3 A Could you rephrase that.</p> <p>4 Q Sure.</p> <p>5 You're not saying that this data doesn't</p> <p>6 exist, right.</p> <p>7 A I'm not saying that.</p> <p>8 Q You're not saying that you could not have</p> <p>9 inspected the septic. You don't know?</p> <p>10 A Again there was never any talk of me setting my</p> <p>11 feet on the Plaintiffs' property to collect any data. It was</p> <p>12 never a discussion point to conduct that that. That would be</p> <p>13 part of more detailed hydro geologic investigation.</p> <p>14 Q These would be more detailed hydro geologic</p> <p>15 investigations, right?</p> <p>16 A Those are the types of pieces of information</p> <p>17 that I would collect, yeah.</p> <p>18 Q You didn't stamp wells, you didn't take soil</p> <p>19 samples septic, you didn't inspect those septic, you didn't</p> <p>20 come up with your own tracer. You didn't assess the loading</p> <p>21 data for these fields. You didn't do any assessment of any</p> <p>22 loading on any other farms in the area looking at CAFOs looking</p> <p>23 at field application, talking to the Amish. You didn't review</p> <p>24 well construction data for the wells in this case, the handful</p> <p>25 of wells in this case. You didn't inspect those wells and you</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">55</p> <p>1 initially. Again, it was a while ago that I did my initial</p> <p>2 review and developed this report.</p> <p>3 Q And you didn't ask to gather any additional</p> <p>4 data, right?</p> <p>5 A Again, I was tasked with looking at the</p> <p>6 existing data and drawing initial conclusions based on that and</p> <p>7 that was basically the end of my scope of work.</p> <p>8 Q I just want to make sure we completely</p> <p>9 understand. I thought I was done?</p> <p>10 You were tasked with analyzing the existing</p> <p>11 data. Is that your testimony.</p> <p>12 A The existing data that was made available to</p> <p>13 me.</p> <p>14 Q That's a sharp distinction. The existing data</p> <p>15 that was made available to you. Not all of the data on the</p> <p>16 land application of FPR, not all of the data that was available</p> <p>17 for these wells, not all of the information that was available</p> <p>18 from the sampling of these wells, right?</p> <p>19 A Again, I may have reviewed some of that. I</p> <p>20 didn't include it in my report if I did so I feel like if I had</p> <p>21 reviewed it and it seemed relevant it would be contained in my</p> <p>22 report.</p> <p>23 Q You keep making this more difficult for me?</p> <p>24 You've identified everything that you reviewed</p> <p>25 and relied on in your report, right.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">54</p> <p>1 didn't even review the available testing -- all of the</p> <p>2 available testing on those wells, right?</p> <p>3 A Again, some of what you mentioned there, I</p> <p>4 wasn't commissioned to do.</p> <p>5 Q But you didn't do those things, right?</p> <p>6 A I wasn't hired to do them so I didn't go out of</p> <p>7 the scope for which I was hired and conduct work that I wasn't</p> <p>8 commissioned to do.</p> <p>9 Q And yet you don't know which of these is</p> <p>10 available, although you would agree with me that at least some</p> <p>11 of this is available. It's part of the case, right?</p> <p>12 A Yeah. I've reviewed the septic inspection</p> <p>13 reports.</p> <p>14 Q It's like you put your hands behind your back</p> <p>15 and said well you didn't even review all of the information but</p> <p>16 your conclusion in this case is that there is simply not enough</p> <p>17 information to reach any conclusion to a sufficient certainty</p> <p>18 as to whether or not the FPR, the hundreds of thousands of</p> <p>19 gallons, millions of gallons of nutrients and bacteria that</p> <p>20 were applied to these fields reached those wells, right?</p> <p>21 A I reached conclusion that there was not</p> <p>22 sufficient data to reach any conclusion a long the lines of</p> <p>23 which you're discussing.</p> <p>24 Q You didn't even review all of the data, right?</p> <p>25 A I may have reviewed some of that data</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">56</p> <p>1 A If it was relevant and I reviewed it, it's in</p> <p>2 this report.</p> <p>3 Q You just said I might have reviewed it but if I</p> <p>4 did review it I likely would have put it in my report and so</p> <p>5 we're back to the only things that you reviewed are those</p> <p>6 things you identified in your report, right?</p> <p>7 A If it's relevant and then I reviewed it then</p> <p>8 it's -- it should be in the report.</p> <p>9 Q The bacteriological testing would be relevant,</p> <p>10 right?</p> <p>11 A And I did look at the DNA testing which was</p> <p>12 made available to me.</p> <p>13 Q The fecal coliform and E. Coli testing, not the</p> <p>14 DNA -- the bacteria that would be relevant, right?</p> <p>15 A Yeah.</p> <p>16 Q In fact all of these things are relevant,</p> <p>17 right?</p> <p>18 A Yes. Some of those are relevant. But they are</p> <p>19 part of a more detailed hydro geologic investigation of which I</p> <p>20 believe anyone else conducted today.</p> <p>21 Q Is there a more detailed hydro geologic</p> <p>22 information that you did not do?</p> <p>23 A I was not commissioned to do so.</p> <p>24 Q Thank you.</p> <p>25 THE COURT: Redirect.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">57</p> <p>1 MR. LACKS: Yes, Your Honor. I just I want to</p> <p>2 put up -- it play take a second.</p> <p>3</p> <p>4 EXAMINATION</p> <p>5</p> <p>6 BY MR. LACKS:</p> <p>7 Q Dr. Yoxtheimer, Mr. Nidel just asked you a</p> <p>8 number of questions about things you did or didn't do or looked</p> <p>9 or didn't look at it in the course of preparing your report.</p> <p>10 Obviously you recall that. It just happened?</p> <p>11 I want to be really clear about this. What</p> <p>12 was your understanding of the scope of your assignment.</p> <p>13 A To primarily focus on the impacts to the</p> <p>14 alleged impacts to the Plaintiffs' wells by looking at both the</p> <p>15 Plaintiff's expert's report.</p> <p>16 Q Dr. Grobbel?</p> <p>17 A Dr. Grobbel's report. And reviewing available</p> <p>18 hydro geologic information for the region to in essence try to</p> <p>19 reach an initial conclusion as to whether or not any</p> <p>20 scientifically valid conclusions could be made.</p> <p>21 Q Dr. Grobbel's report included a number of</p> <p>22 opinions. And if you recall from his testimony they were</p> <p>23 broken down into categories like agricultural management,</p> <p>24 groundwater contamination and odor. Do you recall that?</p> <p>25 A Yeah.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">59</p> <p>1 needed to be done as part of the a robust hydro geological</p> <p>2 study, is your understanding that those things were outside the</p> <p>3 scope of your assignment?</p> <p>4 A Yes, they were.</p> <p>5 Q Again is it your understanding that Dr. Grobbel</p> <p>6 conducted or performed a robust hydro geological study?</p> <p>7 A Based on my review of his report, he did not.</p> <p>8 Q I understand that the questions about -- both</p> <p>9 last night and today -- about what you did and didn't look at</p> <p>10 were fired at you at a somewhat frenetic pace. I wasn't able</p> <p>11 to get everything down. But do you have an understanding</p> <p>12 whether Dr. Grobbel looked at some of the things Mr. Nidel</p> <p>13 asked you about. To your knowledge did Dr. Grobbel study the</p> <p>14 sinkhole depth of any of the sinkholes on the fields F1 F2 or</p> <p>15 F3?</p> <p>16 A I don't recall any sinkhole geometry or</p> <p>17 dimensions specifically mentioned.</p> <p>18 Q Do you know if Dr. Grobbel looked those</p> <p>19 sinkholes visually?</p> <p>20 A From reading the testimony it sounds like he</p> <p>21 made an initial site visit last week, so that would not have</p> <p>22 been contained in his I believe July 2024 report.</p> <p>23 Q Did Dr. Grobbel's analysis account for the well</p> <p>24 depth of Plaintiffs' wells to your knowledge?</p> <p>25 A I cant recall that it mentioned them</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">58</p> <p>1 Q And of those, was the scope of your assignment</p> <p>2 to look at certain opinions?</p> <p>3 A As a hydro geologist a focused on the</p> <p>4 groundwater. Again I'm not air quality specialist nor nutrient</p> <p>5 management specialist.</p> <p>6 Q Were you asked to review Dr. Grobbel's opinions</p> <p>7 regarding agricultural management?</p> <p>8 A Not as far as land application of nutrients or</p> <p>9 anything to that degree, no.</p> <p>10 Q Were you asked to review Dr. Grobbel's opinions</p> <p>11 about best management practices for land applying FPR?</p> <p>12 A No.</p> <p>13 Q Were you asked to review Dr. Grobbel's opinions</p> <p>14 about odor?</p> <p>15 A No.</p> <p>16 Q Were you asked to develop your own definitive</p> <p>17 determination about the cause of any contamination in the</p> <p>18 Plaintiffs' wells?</p> <p>19 A Not definitively, no.</p> <p>20 Q Were you asked to conduct your own row because</p> <p>21 hydro geologic study of the area to determine the source or</p> <p>22 cause of any contamination in the Plaintiff's wells?</p> <p>23 A I was not.</p> <p>24 Q So to the extent you were asked about things</p> <p>25 you did or didn't look at by Mr. Nidel and you said would be</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">60</p> <p>1 specifically.</p> <p>2 Q Did Dr. Grobbel's analysis account for the</p> <p>3 construction features of Plaintiffs' wells?</p> <p>4 A Again, I don't recall having any well depth or</p> <p>5 construction information of the Plaintiffs' wells.</p> <p>6 Q Did Dr. Grobbel take soil samples at the septic</p> <p>7 tanks?</p> <p>8 A Not to my recollection based on the review of</p> <p>9 his report, no.</p> <p>10 Q Do you know of anything that prevented Dr.</p> <p>11 Grobbel from getting access to the plaintiffs' properties?</p> <p>12 A I'm not aware of anything.</p> <p>13 Q Did Dr. Grobbel conduct an inspection of the</p> <p>14 septic systems at Plaintiffs' properties?</p> <p>15 A The only inspection I saw were from Hancock</p> <p>16 Home Inspection services.</p> <p>17 Q We know that Dr. Grobbel did review information</p> <p>18 about application of FPR at part of his agricultural management</p> <p>19 opinions. You're aware of that?</p> <p>20 A Yes.</p> <p>21 Q Did Dr. Grobbel conduct a survey of other</p> <p>22 agricultural loading locally in the region?</p> <p>23 A Not that I recall, no.</p> <p>24 Q Did Dr. Grobbel do any assessment of the</p> <p>25 intensity of any other agricultural operations in the vicinity</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">61</p> <p>1 of Plaintiffs' homes?</p> <p>2 A Not to my recollection of the review of the</p> <p>3 report, no.</p> <p>4 Q I may have covered this one earlier. Did Dr.</p> <p>5 Grobbel do any kind of inspection of the Plaintiffs' wells?</p> <p>6 A I don't recall any sort of inspection or</p> <p>7 evaluation of the Plaintiff's wells, no.</p> <p>8 Q I think there was a mention of a term last</p> <p>9 night, capture zone analysis. Do you recall that?</p> <p>10 A Yeah.</p> <p>11 Q What does that mean?</p> <p>12 A Well, capture zone is basically a delineation</p> <p>13 of the portion of the groundwater aquifer that provides water</p> <p>14 to the well, in essence.</p> <p>15 Q Do you remember whether Dr. Grobbel performed</p> <p>16 any kind of capture zone analysis on these wells?</p> <p>17 A There was no capture zone analysis in the</p> <p>18 report.</p> <p>19 Q Okay. Now we talked about talked about the</p> <p>20 septic systems and the evaluation that you looked at. Did Dr.</p> <p>21 Grobbel provide any analysis of the proximity of the septic</p> <p>22 systems to the Plaintiffs' wells to your knowledge?</p> <p>23 A I don't recall specifically. I think he did</p> <p>24 refer to the evaluations and just kind of accepted the</p> <p>25 conclusions.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">63</p> <p>1 A Correct.</p> <p>2 Q Even if there is not leakage from the tank</p> <p>3 itself, could there be leaching of bacterias from the</p> <p>4 absorption area into the soils surrounding plaintiffs' homes?</p> <p>5 MR. NIDEL: Objection. Calls for speculation</p> <p>6 and improper opinion. Could there be.</p> <p>7 MR. LACKS: Hypothetically he's been asked</p> <p>8 about his septic analysis of septics.</p> <p>9 THE COURT: Overruled. He can answer.</p> <p>10 BY MR. LACKS:</p> <p>11 Q Go ahead and answer.</p> <p>12 A Could you repeat the question for me, please.</p> <p>13 MR. LACKS: Can I have it read back.</p> <p>14 (Question read.)</p> <p>15 A Yes. By design, again, the leachate discharges</p> <p>16 from the absorption field into the subsurface into the soils</p> <p>17 and so by nature the leachate is not in any way or the effluent</p> <p>18 is not disinfected meaning that you do have you know a</p> <p>19 bacterial load associated with that. So that would leach into</p> <p>20 the soils.</p> <p>21 Q If you have multiple on-lot septic systems</p> <p>22 within close proximity to each other can the leachate from one</p> <p>23 septic system potentially contaminate the groundwater of a</p> <p>24 neighboring property?</p> <p>25 MR. NIDEL: I'm going to object again. It's</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">62</p> <p>1 Q And we saw the evaluations referred to the</p> <p>2 distance of the wells -- of the systems to the Plaintiffs'</p> <p>3 wells, right?</p> <p>4 A Correct.</p> <p>5 Q But did the Hancock evaluations do anything to</p> <p>6 assess the proximity of the multiple septic drain fields to one</p> <p>7 another?</p> <p>8 A No. I think it just handles each septic system</p> <p>9 as a stand alone evaluation.</p> <p>10 Q And now Mr. Nidel asked you about leaking from</p> <p>11 the septic systems in the reports. Do you recall that?</p> <p>12 A Yes.</p> <p>13 Q Is it your understanding that he was referring</p> <p>14 to leaking from the septic tanks?</p> <p>15 A He didn't really specify whether it was tanks.</p> <p>16 Q In an on-lot septic system is there leaking</p> <p>17 from the absorption area?</p> <p>18 A Again, from the system evaluations, it doesn't</p> <p>19 say there's specific leaks, but in this context, I think it's</p> <p>20 important to again emphasize that by design a septic system</p> <p>21 discharges effluent into the subsurface into the soils through</p> <p>22 the absorption field. That's the function of the absorption or</p> <p>23 leach field, whatever term you like to say to use there.</p> <p>24 Q The very nature of the septic system is that</p> <p>25 there is it effluent leaching into the soil?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">64</p> <p>1 pure speculation</p> <p>2 THE COURT: Overruled. You can answer.</p> <p>3 A Yes. Groundwater flow does not respect</p> <p>4 property boundaries so groundwater can flow from one property</p> <p>5 to an adjacent property down groundwater flow gradient. And so</p> <p>6 anything included in that water, groundwater on one property</p> <p>7 that's flowing to the next property would be transported to the</p> <p>8 next property.</p> <p>9 Q You were asked extensive questions about the</p> <p>10 potential that the sinkholes adjacent to field F1 or F3 could</p> <p>11 provide a pathway for groundwater contamination. Do you recall</p> <p>12 that?</p> <p>13 A Yes.</p> <p>14 Q Have you seen any proof in this case that</p> <p>15 defendants FPR actually entered into the sinkholes adjacent to</p> <p>16 F1 or F3?</p> <p>17 A I do not recall see seeing any direct evidence</p> <p>18 that there was runoff of FPR containing fluids into the</p> <p>19 sinkhole.</p> <p>20 Q During his examination did Mr. Nidel show you</p> <p>21 any direct evidence that defendants' FPR has actually flowed</p> <p>22 into the sinkholes adjacent to fields F1 or F3?</p> <p>23 A No.</p> <p>24 Q I know that the questioning got well into the</p> <p>25 weeds on the science. I'm going to try simplify a few</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">65</p> <p>1 concepts. I've been hoping to avoid subjecting the jury to my</p> <p>2 handwriting but it looks like we're going to have to do that.</p> <p>3 I want to circle back to the 1938 Pennsylvania</p> <p>4 geological survey study of the west Susquehanna subsurface</p> <p>5 basin. One thing we discussed is the well at 1256 East Valley</p> <p>6 Road which is now owned by Patricia Leigey was sampled as part</p> <p>7 of that study. Do you recall that?</p> <p>8 A Yes.</p> <p>9 Q And do you remember what the nutrient</p> <p>10 concentration was for that well as part of that study?</p> <p>11 A The nitrate concentrations.</p> <p>12 Q Nitrate?</p> <p>13 A I believe approximately 4.1 milligrams per</p> <p>14 liter.</p> <p>15 Q What was that number.</p> <p>16 A I believe it was 4.1 milligrams per liter.</p> <p>17 Q 4.1?</p> <p>18 A 4.18.</p> <p>19 Q And that's -- you also provided information on</p> <p>20 the median for the carbonate bedrock wells as part of that</p> <p>21 study. Do you recall that?</p> <p>22 A Yes, the 1983 study.</p> <p>23 Q Yes. What was that number?</p> <p>24 A That was -- I believe it was 3.08 milligrams</p> <p>25 per liter.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">67</p> <p>1 Q Go ahead?</p> <p>2 A Again, no. The 1983 study didn't specifically</p> <p>3 talk about the nitrate results at 1256 East Valley Road.</p> <p>4 Q Can we deduce something was impacting the well</p> <p>5 that caused nitrate levels in at this level in 1981?</p> <p>6 A I think that 4.18 milligrams liter is likely</p> <p>7 indicative of again as the authors of the study indicated the</p> <p>8 extensive fertilization of the intensively corrugated soils.</p> <p>9 Q And can we deduce from the study that the</p> <p>10 nitrate concentration in the Leigey well was greater than the</p> <p>11 median for the bedrock carbonate wells in the region?</p> <p>12 A Correct, yes.</p> <p>13 Q And I know you were asked about when -- if you</p> <p>14 knew when Nicholas started applying FPR on these fields and I</p> <p>15 believe you didn't know. But I'm going to ask you for the</p> <p>16 purposes of this question to assume that it happened -- that it</p> <p>17 began sometime between 1998 and 2010, okay.</p> <p>18 First of all do we know how long there's been</p> <p>19 agricultural activities in this area prior to the early</p> <p>20 19'80s.</p> <p>21 A Again, it's something that's measured in</p> <p>22 decades.</p> <p>23 Q Decades. Okay?</p> <p>24 And now if we were to test the Leigey well</p> <p>25 again sometime after FPR has begun being applied on those</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">66</p> <p>1 Q So which of those numbers is bigger?</p> <p>2 A 4.18, 3.08, which of those numbers is greater.</p> <p>3 Q I'll put a greater than sign.</p> <p>4 Do we know from the 1983 study what was the</p> <p>5 source of the nitrate levels in the 1256 East Valley Road well</p> <p>6 when it was sampled in 1981.</p> <p>7 A Based on my recollection, they don't offer</p> <p>8 specific explanations of regional study so it doesn't narrow</p> <p>9 down to specific single wells. But it basically does say in</p> <p>10 that study that they attribute increased levels of things like</p> <p>11 nitrates to extensive fertilization of the intensively</p> <p>12 cultivated soils overlying these rock units, and by rock units</p> <p>13 they are referring to carbonate bedrock.</p> <p>14 Q But we don't know what the precise source of</p> <p>15 that nitrate concentration in the Leigey well was?</p> <p>16 MR. NIDEL: Objection. Leading. Asked and</p> <p>17 answered.</p> <p>18 BY MR. LACKS:</p> <p>19 Q Do we know from the study of the precise source</p> <p>20 of the nitrate concentration the Leigey well was in 1981?</p> <p>21 MR. NIDEL: Objection. Asked and answered.</p> <p>22 A Again it's a regional studied.</p> <p>23 MR. NIDEL: Objection, asked and answered.</p> <p>24 THE COURT: Overruled. You can answer.</p> <p>25 BY MR. LACKS:</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">68</p> <p>1 fields -- I any Mr. Nidel mentioned 2009. I'm not sure if</p> <p>2 that number was accurate. But if we test it again and there</p> <p>3 were nitrate concentrations again, can we just assume that FPR</p> <p>4 is the cause.</p> <p>5 A No. I mean, there's lots of different kinds of</p> <p>6 agricultural fertilizers that are applied, you know, regionally</p> <p>7 in these carbonate valleys, so there would be a variety of</p> <p>8 fertilizers that have been added.</p> <p>9 Q And if we assume that Nicholas didn't begin</p> <p>10 applying FPR to those fields until sometime between 1998 and</p> <p>11 2010, and 2010, can we assume that FPR was not the cause of the</p> <p>12 nitrate concentrations observed as part of the 1983 study at</p> <p>13 the Leigey well?</p> <p>14 MR. NIDEL: Objection. Leading.</p> <p>15 THE COURT: He can answer. Overruled.</p> <p>16 A Yeah. I believe if FPR was not being applied</p> <p>17 to any of the fields in, you know, proximity to the Leigey well</p> <p>18 at 1256 East Valley Road, then it would have been impossible</p> <p>19 for the FPR to impact the groundwater quality there.</p> <p>20 Q Would you agree with me writing not FPR under</p> <p>21 the 4.18?</p> <p>22 A Yes. If it occurred in 1998 and thereafter.</p> <p>23 Q If you're saying the FPR application occurred?</p> <p>24 A Right. Correct.</p> <p>25 Q Now?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">69</p> <p>1 THE COURT: Mr. Lacks, how much do you have.</p> <p>2 MR. LACKS: Not very much.</p> <p>3 THE COURT: Okay. Finish.</p> <p>4 BY MR. LACKS:</p> <p>5 Q Mr. Nidel asked you about your visit to the</p> <p>6 fields and I believe you said -- when was your visit to the</p> <p>7 fields, the Nicholas fields?</p> <p>8 A June 4, 2024.</p> <p>9 Q I'm going to put -- this is getting a little</p> <p>10 cramped.</p> <p>11 June 24. Do you recall what time of day you</p> <p>12 visited those fields.</p> <p>13 A It was in mid afternoon. Probably 2 or 3 in</p> <p>14 the afternoon.</p> <p>15 Q Was it daylight?</p> <p>16 A Yes.</p> <p>17 Q This is supposed to be a sun. Poorly drawn</p> <p>18 sun.</p> <p>19 Do you recall reading when Dr. Grobbel visited</p> <p>20 -- well actually let me back up.</p> <p>21 Did you actually go on the fields.</p> <p>22 A Yes.</p> <p>23 Q Do you recall reading when Dr. Grobbel visited</p> <p>24 the fields?</p> <p>25 A I do from the testimony from last week, yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">71</p> <p>1 there. It was approaching 5:00 p.m. was Dr. Yoxtheimer's</p> <p>2 answer. So, go ahead.</p> <p>3 BY MR. LACKS:</p> <p>4 Q Do you recall reading whether Dr. Grobbel</p> <p>5 actually went onto fields?</p> <p>6 A It sounds like he did not. He did in essence a</p> <p>7 driveway or windshield survey.</p> <p>8 Q I asked you a lot of questions last night about</p> <p>9 as aspects about Dr. Grobbel's opinion you disagreed with. I</p> <p>10 want to ask you two more CHK statements and ask you if you</p> <p>11 agree with them and I'll give you a copy of his report.</p> <p>12 MR. LACKS: I can just pull up one of the</p> <p>13 statements.</p> <p>14 MR. LACKS:</p> <p>15 Q This is from page 14 of Dr. Grobbel's -- hang</p> <p>16 on?</p> <p>17 MR. NIDEL: Your Honor, I object. They are</p> <p>18 now doing the same thing they objected to me doing which is</p> <p>19 showing statements from reports.</p> <p>20 THE COURT: That's true.</p> <p>21 MR. LACKS: And he was permitted to do it if I</p> <p>22 recall.</p> <p>23 MR. NIDEL: No, I was not.</p> <p>24 THE COURT: You were.</p> <p>25 MR. NIDEL: Once but then I was prohibited</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">70</p> <p>1 Q What do you recall? When did he visit the</p> <p>2 fields. I believe he went there last Tuesday evening?</p> <p>3 Q That would have still been December, right?</p> <p>4 A Yes.</p> <p>5 Q .</p> <p>6 Yes, December 2.</p> <p>7 Q Do you recall reading what time of day Dr.</p> <p>8 Grobbel visited the fields?</p> <p>9 A It sounded like it was pretty late in the</p> <p>10 afternoon approaching 5:00.</p> <p>11 Q I know there was some back and forth about</p> <p>12 whether it was still daylight but I'll just for purposes of</p> <p>13 simplicity I'll say 5:00 p.m. in December of 2025?</p> <p>14 MR. NIDEL: Objection -- I don't think the</p> <p>15 witness knows what time. And he just wrote down 5 p.m.</p> <p>16 THE COURT: The witness said approaching 5:00</p> <p>17 p.m.</p> <p>18 MR. LACKS: I think the testimony was closer</p> <p>19 to 5:30 but I want to give the doctor the benefit of the</p> <p>20 doubt.</p> <p>21 MR. NIDEL: Now you're testifying for the</p> <p>22 witness.</p> <p>23 MR. LACKS: I can show the transcripts if</p> <p>24 you'd like.</p> <p>25 THE COURT: Stop. Overruled. 5:00 p.m. is on</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">72</p> <p>1 beyond that.</p> <p>2 THE COURT: I'm going to let him do it.</p> <p>3 BY MR. LACKS:</p> <p>4 Q</p> <p>5 THE COURT: Can you read that.</p> <p>6 THE WITNESS: Yes, I can.</p> <p>7 THE COURT: Go ahead and ask the question.</p> <p>8 MR. LACKS:</p> <p>9 Q Do you agree with the statement that</p> <p>10 groundwater within karst formation may flow at a complex matter</p> <p>11 at a relatively high velocity making source identification in</p> <p>12 groundwater contamination in flume definition and remediation</p> <p>13 very difficult ?</p> <p>14 A Yes. Based on my experience, I would concur</p> <p>15 with that statement.</p> <p>16 Q Do you agree with Dr. Grobbel that a valid and</p> <p>17 reliable hydro geological investigation is needed within the</p> <p>18 vicinity of the impacted residential drinking wells to</p> <p>19 determine contamination sources, the vertical and horizontal</p> <p>20 extent of groundwater contamination, groundwater direction and</p> <p>21 velocity, and the fate and transport of contaminants within</p> <p>22 this impacted aquifer?</p> <p>23 A Yes, I concur with that.</p> <p>24 MR. LACKS: Nothing further, Your Honor.</p> <p>25 THE COURT: Everybody put their tablets away.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">73</p> <p>1 . Do you want move those.</p> <p>2 Ladies and gentlemen we're taking our mid</p> <p>3 morning break. About 20 minutes or so. Don't discuss it. As</p> <p>4 I told you before, have a snack, go to the bathroom. Come</p> <p>5 back in, hopefully finish UP with Dr. Yoxtheimer and move onto</p> <p>6 next witness.</p> <p>7 All right.</p> <p>8 (Whereupon, the jurors were escorted from the</p> <p>9 courtroom.)</p> <p>10 (Time noted, 10:07 a.m.)</p> <p>11</p> <p>12 THE COURT: Anything before we go.</p> <p>13 MR. NIDEL: No, Your Honor.</p> <p>14 THE COURT: Anything.</p> <p>15 MR. LACKS: I move demonstrative I wrote into</p> <p>16 evidence as D 197.</p> <p>17 THE COURT: Any objection to D 197.</p> <p>18 MR. NIDEL: No. But we will be moving our</p> <p>19 demonstrate I was into evidence.</p> <p>20 THE COURT: Just I'll come back and you mark</p> <p>21 them be ready to go. Make sure if you have any objection to</p> <p>22 be noted.</p> <p>23 This is a demonstrative with Dr. Yoxtheimer</p> <p>24 197 admitted without objection.</p> <p>25 MR. LACKS: Thank you.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">75</p> <p>1 septic tank septic tank, septic tank.</p> <p>2 THE COURT: (Whereupon the jurors were</p> <p>3 escorted.</p> <p>4 THE COURT: Label we're back.</p> <p>5 (Time noted, 10:31 a.m.)</p> <p>6</p> <p>7 We're going to have the further examination of</p> <p>8 Dr. Yoxtheimer. Hopefully that will conclude here rather</p> <p>9 quickly and then we'll move on to another witness.</p> <p>10 Mr. Nidel I believe it's you.</p> <p>11 MR. NIDEL: It is, Your Honor. I apologize.</p> <p>12 THE COURT: No problem. I just want to make</p> <p>13 sure I was right. I make mistakes everyday.</p> <p>14 MR. NIDEL: As do I, Your Honor, as do we all.</p> <p>15</p> <p>16</p> <p>17 EXAMINATION</p> <p>18</p> <p>19</p> <p>20 BY MR. NIDEL:</p> <p>21 Q We started our discussion I think we were</p> <p>22 talking about the sinkholes, right?</p> <p>23 A Yes.</p> <p>24 Q We were talking about the bobcat and the bear?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">74</p> <p>1 THE COURT: Your other witness is here,</p> <p>2 correct.</p> <p>3 MR. LACKS: Yes.</p> <p>4 THE COURT: So, recross and hopefully that</p> <p>5 will be it. We'll get the other one on. Neither party speak</p> <p>6 to Dr. Yoxtheimer while we're in break.</p> <p>7</p> <p>8 THE COURT: Septic tank, septic, septic</p> <p>9 sponge, sponge, septic, septic tank.</p> <p>10 (Time noted, 10:28 a.m.)</p> <p>11</p> <p>12 THE COURT: Anything Mr. Nidel before we get</p> <p>13 back going here.</p> <p>14 MR. NIDEL: No, Your Honor.</p> <p>15 THE COURT: You wanted to mark your things.</p> <p>16 MR. NIDEL: I do. I may add to them. It's</p> <p>17 possible.</p> <p>18 THE COURT: We'll leave it go until later</p> <p>19 today. Come on down, Dr. Yoxtheimer. You're anticipating it.</p> <p>20 We go.</p> <p>21 MR. LACKS: Your Honor, we would ask before</p> <p>22 Dr. Elliott takes the stands shall stand you give the</p> <p>23 instruction about Dr. Brandt.</p> <p>24 THE COURT: Okay. I have it right here.</p> <p>25 THE COURT: Septic tank, septic tank septic</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">76</p> <p>1 Q And we talked about how a sinkhole represent a</p> <p>2 direct conduit, they can represent it -- they actually</p> <p>3 represent a direct conduit that may or may not be a source of</p> <p>4 contamination depending on what's applied, right?</p> <p>5 A Yeah, that can be the case.</p> <p>6 Q And I believe you used the words like it's a</p> <p>7 significant source, right?</p> <p>8 A Significant volume, I believe, is what we use.</p> <p>9 Q If it's a sinkhole source I think some of the</p> <p>10 studies you reference that you relied on reference intensive</p> <p>11 agriculture, right?</p> <p>12 A Yes.</p> <p>13 Q And so if there is a significant source, those</p> <p>14 sinkholes become a direct conduit for the contaminant to reach</p> <p>15 the groundwater?</p> <p>16 A If you have a significant volume of a</p> <p>17 particular contaminant running into a sinkhole, that can</p> <p>18 represent a conduit to the groundwater system.</p> <p>19 Q And if you have a significant source of</p> <p>20 nutrients and bacteria and they have slopes and they are</p> <p>21 applied in a significant volume then that will be a conduit for</p> <p>22 those pollutants to reach the groundwater, right?</p> <p>23 A Again, I mean, significant is kind of a</p> <p>24 relative term. But if you're in that context meaning if you're</p> <p>25 applying, you know, some sort of we'll say agricultural</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">77</p> <p>1 fertilizer on top of a field at a rate greater than the roots</p> <p>2 and the system can uptake those nutrients, then that could</p> <p>3 represent a potential contaminant pathway.</p> <p>4 Q And I just want to be clear.</p> <p>5 Significant source was your language. So if</p> <p>6 it was a significant source.</p> <p>7 A I think I said significant volume.</p> <p>8 Q If there is a significant volume of those</p> <p>9 nutrients where that material containing nutrients then that</p> <p>10 would become -- that would then be a pathway for those</p> <p>11 contaminants to get to the groundwater, right?</p> <p>12 A Through the -- by infiltration through the</p> <p>13 soils?</p> <p>14 Q Yes.</p> <p>15 A Yes.</p> <p>16 Q And through the sinkholes?</p> <p>17 A Potential, yes.</p> <p>18 Q Those sinkholes would be a direct conduit for</p> <p>19 that, right?</p> <p>20 A It kind of it depends. Again, if the bottom of</p> <p>21 the sinkhole is in direct contact with the top of the water</p> <p>22 table elevation, then I would concur that that would be a</p> <p>23 direct conduit; however, the depth the water is significantly</p> <p>24 deeper than the bottom of the sinkhole, you know, then there</p> <p>25 would still be potential for, you know, filtration of any of</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">79</p> <p>1 get a representative groundwater sample and you did that over a</p> <p>2 sufficient duration, you could begin to make some conclusions</p> <p>3 if you have enough data points.</p> <p>4 Q If you have you have a significant enough</p> <p>5 source and you have evidence of runoff into that sinkhole, you</p> <p>6 can start to draw conclusions about what the impact -- what</p> <p>7 impact what impacted the groundwater?</p> <p>8 A If you had samples that were collected properly</p> <p>9 and taken to a certified lab and you got those results back and</p> <p>10 you collected a sufficient number of samples over a sufficient</p> <p>11 duration under varying hydrological conditions then you could</p> <p>12 begin to reach some conclusions.</p> <p>13 Q Well, the USGS studies concluded that</p> <p>14 agricultural activities at the surface impacted the</p> <p>15 groundwater, right?</p> <p>16 A Yeah, on a regional basis.</p> <p>17 Q With seven wells in the Sugar Valley, right?</p> <p>18 A Yes.</p> <p>19 Q Not monitoring wells contemporaneous with</p> <p>20 disalculation, right?</p> <p>21 A Correct.</p> <p>22 Q So they had seven wells, and they concluded</p> <p>23 without a hydro geologic study without monitors and samples of</p> <p>24 the runoff at the time of the runoff, they took samples of</p> <p>25 seven wells in the Sugar Valley and they determined that the</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">78</p> <p>1 the contaminants, so just kind of depends on the geometry and</p> <p>2 that's why having a more detailed geologic understanding of the</p> <p>3 sinkholes is important to evaluate the potential vulnerability</p> <p>4 to impacting the groundwater.</p> <p>5 Q You have a general understanding of this</p> <p>6 limestone karst, and there's not just sinkholes but there's</p> <p>7 preferential pathways basically cracks and fissures that are</p> <p>8 additional direct pathways to the groundwater, right?</p> <p>9 A Yeah. If there's fractures, then they</p> <p>10 represent a significant groundwater flow pathway.</p> <p>11 Q And in this geology, as you described, there</p> <p>12 are those fractures, right?</p> <p>13 A Fractures do exist.</p> <p>14 MR. LACKS: Objection, Your Honor, I think</p> <p>15 we're going over the same grounds covered in the cross and was</p> <p>16 not reopened during the redirect.</p> <p>17 THE COURT: I think he's trying to lay a</p> <p>18 foundation. Move along, Mr. Nidel.</p> <p>19 MR. NIDEL: Absolutely I am, Your Honor.</p> <p>20 BY MR. NIDEL:</p> <p>21 Q So, if -- and if you had a significant enough</p> <p>22 source, you could reach a conclusion as to whether that pathway</p> <p>23 was affecting the groundwater, right?</p> <p>24 A If you have a sampling point in close proximity</p> <p>25 to that sinkhole and you're able to sample the groundwater and</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">80</p> <p>1 cause of that contamination that they found in the Sugar Valley</p> <p>2 was from agricultural activities at the surface, right?</p> <p>3 A Yeah. They had that in addition to</p> <p>4 Q The 1983 study that reached similar conclusions</p> <p>5 in if we look at the USGS conclusions we can see the conclusion</p> <p>6 was most of the elevated nitrate concentration were associated</p> <p>7 with E. Coli detections in the carbonate aquifer where</p> <p>8 transmissive bedrock can facilitate groundwater contamination</p> <p>9 by human activities at the land surface, right?</p> <p>10 A Yes.</p> <p>11 Q They determined it was those human activities</p> <p>12 at the land surface particularly the application of nutrients</p> <p>13 and bacteria that led to the contamination, right?</p> <p>14 A That was their conclusion.</p> <p>15 Q And they did that based on sampling those seven</p> <p>16 wells, right?</p> <p>17 A They did.</p> <p>18 Q They did not require samples at the time the</p> <p>19 farmer was out there applying or photos of over application or</p> <p>20 runoff, right?</p> <p>21 A I mean, it's a snapshot in time.</p> <p>22 Q But they drew that conclusion and you relied on</p> <p>23 it, right?</p> <p>24 A Yep.</p> <p>25 Q And the Pennsylvania study that you've referred</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">81</p> <p>1 to, right, that also made conclusions. Here are some of its</p> <p>2 conclusions. It talks about the natural quality of groundwater</p> <p>3 in the basin is generally acceptable for most uses.</p> <p>4 Right.</p> <p>5 A Yep.</p> <p>6 Q The natural quality. Remember we talked about</p> <p>7 back background. This is refer to the background. Within</p> <p>8 intensive agricultural that's what the Call of the List is.</p> <p>9 It's generally acceptable, free of bacteria below levels of</p> <p>10 nitrates?</p> <p>11 A Generally acceptable, yes.</p> <p>12 Q They concluded based on their sampling of</p> <p>13 drinking water wells that contamination of groundwater was the</p> <p>14 result of the heavy fertilization of crop lands and that's the</p> <p>15 problem, right?</p> <p>16 A Yeah. And they probably, you know, unless</p> <p>17 there is some other source of nitrates in the area, that makes</p> <p>18 that conclusion easier to reach.</p> <p>19 Q And you -- so it's possible then, depending on</p> <p>20 the significance of the source, to based on samples of the</p> <p>21 number of wells in the area -- and we're just talking about --</p> <p>22 how big is the area we're talking about here?</p> <p>23 A Sugar Valley?</p> <p>24 Q No the area of these four wells?</p> <p>25 A The four wells are clustered pretty closely</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">83</p> <p>1 Q Somewhere the well that Ms. Rockey's house? Is</p> <p>2 it in the front or the back?</p> <p>3 A I don't know. I haven't visited her property.</p> <p>4 Q You don't know if her well is in the front or</p> <p>5 the back?</p> <p>6 A I haven't visited her property.</p> <p>7 Q You don't know how close it is to F3?</p> <p>8 A Again, I believe -- that yellow line represents</p> <p>9 the buffer. That looks like it would be somewhere in the area</p> <p>10 of 300 feet.</p> <p>11 Q Is that from the house or from the well?</p> <p>12 A Again, it depends -- I'm looking at the house.</p> <p>13 Q You don't know how far the well is from the</p> <p>14 field, do you?</p> <p>15 A Not specifically, no.</p> <p>16 Q You don't know how far that is from any other</p> <p>17 intensive agriculture?</p> <p>18 A Not specifically.</p> <p>19 Q You don't know where -- where is her statistic</p> <p>20 system. I'm not sure. Invited her residence?</p> <p>21 Q Front yard or become yard?</p> <p>22 A I don't know. I haven't visited her residence.</p> <p>23 Q How deep is it?</p> <p>24 A Her septic system or her well.</p> <p>25 Q Her septic system.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">82</p> <p>1 together.</p> <p>2 Q We have four wells clustered closely together</p> <p>3 and we have one identified source of intensive agriculture,</p> <p>4 right?</p> <p>5 A Well, intensive agriculture is occurring all</p> <p>6 throughout that valley.</p> <p>7 Q You don't know where there is intensive</p> <p>8 agricultural, right? You know it's occurring but you don't</p> <p>9 know how intensive it it is, right?</p> <p>10 A There is agriculture occurring in the valley.</p> <p>11 Q You don't know how significant it is, right?</p> <p>12 A By significant, do you mean the level of</p> <p>13 nutrient application.</p> <p>14 Q Significant volume of nutrient application to</p> <p>15 use your words. You don't know what's happening on the Amish</p> <p>16 fields, you don't know what's happening on those fields, right?</p> <p>17 A No. Again, that would be part of a more</p> <p>18 detailed evaluation.</p> <p>19 Q And how close are the fields that we're talking</p> <p>20 about to the wells?</p> <p>21 A Which fields.</p> <p>22 Q F1 F2 it was F3?</p> <p>23 A It looks like within -- I don't have a scale of</p> <p>24 the map there. But it looks like 300 to upwards of 700 feet</p> <p>25 away.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">84</p> <p>1 A I don't believe it was contained in that</p> <p>2 evaluation. But it wouldn't be very deep. They're not</p> <p>3 typically very deep.</p> <p>4 Q Do you know if this field is sloped toward her</p> <p>5 well?</p> <p>6 A I'd have to look at the top graphic map.</p> <p>7 Q How far are these fields?</p> <p>8 A Which field?</p> <p>9 Q F2?</p> <p>10 A Again, similar distance, approximately 300 or</p> <p>11 so feet from the edge of the field -- yeah.</p> <p>12 Q Do you know where the wells are. Are the wells</p> <p>13 in the front of Patricia Leigey's home or the back?</p> <p>14 A I saw one picture that looked like the well was</p> <p>15 in the front of the house toward the road.</p> <p>16 Q Do you know how far from F2 it is?</p> <p>17 A Again, I haven't done any deterministic</p> <p>18 measuring.</p> <p>19 Q Do you know if this field gets nutrients</p> <p>20 applied to it, this pasture field right here?</p> <p>21 A I do not.</p> <p>22 Q Do you know if they apply manure there?</p> <p>23 A I do not.</p> <p>24 Q Do you know how far the wells are from Carolyn</p> <p>25 Leigey's, do you know if it's in the front or the back?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">85</p> <p>1 A I do not.</p> <p>2 Q Do you know where either of the septs are for</p> <p>3 the Leigey property, front or back?</p> <p>4 A Not specifically.</p> <p>5 Q Do you know how far they are from the well?</p> <p>6 A It's contained in the sewer septic system</p> <p>7 evaluation.</p> <p>8 Q You don't know how far from the other intensive</p> <p>9 agriculture these wells are?</p> <p>10 A Not specifically, no, again that would be part</p> <p>11 of a more detailed hydro geologic investigation.</p> <p>12 Q You don't know how intensive the agricultural</p> <p>13 or the spreading of nutrients and bacteria was on these fields</p> <p>14 because you didn't review those records, right?</p> <p>15 A I did not, no.</p> <p>16 Q So in this area, the only source that you know</p> <p>17 of -- the only source you have access to records of for</p> <p>18 nutrient application and bacterial application are the records</p> <p>19 that are available for those fields, the Nicholas Meat fields,</p> <p>20 right?</p> <p>21 A Yeah, I think that's fair to say.</p> <p>22 Q But you didn't review those, right?</p> <p>23 A Again, I think it was determined that wasn't</p> <p>24 really part of my review.</p> <p>25 Q You didn't review records of -- do you know if</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">87</p> <p>1 A I would imagine that would be part of their</p> <p>2 nutrient management plan.</p> <p>3 Q You don't know, right?</p> <p>4 A I haven't reviewed it in enough detail to know</p> <p>5 those numbers or anything to that affect.</p> <p>6 Q You don't know if they applied nutrients and</p> <p>7 bacteria at rates above that hydraulic loading, right?</p> <p>8 A I do not specifically, no.</p> <p>9 Q You don't know if there is direct evidence of</p> <p>10 runoff from those fields, right?</p> <p>11 A That is correct.</p> <p>12 Q You don't know if there is indirect evidence of</p> <p>13 runoff from those fields?</p> <p>14 A That's correct.</p> <p>15 Q You talked about the fact that Dr. Grobbel,</p> <p>16 when I asked you questions -- you talked about the fact that</p> <p>17 Dr. Grobbel, your opinion was, he didn't identify any of these</p> <p>18 mechanisms or pathways, right?</p> <p>19 A Correct.</p> <p>20 Q And it was your testimony that you didn't</p> <p>21 believe he even identified sinkholes, right?</p> <p>22 A I don't remember him.</p> <p>23 A I don't recall him specifically identifying or</p> <p>24 characterizing sinkholes. He might have mentioned that they</p> <p>25 are in the area, but.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">86</p> <p>1 they apply during the rain?</p> <p>2 A I do not.</p> <p>3 Q Do you know about something called hydraulic</p> <p>4 loading?</p> <p>5 A Somewhat familiar with the term.</p> <p>6 Q Hydraulic loading is the ability of the soil to</p> <p>7 absorb what's -- liquids that are applied to the surface?</p> <p>8 A Right.</p> <p>9 Q If liquids are applied to the surface in above</p> <p>10 the hydraulic loading of the soils -- if you have a field that</p> <p>11 has some slope and you apply liquids above the hydraulic</p> <p>12 loading, you're going to get runoff?</p> <p>13 A Right.</p> <p>14 Q Do you know if they ever calculated a hydraulic</p> <p>15 loading for fields?</p> <p>16 MR. LACKS: Objection. This is a continuation</p> <p>17 of what was asked on cross and was not within the scope of the</p> <p>18 limited redirect.</p> <p>19 THE COURT: Stop.</p> <p>20 Overruled. Answer the question.</p> <p>21 A Could you repeat the question?</p> <p>22 MR. NIDEL: Sure.</p> <p>23 MR. NIDEL:</p> <p>24 Q Do you know if they ever calculated a hydraulic</p> <p>25 loading for these soils?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">88</p> <p>1 Q But he didn't identify them associated with the</p> <p>2 Nicholas Meats application?</p> <p>3 A He may have identified the sinkhole on field</p> <p>4 F3, but again I can't recall specifically.</p> <p>5 Q Let's be clear because I asked you if he</p> <p>6 identified these pathways and you said that he hadn't. Right?</p> <p>7 A I did say that.</p> <p>8 Q In fact it's not just you saying it to me</p> <p>9 today, it's what you wrote a year and a half ago in your report</p> <p>10 that the Plaintiff have failed to identify niece pathways,</p> <p>11 right?</p> <p>12 A I don't recall Dr. Grobbel's report actually</p> <p>13 specifically saying like he has characterized that the nutrient</p> <p>14 application on the fields has Definitely entered the sinkhole</p> <p>15 and definitely impacted the wells. That would be my definition</p> <p>16 of a transport mechanismism.</p> <p>17 Q Sir, we can go back to your quote on page 9.</p> <p>18 It says plaintiffs have not identified the mechanisms or</p> <p>19 pathways, right?</p> <p>20 A Yes.</p> <p>21 Q But we've gotten to a point of agreement.</p> <p>22 Mechanism or a pathway is not one that is currently got traffic</p> <p>23 on it. It's just that there is a pathway, right?</p> <p>24 A Right. Potential pathway and and it's only</p> <p>25 potential until it becomes a pathway.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">89</p> <p>1 Q Dr. Grobbel's report, which I'll read:</p> <p>2 According to USGS Nicholas Meats' disposal sites are underlain</p> <p>3 by or in very close proximity to karst and sinkhole areas.</p> <p>4 Indeed Nicholas Meats consultant TeamAg identified a sinkhole</p> <p>5 to the south west of field F1 and northwest of field F2 and</p> <p>6 another sinkhole on the western edge of field F3.</p> <p>7 Additionally, TeamAg identified a subsurface drain by accepting</p> <p>8 field F1 from north to south and appearing to lead directly</p> <p>9 into the sinkhole area. Right?</p> <p>10 MR. LACKS: Objection. Again going over</p> <p>11 grounds asked on cross and following up on it with Dr.</p> <p>12 Grobbel's report. He could have done that during the cross.</p> <p>13 THE COURT: Overruled. You can answer. But</p> <p>14 Mr. Nidel you need to wrap this up.</p> <p>15 MR. NIDEL: I'm working on that, Your Honor.</p> <p>16 THE COURT: You should answer the question,</p> <p>17 Dr. Yoxtheimer.</p> <p>18 A So, just to recap your question, you're saying</p> <p>19 the sinkholes identified by TeamAg nutrient management plan,</p> <p>20 Dr. Grobbel identified those as sinkholes.</p> <p>21 Q He identified those as direct pathways just</p> <p>22 like you identify sinkholes as direct pathways?</p> <p>23 A They would be potential direct pathways but,</p> <p>24 again, you can't verify whether they are an actual pathway or</p> <p>25 not towards anybody's drinking water well unless you have more</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">91</p> <p>1 polite limestone?</p> <p>2 A Yes.</p> <p>3 Q You say that statement in here a sinkhole</p> <p>4 represents a direct conduit to the aquifer which in turn could</p> <p>5 have direct adverse impacts on regional drinking water quality</p> <p>6 as significant volumes of surface water are channeled into a</p> <p>7 sinkhole?</p> <p>8 A But this is a study that is from over 10 years</p> <p>9 ago that's not related to this particular area. So I don't</p> <p>10 understand why you're bringing up something that was for a</p> <p>11 completely different area for a completely different client for</p> <p>12 a completely different project.</p> <p>13 Q You wrote a three page report. That's your</p> <p>14 signature, right?</p> <p>15 A Yes, sir.</p> <p>16 MR. LACKS: Could I have a copy.</p> <p>17 MR. NIDEL:</p> <p>18 Q Three page report. You said it's not directly</p> <p>19 related but it's this very same geology that you've talked</p> <p>20 about having unique features that it shares that this Sugar</p> <p>21 Valley shares with Nittany Valley?</p> <p>22 A They have similar geology, yes. They are not</p> <p>23 the exact same geology. This is a different formation in this</p> <p>24 the unrelated study that you're bringing up. It's a different</p> <p>25 scenario. So it's not an apples to apples comparison that</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">90</p> <p>1 detailed geologic and hydro geologic information to verify</p> <p>2 that. Just because there's a sinkhole and there's a well</p> <p>3 doesn't mean one is affecting the other.</p> <p>4 Q Doctor, you wrote a report in 2014 where you</p> <p>5 made this statement. And I asked you if you agreed with it.</p> <p>6 A sinkhole represents a direct conduit into</p> <p>7 the aquifer which in turn could have direct adverse impacts on</p> <p>8 regional drinking water quantity if significant volumes of</p> <p>9 surface runoff are channeled into a sinkhole.</p> <p>10 A I didn't write a study 2014.</p> <p>11 Q You wrote a report in 2014?</p> <p>12 A No, I did not.</p> <p>13 Q Okay. Sir, is this your AquaLith Technologies?</p> <p>14 A Yes.</p> <p>15 Q Okay. Is that a report that you wrote on</p> <p>16 October 31, 2014 for AquaLith Technologies?</p> <p>17 A Yes, but this is a different site. This isn't</p> <p>18 this particular site. So I didn't write a study in 2014 for</p> <p>19 this particular project that we're talking about right now.</p> <p>20 Q But you did for the Nittany Valley, right?</p> <p>21 A You didn't specify that. You said 2014. I</p> <p>22 published lots of studies back across my career. You have to</p> <p>23 be more specific than that so I know what you're talking about.</p> <p>24 Q I was yesterday when I asked you about this</p> <p>25 study. It's in the Nittany Valley, the same karst dolomite</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">92</p> <p>1 you're bringing up.</p> <p>2 Q There is a method to my madness. And I asked</p> <p>3 you if in fact the Nittany Valley had the same geology as we</p> <p>4 have in the Sugar Valley?</p> <p>5 A It has similar geology but there are different</p> <p>6 formations exposed in Nittany Valley than in Sugar Valley so</p> <p>7 it's not the same because different formations have different</p> <p>8 susceptibilities to karst formation. So you can draw some</p> <p>9 general comparisons but they're not a direct comparison.</p> <p>10 Q They both have sinkholes that have conduits?</p> <p>11 A They can, yes.</p> <p>12 Q And you were asked about the list of things</p> <p>13 that you did not do. And you were asked if Dr. Grobbel or the</p> <p>14 plaintiffs did, but the plaintiffs sampled their own wells,</p> <p>15 right?</p> <p>16 A Generally that wouldn't be admissible because</p> <p>17 that's a biased sample. You need to have an independent party</p> <p>18 who is knowledgeable with the collection of samples collect</p> <p>19 samples. So that would call and question quality the samples</p> <p>20 themselves. Again we went through a whole diatribe on how</p> <p>21 samples collected. Where were collected from. Did the people</p> <p>22 who collected the samples where gloves. We went through a</p> <p>23 whole litany of potential issues with that.</p> <p>24 THE COURT: Stop.</p> <p>25 The jury is to disregard Dr. Yoxtheimer's</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">93</p> <p>1 comment that they are not admissible. The Judge, the law</p> <p>2 determines whether they are admissible, not Dr. Yoxtheimer.</p> <p>3 THE WITNESS: Understood.</p> <p>4 THE COURT: Please do not say those things</p> <p>5 again, Dr. Yoxtheimer.</p> <p>6 THE WITNESS: I will not.</p> <p>7 THE COURT: Go ahead, Mr. Nidel.</p> <p>8 BY MR. NIDEL:</p> <p>9 Q Dr. Yoxtheimer, that wasn't my question at all.</p> <p>10 My question was simply, did plaintiffs sample their wells?</p> <p>11 A They had their as well as sampled. It's the</p> <p>12 first I heard them sampled them themselves.</p> <p>13 Q The plaintiffs had their wells sampled, right?</p> <p>14 A Yes.</p> <p>15 Q And they had their septic inspected, righted?</p> <p>16 A They did.</p> <p>17 Q They identified a tracer, you believe it's not</p> <p>18 unique but identified cow DNA as a tracer to link to FPR,</p> <p>19 right?</p> <p>20 A I wouldn't necessarily agree that's a unique</p> <p>21 tracer in.</p> <p>22 Q I understand you don't agree it's a unique</p> <p>23 tracer. But it is a tracer. It's called source trackings,</p> <p>24 right. The DNA DNA testing by these labs it's called microbial</p> <p>25 source tracking. It's for tracking the source of microbial or</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">95</p> <p>1 MR. LACKS: Objection form. Misstates the</p> <p>2 testimony.</p> <p>3 THE COURT: Overruled. Answer the question,</p> <p>4 Dr. Yoxtheimer.</p> <p>5 A You know he may have referred to the sinkholes</p> <p>6 that were in the nutrient management plan. But I don't know</p> <p>7 that went out -- I don't know how he would have specifically</p> <p>8 gone out and identified specific sinkholes if he had never</p> <p>9 visited the site until last week.</p> <p>10 Q Do you dispute the nutrient management plan in</p> <p>11 TeamAg's maps?</p> <p>12 A No, I'm not.</p> <p>13 Q So he reviewed that information and you don't</p> <p>14 know to what degree he assessed the other local loading of</p> <p>15 nutrients?</p> <p>16 A No, I don't.</p> <p>17 Q And you don't know -- so, you don't know. You</p> <p>18 don't know to what degree he reviewed well construction data?</p> <p>19 A I don't remember seeing any specific well</p> <p>20 construction data beyond I believe the construction of the</p> <p>21 original well on the Leigey property.</p> <p>22 Q Did Dr. Grobbel review the available bacterial</p> <p>23 aqua data from the wells you did not review?</p> <p>24 A Again, I don't recall specifically if there was</p> <p>25 bacteriological data. I don't recall it. I didn't include it</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">94</p> <p>1 bacterial contamination, right?</p> <p>2 A And by source you're talking about what species</p> <p>3 it came from but not specifically where it came from.</p> <p>4 Q We'll leave that to the jury to decide.</p> <p>5 The Plaintiffs sampled theirs septic, the</p> <p>6 plaintiffs identified a tracer, right.</p> <p>7 A A tracer.</p> <p>8 Q They assessed -- Dr. Grobbel assessed the</p> <p>9 nutrient loading of the FPR, right?</p> <p>10 A I guess you did but that's not my forte to know</p> <p>11 whether he did a good or bad job of that.</p> <p>12 Q Sir, you were asked whether he did -- whether</p> <p>13 plaintiffs did these things. And you quickly said, no, they</p> <p>14 didn't do these things but you agree he did this, right?</p> <p>15 A He did look at that, yes.</p> <p>16 Q And do you know what he did to assess other</p> <p>17 farm fields in the area?</p> <p>18 A I do not, no.</p> <p>19 Q Do you know if he assessed in his assessment of</p> <p>20 the FPR loading if he determined that that was a significant</p> <p>21 source or a significant volume or intensive?</p> <p>22 A I don't know what qualifier or descriptor he</p> <p>23 used.</p> <p>24 Q Do you know what -- you didn't know he</p> <p>25 identified sinkholes, right? You had forgotten that.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">96</p> <p>1 in my report.</p> <p>2 Q You didn't review the fecal coliform and E.</p> <p>3 Coli testing that was done in any of the Plaintiffs' wells,</p> <p>4 right?</p> <p>5 A I don't recall reviewing that. I didn't</p> <p>6 address it in my report.</p> <p>7 Q You talked about -- you were asked on your</p> <p>8 examination by counsel about the absorption area and you said</p> <p>9 the function or the purpose of that absorption area was to</p> <p>10 drain bacteria, right?</p> <p>11 A I said it was to have the effluent discharged</p> <p>12 into the soils.</p> <p>13 Q Well, the function of that drain field --</p> <p>14 probably a lot of people -- I've got a septic system. The</p> <p>15 function, the purpose is for those bacteria to decay and go</p> <p>16 away in that area, right? The function, is to allow the water</p> <p>17 to be purified so that you do not have contamination of the</p> <p>18 environment or the groundwater, right?</p> <p>19 A Yeah. You're relying on the natural</p> <p>20 degradation in the soils.</p> <p>21 Q Just like you talked about how if you had a</p> <p>22 small source at the surface when it goes down through the soil</p> <p>23 your expectation that would disappear, those bacteria will go</p> <p>24 to nothing. Nondetect?</p> <p>25 A Generally.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">97</p> <p>1 Q The hope of a well functioning septic system</p> <p>2 and a well functioning absorption area is that that bacteria by</p> <p>3 the time it reaches the end of that absorption area there is no</p> <p>4 more bacteria alive to cause a problem for anyone's well,</p> <p>5 right?</p> <p>6 A It discharges out of the perforated pipes in</p> <p>7 the absorption area and then drains vertically down through the</p> <p>8 soil profile and it's the vertical drainage and filtration down</p> <p>9 through the soil profile that allows the natural breakdown to</p> <p>10 occur.</p> <p>11 Q Which you refer to as a filter for that</p> <p>12 bacteria, right?</p> <p>13 A It can be.</p> <p>14 Q So absorption area is for filtration of the</p> <p>15 bacteria to reduce it down to zero, right?</p> <p>16 A Well, the absorption -- the pipes discharge it</p> <p>17 into the subsurface and then that volume -- not an area below</p> <p>18 the absorption field you're relying on those soils to naturally</p> <p>19 break down any of the contaminants in the wastewater effluent.</p> <p>20 Q So to be clear what you said, the purpose of</p> <p>21 that area when you were asked by counsel, the purpose is not</p> <p>22 for bacteria to go out into the environment. The purpose of</p> <p>23 having that absorption area is to remove that bacteria, right?</p> <p>24 A It is, yeah.</p> <p>25 Q And you talked about there being no direct</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">99</p> <p>1 Q Let's be clear. You saw a video of a blue</p> <p>2 piece of equipment that had nozzles and it sprayed it down and</p> <p>3 there was some aeration on the front of that and it surface</p> <p>4 applied. You saw that video?</p> <p>5 A I didn't see a video. I saw that in person</p> <p>6 because I made a site visit.</p> <p>7 Q You saw that equipment?</p> <p>8 A Yes.</p> <p>9 Q Do you know if that was what was used in 2020,</p> <p>10 2021, 2022 on not these fields?</p> <p>11 A No.</p> <p>12 Q Do you know if it was sprayed on the field with</p> <p>13 broadcast spraying?</p> <p>14 A I don't.</p> <p>15 Q And you don't know anything about the volume,</p> <p>16 right?</p> <p>17 A Not specifically, no.</p> <p>18 Q You don't know anything about the infiltration</p> <p>19 rates and whether they applied at rates greater than those</p> <p>20 infiltration rates?</p> <p>21 A Correct. That's out of the scope of my initial</p> <p>22 evaluation here.</p> <p>23 Q You reviewed testimony from some of the</p> <p>24 witnesses that testified in this case, in this trial prior to</p> <p>25 your appearance, correct?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">98</p> <p>1 evidence of runoff into the field. That was one of your</p> <p>2 conclusions that you talked about with Mr. Lacks, right?</p> <p>3 A Yes.</p> <p>4 Q But you haven't reviewed photos of the</p> <p>5 applications on these fields?</p> <p>6 A I have not.</p> <p>7 Q You have not reviewed photographs of ponding on</p> <p>8 these fields, have you?</p> <p>9 A Not to my knowledge, no.</p> <p>10 Q Do you know how the materials apply to these</p> <p>11 fields?</p> <p>12 A It's basically -- there's different types of</p> <p>13 application from my understanding.</p> <p>14 Q Do you know how it's --</p> <p>15 A A drag line is one method.</p> <p>16 Q How is that drag line applied?</p> <p>17 A Basically just kind of sprays it down on the</p> <p>18 field.</p> <p>19 Q Sprays it directly down on to the field?</p> <p>20 A That's my general understanding but that's not</p> <p>21 my specialty.</p> <p>22 Q Do you know how it's applied to these fields?</p> <p>23 A I saw a -- basically a large -- I don't</p> <p>24 remember the exact term. But somewhat like an aerator where it</p> <p>25 injects the FPR into these soils.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">100</p> <p>1 A Correct.</p> <p>2 Q Did you review the testimony of TeamAg?</p> <p>3 A Not specifically, no.</p> <p>4 Q You didn't review the testimony of TeamAg when</p> <p>5 they talked about the subsurface drainage that directed the</p> <p>6 runoff and the seepage and the flow, the nutrients and bacteria</p> <p>7 that were applied to F1 that it directed them over toward field</p> <p>8 P 1 where the sinkhole is?</p> <p>9 A No.</p> <p>10 Q You didn't review that, right?</p> <p>11 A I'm not sure that that was available to me.</p> <p>12 Q That would be some evidence of a potential for</p> <p>13 direct runoff into sinkholes, right?</p> <p>14 A It could be.</p> <p>15 Q Did you review testimony about the way these</p> <p>16 fields T. F3, sloped towards that sinkhole that you yourself</p> <p>17 have identified?</p> <p>18 A I don't remember that specifically testimony.</p> <p>19 But I'm not disputing that the field don't slope toward the</p> <p>20 sinkhole.</p> <p>21 Q But you don't know if the application, how</p> <p>22 based on how the application was done, the timing of the</p> <p>23 application, the season of the application, the volume of the</p> <p>24 application, whether it resulted in runoff into that sinkhole,</p> <p>25 right?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">101</p> <p>1           A       At this point in my evaluation I have not</p> <p>2 reviewed that, but again, that would be the kind of evaluation</p> <p>3 that would be part of a more detailed hydro geologic I had to</p> <p>4 look at, you know, determine what the potential contaminant</p> <p>5 sources are and their transport mechanisms.</p> <p>6           Q       Sir, you had this information available. You</p> <p>7 could have looked at the infiltration rates if they had them.</p> <p>8 You could have looked at their volume applied, you could have</p> <p>9 actually figured out how they applied rather than taking a look</p> <p>10 at one piece of equipment out of a various piece of equipment</p> <p>11 that's used, right?</p> <p>12          A       I suppose I could have, but again that wasn't</p> <p>13 really designed to be part of my purview.</p> <p>14          Q       You don't know when FPR application started,</p> <p>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</p> <p>18 was 4.18 and you identified for everyone that that's greater</p> <p>19 than 3.08, right?</p> <p>20          A       Correct.</p> <p>21          Q       And we talked -- you and I talked about how</p> <p>22 these nutrients will -- you said they are fairly persistent,</p> <p>23 right?</p> <p>24          A       Nitrate does not necessarily break down</p> <p>25 naturally in the environment.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">103</p> <p>1           Q       Did you review Mr. Nicholas's testimony in this</p> <p>2 case?</p> <p>3           A       I do not believe I did.</p> <p>4           Q       You learned about 500 million years ago -- part</p> <p>5 of what you told the jury. You could give a whole course on it</p> <p>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</p> <p>8 have.</p> <p>9           Q       It's highly relevant to what this 4.18</p> <p>10 milligrams per liter of the nutrients means in this well,</p> <p>11 right?</p> <p>12          A       Yeah. Again, I relied on you know historical</p> <p>13 reports and in the associated data to understand something</p> <p>14 about what the regional nitrate concentrations were in</p> <p>15 carbonate aquifers first in 1983.</p> <p>16          Q       What you note from this study, you were asked</p> <p>17 by Mr. Lacks, did they conclude, what specifically contaminated</p> <p>18 the Leigey well, right?</p> <p>19          A       Correct.</p> <p>20          Q       They didn't conclude what contaminated the</p> <p>21 Leigey well but what they did conclude what we can show from</p> <p>22 the USGS that it was agricultural activities, application at</p> <p>23 the surface that was causing contamination in the region that</p> <p>24 included the 4.18 Leigey well?</p> <p>25                   MR. LACKS: Objection. Misstated the source</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">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</p> <p>4 with red. If you have an application of nitrates and you</p> <p>5 contaminate the groundwater with those nitrates, over time if</p> <p>6 you stop the application, if you cut that off over time, that</p> <p>7 will decrease, right?</p> <p>8           A       Yeah. Correct.</p> <p>9           Q       If you continue to apply, it will -- assuming</p> <p>10 similar rates, pathways, it will maintain. And if you start to</p> <p>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</p> <p>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</p> <p>17 local -- if there was intensive agriculture on not just in the</p> <p>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</p> <p>23 hydro geologies at that young age. Unless there's records</p> <p>24 available that would support that, then I can't say that I'm</p> <p>25 aware of the application rates back in 1983.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">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</p> <p>6 pulled out and identified in the Leigey well. But it was due</p> <p>7 -- the conclusion was that would be due to intensive</p> <p>8 agriculture at the surface there, right?</p> <p>9           A       The statement in the context is you know, you</p> <p>10 know, regional basis that agricultural activities are causing</p> <p>11 nitrates. Again you just noted it doesn't specifically call</p> <p>12 out the Leigey well.</p> <p>13          Q       But the most likely source of contamination of</p> <p>14 these wells and these wells would be the sinkholes that are</p> <p>15 approximate to those wells, right?</p> <p>16          A       I mean, they are potential contaminant</p> <p>17 pathways.</p> <p>18          Q       They are the most likely -- well, this sinkhole</p> <p>19 over here is not more likely than this one right here, right?</p> <p>20          A       Again, without having more detailed hydro</p> <p>21 geologic data you can't really reach those kinds of</p> <p>22 conclusions.</p> <p>23          Q       You can't reach a conclusion that one that is</p> <p>24 closer by say a quarter mile or a half a mile would be more</p> <p>25 likely than one that's a quarter mile or a half mile away?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">105</p> <p>1           A       Yeah, it's a complicated plumbing system. You</p> <p>2 have very discrete groundwater flow, three discrete fractures.</p> <p>3 One fracture may bypass a particular well or property and you,</p> <p>4 you know, it could convey contaminants from a quarter mile</p> <p>5 away, you know, around a particular property whereas something</p> <p>6 even further away, the fractures that that particular sinkhole</p> <p>7 is in hydraulic communication -- could be directly more</p> <p>8 communicating with a particular well. So, again, it's a very</p> <p>9 complex plumbing system and so I would greatly hesitate to</p> <p>10 provide any conclusion as to which fractures are causing or</p> <p>11 dominating the groundwater flow system versus another that are</p> <p>12 attached to one sinkhole versus another.</p> <p>13           Q       I understand anything is possible. Can you</p> <p>14 agree with me as far as your testimony to this jury that</p> <p>15 sinkholes that are closer would be the more likely source than</p> <p>16 sinkholes that are farther away?</p> <p>17                   MR. LACKS: Objection. He just answered the</p> <p>18 question.</p> <p>19                   THE COURT: You can answer it again. Shortly.</p> <p>20           A       Depends on. The nature of the sinkhole, how</p> <p>21 deep it is. If you have a sinkhole that is not in direct</p> <p>22 communication with the aquifer, but it's closer, versus a</p> <p>23 sinkhole that's farther away and in more direct communication</p> <p>24 with the aquifer, then you can't say that the closer sinkhole</p> <p>25 is more likely to contaminant the well than the one that's</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">107</p> <p>1 to represent that capture zone, especially until a karst</p> <p>2 setting.</p> <p>3           Q       This could be different shapes depending on the</p> <p>4 geology, but the concept is the same that you are -- because</p> <p>5 you are sucking from that well, you have a capture zone and</p> <p>6 that extends radially from that well depending on the geology.</p> <p>7 Is that fair?</p> <p>8           A       Yeah. A well is going to have -- it may have</p> <p>9 one major water bearing zone where the water enters the well.</p> <p>10 It might have multiple water bearing zones or fractures where</p> <p>11 the water enters the well. You have to understand which</p> <p>12 fractures are primarily feeding the groundwater into the well</p> <p>13 to really make some conclusion as to that. But there is some</p> <p>14 area around the well from which groundwater is feeding into it.</p> <p>15 It's just vertically difficult to resolve without, you know,</p> <p>16 doing some sort of bore hole geophysics or sending a camera</p> <p>17 down the well or doing again more detailed testing to</p> <p>18 understand what the primary water bearing zone is in a well.</p> <p>19           Q       These wells are depending on their pumping</p> <p>20 rates or someone is thinking of that, if they are refilling,</p> <p>21 their bathtub, it will capture beyond just the point just below</p> <p>22 the well. You're not sure what that capture zone is for any of</p> <p>23 these wells, right?</p> <p>24           A       I don't think anybody is because nobody has</p> <p>25 done the necessary testing to understand that.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">106</p> <p>1 farther away because the one that's farther away could be in</p> <p>2 more direct communication with the aquifer and therefore the</p> <p>3 wells.</p> <p>4 BY MR. NIDEL:</p> <p>5           Q       Just to be clear -- well, you would agree that</p> <p>6 the more likely sources -- something that would affect the</p> <p>7 likelihood would be the proximity, right?</p> <p>8           A       That would be a factor.</p> <p>9           Q       The proximity of sinkholes, right?</p> <p>10           A       Proximity of sinkholes to wells would be a</p> <p>11 factor to consider but not the only one.</p> <p>12           Q       And the proximity of the source, right?</p> <p>13           A       To the sinkholes?</p> <p>14           Q       Right.</p> <p>15           A       Yes.</p> <p>16           Q       And the intensity or significance of the</p> <p>17 source, right?</p> <p>18           A       Yeah.</p> <p>19           Q       And we talked about the capture zone. And this</p> <p>20 is sort of going down into the earth. But if we visualize the</p> <p>21 capture zone and you have a well, the location of the well, the</p> <p>22 capture zone looking down from above is showing you that water</p> <p>23 goes into a well not just from the tip of the well but it</p> <p>24 captures water from the region around the well, right?</p> <p>25           A       Yes, but I wouldn't necessarily draw a circle</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">108</p> <p>1           Q       You're a scientist retained by one of the</p> <p>2 largest slaughterhouse corporations in the country, I believe.</p> <p>3 Is that right?</p> <p>4                   MR. LACKS: Objection. Foundation.</p> <p>5                   THE COURT: Sustained.</p> <p>6                   MR. NIDEL:</p> <p>7           Q       Do you know if Nicholas Meats is one of the</p> <p>8 largest slaughterhouses in the country?</p> <p>9           A       I don't know how they stack up in the industry.</p> <p>10           Q       You were retained by one of the largest</p> <p>11 slaughterhouses in the State of Pennsylvania, right?</p> <p>12           A       Presumably.</p> <p>13           Q       And they apply millions of gallons -- they</p> <p>14 generate -- do you know how many millions of gallons of FPR</p> <p>15 they generate every year?</p> <p>16           A       I do not.</p> <p>17           Q       It's around 53 million gallons last time I saw</p> <p>18 a report. Do you understand that?</p> <p>19           A       Yep.</p> <p>20           Q       Dr. Grobbel was hired by three individuals,</p> <p>21 right?</p> <p>22                   MR. LACKS: Objection. What's the relevance?</p> <p>23                   THE COURT: Sustained. Go ahead, next</p> <p>24 question.</p> <p>25                   MR. NIDEL:</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">109</p> <p>1 Q Do you know who hired Dr. Grobbel?</p> <p>2 A I don't know the nature of their hiring of Dr.</p> <p>3 Grobbel, specifically.</p> <p>4 Q You never looked into the sinkhole when you did</p> <p>5 your visits, right?</p> <p>6 A Not into the sinkhole, no.</p> <p>7 Q You didn't -- not only did you not look into</p> <p>8 the sinkhole down here, you didn't even know about this</p> <p>9 sinkhole up here, right?</p> <p>10 A Not at the time of my site visit, no.</p> <p>11 Q Up until today, you didn't know about it,</p> <p>12 right?</p> <p>13 A No, not specifically.</p> <p>14 Q You didn't know about a sinkhole over here,</p> <p>15 right?</p> <p>16 A Again, I didn't do a site specific sinkhole</p> <p>17 survey.</p> <p>18 Q You didn't know about the subsurface drainage</p> <p>19 and the surface diversion for flow from F1 toward that are</p> <p>20 sinkhole, right?</p> <p>21 A I did not, no.</p> <p>22 MR. NIDEL: That's all I have.</p> <p>23 THE COURT: Mr. Lacks.</p> <p>24 MR. LACKS: Very brief, Your Honor.</p> <p>25 THE COURT: Thank you.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">111</p> <p>1 Grobbel's theory?</p> <p>2 MR. NIDEL: Objection. Leading.</p> <p>3 THE COURT: Overruled. Go ahead and answer.</p> <p>4 A Yes I do. I think that's necessary to really</p> <p>5 understand the nature of the impacts to the Plaintiffs' wells.</p> <p>6 MR. LACKS:</p> <p>7 Q Again just to recap, Mr. Nidel went over -- Dr.</p> <p>8 Grobbel had access to data from the samples of the wells?</p> <p>9 A Yes.</p> <p>10 Q Dr. Grobbel had access to data from the septic</p> <p>11 evaluations?</p> <p>12 A Yes.</p> <p>13 Q Dr. Grobbel had a tracer analysis?</p> <p>14 A Yes.</p> <p>15 Q Dr. Grobbel had nutrient balance -- nutrient</p> <p>16 bacterial loading information?</p> <p>17 A Yes.</p> <p>18 Q And did Dr. Grobbel also recommend a robust</p> <p>19 hydro geologic study to be performed to determine the source of</p> <p>20 the contamination?</p> <p>21 A Yes.</p> <p>22 MR. NIDEL: Objection. Misstates Dr.</p> <p>23 Grobbel's testimony.</p> <p>24 THE COURT: Overruled.</p> <p>25 BY MR. LACKS:</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">110</p> <p>1 Examination</p> <p>2</p> <p>3 BY MR. LACKS:</p> <p>4 Q Dr. Yoxtheimer, would you agree that Plaintiffs</p> <p>5 through their expert, Dr. Grobbel, presented a theory as to the</p> <p>6 source of the contamination of Plaintiffs' wells?</p> <p>7 A He did, yeah.</p> <p>8 MR. NIDEL: Objection. Leading.</p> <p>9 THE COURT: It's cross -- no, it's direct.</p> <p>10 I'm very confused.</p> <p>11 MR. LACKS: I'm getting confused myself.</p> <p>12 THE COURT: All right. I'll let the answer</p> <p>13 stand. Go ahead.</p> <p>14 MR. LACKS:</p> <p>15 Q Dr. Yoxtheimer were you asked to evaluate the</p> <p>16 theory presented by Dr. Grobbel?</p> <p>17 A Yes, I was.</p> <p>18 Q Were you asked to develop your own competing</p> <p>19 theory as to the source of the contamination of Plaintiffs'</p> <p>20 wells?</p> <p>21 A Not necessarily competing theory, but looked at</p> <p>22 -- I was in my view asked to look at whether his theory was</p> <p>23 sufficiently scientifically founded.</p> <p>24 Q And is it your belief that a more robust hydro</p> <p>25 geological study would be needed to test or confirm Dr.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">112</p> <p>1 Q You can answer.</p> <p>2 A Yeah, I believe he used the term detailed hydro</p> <p>3 geologic investigation.</p> <p>4 MR. LACKS: Thank you. I don't have anything</p> <p>5 further.</p> <p>6 MR. NIDEL: Your Honor, quickly.</p> <p>7 THE COURT: Very limited.</p> <p>8</p> <p>9 EXAMINATION</p> <p>10</p> <p>11 MR. NIDEL:</p> <p>12 Q Did you review Dr. Grobbel's testimony in this</p> <p>13 trial?</p> <p>14 A I believe I said I reviewed most of it but not</p> <p>15 necessarily every word on every page.</p> <p>16 Q You reviewed what the lawyers asked you to?</p> <p>17 A I reviewed -- focused on certain sections and</p> <p>18 read a little beyond that.</p> <p>19 Q Did Dr. Grobbel testify as to a theory or did</p> <p>20 he testify as to a reasonable degree of scientific certainty?</p> <p>21 A I don't recall his exact phrasing of what he</p> <p>22 concluded.</p> <p>23 Q Did he use the word theory?</p> <p>24 A Again, I don't recall, but I don't think -- I</p> <p>25 think he concluded that the, you know, plaintiffs wells were</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">113</p> <p>1 impacted by Nicholas Meats' FPR application practices.</p> <p>2 Q He concluded to a reasonable degree of</p> <p>3 scientific certainty that these wells were impacted by Nicholas</p> <p>4 Meats' land application of FPR, right?</p> <p>5 A Yes.</p> <p>6 Q He did not present that as a theory, like you</p> <p>7 have presented your own opinions today, right?</p> <p>8 A I don't know what will actual theory you're</p> <p>9 referring to that I've provided.</p> <p>10 Q Well, let's be clear?</p> <p>11 Dr. Grobbel did not testify as to a theory.</p> <p>12 He testified as to a scientific conclusion that the land</p> <p>13 application of FPR have impacted these wells, right.</p> <p>14 A That was his conclusion, yes.</p> <p>15 Q That was his scientific conclusion, right?</p> <p>16 A Again, that was his scientific conclusion.</p> <p>17 Q And you were asked about your theory, the</p> <p>18 theory that you presented, right, and you answered what your</p> <p>19 theory is, right?</p> <p>20 A I don't think I use the term theory.</p> <p>21 Q Counsel asked you about Dr. Grobbel's theory</p> <p>22 which we now have clarified was not a theory. It was his</p> <p>23 scientific opinion, right?</p> <p>24 A Scientific opinion or conclusion.</p> <p>25 Q It was his scientific conclusion, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">115</p> <p>1 THE COURT: We can get another witness on and</p> <p>2 get started.</p> <p>3 MR. LACKS: Yes.</p> <p>4 THE COURT: Dr. Yoxtheimer can be excused.</p> <p>5 MR. NIDEL: Yes, Your Honor.</p> <p>6 THE COURT: Dr. Yoxtheimer, you can go or you</p> <p>7 can stay.</p> <p>8 THE WITNESS: Thank you, Your Honor.</p> <p>9 MR. LACKS: Defendants call Herschel Elliott.</p> <p>10 THE COURT: Do you want bring him forward get</p> <p>11 him sworn.</p> <p>12</p> <p>13 ^ , called as a witness, being sworn/affirmed,</p> <p>14 testified as follows:</p> <p>15 THE COURT: Do you want swear him.</p> <p>16 Ladies and gentlemen while they're getting</p> <p>17 things set up I need to address you before Dr. Elliott</p> <p>18 testifies. Dr. Herschel A Elliott is seated here, co-authored</p> <p>19 a report for the Defendant with doctor Robin C Brandt.</p> <p>20 Dr. Brandt will not be called to testify in this matter. Not</p> <p>21 because Dr. Brandt is not available or not because he has a</p> <p>22 different opinion than what is in the report. But as you may</p> <p>23 realize, we need to move this along. And the parties have</p> <p>24 reached an agreement to manufacture forward without you</p> <p>25 hearing from Dr. Brandt.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">114</p> <p>1 A That's what he said.</p> <p>2 Q And you were asked about your theory, right?</p> <p>3 A I was asked about what I thought about his</p> <p>4 conclusion.</p> <p>5 Q You were asked about your theory, right, about</p> <p>6 his conclusion?</p> <p>7 MR. LACKS: Objection. Asked and answered.</p> <p>8 THE COURT: Sustained.. move on, Mr. Nidel.</p> <p>9 MR. NIDEL:</p> <p>10 Q You've presented your theory to the jury,</p> <p>11 right?</p> <p>12 A I presented my thoughts to the jury.</p> <p>13 Q</p> <p>14 MR. NIDEL: Thank you for your thoughts.</p> <p>15 THE COURT: Done.</p> <p>16 MR. LACKS: Yes. Nothing further.</p> <p>17 THE COURT: Can he be excused.</p> <p>18 MR. LACKS: Yes.</p> <p>19 THE COURT: Any objection.</p> <p>20 MR. NIDEL: Yes, Your Honor. We move to admit</p> <p>21 the exhibits. The witness can be excused.</p> <p>22 THE COURT: You can wait for that.</p> <p>23 MR. NIDEL: Yes. I didn't know when.</p> <p>24 THE COURT: Can you wait for that you guys.</p> <p>25 MR. LACKS: Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">116</p> <p>1 Go ahead, Mr. Lacks.</p> <p>2 MR. LACKS: Your Honor.</p> <p>3</p> <p>4 EXAMINATION</p> <p>5</p> <p>6</p> <p>7 Q Could you introduce yourself?</p> <p>8 A Herschel A Elliott.</p> <p>9 Q And how did you come to be involved in this</p> <p>10 matter?</p> <p>11 A I was engaged by your law firm.</p> <p>12 Q And what was the scope of your assignment so to</p> <p>13 speak as you understood it?</p> <p>14 A As I understood it it was to evaluate the</p> <p>15 expert report of the Plaintiffs.</p> <p>16 Q Who was the expert whose report you were</p> <p>17 evaluating?</p> <p>18 A Dr. Grobbel.</p> <p>19 Q What do you do for a living?</p> <p>20 A I am retired.</p> <p>21 Q And what did you do before you retired?</p> <p>22 A I was on the faculty at Penn State in the</p> <p>23 agricultural and biological engineering department.</p> <p>24 Q What is agricultural and biological</p> <p>25 engineering?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">117</p> <p>1           A        It's a very broad field. But my particular</p> <p>2 specialty in that field is soild and water quality.</p> <p>3                   MR. NIDEL: Your Honor, plaintiffs are will</p> <p>4 stipulate in order to save time the Plaintiffs are willing to</p> <p>5 stipulate to Dr. Elliott's qualifications.</p> <p>6                   THE COURT: What are you offering as an exfert</p> <p>7 in.</p> <p>8                   MR. LACKS: Your Honor, we offer Dr. Elliott</p> <p>9 as an expert in the use of residuals for agricultural purposes</p> <p>10 and water quality.</p> <p>11                  THE COURT: Ladies and gentlemen of the jury,</p> <p>12 you've heard the doctor being offered as an expert in the use</p> <p>13 of residuals for agricultural purposes and water quality.</p> <p>14 You're to accept him as an expert. Experts are called once</p> <p>15 again I gave you this instruction before -- to assist injuries</p> <p>16 in deciding cases such as this one involving scientific</p> <p>17 technical or other specialized knowledge. I don't understand</p> <p>18 that possess it had by a layperson. The law laws an expert</p> <p>19 with special education and experience to present opinion</p> <p>20 testimony. An expert witness gives their opinion to a</p> <p>21 reasonable degree of professional certainty based upon the</p> <p>22 assumption of certain facts. You do not have to accept an</p> <p>23 expert opinion just because they are considered an expert in</p> <p>24 their field, and evaluating an expert's testimony and/or</p> <p>25 resolve any conflicting expert witness's testimony you should</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">119</p> <p>1 any departments at Penn State?</p> <p>2           A        Yes. Form a number of years I was in charge of</p> <p>3 the environmental pollution control program which was masters</p> <p>4 program at Penn State which was a multi disciplinary program.</p> <p>5           Q        And have you had teaching positions at any</p> <p>6 other universities or institutions?</p> <p>7           A        Yes, prior to coming to Penn State I was on the</p> <p>8 faculty at the University of Delaware in the agricultural</p> <p>9 engineering department for five years.</p> <p>10          Q        Do you have any experience that you feel is</p> <p>11 particularly relevant to the manner -- to this matter?</p> <p>12          A        Yes. I retired from Penn State about four and</p> <p>13 a half years ago. But I've stayed active on their wastewater</p> <p>14 management committee. Now Penn State has a system called the</p> <p>15 living filter where they spray, irrigate they're treated</p> <p>16 effluent and they have for over 50 years and it's about 600</p> <p>17 acres they spray their effluent on to cropped areas as well as</p> <p>18 forested areas.</p> <p>19          Q        Have you conducted any -- or participated in</p> <p>20 any research studies that you feel are relevant to this matter,</p> <p>21 particularly relevant?</p> <p>22          A        Yes. In 2019 there is a publication in the</p> <p>23 C.V. where we looked at pharmaceuticals in private water wells.</p> <p>24 26 in the West Branch of the Susquehanna water basin and so we</p> <p>25 were looking at whether there were pharmaceuticals in the</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">118</p> <p>1 consider the following: The witness's knowledge, skill,</p> <p>2 experience, training, and education. And whether you find</p> <p>3 that the fact the witness relied upon in reaching their</p> <p>4 opinion are accurate and all of the believability factor I</p> <p>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</p> <p>9 background, even know you've not now been admitted around as an</p> <p>10 expert. Could you tell us about your educational history</p> <p>11 briefly?</p> <p>12          A        Yes, I have an under graduate degree in</p> <p>13 chemical engineering which I got in 1972. Then I spent two</p> <p>14 years in US army in the medical service corp and I went to</p> <p>15 graduate school and got a masters and Ph.D. from civil</p> <p>16 engineering department but in the area of environmental</p> <p>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</p> <p>21 teaching career at Penn State?</p> <p>22          A        Yes. I taught in the water and soil area for</p> <p>23 25 years. I taught a course called land based waste disposal.</p> <p>24 And I also taught water quality chemistry.</p> <p>25          Q        Did you have any leadership positions within</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">120</p> <p>1 drinking water wells</p> <p>2          Q        Generally speaking when did you and your</p> <p>3 colleagues find as part of that study?</p> <p>4          A        We found of the 26 wells tested all of them had</p> <p>5 at least one pharmaceutical. We looked for Tylenol, we looked</p> <p>6 for Naproxen, which is Aleve, we look for caffeine as well as</p> <p>7 for antibiotics.</p> <p>8          Q        And were you able to determine a source or an</p> <p>9 origin of the pharmaceuticals?</p> <p>10          A        We were -- the conclusion was that they must</p> <p>11 have come from nearby septic systems.</p> <p>12          Q        Now are you familiar with the Pennsylvania</p> <p>13 Department of Environmental Protections food processing</p> <p>14 residuals management manual?</p> <p>15          A        Yes.</p> <p>16          Q        And were you involved in the preparation of the</p> <p>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</p> <p>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</p> <p>25 things?</p> <p style="text-align: center;">ROUGH DRAFT</p>

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

<p style="text-align: center;">125</p> <p>1 is depicted on the left-hand side of the diagram?</p> <p>2 A Those are different options. And it's a</p> <p>3 hierarchy. So the top option would be a preferred option which</p> <p>4 says recycle for human use is that what it says?</p> <p>5 Q You can feel free to stand up.</p> <p>6 A Recovery for human use. If we had a food</p> <p>7 processing residual and there was something in it that we could</p> <p>8 use for humans, we would. An example might be aortic valves</p> <p>9 from pigs, if they could be transplanted into humans. That is</p> <p>10 something we wouldn't want to further down the hierarchy.</p> <p>11 Q To be clear, the hierarchy doesn't just address</p> <p>12 the type -- does the hierarchy only address the type of FPR</p> <p>13 that's generated at Nicholas Meat?</p> <p>14 A No. It's very general.</p> <p>15 Q What is the next most beneficial use after</p> <p>16 recovery for human use?</p> <p>17 A It would be recovery for animal use.</p> <p>18 Q What might that include?</p> <p>19 A Well, for example taking material that's not</p> <p>20 going to go into the final product and send it to rendering,</p> <p>21 for example.</p> <p>22 Q Okay. Any other examples that come to mind?</p> <p>23 A Well, since it's somewhat connected with the</p> <p>24 next one which is apply the material to the land because if</p> <p>25 you're growing crops that are fed to the animals that in a</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">127</p> <p>1 that's discarding the useful material which is something we</p> <p>2 want to repurpose and reuse and recycle materials as much as we</p> <p>3 can.</p> <p>4 Q Thank you.</p> <p>5 Are you familiar with Nicholas Meats'</p> <p>6 operation?</p> <p>7 A I am.</p> <p>8 Q And when did you first become aware of Nicholas</p> <p>9 Meat?</p> <p>10 A Could you repeat that yes.</p> <p>11 Q Sorry. When did you first become aware of</p> <p>12 Nicholas Meat?</p> <p>13 A 2015.</p> <p>14 Q In what context did you become aware of</p> <p>15 Nicholas Meat?</p> <p>16 A I was engaged to provide expert testimony on a</p> <p>17 previous lawsuit.</p> <p>18 Q Have you ever visited Nicholas Meat's facility</p> <p>19 in Loganton?</p> <p>20 A I have.</p> <p>21 Q How many times?</p> <p>22 A I think five times.</p> <p>23 Q And are you familiar with Nicholas Meat's</p> <p>24 operation?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">126</p> <p>1 sense would be using the material for animal use.</p> <p>2 Q And you mentioned the next one. Can you</p> <p>3 identify what the third category is on the hierarchy?</p> <p>4 A That would be recovery of the benefits of</p> <p>5 nutrients and organic matter for improving soil conditions.</p> <p>6 Q And what is -- what are the last two that are</p> <p>7 at the bottom of the hierarchy?</p> <p>8 A The last two are basically discarding the</p> <p>9 material. Either into a conventional landfill or a hazardous</p> <p>10 waste landfill. It is it was a particular material that met</p> <p>11 the requirements of a hazardous waste under Federal</p> <p>12 regulations.</p> <p>13 Q When you talk about benefit of these different</p> <p>14 uses, is it only the benefit to the processor that's being</p> <p>15 considered?</p> <p>16 A No. It's the benefit to -- for example, the</p> <p>17 humans, the animals, the soil. Those would be other benefits.</p> <p>18 Q What about to the environment?</p> <p>19 A To the environment, too, because you want to</p> <p>20 make sure you do this in an environmentally sound way.</p> <p>21 Q So why is disposal in a landfill or a hazardous</p> <p>22 waste management facility at the bottom of the hierarchy?</p> <p>23 A In a sense that's wasting the useful material.</p> <p>24 And also if you put things in a landfill there is a potential</p> <p>25 for methane generation was a greenhouse gas. Essentially</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">128</p> <p>1 Q Are you aware of it from those visits that</p> <p>2 you've made?</p> <p>3 Q We've heard from a number of people over the</p> <p>4 course of this trial what Nicholas Meats does at its facility</p> <p>5 so I'm not going to ask that.</p> <p>6 Can you describe your understanding of what is</p> <p>7 in the FPR that Nicholas Meats generates?</p> <p>8 A Yes, it's a material that is a nitrogen source.</p> <p>9 So it's basically the wastewater that generated in the</p> <p>10 processing of the meat as well as the wash water. They</p> <p>11 typically wash the facility down every night, and so there's</p> <p>12 wash water where they clean the equipment, et cetera. And</p> <p>13 that's part of the wastewater as well.</p> <p>14 Q Did you prepare a written report as part of</p> <p>15 this case?</p> <p>16 A I did.</p> <p>17 Q I'm going to hand you what's been marked as</p> <p>18 Exhibit D 28. Do you recognize Exhibit D 28.</p> <p>19 A I do.</p> <p>20 Q What do you recognize it to be?</p> <p>21 A This is our joint report with myself and Dr.</p> <p>22 Brandt.</p> <p>23 Q And in your report, did you describe the</p> <p>24 contents of the FPR as you understand it?</p> <p>25 A</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">129</p> <p>1 MR. NIDEL: Objection. Leading.</p> <p>2 THE COURT: Overruled.</p> <p>3 MR. LACKS: I just asked if he described.</p> <p>4 THE COURT: You can answer.</p> <p>5 A Would you repeat the question.</p> <p>6 BY MR. LACKS:</p> <p>7 Q Do you recall if you described the percentage</p> <p>8 of FPR that is comprised of blood as part of your report?</p> <p>9 A I did.</p> <p>10 Q And do you remember what you wrote or what you</p> <p>11 wrote about that?</p> <p>12 A Yes. I concluded from not only looking at the</p> <p>13 total wastewater generated and the amount of blood in each of</p> <p>14 the roughly 620 head per day, that they process as well as the</p> <p>15 B O D, which is the strength of the wastewater. I concluded</p> <p>16 that blood represented 2 to maybe 4 percent of the FPR.</p> <p>17 Q Now is Nicholas Meat the only beef producer in</p> <p>18 Pennsylvania that you know of that generates FPR?</p> <p>19 A No.</p> <p>20 Q Is it common?</p> <p>21 A Yes.</p> <p>22 Q And based on your knowledge, is the composition</p> <p>23 of Nicholas Meats FPR typical for other beef processing</p> <p>24 operations?</p> <p>25 MR. NIDEL: Objection. Foundation.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">131</p> <p>1 Q Are you familiar with Gene Nicholas?</p> <p>2 A Yes.</p> <p>3 Q And have you ever visited Gene Nicholas's farm</p> <p>4 fields that are subject of this case, F1 F2 F3 SN1 SN2 SN3?</p> <p>5 A I have.</p> <p>6 Q Have you personally observed the land</p> <p>7 application of FPR on fields?</p> <p>8 A I have.</p> <p>9 Q And approximately when did you do that?</p> <p>10 A I think it was June of 2024.</p> <p>11 Q And just generally speaking, what do you recall</p> <p>12 about the composition of fields in relation to the surrounding</p> <p>13 properties?</p> <p>14 A</p> <p>15 MR. NIDEL: Objection objection to form.</p> <p>16 A Could you can clarify the question.</p> <p>17 THE COURT: Overruled.</p> <p>18 MR. LACKS:</p> <p>19 Q Do you recall anything about the composition of</p> <p>20 the field in relation to the surrounding properties in terms of</p> <p>21 distance, things likes that?</p> <p>22 A I'm not sure what the question is.</p> <p>23 Q Did you see crops growing on the fields?</p> <p>24 A Yes.</p> <p>25 Q Based on your understanding of both Nicholas</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">130</p> <p>1 THE COURT: Probably lay a foundation.</p> <p>2 MR. LACKS:</p> <p>3 Q Are you familiar with the FPR content of other</p> <p>4 beef processors?</p> <p>5 A Yes.</p> <p>6 Q And based on that, is the composition of</p> <p>7 Nicholas Meat's FPR, is it your understanding that the</p> <p>8 composition of Nicholas Meats FPR is typical of other beef</p> <p>9 processing operations that you've educated yourself about?</p> <p>10 A It would be typical of those that process beef</p> <p>11 in the same way that Nicholas Meats does.</p> <p>12 Q To your knowledge, are there any large solids</p> <p>13 or cow body parts in in FPR?</p> <p>14 A No.</p> <p>15 Q To your knowledge, is there any human sanitary</p> <p>16 waste mixed in with Nicholas Meat's FPR?</p> <p>17 A No.</p> <p>18 Q I also want to ask about your knowledge of the</p> <p>19 other defendant in this case, Nicholas Farms. Are you familiar</p> <p>20 with farms?</p> <p>21 A To some minor extent.</p> <p>22 Q And what did you first become aware of Nicholas</p> <p>23 Farms?</p> <p>24 A Well they're part of the -- they own some of</p> <p>25 the fields that are used for application of the FPR.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">132</p> <p>1 Meat's operation and what you've seen at Nicholas Farms, as</p> <p>2 well as the FPR manual, do you have an opinion as to where on</p> <p>3 the hierarchy Nicholas Meats and Nicholas Farms application of</p> <p>4 FPR would situate?</p> <p>5 A Yes. It would be in the sense of combination</p> <p>6 of the third -- of the second and third option. One, their</p> <p>7 recovering as a soil condition and fertilizer but they are</p> <p>8 growing crops that are being refed -- being fed to the animals,</p> <p>9 as well.</p> <p>10 Q So would you agree with me writing Nicholas</p> <p>11 somewhere in between those two on the hierarchy?</p> <p>12 A In between or collectively both of those.</p> <p>13 Q According to this hierarchy that's set forth in</p> <p>14 the manual, is Nicholas Meat's use more or less beneficial than</p> <p>15 sending FPR to a landfill or wastewater -- or sewage treatment</p> <p>16 facility?</p> <p>17 A It's more beneficial.</p> <p>18 MR. NIDEL: Objection.</p> <p>19 THE COURT: What's the objection?</p> <p>20 MR. NIDEL: Beneficial to food.</p> <p>21 THE COURT: Rephrase.</p> <p>22 BY MR. LACKS:</p> <p>23 Q According to the hierarchy is Nicholas Meat's</p> <p>24 use of FPR more or less beneficial to processors and the</p> <p>25 environment than sending it to a landfill or a waste management</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">133</p> <p>1 facility?</p> <p>2 MR. NIDEL: Objection. Compound.</p> <p>3 THE COURT: Overruled. You can answer.</p> <p>4 MR. LACKS:</p> <p>5 A What they are doing gets more benefit from the</p> <p>6 FPR than sending it to a landfill.</p> <p>7 BY MR. LACKS:</p> <p>8 Q Does the FPR manual, to your understanding,</p> <p>9 define the term normal farming operation?</p> <p>10 A Yes.</p> <p>11 Q Do you recall what that definition is? We can</p> <p>12 bring it up if not.</p> <p>13 A It's in the report, the actual definition, I</p> <p>14 believe.</p> <p>15 MR. NIDEL: We're going to object, Your Honor.</p> <p>16 It's possible we should have a sidebar.</p> <p>17 THE COURT: Sure. Come on up. Talk among</p> <p>18 yourselves. Plan where you're going for lunch.</p> <p>19 (Discussion held at sidebar on the record.)</p> <p>20 THE COURT: What's the objection?</p> <p>21 MR. NIDEL: The objection that I was raising</p> <p>22 and now I'm distracted by another objection that's concerning</p> <p>23 me significantly. But the objection was the phrase normal</p> <p>24 agriculture operation is used in this manual. It's also a</p> <p>25 legal conclusion. Plaintiffs were prohibited from Dr. Grobbel</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">135</p> <p>1 are used interchangeable not just in the manual but in the</p> <p>2 law, and I think it is very prejudicial and confusing.</p> <p>3 THE COURT: Okay. Anything else.</p> <p>4 MR. LACKS: No, Your Honor. I would just say</p> <p>5 that the jury is not being asked to decide normal farming</p> <p>6 operation. I think Your Honor has broken those down in the</p> <p>7 verdict sheet which avoids them having to make that judgment.</p> <p>8 MR. NIDEL: I disagree, Your Honor.</p> <p>9 MR. LACKS: Avoid confusion.</p> <p>10 MR. NIDEL: The manual says if you do not</p> <p>11 comply with normal farming operations or normal agricultural</p> <p>12 operations you're required to have a permit. So there is some</p> <p>13 overlap with issues that the jury will have to decide.</p> <p>14 THE COURT: Disclosing your cross-examination</p> <p>15 way too quickly.</p> <p>16 MR. NIDEL: Sometimes I do that, Your Honor.</p> <p>17 THE COURT: You done.</p> <p>18 MR. LACKS: I'm done.</p> <p>19 THE COURT: Done.</p> <p>20 MR. NIDEL: No I'm not, Your Honor.</p> <p>21 My other concern he was handed exhibits that</p> <p>22 are highlighted. He's reviewing documents -- his report I</p> <p>23 believe has highlights.</p> <p>24 MR. LACKS: That was not intentional.</p> <p>25 MR. NIDEL: He was reviewing them with the</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">134</p> <p>1 testifying as to whether normal agriculture operation was</p> <p>2 because of the fact it could be interpreted as a legal</p> <p>3 conclusion. That phrase is used in this manual. Dr. Grobbel</p> <p>4 was prohibited from using phrase to describe whether he</p> <p>5 thought that this was normal or not. Now the defendants are</p> <p>6 back dooring the legal argument through this phrase that's</p> <p>7 used in the manual the same way Dr. Grobbel used it but was</p> <p>8 prohibited.</p> <p>9 MR. LACKS: I think the distinction is Dr.</p> <p>10 Grobbel was talking about it in the context of the Right to</p> <p>11 Farm Act and normal farming operation, whereas this is Dr.</p> <p>12 Elliott talking about a different term as used in the manual</p> <p>13 which is well within his area of expertise.</p> <p>14 THE COURT: What was the term that you were</p> <p>15 using.</p> <p>16 MR. LACKS: I believe I said normal.</p> <p>17 MR. NIDEL: Agricultural operation.</p> <p>18 THE COURT: I thought he said normal farming.</p> <p>19 MR. LACKS: I did say normal farming</p> <p>20 operation, I apologize, which is defined in the manual.</p> <p>21 THE COURT: What else.</p> <p>22 MR. NIDEL: We were trying to read that. They</p> <p>23 objected to that same phrase being used and I do think as we</p> <p>24 are all confused it is significantly confusing to the jury as</p> <p>25 to whether normal farming, normal agriculture, those phrased</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">136</p> <p>1 highlight looking at the highlights. That is totally</p> <p>2 inappropriate.</p> <p>3 THE COURT: Do you want give him a different</p> <p>4 copy.</p> <p>5 MR. LACKS: I will certainly do that. I</p> <p>6 apologize.</p> <p>7 THE COURT: Go way.</p> <p>8 MR. NIDEL: Can I see the exhibit that he was</p> <p>9 reviewing.</p> <p>10 THE COURT: Do you have an objection.</p> <p>11 MR. LACKS: No.</p> <p>12 THE COURT: Go ahead. I'm going to talk to</p> <p>13 the jury.</p> <p>14 We will talk about that at lunch.</p> <p>15 Wait for her.</p> <p>16 Ladies and gentlemen, I have some</p> <p>17 clarification here. We talked about the Right to Farm Act.</p> <p>18 And in the Right to Farm Act -- gentlemen -- there is a term</p> <p>19 normal agricultural operation. You're going to hear this</p> <p>20 expert witness talk about normal farming operation has nothing</p> <p>21 to do with the Right to Farm Act at this point. So don't get</p> <p>22 those confused. Okay. Go ahead, Mr. Lacks.</p> <p>23 MR. LACKS: I'm concerned being accused of</p> <p>24 something I did not do and continue sidebar.</p> <p>25 MR. NIDEL: We're reviewing of what was handed</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">137</p> <p>1 to the witness.</p> <p>2 THE COURT: Can you question him while they</p> <p>3 review and we can go at noon.</p> <p>4 MR. LACKS: That's fine</p> <p>5 Here is the replacement.</p> <p>6 THE COURT: We don't need comments, just look</p> <p>7 at it and you can give it to him.</p> <p>8 MR. NIDEL: A clean copy.</p> <p>9 It's still annotated.</p> <p>10 MR. LACKS: That's part of the original</p> <p>11 report. You can look at your copy.</p> <p>12 THE COURT: All right. Mr. Lacks, go ahead.</p> <p>13 MR. LACKS: I believe.</p> <p>14 MR. LACKS:</p> <p>15 Q I believe I had asked you if the FPR manual</p> <p>16 defines the term normal farming operation.</p> <p>17 A From the expert report, page 10, it says this</p> <p>18 term, that is, normal farming operations, refers to accepted</p> <p>19 practices that routinely used in the nurturing and production</p> <p>20 of agronomic, agricultural, horticultural, livestock, poultry</p> <p>21 or silvo culture commodities.</p> <p>22 Q Based on your understanding of Nicholas Meat's</p> <p>23 operation, your understanding of the FPR manual, do you have an</p> <p>24 opinion on whether Nicholas Meats generation of FPR and the</p> <p>25 application of FPR at the Nicholas Farm fields is a normal</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">139</p> <p>1 Q And does the FPR manual talk about the concept</p> <p>2 of best management practices?</p> <p>3 A Yes.</p> <p>4 Q What's your understanding of that concept?</p> <p>5 A The concept is practices that are ideal or at</p> <p>6 least good for improving the soil for crop production.</p> <p>7 Q And is it your understanding that someone who</p> <p>8 wishes to apply FPR is expected to implement all of the best</p> <p>9 management practices that are discussed in the FPR manual?</p> <p>10 A It's a guidance document.</p> <p>11 Q So is it your understand that they are expected</p> <p>12 to implement all of those best management practices?</p> <p>13 MR. NIDEL: Objection. Leading. Asked and</p> <p>14 answered.</p> <p>15 THE COURT: Overruled. I don't think he</p> <p>16 answered. Go ahead, Dr. Elliott.</p> <p>17 A No.</p> <p>18 BY MR. LACKS:</p> <p>19 Q Can you explaining why that is?</p> <p>20 A Because every practice is not particularly</p> <p>21 relevant to every operation.</p> <p>22 Q Is it is it possible for any operation applying</p> <p>23 FPR to implement every best management practice that's</p> <p>24 recommended in the FPR manual?</p> <p>25 A That's a hypothetical question. I can't</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">138</p> <p>1 farming operation?</p> <p>2 A It is my opinion that it is a normal farming</p> <p>3 operation.</p> <p>4 Q Can you explain why that is your opinion?</p> <p>5 MR. NIDEL: I'm going to preserve our</p> <p>6 objection to the discussion of normal farming operation.</p> <p>7 THE COURT: Overruled. Go ahead. You can</p> <p>8 answer the question, Dr. Elliott.</p> <p>9 A Because they are using a residual material for</p> <p>10 the growing -- for the improving of soil for growing crops.</p> <p>11 MR. LACKS:</p> <p>12 Q Did you also form an opinion on whether</p> <p>13 Nicholas Meats generation in pre-treatment of FPR facility is</p> <p>14 consistent with well run practices?</p> <p>15 A Yes.</p> <p>16 Q What is your opinion?</p> <p>17 A My opinion is that the way they process and</p> <p>18 pre-treat their wastewater is consistent with good practice.</p> <p>19 Q What's the basis for that opinion? What do you</p> <p>20 have in mind that you've seen that gives you a basis for that</p> <p>21 opinion?</p> <p>22 A Well they have screens, et cetera, to remove</p> <p>23 anything bigger than a quarter of an inch from the wastewater</p> <p>24 and then they have two tanks where they aerate the wastewater</p> <p>25 prior to putting it in trucks and taking it to the fields.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">140</p> <p>1 answer.</p> <p>2 Q Did you also form an opinion on wether Nicholas</p> <p>3 Meat and Nicholas Farms implement best management practices</p> <p>4 with respect to their application of FPR?</p> <p>5 A Yes.</p> <p>6 Q And what is your opinion?</p> <p>7 A My opinion is that they are following best</p> <p>8 management practices.</p> <p>9 Q And how did you go about forming that opinion?</p> <p>10 A Looking at all the information that was</p> <p>11 provided to me.</p> <p>12 Q And did you also look at -- did you look at</p> <p>13 anything else in order to reach that opinion?</p> <p>14 A I'm not sure what you mean.</p> <p>15 Q Did you look at the manual?</p> <p>16 MR. NIDEL: Objection. Leading.</p> <p>17 A Yes.</p> <p>18 THE COURT: That was leading.</p> <p>19 MR. NIDEL: That was spoon fed.</p> <p>20 THE COURT: Okay.</p> <p>21 BY MR. LACKS:</p> <p>22 Q What are some of the -- what were some of the</p> <p>23 best management practices that you considered in forming the</p> <p>24 opinion that Nicholas Meat and Nicholas Farms implement best</p> <p>25 management practices?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">141</p> <p>1           A       The things like setback distances, appropriate</p> <p>2 application methods, and quantities.</p> <p>3           Q       I want to unpack some of those. Well, are you</p> <p>4 familiar with the fact that Nicholas Meat is engaging in</p> <p>5 nutrient management planning?</p> <p>6           A       Yes.</p> <p>7           Q       And do you find that to be significant in terms</p> <p>8 of your assessment of whether Nicholas Meat implements best</p> <p>9 management practices?</p> <p>10          A       Absolutely.</p> <p>11          Q       And is having a nutrient management plan itself</p> <p>12 a best management practice?</p> <p>13          A       Yes.</p> <p>14          Q       What kind of information do nutrient management</p> <p>15 plans include?</p> <p>16          A       Nutrient management plans are basically an</p> <p>17 accounting for all of the nutrients that are in the material</p> <p>18 and using them most appropriately as -- for crop production.</p> <p>19          Q       Are you aware of whether Nicholas Meat samples</p> <p>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</p> <p>23 what sampling Nicholas Meat does?</p> <p>24          A       They sample the material at different intervals</p> <p>25 either once a year before they do the nutrient management plans</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">143</p> <p>1           Q       Have you also -- are you also familiar with the</p> <p>2 history of DEP enforcement with respect to Nicholas Meats FPR</p> <p>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</p> <p>7 area.</p> <p>8                   Ladies and gentlemen, put your tablets and</p> <p>9 pens away. I'm going to release you. And come back about</p> <p>10 1:30. Don't discuss it, don't go to Loganton, don't do</p> <p>11 anything you're not supposed to do. Anybody tries to talk to</p> <p>12 you let us know. Remember about bringing your receipts back</p> <p>13 or using the cards. So commissioners stay happy with us.</p> <p>14                   Thank you very much. Have a good lunch. See</p> <p>15 you at 1:30.</p> <p>16                   (Whereupon, the jurors were escorted from the</p> <p>17 courtroom.)</p> <p>18                   (Time noted, 11:57 a.m.)</p> <p>19                   THE COURT: Doctor, you can get down and</p> <p>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</p> <p>25 from the witness stand. Go ahead.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">142</p> <p>1 and I think I saw evidence one year they did five different</p> <p>2 analyses on a monthly basis.</p> <p>3           Q       Based on your understanding of other food</p> <p>4 processors and the guidance in the manual, are Nicholas Meat's</p> <p>5 sampling practices typical for the industry?</p> <p>6           A       Yes.</p> <p>7           Q       Dr. Grobbel opined in his view Nicholas Meat</p> <p>8 does not engage in enough sampling. What is your view of that?</p> <p>9           A       I think the typical nutrient management</p> <p>10 planning activities are based on one analysis of the material</p> <p>11 prior to the crop growing season</p> <p>12          Q       Is that one sample per year?</p> <p>13          A       Yes. That would be one sample per year.</p> <p>14          Q       And are you aware that -- well, do you have any</p> <p>15 understanding of the variability of the formula sampling that</p> <p>16 Nicholas Meat has done?</p> <p>17          A       Yes. At least based on those five monthly</p> <p>18 samples. There is some variability.</p> <p>19          Q       Is that surprising to you?</p> <p>20          A       No.</p> <p>21          Q       Why is that?</p> <p>22          A       Just because conditions change in terms of the</p> <p>23 amount of water they're using when they are washing down the</p> <p>24 facility at night. And the amount of livestock that they're</p> <p>25 processing each day.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">144</p> <p>1                   MR. NIDEL: I don't have -- this is not about</p> <p>2 -- well, this -- I mean, I don't know what to say. The</p> <p>3 highlights on the first page.</p> <p>4                   THE COURT: I don't have it so someone needs</p> <p>5 to present it as an exhibit is we can get it into evidence and</p> <p>6 then we can talk about it.</p> <p>7                   MR. NIDEL: We certainly will do that. I was</p> <p>8 trying to translate the highlights.</p> <p>9                   THE COURT: Do you want do this when we come</p> <p>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</p> <p>13 so we can get this thing taken care of.</p> <p>14                   MR. LACKS: Do you want me -- can I address</p> <p>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</p> <p>18 accused of lying which I did not lie or intentionally feed the</p> <p>19 expert a highlighted copy and I would like to be able to</p> <p>20 address that.</p> <p>21                   THE COURT: Do you want to do it now. I don't</p> <p>22 know -- I haven't heard any accusations. So you're responding</p> <p>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;">ROUGH DRAFT</p>

<p style="text-align: center;">145</p> <p>1 say what they're actually going to say.</p> <p>2 MR. LACKS: It's already been said to me. I</p> <p>3 guess that's what I'm reacting to.</p> <p>4 THE COURT: I can understand why you might be</p> <p>5 a little upset but I don't know what you're upset about</p> <p>6 because I don't have it in front of me. All right.</p> <p>7 MR. LACKS: Yes.</p> <p>8 THE COURT: 1:10 be back.</p> <p>9 (Time noted, 12:00 p.m.)</p> <p>10 (Luncheon recess.)</p> <p>11 (Time noted, 1:15 p.m.)</p> <p>12 THE COURT: Let the record reflect we're</p> <p>13 convening. The jurors are not here. First thing I want to</p> <p>14 know, Mr. Clark, you sent two people back from DEP. How many</p> <p>15 witnesses out of those two are there?</p> <p>16 MR. CLARK: Just one.</p> <p>17 THE COURT: You scared me.</p> <p>18 MR. CLARK: One is counsel.</p> <p>19 THE COURT: I just wanted to say that.</p> <p>20 MR. CLARK: Just one.</p> <p>21 THE COURT: Who wants to talk? You want to</p> <p>22 continue talk or they want to continue talk.</p> <p>23 MR. LACKS: I'm happy to talk.</p> <p>24 THE COURT: Do you want say anything.</p> <p>25 MR. NIDEL: Other than I'm thoroughly</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">147</p> <p>1 sheet. And I only found it because we were at the sidebar and</p> <p>2 I saw it and the sanction I think is appropriate that they</p> <p>3 don't have the benefit of his testimony. I don't know what</p> <p>4 other witnesses might have had similar highlighting on their</p> <p>5 documents that they were handed. I didn't look that closely.</p> <p>6 THE COURT: Anything else.</p> <p>7 MR. NIDEL: That's all, Your Honor.</p> <p>8 THE COURT: Your turn.</p> <p>9 MR. LACKS: Thank you, Your Honor. I can</p> <p>10 clear up the misunderstanding and I'm happy to do so. Myself</p> <p>11 and Mr. Clark, we have highlighted versions of key documents</p> <p>12 in our binders including the expert report helps me keep on</p> <p>13 track of the points I want to hit during the examination, help</p> <p>14 me find things I'm trying to find. In the course of printing</p> <p>15 a set of documents for the witness that we put in the red</p> <p>16 well, the person who printed that report printed the document</p> <p>17 that had the highlighting. I was not aware of that. I should</p> <p>18 have checked it this morning. I take full responsibility from</p> <p>19 that. It was not intentional. It was not some part of some</p> <p>20 scheme. The fact the highlighting is on the first page should</p> <p>21 be a very clear signal it was to the not intentional because</p> <p>22 as we know Mr. Nidel spends most of his examinations right</p> <p>23 next to the witness and if we had been trying to hide the</p> <p>24 highlight it would have been a pretty stupid way to do it to</p> <p>25 highlight the first page. And I understand he has a very low</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">146</p> <p>1 appalled.</p> <p>2 THE COURT: Go ahead. You go first.</p> <p>3 MR. NIDEL: Your Honor, the witness was</p> <p>4 provided a copy. Marked up with highlights and underlines.</p> <p>5 It's not three hold punched. It's not the copy he's been</p> <p>6 given that's 250 pages. With three hole punch which clearly</p> <p>7 came from their file of exhibits. His copy was highlighted</p> <p>8 starting on the front page with under lines for emphasis. I</p> <p>9 don't know -- I've never encountered such a thing in</p> <p>10 deposition, in court. It's appalling. It's not -- facts show</p> <p>11 it can't have been a mistake.</p> <p>12 THE COURT: Do you want to hand it me so I can</p> <p>13 look at it. This is D 28.</p> <p>14 MR. LACKS: Yes.</p> <p>15 THE COURT: What relief are you asking for,</p> <p>16 Mr. Nidel? Go away.</p> <p>17 MR. NIDEL: Sorry.</p> <p>18 THE COURT: There is no need for you to be up</p> <p>19 here.</p> <p>20 MR. NIDEL: I understand, Your Honor. I</p> <p>21 apologize.</p> <p>22 THE COURT: What's the relief?</p> <p>23 MR. NIDEL: I think that the witness's</p> <p>24 testimony should be struck and we should move on. Had I not</p> <p>25 seen this at all, we would have gotten through with a cheat</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">148</p> <p>1 opinion of my character by knowing virtually nothing about me,</p> <p>2 but I would like to think he has a higher opinion of my</p> <p>3 intellect than to think I would be so stupid to do that. As</p> <p>4 for the underlines, I didn't underline the documents. I</p> <p>5 suspect the witness when we were at sidebar may have done</p> <p>6 that. I'm not sure.</p> <p>7 I'm not a liar and I didn't do it</p> <p>8 intentionally and I don't appreciate being accused of that in</p> <p>9 open court in front of the jury, and there have been other</p> <p>10 times over the course of trial we have observed things from</p> <p>11 the other side we thought were questionable and in those</p> <p>12 circumstances we've talked to the lawyer face-to-face outside</p> <p>13 the presence of the jury, outside the presence of the judge.</p> <p>14 We got an explanation. We took the explanation at face value</p> <p>15 and that was the end of it and I would have appreciated if the</p> <p>16 same courtesy was extended to me that we have extended to</p> <p>17 them.</p> <p>18 MR. NIDEL: Your Honor, if I may.</p> <p>19 THE COURT: Sure.</p> <p>20 MR. NIDEL: I don't believe I've accused</p> <p>21 anyone of lying. I do not see how the facts are consistent</p> <p>22 with what's being said. I don't see that at all. In fact the</p> <p>23 underlining is done in acrobat. It's electronic highlighting.</p> <p>24 So now we're hearing a new story that the witness underlined,</p> <p>25 but the underlining is electronic. It's embedded in the</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">149</p> <p>1 document. We've heard they have witness binder but the</p> <p>2 witness binders are three hole punch. That's the type of</p> <p>3 paper now at the witness stand. That's not what was handed to</p> <p>4 the witness. As far as me having seen it I don't know if I</p> <p>5 would have seen it or not but certainly the attorney walking</p> <p>6 up to hand it to the witness would have seen the highlighting.</p> <p>7 I have no opinion of Mr. Lacks' character. I</p> <p>8 have opinion as to whether this was appropriate to hand to the</p> <p>9 witness and to conduct an examination with him having this in</p> <p>10 his hand and clearly when we were up at Your Honor's sidebar,</p> <p>11 he was refreshing his recollection as to those highlights as</p> <p>12 we were being distracted.</p> <p>13 MR. LACKS: Can I respond?</p> <p>14 THE COURT: Yeah.</p> <p>15 MR. LACKS: I was accused of being liar. I</p> <p>16 wrote it down he said you're a liar it was intentional and he</p> <p>17 stared at me menacingly.</p> <p>18 THE COURT: Okay. I'm not going to referee</p> <p>19 language between you two. I'm disappointed it wasn't brought</p> <p>20 to sidebar immediately but that's beside the point. The Court</p> <p>21 is going to mark the document you gave me, Mr. Nidel, as court</p> <p>22 D 28 A. I'll have the reporter mark it here in a second. The</p> <p>23 Court is going to deny the motion to strike testimony.</p> <p>24 I note that the witness was only testifying</p> <p>25 for a half hour, probably what's going to be several hours of</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">151</p> <p>1 MR. NIDEL: Thank you, Your Honor.</p> <p>2 THE COURT: I'm going to check on the jury</p> <p>3 because I told them not to be back until 1:30. If they're</p> <p>4 here early we can start early. And you're still on direct.</p> <p>5 MR. LACKS: Yes.</p> <p>6 THE COURT: We were at DEP when we quit. I</p> <p>7 didn't want you to go any further.</p> <p>8 MR. NIDEL: Your Honor, I don't know if</p> <p>9 they're coming back. I just wanted to make sure Mr. Karschner</p> <p>10 and his counsel have sequestered.</p> <p>11 THE COURT: They are in the smaller courtroom.</p> <p>12 So they'd be away to from everybody.</p> <p>13 Ms. Pritchard do you want mark that as court</p> <p>14 exhibit D 28 A.</p> <p>15 The jury is here so they'll be coming in.</p> <p>16 They got back early. They didn't want to frolic in the snow.</p> <p>17 Doctor, you want come back down.</p> <p>18 (Whereupon, the jurors were escorted court</p> <p>19 into the courtroom.)</p> <p>20 (Time noted, 1:26 p.m.)</p> <p>21 THE COURT: Ladies and gentlemen, thank you</p> <p>22 for getting back early. We're going to get started. Dr.</p> <p>23 Elliott is or not stand. Mr. Lacks will be continuing his</p> <p>24 direct examination on behalf of the defendants. I've checked</p> <p>25 checked with the court reporter. He told me by the time we</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">150</p> <p>1 testimony. And any harm that may have come from the</p> <p>2 highlighting is very small in the Court's opinion at this</p> <p>3 point. And that the defense counsel could do this -- could</p> <p>4 have handed it to him while he was waiting up in the gallery</p> <p>5 here and waited for him to get on the stand. To give him a</p> <p>6 highlighted sections. That's the Court's ruling. You wanted</p> <p>7 to do -- we'll do the exhibits later if they're all here.</p> <p>8 MR. NIDEL: We can do the exhibits later, Your</p> <p>9 Honor. I'm not sure that the Exhibit D, I'm not sure of the</p> <p>10 number -- but as far as the highlights, we would not ask that</p> <p>11 they become an exhibit in evidence.</p> <p>12 THE COURT: They're going to go into evidence</p> <p>13 but they're not going out with the jury. I just want it</p> <p>14 known. If you want to complain about it at the higher court</p> <p>15 it's in.</p> <p>16 MR. NIDEL: Okay. I appreciate that, Your</p> <p>17 Honor. And I would request permission to use that as part of</p> <p>18 cross, as well.</p> <p>19 THE COURT: Use what, the highlighting.</p> <p>20 MR. NIDEL: Yeah, the version, yeah.</p> <p>21 THE COURT: Position?</p> <p>22 MR. LACKS: I mean, it's the report. It's</p> <p>23 sections of the report. You can cross him on the report. I</p> <p>24 don't really have a problem with it.</p> <p>25 THE COURT: Okay.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">152</p> <p>1 get out of here there will be nothing on the roadway. It's</p> <p>2 supposed to get warmer and I said thank you because I don't</p> <p>3 want to go home and shovel and do my driveway.</p> <p>4 Go ahead, Mr. Lacks.</p> <p>5 MR. LACKS: Thank you, Your Honor.</p> <p>6 Good afternoon, Dr. Elliott.</p> <p>7 A Good afternoon.</p> <p>8 Q Before the break we were talking about your</p> <p>9 opinion that Nicholas Meat implements best management</p> <p>10 practices. Do you recall that?</p> <p>11 A Yes.</p> <p>12 Q I think we had gotten up to the fact that as</p> <p>13 part of your analysis you reviewed certain activity by the</p> <p>14 department of environmental protection, correct?</p> <p>15 A Yes.</p> <p>16 Q Try to keep your voice close to the mic.</p> <p>17 What did you find from your review of the DEP</p> <p>18 activity with regard to Nicholas Meat.</p> <p>19 A You -- I need to be -- you need to be more</p> <p>20 specific, I think, in terms.</p> <p>21 Q Did you see any en enforcements actions by the</p> <p>22 DEP?</p> <p>23 A No. NOV's but no enforcement actions.</p> <p>24 Q Can you explain your understanding of the</p> <p>25 difference between an NOV and and n enforcement action by the</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">153</p> <p>1 DEP?</p> <p>2 A An NOV, notice of violation, means that there's</p> <p>3 something amiss in what they're doing, but it doesn't rise to</p> <p>4 the level where they need to cease operation.</p> <p>5 Q And what did you take -- how did the lack of</p> <p>6 enforcements activity beyond NOV's influence your opinion about</p> <p>7 whether or not Nicholas Meat is implementing best management</p> <p>8 practices?</p> <p>9 A With the.</p> <p>10 A The fact that an incident doesn't go beyond an</p> <p>11 NOV, to me, indicates that the seriousness is not of the nature</p> <p>12 where they would need to cease operation.</p> <p>13 A Stop doctor when there is an objection. Piece</p> <p>14 stop.</p> <p>15 MR. NIDEL: Objection to foundation. Calls</p> <p>16 for speculation.</p> <p>17 THE COURT: You agree he's an expert. So I'm</p> <p>18 going to leave him. Go ahead, give his opinion. Overruled.</p> <p>19 MR. LACKS:</p> <p>20 Q Were you finished with your answer?</p> <p>21 A Yes.</p> <p>22 Q Now, with regard to your opinion that Nicholas</p> <p>23 Meat implements best management practices, did you assess</p> <p>24 whether or not Nicholas Meat applies FPR with regard to the</p> <p>25 agronomic needs of the soil?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">155</p> <p>1 FPR manual that prohibits farmers from exceeding 9,000 gallons</p> <p>2 per acre in the course of a single application.</p> <p>3 A No</p> <p>4 Q What's your understanding of the 9,000 gallons</p> <p>5 per acre number?</p> <p>6 A The 9,000 gallons per acre was based on a</p> <p>7 typical soil, and not exceeding basically infiltration</p> <p>8 capacity. And 9,000 gallons is a third of an inch.</p> <p>9 If you were to cover an acre with an inch of</p> <p>10 water that would be 27,000 gallons. So 9,000 gallons is a</p> <p>11 third of an inch.</p> <p>12 Q When you said that the -- the origin of the</p> <p>13 9,000 gallons per acre number, was that created in regard to</p> <p>14 FPR originally?</p> <p>15 A No.</p> <p>16 Q How did it come about?</p> <p>17 A It was based on soils.</p> <p>18 Q Other -- was it created in regard to other</p> <p>19 substances applied to soils?</p> <p>20 A Yes. It's in the manure management manual.</p> <p>21 Q Understood.</p> <p>22 Dr. Grobbel also expressed the view that the</p> <p>23 lack of crop yield records suggests that Nicholas Meat is not</p> <p>24 -- Nicholas Farms are not implementing best management</p> <p>25 practices. Are you familiar with that?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">154</p> <p>1 A Yes.</p> <p>2 Q And what did you determine about that?</p> <p>3 A That they are following standard agronomic</p> <p>4 practices with their FPR.</p> <p>5 Q And what was your basis for reaching that</p> <p>6 determination?</p> <p>7 A I spot check some of the nutrient management</p> <p>8 plans.</p> <p>9 Q You were herein in the court when Dr. Grobbel</p> <p>10 testified, right?</p> <p>11 A Yes.</p> <p>12 Q And do you remember that are that Dr. Grobbel</p> <p>13 testified that in his opinion, Nicholas Meat does not implement</p> <p>14 best management practices because it over applies FPR without</p> <p>15 regard to the agronomic needs of the soil. Do you recall that?</p> <p>16 A I couldn't hear quite good enough when I was</p> <p>17 sitting back there, but.</p> <p>18 Q But did you get the gist of his opinion?</p> <p>19 A Yes.</p> <p>20 Q And what's your response to that?</p> <p>21 A I would disagree with that opinion.</p> <p>22 Q There's been a lot of discussion over the</p> <p>23 course of this trial about the GAL 9,000 gallons per acre</p> <p>24 number. Are you familiar with that?</p> <p>25 A Yes? Is there anything you're aware of in the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">156</p> <p>1 A No, but I'll respond to it.</p> <p>2 Q Is there anything in the FPR manual that you're</p> <p>3 aware of that required a farmer to maintain crop yield records?</p> <p>4 A No.</p> <p>5 Q Based on your understanding of best management</p> <p>6 practices, would an error in a nutrient management plan</p> <p>7 disqualify or mean that an operator is not engaged in best</p> <p>8 management practices?</p> <p>9 A No, there is an unintentional error.</p> <p>10 Q Dr. Grobbel also referred to the fact that</p> <p>11 Nicholas Meat has applied FPR in rain or on snow covered</p> <p>12 ground. Do you recall that?</p> <p>13 A Yes.</p> <p>14 Q Does that suggest -- does the fact that</p> <p>15 Nicholas Meat may apply FPR in the rain or on snow covered</p> <p>16 ground, does that mean it's not implementing best management</p> <p>17 practices in your opinion?</p> <p>18 A Not necessarily.</p> <p>19 Q Why do you say that?</p> <p>20 A The definition of rain can vary, you know, from</p> <p>21 a mist to a downpour. There are conditions under which you can</p> <p>22 apply with concern kinds of equipment on snow covered soil.</p> <p>23 Q And do you have any understanding of whether</p> <p>24 Nicholas Meat is permitted to apply on snow covered soil</p> <p>25 currently?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">157</p> <p>1           A       They are per the agreement, I believe, of what</p> <p>2 was it 2019 that if they use that equipment, the bazooka</p> <p>3 injector which is designed to apply materials underneath the</p> <p>4 soil.</p> <p>5           Q       What's your understanding as to who that</p> <p>6 agreement is with?</p> <p>7           A       I thought it was between the DEP and Nicholas</p> <p>8 Meats.</p> <p>9           Q       That's what I just wanted to clarify. DEP.</p> <p>10          A       Right.</p> <p>11          Q       Dr. Grobbel has also stated that in his view</p> <p>12 Nicholas Meat does not do enough to prevent odor from the FPR;</p> <p>13 are you familiar with that?</p> <p>14          A       Yes.</p> <p>15          Q       And what is your view on that?</p> <p>16          A       They have a number of practices that actually</p> <p>17 reduce odors.</p> <p>18          Q       And what are some of those practices?</p> <p>19          A       Well, they are aerating their wastewater and as</p> <p>20 well as applying very close to the surface of the soil which is</p> <p>21 a technique that reduces odor emissions.</p> <p>22          Q       In your opinion does the fact that FPR, that</p> <p>23 Nicholas Meat applies, does the fact that that FPR gives off an</p> <p>24 odor necessarily mean that Nicholas Meat is not implementing</p> <p>25 best management practices?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">159</p> <p>1 a study of -- it in Lancaster, Chester and Lebanon County where</p> <p>2 they evaluated about 3600 groundwater -- well water samples.</p> <p>3           Q       And you were here when Dr. Yoxtheimer was</p> <p>4 testifying. Do you recall he referenced studies by USGS and</p> <p>5 the Pennsylvania Department of Environmental Resources?</p> <p>6           A       Yes.</p> <p>7           Q       Did you review those studies, as well?</p> <p>8           A       Yes. The 1983 study.</p> <p>9           Q       And the USGS study?</p> <p>10          A       In 2020, yes.</p> <p>11          Q       Are you aware that Patricia Leigey reported</p> <p>12 having brown water coming through her faucets in 2019?</p> <p>13          A       Yes.</p> <p>14          Q       We saw photos of those during this trial?</p> <p>15          A       I haven't seen the photos.</p> <p>16          Q       And are you aware that Dr. Grobbel has opined</p> <p>17 that presence of the brown water supports his opinion that</p> <p>18 Plaintiffs' groundwater was contaminated by FPR. Are you aware</p> <p>19 of that?</p> <p>20          A       I don't recall that in his report.</p> <p>21          Q       Did you come to any opinions about what may</p> <p>22 have cause it had offed the brown water?</p> <p>23          A       Very typical for groundwater wells particularly</p> <p>24 deep groundwater wells to have water iron. In fact the</p> <p>25 Department of Health report indicated that 42 percent of</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">158</p> <p>1           A       No. Most agricultural residues have an odor.</p> <p>2           Q       So to sum up based on your knowledge and</p> <p>3 experience, do you consider the defendants' generation and land</p> <p>4 application of FPR to be adhering to best management practices</p> <p>5 as set forth in the FPR manual?</p> <p>6           A       Yes.</p> <p>7           Q       And is that your opinion to a reasonable degree</p> <p>8 of professional certainty?</p> <p>9           A       Yes.</p> <p>10          Q       The only other topic I want to cover with you</p> <p>11 briefly is a couple of the opinions from Dr. Grobbel's report</p> <p>12 that you reviewed?</p> <p>13                   First of all how did you go about analyzing</p> <p>14 Dr. Grobbel's opinions about groundwater contamination.</p> <p>15          A       Well I read his opinion and then based on my</p> <p>16 knowledge I responded accordingly.</p> <p>17          Q       Did you review any documents in addition to his</p> <p>18 report?</p> <p>19          A       Yes. I reviewed all of the water quality data</p> <p>20 in the evidentiary material.</p> <p>21          Q       Did you review any outside studies?</p> <p>22          A       Yes.</p> <p>23          Q       Which ones did you review?</p> <p>24          A       There's one in particular that's in my expert</p> <p>25 report. I think it's by Aschebrook-Kilfoy et al, 2012. It was</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">160</p> <p>1 groundwater wells Clinton County had iron above the secondary</p> <p>2 maximum contaminant level, which is .03 parts per million.</p> <p>3           Q       Why would the presence of iron in the water</p> <p>4 appear brown?</p> <p>5           A       When it's deep underground it's under</p> <p>6 anaerobic conditions, so the iron happens to be in a form</p> <p>7 that's soluble. When that water is brought to the surface and</p> <p>8 exposed to oxygen, it converts from iron 2 to iron 3 which</p> <p>9 participate and is a brown</p> <p>10          Q       Now, did you also study the nitrate</p> <p>11 concentrations in Plaintiffs' water sampling data?</p> <p>12          A       Yes.</p> <p>13          Q       Just so we can all understand, what, in your</p> <p>14 opinion, or in your understanding is the significance of</p> <p>15 nitrate concentrations when it comes to evaluating potential</p> <p>16 water contamination by FPR?</p> <p>17          A       Well, nitrate there is a Federal drinking water</p> <p>18 standard of 10 milligram per liter as nitrate nitrogen. It is</p> <p>19 protecting a very vulnerable part of the demography and that's</p> <p>20 neonates, infants of under roughly six months of age because</p> <p>21 they're gastric juices aren't totally formed. That nitrate is</p> <p>22 converted to nitrite which impacts the iron in the hemoglobin.</p> <p>23 It prohibits them caring oxygen and so it's called the blue</p> <p>24 baby syndrome. The child turns blue.</p> <p>25          Q       We've heard various forms of potential</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">161</p> <p>1 contamination during this year trial. There's been references</p> <p>2 to certain bacterias, like E. Coli and total coliform. Are you</p> <p>3 aware of that?</p> <p>4 A Yes.</p> <p>5 Q There's been references to the nitrate</p> <p>6 concentrations. Are you of that?</p> <p>7 A Yes.</p> <p>8 Q Of throws which do you consider most</p> <p>9 significant in trying to determine if FPR may be causing</p> <p>10 contamination?</p> <p>11 A I would guess E. Coli.</p> <p>12 Q Why is that?</p> <p>13 A Because E. Coli.</p> <p>14 MR. NIDEL: Objection. These are not opinions</p> <p>15 that were disclosed in his report.</p> <p>16 MR. LACKS: That's fine. I can move on.</p> <p>17 THE COURT: Okay.</p> <p>18 BY MR. LACKS:</p> <p>19 Q Sticking with the nitrate concentrations. If</p> <p>20 it were the case that defendants FPR was impacting Plaintiffs'</p> <p>21 wells what would you expect see with respect to the nitrate</p> <p>22 levels?</p> <p>23 A If it was a sustained application program where</p> <p>24 the nitrogen was being over applied, I would expect the nitrate</p> <p>25 levels to be above the drinking water standard.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">163</p> <p>1 Q Could you turn to page 17 of your report?</p> <p>2 Do you see anything in the first paragraph</p> <p>3 that references sampling from one of the Plaintiffs' wells in.</p> <p>4 MR. NIDEL: Objection. Leadings.</p> <p>5 MR. LACKS: I'm trying to refresh his</p> <p>6 recollection what's in his report.</p> <p>7 MR. NIDEL: He said he didn't recall anything</p> <p>8 and now he's being shown a document and taken to a page.</p> <p>9 MR. LACKS: It's his report.</p> <p>10 MR. NIDEL: It's his report. It's hearsay.</p> <p>11 THE COURT: You can refresh someone's</p> <p>12 recollection with hearsay. Go ahead.</p> <p>13 MR. LACKS:</p> <p>14 Q Do you see anything on page 17 that references</p> <p>15 sampling data of one of the Plaintiffs' wells in the 1983</p> <p>16 study?</p> <p>17 A Yes. There is one sample from the DER report</p> <p>18 of 1981 in June, I believe, of the well designated C N 284 for</p> <p>19 Clinton County, 284, for Patricia Leigey's well.</p> <p>20 Q That's the well at 1256 East Valley Road?</p> <p>21 A Yes.</p> <p>22 Q What was the nitrate concentration measured in</p> <p>23 that sampling?</p> <p>24 A 4.18 milligrams per liter nitrate nitrogen.</p> <p>25 Q Do you recall -- well, you can try to do it</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">162</p> <p>1 Q So above 10?</p> <p>2 A Above 10.</p> <p>3 Q In looking at all of the data that was provided</p> <p>4 to you from the plaintiffs' well sampling data what did you</p> <p>5 actually see?</p> <p>6 A There is one well water sample of 10.7</p> <p>7 milligrams per liter nitrate nitrogen.</p> <p>8 Q Do you remember how many other sampling results</p> <p>9 you reviewed from plaintiffs?</p> <p>10 A There's about nine others, I believe.</p> <p>11 Q And you looked at the 2020 in 1983 studies as</p> <p>12 well?</p> <p>13 A Yes.</p> <p>14 Q And did those provide any information about</p> <p>15 nitrate concentrations that you took into consideration?</p> <p>16 A Yes. The 1983 study I believe said that the</p> <p>17 median nitrate nitrogen level in the carbonate bedrock area was</p> <p>18 3.08, I believe. And the 2020 USGS reports for Clinton County</p> <p>19 said that the -- the median, the median nitrate nitrogen was</p> <p>20 3.26, I believe.</p> <p>21 Q Did those studies also contain any data that</p> <p>22 was specific to any of the plaintiffs' properties in this case?</p> <p>23 A I suspect that in the USGS study, they -- I'm</p> <p>24 not certain, but they may have in fact sampled Patricia</p> <p>25 Leigey's well.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">164</p> <p>1 this way.</p> <p>2 I want to walk through what the different</p> <p>3 nitrate concentrations levels were that you reviewed all</p> <p>4 together.</p> <p>5 So we prepared-- to save time and spare the</p> <p>6 jury of my handwriting -- we prepared a list of various sample</p> <p>7 data. I'm going to ask if you reviewed those and what nitrate</p> <p>8 concentration was. Okay.</p> <p>9 You've just testified about the testing.</p> <p>10 MR. NIDEL: Your Honor. I have an objection.</p> <p>11 THE COURT: What's the objection.</p> <p>12 MR. NIDEL: He's pre-drafted something that he</p> <p>13 didn't show to us and now he's just shown it to the jury.</p> <p>14 THE COURT: Do you want to take a minute and</p> <p>15 take a look at it.</p> <p>16 MR. NIDEL: I can see it from here.</p> <p>17 MR. LACKS: I didn't want the jury to see it.</p> <p>18 MR. NIDEL: That ship has sailed.</p> <p>19 THE COURT: Good to go.</p> <p>20 MR. NIDEL: Yes, Your Honor.</p> <p>21 THE COURT: Go ahead, Mr. Lacks.</p> <p>22 THE COURT: Thank you, Your Honor.</p> <p>23 BY MR. LACKS:</p> <p>24 Q Dr. Elliott, just remind us what was the</p> <p>25 nitrate concentration as measured from Patricia Leigey's old</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">165</p> <p>1 well according to the 193 study when it was tested in 1981?</p> <p>2 A 4.18 milligrams per liter.</p> <p>3 Q And what was the median for the carbonate</p> <p>4 bedrock region according to the 1983 study?</p> <p>5 A 3.08, I believe.</p> <p>6 Q And then I believe you testified that your</p> <p>7 understanding is that the Patricia Leigey's well was then</p> <p>8 tested again as part of the 2020 USGS study?</p> <p>9 MR. NIDEL: Objection. Miss the states the</p> <p>10 witness's testimony. He's completely leading the witness.</p> <p>11 The witness couldn't recall if the well was tested and now</p> <p>12 he's just testified for him that it was tested so that he</p> <p>13 could get a number on his chart.</p> <p>14 THE COURT: Rephrase. Go ahead and ask the</p> <p>15 question.</p> <p>16 BY MR. LACKS:</p> <p>17 Q Do you have a recollection of whether Ms.</p> <p>18 Leigey's well was tested as part of the USGS study?</p> <p>19 A Yes. I don't think it was part of the original</p> <p>20 study. But, yes, it was tested.</p> <p>21 Q Did you review.</p> <p>22 A I did review it. It was about nine pages long.</p> <p>23 Q Did you review -- let me get the question out.</p> <p>24 Did you review sampling data from Patricia</p> <p>25 Leigey's old well when it was tested in 2017?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">167</p> <p>1 Q Did you review sampling data from Carolyn</p> <p>2 Leigey's well when it was tested in November of 2020?</p> <p>3 A Yes. It was 1.7 milligrams per liter.</p> <p>4 Q Carolyn Leigey's well?</p> <p>5 A Okay.</p> <p>6 MR. NIDEL: Objection, Your Honor.</p> <p>7 A That was 3.7.</p> <p>8 THE COURT: What's your objection?</p> <p>9 MR. NIDEL: He asked him what it was. The</p> <p>10 witness responded with an answer. And then he responded with</p> <p>11 a leading response, Carolyn Leigey's well.</p> <p>12 THE COURT: I don't think that's leading.</p> <p>13 Certainly telling him he didn't have the right number. I</p> <p>14 think the jury realizes that.</p> <p>15 MR. NIDEL: I hope they do.</p> <p>16 THE COURT: Go ahead, Mr. Lacks.</p> <p>17 BY MR. LACKS:</p> <p>18 Q Do you recall what the level was on Carolyn's</p> <p>19 Leigey's well when it was tested in November of 2020?</p> <p>20 A I believe it was 3.7.</p> <p>21 Q And lastly, do you recall what the nitrate</p> <p>22 concentration was in Patricia Leigey's new well when it was</p> <p>23 tested in August of 2021?</p> <p>24 A That one was 1.7.</p> <p>25 Q You just got the numbers?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">166</p> <p>1 A Yes.</p> <p>2 Q Do you recall what the nitrate concentration</p> <p>3 was when it was tested in July of 2017?</p> <p>4 A 10.7 milligrams per liter.</p> <p>5 Q So that's just above the 10?</p> <p>6 A Yes.</p> <p>7 Q EPA?</p> <p>8 A Yes.</p> <p>9 Q I want it in red.</p> <p>10 Do you recall if the well was tested again?</p> <p>11 A It was tested 27 days later and it was 9.03.</p> <p>12 Q And then do you remember what the median was</p> <p>13 for the Clinton County bedrock wells from the 2020 USGS study?</p> <p>14 A 3.26 milligrams per liter.</p> <p>15 Q And then you said you reviewed sampling data</p> <p>16 from the plaintiffs' wells as well. Do you recall reviewing</p> <p>17 sampling data from Patricia Leigey's new well in February of</p> <p>18 2020?</p> <p>19 A Yes. It was 0.91 milligrams per liter.</p> <p>20 Q And then did you review sampling data from</p> <p>21 Patricia Leigey's new well in November 2020?</p> <p>22 A Yes. It was 1.1 milligrams per liter.</p> <p>23 Q And did you review sampling data from Leanna</p> <p>24 Rockey well when it was tested in November 2020?</p> <p>25 A Yes. I believe it was 5 milligrams per liter.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">168</p> <p>1 A Yes, transposed.</p> <p>2 Q I think that was pretty good memory given the</p> <p>3 amount of data.</p> <p>4 Looking at all of this in a row, what do you</p> <p>5 conclude about the nitrate concentrations that were measured</p> <p>6 at these various times and these various data points from</p> <p>7 plaintiffs as well as broader studies of the region.</p> <p>8 A Well, I would conclude that it is only one,</p> <p>9 that it's above the Federal drinking water standard.</p> <p>10 Q And what do you conclude as regards to the</p> <p>11 measurements from 2020 on?</p> <p>12 A They are all below the Federal drinking water</p> <p>13 standard.</p> <p>14 Q And how do though post 2020 results compare to</p> <p>15 the median for the broader region as part of those studies?</p> <p>16 A They are comparable or lower.</p> <p>17 Q</p> <p>18 MR. LACKS: Thank you.</p> <p>19 And what does that tell you or what do you</p> <p>20 take away from that with regard to the likelihood or the</p> <p>21 possibility that it's defendants FPR that is contaminating the</p> <p>22 plaintiffs' wells as asserted or as opined by Dr. Grobbel.</p> <p>23 A There's really insufficient evidence to draw</p> <p>24 the conclusion that Dr. Grobbel drew. If one wants to</p> <p>25 determine if a particular processor activity has affected</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">169</p> <p>1 groundwater, there needs to be significant baseline data</p> <p>2 collected from numerous locations and multiple times. And that</p> <p>3 doesn't exist. The Nicholas Meat operation began in 2010 and</p> <p>4 there's really only two data point up herein prior to 2010,</p> <p>5 because if you want to make an inference about whether a</p> <p>6 particular operation impacted well water, you have to have</p> <p>7 baseline data to serve as a point of comparison. So you can</p> <p>8 say it's not different, it's above, or it's below.</p> <p>9 So the data -- there's not enough nitrate data</p> <p>10 to draw the conclusion that Dr. Grobbel drew.</p> <p>11 Q Dr. Grobbel also talked shall talked about --</p> <p>12 well, one of the other possibilities that he considered was the</p> <p>13 on-lot septic systems at the plaintiffs' properties. Do you</p> <p>14 recall that?</p> <p>15 A Yeah.</p> <p>16 Q And he ruled that out as a potential cause of</p> <p>17 contamination of the Plaintiffs' wells. Are you aware of that?</p> <p>18 A Yes.</p> <p>19 Q What -- do you have a view on that?</p> <p>20 A I don't think those can be ruled out as a</p> <p>21 possible source.</p> <p>22 Q Why not?</p> <p>23 A Well in those sewage system inspection reports,</p> <p>24 one said it was clearly not functioning correctly.</p> <p>25 Q And can effluent from septic systems be a</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">171</p> <p>1 be giving comments about things that are admissible or not</p> <p>2 admissible. Please disregard it. That's what I do. I</p> <p>3 determine, every judge that's their job, determining what's</p> <p>4 admissible and not admissible, not an expert witness.</p> <p>5 Go ahead, Mr. Lacks.</p> <p>6 MR. LACKS:</p> <p>7 Q Were there other aspects of the DNA marker</p> <p>8 analysis that in your view or that you disagreed with with</p> <p>9 regard to how Dr. Grobbel interpreted them?</p> <p>10 A Yes. The DNA tests are absence presence tests.</p> <p>11 So essentially you only need one little fragment of DNA to get a</p> <p>12 positive result.</p> <p>13 Now, what that means is it's very easy to</p> <p>14 contaminate DNA samples in collection. There were no field --</p> <p>15 MR. NIDEL: Objection. Beyond the scope of</p> <p>16 his expert report. This opinion was not disclosed in his</p> <p>17 report.</p> <p>18 MR. LACKS: He talked the criticisms --</p> <p>19 THE COURT: Come to sidebar. Talk.</p> <p>20 (Discussion held at sidebar on the record.):</p> <p>21 THE COURT: Do you have it in your report.</p> <p>22 MR. LACKS: Him discussing the chain of</p> <p>23 custody of DNA on page 1 and he was present in court when DNA</p> <p>24 was testified about the DNA analysis. And I believe that he</p> <p>25 can comment on that based on being in the court during that.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">170</p> <p>1 source of groundwater contamination?</p> <p>2 A Absolutely.</p> <p>3 Q Can that result in the presence of E. Coli or</p> <p>4 total coliform in drinking water?</p> <p>5 A Yes, it can.</p> <p>6 Q Could effluent from a faulty septic system</p> <p>7 contaminate water on a neighboring property?</p> <p>8 A Yes.</p> <p>9 Q Dr. Grobbel also talked about the bovine DNA</p> <p>10 marker analysis. Are you familiar with that?</p> <p>11 A Yes.</p> <p>12 Q And do you agree with Dr. Grobbel that the DNA</p> <p>13 marker analysis supports his opinion that it's the FPR that</p> <p>14 contaminated Plaintiffs' drinking water?</p> <p>15 A No.</p> <p>16 Q Why not?</p> <p>17 A Several issues. One, I think it was brought up</p> <p>18 previously that there was nor complete chain of custody form.</p> <p>19 And one knows and I'm sure all of the attorneys here realize</p> <p>20 that without a completed flawless chain of custody report, DNA</p> <p>21 damages -- DAN results are inadmissible in a court of law.</p> <p>22 MR. NIDEL: Objection to form.</p> <p>23 THE COURT: Once again, ladies and gentlemen,</p> <p>24 Dr. Elliott is not a judge. He doesn't know the law. You</p> <p>25 should disregard the last comment by the doctor. He's not to</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">172</p> <p>1 THE COURT: What paragraph in 19.</p> <p>2 MR. LACKS: The last three -- really the</p> <p>3 entire page.</p> <p>4 THE COURT: Okay. I need to read it.</p> <p>5 He had one little fragment to get DNA results</p> <p>6 post.</p> <p>7 MR. LACKS: I believe.</p> <p>8 THE COURT: Where does that come from? That's</p> <p>9 what you objected to.</p> <p>10 MR. NIDEL: Yeah. I didn't object to the</p> <p>11 chain of custody.</p> <p>12 THE COURT: He addresses that.</p> <p>13 MR. NIDEL: Right. That's why I didn't</p> <p>14 object.</p> <p>15 MR. LACKS: Okay. We can strike that in the</p> <p>16 comment about field and I'll cover the chain of custody.</p> <p>17 MR. NIDEL: You already did.</p> <p>18 THE COURT: I don't know a little but I don't</p> <p>19 know if he has further questions.</p> <p>20 Go away.</p> <p>21 Ladies and gentlemen of the jury. I'm</p> <p>22 directing you to ignore Dr. Elliott's testimony that you only</p> <p>23 need one little fragment to get DNA result positive basically</p> <p>24 that was not in the report positive never disclosed. So the</p> <p>25 Plaintiff never had an opportunity to go check and see if</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">173</p> <p>1 that's true and consult their expert and things of that</p> <p>2 nature.</p> <p>3 We'll move on now.</p> <p>4 BY MR. LACKS:</p> <p>5 Q Are will there other ways -- are there other</p> <p>6 ways that you're aware of that a bovine DNA marker could wind</p> <p>7 up in drinking water sample?</p> <p>8 A Yes. Realize bovine DNA will be in any kind of</p> <p>9 dairy products or anything that people eat. If someone</p> <p>10 collecting a sample had perhaps dairy products or hamberger or</p> <p>11 something for lunch, and potentially touched the cap or</p> <p>12 whatever in the collection tube, then phone there might be a</p> <p>13 contamination of the sample.</p> <p>14 Q And was there anything with regard to the</p> <p>15 manner in which -- did you have any information from looking at</p> <p>16 the Helix biolab DNA marker analysis that indicated to you how</p> <p>17 the samples were collected?</p> <p>18 A No.</p> <p>19 Q Did you have any information about how the</p> <p>20 samples were stored?</p> <p>21 A No.</p> <p>22 Q Did you have anything indicating how the</p> <p>23 samples were transported?</p> <p>24 A No.</p> <p>25 Q How did that influence your opinion or your</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">175</p> <p>1 A I would disagree with that assessment.</p> <p>2 Q Is that your opinion to a reasonable degree of</p> <p>3 professional certainty?</p> <p>4 A It is.</p> <p>5 MR. LACKS: Nothing further, Your Honor. Pass</p> <p>6 the witness.</p> <p>7 THE COURT: Mr. Nidel.</p> <p>8 MR. NIDEL: May it please court Your Honor.</p> <p>9 Good afternoon Dr. Elliott.</p> <p>10 A Good afternoon.</p> <p>11</p> <p>12</p> <p>13</p> <p>14 EXAMINATION</p> <p>15</p> <p>16 Q I want to start a little where we were left</p> <p>17 off.</p> <p>18 And you talked about the iron in the well,</p> <p>19 right, iron in the wells.</p> <p>20 A Yes.</p> <p>21 Q You talked about testing that showed that there</p> <p>22 was zero, 0.03 parts per million iron in the local groundwater?</p> <p>23 A No. That's the secondary maximum contaminant</p> <p>24 level.</p> <p>25 Q The secondary MCL?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">174</p> <p>1 understanding as to the significant of the DNA marker analysis?</p> <p>2 A In my mind it calls into question the validity</p> <p>3 of the results.</p> <p>4 Q I just want to ask you one more question about</p> <p>5 the nitrate concentrations.</p> <p>6 Of the two broad other studies that you looked</p> <p>7 as, 1983 Pennsylvania Department of Environmental Resources</p> <p>8 median was 3.08. Is that right.</p> <p>9 A Yes.</p> <p>10 Q In the 2020 study the median was 3.26?</p> <p>11 A Yes.</p> <p>12 Q So looking at the Plaintiffs' results as</p> <p>13 compared to those studies, -- let me strike that.</p> <p>14 If it was the case that there this intense</p> <p>15 application of FPR on the fields adjacent or in the vicinity</p> <p>16 of Plaintiffs' properties was infiltrating the groundwater and</p> <p>17 contaminating their wells, what nitrate levels would you</p> <p>18 expect to see in the plaintiffs' samples after 2020?</p> <p>19 A I would expect to see higher levels.</p> <p>20 Q So based on your knowledge, your expertise,</p> <p>21 your conversations, how how do you view Dr. Grobbel's opinion</p> <p>22 that it's the defendants' FPR that contaminated the surrounding</p> <p>23 groundwater in a away that has impacted Plaintiffs' wells?</p> <p>24 A Was that based on nitrate?</p> <p>25 Q Just overall in general.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">176</p> <p>1 A Yes.</p> <p>2 Q Meaning the MCLG?</p> <p>3 A No. MCL.</p> <p>4 Q Is the secondary MCL the MCLG?</p> <p>5 A Yes, because the secondaries are</p> <p>6 nonenforceable.</p> <p>7 Q It's a nonenforceable MCL goal?</p> <p>8 A Right.</p> <p>9 Q Secondary MCL or the MCLG?</p> <p>10 A Yeah.</p> <p>11 Q What were the levels?</p> <p>12 A I don't know.</p> <p>13 Q You don't know what the levels were?</p> <p>14 A No. I was just referring to the Department of</p> <p>15 Health this report that said that 42 percent of the groundwater</p> <p>16 samples in Clinton County were above that secondary standard.</p> <p>17 Q And again, that's a secondary standard based on</p> <p>18 taste and odor, right?</p> <p>19 A Right.</p> <p>20 Q It's not a health based standard?</p> <p>21 A That's right.</p> <p>22 Q It's not an enforceable standard</p> <p>23 A That's right.</p> <p>24 Q That's a standard 30 parts per billion?</p> <p>25 A Right.</p> <p style="text-align: center;">ROUGH DRAFT</p>

177			179		
1	Q	30 parts in a billion parts, right? Right?	1	A	I don't know.
2	A	Yes.	2	Q	You were asked a question about the levels that
3	Q	I think --	3		we see and you were asked about -- the nitrate levels that we
4	A	Actually .3 -- wouldn't that be 300 parts per	4		see and you said well if there was sustained intensive
5		billion.	5		agriculture you would expect to see levels above 10?
6	Q	I have .03. So 30 parts per billion. So 30 to	6	A	That's true.
7		teaspoons in an olympic size swimming pool?	7	Q	And we talked earlier with Dr. Yoxtheimer about
8	A	It's a small number.	8		the nature of nitrates. And were you here for that discussion?
9	Q	Very small. It's 30 billionths. Is it your	9	A	I wasn't here for his whole testimony. You'll
10		testimony that -- let's take a look at what we saw. You were	10		have to remind me?
11		herein and you saw those drinking water samples, rights, those	11	Q	Nitrates go into the groundwater and then they
12		drinking water -- this water. Right here. Up on the screen?	12		don't dissolve or degrade necessarily, but they migrate and
13	A	I was not here.	13		they dilute, right?
14	Q	Have you seen those?	14	A	Yes.
15	A	No.	15	Q	And so if you -- you qualified it being
16	Q	You've never seen them?	16		sustained because what will happen -- and we did a bit of a
17	A	No.	17		demonstrative with Dr. Yoxtheimer.
18	Q	So you don't even know what the water looked	18		And can you see that?
19		like?	19	A	Yes.
20	A	No.	20	Q	So when you have nitrate contamination that's
21	Q	That's not 30 parts per billion, right?	21		short lived, it may -- if there is a conduit or pathway it can
22	A	I don't know.	22		get to the groundwater and contaminate the groundwater, right?
23	Q	Well, that's not 30 parts of iron in a billion,	23	A	What do you mean by short lived.
24		right?	24	Q	So if there is -- sigh one seasonal application
25	A	I don't know that.	25		that may impact the groundwater but then you would expect to
ROUGH DRAFT			ROUGH DRAFT		
178			180		
1	Q	You need fancy laboratory equipment and chains	1		see it dilute over time, right?
2		of custody to see -- to analyze and find 30 parts per billion.	2	A	That's true.
3		You can't see iron at 30 parts per billion in water, can you?	3	Q	And so and if you sustain that application
4	A	I don't think so.	4		you're -- you're not just going to maintain that concentration,
5	Q	30 parts per billion is not visible to the	5		but eventually if the -- if the surface application exceeds
6		naked eye, right?	6		this solution you'll start to decrease and you'll get above
7	A	Right.	7		that 10?
8	Q	But there is visible to the naked eye?	8	A	Sounds logical.
9	A	Right.	9	Q	You agree with that?
10	Q	Is it your testimony to a reasonable degree of	10	A	Yes.
11		scientific certainty that this contamination we see in these	11	Q	If you apply for a period you would see a
12		photographs is from this 30 parts per billion of iron?	12		spike. If you were to apply as we have here and we were
13		MR. LACKS: Objection. Misstates the report.	13		graphing that, you would see a spike and then it would start to
14		THE COURT: Overruled. You can answer, Dr.	14		degrade and if you apply again you would see another spike and
15		Elliott.	15		it would start to degrade. If you applied periodically over
16	A	That appears to be above the drinking water	16		time, right?
17		standard.	17	A	Right. Right. You'd -- there's assumptions on
18	Q	You didn't analyze this water?	18		what you're going there.
19	A	I did not.	19	Q	I'm not putting a time series. I'm not saying
20	Q	We don't know if that's iron, do we?	20		how much. I haven't given us a number.
21	A	No.	21		But your testimony was that for it to exceed
22	Q	We don't know if that's FPR?	22		-- for there to be sustained agriculture to -- you'd have to
23	A	No.	23		sustained agriculture to exceed 10, right?
24	Q	You don't have an opinion that that's not FPR,	24	A	When I said sustained, I meant multiple year
25		right?	25		application.
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: right;">181</p> <p>1 Q And so over time if you now sustain the</p> <p>2 application as I've indicated here, you would start to then</p> <p>3 increase and get above that limit of 10, right?</p> <p>4 A I agree.</p> <p>5 Q That's because over the time of a few years,</p> <p>6 you can have spikes and then it can degrade if you're not</p> <p>7 applying and then you apply more and then it increases with</p> <p>8 that application and then at some point in you exceed the</p> <p>9 dilution rate, you will then start to increase and then go</p> <p>10 above that limit, right?</p> <p>11 A Right.</p> <p>12 A But you also need to take into account that the</p> <p>13 source at the surface can be continuously producing nitrate.</p> <p>14 Q Okay. The source at the surface being --</p> <p>15 A In other words, organic nitrogen put on the</p> <p>16 surface continues to break down.</p> <p>17 Q So you have a direct application and you have</p> <p>18 continued break down, smaller releases of nitrates into --</p> <p>19 A Right.</p> <p>20 Q And you have a large fresh application and then</p> <p>21 you have the breakdown of that as well, right?</p> <p>22 A Why would the initial application be larger.</p> <p>23 Q Because you're going to have free nitrate there</p> <p>24 and that's going to degrade?</p> <p>25 A That's wrong. There is no nitrate in the FPR.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">183</p> <p>1 applying nitrogen source. So that the plant aren't taking it</p> <p>2 up.</p> <p>3 Q There's nitrates also in septic tanks?</p> <p>4 A Definitely.</p> <p>5 Q But we didn't go above 10 with that but we do</p> <p>6 have bacteria in the wells, right?</p> <p>7 A Yes.</p> <p>8 Q The bacteria makes those wells unsafe to drink,</p> <p>9 right?</p> <p>10 A What kind of bacteria?</p> <p>11 Q Fecal coliform and E. Coli?</p> <p>12 A There are no fecal coliform analyses.</p> <p>13 Q Are there E. Coli analysis?</p> <p>14 A There's E. Coli.</p> <p>15 Q That makes the water unsafe to drink?</p> <p>16 A Yes.</p> <p>17 Q We go back to 1981 and see a 4.18 compared to</p> <p>18 the regional area and this is from I believe the Pennsylvania</p> <p>19 study, right?</p> <p>20 A Yes. That's the DER study.</p> <p>21 Q And the conclusion from this DER study was that</p> <p>22 it was agriculture surface, application for agriculture that</p> <p>23 were contaminating the wells, right?</p> <p>24 A Yes.</p> <p>25 Q So you're not disputing that the conclusion of</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">182</p> <p>1 Very little.</p> <p>2 Q Your source of nitrogen to form the nitrate is</p> <p>3 going to be greatest when you land apply it and then that will</p> <p>4 start to convert and then it will continue converting over time</p> <p>5 as that sort is maintained there, right?</p> <p>6 A Right. The source -- the total nitrogen is</p> <p>7 high initially. But the nitrate will be a slow bleed.</p> <p>8 Q So you'll have a slow bleed over time as these</p> <p>9 nutrients are in the soil, right?</p> <p>10 A Yes.</p> <p>11 Q And you'll see depending on hour, our time</p> <p>12 series here, you'll see fluctuations in those levels, right?</p> <p>13 A Right. It's very complicated because you also</p> <p>14 have other groundwater sources coming in and you know if you</p> <p>15 just had one aquifer that was only impacted by that aboveground</p> <p>16 source then I agree with your analysis.</p> <p>17 Q But you have -- so you have delusion, you have</p> <p>18 delusion by migration and you have delusion by fresh recharge,</p> <p>19 right?</p> <p>20 A Yes.</p> <p>21 Q But you expect to see fluctuations?</p> <p>22 A You definitely do.</p> <p>23 Q And in only if you have intense continuous</p> <p>24 agriculture, do you start to increase at some point, right?</p> <p>25 A Right. That would imply that you're over</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">184</p> <p>1 the study from which this data was generated is that the most</p> <p>2 likely source of these nitrates was the nutrient application</p> <p>3 from agriculture, right?</p> <p>4 A Yes.</p> <p>5 Q And then the well was tested some -- I can it</p> <p>6 not do the math at this point. 34 years later. And gone up,</p> <p>7 right?</p> <p>8 A At that snapshot it went up.</p> <p>9 Q And that confirms that there's a pathway for</p> <p>10 contaminants from the surface to impact the drinking water,</p> <p>11 right?</p> <p>12 A It may not be from the surface. It could be</p> <p>13 from the leach field which would not be called the surface</p> <p>14 source.</p> <p>15 Q It confirms that there is a pathway, at least</p> <p>16 one pathway, maybe multiple pathways, right?</p> <p>17 A True.</p> <p>18 Q So it confirms that there are contaminants</p> <p>19 coming either from surface application of nutrients or from the</p> <p>20 leach fields but those would be the two most likely sources</p> <p>21 that would -- that are confirmed by this increase, right?</p> <p>22 A Yes. I would say those would be the two most</p> <p>23 likely sources.</p> <p>24 Q And just to be clear, you don't know at the</p> <p>25 time of any of these results what the intensity of agriculture</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">185</p> <p>1 was that was going in this proximity to these wells?</p> <p>2 A I do not.</p> <p>3 Q You don't know if we're up here and associated</p> <p>4 with you know -- you don't don't know where in this symphony we</p> <p>5 are, right?</p> <p>6 A That's correct.</p> <p>7 Q And then the old well was tested again. It's</p> <p>8 9.03. We see some fluctuation there?</p> <p>9 A That was only 27 days later. It dropped from</p> <p>10 10.7 to 9.03.</p> <p>11 Q But we still see impacts, right?</p> <p>12 A Yes.</p> <p>13 Q We have a new well and that new well -- do you</p> <p>14 know how deep the old well was?</p> <p>15 A 260 feet.</p> <p>16 Q We have a new well. Do you know how deep?</p> <p>17 A 346 feet.</p> <p>18 Q That 346 foot well, that would be harder to</p> <p>19 reach by those nitrates, right?</p> <p>20 A Yes.</p> <p>21 Q So when you drill that new well it's going to</p> <p>22 take a little more pathway to get there, right?</p> <p>23 A In fact we don't even know whether the new and</p> <p>24 the old well were accessing the same water bearing zone.</p> <p>25 Q So there's a water bearing zone in this old</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">187</p> <p>1 A No.</p> <p>2 Q Did you review her deposition testimony?</p> <p>3 A I'm not -- is there a most recent one? In this</p> <p>4 trial I haven't reviewed her.</p> <p>5 Q You don't know if you reviewed her deposition?</p> <p>6 A Original deposition, I did.</p> <p>7 Q When you reviewed the depositions, did you also</p> <p>8 review the exhibits?</p> <p>9 A I'm not sure.</p> <p>10 Q Would you typically?</p> <p>11 A Was that picture in there.</p> <p>12 Q I honestly don't know if it was?</p> <p>13 A That's the first time I've seen that picture.</p> <p>14 Q Would you typically when you review the</p> <p>15 depositions, do you also review the transcript, do you also</p> <p>16 review the exhibit that are shown to the witnesses?</p> <p>17 A Sporadically. I guess it depend. I don't</p> <p>18 typically -- there's so much information to review, I may or</p> <p>19 may not. Depending whether I think it's relevant.</p> <p>20 Q You listed the depositions that you reviewed in</p> <p>21 your report, right?</p> <p>22 A Yes.</p> <p>23 Q Did you review the exhibits to those</p> <p>24 depositions when you reviewed them or no?</p> <p>25 A Not totally.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">186</p> <p>1 well?</p> <p>2 A Yes.</p> <p>3 Q The last evidence we have of that water bearing</p> <p>4 zone we just looked at, right, it looked like the water we saw</p> <p>5 up there; is that right?</p> <p>6 Q Do you want me to show it again?</p> <p>7 A No, no. I mean, as I said I hadn't seen that</p> <p>8 picture before. But if it was old then if it was before the</p> <p>9 new well was dug then it must be in reference to the old well</p> <p>10 Q The last time we looked at the water bearing on</p> <p>11 the that shallow water bearing zone it was contaminated with</p> <p>12 something. You're not sure what, right?</p> <p>13 A Right.</p> <p>14 Q And the last time that old well was tested it</p> <p>15 had 9.03 nitrates in it, right?</p> <p>16 A Right.</p> <p>17 Q So it had high nitrates. It was funky. And we</p> <p>18 don't know what was in that funk, right?</p> <p>19 A When, when was the funky picture taken.</p> <p>20 Q Did you review the testimony of Ms. Leigey in</p> <p>21 this case?</p> <p>22 A I did. I saw it in the original complaint, I</p> <p>23 believe. I don't know whether it had a date.</p> <p>24 Q Did you review the trial testimony of Ms.</p> <p>25 Leigey?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">188</p> <p>1 Q Now we have testing done of the replacement</p> <p>2 well. And the new well dropped down to .91?</p> <p>3 A Yes in .91 that's not the naturally occurring</p> <p>4 background, right.</p> <p>5 A According to Grobbel, it is. He said one to</p> <p>6 two milligrams per liter is background.</p> <p>7 Q My question, it was naturally occurring</p> <p>8 background. Nitrates are not naturally found in groundwater,</p> <p>9 right?</p> <p>10 A They can be. They are in rain water.</p> <p>11 Q They're found from the continued pollution of</p> <p>12 the environment through agriculture and other nutrient runoff,</p> <p>13 right?</p> <p>14 A They are in rain water.</p> <p>15 Q The natural background of nitrates in</p> <p>16 groundwater, drinking water, is nondetect, right?</p> <p>17 A Not according to Grobbel's report.</p> <p>18 Q I'm asking you, sir. You're the scientist on</p> <p>19 the stand. The background is basically nondetect, right?</p> <p>20 A Nitrate is ubiquitous in the environment.</p> <p>21 Q In deep groundwater of 200, 300 feet?</p> <p>22 A I suspect if you have sufficient analytical</p> <p>23 detection you can detect in deep groundwater.</p> <p>24 Q You can detect it but you're saying at some</p> <p>25 point in we can look close enough, well beyond the one part per</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">189</p> <p>1 million here, you might be like to detect it, right?</p> <p>2 A Yes.</p> <p>3 Q But as a part per million level it's basically</p> <p>4 nondetected, it's not visible to the equipment?</p> <p>5 A At one part per million?</p> <p>6 Q No. If our detection limits are in the Order</p> <p>7 of one part per million it would be below those detection</p> <p>8 limits. That's what you would expect in the natural</p> <p>9 background, right?</p> <p>10 A I don't think you can make a general statement</p> <p>11 about that because it depends on where you are.</p> <p>12 Q And we see an increase from .91 -- it's tested</p> <p>13 again as 1.1 and tested again 1.7?</p> <p>14 A I'm not sure I would call it a significant</p> <p>15 increase.</p> <p>16 Q That's why I didn't call it a significant</p> <p>17 increase, Doctor. But you do see an increase, though?</p> <p>18 A Yes. One could argue whether those are</p> <p>19 statistically significant in terms of difference.</p> <p>20 Q Understand. But when you were asked by counsel</p> <p>21 for Mr. Nicholas and Nicholas Meats, you were asked to put a</p> <p>22 greater than or less than, right?</p> <p>23 A Yes.</p> <p>24 Q So we go greater than and we go greater than,</p> <p>25 right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">191</p> <p>1 median was 3.08, well below the 10, right?</p> <p>2 A Yes, yes.</p> <p>3 Q So even well below the 10 less than a third of</p> <p>4 the 10, the USGS or State of Pennsylvania concluded it was</p> <p>5 intense agriculture -- sustained intense agriculture that was</p> <p>6 impacting the nitrate levels in the groundwater, right?</p> <p>7 A Yes.</p> <p>8 Q So sustaining intense agriculture can lead to</p> <p>9 groundwater and nitrate levels that are just a median of 3.08,</p> <p>10 right?</p> <p>11 A Yes. It it depend on how that agriculture was</p> <p>12 managed.</p> <p>13 Q Right. What was happening in 1983 we get a</p> <p>14 median 3.08 but the conclusion they could scientifically</p> <p>15 withdraw that you relied on was that that 3.08 was due to</p> <p>16 intense sustained agriculture on the surface of the land in</p> <p>17 this area, right?</p> <p>18 A That's the conclusion they drew. And everyone</p> <p>19 needs to understand that nutrient management has improved</p> <p>20 drastically over the past couple of decades. There weren't</p> <p>21 nutrient management plans back in 1983. So to some extent,</p> <p>22 farmers were winging it a little bit in terms of saying how</p> <p>23 much manure or how much other material needs to be put on the</p> <p>24 soil.</p> <p>25 Q Some may say they are still winging it, Doctor.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">190</p> <p>1 A Yes.</p> <p>2 MR. LACKS: Objection. I believe he's</p> <p>3 describing testimony from a different witness.</p> <p>4 MR. NIDEL: Sorry</p> <p>5 BY MR. X:</p> <p>6 Q The testimony you heard of Mr. Lacks summarized</p> <p>7 greater than. You would agree the second test was greater than</p> <p>8 the first the third greater the second?</p> <p>9 A They are. The numbers are bigger in the second</p> <p>10 and third.</p> <p>11 Q For all these wells we don't know where they</p> <p>12 are in this symphony?</p> <p>13 A I do not.</p> <p>14 Q We don't know on the date of these tests you</p> <p>15 didn't look at any records as to recent application for any</p> <p>16 nutrients, right?</p> <p>17 A No.</p> <p>18 Q Just to be clear, the conclusion of both those</p> <p>19 studies -- sorry.</p> <p>20 The conclusion of both those studies was that</p> <p>21 it was surface agriculture that was causing the nitrates</p> <p>22 contamination of the groundwater, right?</p> <p>23 A Right. I think they made some statement about</p> <p>24 intense agricultural activities or something to that effect.</p> <p>25 Q And though concluded that even though the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">192</p> <p>1 But if we look at -- if we look at what those</p> <p>2 numbers indicate -- so you just went to sort my next point.</p> <p>3 You anticipated I think we see a little bit the same here.</p> <p>4 Back in 1983 we didn't have nutrient management plans, right.</p> <p>5 A That's true.</p> <p>6 Q We had -- our intense agriculture was winging</p> <p>7 it. We were applying nutrients like they were going out of</p> <p>8 style, right?</p> <p>9 A There tended to be an over application of</p> <p>10 nitrogen.</p> <p>11 Q There continued to be an over applicants back</p> <p>12 in 1983 and I forget when the EPA was formed?</p> <p>13 A 1970.</p> <p>14 Q But we didn't have NMPs on these fields and</p> <p>15 your testimony we had over application back in the early '80s?</p> <p>16 A I'm saying there are many examples of over</p> <p>17 application because the farmers were not sending their soil to</p> <p>18 the soil testing lab. And putting on nutrients based on</p> <p>19 anticipated crop yields.</p> <p>20 Q So they weren't putting on the nutrients</p> <p>21 consistent with the agronomic needs of the crops?</p> <p>22 A In some cases.</p> <p>23 Q And they were over applying, but we didn't have</p> <p>24 the same nutrient management requirements, right?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">193</p> <p>1 Q We didn't have the same nutrient management</p> <p>2 plan oversight, right?</p> <p>3 A Right.</p> <p>4 Q We didn't have all of these stems in place to</p> <p>5 limit over application at the time, right?</p> <p>6 A That's right.</p> <p>7 Q And we still ended up with 3.08. 3, 08at, as</p> <p>8 the median despite all of that over application, right?</p> <p>9 A Well you have to quantify over application.</p> <p>10 Q You just told us that they were back in the day</p> <p>11 they were over applying. And they still resulted in something</p> <p>12 that was well below 10, right?</p> <p>13 A There was a tendency to put on more nitrogen</p> <p>14 than the crops needed.</p> <p>15 Q And that's tendency has been decreasing since</p> <p>16 that time period, right?</p> <p>17 A I would say so, because nutrient management</p> <p>18 plans are required now as of 2011, I believe.</p> <p>19 Q So if the agricultural on the surface is</p> <p>20 impacting the groundwater, we would expect the numbers that are</p> <p>21 reflective of that impact to be less than what they were</p> <p>22 independent '80s because back in the '80s they were winging it,</p> <p>23 right?</p> <p>24 A You need to distinguish between regional and</p> <p>25 individual and something on a smaller scale. That is the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">195</p> <p>1 what was the median over application rate then?</p> <p>2 A I don't know.</p> <p>3 Q We don't know?</p> <p>4 A We don't know.</p> <p>5 Q We just know from the regulatory perspective,</p> <p>6 which you have, from an understanding of how these rules have</p> <p>7 changed over time, which you have, that they would be -- they</p> <p>8 would have been more likely to be over applying back in that</p> <p>9 day in '83 because they were winging it than they are now?</p> <p>10 A Yes.</p> <p>11 Q That resulted in a median of 3.08?</p> <p>12 A Right.</p> <p>13 Q Before I let someone tell me what the average</p> <p>14 is in a way that surprises, did they tell what the average was?</p> <p>15 A I don't know if the average is in there.</p> <p>16 Q Did they tell you what the range is?</p> <p>17 A I don't that original report had all the data.</p> <p>18 I didn't see it in that table.</p> <p>19 Q Do you know what the upper 95 percentile</p> <p>20 confidence was?</p> <p>21 A No.</p> <p>22 Q All we have is the median?</p> <p>23 A Median.</p> <p>24 Q The median is 3.08?</p> <p>25 A That's the middle value.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">194</p> <p>1 immediate, right -- I'm not sure how many the USGS was 54</p> <p>2 samples. I don't really know how many samples were used to</p> <p>3 calculate that median in 1983.</p> <p>4 Q Okay. What was -- 3.08. So back in the '80s</p> <p>5 the median -- you don't know how many samples?</p> <p>6 A I don't.</p> <p>7 Q But, again, I think the point -- I think you</p> <p>8 see the point, right? Back in the day they were winging it.</p> <p>9 They didn't have NMPs, they were over applying nutrients and</p> <p>10 the result was a median range in the carbonate region, a median</p> <p>11 figure of 3.08, right?</p> <p>12 A Yes, and you can't say that everyone was was</p> <p>13 over applying.</p> <p>14 Q We're not here to excuse somebody's grandfather</p> <p>15 of over applying in the '80s. I'm use using what you told us</p> <p>16 so I can educate myself and so I can try to educate the jury?</p> <p>17 What we see from the data from the studies you</p> <p>18 relied on is that over application leads to levels that are</p> <p>19 about 3, 3.08.</p> <p>20 A That's a median value. So you can't just say</p> <p>21 over application leads to 3.08. You could say the median over</p> <p>22 application rate leads to 3.08.</p> <p>23 Q Let me ask you this, from the study, from your</p> <p>24 research do you know bac in 1983 with the rate of over</p> <p>25 application that was happening then when they were winging it,</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">196</p> <p>1 Q We don't know if that's a normal distribution,</p> <p>2 we don't know if that's a log normal distribution?</p> <p>3 A We don't.</p> <p>4 Q You talked about the septic and you said one</p> <p>5 was tested and inspected and it was not functioning properly?</p> <p>6 A I believe that's the language in the report.</p> <p>7 Q Did it say the septic wasn't functioning</p> <p>8 properly or some aspect of the septic level functioning</p> <p>9 properly?</p> <p>10 A The absorption field was malfunctioning.</p> <p>11 Q But did it say that the well was threatened?</p> <p>12 A No.</p> <p>13 Q Did it say there were any leaks?</p> <p>14 A No. I think it said there were no leaks.</p> <p>15 Q And no septic report said there were any leaks?</p> <p>16 A Right. That's the tank itself.</p> <p>17 Q All of the septic reports indicated that there</p> <p>18 would be likely no impact on the wells, right?</p> <p>19 A No. They did not.</p> <p>20 Q They did not?</p> <p>21 A No. If the septic tank isn't functioning -- if</p> <p>22 the leach field is not functioning correctly one cannot draw</p> <p>23 the conclusion that there is no impact on the wells.</p> <p>24 Q You're not a biologist, right?</p> <p>25 A I'm not.</p> <p style="text-align: center;">ROUGH DRAFT</p>

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1	Q	You're not -- we talked about DNA. You're not	1	Q	You handed me a small gift. You're C.V. is the
2		a biochemist, right?	2		same in everyone of your reports, right?
3	A	I'm not.	3	A	Okay.
4	Q	You're not a DNA scientist, right?	4	Q	It's basically the guy's qualification, right?
5	A	No, I'm not.	5	A	Yes.
6	Q	You're not a toxicologist?	6	Q	Let's forgive him of that boilerplate. And
7	A	No, I'm not.	7		let's look at the next --
8	Q	Did you review the septic reports?	8	A	Realize he's put that in the conclusion of his
9	A	I did.	9		report.
10	Q	Did that co, they conclude that it was unlikely	10	Q	Okay. You didn't inspect the septic tanks, did
11		or not likely that those septic tanks are were impacted the	11		you?
12		wells?	12	A	I did not.
13	A	I would I would like to see the final paragraph	13	Q	He's the only guy here that inspected the
14		in each one of those, which to me looked like a boilerplate. I	14		septics?
15		standard verbiage that the inspector puts.	15	A	I'm taking issue with the fact you're talking
16	Q	Does that make it false?	16		about ate boilerplate and a C.V. and a boilerplate in a report.
17	A	No.	17	Q	They are both in the report?
18	Q	It doesn't make it false, you use boilerplate	18	A	Which has a conclusion.
19		language in your report, right?	19	Q	So it's your testimony that everyone of these
20	A	We all do.	20		concludes with the same exact boilerplate language?
21	Q	We all do. Right.	21	A	I would have to look at them all but I believe
22	A	Could I see the report if you want to talk	22		that first line is the same.
23		about those.	23	Q	The first line he's been conducting?
24	Q	In your report you use boilerplate language,	24	A	In the conclusion.
25		right?	25	Q	That he's been conducting these for 25 years?
ROUGH DRAFT			ROUGH DRAFT		
198			200		
1	A	We always do.	1	A	I think that's the same. Isn't it?
2	Q	That doesn't mean it's false?	2	Q	If I look at one of your reports for one of the
3	A	No.	3		other industries you testify to, the sewage sludge industry or
4	Q	Let's look at the reports then, I guess?	4		one of these other guys, same C.V., right?
5	A	I'd like to look at the report.	5		MR. LACKS: Objection.
6	Q	I didn't really want to, but I will.	6		THE COURT: Stop, Dr. Elliott.
7		D 99. We got it up on the screen. You've	7		MR. LACKS: Argumentative and I would ask we
8		reviewed that document, right?	8		show the doctor the reports, ask the questions that need to be
9	A	Yes.	9		asked about them and continue the examination.
10	Q	With the system --	10		THE COURT: All right. Do you want just move
11	A	And this is Patricia Leigey's report; is that	11		on. I think the jury understands.
12		correct?	12		MR. NIDEL: I would like to address the point
13	Q	This is Patricia Leigey's, yes.	13		about boilerplate Your Honor.
14		With the system and distance compliance there	14		MR. NIDEL:
15		should be no negative effect on the private well, right.	15	Q	Let's take a look at the next exhibit. Exhibit
16	A	That's what the report says.	16		D 100.
17	Q	Is that what you're referring to as	17		It does say I've been conducting on-lot septic
18		boilerplate?	18		system evaluations for over 25 years, right.
19	A	Yes.	19	A	I t does.
20	Q	Do you know if it's the same in every report?	20	Q	So he's stated his conversations in the same
21	A	Well, I think the first line is the same in	21		manner in both of these reports in the same way that you state
22		every report.	22		your conversationings in the same manner in some of your
23	Q	I have been conducting on-lot septic system	23		reports; is that fair?
24		evaluations for 25 years?	24	A	Agreed.
25	A	I believe that's the same.	25		MR. LACKS: Do you mind if I give him a copy
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">201</p> <p>1 so he doesn't have to strain.</p> <p>2 MR. NIDEL: That's fine. I am highlighting.</p> <p>3 You can give it to him.</p> <p>4 MR. LACKS: No I want to make sure you had a</p> <p>5 chance to see it.</p> <p>6 MR. NIDEL: So it doesn't have highlights on</p> <p>7 it.</p> <p>8 MR. LACKS: That's why I was giving it to you</p> <p>9 to make sure.</p> <p>10 Q You see it says in my opinion at this time and</p> <p>11 in its current condition it likely has no negative effect on</p> <p>12 the private well on site, right?</p> <p>13 A That's the final line, yes.</p> <p>14 Q That's a different final line that the previous</p> <p>15 final line, right? That's not boiler plate?</p> <p>16 A Right, that is not boilerplate because the two</p> <p>17 foreshank going lines are not the same as the two reports.</p> <p>18 Q You were asked about the chain of custody.</p> <p>19 Right?</p> <p>20 A Yes.</p> <p>21 Q And the chain of custody is something we talked</p> <p>22 about this and we now have two experts testifying for the same</p> <p>23 thing. We'll have to cover it again.</p> <p>24 But chain of custody is when you take the</p> <p>25 sample out of the spigot. You fill out. On this date -- I</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">203</p> <p>1 of that. Overruled. You can answer, Dr. Elliott.</p> <p>2 Q Plaintiffs were asked to produce all of the</p> <p>3 documents they have in this case. Do you understand that?</p> <p>4 A Yes.</p> <p>5 Q Do you understand that, sir?</p> <p>6 A I'm sorry.</p> <p>7 Q Do you understand that plaintiffs were asked to</p> <p>8 provide every --</p> <p>9 A Yes.</p> <p>10 Q And if they were emailed a blank form to fill</p> <p>11 out and printed that, they would have that blank form to then</p> <p>12 produce to the Defendants, right?</p> <p>13 A Yes.</p> <p>14 Q If they sent a completed chain of custody to</p> <p>15 the lab they would no longer have that completed chain of</p> <p>16 custody, right?</p> <p>17 A Yes.</p> <p>18 Q That is the typical chain of custody. It goes</p> <p>19 with the sample to document the custody of that sample, right?</p> <p>20 A Yes.</p> <p>21 Q So the lab might have that but the Plaintiff</p> <p>22 would not?</p> <p>23 A Yes.</p> <p>24 Q Do you know if counsel for Nicholas Meats or</p> <p>25 Nicholas Meats every subpoenaed the lab?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">202</p> <p>1 don't know what day today is -- Wednesday I took a sample at</p> <p>2 there time. And I'm sending it to the lab, right.</p> <p>3 A Yes.</p> <p>4 Q And you include that chain of custody in the</p> <p>5 box or the cooler when you send it to the lab?</p> <p>6 A Yes.</p> <p>7 Q So the person who took the sample in this case,</p> <p>8 if I'm the Plaintiff, I don't have that chain custody any</p> <p>9 longer, right?</p> <p>10 A That's right.</p> <p>11 Q So you've testified that you question the</p> <p>12 validity or voracity of the sample results because you don't</p> <p>13 have information about how the chain of custody was done,</p> <p>14 right?</p> <p>15 A There was an exhibit that was reported to be</p> <p>16 the chain of custody.</p> <p>17 Q There was an exhibit that was blank that was --</p> <p>18 that you understand to be the completed chain of custody?</p> <p>19 A That's all they had in the evidentiary</p> <p>20 material.</p> <p>21 Q Do you understand that the plaintiffs were</p> <p>22 asked to produce every document that they had in this case?</p> <p>23 MR. LACKS: Objection, Your Honor.</p> <p>24 Foundation. Getting into the discovery process.</p> <p>25 THE COURT: I think he asked if he was aware</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">204</p> <p>1 A I don't know.</p> <p>2 Q Did you listen to the testimony from Ms. Leigey</p> <p>3 about how she took those samples?</p> <p>4 A No. I wasn't here.</p> <p>5 Q So you have a criticism you don't know if there</p> <p>6 were gloves used what methods were used or if rules were</p> <p>7 followed but you didn't review that evidence, right?</p> <p>8 A I didn't. I was told about it.</p> <p>9 Q And you were asked -- you testified that dairy</p> <p>10 -- someone draining dairy. Touched a hamburger -- touched a</p> <p>11 hamburger or ate beef product?</p> <p>12 A What I was saying there was bovine DNA in any</p> <p>13 dairy products and any beef products.</p> <p>14 Q Do you know what marker is used by the lab,</p> <p>15 Helix Biolabs? It's a fragment of DNA, right.</p> <p>16 A Right. And it's channeled to bovine, the</p> <p>17 bovine species.</p> <p>18 Q Do you know what adenine, quanine, -- I don't</p> <p>19 remember my DNA. Do you know?</p> <p>20 A Adenine, quanine, four building blocks of DNA.</p> <p>21 Cytocine.</p> <p>22 Q I don't know it's kind of like a helix or</p> <p>23 something like that. That's about all I know.</p> <p>24 Do you know anything more than that?</p> <p>25 A A little bit. Maybe the building blocks.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">205</p> <p>1 Q But what's happening is they are looking at a</p> <p>2 very discrete section of DNA, right?</p> <p>3 A Yes. In fact that Helix is broken and they're</p> <p>4 just looking at one part of it, one side of it in that test.</p> <p>5 Q You reminded me. They split the DNA, submit</p> <p>6 the Helix?</p> <p>7 A Yes.</p> <p>8 Q And they ^ FIX/DROPPED on one side?</p> <p>9 A Yes.</p> <p>10 Q And they looked at a very small section for</p> <p>11 that bovine marker?</p> <p>12 A Yes.</p> <p>13 Q Do you know what that section is?</p> <p>14 A No</p> <p>15 Q Do you know how it's affected by cooking?</p> <p>16 A It can be destroyed in cooking.</p> <p>17 Q Do you know how it's affected by the human gut?</p> <p>18 A No, but I know that you can find it. If you</p> <p>19 eat a hamburger you'll find bovine DNA in your feces.</p> <p>20 Q For how long?</p> <p>21 A I don't know.</p> <p>22 Q And when that goes out into a septic tank how</p> <p>23 long does that stay detectable in that septic system?</p> <p>24 A I don't know.</p> <p>25 Q You don't know if it's a day, an hour or six</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">207</p> <p>1 Q Are you familiar with the Penn State farming</p> <p>2 extension. Penn State's extension</p> <p>3 A Yeah, the extension service, yes.</p> <p>4 Q They are an authority on agronomic rates and</p> <p>5 farming?</p> <p>6 A Yes, each county has its own extension office</p> <p>7 to provide information to the farmers.</p> <p>8 Q Penn State provides that information to</p> <p>9 farmers, right?</p> <p>10 A Yes.</p> <p>11 Q And you said that you spot checked?</p> <p>12 A I'm sorry.</p> <p>13 Q You said you spot checked. You spot checked</p> <p>14 their applications?</p> <p>15 A I'm not sure I said that.</p> <p>16 Q I wrote it down. I'm pretty sure you spot</p> <p>17 checked their applications?</p> <p>18 A What application were you referring to?</p> <p>19 Q You were asked if they follow standard</p> <p>20 agronomic practices.</p> <p>21 A Oh, okay. I did not look at every nutrient</p> <p>22 management plan.</p> <p>23 Q You didn't look at every nutrient management</p> <p>24 plan?</p> <p>25 A I did not look at every nutrient management</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">206</p> <p>1 years, right?</p> <p>2 A No.</p> <p>3 Q You said -- they followed standard agronomic</p> <p>4 practices, right?</p> <p>5 A Yes.</p> <p>6 Q Are you familiar with the Penn State's agronomy</p> <p>7 guide?</p> <p>8 A I am.</p> <p>9 Q Is that an authoritative reference that you</p> <p>10 rely on?</p> <p>11 A It is.</p> <p>12 Q Is that a reference that you relied on -- well</p> <p>13 do you rely on that in your professional consulting work?</p> <p>14 A Yes.</p> <p>15 Q Is it something you relied on in this case?</p> <p>16 A Yes.</p> <p>17 MR. NIDEL: The plaintiffs would seek to admit</p> <p>18 the Penn State agronomy guide into evidence as exhibit P-53?</p> <p>19 THE COURT: P-53.</p> <p>20 MR. NIDEL: P-53, yes.</p> <p>21 THE COURT: Any objection.</p> <p>22 MR. LACKS: No objection, Your Honor.</p> <p>23 THE COURT: It's admitted without objection.</p> <p>24 Plaintiffs' 53.</p> <p>25 MR. NIDEL:</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">208</p> <p>1 plan.</p> <p>2 Q You didn't look at every FPR report, right?</p> <p>3 A Which reports.</p> <p>4 Q The drag line reports?</p> <p>5 A No.</p> <p>6 Q Did you look at any of the drag line reports?</p> <p>7 A Some.</p> <p>8 Q You didn't look at them all, right?</p> <p>9 No</p> <p>10 Q You didn't calculate whether they were applying</p> <p>11 -- how much nutrients they were applying, right?</p> <p>12 No</p> <p>13 Q You didn't compare that -- you didn't calculate</p> <p>14 how many gallons per acre they were applying?</p> <p>15 A Not specifically. I mean I took the FPR</p> <p>16 analysis and then I could determine the plan available nitrogen</p> <p>17 and then you know the pound of nitrogen per gallon and then</p> <p>18 that's how you can surmise whether they are putting enough on</p> <p>19 or the right amount on for a particular crop.</p> <p>20 Q That's interesting.</p> <p>21 So you took the nitrate number from -- sorry</p> <p>22 the nitrogen number, total nitrogen number from the analysis</p> <p>23 and you used that to check what the pound available nitrogen</p> <p>24 were being applied to the field.</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">209</p> <p>1 Q Which of those numbers did you use?</p> <p>2 A Well I just said I just looked at one of the</p> <p>3 nutrient management plans and went through it to determine that</p> <p>4 they had properly calculated the amount of planned available</p> <p>5 nitrogen.</p> <p>6 Q My question you said there were -- there was a</p> <p>7 time where they took five samples every month. Sorry one</p> <p>8 sample each in five months?</p> <p>9 A I believe it was in 2021 they monthly samples</p> <p>10 for five months in a row.</p> <p>11 Q And that was included in one of the NMPs?</p> <p>12 Where was that data?</p> <p>13 A That must have been -- it was in the</p> <p>14 evidentiary material.</p> <p>15 Q It's your testimony that they took -- they took</p> <p>16 one sample every month for five consecutive months. So five</p> <p>17 samples?</p> <p>18 A Yes.</p> <p>19 Q Can you tell me what the variation was from</p> <p>20 sample to sample?</p> <p>21 A I can't -- the mean of those values was 9.65</p> <p>22 pound of nitrogen per thousand gallons.</p> <p>23 Q Do you know?</p> <p>24 A They ranged up to 14 I believe.</p> <p>25 Q Do you know what the total range is what we've</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">211</p> <p>1 A Yeah. Right. We have no multiple samples from</p> <p>2 the same day which is kind of what you're getting at. We have</p> <p>3 one sample per month for five month the.</p> <p>4 Q What is the variability?</p> <p>5 A I don't know exactly.</p> <p>6 Q Do you know if it's fairly consistent?</p> <p>7 A I think it ranged -- I'm not sure. I know the</p> <p>8 highest number was about 14 or 15 pounds per thousand gallons.</p> <p>9 Q Do you know if it tested higher than that at</p> <p>10 any point in time?</p> <p>11 A I don't know.</p> <p>12 Q You said -- what was the spot checking that you</p> <p>13 did?</p> <p>14 A What I meant was I did not look through every</p> <p>15 nutrient management plan.</p> <p>16 Q So you testified that they applied in standard</p> <p>17 agronomic practices, right?</p> <p>18 A Right.</p> <p>19 Q Your basis for that is you spot check the NMPs,</p> <p>20 right?</p> <p>21 A Right.</p> <p>22 Q You did not -- you did not spot check the FPR</p> <p>23 annual reports, right?</p> <p>24 A FPR -- I'm not sure what reports you're</p> <p>25 referring to.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">210</p> <p>1 seen in this case for that FPR tank?</p> <p>2 A Range of what.</p> <p>3 Q Low to high. Nitrogen levels?</p> <p>4 A In the tank -- in which tank.</p> <p>5 Q FPR tank?</p> <p>6 A What tank? Are you talking about a truck or</p> <p>7 are you talking about the aeration tank?</p> <p>8 Q Where do they sample the FPR to get those</p> <p>9 nutrient numbers?</p> <p>10 A I'm not certain but I would assume it would be</p> <p>11 tank number 2.</p> <p>12 Q So what's the range of tank number 2's nitrogen</p> <p>13 content?</p> <p>14 A I don't know.</p> <p>15 Q Do you know if it goes from 3 to 4 up to 9?</p> <p>16 A It's well mixed so you would expect pretty</p> <p>17 consistent.</p> <p>18 Q Your expectation because it's well mixed you</p> <p>19 would expect it to be pretty consistent?</p> <p>20 A Yeah, if it's well mixed.</p> <p>21 Q So variability on the Order of what, 20, 30, 40</p> <p>22 percent?</p> <p>23 A I can't say.</p> <p>24 Q Well you said -- I want you to tell the jury</p> <p>25 what you mean by fairly consistent?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">212</p> <p>1 Q The FPR annual reports. You know what the NMP</p> <p>2 is, right?</p> <p>3 A Yes.</p> <p>4 Q Did you rely on anything else for your opinion</p> <p>5 that the standard agronomic practices were followed?</p> <p>6 A No.</p> <p>7 Q Well the NMPs don't contain how much was</p> <p>8 actually applied, right?</p> <p>9 A No. But the gallonage -- through the gallon</p> <p>10 values you can get how much was actually applied.</p> <p>11 Q I think I see where we're going?</p> <p>12 The NMP is a plan.</p> <p>13 A Yes.</p> <p>14 Q It's a nutrient management plan. And that plan</p> <p>15 identify what the consultant has identified what they should</p> <p>16 apply on a field?</p> <p>17 A Yes. Team TeamAg.</p> <p>18 Q TeamAg, yes. But it does not report what was</p> <p>19 actually applied, right?</p> <p>20 A Right.</p> <p>21 Q So when you say that they followed standard</p> <p>22 agronomic practices what you mean is that their plans were</p> <p>23 consistent with agronomic practices, right?</p> <p>24 A Yes.</p> <p>25 Q You don't know what they actually did, how that</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">213</p> <p>1 compared to agronomic practices, right?</p> <p>2 A No. Other than looking at the gallons they</p> <p>3 applied to some fields and saying that that was reasonable with</p> <p>4 the plan.</p> <p>5 Q You didn't do a thorough review of the</p> <p>6 gallonage, right?</p> <p>7 A No, not a thorough review.</p> <p>8 Q All you did was look and see their plan was</p> <p>9 9,000 gallons and you can see in those nutrient management plan</p> <p>10 which we have all seen and been bored to death by but those</p> <p>11 columns that zero out the nutrient as you apply each seasons?</p> <p>12 Q You check that map which is part of a</p> <p>13 spreadsheet provided by the State,</p> <p>14 A By TeamAg, yes.</p> <p>15 Q Other than that you didn't check what happened</p> <p>16 in the field?</p> <p>17 A I didn't check them all, no.</p> <p>18 Q And so you're not offering an opinion that they</p> <p>19 actually applied the FPR in standard agronomic practices. Your</p> <p>20 opinion is that their plans were consistent with standard</p> <p>21 agronomic practice, right?</p> <p>22 A Yes.</p> <p>23 Q Now, you were asked about whether FPR had a</p> <p>24 requirement of 9,000 gallons per acre or what this guideline</p> <p>25 requirement was?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">215</p> <p>1 A I have.</p> <p>2 Q Sinegrow?</p> <p>3 A Yes.</p> <p>4 Q And you were asked about this at the</p> <p>5 environment hearing board -- not about biosolids. We're going</p> <p>6 back to 9,000. You were asked about the limitations how much</p> <p>7 they could apply. Do you remember testifying at the hearing</p> <p>8 board?</p> <p>9 A Yes, I have my testimony here somewhere.</p> <p>10 Q You have a copy of your testimony?</p> <p>11 A No. I don't think I have it here.</p> <p>12 Q You have it, you have a copy of it, right?</p> <p>13 A Yes.</p> <p>14 Q Do you have it with you today?</p> <p>15 A No.</p> <p>16 Q You know -- you've reviewed that recently?</p> <p>17 A Yes.</p> <p>18 Q You reviewed that to prepare for your testimony</p> <p>19 here, right?</p> <p>20 A Yes.</p> <p>21 Q And did you review all of the testimony or just</p> <p>22 your own testimony?</p> <p>23 A Just my own.</p> <p>24 Q You testified you were asked if there were</p> <p>25 limit as to how much they could apply, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">214</p> <p>1 A Yes.</p> <p>2 Q You've testified in front of the environmental</p> <p>3 hearing board on behalf of Nicholas Meats, right?</p> <p>4 A Yes.</p> <p>5 Q You've testified before on behalf of Nicholas</p> <p>6 Meats in other litigation, right?</p> <p>7 A Yes.</p> <p>8 Q And you've testified for other defendants in</p> <p>9 litigation, right?</p> <p>10 A Yes.</p> <p>11 Q And you've testified on behalf of the sewage</p> <p>12 sludge or the biosolids industry, industry, yes?</p> <p>13 A</p> <p>14 Q What is sewage sludge or sewage solids?</p> <p>15 A What is it.</p> <p>16 Q Yes?</p> <p>17 A That is the solid material that's removed from</p> <p>18 treatment of domestic wastewater.</p> <p>19 Q So it's treated domestic wastewater, it's the</p> <p>20 sludge, the solid?</p> <p>21 A It's the solids separated out and further</p> <p>22 treated.</p> <p>23 Q Those are land applied?</p> <p>24 A They are.</p> <p>25 Q And you've he testified on their behalf?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">216</p> <p>1 A Could you be more specific.</p> <p>2 Q I'm with you.</p> <p>3 How much they could apply in the winter.</p> <p>4 A I'm not sure that was a specific question.</p> <p>5 Q How much they could apply on frozen ground?</p> <p>6 A I think it was more about how or whether they</p> <p>7 could apply on frozen ground not about how much.</p> <p>8 Q There was also a question about what the limit</p> <p>9 would be, right? You testified it was 9,000 gallons per acre</p> <p>10 on -- in the winter on frozen ground, right?</p> <p>11 A I don't remember that.</p> <p>12 Q Is there I limit of 5,000 gallons per acre on</p> <p>13 frozen ground?</p> <p>14 A I don't know of one.</p> <p>15 Q You don't know of one?</p> <p>16 A I don't think there is.</p> <p>17 Q You were asked very specifically if the FPR</p> <p>18 manual had the 9,000 gallons per acre limit?</p> <p>19 A It does not.</p> <p>20 Q Thank you for that.</p> <p>21 That wasn't my question.</p> <p>22 You were asked that though, right.</p> <p>23 A I don't recall.</p> <p>24 Q Are you familiar with the NMP nutrient</p> <p>25 management plan technical manual?</p> <p style="text-align: center;">ROUGH DRAFT</p>

217			219		
1	A	Yes.	1	Q	Is it your testimony that's not above the
2	Q	That has a limit of 9000 gallons?	2		limit?
3	A	Yes.	3		MR. LACKS: Objection. Mischaracterizes the
4	Q	That has a limit that cannot exceed 9000	4		limit. The question was about bad management practices?
5		gallons?	5	Q	Is it your testimony that's not involved --
6	A	That is for a single application. It doesn't	6	A	That's not my testimony.
7		say 9,000 gallons per day. It says 9,000 gallons for any	7	Q	Is this a bad management practice?
8		single application.	8	A	I can't say.
9	Q	Right. And it's a limit in the nutrient	9	Q	I'm going to -- I'll go 9100. Are we getting
10		management plan technical guide, right?	10		warmer?
11	A	Yes. It's in Act 38.	11		MR. LACKS: Objection. Argumentative.
12	Q	It's a requirement, right?	12	Q	Are we getting closer to a bad management
13	A	A requirement for single application.	13		practice?
14	Q	It's a requirement for single applications that	14	A	It depends on the soil and the conditions.
15		you cannot exceed, right?	15	Q	What's under what soil? Would that be a best
16	A	Right. I think it's a general guideline and	16		management practice?
17		it's a requirement. You testified to that, right.	17	A	Under a soil that's not prone to runoff.
18	A	It's in the document, yes.	18	Q	On a soil prone to runoff this would start to
19	Q	It's part of Act 38's requirements, right?	19		be a bad management practice?
20	A	Yes.	20	A	It depends. To be prone to runoff is a very
21	Q	And do you know if they applied more than 9,000	21		general term. It's not quantified.
22		gallons per acre per application?	22	Q	If we get above 9100 on soil that's prone to
23	A	I think there's some instances where they did.	23		runoff, you would agree that's not the best management
24	Q	Do you know if they applied more than 9000	24		practice, right?
25		gallons per acre for applicationi by 10, 20, 30 and 70,000	25	A	Yes, in general.
ROUGH DRAFT			ROUGH DRAFT		
218			220		
1		gallons?	1	Q	And in fact, you would agree that if we were at
2	A	I don't know. I don't have the documentation	2		let's say 9500, that would start to be --certainly on soil
3		to make a judgment there.	3		that's prone to runoff that would be a bad management practice,
4	Q	Over applying the 9,000 gallons per acre that	4		right?
5		is not -- that is a bad management practice, right?	5	A	It depends on the antecedent moisture content
6	A	I'm sorry.	6		of the soil.
7	Q	That is a bad management practice, right?	7	Q	For the jury --
8	A	A bad way?	8	A	Antecedent means the soil moisture content
9	Q	A bad management practice?	9		before the application.
10	A	It's guideline. In other words, if you put on	10	Q	And you bring up a good point. Because if the
11		9,050 gallons per acre I wouldn't say that's a bad nutrient	11		antecedent soil moisture content was high, applying 9,000
12		management practice.	12		gallons per acre may also be a bad management practice?
13	Q	9,050. All right?	13	A	Potentially.
14		So, the limit from Act 38 per application is	14	Q	It would be a bad management practice to apply
15		9,000 gallons per acre, right.	15		on soils that are wet, saturated?
16	A	Correct. That's the number.	16	A	Depends. Depends on the slope, depends on how
17	Q	Now, you said that 9,050 would not be -- well,	17		much you're putting on. So when you say saturated, that's not
18		if we did our greater than less than that would be greater	18		a very specific term.
19		than?	19	Q	Well, you said it dependent soils, it dependent
20	A	That's greater than.	20		slopes, right?
21	Q	But you're your testimony is that's not above	21	A	Correct.
22		the weight?	22	Q	Do you know if the soils on F1 F2 and F3 are
23		MR. LACKS: Objection. Mischaracterizes	23		rated high for runoff potential?
24		testimony.	24	A	I know the slopes. Those are -- that's a
25		THE COURT: Sustained..	25		bucannan soil, I believe. That is, I think, hydrologic soil
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">221</p> <p>1 group D, perhaps. I'm not sure. I can't say with</p> <p>2 specifically.</p> <p>3 Q Do you know if they're rated high for runoff</p> <p>4 potential?</p> <p>5 A I don't believe.</p> <p>6 Q But you would agree with me, if soils are rated</p> <p>7 high for runoff potential it would be bad management to be</p> <p>8 applying above 9100 gallons per acre, right?</p> <p>9 A Yeah. More care should be taken.</p> <p>10 Q And you did not review the soils as part of</p> <p>11 your opinion on their best management practices, right?</p> <p>12 A Right. I know a couple of soil series that are</p> <p>13 in those fields.</p> <p>14 Q Do you know what the slopes are?</p> <p>15 A Yes.</p> <p>16 Q What are the slopes?</p> <p>17 A The slopes in fields what are -- what if, F1</p> <p>18 and 2, are B and C. In other words, when you look at the soil</p> <p>19 designations it will say BUB or BUC. And the last parameter in</p> <p>20 that -- in the soils description give you the slope. If it</p> <p>21 says A, it's Zero to Three percent slope. If it says B it's</p> <p>22 three to eight percent slope. If it says C it's 8 to 15</p> <p>23 percent slope. Those are B and C. So those would be 3 to 15</p> <p>24 percent slope.</p> <p>25 Q So the B C -- some of those are 8 to 15 percent</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">223</p> <p>1 Q And you were asked by counsel about the 9,000</p> <p>2 and you said well on typical soils. That's a conservative</p> <p>3 limit. I think your report says conservative limit for typical</p> <p>4 soils?</p> <p>5 A I don't know if it's typical soils or not. I</p> <p>6 think -- I think they did it on a soil more prone to runoff</p> <p>7 because they want to be conservative. They want to be under</p> <p>8 the bag.</p> <p>9 THE COURT: Stop. Stop. We're going to take</p> <p>10 a break.</p> <p>11 Label put your tablets away. In the nice</p> <p>12 little are you here all day.</p> <p>13 Don't discuss the testimony. We were not done</p> <p>14 yet. Don't deliberate. Have a good snack. Go to the</p> <p>15 bathroom. We'll see you in a little bit. You can move that.</p> <p>16 Get it out of the way. Thank you deputy.</p> <p>17 (Whereupon, the jurors were OES court from the</p> <p>18 courtroom.)</p> <p>19 THE COURT: Mr. Nidel anything while they're</p> <p>20 out.</p> <p>21 MR. NIDEL: No, Your Honor.</p> <p>22 THE COURT: Mr. Lacks.</p> <p>23 MR. LACKS: No, Your Honor.</p> <p>24 THE COURT: Neither one of you talk to Dr.</p> <p>25 Elliott during the break p.m.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">222</p> <p>1 slopes, right?</p> <p>2 A Potentially, yeah. It's a very broad ranges.</p> <p>3 C would be 8 to 15. They are just saying that soil tends to be</p> <p>4 -- tends to be on topography that has those slopes.</p> <p>5 Q And you didn't do -- other than having those</p> <p>6 numbers you didn't do any assessments of slopes, right?</p> <p>7 A No</p> <p>8 Q You don't know if they're 8 or 14.5?</p> <p>9 A Right.</p> <p>10 Q You said it would -- applying on wet ground</p> <p>11 whether that was the best management practice would depend on</p> <p>12 the slope?</p> <p>13 A Yes.</p> <p>14 Q At the C level at the 8 to 15 applying on wet</p> <p>15 ground that would start to be a best management practice,</p> <p>16 right?</p> <p>17 A One should be more careful when it's steeper</p> <p>18 slopes.</p> <p>19 Q At what point would that become a bad</p> <p>20 management practice. You should not apply on is the grade of</p> <p>21 ground. Is that fair</p> <p>22 A The FPR management document basically says you</p> <p>23 can apply up to 15 percent slope, and they actually say -- the</p> <p>24 footnote of the table says you can go to 20 percent slope if</p> <p>25 you have adequate vegetative cover.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">224</p> <p>1 Thank you very much. We'll see you in about</p> <p>2 20 minutes.</p> <p>3 (Time noted, 3:07 p.m.)</p> <p>4 (Recess.)</p> <p>5 (Time noted, 3:22 p.m.)</p> <p>6 THE COURT: Everyone can be seated. Mr. Nidel</p> <p>7 before the jury comes back, anything.</p> <p>8 MR. NIDEL: No, Your Honor.</p> <p>9 MR. LACKS: No, Your Honor.</p> <p>10 THE COURT: Doctor do you want come down here</p> <p>11 and have a seat. Do you want tell the jurors to come on over.</p> <p>12 (Whereupon, the jurors were escorted into the</p> <p>13 courtroom. )</p> <p>14 (Time noted, 3:23 p.m.)</p> <p>15 Well come back everyone. I'm hope you had a</p> <p>16 nice break. We'll go with Dr. Elliott on cross examination.</p> <p>17 Mr. Nidel.</p> <p>18 BY MR. NIDEL:</p> <p>19 Q Good afternoon again, Dr. Elliott.</p> <p>20 A Good afternoon.</p> <p>21 Q You were a reviewer on the FPR manual, right?</p> <p>22 A Correct.</p> <p>23 Q And were you paid for that review?</p> <p>24 A No.</p> <p>25 Q So that was something you did as just part of</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">225</p> <p>1 your professional experience?</p> <p>2 A Correct.</p> <p>3 Q And you were asked about, whether it was a</p> <p>4 violation of -- I think it was best management practice, if</p> <p>5 there were unintentional errors. I think there was testimony</p> <p>6 that you gave testimony well, if they had unintentional errors</p> <p>7 that wouldn't be a violation, right?</p> <p>8 A I think when we're evaluating any operation, we</p> <p>9 have to determine whether they're following the spirit or the</p> <p>10 letter of the law.</p> <p>11 Q Well, is there an exception for unintentional</p> <p>12 errors with respect to setbacks?</p> <p>13 A I don't know.</p> <p>14 Q The setbacks I think what I read in your</p> <p>15 report, they are a requirement, right?</p> <p>16 A Right.</p> <p>17 Q And you were asked -- well, you were asked what</p> <p>18 the best management practices that they followed and I think</p> <p>19 broadly you were asked to identify the best management</p> <p>20 practices that Nicholas Meat followed. Right?</p> <p>21 A Correct.</p> <p>22 Q And the shorthand for that is by the Court BMP?</p> <p>23 A Correct.</p> <p>24 Q You've identified best management practices</p> <p>25 which -- well let's talk about the best management practice for</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">227</p> <p>1 A I can think of other ones but I'm not sure if</p> <p>2 they did or not.</p> <p>3 Q You can think of other best management practice</p> <p>4 but these are the two that you think that they did?</p> <p>5 A Yes.</p> <p>6 Q How about BMPs -- how about other BMPs. What</p> <p>7 other BMPs did they do?</p> <p>8 Q You testified previously about this. And I can</p> <p>9 maybe help you out.</p> <p>10 I believe your testimony was they followed</p> <p>11 setbacks.</p> <p>12 A Setbacks is one of the BMPs, yes.</p> <p>13 Q It's your testimony that they followed</p> <p>14 setbacks?</p> <p>15 A Yes.</p> <p>16 Q Is there any other BMP that they implemented</p> <p>17 that you can identify?</p> <p>18 A Appropriate nitrogen application for the crop</p> <p>19 grown. Matching the nutrients in the material to the specific</p> <p>20 crop being grown.</p> <p>21 Q Appropriate N 2, is that nitrogen rate?</p> <p>22 A That's nitrogen gas.</p> <p>23 Q I'm not going to try my chemical?</p> <p>24 Appropriate nitrogen rates, right.</p> <p>25 A Right.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">226</p> <p>1 odors since I have my notes. You identified odor best</p> <p>2 management practices that they were using, right?</p> <p>3 A Yes.</p> <p>4 Q Har those?</p> <p>5 A Through.</p> <p>6 Q What are those?</p> <p>7 A For example, they are aerating their wastewater</p> <p>8 prior to application.</p> <p>9 Q And by wastewater you mean FPR?</p> <p>10 A FPR.</p> <p>11 Q And what else are they doing?</p> <p>12 A Are you talking about in general?</p> <p>13 Q BMP to control odor?</p> <p>14 A You could incorporate the material.</p> <p>15 Q I want to know what they did.</p> <p>16 A They used load trajectory application.</p> <p>17 Q Your testimony was they applied close to the</p> <p>18 surface?</p> <p>19 A Right. There's that's what I meant.</p> <p>20 Q You meant low trajectory?</p> <p>21 A Yes, close to the surface as opposed to</p> <p>22 spraying it up into the air.</p> <p>23 Q Anything else that -- any other best management</p> <p>24 practice that they did -- that they implemented to control</p> <p>25 odor?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">228</p> <p>1 Q Any other BMPs that they follow?</p> <p>2 A I believe the one about the one on we had on</p> <p>3 odors is also a BMP in terms of near surface application of the</p> <p>4 material in that would be a BMP for multiple reasons, right.</p> <p>5 A Yes.</p> <p>6 Q That would be to prevent runoff as well as to</p> <p>7 minimize odors?</p> <p>8 A Correct.</p> <p>9 Q Anything else that they did?</p> <p>10 A I didn't think of anything at this moment.</p> <p>11 Q When you say that they apply the appropriate</p> <p>12 amount, you only know what they plan to apply. That's what you</p> <p>13 review the NMPs?</p> <p>14 A Right. Other than if you can look at gallonage</p> <p>15 applied and see if that's and knowing the nitrogen content of</p> <p>16 the material and the nitrogen requirement of the crop to be</p> <p>17 grown, you can look and see whether there's a match there.</p> <p>18 Q But you didn't do the magic, right? You just</p> <p>19 looked at what their plan was, right?</p> <p>20 A I may have spot checked some of them.</p> <p>21 Q But you cannot testify under oath that they</p> <p>22 were consistent with those nitrogen?</p> <p>23 A I cannot testify that everyone was exactly</p> <p>24 right.</p> <p>25 Q And I asked you about the agricultural</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">229</p> <p>1 extension at Penn State. I'm handing an a printout for the</p> <p>2 agricultural extension at Penn State for orchard grass. Do you</p> <p>3 see that?</p> <p>4 A Yes.</p> <p>5 Q Does that appear to be Penn State's</p> <p>6 agricultural information for farmers updated February 10, 2025?</p> <p>7 A It appears to be.</p> <p>8 Q Is that a reliable and authoritative resource</p> <p>9 for farming in the State of Pennsylvania?</p> <p>10 A It is.</p> <p>11 MR. NIDEL: Your Honor, request to seek to</p> <p>12 admit Plaintiffs' exhibit P 112 into evidence which is the</p> <p>13 orchard grass from the Pennsylvania agricultural extension,</p> <p>14 Penn State University.</p> <p>15 THE COURT: Orchard grass.</p> <p>16 MR. NIDEL: Orchard grass, yes.</p> <p>17 THE COURT: Is that actually the grass?</p> <p>18 MR. NIDEL: It's may be a mixture of grass</p> <p>19 seeds. Commonly called hay.</p> <p>20 THE COURT: Any objection?</p> <p>21 MR. LACKS: Other than give it a name that</p> <p>22 better identifies what information it contains.</p> <p>23 MR. NIDEL: Penn State extension orchard</p> <p>24 grass. All it says is orchard grass. I'm trying to be</p> <p>25 creative.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">231</p> <p>1 an agronomic rate you apply 50 before it's planted and 50 after</p> <p>2 each cut?</p> <p>3 A Right, that's to maximum your yields.</p> <p>4 Q If we look at what was the NMP -- doctor if you</p> <p>5 can look over here. In the NMP's it was identified with</p> <p>6 seasonal applications early fall, winter, spring NMP, summer.</p> <p>7 And then back to fall, right?</p> <p>8 A Right.</p> <p>9 Q And these applications would have been in 9,000</p> <p>10 gallons seasonal applications depending on the crop, right?</p> <p>11 A Right. For grasses after a cutting you put on</p> <p>12 more. If there's something like corn you put it on once.</p> <p>13 Q So corn you would put it all at once in the</p> <p>14 spring before it's planted?</p> <p>15 A Right.</p> <p>16 Q Part of that is because you can't run equipment</p> <p>17 over?</p> <p>18 A Yes.</p> <p>19 Q And something like orchard grass you would</p> <p>20 apply periodically and, in discrete amounts, fearedically</p> <p>21 before the harvest, before the planting and then after each</p> <p>22 cutting?</p> <p>23 A After each cutting.</p> <p>24 Q That's how the NMP was written, right?</p> <p>25 A I'm sorry, you're referring to this?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">230</p> <p>1 MR. LACKS: Orchard grass sheet.</p> <p>2 MR. NIDEL: I'm fine with sheet.</p> <p>3 MR. LACKS: What's the number.</p> <p>4 THE COURT: P 112. Any objection.</p> <p>5 MR. LACKS: No.</p> <p>6 MR. NIDEL:</p> <p>7 Q If we take a look at the third physical page,</p> <p>8 it's the last page of text just before the summary?</p> <p>9 A Yes.</p> <p>10 Q The last sentence of the second paragraph under</p> <p>11 fertility it says the nitrogen should be applied in split</p> <p>12 applications of 50 pound per acre in early spring when the</p> <p>13 orchard grass begins to green up and 50 pounds per acre after</p> <p>14 each cutting?</p> <p>15 Do you see that.</p> <p>16 A I do.</p> <p>17 Q Do you agree with that?</p> <p>18 A Yeah. I'm not going to dispute what the</p> <p>19 agronomic guide says.</p> <p>20 Q You would agree that's the agronomic rate of</p> <p>21 for orchard, right? That's a description of how your</p> <p>22 agronomically apply nutrients to orchard grass, right?</p> <p>23 A Right. It says annual applications of 150</p> <p>24 pounds per acre or economical.</p> <p>25 Q This is total an all of 150 pounds per acre and</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">232</p> <p>1 Q The nutrient management plan that you reviewed</p> <p>2 for Nicholas Meats. Is that how they were written?</p> <p>3 A I'm not sure. For, for orchard grass. I</p> <p>4 looked at the total amount, the 150 pounds per per acre.</p> <p>5 That's reasonable form orchard grass go do you know if they</p> <p>6 applied 150 pounds or 200 pounds or how many pounds did they</p> <p>7 apply to orchard grass.</p> <p>8 A The plan call for 150 and then you can</p> <p>9 calculate based on the concentrations in the analysis, how many</p> <p>10 gallons would be needed.</p> <p>11 Q Did the plans call for 150 or 200 or 250?</p> <p>12 A It depends on the soil. Different soils have</p> <p>13 different productivity ratings.</p> <p>14 Q Which did Nicholas Meats NMPs call for?</p> <p>15 A I don't know specifically.</p> <p>16 Q You don't know if it was 150 or 200 or 250?</p> <p>17 A It could be more.</p> <p>18 Q You don't know, right?</p> <p>19 A I don't know.</p> <p>20 Q So the NMP was structured like this, you had</p> <p>21 seasonal applications?</p> <p>22 A Yeah.</p> <p>23 Q That's what the columns were, every season you</p> <p>24 applied 9,000 gallons sometimes two times in a season, right?</p> <p>25 A Right. Try to split the nitrogen applications.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">233</p> <p>1 Q You don't want to cluster all of the nitrogen</p> <p>2 -- it would not be a best management practice to, for example,</p> <p>3 cluster here just multiple applications at one time, right?</p> <p>4 A Yeah. And the split application is to maximize</p> <p>5 the yields, you come and cut the grass. You put more on.</p> <p>6 Q I've used the analogy. I don't know if you've</p> <p>7 been here and heard. Probably some people are sick of hearing</p> <p>8 it. You don't eat all your meals for the week on Monday</p> <p>9 morning?</p> <p>10 A Right.</p> <p>11 Q The agronomic feeds of the crop is those</p> <p>12 nutrients need to be spread out, right?</p> <p>13 A Yeah. I mean, obviously for something like</p> <p>14 corn it's not spread out.</p> <p>15 Q Can't be spread out?</p> <p>16 A Right.</p> <p>17 Q Something for what hay or orchard grass it</p> <p>18 would be spread out like the black indicates?</p> <p>19 A Yes.</p> <p>20 Q That would be the agronomic -- that would be</p> <p>21 based on the agronomic needs, right?</p> <p>22 A Yes, that's maximizing the value of the</p> <p>23 nitrogen material.</p> <p>24 Q It's minimizing the chances for nutrient</p> <p>25 runoff, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">235</p> <p>1 right equipment?</p> <p>2 A Correct.</p> <p>3 Q Were they allowed to before that hearing board</p> <p>4 testimony?</p> <p>5 A No.</p> <p>6 Q They were found in violation, they were not</p> <p>7 allowed when they were initial applying on snow covered frozen</p> <p>8 ground?</p> <p>9 A That's right.</p> <p>10 Q You testified on their behalf and you actually</p> <p>11 were quoted in I think some articles as saying well saying the</p> <p>12 bazooka was the way to do this in the snow?</p> <p>13 A Right. It's permitted in other states to apply</p> <p>14 on snow covered grounds if you use the appropriate equipment.</p> <p>15 Q And you felt that the bazooka was the</p> <p>16 appropriate equipment?</p> <p>17 A That's one type of equipment.</p> <p>18 Q You testified I believe you said in 2020, but</p> <p>19 do you know when they actually had that hearing board testimony</p> <p>20 and when they got the bazooka?</p> <p>21 A I don't know. I mean -- I don't know when they</p> <p>22 got the bazooka.</p> <p>23 Q I want to make sure it's clear. I believe you</p> <p>24 testified 2020 but you do not know when they started?</p> <p>25 A Purchased that equipment, I don't know.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">234</p> <p>1 A Hard to say for runoff. It may not be any</p> <p>2 runoff.</p> <p>3 Q Nitrification?</p> <p>4 A That's related to runoff.</p> <p>5 Q It's groundwater runoff?</p> <p>6 A Nitrification is surface water.</p> <p>7 Q So is it to supply what the crop needs at the</p> <p>8 time it needs it?</p> <p>9 A Yes, to optimize the diet.</p> <p>10 Q That would be the best management practice,</p> <p>11 right?</p> <p>12 A That would be.</p> <p>13 Q Do you know if they applied consistent with the</p> <p>14 NMP's plan?</p> <p>15 A I don't know.</p> <p>16 Q You didn't review their?</p> <p>17 A I didn't review everyone of those on orchard</p> <p>18 grass.</p> <p>19 Q And I know you said not everyone. Did you but</p> <p>20 you did not focus your review on how they actually applied?</p> <p>21 A No</p> <p>22 Q You don't know if --</p> <p>23 A I don't.</p> <p>24 Q You said that they -- you talked about they</p> <p>25 were permitted to apply on snow covered fields if they had the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">236</p> <p>1 Q So you don't know when they were applying on</p> <p>2 frozen ground without permission in violation, right?</p> <p>3 A In violation. The FPR manual was written in</p> <p>4 1992 originally. And there are certain kinds of equipment that</p> <p>5 weren't in existence then. And equipment to apply under the</p> <p>6 snow was one of the those types of equipment that wasn't in</p> <p>7 existence at the time.</p> <p>8 Q I understand. I was going to talk to you a bit</p> <p>9 about the manual. The manual that I have is 1994. Is that the</p> <p>10 latest?</p> <p>11 A I believe it's 94. I think we got started in</p> <p>12 maybe 92. And that was when it was the DER and he then the DEP</p> <p>13 -- the DER was split in 1995. So everything after that is DEP.</p> <p>14 Q And the manual indicates at the beginning of it</p> <p>15 that it's meant to be periodically updated, related?</p> <p>16 A Yes.</p> <p>17 Q Hasn't been updated for -- I don't want to give</p> <p>18 too much away. But it hasn't been updated for several years,</p> <p>19 right?</p> <p>20 A The DEP did some updates when they published it</p> <p>21 online.</p> <p>22 Q The version that we have here has the date what</p> <p>23 you download online is 1994. Is that the current version?</p> <p>24 A If it's dated 1994 -- I think they updated it</p> <p>25 after that.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">237</p> <p>1 Q I want to show you -- I want to clear up some</p> <p>2 of the things that we heard earlier.</p> <p>3 This is a manure analysis five year running</p> <p>4 average. It's from D 167, which is in evidence.</p> <p>5 Is that the table that you were talking about</p> <p>6 showing monthly -- that you not was monthly yield, monthly</p> <p>7 nitrogen content.</p> <p>8 A No, it isn't. I was referring to a report that</p> <p>9 had five monthly analyses. And this -- this doesn't appear.</p> <p>10 Application. This does not appear to be that same -- maybe it</p> <p>11 is. October, December, February, January.</p> <p>12 No, the one I was referring to had five</p> <p>13 consecutive months of analysis.</p> <p>14 Q Do you know what years that was?</p> <p>15 A I think it was 2021.</p> <p>16 Q Here we have five analyses. It's consistent</p> <p>17 with your testimony that the high is 4.8. I think your</p> <p>18 testimony was in the 14's. Low is 2.25. Do you see that?</p> <p>19 A Yes.</p> <p>20 Q And it is -- it claims to be a five year</p> <p>21 running average but it's sort of average over samples</p> <p>22 sporadically between 2021 and 2024; is that right?</p> <p>23 A Yes.</p> <p>24 Q And there's two samples that were taken within</p> <p>25 a month of each other. This is the only sampling that I've</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">239</p> <p>1 Q It's a requirement of the NMP requirements,</p> <p>2 right. Is that fair?</p> <p>3 A Yes.</p> <p>4 Q And which nitrogen did you use to see if their</p> <p>5 plans were consistent with the NMP -- well, withdraw the</p> <p>6 question.</p> <p>7 You never looked at what they actually applied</p> <p>8 so you only determined whether their plans were consistent</p> <p>9 what you believe to be normal.</p> <p>10 A The analysis they were using for that year.</p> <p>11 Q And you did not -- you're, your opinion is that</p> <p>12 their plans are consistent with a best management practice,</p> <p>13 right?</p> <p>14 A Yes.</p> <p>15 Q How they plan to apply nutrients, right?</p> <p>16 A Yes.</p> <p>17 A Yes.</p> <p>18 Q Your testimony is that their plans were</p> <p>19 consistent with it being a normal farming operation, right?</p> <p>20 A Yes.</p> <p>21 Q You don't know how they actually did this,</p> <p>22 right. You didn't review the records of the actual?</p> <p>23 A I did not review all of the records.</p> <p>24 Q And?</p> <p>25</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">238</p> <p>1 seen that is within a one month of each other, right?</p> <p>2 A Yes.</p> <p>3 Q And we have a variation from 4 and quarter to</p> <p>4 12.6, right?</p> <p>5 A Yes, according to that table.</p> <p>6 Q And I want to be clear. The requirement is</p> <p>7 that the FPR be tested every year, right?</p> <p>8 A Yes.</p> <p>9 Q And that is a requirement not a guideline,</p> <p>10 right?</p> <p>11 A Well, it's in the management document.</p> <p>12 Q As a requirement, right? Must be tested</p> <p>13 everyone year. The NMP management manual which we can dive</p> <p>14 into it says it must be analyzed every year?</p> <p>15 A The best management practice, yes.</p> <p>16 Q It's a best management practice, rights?</p> <p>17 A Is to test it at least yearly.</p> <p>18 Q It's also a requirement from the NMP management</p> <p>19 manual?</p> <p>20 A Yes.</p> <p>21 MR. LACKS: Objection. You're referring to</p> <p>22 the NMP technical manual or the FPR management manual.</p> <p>23 MR. NIDEL: The technical. He is capable of</p> <p>24 correcting or clarifying.</p> <p>25 MR. NIDEL:</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">240</p> <p>1 Q I want to kind of step back a bit. You talked</p> <p>2 earlier at the very beginning about studying on pharmaceuticals</p> <p>3 and drinking water wells?</p> <p>4 A Yes.</p> <p>5 A Yes.</p> <p>6 Q Septic systems are designed to specifically</p> <p>7 treat and filter bacteria, right?</p> <p>8 A I would say their primary purpose is to reduce</p> <p>9 BOD.</p> <p>10 Q And they're also expected to reduce the risk of</p> <p>11 fecal or fecal coliform of your well?</p> <p>12 A Yes?</p> <p>13 Q They're not designed to it treat</p> <p>14 pharmaceutical?</p> <p>15 A That's right.</p> <p>16 Q Is that a paper you published?</p> <p>17 A I was a coauthor on the study.</p> <p>18 Q Pharmaceuticals have been identified as</p> <p>19 persistent organic pollutants because they don't degrade</p> <p>20 easily, right?</p> <p>21 A That's a very general statement. Some degrade</p> <p>22 relatively easily and others hang around for a while.</p> <p>23 Q Right. And we see norafistrone in waterways,</p> <p>24 birth control?</p> <p>25 A Yeah.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">241</p> <p>1 Q We see some of these are maintained in the</p> <p>2 environment because they are persistent, right?</p> <p>3 A Right.</p> <p>4 Q And that is not what we're talking about here.</p> <p>5 We're talking about nitrates and we're talking about bacteria</p> <p>6 contamination, right?</p> <p>7 A Correct. I mean, once below the roots nitrate</p> <p>8 pretty much -- there are mechanisms but nitrate pretty much</p> <p>9 stays as is in groundwater.</p> <p>10 Q The FPR manual hasn't been updated in over 30</p> <p>11 years, rights?</p> <p>12 A Other than what DEP did.</p> <p>13 Q The minor tweaks?</p> <p>14 A Yeah. I mean, something as simple as changing</p> <p>15 all of the references from DER to DEP.</p> <p>16 Q Like changing all of the references from</p> <p>17 wastewater to FPR. Is that fair?</p> <p>18 A Probably not a good analogy, but that's okay.</p> <p>19 Q It felt good.</p> <p>20 Do you agree with the statement that a person</p> <p>21 managing food processing waste shall implement best management</p> <p>22 practices.</p> <p>23 A State that again.</p> <p>24 Q I person managing food processing waste shall</p> <p>25 implement best management practices, shall implement best</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">243</p> <p>1 Q For the recover for animal uses?</p> <p>2 A Right.</p> <p>3 Q It's not just the liquid wastewater. There is</p> <p>4 examples in the FPR manual where you're talking about hides and</p> <p>5 other body parts of animals that are used in other ways for</p> <p>6 either human use, such as -- I heard a word -- I don't know if</p> <p>7 it was tripe?</p> <p>8 A Tripe, yeah.</p> <p>9 Q Stomach?</p> <p>10 A Yeah. The guts in could be used by humans,</p> <p>11 right.</p> <p>12 A I don't know. I don't know who eats that.</p> <p>13 There are parts of animals that are FPR --</p> <p>14 that are actually consumed by humans, right? A plant that</p> <p>15 maybe was harvesting the T-bone or the certain steaks could</p> <p>16 have been at some point disposing of those and now finding a</p> <p>17 new use for human use, right.</p> <p>18 A Yeah. I mean, there's talo and things like</p> <p>19 that and the FPR can be used for things like cosmetics.</p> <p>20 Q And potato chips?</p> <p>21 A Yeah.</p> <p>22 Q French fries?</p> <p>23 A Yes.</p> <p>24 Q It includes things like all of the unused parts</p> <p>25 of the animal, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">242</p> <p>1 management practices?</p> <p>2 A A person -- what was the first part.</p> <p>3 Q Managing?</p> <p>4 A Managing. Yes.</p> <p>5 Q Food processing waste. You do agree with that?</p> <p>6 A I agree.</p> <p>7 Q That's a statement that you have published in</p> <p>8 the FPR manual, right?</p> <p>9 A Yes.</p> <p>10 Q And you talked -- you were asked about the</p> <p>11 hierarchy, right?</p> <p>12 A Yes.</p> <p>13 Q</p> <p>14 Q And you've got an exhibit that illustrates the</p> <p>15 hierarchy, right?</p> <p>16 A Yes.</p> <p>17 Q And you talked about the food processing</p> <p>18 residuals. I want to make sure that everyone in the courtroom</p> <p>19 understand, food processing residuals it's not just -- it</p> <p>20 includes things like hooves, and hearts, and stomachs, right?</p> <p>21 A In a broad sense if you use the word residuals</p> <p>22 but in this context we're talking about something that can be</p> <p>23 land applied.</p> <p>24 Q You're talking rendering plants?</p> <p>25 A Right.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">244</p> <p>1 A What does.</p> <p>2 MR. LACKS: Objection, unused.</p> <p>3 BY MR. NIDEL:</p> <p>4 Q The term food process residuals that were</p> <p>5 addressing it in this. It could be anything from the tails and</p> <p>6 the ears and the organs if there is a use for them, the goal is</p> <p>7 to try and fit it into in hierarchy?</p> <p>8 A Yes.</p> <p>9 Q And so when a truck, goes offer to a rendering</p> <p>10 plant with parts of animals that would also be going off to</p> <p>11 take that FPR for recovery for animal use, right?</p> <p>12 A Yes. I think maybe we need to distinguish to</p> <p>13 using the word residual in two different ways. We've been</p> <p>14 talking about it as the material that gets lands applied versus</p> <p>15 unwanted.</p> <p>16 Q That's exactly the point I'm trying to address.</p> <p>17 I'm not -- I want to make sure the jury understands what was</p> <p>18 being -- your understanding of what was being applied was the</p> <p>19 blood, wastewater mixture that has been described throughout</p> <p>20 this trial, right?</p> <p>21 A Yes.</p> <p>22 Q With respect to what we refer to generally as</p> <p>23 FPR, not to confuse anyone. But what you were referring to in</p> <p>24 this manual was something more general that could be the fat,</p> <p>25 it could be the hide, it could be other things. Right?</p> <p style="text-align: center;">ROUGH DRAFT</p>

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1	A	The manual doesn't address those.	1		higher. But this is about one percent solids, right?
2	Q	Well you talked about rendering, right?	2	A	Right.
3	A	Right.	3	Q	You have to put a lot of energy and effort into
4	Q	And there are references in the examples in the	4		distilling that down?
5		back?	5	A	Dewatering it.
6	A	Yeah.	6	Q	Better word. And down to that 20 percent?
7	Q	That reference?	7	A	Right.
8	A	Companies that do that.	8	Q	You could put it in the landfill but in your
9	Q	As part of the FPR hierarchy?	9		view that would be sort of Wawa?
10	A	Right.	10		MR. LACKS: Objection. I don't know how to
11	Q	So there is some reference to those other uses	11		interpret that.
12		including, you know, parts that animals would eat that are not	12		THE COURT: Sustained.
13		just drinking the wastewater, but that are recovered for use	13		MR. NIDEL: In there would be no benefit
14		under this FPR definition, right?	14		according to this -- it would be a disposal.
15	A	But the majority of the manual is not dealing	15	A	In some states you could not put it in a
16		with those other materials.	16		landfill.
17	Q	I understand. But it falls within the	17	Q	But you what you could do is send it to an
18		definition, rights?	18		sewage treatment plant?
19	A	Yes.	19	A	Correct.
20	Q	And the -- you talked about how Nicholas is --	20	Q	So you could send that.
21		what's going on with Nicholas meets and that they are recovery	21	A	To a wastewater treatment plant.
22		youing for soil conditioning and fertilizing, right?	22	Q	WW T T?
23	A	Yes correct.	23	A	We call them water reclamation facilities now.
24	Q	And you also made the claim that they are also	24	Q	And they have water that goes out to Fishing
25		recovering for animal use?	25		Creek or the river?
ROUGH DRAFT			ROUGH DRAFT		
246			248		
1	A	If they are refeeding the crops grown, that's	1	A	Right, or gets spray irrigated as Penn State
2		true.	2		does.
3	Q	We could look at the manual. But in the manual	3	Q	I was going to ask you that. I might have
4		when you talk about animal use it's primarily feed, right,	4		forgotten. Thank you for reminding me.
5		direct feet, mean parts of animals that are not fit for human	5		When you talk of them spraying the effluent
6		consumption?	6		hat's after the treatment.
7	A	Pet goods or whatever.	7	A	Yes.
8	Q	Typically in the manual what you're talking	8	Q	Absolutely? You have the sludge, the solids?
9		about at this stage of the hierarchy it's pet food, right?	9	A	Right.
10	A	I'm sorry.	10	Q	And that is where you sequester the nutrients,
11	Q	It's pet food?	11		rights?
12	A	Yes.	12	A	Yes.
13	Q	And you've indicated that, well, since we're	13	Q	So you have solids that go out and those solids
14		getting some crop benefit we're going from into this and then	14		contain the nutrients that came in this the sewage treatment
15		we're sort of loop being back into that second?	15		including what would come in the FPR, right?
16	A	Yes.	16	A	Right. The reason form that is the
17	A	I want to talk to you about another -- there is	17		municipality is going to have limits, discharge limits on the
18		the FPR that's generated. And that could go to -- you're you	18		water that goes to the stream.
19		talked about it could go to a landfill and that would be	19	Q	So the solids come out -- well that was a poor
20		disposed of.	20		choice. Blue should probably be water. But blue is solids.
21	A	Most landfills would not accept that material.	21		And the water goes out. And that can -- that now being treated
22	Q	Because it's too much water?	22		water, that can go out to the river?
23	A	Too much water. They want something 20 percent	23	A	Right.
24		solids or higher.	24	Q	And those solids -- they are actually used --
25	Q	That want something 20 percent solids or	25		this is something that you've worked on -- they are used to
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">249</p> <p>1 then go into trucks, and then and they go to -- I had a sick</p> <p>2 cow yesterday?</p> <p>3 If I could spots.</p> <p>4 But that goes out to farm fields, right.</p> <p>5 A A certain percentage does if the solids that</p> <p>6 come out of the sewage treatment plant or the wastewater</p> <p>7 treatment plant, that can be recycled and reused beneficially,</p> <p>8 right.</p> <p>9 A Yes.</p> <p>10 Q By taking all of those nutrients that were in</p> <p>11 whatever the feed stream is including the FPR and it can go out</p> <p>12 to a field for recovery for animal use and recovery for</p> <p>13 fertilizer and soil condition, right?</p> <p>14 A Correct.</p> <p>15 Q So if we were to -- and I don't know that I</p> <p>16 have permission and I don't know that -- I am being told I have</p> <p>17 no permission.. if I had permission, if it was a guideline and</p> <p>18 not a requirement, I could write sewage treatment plant</p> <p>19 biosolids right here, right? That would be the same recovery?</p> <p>20 That would be the same point on the hierarchy as what Nicholas</p> <p>21 is doing, right?</p> <p>22 A Yes. I agree you would have to say okay.</p> <p>23 Because there is the flow of the potential FPR. You'll</p> <p>24 probably have to have a little side.</p> <p>25 Q You would. You'd have to pay to truck it to</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">251</p> <p>1 Q And then you would have a cost on average five</p> <p>2 to 10 cents a gallon?</p> <p>3 A Yeah. It really depends on the treatment</p> <p>4 plant. Many of them don't want to extra nutrients and extra</p> <p>5 waste to treat.</p> <p>6 Q But it would be typical that they would charge</p> <p>7 about five to 10 cents a gallon?</p> <p>8 A Yeah, that's probably a reasonable number.</p> <p>9 Q Okay. And then you would get treated solids</p> <p>10 out of that, not as a one percent solid, but you get something</p> <p>11 out that was like 30, 40, maybe let's say 25 to 40 percent</p> <p>12 solids, right?</p> <p>13 A Depends on what you do with the solids. As</p> <p>14 generated from the treatment plant, they may only be one</p> <p>15 percent. So they might thicken them, and they might go to</p> <p>16 centrifuges or belt presses or something like that. Maybe get</p> <p>17 up to 20 solids. To get the 30 or 40 percent solids you would</p> <p>18 have to add -- they're going to have to have probably dryers to</p> <p>19 actually dry some of the water off.</p> <p>20 Q So you would get a product out of that that</p> <p>21 could then be beneficially reused on farm fields and that would</p> <p>22 fit right in here, right?</p> <p>23 A Yes.</p> <p>24 Q And all of those nutrients would be preserved,</p> <p>25 right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">250</p> <p>1 the sewage treatment plant?</p> <p>2 A Right.</p> <p>3 Q So there would be an ecomic cost?</p> <p>4 A Right.</p> <p>5 Q There be an economic cost in treating it. Is</p> <p>6 that yes?</p> <p>7 A Yes. The treatment plants is going to charge</p> <p>8 you based on the B U D, nitrogen content, the total gallons.</p> <p>9 Q And they're going to charge you -- they're</p> <p>10 going to charge you based on the total gallons, right?</p> <p>11 A Yeah. Those surcharges are very complicated.</p> <p>12 Used to BOD and total gallons.</p> <p>13 Q They charge based on the percent of solids,</p> <p>14 right?</p> <p>15 A They're talking liquid waste so it's usually</p> <p>16 the gallons and maybe the BOD content, maybe the nitrogen,</p> <p>17 maybe the phosphorous. So surcharges vary from one treatment</p> <p>18 plant to another.</p> <p>19 Q Surcharge is around five to 10 cents a gallon;</p> <p>20 does that sound righted?</p> <p>21 A Yeah, that's typical.</p> <p>22 Q So if you were to truck it to a treatment plant</p> <p>23 you would have the transportation cost, right, of trucking it</p> <p>24 to the treatment plant?</p> <p>25 A Right.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">252</p> <p>1 A Yes. Although you tend to lose some nitrogen</p> <p>2 in the treatment if they have nitrification.</p> <p>3 Q You might lose a little bit. Now you would</p> <p>4 have treated treatment and they would actually be treated --</p> <p>5 the pathogens would be reduced?</p> <p>6 A The pathogen reduction because you aerobically</p> <p>7 treated it.</p> <p>8 Q They would be either aerobically digested or</p> <p>9 anaerobically digested?</p> <p>10 A Right.</p> <p>11 Q Or lime stabilized?</p> <p>12 A Right. Those are probably the three major</p> <p>13 ways. The solids come out are treated before you put it in the</p> <p>14 trucks.</p> <p>15 Q They're treated to that what we call</p> <p>16 stabilized?</p> <p>17 A That's true.</p> <p>18 Q The stabilization is to reduce the pathogens</p> <p>19 which would reduce the contamination of wells, right?</p> <p>20 A Yes.</p> <p>21 Q And it will reduce the risk of odors, right?</p> <p>22 A Right. And there's one other thing, vector</p> <p>23 attraction reduction.</p> <p>24 Q Vector attraction reduction. So they stabilize</p> <p>25 -- they'll stabilize the materials to reduce the risks of</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">253</p> <p>1 vectors?</p> <p>2 A Yes.</p> <p>3 Q To reduce the risk of odors and the intensity</p> <p>4 of the odors?</p> <p>5 A Yes. I mean, biosolids still have an odor.</p> <p>6 Q I would agree with you on that.</p> <p>7 But it's a step to reduce those odors, right.</p> <p>8 A Relative to what.</p> <p>9 Q To the start starting material. To the higher</p> <p>10 content, bacterial content?</p> <p>11 A Okay.</p> <p>12 Q And it's to reduce the risk of pathogen</p> <p>13 contamination and health and safety issues, right?</p> <p>14 A Yes.</p> <p>15 Q And the -- you talked about the treatment that</p> <p>16 occurred at Nicholas Meats, right?</p> <p>17 A Yes.</p> <p>18 Q There is no treatment plant, right?</p> <p>19 A Well they ever two aeration tanks. It's not a</p> <p>20 conventional west water treatments plant shall waster water</p> <p>21 reclamation facilities.</p> <p>22 Q It's not a waste treatment plant. It's not</p> <p>23 what is outlined here?</p> <p>24 A No. Because the end result is not something</p> <p>25 that's suitable for discharge to surface water.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">255</p> <p>1 Doesn't eliminate them.</p> <p>2 Q It's not an approved method for stabilizing</p> <p>3 waste waters?</p> <p>4 A It is not in that set of stabilization process</p> <p>5 because those are pleasant for biosolids and solids materials.</p> <p>6 Something -- not something you pump, something you shovel.</p> <p>7 Q Well, that's interesting because in your report</p> <p>8 -- I'm not going to go there. I feel like you knew where I was</p> <p>9 going. There are things that you shovel. We're not going to</p> <p>10 talk about them today.</p> <p>11 Now I'm distracted.</p> <p>12 You talked in report about the fact that the</p> <p>13 FPR manual actually gives an example of the use of</p> <p>14 slaughterhouse materials for FPR, right.</p> <p>15 A Yes.</p> <p>16 Q Okay. And that example that it gives for the</p> <p>17 use of slaughterhouse FPR, that example -- that's not what's</p> <p>18 happening at this plant, right?</p> <p>19 A I don't remember what the example is.</p> <p>20 Q Well, you said that your opinion in your report</p> <p>21 is that they're doing at best management practice with this FPR</p> <p>22 and in fact it's consistent with -- the example given in the</p> <p>23 NRP manual, right?</p> <p>24 A I don't think I ever said that. You can still</p> <p>25 be consistent with the FPR manual and not mirror what's in the</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">254</p> <p>1 Q They have not stabilized the material, right,</p> <p>2 not at Nicholas Meats?</p> <p>3 A I'm not sure what you mean by stabilize.</p> <p>4 Q We talked about pathogen reduction. In the FPR</p> <p>5 manual there are -- it's a whole table of stabilization</p> <p>6 methods, anaerobic digestion, aerobic digestion blind</p> <p>7 stabilization?</p> <p>8 A Those are for solid slurries they are not for</p> <p>9 the waste water.</p> <p>10 Q The material is only -- the FPR material</p> <p>11 coming out it's just -- it's just -- they're blowing bubbles?</p> <p>12 That's all it is?</p> <p>13 A It's only one hundred percent solids. But</p> <p>14 that's very effective to reduce the BOD.</p> <p>15 Q It reduces BOD. It doesn't reduce the</p> <p>16 pathogens, right?</p> <p>17 A No, it does.</p> <p>18 Q It does not eliminate the pathogens?</p> <p>19 A It does not eliminate.</p> <p>20 Q All they're doing is it blowing bubbles?</p> <p>21 A But that's a very effective way of treat waste</p> <p>22 materials.</p> <p>23 Q It's not a way to stabilize or reduce the</p> <p>24 pathogens, right?</p> <p>25 A You just said it reduces the pathogens.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">256</p> <p>1 example.</p> <p>2 Q Well, I want to -- I want to be clear about</p> <p>3 what is in the manual. And there is an example -- I'm going to</p> <p>4 show you the FPR manual which is in evidence. It's D 110. And</p> <p>5 it has example of a meat case study, right?</p> <p>6 A Okay.</p> <p>7 Q And it's got a flow chart of what goes on in</p> <p>8 that case study, right?</p> <p>9 MR. LACKS: Could you provide a page number.</p> <p>10 MR. NIDEL: PDF page 165.</p> <p>11 BY MR. NIDEL:</p> <p>12 Q And you -- in your report said it was</p> <p>13 consistent with this but -- I'll have to zoom in. But we see</p> <p>14 aeration over here, right?</p> <p>15 A Yes.</p> <p>16 Q That's where Nicholas Meats stops, right?</p> <p>17 A Yes in terms of actually treating of the</p> <p>18 material before it's land applied.</p> <p>19 Q In terms of treating the actual material before</p> <p>20 it's land applied, this is where it stops, right here?</p> <p>21 A Right.</p> <p>22 Q Okay. And none of this is hang, right?</p> <p>23 A Yes. This is -- it looks like they are de</p> <p>24 watering material. Yeah, because it says 17 to 18 percent</p> <p>25 solids right above that S1 circle there.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">257</p> <p>1 Q They are actually doing the steps that you talk</p> <p>2 about. They are de watering, they shall returning a belt</p> <p>3 press. They're getting up to that roughly 15 to 20 solids.</p> <p>4 They get secondary sludge and then they land apply that along</p> <p>5 with the primary sludge that's dump pressed?</p> <p>6 A And they stream discharge the liquid portion.</p> <p>7 Q So they are actually doing treatment, right,</p> <p>8 they're not just blowing bubbles?</p> <p>9 A Right. That's more consistent with your</p> <p>10 wastewater treatment plant over here.</p> <p>11 Q And that's the example that's provided in the</p> <p>12 FPR manual, right?</p> <p>13 A Yeah.</p> <p>14 Q That's the example that you put in your report</p> <p>15 that they were consistent with Nicholas Meats, right?</p> <p>16 A Did I put that in there?</p> <p>17 Q I don't know if the lawyers put that in there?</p> <p>18 MR. LACKS: Objection, Your Honor.</p> <p>19 A I didn't say that the Nicholas Meat operation</p> <p>20 is identical to this.</p> <p>21 THE COURT: Stop. What's the objection.</p> <p>22 MR. LACKS: That he was misstating the report</p> <p>23 and.</p> <p>24 THE COURT: I guess I'll strike. Do you mean</p> <p>25 where he said the lawyers put it 234 there.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">259</p> <p>1 it if you get to it.</p> <p>2 MR. NIDEL:</p> <p>3 Q I'm trying to find on the fly here.</p> <p>4 You don't recall making that comparison.</p> <p>5 A No.</p> <p>6 Q I will have someone find that for me and we can</p> <p>7 come back to it.</p> <p>8 You agree with me this not what's happening at</p> <p>9 Nicholas Meat, right.</p> <p>10 A I agree.</p> <p>11 Q This is a best management practice, right?</p> <p>12 A That's an example of a facility that follows</p> <p>13 best management practices.</p> <p>14 Q And this is not consistent with what Nicholas</p> <p>15 Meats does, right?</p> <p>16 A No. That's different. Different plant,</p> <p>17 different operation.</p> <p>18 Q Different management practice, right?</p> <p>19 A Yes.</p> <p>20 Q It's not treated at Nicholas Meat. It's only</p> <p>21 getting the bubbles, right?</p> <p>22 A Most people would say that aeration is a</p> <p>23 treatment.</p> <p>24 Q Let's be clear. The frac tanks don't have</p> <p>25 aeration. Do the frac tanks?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">258</p> <p>1 MR. LACKS: Prior question how he</p> <p>2 characterized statement in the report as well.</p> <p>3 MR. NIDEL: I join up in striking that</p> <p>4 statement if let me ask a different way.</p> <p>5</p> <p>6 MR. NIDEL:</p> <p>7 Q Did you write your report?</p> <p>8 A Yes.</p> <p>9 Q And is there a statement in your report that</p> <p>10 the Nicholas Meat operation is consistent with this example</p> <p>11 we're looking at?</p> <p>12 A I don't think so.</p> <p>13 Q Let me make sure I understand that you mean by</p> <p>14 consistent. You use consistent throughout your report and</p> <p>15 you've used it in your opinions. Do you agree that consistent</p> <p>16 with means free from contradiction?</p> <p>17 A I never referenced this diagram in that process</p> <p>18 in my report.</p> <p>19 Q You reference that process as being an example</p> <p>20 of why Nicholas Meats process is a best management practice?</p> <p>21 A Could you show me where that is.</p> <p>22 Q Mine is not highlighted in the same way that</p> <p>23 yours was, but?</p> <p>24 THE COURT: Mr. Nidel P. Please, don't. We</p> <p>25 didn't get to that yet. Let's keep that out until you get to</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">260</p> <p>1 A No, they are mixed but they don't have</p> <p>2 aeration.</p> <p>3 Q And there is the possibility of aeration, but</p> <p>4 do you know what the residence time is in the aeration tanks at</p> <p>5 Nicholas Meat?</p> <p>6 A I could calculate it if you if you tell me --</p> <p>7 the volume -- so we could calculate it. What is it. About</p> <p>8 20,000 gallons and I'm not sure what the volume of those tanks</p> <p>9 are about but it would be easy. Divide the total flow, 120</p> <p>10 gallons by the sum of the volumes in those two tanks.</p> <p>11 Q And I'm glad you brought up 120,000 gallons</p> <p>12 that was another thing. You said the total cows slaughtered</p> <p>13 620 a day?</p> <p>14 A Yes.</p> <p>15 Q They're up to 750?</p> <p>16 A I don't know.</p> <p>17 Q You mentioned that they were processing 120,00</p> <p>18 of gallons of wastewater but they're up to 200,000?</p> <p>19 A I don't know that.</p> <p>20 Q Do you agree an ideal land application site</p> <p>21 would be isolated?</p> <p>22 A Ideal?</p> <p>23 Q Yeah?</p> <p>24 A Isolated from what.</p> <p>25 Q Isolated from people, other than residences?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">261</p> <p>1 A Yes, potentially if odors is an issue.</p> <p>2 Q It would be isolated, it would be a growing of</p> <p>3 a variety of crops. Do you agree with that?</p> <p>4 A Not necessarily.</p> <p>5 Q I'm just -- I'm just reading from the manual.</p> <p>6</p> <p>7 A Many farms grow corn continuously year after</p> <p>8 year so I don't think that would qualify as a variety of crops.</p> <p>9 A But many farms do crop rotation.</p> <p>10 Q Why don't I just go ahead and present your FPR</p> <p>11 manual.</p> <p>12 The ideal land application site would be an</p> <p>13 isolated farm, right.</p> <p>14 A Yes.</p> <p>15 Q Growing of a various of animal feed crops in</p> <p>16 large acre lots? It would be flat to gently sloping, right.</p> <p>17 A Yes.</p> <p>18 Q And it would detailed have well drained medium</p> <p>19 textured loamy soils?</p> <p>20 A Yes.</p> <p>21 Q Well draing not the high runoff potential,</p> <p>22 right?</p> <p>23 A Yes.</p> <p>24 Q And it would not have streams, wetlands, wells</p> <p>25 or sinkholes near the field, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">263</p> <p>1 Q So Nicholas Meats system is not consistent with</p> <p>2 that system, right?</p> <p>3 A No, it's not the same.</p> <p>4 Q But in your record, reports it stays Nicholas</p> <p>5 Meats operations are consistent with that case study example.</p> <p>6 The plant separates material not suitable for land application,</p> <p>7 EG bones and offal. The FPR contains paunch manure and plant</p> <p>8 water from sews and FPR is stored aerated in tanks and the land</p> <p>9 application occurs using a nutrient management plan, right</p> <p>10 ^ FIX/DROPPED?</p> <p>11 A What page are you on.</p> <p>12 Q On on page 10. Middle of the page.</p> <p>13 Do you see that.</p> <p>14 A Yes.</p> <p>15 Q Okay.</p> <p>16 You left out the part about treatment, right?</p> <p>17 The whole belt press and dewatering and lime stabilization,</p> <p>18 right.</p> <p>19 A Yes.</p> <p>20 Q They are not consistent, right?</p> <p>21 A Any other not the same. And I think this must</p> <p>22 have been referring to the up front portion of that flow</p> <p>23 diagram that you showed.</p> <p>24 Q But once you get to the treatment, Nicholas</p> <p>25 Meats just takes it out to the field and sprays it, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">262</p> <p>1 A Yes.</p> <p>2 Q Do you know how many sinkholes are near these</p> <p>3 fields?</p> <p>4 A I know of at least two.</p> <p>5 Q Do you know how many wells are near these</p> <p>6 fields?</p> <p>7 A Do you mean private residential wells?</p> <p>8 Q Wells that people use for drinking?</p> <p>9 A How many.</p> <p>10 Q Yeah?</p> <p>11 A No.</p> <p>12 Q Would you agree that the -- that the example</p> <p>13 that we looked at, the meat example that we looked at, that</p> <p>14 that's consistent with -- that Nicholas Meats processing is</p> <p>15 consistent with that or no?</p> <p>16 A Two different facilities.</p> <p>17 Q You said I would never have said that they were</p> <p>18 the same, right?</p> <p>19 A Yeah, they're not the same obviously from all</p> <p>20 of the processes you showed.</p> <p>21 Q They're not consistent, right?</p> <p>22 A They're not much identical.</p> <p>23 Q Well, it's lacking the whole treatment part of</p> <p>24 the process, right?</p> <p>25 A Right. They are different systems.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">264</p> <p>1 MR. LACKS: Objection.</p> <p>2 THE COURT: What's the objection.</p> <p>3 MR. LACKS: Use of the word sprays.</p> <p>4 THE COURT: Applies it.</p> <p>5 MR. NIDEL: Applies it.</p> <p>6 BY MR. NIDEL:</p> <p>7 Q Do you know if they spray the material?</p> <p>8 MR. LACKS: Objection.</p> <p>9 MR. NIDEL: Do you know if they spray the</p> <p>10 material.</p> <p>11 THE COURT: What's the objection.</p> <p>12 MR. LACKS: He asked about application methods</p> <p>13 before and Dr. Elliott testified to his knowledge. Been</p> <p>14 scanned.</p> <p>15 MR. NIDEL: Objection to.</p> <p>16 THE COURT: Just wait.</p> <p>17 MR. NIDEL: I'll ask a question.</p> <p>18 Q Dr. Elliott do you know how they applied -- I</p> <p>19 believe you said that -- I believe it was your testimony that</p> <p>20 they follow BMP's y applying it low at the time ground, rights?</p> <p>21 A Yes.</p> <p>22 Q Do you know if they've ever sprayed it?</p> <p>23 A In the past, I believe they have.</p> <p>24 Q Do you know how recently?</p> <p>25 A There was a picture of a truck, a tanker truck,</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">265</p> <p>1 slinging it out -- I wasn't sure if that was FPR or manure.</p> <p>2 Q There are tanker trucks that sprayed it and</p> <p>3 there is a duck bill that sprayed it, right?</p> <p>4 A Right.</p> <p>5 Q Do you know if they use that on these fields?</p> <p>6 A I don't know on fields.</p> <p>7 Q That would not be a best management practice,</p> <p>8 right?</p> <p>9 A It wouldn't be ideal but it wouldn't be</p> <p>10 prohibited.</p> <p>11 Q I didn't ask if it was be prohibited -- there</p> <p>12 is a long way from prohibited to best, right?</p> <p>13 A Okay.</p> <p>14 Q And that's not a best management practice. You</p> <p>15 identified a applying close to the ground would be best</p> <p>16 management practice?</p> <p>17 A Okay. Under your definition I agree.</p> <p>18 Q I'm going by your definition. Your definition</p> <p>19 was the best thing you could do is put it down here?</p> <p>20 A Put it down low, right.</p> <p>21 Q Not to spray it, right?</p> <p>22 A Correct.</p> <p>23 Q And you don't know if they sprayed it, right?</p> <p>24 A Those fields I don't know.</p> <p>25 Q And if you reviewed pictures of how they</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">267</p> <p>1 NMP?</p> <p>2 A Yes.</p> <p>3 Q Not based on what they actually did in these</p> <p>4 fields?</p> <p>5 A No. It was based on overall. They have an</p> <p>6 being excellent nutrient management program.</p> <p>7 Q They had an excellent -- let's check our --</p> <p>8 let's make sure we've got the right words here?</p> <p>9 They have an excellent nutrient management</p> <p>10 plan, rights.</p> <p>11 A Yes.</p> <p>12 Q You don't know if they followed that plan,</p> <p>13 right?</p> <p>14 A I know that they follow it. I don't know in</p> <p>15 every instance exactly how they followed it.</p> <p>16 Q You didn't review the records that show whether</p> <p>17 they followed it, right?</p> <p>18 A I did not review all of the records.</p> <p>19 Q You don't know if they followed setbacks,</p> <p>20 right?</p> <p>21 A I have some indication when I viewed it that</p> <p>22 they were following -- I watched them apply it. That was in --</p> <p>23 it was in SN 1. And I was also in F3. And I observed an</p> <p>24 observation that the grass was greener about 300 feet from the</p> <p>25 Rockey property when they only needed to maintain 100 foot</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">266</p> <p>1 applied it?</p> <p>2 A Yes.</p> <p>3 Q Let me be clear with you.</p> <p>4 Have you reviewed pictures of how they applied</p> <p>5 it in 2019, 2020, 2021.</p> <p>6 A No.</p> <p>7 Q You've seen video of the machine putting it</p> <p>8 down there, right?</p> <p>9 A Yes.</p> <p>10 Q But you don't know how it was applied in 2019,</p> <p>11 2020?</p> <p>12 A No. Everyone of those fields over those years,</p> <p>13 I don't know.</p> <p>14 Q You don't know if it was applied with best</p> <p>15 management practice, right?</p> <p>16 A I don't know right if they had the ideal</p> <p>17 management practice.</p> <p>18 Q All we want is best?</p> <p>19 A Best.</p> <p>20 Q Right. You idea identified best as down here</p> <p>21 and I'm talking about something that's finely sprayed out in a</p> <p>22 miss, right. That would not be best?</p> <p>23 A Not the best.</p> <p>24 Q And your continue that they followed best</p> <p>25 management practices is -- well, it's based on reviewing their</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">268</p> <p>1 setback.</p> <p>2 Q Super best management practices?</p> <p>3 MR. LACKS: Objection. Argumentative.</p> <p>4 A They were actually doing better.</p> <p>5 THE COURT: Stop. He makes an objection,</p> <p>6 everybody needs stop. What's your objection.</p> <p>7 MR. LACKS: That the use of the term super</p> <p>8 best was argumentative.</p> <p>9 THE COURT: Strike it. Ask him another</p> <p>10 question.</p> <p>11 BY MR. NIDEL:</p> <p>12 Q Better than the best?</p> <p>13 A Can you get better than the best.</p> <p>14 Q Apparently.</p> <p>15 There was setbacks that are required from</p> <p>16 neighboring properties, right.</p> <p>17 A Right.</p> <p>18 Q Those are required setbacks, right?</p> <p>19 A Yes.</p> <p>20 Q The blue was shaded in by the people that land</p> <p>21 applied this material. Do you see that?</p> <p>22 A Yes. Is that F3.</p> <p>23 Q This is F3. F2. But F3 -- the blue goes all</p> <p>24 the way to the property line, right blue?</p> <p>25 A I don't know where the property lines are.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">269</p> <p>1 Q Well, do you know if?</p> <p>2 A It could be just a field boundary.</p> <p>3 Q Well, right here we have the Rockies's</p> <p>4 property?</p> <p>5 A Right. I don't know about the other sides.</p> <p>6 Q And the road, there's a 50 foot setback from</p> <p>7 property lines, right?</p> <p>8 A Write. 1245 the for the line. Is that someone</p> <p>9 else's property.</p> <p>10 Q Do you know?</p> <p>11 A I don't know.</p> <p>12 Q Have you reviewed it had SN fields that -- I</p> <p>13 know you were given testimony that's happened during this</p> <p>14 trial. Were you given the indications the testimony from Brett</p> <p>15 Bowes and Todd Bowes about where they applied?</p> <p>16 A No.</p> <p>17 Q On SN1 SN2 and SN3?</p> <p>18 A No.</p> <p>19 Q Do you know if they applied to the property</p> <p>20 line?</p> <p>21 A I don't.</p> <p>22 Q But there is a setback, a required setback, not</p> <p>23 a guideline. A required setback that you setback 50 feet at</p> <p>24 least from property lines, right?</p> <p>25 A Okay.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">271</p> <p>1 identified setbacks but they didn't identify all of the</p> <p>2 setbacks because they didn't identify the property line</p> <p>3 setbacks, did they?</p> <p>4 A I don't know.</p> <p>5 Q You looked at the NMPs they have these</p> <p>6 identified -- this is one from the NMP. There is no yellow</p> <p>7 line identifying a setback from the property or from the</p> <p>8 roadway?</p> <p>9 MR. LACKS: I object. There are so many marks</p> <p>10 on there I don't know the witness could even identify.</p> <p>11 MR. NIDEL: Let's put pull it up on the</p> <p>12 computer.</p> <p>13</p> <p>14 MR. NIDEL: In do you see any setbacks for</p> <p>15 property lines there.</p> <p>16 A No.</p> <p>17 Q Let's take a look at the SN field. Do you see</p> <p>18 any setbacks with property lines there?</p> <p>19 A No, but I don't know where the property lines</p> <p>20 are. If it's the same owner then there no property lines.</p> <p>21 Q You have to get have a waiver, right?</p> <p>22 A Yes.</p> <p>23 Q And you have to a written waiver included with</p> <p>24 your NMP documentation, right?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">270</p> <p>1 Q Is that correct?</p> <p>2 A Yes.</p> <p>3 Q You wrote?</p> <p>4 A Yes.</p> <p>5 Q You helped write the manual. Does that apply</p> <p>6 to roadways as well?</p> <p>7 A Yes.</p> <p>8 Q So property boundaries. You have to have a</p> <p>9 setback, right?</p> <p>10 A Yes.</p> <p>11 Q You don't know if they met those setbacks</p> <p>12 A I don't.</p> <p>13 Q So you said -- we talked what best management</p> <p>14 practices they did. You identify sided setbacks. That was one</p> <p>15 of your answers, setbacks?</p> <p>16 A Right.</p> <p>17 Q But you don't know if they followed setbacks?</p> <p>18 A No. I just know that on all their maps they</p> <p>19 have setbacks identified.</p> <p>20 Q So they have identified -- TeamAg identified</p> <p>21 setbacks for them?</p> <p>22 A Right.</p> <p>23 Q You don't know if they were followed?</p> <p>24 A I don't.</p> <p>25 Q In fact, we can look at these maps, TeamAg</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">272</p> <p>1 Q You haven't seen that have you?</p> <p>2 A No. Are those different owners at those</p> <p>3 properties.</p> <p>4 Q We could talk about this right here. There's a</p> <p>5 residence there that's not buffered, right? It doesn't have</p> <p>6 the 300 foot buffer around it?</p> <p>7 A Right.</p> <p>8 Q So you testified that they followed setbacks</p> <p>9 but you do not know if they followed setbacks, right?</p> <p>10 A I don't know because I didn't observe every</p> <p>11 application.</p> <p>12 Q You testified that they identified setbacks.</p> <p>13 So first you said well they used setbacks, right?</p> <p>14 A Right.</p> <p>15 Q Now you've testified that they identify it had</p> <p>16 the setbacks, right?</p> <p>17 A I mean, on this particular -- on this</p> <p>18 particular map I can see the setbacks around Fishing Creek.</p> <p>19 And some other ones, but I don't -- I don't see one around</p> <p>20 that.</p> <p>21 Q You don't see a setback for the property line,</p> <p>22 you don't see a setback for the house, right?</p> <p>23 A Again I don't know if those are property lines.</p> <p>24 Q Understood but there is a house there?</p> <p>25 A Right. That's the one.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">273</p> <p>1 Q We didn't see a setback from the other property</p> <p>2 line, right?</p> <p>3 A Which one.</p> <p>4 Q On the previous?</p> <p>5 A Right. But we don't know where the property</p> <p>6 lines are. I don't know who owns the property.</p> <p>7 Q Okay.</p> <p>8 So you're not testifying that they accurately</p> <p>9 -- that they followed setbacks, right? You don't know.</p> <p>10 A No, I assumed they did.</p> <p>11 Q And you cannot say that they identified all of</p> <p>12 the setbacks because you he don't know where their property</p> <p>13 boundaries are and we do is see a house that doesn't have a 300</p> <p>14 foot setback, right?</p> <p>15 A This is very curious because it looks like the</p> <p>16 setback is on the other side of the road. I'm not sure how</p> <p>17 this diagram was made. It's something that's rather</p> <p>18 nonsensical. It looks like the setback goes parallel to the</p> <p>19 road where it says Snook Road. Do you see it on the right-hand</p> <p>20 side of Snook Road. So that doesn't make sense.</p> <p>21 Q Okay. You're the one who testified that they</p> <p>22 followed setbacks but you don't know if they actually followed</p> <p>23 setbacks, right?</p> <p>24 A No. I assume they did.</p> <p>25 Q You're assuming that they did, but you did not</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">275</p> <p>1 out?</p> <p>2 A Right.</p> <p>3 Q Do you know if they did that?</p> <p>4 A I don't know.</p> <p>5 Q So you don't know if they followed setbacks?</p> <p>6 You have some indication in 2024 that there was greener stuff</p> <p>7 next to the less green stuff?</p> <p>8 A I don't believe if they consistently followed</p> <p>9 BMP because I haven't observed everyone of their applications.</p> <p>10 Q You can't testify under oath that they followed</p> <p>11 setbacks; is that fair?</p> <p>12 A Yes. I did not observe them following setbacks</p> <p>13 in every situation.</p> <p>14 Q You didn't look at how much -- you looked at</p> <p>15 what they planned in terms of nitrogen, but you don't know if</p> <p>16 they actually an applied that?</p> <p>17 A Right. I don't know that at the every.</p> <p>18 Q And you side that -- you saw equipment where</p> <p>19 they near surface applied. You've also seen equipment that</p> <p>20 included broadcasting or spraying, right?</p> <p>21 A Right. And I'm not -- I'm not certain where</p> <p>22 that was.</p> <p>23 Q And so you don't know for sure that they</p> <p>24 consistently near surface applied either, right?</p> <p>25 A Yes. Again, if the field is question here, I</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">274</p> <p>1 review any information that would allow you to determine if</p> <p>2 they did?</p> <p>3 A Except my observation that they apparently were</p> <p>4 observing more than the minimum setback around the Rockey</p> <p>5 property.</p> <p>6 Q When was that?</p> <p>7 A When was that.</p> <p>8 Q Yes?</p> <p>9 A June 2024.</p> <p>10 Q So you were there in June 2024 and you saw some</p> <p>11 green stuff and brown stuff or not as green stuff and you</p> <p>12 thought well done. Best management practice?</p> <p>13 A Yeah. That was my inference from seeing the</p> <p>14 fact that it was much greener in the one place than when was on</p> <p>15 the other.</p> <p>16 Q You did not review information to confirm that</p> <p>17 they followed setbacks?</p> <p>18 A Right.</p> <p>19 Q Do you know how they marked their setbacks?</p> <p>20 A They usually use flags. I don't know how they</p> <p>21 did it.</p> <p>22 Q The best management practice would be to use</p> <p>23 flags, right?</p> <p>24 A Right. Or GPS.</p> <p>25 Q The best would be to use GPS and then flag it</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">276</p> <p>1 don't know.</p> <p>2 Q And if we go back to the odor NMP, he said they</p> <p>3 aerate their wastewater. It appears they aerate their</p> <p>4 wastewater?</p> <p>5 A They do.</p> <p>6 Q They don't have?</p> <p>7 A No.</p> <p>8 Q And you said they apply close to the surface</p> <p>9 but again you don't know if they did that consistently?</p> <p>10 A Consistently, no^ FIX/DROPPED.</p> <p>11 Q And that would be a means of not just limiting</p> <p>12 runoff but also reducing or eliminating odors, right?</p> <p>13 A Yes.</p> <p>14 Q Can you think of other BMPs to reduce odors?</p> <p>15 A They could take weather into account.</p> <p>16 Q Any other BMPs that they could do?</p> <p>17 A Specifically for odors?</p> <p>18 Q Yeah?</p> <p>19 A No.</p> <p>20 Q With are you familiar with the odor management</p> <p>21 manual?</p> <p>22 A Yes.</p> <p>23 Q And who wrote that?</p> <p>24 A Are you referring to the one that Dr. Brandt</p> <p>25 wrote.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">277</p> <p>1 Q Was it Dr. Brandt?</p> <p>2 A Yes.</p> <p>3 Q That would be convenient.</p> <p>4 A I think I was involved in it as well. I wrote</p> <p>5 one chapter, the one on characterization of odors.</p> <p>6 Q You're familiar with that?</p> <p>7 A Yes.</p> <p>8 Q Is that the odor management and agricultural</p> <p>9 food process?</p> <p>10 A Yes.</p> <p>11 Q Is that what Dr. Brandt wrote and that you</p> <p>12 helped him write?</p> <p>13 A Yes go is that authoritative? Is that a</p> <p>14 reliable.</p> <p>15 MR. NIDEL: I don't have an extra copy. You</p> <p>16 can take a look at this though.</p> <p>17 A I guess that's for other people to evaluate.</p> <p>18 BY MR. NIDEL:</p> <p>19 Q That's put out by Penn State University,</p> <p>20 university, right?</p> <p>21 A Yes.</p> <p>22 Q You're an author of that?</p> <p>23 A Of yes, in cooperation with Pennsylvania</p> <p>24 department of Ag.</p> <p>25 Q In cooperation with your co-author on this</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">279</p> <p>1 righted?</p> <p>2 A Yes.</p> <p>3 Q Do you know how quickly they incorporated the</p> <p>4 materials if they ever did?</p> <p>5 A I don't.</p> <p>6 Q You know what their NMP says, right?</p> <p>7 A Relative to in incorporation?</p> <p>8 Q What was the method of application according to</p> <p>9 the NMP?</p> <p>10 A Surface application.</p> <p>11 Q No incorporation, right?</p> <p>12 A Right.</p> <p>13 Q So the NMP says they weren't doing that, right?</p> <p>14 A Right?</p> <p>15 Q The NMP says they weren't doing that?</p> <p>16 A And upon a determination of reasonable</p> <p>17 suspicion allow full access of your electronic communications</p> <p>18 doing that, right.</p> <p>19 A I actually don't think that refers to -- this</p> <p>20 is referring to something like raw biosolids. Something that's</p> <p>21 unstablized.</p> <p>22 Q This is not stabilized, right?</p> <p>23 MR. LACKS: Objection.</p> <p>24 THE COURT: What's the objection.</p> <p>25 MR. LACKS: This.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">278</p> <p>1 report with Dr. Brandt?</p> <p>2 Q Yes if we go to page 67 and 68. 67 and 68 has</p> <p>3 field application best management practices to control odors,</p> <p>4 right.</p> <p>5 A Field -- okay. Yes. I see it.</p> <p>6 Q It says land application of unstablized</p> <p>7 residuals containing significant amounts of easily</p> <p>8 biodegradeable can you say that word for me?</p> <p>9 A Putrescible.</p> <p>10 Q Material that has become septic(anaerobic often</p> <p>11 results in particularly offensive odors. Such materials should</p> <p>12 be promptly applied and incorporated, right?</p> <p>13 A Yes, that's what it says.</p> <p>14 Q That's referring to unstablized materials,</p> <p>15 right?</p> <p>16 A Yes. That's what it says check check.</p> <p>17 Q And the BMP example of cow that we looked at</p> <p>18 from your FPR manual, there was a lime stabilization process,</p> <p>19 right, in that flow chart?</p> <p>20 A Yes.</p> <p>21 Q They don't do stabilization here?</p> <p>22 A No. And that's really referring to solid</p> <p>23 materials not wastewaters.</p> <p>24 Q Well, this is saying that it should be</p> <p>25 immediately -- sorry promptly applied and incorporated,</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">280</p> <p>1 THE COURT: Ask the question again.</p> <p>2 BY MR. NIDEL:</p> <p>3 Q Nicholas Meats is not stabilized?</p> <p>4 A Not stabilized by the definition of those</p> <p>5 processing to significantly reduce pathogens.</p> <p>6 Q Stabilized by the definition that's used in the</p> <p>7 context of your and Dr. Brandt's official publications, right?</p> <p>8 A Right. Here we were talking about raw</p> <p>9 biosolids that haven't been stabilized.</p> <p>10 Q It this is food processing, right?</p> <p>11 A Raw materials that haven't had any kind of</p> <p>12 treatment at all.</p> <p>13 Q And we heard Brian Miller's testimony we could</p> <p>14 look at that. They don't have it -- other than blowing bubbles</p> <p>15 there is no treatment, right?</p> <p>16 MR. LACKS: Objection.</p> <p>17 THE COURT: What's the objection.</p> <p>18 MR. LACKS: Blowing bubbles.</p> <p>19 THE COURT: Rephrase.</p> <p>20 BY MR. NIDEL:</p> <p>21 Q Aeration is blowing bubbles, right?</p> <p>22 A Aeration, right, they ever subsurface aerators</p> <p>23 that have real small bubbles that come up and transfer oxygen</p> <p>24 into the waste.</p> <p>25 Q Air sparg?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">281</p> <p>1 A Sparg.</p> <p>2 Q They are throwing bubbles through a bubble?</p> <p>3 A Right.</p> <p>4 Q Just blowing bubbles, righted?</p> <p>5 A Yeah, if that's what you want to call it.</p> <p>6 Q And they are not -- that's not a stabilization</p> <p>7 method, right?</p> <p>8 A That's not a stabilization method that they use</p> <p>9 for bios or solid materials.</p> <p>10 Q And just to be clear, this is not just</p> <p>11 materials that are not stabilized. It's those that are septic</p> <p>12 and have particularly offensive odors, right?</p> <p>13 A Yes, it -- if they have a lot of material</p> <p>14 readily biodegradeable they can become septic because they use</p> <p>15 up the oxygen.</p> <p>16 Q A best management practice is no matter how you</p> <p>17 got there, a best management practice for materials that's</p> <p>18 particularly odorous is to promptly apply and incorporate it,</p> <p>19 right?</p> <p>20 A That would be good.</p> <p>21 Q So incorporate, right?</p> <p>22 A Incorporate. However -- incorporation is a</p> <p>23 soil disturbance method which increases its soil erosion. So</p> <p>24 there's trade-offs. If you're going to independent.</p> <p>25 Q There's trade-offs if you're going to create</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">283</p> <p>1 It's page 68?</p> <p>2 A Yeah, I'd have to go back and see what</p> <p>3 publication that is.</p> <p>4 Q It's citing you, right?</p> <p>5 A Right.</p> <p>6 Q I'm not asking you for exact publication but it</p> <p>7 cites you for that, right?</p> <p>8 A Right. That was a publication we did for the</p> <p>9 department of environmental resources. It's called</p> <p>10 atmospheric dispose allege of nitrogen.</p> <p>11 Q And it says -- it also says land application</p> <p>12 through spray irrigation results in the greatest release of</p> <p>13 volatile compounds accompanying odor emissions, right. So</p> <p>14 spray irrigation is the worst odors you can get, right?</p> <p>15 A Yes</p> <p>16 Q And it also says higher application rates</p> <p>17 result in higher odor intensity, right?</p> <p>18 A Yes.</p> <p>19 Q So you could lower application rates to reduce</p> <p>20 odors, right?</p> <p>21 A Right.</p> <p>22 Q And that would be over say a day or a short</p> <p>23 period you could lower those rates on a given period so that</p> <p>24 the impacts on others would be less, right?</p> <p>25 A Right.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">282</p> <p>1 mal odors and offensive odors to and your beneficial practice</p> <p>2 for those living in the community, right?</p> <p>3 A Yeah.</p> <p>4 Q You incorporation might actually violate their</p> <p>5 erosion and sediment control plan?</p> <p>6 Q Were you here -- you could inject, right?</p> <p>7 A You can inject.</p> <p>8 Q That's not going to violate that plan?</p> <p>9 A Depends on how much soil disturbance occurs.</p> <p>10 Q You inject with less soil disturbance that?</p> <p>11 A Yeah, you can inject to minimize</p> <p>12 In fact, that what the bazooka does?</p> <p>13 A Yes.</p> <p>14 Q So they have the equipment now, right?</p> <p>15 A Yes.</p> <p>16 Q And that would reduce odors, that would be a</p> <p>17 means incorporation or injection, right?</p> <p>18 A Yes.</p> <p>19 Q And do you know if there's any reason why they</p> <p>20 could not incorporate or inject to eliminate or reduce odors?</p> <p>21 Q It's probably just easier for them to surface</p> <p>22 apply?</p> <p>23 Q This also mentions -- this is your publication</p> <p>24 again. Direct subsurface injection of liquid or slurry</p> <p>25 materials and minimizes odors emissions and guess who is cited.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">284</p> <p>1 Q Of the?</p> <p>2 MR. NIDEL: Plaintiffs would move to admit</p> <p>3 odor management and agricultural in food processing January</p> <p>4 2002 written by Dr. Elliott and Brandt as P116.</p> <p>5 THE COURT: What's his name of it again.</p> <p>6 MR. NIDEL: Odor planning. In agricultural</p> <p>7 and food process. In agriculture and food processing.</p> <p>8 THE COURT: Any objection.</p> <p>9 A Just for clarification.</p> <p>10 THE COURT: Hold it. Mr. Lacks any objection.</p> <p>11 MR. LACKS: Only so far we have been provided</p> <p>12 a copy.</p> <p>13 THE COURT: Do you have a copy.</p> <p>14 MR. NIDEL:</p> <p>15 THE COURT: There you go.</p> <p>16 MR. LACKS: Is this to keep.</p> <p>17 MR. NIDEL: You can read my notes. You can</p> <p>18 check it out.</p> <p>19 MR. LACKS: No objection.</p> <p>20 THE COURT: It's admitted without objection.</p> <p>21 Go ahead, Mr. Nidel. Next question.</p> <p>22 BY MR. NIDEL:</p> <p>23 Q</p> <p>24 A Can I make one clarification. We were editors</p> <p>25 here, we're not authors.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">285</p> <p>1 Q I was -- I hadn't paid that close attention.</p> <p>2 So it's something that you edited.</p> <p>3 A Yes.</p> <p>4 Q It's cites some of your work?</p> <p>5 A Yes.</p> <p>6 Q Who is minor? Do you know minor? Colleague of</p> <p>7 yours. I'll withdraw the question.</p> <p>8 A I think he's in the animal science department.</p> <p>9 Q Now, we identified BMPs for odor aeration, we</p> <p>10 believe that their tanks may have -- these are BMPs that reduce</p> <p>11 odor but you don't that they are using them, right,</p> <p>12 consistently?</p> <p>13 A Yes. That's true.</p> <p>14 Q And you, you cannot testify as to any specific</p> <p>15 BMP that they are using in their -- for the other means of</p> <p>16 control that other BMPs that we identified, right?</p> <p>17 Q You had talked about them setbacks but we don't</p> <p>18 know, right?</p> <p>19 A Right. I did not observe all their</p> <p>20 applications.</p> <p>21 Q I want to be clear I'm not asking you if you</p> <p>22 were out there in the tractor every time I heard maybe you've</p> <p>23 been out in the tractor before but I'm not asking -- can you</p> <p>24 testify under oath that in fact they observed these things</p> <p>25 consistently?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">287</p> <p>1 practice and incorporate it.</p> <p>2 Q I get that it's a menu. I get they don't have</p> <p>3 to do everyone. In some cases they probably couldn't do</p> <p>4 everyone because it wouldn't apply?</p> <p>5 A Right.</p> <p>6 Q But we're starving on this menu. There is</p> <p>7 nothing. We're not eating. We got no choice?</p> <p>8 MR. LACKS: Objection. I don't know what the</p> <p>9 question is.</p> <p>10 THE COURT: Sustained. Do you want ask a</p> <p>11 question.</p> <p>12 BY MR. NIDEL:</p> <p>13 Q You said the management manual -- the FPR</p> <p>14 manual is a menu of best management practices that they can</p> <p>15 implement, right?</p> <p>16 A Right.</p> <p>17 Q And you can't -- I asked you which ones are</p> <p>18 they implementing. We went through these. We are back to</p> <p>19 square one. We're going straight to desert is there?</p> <p>20 A What I testified to is I cannot verify that</p> <p>21 they followed all those exactly in every application.</p> <p>22 Q I'm not asking if they followed them all</p> <p>23 exactly in their applicants. You didn't review information.</p> <p>24 That would tell you if they followed setbacks if they applied</p> <p>25 the appropriate nitrogen and if they always used mere surface</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">286</p> <p>1 A I cannot.</p> <p>2 Q And there are other BMPs that are in your</p> <p>3 manual that I plan to go through and I will tell you it's a lot</p> <p>4 of them. But there are other BMPs that you identify in this</p> <p>5 manual with Dr. Brandt that they are not following on these</p> <p>6 fields, right?</p> <p>7 A What are you holding up there.</p> <p>8 Q Your manual?</p> <p>9 A FPR.</p> <p>10 Q FPR manual?</p> <p>11 A Okay.</p> <p>12 Q Would you agree with knee there are a number of</p> <p>13 other best management practices that you did not even identify</p> <p>14 Catholic examined as being followed, right?</p> <p>15 MR. LACKS: Your Honor, there is a document on</p> <p>16 the screen. I apologize that's not been -- I don't know if</p> <p>17 it's been admitted but it hasn't been discussed.</p> <p>18 MR. NIDEL: That was a technical error.</p> <p>19 A Yes. The purpose of the manual is not to</p> <p>20 suggest that every operation has to incorporate every best</p> <p>21 management practice.</p> <p>22 Q You've described the manual as a management</p> <p>23 manual, right?</p> <p>24 A Right. In a sense it's a menu that a</p> <p>25 particular operation doesn't have to pick every best management</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">288</p> <p>1 application, right?</p> <p>2 A What information would I review to indicate</p> <p>3 that they followed setbacks.</p> <p>4 Q I don't know you're supposed to be asking</p> <p>5 questions. Did you review all of the deposition testimony of</p> <p>6 -- you did you review all of the NMPs because in your FPR</p> <p>7 Management Manual, you identify what the setbacks that are</p> <p>8 required are, right?</p> <p>9 A Yes.</p> <p>10 Q That manual identifies and table is it 8.1?</p> <p>11 A Yes.</p> <p>12 Q That's all of the required setbacks? Is it</p> <p>13 8.10.</p> <p>14 A 8.10.</p> <p>15 Q It identified all those setbacks that are</p> <p>16 guidelines to requirements?</p> <p>17 A Yeah but the overall all document is</p> <p>18 guidelines.</p> <p>19 Q I understand the overall document is but those</p> <p>20 setbacks for example are requirements, they are required in the</p> <p>21 zones of that would be best management practice?</p> <p>22 Q They are all required -- in fact your report in</p> <p>23 this case identifies the setbacks as requirements, right?</p> <p>24 A Yes.</p> <p>25 Q So and we hood at their maps. You said that</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">289</p> <p>1 they identified them. But they don't even identify all of the</p> <p>2 setbacks that are in your table 8.10 opinion?</p> <p>3 A It looks like you found an example where they</p> <p>4 didn't.</p> <p>5 Q You don't know how they actually applied. In</p> <p>6 fact we have testimony as to how they applied and not only did</p> <p>7 they not identify them but based on the testimony of the two</p> <p>8 land FPR application supervisors, they applied to the property</p> <p>9 boundaries, right?</p> <p>10 A I don't know.</p> <p>11 MR. LACKS: Objection. Misstates the</p> <p>12 testimony.</p> <p>13 MR. NIDEL:</p> <p>14 Q Do you know?</p> <p>15 THE COURT: Wait . Sustained. Rephrase the</p> <p>16 question.</p> <p>17 BY MR. NIDEL:</p> <p>18 Q Do you know if they applied to the boundaries?</p> <p>19 A I do not</p> <p>20 Q If they applied to the boundaries and there</p> <p>21 were adjacent properties there would be a required setback?</p> <p>22 A Yes.</p> <p>23 Q And you don't know anything about their</p> <p>24 compliance with their nutrient management plan, right?</p> <p>25 A I don't.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">291</p> <p>1 heavily traveled roadways?</p> <p>2 A Heavily traveled roadways.</p> <p>3 Q Yeah. High traffic areas?</p> <p>4 A I'm not sure there are any of those in this</p> <p>5 county.</p> <p>6 Q My understanding is?</p> <p>7 THE COURT: You should have here last night</p> <p>8 when they had's water break out.</p> <p>9 BY MR. NIDEL:</p> <p>10 Q Someone testified that there is only three</p> <p>11 roads Loganton, I think. I don't know if that was on the</p> <p>12 record or not. BUP it's near -- I think maybe called Main</p> <p>13 Street when it goes through Loganton, right NFRMENT 880, East</p> <p>14 Valley Road?</p> <p>15 A I don't believe.</p> <p>16 Q Did they avoid traveled roads, heavily traveled</p> <p>17 roads?</p> <p>18 A Avoid them in what sense.</p> <p>19 Q In terms of their sighting, in terms of their</p> <p>20 site selection?</p> <p>21 A Some are adjacent to roadways.</p> <p>22 Q And some of them are adjacent to people's</p> <p>23 houses, right?</p> <p>24 A Yeah, with the appropriate setbacks.</p> <p>25 Q And adjacent to people's wells, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">290</p> <p>1 Q So it would be a best management practice to</p> <p>2 have a nutrient management plan and a best practice to adhere</p> <p>3 to a nutrient management plan, right?</p> <p>4 A Yeah, I didn't check a particular field where</p> <p>5 they were planting orchard grass with where they split their</p> <p>6 application.</p> <p>7 Q And I was wrong. Well, you and I were both</p> <p>8 close. But neither of us was right it's table 8.11. Is that</p> <p>9 fair?</p> <p>10 A I think in the original -- okay.</p> <p>11 Q As far as the book?</p> <p>12 A Okay. Setbacks are in table 8.11.</p> <p>13 Q I might get in trouble for this. But it's</p> <p>14 going to have like the king James have the new American edition</p> <p>15 of the Bible. We've got some slight changes but over the same?</p> <p>16 A I think I would say the king James and the new</p> <p>17 king James.</p> <p>18 Q Now you're out of my league.</p> <p>19 I was with you for a minute there. Now I</p> <p>20 can't do it.</p> <p>21 Okay.</p> <p>22 What about Ph adjustment? Do did they do Ph</p> <p>23 adjustment.</p> <p>24 A Not that I know of.</p> <p>25 Q Did they avoid land application sites near</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">292</p> <p>1 A Yeah, with appropriate setbacks.</p> <p>2 Q But in your ideal sense -- when we looked at</p> <p>3 the language from the FPR manual, in the YALTD you would be</p> <p>4 away from homes entirely, isolated, right?</p> <p>5 A Right.</p> <p>6 Q And they didn't use consistently use -- they</p> <p>7 used surface application, right?</p> <p>8 A Agree.</p> <p>9 Q And at times they may have used spray</p> <p>10 application, right?</p> <p>11 A Yes. And I don't know. I cannot testify one</p> <p>12 way or the other whether spray application was used on these</p> <p>13 fields in the period of consideration.</p> <p>14 Q The requirement in the nutrient imagine</p> <p>15 management technical guide is that for something to be a normal</p> <p>16 farming operation, it must adhere to best management practice,</p> <p>17 right?</p> <p>18 A Yes.</p> <p>19 Q And if a normal farming operation does not add</p> <p>20 leer to best management practices, it is no longer a normal</p> <p>21 farming operation, right, is that?</p> <p>22 A I guess that's corrected.</p> <p>23 Q And if at no longer a normal farming operation,</p> <p>24 it's required to get a permit, right?</p> <p>25 A Yes, that's the language.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">293</p> <p>1 Q And that in fact is the requirement, right?</p> <p>2 A Yes.</p> <p>3 Q What does it mean to threaten public health?</p> <p>4 It says a beneficial reuse is defined as something that toss</p> <p>5 not threaten public health. Is that right?</p> <p>6 A Yeah. In other words, I mean, that's a pretty</p> <p>7 broad, you know -- what threatens public health? That's</p> <p>8 obviously a very general description of negative impact.</p> <p>9 Q What could threaten public health here is</p> <p>10 contamination of wells with either toxic bacteria or toxic</p> <p>11 nitrates, right?</p> <p>12 A Right. Pathogenic bacteria.</p> <p>13 Q It's actually part of the nutrient management</p> <p>14 plan technical manual that if there are impact to local water</p> <p>15 supplies, that that is no longer a normal agricultural</p> <p>16 operation, right?</p> <p>17 A That's a very general statement. You'd have to</p> <p>18 look at the details to.</p> <p>19 To decide whether that is in fact the case.</p> <p>20 Q Do you agree that beneficial use must not the</p> <p>21 threaten public health, health or the environment?</p> <p>22 A Yes.</p> <p>23 Q And was the land application here, do you know</p> <p>24 if it was done in a manner you would call sustainable?</p> <p>25 A I need definition of sustainable.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">295</p> <p>1 Q Who gets the benefit of benefits of this you</p> <p>2 were everyone gets the benefits. Who gets the benefits of this</p> <p>3 FPR application?</p> <p>4 A Nicholas Meats.</p> <p>5 Q Okay. And farm fields or farmers, I guess?</p> <p>6 Q Well?</p> <p>7 A It's not all their property, so some other</p> <p>8 property owners.</p> <p>9 Q Benefits. Nicholas Meats. And farm fields?</p> <p>10 A Yes.</p> <p>11 Q The farmers. The owners of the fields?</p> <p>12 A Right.</p> <p>13 Q In this case that's Gene and Heidi Nicholas?</p> <p>14 A If they're applying on their own fields.</p> <p>15 Q Do you know if these fields are their own</p> <p>16 field?</p> <p>17 A I believe they are. I don't actually know for</p> <p>18 SN fields.</p> <p>19 Q What are the other benefits?</p> <p>20 A Told be -- I think there's kind of a benefit in</p> <p>21 the sense that there's less energy usage instead of putting it</p> <p>22 in trucks so there's some benefit to the environment. You're</p> <p>23 not trucking the material, using up the energy needed to take</p> <p>24 it to a wastewater treatment plant.</p> <p>25 Q You're talking my game there. But do you know</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">294</p> <p>1 Q I think it's a word that I used from you. Do</p> <p>2 you know, if you used that word? Do you use that word?</p> <p>3 A Sustainable meaning I guess that you can</p> <p>4 continue with it year after year.</p> <p>5 Q Are you offering the opinion -- can you offer</p> <p>6 the opinion based on what information you know that the land</p> <p>7 application was done in a sustainable manner?</p> <p>8 A Yes.</p> <p>9 Q You don't know how it was lands applied, right?</p> <p>10 A Right. But I'm defining sustainable as</p> <p>11 something they can do, continue to do year after year without</p> <p>12 negatively impacting the environment.</p> <p>13 Q But you don't know how they did it, right?</p> <p>14 A I know how they did it. What do you mean I</p> <p>15 don't know how they did it.</p> <p>16 Q You don't know how many gallons per acre they</p> <p>17 applied. You don't know if they created runoff. You don't</p> <p>18 know if they applied when the crops need the food or don't need</p> <p>19 the food, right?</p> <p>20 A I don't know in every situation.</p> <p>21 Q I'm not talking about in every situation. You</p> <p>22 can't say that more often than not they were out there doing</p> <p>23 things in a sustainable manner, right, because you don't know?</p> <p>24 A Again, I don't know what sustainable means in</p> <p>25 that situation.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">296</p> <p>1 how far treatment plant is?</p> <p>2 A Well maybe 40 miles.</p> <p>3 Q Okay. Do you know what the farthest field is</p> <p>4 that they apply?</p> <p>5 A No.</p> <p>6 Q So you don't know if they're saving energy or</p> <p>7 wasting energy, right?</p> <p>8 MR. LACKS: Objection.</p> <p>9 THE COURT: What's the objection.</p> <p>10 MR. LACKS: Seems to be talking about field</p> <p>11 that are not at issue in this case.</p> <p>12 MR. NIDEL: We're talking about their</p> <p>13 application program.</p> <p>14 THE COURT: Rephrase the question because I</p> <p>15 think everybody is confused what you were talking about.</p> <p>16 MR. NIDEL: Fair enough.</p> <p>17 BY MR. NIDEL:</p> <p>18 Q Do you know how far and wide they apply the</p> <p>19 Nicholas Meats FPR?</p> <p>20 A No, not exactly.</p> <p>21 Q Do you know if they apply to local counties?</p> <p>22 A I don't think they do.</p> <p>23 Q Do you know?</p> <p>24 A I don't believe they do. I believe it's all</p> <p>25 within Clinton County.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">297</p> <p>1 Q But your understanding is they apply throughout</p> <p>2 Clinton County, right?</p> <p>3 A Not throughout pipe know they don't go far up</p> <p>4 into the Allegheny plateau.</p> <p>5 Q What's the nearest sewage treatment plant?</p> <p>6 A It might be Lock Haven or Milton.</p> <p>7 Q Do you know?</p> <p>8 A I don't. I don't know.</p> <p>9 Q What are the other benefits?</p> <p>10 A So my benefit there was generally you know less</p> <p>11 energy use. So there's sort of a benefit to society as a</p> <p>12 whole, as opposed to you know -- if they're taking it all the</p> <p>13 way to a treatment plant further away, you've got cost and</p> <p>14 environmental cost associated with that.</p> <p>15 Q But you don't know, right?</p> <p>16 Q You don't know how far they go to take to this</p> <p>17 various fields. How far is Jersey State (sic) from?</p> <p>18 A I don't know. In my recollection they probably</p> <p>19 are within 10 miles.</p> <p>20 Q So these fields are close but you don't know</p> <p>21 how much energy they're saving or wasting?</p> <p>22 A I've not done an energy analysis.</p> <p>23 Q And what other benefits, any other benefits?</p> <p>24 A I guess you could put the animals that consume</p> <p>25 the crops. It's a benefit to them.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">299</p> <p>1 taking you be your up -- you're not consuming space the</p> <p>2 landfill.</p> <p>3 Q It's a benefit to the landfill?</p> <p>4 A Yes. And so society in general because we want</p> <p>5 to reserve our landfill space for things that have to be land</p> <p>6 filled.</p> <p>7 Q Okay. But we went through this with biosolids.</p> <p>8 It could go to a sewage treatment plant. It could be treated</p> <p>9 and then it could be applied on these fields in a post</p> <p>10 treatment way, right?</p> <p>11 A Could be.</p> <p>12 Q And that would have the same benefit to the</p> <p>13 landfill?</p> <p>14 A Depending on what you do -- yeah, if you land</p> <p>15 apply.</p> <p>16 Q And the same benefit to the animals?</p> <p>17 A Yes.</p> <p>18 Q But it would cost money to the Nicholas Meats.</p> <p>19 It would provide same benefits to the farmers?</p> <p>20 A Assuming you got the same nutrients back after</p> <p>21 you sent it to the wastewater treatment plant.</p> <p>22 THE COURT: Mr. Nidel, Mr. Lacks, have a seat.</p> <p>23 Put your papers in the envelopes.</p> <p>24 THE COURT: Get you out of here and get your</p> <p>25 dinner which should be here. Mr. Powers did his job. If it's</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">298</p> <p>1 Q That's another benefit back to the farm owners?</p> <p>2 MR. LACKS: Objection. Stating the testimony.</p> <p>3 BY MR. NIDEL:</p> <p>4 MR. NIDEL: The animals. Anything else.</p> <p>5 A I can't think of any.</p> <p>6 Q So do you know who owns the fields? You don't</p> <p>7 know if it's Gene and Heidi you all of them?</p> <p>8 A They own some of them I don't believe they own</p> <p>9 all of them.</p> <p>10 Q They own the animals?</p> <p>11 A Yes, they own some of the animals.</p> <p>12 Q They pay for the energy it takes to truck this</p> <p>13 to these fields?</p> <p>14 A Right, if they did, yes.</p> <p>15 Q So there is -- this is -- the benefit to the</p> <p>16 animals is also a benefit to the farmers, right?</p> <p>17 A Yes.</p> <p>18 Q And the reduce it had energy is also a benefit</p> <p>19 to Nicholas Meats, right?</p> <p>20 A Yes</p> <p>21 Q And the benefit to Nicholas Meats is money,</p> <p>22 right?</p> <p>23 A I was going to add one other benefit. There's</p> <p>24 benefit -- if you go to your hierarchy it's not going to a</p> <p>25 landfill. So that's a benefit to the landfill. You're not</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">300</p> <p>1 not here it's Court Administrator powers fault. Don't talk</p> <p>2 about this, don't start deliberating. You'll about back in</p> <p>3 about hour 15 minutes, hour 20 minutes. Take your time</p> <p>4 eating. You don't have to rush.</p> <p>5</p> <p>6 THE COURT: Ed anything Mr. Nidel before we go.</p> <p>7 MR. NIDEL: Other than to apologize how long</p> <p>8 we took.</p> <p>9 THE COURT: Are you done.</p> <p>10 MR. NIDEL: I am very close to done.</p> <p>11 THE COURT: Mr. Lacks.</p> <p>12 MR. LACKS: Well subject to that last comment</p> <p>13 I was going to raise a concern we're getting towards the</p> <p>14 economics and to the edge of the bifurcation Order. But</p> <p>15 assuming it's not going any further than I would not.</p> <p>16 THE COURT: You're not going any further with</p> <p>17 the cost analysis.</p> <p>18 MR. NIDEL: No. I just wanted to cover the</p> <p>19 benefits because it's clearly part of his testimony.</p> <p>20 THE COURT: Don't go any further with the cost</p> <p>21 analysis. You're going to fish up in a few minutes when we</p> <p>22 come back.</p> <p>23 MR. NIDEL: Correct, Your Honor.</p> <p>24 THE COURT: You'll have redirect.</p> <p>25 MR. LACKS: Briefer.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">301</p> <p>1 THE COURT: And brief recross because we have</p> <p>2 someone from DEp here so he should stay.</p> <p>3 MR. LACKS: Yes. If the intention is to go</p> <p>4 into the evening.</p> <p>5 THE COURT: They're going. They are going to</p> <p>6 around 610. We'll go until 8. Going past 8 last night was</p> <p>7 not going to be good for them. If you saw them.</p> <p>8 MR. LACKS: Understood.</p> <p>9 MR. NIDEL: I agree, Your Honor.</p> <p>10 THE COURT: Court is in recess until 6:15.</p> <p>11 (Whereupon, the jurors were escorted from the</p> <p>12 courtroom.</p> <p>13 (Time noted, 4:58 p.m.)</p> <p>14 THE COURT: Anything before the jury comes</p> <p>15 back.</p> <p>16 MR. NIDEL: Could I use the new exhibit.</p> <p>17 THE COURT: It's right here. You can come get</p> <p>18 it right now.</p> <p>19 MR. NIDEL: Yes.</p> <p>20 THE COURT: In addition else.</p> <p>21 MR. NIDEL: That's the only thing I have.</p> <p>22 THE COURT: Anything.</p> <p>23 MR. LACKS: No, Your Honor.</p> <p>24 THE COURT: Tell him to get on the stand.</p> <p>25 I'll go get the jury. I want to get out of here by 8. See</p> <p style="text-align: center;">R O U G H D R A F T</p>	<p style="text-align: center;">303</p> <p>1 into evidence.</p> <p>2 THE COURT: Okay.</p> <p>3 A I've seen this working report</p> <p>4 BY MR. X:</p> <p>5 Q You've seen that report before?</p> <p>6 A Yes.</p> <p>7 Q And is it your understanding that the DEP is</p> <p>8 considering more stringent requirements and regulations with</p> <p>9 respect to FPR?</p> <p>10 MR. LACKS: Objection. Can we approach.</p> <p>11 THE COURT: Sure. Come on up.</p> <p>12 (Discussion held at sidebar on the record.)</p> <p>13 THE COURT: Go ahead.</p> <p>14 MR. LACKS: It seems like this is heading</p> <p>15 where the direction with the law maybe in the future we object</p> <p>16 to that A irrelevant and B seeking a potentially legal</p> <p>17 conclusion that doesn't apply at this point in time.</p> <p>18 THE COURT: Relevance.</p> <p>19 MR. LACKS: Relevance.</p> <p>20 THE COURT: Go ahead.</p> <p>21 MR. NIDEL: I don't know if Your Honor, Your</p> <p>22 Honor, would like with you I did discussion this.</p> <p>23 THE COURT: Let me see.</p> <p>24 MR. NIDEL: The large number of complaint due</p> <p>25 to odor and contamination of water that the State has</p> <p style="text-align: center;">R O U G H D R A F T</p>
<p style="text-align: center;">302</p> <p>1 where we're going.</p> <p>2 (Time noted, 6:10 p.m.)</p> <p>3 (Whereupon, the jurors were escorted into the</p> <p>4 courtroom. )</p> <p>5 THE COURT: Ladies and gentlemen, Dr. Elliott</p> <p>6 is still on the stand. We're on cross-examination by Mr.</p> <p>7 Nidel. You have pens and papers. Thank you for being so</p> <p>8 atone. Go ahead, Mr. Nidel.</p> <p>9 MR. NIDEL: May it please the Court, Your</p> <p>10 Honor. And good evening Dr. Elliott and identifying thank you</p> <p>11 guys for your patience.</p> <p>12 It's pretty amazing.</p> <p>13 MR. NIDEL:</p> <p>14 Q I just have a few more questions for you, Dr.</p> <p>15 Elliott.</p> <p>16 And I want to start by -- I think I said</p> <p>17 Jersey city. I could screw that one up a lot of different</p> <p>18 ways. That's how I did it. Sorry about that.</p> <p>19 I'm going to show you you an exhibit. Have</p> <p>20 you seen exhibit before.</p> <p>21 THE COURT: Do you know what exhibit it is.</p> <p>22 MR. NIDEL: It's a Pennsylvania Department of</p> <p>23 Environmental Protection notice.</p> <p>24 THE COURT: It's a new exhibit.</p> <p>25 MR. NIDEL: Right now it's not being offered</p> <p style="text-align: center;">R O U G H D R A F T</p>	<p style="text-align: center;">304</p> <p>1 received.</p> <p>2 MR. LACKS: Specifically to Nicholas Meat.</p> <p>3 MR. NIDEL:</p> <p>4 Mr. Cowels: Our opening was broad about the</p> <p>5 whole State.</p> <p>6 MR. LACKS: You're talking to him or Moore.</p> <p>7 MR. COWLES: I'm talking to you -- I'm talking</p> <p>8 to the judge actually.</p> <p>9 MR. NIDEL: Taco Bell. Dominoes.</p> <p>10 THE COURT: What are you going to ask?</p> <p>11 MR. NIDEL: Whether as a result -- whether</p> <p>12 there's been a number of complaint.</p> <p>13 THE COURT: You should ask he's seen this</p> <p>14 report.</p> <p>15 MR. NIDEL: He said he had.</p> <p>16 MR. LACKS: He said he was familiar with the</p> <p>17 working ground.</p> <p>18 MR. NIDEL: I showed it to him and he said yes</p> <p>19 I'm familiar with the work, but I asked if he's seen it.</p> <p>20 THE COURT: You're going to go if there was a</p> <p>21 large of complaints and he's in the working group.</p> <p>22 MR. NIDEL: Yes, Your Honor. I was being</p> <p>23 distracted.</p> <p>24 THE COURT: That's it.</p> <p>25 MR. NIDEL: I believe so. Maybe I'll do</p> <p style="text-align: center;">R O U G H D R A F T</p>

<p style="text-align: center;">305</p> <p>1 something authorize with Mr. Karshner.</p> <p>2 THE COURT: Okay. We'll cross that bridge</p> <p>3 when we get to Mr. Karshner. Hoping to get to him very soon.</p> <p>4 THE COURT: Number of complaints only.</p> <p>5 MR. NIDEL: Type.</p> <p>6 THE COURT: Odor and water, whatever the is</p> <p>7 THE COURT: Go ahead. I had the SUMENT I</p> <p>8 PANDED you TP hae you seen that document.</p> <p>9 A I have and WUR aware of a working group that</p> <p>10 has been impaneled by the Department of Environmental</p> <p>11 Protection.</p> <p>12 A Yes.</p> <p>13 Q That is to address the fact that DEP</p> <p>14 Pennsylvania Department of Agricultural and State Lawmakers</p> <p>15 have received several comments and complaints related to FPR</p> <p>16 use in Pennsylvania, right?</p> <p>17 A Yes. That's what it says.</p> <p>18 Q And the most common of those complaints are</p> <p>19 related to odor concerns and about potential threats to</p> <p>20 drinking water sources like groundwater, right?</p> <p>21 A Yes.</p> <p>22 Q I heard your testimony and you testified as to</p> <p>23 the fact that there are quarter-inch screens in the FPR</p> <p>24 slaughterhouse in the slaughterhouse before the FPRs came out</p> <p>25 of the system, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">307</p> <p>1 screens at Nicholas Meats slaughterhouse is that they have the</p> <p>2 quarter-inch screens?</p> <p>3 A Yes.</p> <p>4 Q And that information was provided to you by</p> <p>5 both Doug Nicholas and Brian Miller, right?</p> <p>6 A Correct.</p> <p>7 Q And you have haven't anything to verify that</p> <p>8 fact one way or the other, but your opinions and your</p> <p>9 understanding is based on that fact, right?</p> <p>10 A Yes.</p> <p>11 Q And do you know -- I don't know if you were</p> <p>12 here for the testimony. Were you here for the testimony of</p> <p>13 Alaina Leigey?</p> <p>14 A No. Yes.</p> <p>15 Q Do you know why they use magnets in cow's</p> <p>16 stomachs?</p> <p>17 A Yes.</p> <p>18 Q Why do they use magnets in cow a stomach's?</p> <p>19 A Thing they use them to prevent hardware disease</p> <p>20 when animals when they graze they're not very discriminate and</p> <p>21 they can pick up nails and wire and other pieces of metal which</p> <p>22 would hurt them if they ingested them.</p> <p>23 Q So those magnets are inserted into the cows</p> <p>24 first stomach?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">306</p> <p>1 A Right.</p> <p>2 Q Did you see those screens yourself?</p> <p>3 A No.</p> <p>4 Q You did not see those screens?</p> <p>5 A No.</p> <p>6 Q How did you get the information that there were</p> <p>7 screens?</p> <p>8 A From Doug Nicholas and Brian Miller, both</p> <p>9 confirmed that.</p> <p>10 Q To you personally a conversations?</p> <p>11 A Yes.</p> <p>12 Q Did they confirm that they were quarter-inch</p> <p>13 screens Bush my understanding they're quarter-inch screens.</p> <p>14 That your understanding?</p> <p>15 A That's my understanding.</p> <p>16 Q Your testimony is you were provided that</p> <p>17 information by both Doug Nicholas and Brian Miller, right?</p> <p>18 A Right.</p> <p>19 Q Do you ever if they have finer screens I think</p> <p>20 they were called rotary screens?</p> <p>21 A Yes. You can get -- the ones they have are</p> <p>22 basically stationary. But you can get rotary screens that acts</p> <p>23 as a rotate around and eventually finer. I don't know the</p> <p>24 smallest opening on those.</p> <p>25 Q But the screens -- your understanding of the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">308</p> <p>1 Q And they are an if I inches lock?</p> <p>2 A It's different shapes. Some are just two to</p> <p>3 three inch long bars basically.</p> <p>4 Q Those two three inch bars are inserted to the</p> <p>5 stomachs of the cows to collect any metal that they would</p> <p>6 consume?</p> <p>7 A Right. It might puncture their insides.</p> <p>8 Q And can you think of any way that those metal</p> <p>9 magnets would get through a -- the drains that you were told</p> <p>10 about?</p> <p>11 A No. I think -- I don't know specifically, but</p> <p>12 I would surmise they are too big to go through a quarter-inch</p> <p>13 screen.</p> <p>14 Q The magnets you're aware of used with cows are</p> <p>15 much bigger -- they are a few inches rather than a quarter?</p> <p>16 A Yes.</p> <p>17 Q They are much bigger than 40,000 of an inch,</p> <p>18 right?</p> <p>19 A I te right.</p> <p>20 Q Were you ever told by anyone that they had</p> <p>21 40,000 of an inch screens at the Nicholas Meat processing</p> <p>22 facility?</p> <p>23 A 40,000 of an inch, no.</p> <p>24 Q So you've had conversations with -- you've</p> <p>25 toured the plant, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>

309			311		
1	A	I'm sorry.	1	Q	And is this that copy of your report that you
2	Q	Have you tour the facility?	2		were provided?
3	A	No, I haven't actually gone through the meat	3	A	It appears to be.
4		processing facility part.	4	Q	And copy of your report you were provided
5	Q	But you've had conversations with Doug	5		another copy of your report, a subsequent copy of your report.
6		Nicholas, Brian Miller; is that right?	6		Is that?
7	A	Yes.	7	A	Yes.
8	Q	And have you had conversations with Gene	8	Q	And that copy -- does contain any highlights?
9		Nicholas, as well?	9	A	No.
10	A	Yes.	10	Q	That that is three ring punch holes in it,
11	Q	And to the best of your knowledge, and you've	11		right?
12		had conversations about their screens, right?	12	A	Right.
13	A	Yes. The first two people you mentioned.	13	Q	That copy although of also came with the
14	Q	In your report you included it had fact that	14		attachments, right?
15		they have quarter-inch screens?	15	A	That was -- I was handed that subsequent to --
16	A	Yes.	16		you taking that one.
17	Q	And so your understanding based on	17	Q	And when you were given that copy of the
18		conversations with at least three people that were worked for	18		report, you were also given the full -- that copy came with the
19		Nicholas Meats that they have quarter-inch screens, right?	19		full stack of attachments, right?
20	A	Two people.	20	A	Yes? You have a copy that's this thick with
21	Q	And you have no knowledge of on any of their	21		three ring binder punch holes, right.
22		process screens they have a rotary screen that would limit down	22	A	Yes.
23		to 40,000 of an inch, right?	23	Q	You have a copy that's this thick that's
24		No	24		highlighted, right?
25	Q	And is it possible that small parts of the	25	A	Yes
ROUGH DRAFT			ROUGH DRAFT		
310			312		
1		animals could get through the quarter-inch screen?	1	Q	The highlights that were provided to you on
2	A	If they're small enough.	2		your report, did you make those highlights?
3	Q	We talked about your work on the FPR manual.	3	A	No.
4		And we've -- I think everyone -- it's about an a 300-page	4	Q	There's also under lines?
5		document. Encyclopedia I would say.	5		MR. LACKS: Objection. Your Honor, can we
6		At least one volume of an encyclopedia, right	6		approach.
7		p.m. you said you were not paid for your work.	7		THE COURT: Sure. Come on up. Talk among
8	A	Correct.	8		yourselves.
9	Q	On that? Right?	9		(Discussion held at sidebar on the record.
10		Your -- how much are you paid to testify.	10		MR. LACKS: I'm concerned where he's going.
11	A	250 -- to testify? 5 highway.	11		Given the Court's rule earlier I would object to him going any
12	Q	500 an hour to testify?	12		further into this issue. Sundays AELT going to unFAURL
13	A	Yeah in 2500 an hour to come here and to sit in	13		prejudice my. With the jury and we're not going to have an
14		court.	14		opportunity to address it knew, MAU Emoji full WAU with the
15	A	No, to testify.	15		witness short of me having to take the stand and given, Your
16	Q	\$250 an hour to come here and sit in court?	16		Honor's ruling, I don't think this is a, appropriate to go
17	A	Yes.	17		into.
18	Q	\$500 an hour for your testimony in this case?	18		MR. NIDEL: I think I need to make a factual
19	A	Yes.	19		regard of what happened.
20	Q	You were not paid anything for your work on the	20		THE COURT: The highlight that there were
21		manual, right?	21		already there when he got it.
22	A	No.	22		MR. NIDEL: The highlightS were there and
23	Q	Earlier at the beginning of your testimony you	23		certain questions he was, he was asked that he provided answer
24		were provided a copy of your report?	24		to were NAVBLTH highlighted.
25	A	Yes.	25		MR. LACKS: How is he going to establish that.
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">313</p> <p>1 MR. NIDEL: I know what you asked and I any</p> <p>2 what the answers are have I have the highlights.</p> <p>3 MR. LACKS: How are we going to VERIFY that</p> <p>4 with the transcript.</p> <p>5 MR. NIDEL: Because he sat and gave numbers</p> <p>6 form a demonstrative that you created that is specifically</p> <p>7 highlighted.</p> <p>8 THE COURT: Stop, stop. You can ask him about</p> <p>9 the highlights. A couple questions. THOEN you're done.</p> <p>10 MR. NIDEL: Well stiff one more -- one small</p> <p>11 -- one separate subject very short and that's it.</p> <p>12 THE COURT: All right. Three or four</p> <p>13 questions on this and then you're done.</p> <p>14 MR. LACKS: I had a concern.</p> <p>15 THE COURT: I'll stop if it starts --</p> <p>16 MR. NIDEL: Dr. Elliott were some of the</p> <p>17 questionings that you were asked by concurrent, were the</p> <p>18 answers to some of those questions highlighted in the copy</p> <p>19 that you were given.</p> <p>20 A I can't be specific because some of these I</p> <p>21 knew from my memory.</p> <p>22 Q They are all?</p> <p>23 A I don't recall every question they asked.</p> <p>24 Q They're, there are also under lines in there,</p> <p>25 correct?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">315</p> <p>1 Q Dr. Elliott those well results were</p> <p>2 highlighted, some of those well result were highlighted in the</p> <p>3 version you were given, right?</p> <p>4 A Yes. But I didn't have that when I ecited the</p> <p>5 values.</p> <p>6 Q It was taken away from you?</p> <p>7 A Right.</p> <p>8 Q And you said you were here for the testimony of</p> <p>9 young Alaina Leigey, right?</p> <p>10 A Yes.</p> <p>11 Q You've testified in your report and you have</p> <p>12 testified to some degree about the beneficial use of FPR in</p> <p>13 this case, right?</p> <p>14 A Yes.</p> <p>15 Q What are the benefits of Nicholas Meats use of</p> <p>16 FPR to miss Alaina Leigey?</p> <p>17 A I don't know.</p> <p>18 Q You can't think of any, can you?</p> <p>19 A No, I can't think of any.</p> <p>20 Q Would you agree with me that removing a cost is</p> <p>21 always a benefit?</p> <p>22 A Yes.</p> <p>23 Q So if there's a cost to the community by</p> <p>24 eliminating that cost that would be also a beneficial use,</p> <p>25 right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">314</p> <p>1 A Those are. I see that.</p> <p>2 Q And I'm referring specifically to you were</p> <p>3 asked questions about -- you were asked questions about the</p> <p>4 wells. Sorry about that, Doctor.</p> <p>5 You were asked questions about the wells and</p> <p>6 you went through an entire discussion of the results of the</p> <p>7 USGS and the Pennsylvania studies and the well results were</p> <p>8 nitrates. Do you recall that.</p> <p>9 A Yes.</p> <p>10 Q And are some of those answers HIEMENTed on page</p> <p>11 17 of that?</p> <p>12 A</p> <p>13 MR. LACKS: I object, Your Honor. I think</p> <p>14 he's misstating the timing of when those questions were asked</p> <p>15 and when he still had the highlighted copy.</p> <p>16 THE COURT: Okay.</p> <p>17 MR. LACKS: It's confusing misleading and</p> <p>18 highly prejudicial.</p> <p>19 THE COURT: This is it.</p> <p>20 MR. NIDEL: This is it.</p> <p>21 THE COURT: Okay. Overruled. You're done,</p> <p>22 move on to something else.</p> <p>23 MR. NIDEL: I don't know if I got an answer.</p> <p>24 THE COURT: Okay.</p> <p>25 MR. NIDEL:</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">316</p> <p>1 A Could you reep that.</p> <p>2 Q Yes. If all you did is RE move costs paid by</p> <p>3 the community, that could the result in a beneficial use in and</p> <p>4 it of of itself?</p> <p>5 A Yes, it would shall beneficial to remove some</p> <p>6 of the costs.</p> <p>7 Q Beneficial to the community not to Nicholas</p> <p>8 Meats, right?</p> <p>9 A What specific costs are you talking about.</p> <p>10 Q The impacts of nutrient runoff, the impacts of</p> <p>11 runoff animal odors, offensive, odors, migraines, those type of</p> <p>12 things?</p> <p>13 A Yes.</p> <p>14 MR. NIDEL: SHGSZ.</p> <p>15 MR. NIDEL: No other questions.</p> <p>16 THE COURT: Redirect.</p> <p>17 MR. LACKS: Brief, yes, thank you.</p> <p>18</p> <p>19 EXAMINATION</p> <p>20</p> <p>21 BY MR. LACKS:</p> <p>22 Q Dr. Elliott I've come to learn over these weeks</p> <p>23 that sometimes less is more so I'll try to be a brief as</p> <p>24 testimony.</p> <p>25 You were asked questions about your testimony</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">317</p> <p>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 back 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</p>	<p style="text-align: center;">319</p> <p>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</p>
<p style="text-align: center;">318</p> <p>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</p>	<p style="text-align: center;">320</p> <p>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 seep 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</p>

<p style="text-align: center;">321</p> <p>1 Q What's your -- I know this is taking us back to</p> <p>2 day one. But what's your understanding of what Gene Nicholas</p> <p>3 does with FPR?</p> <p>4 A He uses them beneficially for crop production.</p> <p>5 Q What does he do with the crops?</p> <p>6 A NEEMENTD I think back to his animals.</p> <p>7 Q What does he do with those animals?</p> <p>8 A They get grazed and maybe he sends some to his</p> <p>9 facility as well.</p> <p>10 Q What is does his facility do with the cattle?</p> <p>11 A Saturdays a slaughterhouse. Processes P meat.</p> <p>12 Q What do they do with the meat?</p> <p>13 A They sell it.</p> <p>14 Q And so who benefits from that?</p> <p>15 A The recipients of the meat.</p> <p>16 Q People who eat meat?</p> <p>17 A Yes.</p> <p>18 MR. LACKS: Thank you no further questions.</p> <p>19 THE COURT: Recross.</p> <p>20 MR. NIDEL: Yes, Your Honor. May it please</p> <p>21 the Court Ordered.</p> <p>22</p> <p>23 EXAMINATION</p> <p>24 S</p> <p>25 MR. NIDEL:</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">323</p> <p>1 and when you testified tonight that they had identified a</p> <p>2 setback on that house, do you know if they had identified it</p> <p>3 every year on their maps?</p> <p>4 A I do not.</p> <p>5 Q Do you know if they applied theirs fields</p> <p>6 consistent with the setback every year on those maps?</p> <p>7 A I do not.</p> <p>8 Q You were ask about whether the plaintiffs would</p> <p>9 have been able to retest their wells after the 2020 test,</p> <p>10 right?</p> <p>11 A Yes.</p> <p>12 Q And those tests would have been \$50 or less?</p> <p>13 A Yeah. That's a rough estimate of what it cost,</p> <p>14 I think.</p> <p>15 Q You're the scientist, right? Have you ever</p> <p>16 asked to test the plaintiffs' wells?</p> <p>17 A No.</p> <p>18 Q Do you know if you would have you would have</p> <p>19 been given permission to test plaintiffs wells?</p> <p>20 A I don't know. I never asked.</p> <p>21 Q You have participated in litigations for years,</p> <p>22 right?</p> <p>23 A Yes.</p> <p>24 Q You've testified on behalf of companies like</p> <p>25 Nicholas Meats for years, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">322</p> <p>1 Q Nutrient Act 38, the requirements for the</p> <p>2 nutrient management plans, they are not required for FPR, they</p> <p>3 are required for nutrient management plan, the technical No,</p> <p>4 ma'am from the manual?</p> <p>5 A Yeah Act 38 is focused on manures.</p> <p>6 Q It's nor nutrient management plan?</p> <p>7 A Right.</p> <p>8 Q Those are requirements for nutrient management</p> <p>9 plan, right?</p> <p>10 A Yes.</p> <p>11 Q And you were asked about best management</p> <p>12 practices and they were a continuum?</p> <p>13 A Yes.</p> <p>14 Q But the right under the FPR manual that you</p> <p>15 helped write is best management practices not okay management</p> <p>16 practices or bad, but best. Right?</p> <p>17 A Right. That's the ideal.</p> <p>18 Q And the setback you identified that on the map</p> <p>19 that you have there is in fact a setback around that house?</p> <p>20 A Yes.</p> <p>21 Q Because those setbacks -- do you know if those</p> <p>22 setbacks are at every single one of those naps that they use</p> <p>23 year after year?</p> <p>24 A I don't know.</p> <p>25 Q When you sailed that they identified setbacks</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">324</p> <p>1 A Yes.</p> <p>2 Q You understand that if the lawyers need access</p> <p>3 to test a well they can get access from the Court to test the</p> <p>4 well, right?</p> <p>5 A I presume that's true.</p> <p>6 Q You never asked to test the wells?</p> <p>7 A I never did and and you were asked who benefits</p> <p>8 from the sale of Nicholas Meats, right. Nicholas Meats gets</p> <p>9 paid for that, right.</p> <p>10 A Right.</p> <p>11 Q So -- you didn't mention Nicholas Meats</p> <p>12 benefits, right?</p> <p>13 A You put it up there on the chart.</p> <p>14 Q You were asked who benefits when they ever that</p> <p>15 final stake BUR O OE?</p> <p>16 A I was answering based on my understanding of</p> <p>17 the question in do you also understand that Nicholas Meats</p> <p>18 charges money for that.</p> <p>19 A Absolutely.</p> <p>20 Q And you were asked about the crops and the cows</p> <p>21 that were grazed opinion. Do you know what crops were grown on</p> <p>22 these fields?</p> <p>23 A Yes.</p> <p>24 Q During the yield of years 2019 do you know who</p> <p>25 YORPS crops were grown on these fields?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p>325</p> <p>1 A Which particular fields.</p> <p>2 Q Most were grasses and can be born, corn, some</p> <p>3 corn in there?</p> <p>4 Q Do you know what was grown on F1 F2 F3?</p> <p>5 A I think or CLARD grass.</p> <p>6 Q Let me ask you a different way. Do you know</p> <p>7 what was in the nutrient management plan for those fields?</p> <p>8 A I would assume orchard grass and do you know if</p> <p>9 you have any independent evidence of that's in fact what they</p> <p>10 grew.</p> <p>11 A No.</p> <p>12 Q You don't have any evidence that they grew</p> <p>13 those crops on those fields other than the plants, corrected?</p> <p>14 A Other than, corrected. I didn't come back and</p> <p>15 verify their plans every time they had a field where they FWRU</p> <p>16 a crop.</p> <p>17 Q Do you know if they did?</p> <p>18 A I assume they did.</p> <p>19 Q You don't know, right?</p> <p>20 A I don't know.</p> <p>21 Q You were asked about whether keeping yields was</p> <p>22 a requirement of the nutrient management plans, right, I'm</p> <p>23 sorry, of the FPR manual?</p> <p>24 A Right.</p> <p>25 Q It's a requirement of the nutrient management</p> <p>ROUGH DRAFT</p>	<p>327</p> <p>1 Q Has inform your other testimony been your own</p> <p>2 speculation?</p> <p>3 A I can't think of any.</p> <p>4 MR. NIDEL: Thank you.</p> <p>5 THE COURT: Re.</p> <p>6 MR. LACKS: Nothing, Your Honor.</p> <p>7 THE COURT: Is he free to go.</p> <p>8 MR. LACKS: He is from our perspective.</p> <p>9 THE COURT: Is he free to go.</p> <p>10 MR. NIDEL: Yes, Your Honor.</p> <p>11 THE COURT: Dr. Elliott you can go. You can</p> <p>12 stay and watch the rest of the trial.</p> <p>13 THE WITNESS: Thank you, Your Honor.</p> <p>14 THE COURT: Of.</p> <p>15 MR. CLARK: We're having a technical issue.</p> <p>16 Can we try to fix that. We'll call Dustan Karschner setbacks.</p> <p>17 Setbacks. Setback.</p> <p>18</p> <p>19 ^ , called as a witness, being sworn/affirmed,</p> <p>20 testified as follows:</p> <p>21 THE COURT: Swear him in, Maureen.</p> <p>22</p> <p>23</p> <p>24 ***, called as a witness, being</p> <p>25 sworn/affirmed, testified as follows:</p> <p>ROUGH DRAFT</p>
<p>326</p> <p>1 plan technical manual, correct?</p> <p>2 A I don't believe that.</p> <p>3 Q You don't know it's not, right?</p> <p>4 A Right.</p> <p>5 Q And you were asked about what they did with</p> <p>6 their crops, right?</p> <p>7 A Right.</p> <p>8 Q You don't know what they do with their crops,</p> <p>9 do you?</p> <p>10 A No. Other than I assume that they were</p> <p>11 refeeding it it to some of their animals.</p> <p>12 Q You know what they say about assume?</p> <p>13 A Yes, right.</p> <p>14 Q You've testified under oath but you don't know</p> <p>15 what they do with their crops, right?</p> <p>16 A No. VR PFS SPESHG speculation.</p> <p>17 Q You NOERPT don't flow what they do with any</p> <p>18 cows that might graze on those crops, right?</p> <p>19 A I did not.</p> <p>20 Q You don't know if they go to the factory or if</p> <p>21 they go like puppy dog in the front yard?</p> <p>22 A I thought it was a logical inference.</p> <p>23 Q But you testified as to your speculation, right</p> <p>24 he?</p> <p>25 A Yes.</p> <p>ROUGH DRAFT</p>	<p>328</p> <p>1</p> <p>2</p> <p>3 EXAMINATION</p> <p>4</p> <p>5</p> <p>6 MR. CLARK: Good evening in Karschner. Thank</p> <p>7 you for being here. You've been here how long.</p> <p>8 A Since about FLOON.</p> <p>9 Q I will do if I best PO move things along.</p> <p>10 You're here under subpoena?</p> <p>11 A Yes.</p> <p>12 Q And who is the gentleman that accompany you</p> <p>13 into the courtroom?</p> <p>14 A He is a lawyer for the Department of</p> <p>15 Environmental Protection.</p> <p>16 Q Where are you currently employed?</p> <p>17 A I am employed in Williamsport for the</p> <p>18 Department of Environmental Protection.</p> <p>19 THE COURT: I guess before we go further. I</p> <p>20 have no idea who he is machine I don't think anybody else</p> <p>21 knows who he is.</p> <p>22 BY MR. CLARK:</p> <p>23 Q Please introduce yourself to the jury?</p> <p>24 A Sorry. Name Dustan Karschner. I'm an</p> <p>25 environmental protection specialist notice waste management</p> <p>ROUGH DRAFT</p>

<p style="text-align: center;">329</p> <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</p>	<p style="text-align: center;">331</p> <p>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 residualse 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</p>
<p style="text-align: center;">330</p> <p>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</p>	<p style="text-align: center;">332</p> <p>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 MRIENLT 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 -- IEFMR just the 24 inspector. So someone -- I supervisor or program manager or 25 something would make that decision first above me. ROUGH DRAFT</p>

<p style="text-align: center;">333</p> <p>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</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">335</p> <p>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?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">334</p> <p>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</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">336</p> <p>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 IBLTSZ, 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.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p>337</p> <p>1 Q Are you Eugene Nicholas using FPR general raid</p> <p>2 by Nicholas Meat at his personal farm fields F1 F2 F3 SN1, 2,</p> <p>3 and 3?</p> <p>4 A Yes? Do you know whether Mr. Nicholas uses</p> <p>5 that FPR as an aisle amendment soil amendment or fertilizer.</p> <p>6 A He does.</p> <p>7 Q Have you been to those fields?</p> <p>8 A Yes ^ CHECK WORD.</p> <p>9 Q Have you seen crop growth in those fields?</p> <p>10 A Yes.</p> <p>11 Q Have you seen crop growth in those years in</p> <p>12 2020?</p> <p>13 A I don't recall specifically if I did. I'd</p> <p>14 assume that there was.</p> <p>15 Q Do you recall if you've seen crop growth in</p> <p>16 those fields prior to 2020?</p> <p>17 A Yes, there have been.</p> <p>18 Q Has there ever been a time you've been to toes</p> <p>19 fields where you haven't seen crop growth?</p> <p>20 MR. NIDEL: Objection to form. Those</p> <p>21 SGLEELTSDZ the fields at issue in that is which I'll define.</p> <p>22 F1, F2, F3, SN 12, SN3. You're familiar with those fields.</p> <p>23 A Yes.</p> <p>24 Q Have you ever been a time you've been to those</p> <p>25 fields where you have not seen crop growth?</p> <p>ROUGH DRAFT</p>	<p>339</p> <p>1 A Yes.</p> <p>2 Q The role that you described environmental</p> <p>3 protection specialist, was that your role with the DEP from</p> <p>4 June to September of 2020?</p> <p>5 A Yes, it was.</p> <p>6 Q And do you recall learning of an alleged runoff</p> <p>7 incident at 17745 Mr. Nicholas's fields on or around June 12,</p> <p>8 2020?</p> <p>9 A Yes.</p> <p>10 Q What do you recall about that event?</p> <p>11 A We were, SWEEFD notice. I believe maybe late</p> <p>12 Friday or Monday that there had been an incident on the Friday</p> <p>13 CHK 17745. Of runoff that went down along the main road from a</p> <p>14 field that they had applied to up on the hill, one of the F</p> <p>15 fields. They -- so I responded to that complaint or incident</p> <p>16 report the following Monday.</p> <p>17 Q Do you recall that you communicated with others</p> <p>18 at DEP by email about the incident when it was reported?</p> <p>19 A Yes.</p> <p>20 Q Do you recall what you wrote?</p> <p>21 A Not specifically, but I just remember that I</p> <p>22 was going to go to this complaint to check out what happened.</p> <p>23 Q I'm going to show you a document that has been</p> <p>24 pre-admitted as Exhibit D 47, and for Mr. NIRLD?</p> <p>25 MR. NIDEL: 'S benefit the BRAK on here for</p> <p>ROUGH DRAFT</p>
<p>338</p> <p>1 A Not that I recall.</p> <p>2 Q Do you know whether Nicholas Meats has a</p> <p>3 nutrient management plan that TRAESs its generation in exPORPTS</p> <p>4 of FPR?</p> <p>5 A They do.</p> <p>6 Q Have you reviewed that plan before?</p> <p>7 A I have looked at it, yes.</p> <p>8 Q Does Nicholas Meats nutrient management plan</p> <p>9 address Gene Nicholas's lands application of FPR on the fields</p> <p>10 we've just been talking about, the field at issue in this case?</p> <p>11 A Yes, it does.</p> <p>12 Q From your perspective as an environment Olivia</p> <p>13 protection specialist with dope, is Nicholas Meat allowed to</p> <p>14 generate FPR at all?</p> <p>15 A Yes, they are ^ CHECK WORD Olivia.</p> <p>16 Q In your perspective as an environmental</p> <p>17 protection SPIGS at the Department of Environmental Protection,</p> <p>18 is Nicholas farms allowed to land apply that FPR to its farm</p> <p>19 fields?</p> <p>20 A Yes, they are.</p> <p>21 Q I want to focus us even further to a specific</p> <p>22 time period of 2020. I want to put our blinders on and I'm not</p> <p>23 asking you about periods outside that right now.</p> <p>24 June through September of 2020. You're with</p> <p>25 me.</p> <p>ROUGH DRAFT</p>	<p>340</p> <p>1 redockses that were on there and produced.</p> <p>2 MR. NIDEL: Yes.</p> <p>3 MR. CLARK:</p> <p>4 Q Dur recognize that document?</p> <p>5 Q Do you recognize that document?</p> <p>6 A Yes.</p> <p>7 Q Do you recognize the email at the top of the</p> <p>8 page?</p> <p>9 A DWREP.</p> <p>10 A Yes.</p> <p>11 A Yep, THAGS mine.</p> <p>12 Q Did you write this email?</p> <p>13 A Yes, I did.</p> <p>14 Q What is there email?</p> <p>15 A It looks like I was responding O to one of our</p> <p>16 waterways and WAET lands program. They typically respond to a</p> <p>17 lot of farm related complaints, thing, manure spread VR</p> <p>18 spreading and stuff. But because it was food processing</p> <p>19 residuals or waste, the waste manager program tends -- review</p> <p>20 the responses for those kinds of incidents and they don't</p> <p>21 really have any jurisdiction in that sense. So I was just kind</p> <p>22 of giving him information about what -- that it was definitely</p> <p>23 food processing waste and just for his information.</p> <p>24 Q</p> <p>25 MR. CLARK: Your Honor, this document was</p> <p>ROUGH DRAFT</p>

<p style="text-align: right;">341</p> <p>1 pre-admitted. But I FALTD to request permission to publish it</p> <p>2 to the jury.</p> <p>3 THE COURT: Any objection.</p> <p>4 MR. NIDEL: No, objection, Your Honor.</p> <p>5 THE COURT: It's admitted. You can show it to</p> <p>6 the jury.</p> <p>7 BY MR. CLARK:</p> <p>8 Q So I just want to focus on a couple different</p> <p>9 parts of this.</p> <p>10 It's definitely food processing waste I</p> <p>11 believe you were just talking about that. So it was under,</p> <p>12 your understanding at the time that when you did your</p> <p>13 investigation that it's food processing waste from Nicholas</p> <p>14 Meat.</p> <p>15 A Correct.</p> <p>16 Q Next sentence: They have an NMP to apply on</p> <p>17 those fields that are across the Ford the complainant. Do you</p> <p>18 see that?</p> <p>19 A Yes.</p> <p>20 Q The examine complainant, is that Patricia</p> <p>21 Leigey?</p> <p>22 A I believe it was.</p> <p>23 Q ^ CHECK WORD CHM DMR if it is 9,000 gallons per</p> <p>24 acre as it is at their other locations there's about 30 acres</p> <p>25 there so it could be 60 trucks to complete?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">343</p> <p>1 BHIS day. You said maybe Friday, Monday?</p> <p>2 A I think it occurred Friday. I responsibilityit</p> <p>3 Monday.</p> <p>4 Q How TU SKRETH? What did you do?</p> <p>5 A I went to the site. I spoke with a</p> <p>6 representative P Nicholas Meats on site. I viewed -- they had</p> <p>7 cleaned it pretty much by that point. So I just got an</p> <p>8 explanation from them what occurred that day on Friday, and</p> <p>9 their mitigation effort that they made.</p> <p>10 Q Who at Nicholas Meat did you speak to? Do you</p> <p>11 recall?</p> <p>12 A I believe it was Mr. Miller.</p> <p>13 Q And did you record your observations from your</p> <p>14 investigation in any ways?</p> <p>15 A Yes p.m. I wrote an inspection report that I</p> <p>16 provided.</p> <p>17 Q I'm going to provide you a copy of what's been</p> <p>18 pre-admitted as D 43, which is your inspection report. And</p> <p>19 request?</p> <p>20 MR. CLARK: Request permission to publish.</p> <p>21 THE COURT: Any objection NOD no, Your Honor.</p> <p>22 THE COURT: It's admitted.</p> <p>23 BY MR. CLARK:</p> <p>24 Q Please take a look at the document.</p> <p>25 A</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">342</p> <p>1 Did I read that accurately.</p> <p>2 A Yes.</p> <p>3 Q I want to focus on the next sentence. I talked</p> <p>4 to her at least a year ago when they were applying another</p> <p>5 time?</p> <p>6 So this Niel was written on June 12, 2020. Is</p> <p>7 that right.</p> <p>8 A Yes.</p> <p>9 Q So if you spoke to her a year ago, Ms. Leigey a</p> <p>10 year ago, you would have certain spoken to her in 2019 and FPR</p> <p>11 application?</p> <p>12 A You would agree with that, yes ^ CHECK WORD</p> <p>13 email.</p> <p>14 Q Your conclusion at the bottom the last time I</p> <p>15 talked to her is the last time they applied and they're not</p> <p>16 applying as they're what because they have to be able to do two</p> <p>17 applications per year. Did I read that accurately?</p> <p>18 A Yes.</p> <p>19 Q Does this email refresh your RESHGS Nicholas</p> <p>20 Meats had ray in in in place in 2020, yes, they did?</p> <p>21 Q NRP VR nutrient management plan?</p> <p>22 A Yes, they did.</p> <p>23 Q And did go and I investigate the runoff either?</p> <p>24 A I did, yes.</p> <p>25 Q And I think you said it was of it was the next</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">344</p> <p>1 ? The inspection report you generated.</p> <p>2 A Yes, it is.</p> <p>3 Q SFLP the report refers -- is that referring to</p> <p>4 the same runoff incident we were just talking about, June 12,</p> <p>5 2020?</p> <p>6 A Yes, it \$does.</p> <p>7 Q Can you read it had marks metal not guilty of</p> <p>8 the page, second paragraph?</p> <p>9 A Entire paragraph.</p> <p>10 Q Yeah?</p> <p>11 A Based on information provides, application had</p> <p>12 occurred in the field above the pasture area. Surface flow of</p> <p>13 the FPR was able to concentrate and cross past to your field</p> <p>14 about it00 feet down him and pool along the shoulder of the</p> <p>15 area of the roadway impacting distance of 20 yards or so along</p> <p>16 the road P employees came out and placed old corn vegetation to</p> <p>17 soak up pooled FPR and used a skid steer to block off the low</p> <p>18 area from the upper field to prevent additional runoff. Stone</p> <p>19 had also been placed along the road to where FPR had been</p> <p>20 impacted the shoulder area.</p> <p>21 Q You used the interim shoulder term SHOELD. Can</p> <p>22 you describe what you're referring to?</p> <p>23 A A long the roadway there is maybe a one or two</p> <p>24 foot wide area of stone, like driveway stone or just crushed</p> <p>25 stone that would be placed there to help sort up the road along</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">345</p> <p>1 the AEJS.</p> <p>2 Q Do you recall learning WLRN whether the FPR</p> <p>3 ever crossed the road?</p> <p>4 A It never did cross the road.</p> <p>5 Q And if assuming from your report that you</p> <p>6 learned that Nicholas representatives basically fixed the</p> <p>7 problem?</p> <p>8 A They basically address it had the issue as soon</p> <p>9 as they noticed it right away on Friday as far as I was aware.</p> <p>10 Q When you went out on that Monday, did you see</p> <p>11 any remaining FPR?</p> <p>12 A Not that I recall, no.</p> <p>13 Q Did you send an email to DEP colleagues</p> <p>14 following your visual inspection?</p> <p>15 A I don't recall specifically what I might have</p> <p>16 said is follow-up, but I might have.</p> <p>17 Q I'm going to show you an email that has been</p> <p>18 previously marked as exhibit D 46 and ask ask if you rock this</p> <p>19 document?</p> <p>20 A Yes.</p> <p>21 Q And what is that?</p> <p>22 A I sent this -- an email to my program manager</p> <p>23 as a follow-up to the -- my response, I believe.</p> <p>24 Q Does this refresh your recollection about what</p> <p>25 you wrote to your program manager?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">347</p> <p>1 setbacks were being followed?</p> <p>2 A I did.</p> <p>3 Q And what was your observation about whether or</p> <p>4 not this incident resulted from violating setbacks?</p> <p>5 A It did not. They were following setbacks.</p> <p>6 Q They were following setbacks?</p> <p>7 A Yes.</p> <p>8 Q Did you reach any conclusions about what caused</p> <p>9 it had runoff?</p> <p>10 A My conclusion was that maybe the area was dry,</p> <p>11 more dry than usually or something and because the land</p> <p>12 application wasn't soaking in as quickly as it would have under</p> <p>13 maybe slightly damp ground or normal conditions that ended up</p> <p>14 just kind of staying on the surface and ended flowing downhill</p> <p>15 really more than it would have normally.</p> <p>16 Q Did DEP take any kind of action in connection</p> <p>17 with this June 12, 2020 incident?</p> <p>18 A Yes. I did put them in violation for the</p> <p>19 incident and sent a notice of violation to them for this -- for</p> <p>20 the incident.</p> <p>21 Q Can you explain what a notice of vials means?</p> <p>22 A I notice of violation is just -- it's basically</p> <p>23 our force enforcement step if there is a violation of</p> <p>24 environmental regulation of some kind ^ CHECK WORD vials that</p> <p>25 we deem needs further enforcement we would send notice of</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">346</p> <p>1 A Yes.</p> <p>2 Q Following your site inspection?</p> <p>3 A Yes yes.</p> <p>4 Q Does it fairly and accurately state your</p> <p>5 observations from your site inspection?</p> <p>6 A Yes.</p> <p>7 Q</p> <p>8 MR. CLARK: Your Honor, I'd like to move to</p> <p>9 move D 46 into evidence and publish it to the jury.</p> <p>10 THE COURT: Any objection, Mr. Nidel.</p> <p>11 MR. NIDEL: No objection, Your Honor.</p> <p>12 THE COURT: It's admitted without objection.</p> <p>13 You can publish it.</p> <p>14 MR. CLARK:</p> <p>15 Q Having read that email, what do you recall</p> <p>16 about what you related to your colleagues at DEP?</p> <p>17 A I might have just -- I think I just wrote</p> <p>18 basically a slightly more detailed response to -- basically the</p> <p>19 same information as my inspection report, but I might have been</p> <p>20 really more detail in a couple areas what I saw when I was</p> <p>21 there.</p> <p>22 Q It seems this confirms that the FPR was</p> <p>23 confined to the shoulder area?</p> <p>24 A Yes.</p> <p>25 Q Did you make any observation ES about whether</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">348</p> <p>1 violation just as -- just further information for the party</p> <p>2 that there was a violation of environmental law and that some</p> <p>3 actions need to be taken to correct the violation.</p> <p>4 Q Does the notice of violation mean that a party</p> <p>5 needs to stop land applying FPR?</p> <p>6 A It does not, no.</p> <p>7 Q Is it a notice of violation a final action by</p> <p>8 the DEP?</p> <p>9 A No.</p> <p>10 Q Is a notice of violation mean someone is fined</p> <p>11 because of what you observed?</p> <p>12 A No, it doesn't.</p> <p>13 Q In this instance, this June 12 IEFRT event,</p> <p>14 was Nicholas Meat fined?</p> <p>15 A I don't remember if we took a penalty or not.</p> <p>16 Q Do you remember if you told them that they</p> <p>17 couldn't land apply any more?</p> <p>18 A I do not recall them them that. I don't</p> <p>19 believe I did.</p> <p>20 Q Does -- giving someone a notice of violation</p> <p>21 mean that they then have to go get a permit?</p> <p>22 A No, it doesn't.</p> <p>23 Q Can you explain the difference between a notice</p> <p>24 of violation and an Order or a final action?</p> <p>25 A A notice of violation is like a said our first</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">349</p> <p>1 step after a violation occurs. An Order for something of that</p> <p>2 knit further would be usually a following step or some step we</p> <p>3 might take in the very serious, very serious situations.</p> <p>4 Q What's the most significant step that DEP can</p> <p>5 take?</p> <p>6 A Probably an Order or a field Order would be the</p> <p>7 most significant step that I can think of. Maybe a penalty.</p> <p>8 I'm not sure.</p> <p>9 Q Above you pay grade?</p> <p>10 A Yes, above my pay grade.</p> <p>11 Q Fair enough.</p> <p>12 I want to focus us a little bit later that</p> <p>13 summer to the August time frame. Do you recall inspecting the</p> <p>14 Nicholas Meat land application on Gene Nicholas's fields again</p> <p>15 between August and September of 2020.</p> <p>16 A Yes.</p> <p>17 Q What did you do? Why did you do that?</p> <p>18 A We had received a call or a complaint about a</p> <p>19 lot of storm water runoff from a heavy rain event and the</p> <p>20 Complaint was that they had applied to those fields therefore</p> <p>21 the FPR was also running off of off because of the rain event.</p> <p>22 Q ^ CHECK WORD?</p> <p>23 Q Did you record your observations of your</p> <p>24 inspections in any way?</p> <p>25 A Yes. I believe our observations were included</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">351</p> <p>1 do you understand that to be referencing?</p> <p>2 A SN 1 SN2 and SN3.</p> <p>3 Q Let's start with your first entry here. August</p> <p>4 7. . Can you read that an aloud?</p> <p>5 A On August 7 department visited the SNOK road</p> <p>6 location after pictures were sent following a heavy</p> <p>7 thunderstorm in the morning that day. PINTH showed storm water</p> <p>8 runoff and flash FOOGD that occurred from needles had not been</p> <p>9 applied to for several weeks. A couple pictures also SHOELD</p> <p>10 SFORM water runoff down the access road to fields SN1 and 2,</p> <p>11 where application occurred the previous day more than 12 hours</p> <p>12 prior to the storm. On site observations later that morning</p> <p>13 showed no runoff issues from new application despite the wet</p> <p>14 soil and FPR was still soaking into the ground completely</p> <p>15 within 20 minutes of application.</p> <p>16 Q So when you refer to storm water RUF, runoff,</p> <p>17 what are you referring to?</p> <p>18 A Just rainfall, rainfall that was buried, very</p> <p>19 heavy for a short period of time so that runs off do you know</p> <p>20 the slope or something that ran down the access road in that</p> <p>21 instance ^ CHECK WORD buried.</p> <p>22 Q And you said that your on site observations</p> <p>23 later in the morning showed no runoff issues from new</p> <p>24 application despite the wet SOIM?</p> <p>25 A Correct.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">350</p> <p>1 in an inspection report.</p> <p>2 Q I'm going to show you you what's been</p> <p>3 pre-admitted as D Clark, Your Honor, may a public you be will</p> <p>4 issue to the jury?</p> <p>5 THE COURT: Any objection.</p> <p>6 MR. NIDEL: No, Your Honor.</p> <p>7 THE COURT: It's admitted. .</p> <p>8 Q</p> <p>9 BY MR. CLARK:</p> <p>10 Q Do you recognize this document?</p> <p>11 A Yes.</p> <p>12 Q And what is it?</p> <p>13 A Inspection report that I wrote for time period</p> <p>14 covering a couple months of observations that the department</p> <p>15 took.</p> <p>16 Q And this SNNGS report talks about the SN fields</p> <p>17 and refers to Snook Road?</p> <p>18 A Yes.</p> <p>19 Q And you understand those to be the SN1, SN2</p> <p>20 fields we were just talk early?</p> <p>21 MR. NIDEL: Objection he's been leading for a</p> <p>22 while.</p> <p>23 THE COURT: Try not to lead.</p> <p>24 BY MR. CLARK:</p> <p>25 Q The document references Snook Road. What field</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">352</p> <p>1 Q And the FPR you observed was soaking into the</p> <p>2 grounds within 20 minutes?</p> <p>3 A Correct.</p> <p>4 Q Did the department take any action relating to</p> <p>5 this August 7, 2020, inspection?</p> <p>6 A Not that I recall.</p> <p>7 Q So you don't recall whether the department</p> <p>8 assessed any fine to Gene Nicholas or Nicholas Meat based on</p> <p>9 your August 7 E. 2020 SNNGS?</p> <p>10 A No.</p> <p>11 MR. NIDEL: Objection. He asked him a</p> <p>12 nonleading question and then followed up with a leading</p> <p>13 question.</p> <p>14 THE COURT: I don't think that's leading.</p> <p>15 Overruled. The answer was no. At answer will stand. FWED</p> <p>16 next question.</p> <p>17 MR. CLARK: Let's move to the rest of the</p> <p>18 report.</p> <p>19 According to your report, did you begin</p> <p>20 conducting routine daily surveillance of track track in</p> <p>21 application locations of FPR from Nicholas Meats facility.</p> <p>22 MR. NIDEL: I believe that is leading.</p> <p>23 Objection.</p> <p>24 THE COURT: I don't think it suggests an</p> <p>25 answer. So that's my definition of an air leading question.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">353</p> <p>1 It's either yes or no WLRN whether he conducted daily</p> <p>2 surveillance of whenever he's going to surveil. Go ahead and</p> <p>3 answer.</p> <p>4 A Yes, I did.</p> <p>5 Q</p> <p>6 MR. CLARK:</p> <p>7 Q What was the result? Let me ask it this way.</p> <p>8 How long did that surveillance last?</p> <p>9 A Like about a month.</p> <p>10 Q A month?</p> <p>11 A Yeah.</p> <p>12 Q Does this report summarize all the days on</p> <p>13 which you were out there?</p> <p>14 A Yes.</p> <p>15 Q And I'm not going to take you or the jury</p> <p>16 through the TEEDium of going through each day.</p> <p>17 But can I direct you as to what your ultimate</p> <p>18 conclusion was based on seeing this report.</p> <p>19 A Yes. The purpose of us going out there was to</p> <p>20 just count the trucks and the applicator would document number</p> <p>21 of trucks that they were applying to certain fields and so we</p> <p>22 asked for the application records to be provided to us so that</p> <p>23 we could compare CHA we observed to what they documented was</p> <p>24 applied.</p> <p>25 Q Did you of did you draw any conclusions about</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">355</p> <p>1 just those days and his observations without the document on</p> <p>2 screen.</p> <p>3 MR. NIDEL: You've already asked how long he</p> <p>4 was out there surveilling.</p> <p>5 THE COURT: I'm going to let them. I'll give</p> <p>6 curative instruction, FEERLD. He's going to follow up on</p> <p>7 these particular fields only. That solves the problem.</p> <p>8 SZ # # # #.</p> <p>9 THE COURT: Ladies and gentlemen, I PIPTD out</p> <p>10 pointed out Dwight right any that this D 44 which was up here</p> <p>11 has been taken down. It does not just teal with the field</p> <p>12 that are in question here. F1 F2 F3 SN1, 2, and 3 deal with a</p> <p>13 bunch of other fields. The surveillance were on all of these</p> <p>14 fields. So ignore the testimony that there was a surveillance</p> <p>15 for that time period of about a month. That's not what was</p> <p>16 going on just with the fields of F1 F2 three SN1, 2, and 3.</p> <p>17 Now, Mr. Clark is going to go ask out of this</p> <p>18 report just on THEELD on those DATSDZ, not the other fields.</p> <p>19 So the month surveillance was not -- just put</p> <p>20 it out of your mind because it included a bunch of other</p> <p>21 fields. They are watching where all these trucks were going</p> <p>22 andy heard you applies to FEERLD.</p> <p>23 FWED, Mr. Clark.</p> <p>24 MR. CLARK:</p> <p>25 Q Mr. Karschner as part of your is your rail ENS,</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">354</p> <p>1 Nicholas's application of FPR during the time that you were</p> <p>2 performing this is your violence?</p> <p>3 MR. NIDEL: Your Honor. I object. Sidebar,</p> <p>4 please.</p> <p>5 THE COURT: Sure. Talk among UFRLSZ.</p> <p>6 # # # # is #.</p> <p>7 THE COURT: Go right ahead.</p> <p>8 MR. NIDEL: This is surveillance was regarding</p> <p>9 lots of field other than the field rat issue. I think it's</p> <p>10 extremely confusing. It was confusing me that suggests</p> <p>11 surveillance on NEELTSDZ. It's field K 1 I've seen fields not</p> <p>12 related to this that were being applied during this period. I</p> <p>13 think it's going into issues defendants' have refused to</p> <p>14 produce discovery on.</p> <p>15 THE COURT: Certainly K 1 and K 2, K 3.</p> <p>16 MR. NIDEL: There was's significance strong</p> <p>17 suggestion it was out at these FAELTD for an entire month</p> <p>18 watching truck WUGS not the cause and we have been denied to</p> <p>19 discovery to know how many TWRUKS.</p> <p>20 THE COURT: There's also F 6 A, F 5, F 4. So.</p> <p>21 MR. CLARK: You can couldn't BIEN my question</p> <p>22 SZ to the field that are issue in DLAGS and I can confine my</p> <p>23 questioning to the FULTD that are at issue in that is that are</p> <p>24 referenced in this report and if it will MAUK Mr. Nidel happy</p> <p>25 I can take the document down and can ask hum questions about</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">356</p> <p>1 did you have opportunity to observe the SN1 and SN2 fields?</p> <p>2 A Yes.</p> <p>3 Q And was that examined?</p> <p>4 Q Do you know the date when that took place</p> <p>5 ^ CHECK WORD?</p> <p>6 A It was like one of them was August 10 and there</p> <p>7 MAFSH a couple other ones.</p> <p>8 Q As part of the surveillance did you have an</p> <p>9 opportunity to surveil the F fields?</p> <p>10 A Yes.</p> <p>11 Q By the F fields let me be clear. Fields F1?</p> <p>12 A Yes.</p> <p>13 Q Would you have also I assume in watching F of</p> <p>14 DWRCFLT F1 WACHLD TWOEF YFRMENT?</p> <p>15 Q Was part of there surveillance did you have an</p> <p>16 opportunity -- well whether there multiple taste within this</p> <p>17 time period that you observed the SN fields?</p> <p>18 A Yes.</p> <p>19 Q Were there plumb days within this time period</p> <p>20 that you observed the F fields?</p> <p>21 A I believe so.</p> <p>22 Q Did you come to any conclusion ^ CHECK WORD</p> <p>23 plumb?</p> <p>24 Q I'm going could up confine my question to those</p> <p>25 particular fields, as to whether or not there was any</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: right;">357</p> <p>1 violations of setbacks?</p> <p>2 A There were not.</p> <p>3 Q Did you come to any conclusions about whether</p> <p>4 or not there were any runoff issues?</p> <p>5 A There were no.</p> <p>6 Q Did you come to any conclusions as it relates</p> <p>7 to those fields, about whether or not there was any evidence of</p> <p>8 over application?</p> <p>9 A We did not find any evidence of that.</p> <p>10 Q During that time period, did you come to any --</p> <p>11 I'll withdraw the question.</p> <p>12 Were you looking at their application records</p> <p>13 at this point.</p> <p>14 A I believe they provided it to us at a later</p> <p>15 date after the time period that we were watching.</p> <p>16 Q And when you say they provided, do you mean on</p> <p>17 a routine basis?</p> <p>18 A I think we -- at some point during there time</p> <p>19 frame we may have requested that they #13419 #3419 them to us</p> <p>20 when they were available.</p> <p>21 Q And has Nicholas Meats and Nicholas Farms</p> <p>22 provided their DRIEN reports to you?</p> <p>23 A They have, yes.</p> <p>24 Q Drag line reports to you?</p> <p>25 A They have, yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">359</p> <p>1 sites in some fashion since 2020?</p> <p>2 A Yes.</p> <p>3 Q Do you still receive Nicholas Meats drag line</p> <p>4 reports?</p> <p>5 A Currently we do not.</p> <p>6 Q You do not.</p> <p>7 When did that stop.</p> <p>8 A I believe last year I talked with the plan</p> <p>9 writer, the nutrient management plan plan WRI ERT writing who</p> <p>10 was relaying those reports to us and Nicholas Meats provide</p> <p>11 yourselves use an an an rule north that were provides the entire</p> <p>12 year land application so that's included with that so I decided</p> <p>13 it DPTD need to be submitted to us monthly or every month other</p> <p>14 or something of that nature.</p> <p>15 Q The drag line reports are attached to the</p> <p>16 annual report?</p> <p>17 A Correct.</p> <p>18 Q That is there ever been a time that you have,</p> <p>19 that you've requested the drag line reports from Nicholas Meat</p> <p>20 and they've not provided them?</p> <p>21 A No.</p> <p>22 Q To your knowledge, has the DEP ever ordered</p> <p>23 Nicholas Meat or Gene Nicholas to stop land applying FPR on</p> <p>24 fields F1 F2 F3 SN1 SN2 SN3?</p> <p>25 A No.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: right;">358</p> <p>1 Q In the year since 2020 has DEP received any</p> <p>2 additional complaints about application of FPR on Gene</p> <p>3 Nicholas's farm fields F1 F2 F3 SN 1 SN2 SN3?</p> <p>4 MR. NIDEL: Objection. Foundation.</p> <p>5 THE COURT: Is the questions asked did he get</p> <p>6 records.</p> <p>7 MR. NIDEL: He asked if DEP got any not him.</p> <p>8 He should SKSH asked if he knows or if got any.</p> <p>9 THE COURT: Rephrases the yes.</p> <p>10 BY MR. CLARK:</p> <p>11 Q Do you know -- are you with me?</p> <p>12 A Yes.</p> <p>13 Q If DEP has gotten any additional complaints in</p> <p>14 the year since 2020 regarding the land application of FPR on</p> <p>15 Gene Nicholas's farm fields F1 F2 F3 SN 1 SN2 SN3?</p> <p>16 A I believe we've got a couple.</p> <p>17 Q A couple. Do you know who those came from?</p> <p>18 A I don't remember recall specifically.</p> <p>19 Q Has DEP conducted additional inspections of</p> <p>20 those fields?</p> <p>21 A I don't know if -- I don't recall if I've been</p> <p>22 on actually set foot on those fields if they're mostly</p> <p>23 observable from the main road so I might have driven by them to</p> <p>24 make observations.</p> <p>25 Q Fair qualification. Have you gone out to those</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: right;">360</p> <p>1 A Let me rephrase that. Early on when the --</p> <p>2 their application there first began, we asked that they</p> <p>3 correctly get a NRP NRP so we don't believe they had one in</p> <p>4 place at the time which was early 2010 or something. That may</p> <p>5 have the only time request request they cease. But I don't</p> <p>6 know it that was an actual request we made we just said please</p> <p>7 follow the best management practice.</p> <p>8 Q Is it your understand Nicholas Meats has had a</p> <p>9 food processing residuals since somewhere end 2010?</p> <p>10 A Yes.</p> <p>11 Q And have you or had DEP had access to that</p> <p>12 nutrient management plan every year since 2010?</p> <p>13 A I don't remember if it was every year but most</p> <p>14 of the time we've had that on hand or been able to get it from</p> <p>15 them ^ CHECK QUESTION NMP.</p> <p>16 Q Has there over been a time DEP -- to your</p> <p>17 knowledge has there been a time DEP asked Nicholas Meat for the</p> <p>18 nutrient management plan and not been provided it?</p> <p>19 A No.</p> <p>20 Q We spoke earlier about whether DEP considers</p> <p>21 Nicholas Meat allowed to generate FPR?</p> <p>22 A Yes.</p> <p>23 Q I want to focus your attention specifically --</p> <p>24 again, I'm narrowing the time period. On a time period from</p> <p>25 June 102021 until June fern tendering tension, 2021 DWURNGS,</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">361</p> <p>1 2022 which I'll represent is the date the plaintiffs filed</p> <p>2 their case in this case. Are you with me?</p> <p>3 A Yes.</p> <p>4 Q To the best of your knowledge between June</p> <p>5 102021 and June 2020, 2022, did DEP assess any fines to plea</p> <p>6 agreemented to the generation of FPR?</p> <p>7 A No.</p> <p>8 Q To the best of your knowledge between June 10,</p> <p>9 2021 and June 10, 2022, did deep assess DEP assess any fine to</p> <p>10 any of Nicholas Meat or Gene Nicholas, Heidi Nicholas, relate</p> <p>11 LD to the land application of FPR on F1 F2 F3 SN1 SN2 or SN3?</p> <p>12 A I don't recall.</p> <p>13 Q Using that same time period, did DEP take any</p> <p>14 action to prohibit Nicholas Meat from generating FPR at its</p> <p>15 facility during that time period?</p> <p>16 A No.</p> <p>17 Q Same time period. Did DEP take any action to</p> <p>18 prohibit Nicholas Farms from land applying FPR on W F2 F3, SN1</p> <p>19 SN2 SN3?</p> <p>20 A Not that I recall.</p> <p>21 Q CLARNG nothing further Clark nothing further?</p> <p>22 THE COURT: Cross-examination examination.</p> <p>23 BY MR. NIDEL:</p> <p>24 Q #?</p> <p>25 Cross.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">363</p> <p>1 right?</p> <p>2 A Yeah. I recall -- I don't know if it was</p> <p>3 mostly for those fields, but offhand, but that might have been</p> <p>4 TSH that might have been one of them. Harped to remember</p> <p>5 exactly. But I think they didn't -- that might have been one</p> <p>6 of the issues ROOE we ran across initially at the very, very</p> <p>7 FWING did they were applying FPR without on NMP, right.</p> <p>8 MR. CLARK: Objection, asked and answered.</p> <p>9 THE COURT: Overnights. Go ahead and answer</p> <p>10 the yes CHK.</p> <p>11 A From what I recall that was something that</p> <p>12 happened at that original point.</p> <p>13 BY MR. NIDEL:</p> <p>14 Q Have you have you met with Nicholas Meat's</p> <p>15 lawyers?</p> <p>16 A I've met with them before, yes.</p> <p>17 Q Have you met with them before this trial?</p> <p>18 A Yes.</p> <p>19 Q When did you meet with them?</p> <p>20 A We -- there was a case a couple years ago that</p> <p>21 IFSZ part of I was part of and we also had a short phone</p> <p>22 interview prior to the trial just to discuss timing and stuff</p> <p>23 lining that like that.</p> <p>24 Q You had a phone interview with the Nicholas</p> <p>25 Meats attorneys this case?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">362</p> <p>1</p> <p>2</p> <p>3 EXAMINATION</p> <p>4</p> <p>5</p> <p>6 MR. NIDEL: I think, Sr. Mentioned an OT and</p> <p>7 Costello OE exit. I think we've achieved that.</p> <p>8 MR. NIDEL:</p> <p>9 Q Good evening, Mr. Karschner. May it please the</p> <p>10 Court and, Your Honor.</p> <p>11</p> <p>12 BY MR. NIDEL:</p> <p>13 Q I understand from your testimony that you've</p> <p>14 been overseeing Nicholas Meat land application since at least</p> <p>15 2010; is that right?</p> <p>16 A That sound correct, yes.</p> <p>17 Q And you said that they started applying but</p> <p>18 didn't have an NMP?</p> <p>19 A That was one of the original issues that we ran</p> <p>20 across when they began applying.</p> <p>21 Q When they began applying FPR they didn't have</p> <p>22 an NMP, right?</p> <p>23 A They might not have. It might have been</p> <p>24 partial or it might not have been developed yet quite fully.</p> <p>25 Q Your recollection is they didn't have one,</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">364</p> <p>1 A Yes.</p> <p>2 A Yes.</p> <p>3 Q Prior to there trial?</p> <p>4 A Correct.</p> <p>5 Q To discuss your testimony?</p> <p>6 A Essentially, yes, and time frame.</p> <p>7 Q Wow. Does your lawyer know that?</p> <p>8 A Yes. He was present.</p> <p>9 Q Okay. You brought a lawyer with you today,</p> <p>10 right?</p> <p>11 A Yes.</p> <p>12 Q You're not a lawyer, right?</p> <p>13 No</p> <p>14 Q You don't know what the rules are that apply in</p> <p>15 courts, right?</p> <p>16 A Not offhand, no.</p> <p>17 Q You have a lawyer that you referred to know</p> <p>18 when a permit is needed when enforcement action should be</p> <p>19 taken, when the authority is there for you to take action,</p> <p>20 right?</p> <p>21 A Correct.</p> <p>22 Q Okay. You don't make those decisions, right?</p> <p>23 A Correct.</p> <p>24 Q You don't even have the authority to issue a</p> <p>25 cease and desift, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">365</p> <p>1 A I do not, no.</p> <p>2 Q You were asked if you ever issued a cease and</p> <p>3 desist but you don't have the authority to do that, right?</p> <p>4 A I don't understand the exact question you're</p> <p>5 asking. I don't have -- I might have made an observation and</p> <p>6 took it back to my supervisors and said hay this is an SHISH,</p> <p>7 and they said well tell him to get a nutrient management plan</p> <p>8 or something like that.</p> <p>9 Q When did you have your call with Nicholas Meats</p> <p>10 folks?</p> <p>11 A Maybe two weeks okay.</p> <p>12 Q The DEP's client is the public, right?</p> <p>13 A Yes, we're public.</p> <p>14 Q Why are you putting plan together with Nicholas</p> <p>15 Meats attorneyings Clark objection. Characterization. Aid we</p> <p>16 spoke about timing, Your Honor?</p> <p>17 THE COURT: Stop. Stop. Stop.</p> <p>18 Do you want sustain the objection. Y you said</p> <p>19 plan. You can go further with the phone call.</p> <p>20 BY MR. NIDEL:</p> <p>21 Q You didn't just speak about time?</p> <p>22 A Not just timing, no.</p> <p>23 Q Y talked about your testimony, what you would</p> <p>24 say in court, right Clark objection. Miss character</p> <p>25 characterizes his testimony?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">367</p> <p>1 A I am allowed to the regulated entity.</p> <p>2 Q Talk to their lawyers?</p> <p>3 A If they ask you know we just had a call about</p> <p>4 -- they subpoenaed me.</p> <p>5 Q Let me be clear. So you went and talked to</p> <p>6 them two weeks before trial because they served a subpoena on</p> <p>7 you?</p> <p>8 A I believe the subpoena might have been after.</p> <p>9 Q You hadn't even got the subpoena and you were</p> <p>10 talking to them about what documents you would be shown and</p> <p>11 what testimony you would give about those indictments, right</p> <p>12 classic objection. Mischaracterizes his testimony?</p> <p>13 THE COURT: Overruled. You can answer.</p> <p>14 A The official subpoena might have been after we</p> <p>15 talked, but they had reached out to our department lawyer that</p> <p>16 I would be subpoenaed.</p> <p>17 Q So there's a lot of I want to talk to you about</p> <p>18 sir. But you've been -- you received on NMP RP NMP from then</p> <p>19 in 2010 after they were applying?</p> <p>20 A Something like that.</p> <p>21 Q And you've been reviewing and studying their</p> <p>22 NMPs ever, EFRN, ever since, yes?</p> <p>23 A Yes they've had within in place.</p> <p>24 Q You've been the one responsible form ensuring</p> <p>25 that they comply with those NMPs ever since 2010?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">366</p> <p>1 MR. NIDEL: It's a question.</p> <p>2 THE COURT: Overruled if you can ask him. Go</p> <p>3 ahead.</p> <p>4 A We discussed what exhibits they might bring up</p> <p>5 and what we -- what they might ask about the exhibits.</p> <p>6 BY MR. NIDEL:</p> <p>7 Q Your testimony, right, discussed your testimony</p> <p>8 DLASHG same objection?</p> <p>9 MR. NIDEL: You relettered it with NIM.</p> <p>10 THE COURT: Overruled.</p> <p>11 A I didn't rehearse my testimony per se. They</p> <p>12 pro provideded the documents that they would refer to and I was</p> <p>13 the inspect he were that was the one that responded to the</p> <p>14 site. So I had the most knowledge as the ropetive of the</p> <p>15 department for observations that we took.</p> <p>16 Q Who is your client, sir? Is the public your</p> <p>17 client or Nicholas Meats cooperation?</p> <p>18 A The public is.</p> <p>19 Q The public is, right. But you're go behind</p> <p>20 THARP back to talk to the lawyers for the regulated entity,</p> <p>21 right?</p> <p>22 MR. CLARK: Objection. Argumentative</p> <p>23 SFWLAEFRJTS. You don't answer that.</p> <p>24 MR. NIDEL: You were going to talk to the</p> <p>25 regulated entity rather than talk to the public, right.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">368</p> <p>1 A Yes, I believe ES I've been the SFLPTer that's</p> <p>2 done that.</p> <p>3 Q Up here people are there that are responsible</p> <p>4 for Nicholas Meat's compliance with the management practices</p> <p>5 and rules and regulations requirements, guidelines for FPR</p> <p>6 application at these sites?</p> <p>7 THE COURT:</p> <p>8 A Could you retrays the question.</p> <p>9 Q How many people, other than you, oversee</p> <p>10 Nicholas Meat's application?</p> <p>11 A I'm the only official inspector by my</p> <p>12 supervisors have some say and you know maybe they visited also.</p> <p>13 Q You're the only one, right?</p> <p>14 A I'm the only inspector that's SPORNL responded</p> <p>15 to their complaints.</p> <p>16 Q What's your region? URP at Williamsport?</p> <p>17 A I'm Williamsport, yes if what's your total</p> <p>18 region.</p> <p>19 A I actually respond to just about every FPR</p> <p>20 related complaint that comes in for our entire region which is</p> <p>21 4 counties.</p> <p>22 Q I have responsibility form FPR applications in</p> <p>23 4 counties, right?</p> <p>24 A Yeah ^ CHECK QUESTION number.</p> <p>25 Q How many sites?</p> <p style="text-align: center;">ROUGH DRAFT</p>

369			371		
1	A	I don't know off lands. There is a few	1	A	That seems accurately.
2		entities that we have that have -- WAEFRP gotten complaints	2	Q	And in fact you didn't go out to the field pipe
3		about.	3		sort of overstated things. You did a drive by, right?
4	Q	Several hundred sets, sites?	4	A	In most instances, a drive by.
5	A	There's not that many.	5	Q	A WIRND SWHIENLD she would inspection. Bishop?
6	Q	There's more than 50, right ^ CHECK WORD sets?	6	A	Turn the head.
7	A	I don't think that many YEERT.	7	A	Yeah.
8	Q	There's more than 50 fields that are applied by	8	Q	And and you said they didn't violate setbacks,
9		Nicholas Meats, right?	9		right?
10	A	I don't know exactly how many fields they apply	10	A	Correct.
11		to.	11	Q	La did you do? F1 -- you saw F1 up here from
12	Q	How many total fields do you have	12		buzzing down the road. Is this the road you go on?
13		responsibility for?	13	A	Yes.
14	A	I don't know. It's more -- I think more of	14	Q	You can tell if they violated setbacks from
15		generator, more as a generator than -- than the different	15		those wind SLEELDZ inspections?
16		fields that are applied to.	16	A	Yes, that field DONL have any setback issues
17	Q	I understand that's how you may see it but my	17		with it.
18		question was how many sites. Let me specify. How many days VR	18	Q	Well, it does have a sinkhole down here, right?
19		how many fields do you have responsibility for oversight?	19	A	It looks like there's a sinkhole, yes go can
20	A	I don't know how many there are.	20		you tell me where the sinkholes are on these fields. You've
21	Q	More than a when you were, right?	21		been managing them, overseeing them.
22	A	DWRM define fields in the NRP NRP there could	22	A	Whatever is marked on that map is where they
23		be several but there could be five of them in one location so I	23		are defined setback IESHS SHR.
24		would consider that one location.	24	Q	You've been the last 15 years?
25	Q	How many field, sir?	25	A	Yeah.
ROUGH DRAFT			ROUGH DRAFT		
370			372		
1	A	I do not know.	1	Q	Where are the sinkholes?
2	Q	More than a hundred?	2	A	I don't know. I haven't investigated them that
3	A	It might have been shall might be nor than a	3		closely. I count on the plan writer to find and define the
4		hundred.	4		sinkholes.
5	Q	So since 2010 you've been doing inspections	5	Q	Where are they? You do inspections, you see
6		^ CHECK ANSWER. You were asked about this period where you	6		they are applying best management practice?
7		were doing surveillance and you were asked the question if if	7	A	Correct there they are required to apply best
8		you went out to SN fields and you said yeah I went out one day	8		management practices.
9		and it might have been a few more, right when you did the drive	9	A	Right.
10		byes?	10	Q	Required by law to do that, right?
11	A	Yes.	11	A	Correct.
12	Q	And then you were asked again and you said yeah	12	Q	And your testimony is they do that, right?
13		on multiple days?	13	A	Correct.
14	A	Yeah go do you have a recollection of being he	14	Q	But you don't know where the sinkholes are
15		at the SN fields doing drive buys more than the one day that	15		after 15 years?
16		you first forming responded.	16	A	As far as I'm aware there is no sinkholes on
17	A	Yes, it was multiple days.	17		those fields inside the -- THLS there are mark marked on there
18	Q	You know for sure?	18		I don't believe there are any.
19	A	Yes and more than two.	19	Q	Do you know if there's underground drainage on
20	A	I believe it was more than two.	20		these GLUNDZ go to sinkholes?
21	Q	How many days, days?	21	A	Not that I'm aware of.
22	A	I'd to consult this.	22	Q	Do you know what the setbacks are?
23	Q	How many days did you go out to the F fields?	23	A	I vaguely know it's a hundred feet, 150 feet,
24	A	I handful. Probably no more than five.	24		300 feet, depending on the leaks.
25	Q	Probably more TWLIEK or three?	25	Q	Is there a setback from a FLABing property?
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">373</p> <p>1 A Yes.</p> <p>2 Q What's the setback from a neighboring property?</p> <p>3 A I believe from a property line it is 50 feet</p> <p>4 from a home it is 300 feet from a well water well is 300 feet.</p> <p>5 Q And how about from a drainage -- how about from</p> <p>6 a sinkhole?</p> <p>7 A Sinkhole I can't remember exactly what the --</p> <p>8 it is, either 50 or a hundred feet maybe.</p> <p>9 Q 50 or a hundred feet maybe. Your testimony was</p> <p>10 they never violated setbacks when you go by and do the bird</p> <p>11 dogging?</p> <p>12 A Correct.</p> <p>13 Q There RP there were no runoff issues, right?</p> <p>14 A ? You said when you did your driver buys no</p> <p>15 runoff issues.</p> <p>16 A Correct.</p> <p>17 Q It didn't slash up on your car?</p> <p>18 A Are you referring to what time frame.</p> <p>19 Q When you were doing the two to three time have</p> <p>20 your VARLS veil ENS?</p> <p>21 A No.</p> <p>22 Q You've talked about two incidents with runoff,</p> <p>23 right?</p> <p>24 A Correct.</p> <p>25 Q And the testimony you might have discussed the</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">375</p> <p>1 provided and my observations of going out there the following</p> <p>2 Monday.</p> <p>3 Q And your conversations with Brian Miller and</p> <p>4 Gene Nicholas?</p> <p>5 A Correct.</p> <p>6 Q Okay. Again the regulated entity, right?</p> <p>7 A Correct.</p> <p>8 Q But you didn't Larry input from the public?</p> <p>9 A Not specifically, no.</p> <p>10 Q Or the photos at the of the LALGed of alleged</p> <p>11 runoff ^ CHECK WORD were?</p> <p>12 A They were the only photos that it pulled along</p> <p>13 the L shoulder on the north side of the roads.</p> <p>14 Q Pulled along the shoulder by the mailboxes?</p> <p>15 A Somewhere in that VIPT.</p> <p>16 Q And the setbacks -- it was well into the</p> <p>17 setbacks, right?</p> <p>18 A Yes, but they didn't apply it within setbacks.</p> <p>19 Q But it ran off into the satisfaction?</p> <p>20 A Yes FW it's not allowed to runoff into the</p> <p>21 setbacks, is it.</p> <p>22 A Briefer it not. That is why they did receive a</p> <p>23 violation.</p> <p>24 Q And they did receive a violation for it, right?</p> <p>25 A Correct.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">374</p> <p>1 exhibits that you discussed talking about two weeks ago with</p> <p>2 defendants, right?</p> <p>3 A Correct.</p> <p>4 Q And you weren't there on that Friday, were you?</p> <p>5 A No.</p> <p>6 Q How do you know there was no runoff?</p> <p>7 A Based on the NAKTS I observed and then any like</p> <p>8 staining left from what happened.</p> <p>9 Q Any staining? You were looking for staining?</p> <p>10 A There was a little bit of staining that showed</p> <p>11 where the material that they applied leaves a little of a black</p> <p>12 brownish stain on the ground so I can kind of see where it last</p> <p>13 gone.</p> <p>14 Q After two days of traffic on the road?</p> <p>15 A It wasn't on the road.</p> <p>16 Q Well, we're talking about about THOED right</p> <p>17 here, right?</p> <p>18 A Correct, yes.</p> <p>19 Q Did you ask Ms. Leigey if there was runoff that</p> <p>20 went onto road?</p> <p>21 A Not that I recall, I didn't ask her,</p> <p>22 specifically.</p> <p>23 Q But you rode wrote in the report there was no</p> <p>24 runoff based on what?</p> <p>25 A The observations of pictures that I was</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">376</p> <p>1 Q Because it went into the setbacks, right?</p> <p>2 A A that and exited essentially the property by</p> <p>3 accessing the RRP to the road, the shoulder would be included</p> <p>4 in.</p> <p>5 Q And then the later -- the later one at issue in</p> <p>6 ends of August you weren't there then either?</p> <p>7 A No.</p> <p>8 Q You wrote there was no runoff then, right?</p> <p>9 A Correct.</p> <p>10 Q And how do you know that?</p> <p>11 A The runoff that we were provider provided for</p> <p>12 in the pictures was just of rainwater that I could tell. There</p> <p>13 would be no way to tell if there was FPR in it anyway.</p> <p>14 Q Did he take any samples?</p> <p>15 A No, there was no samples to take.</p> <p>16 Q There would be no way to tell if there was FPR</p> <p>17 in it but if there were be that would be to sample it?</p> <p>18 A Yes, I would sample if that was a possibility.</p> <p>19 Q Who gave you the photos?</p> <p>20 A I don't recall who gave me the photo.</p> <p>21 Q Brian Miller, Gene Nicholas, somebody from</p> <p>22 Nicholas Meats Clark objection. Misstates his testimony. Said</p> <p>23 he doesn't recall?</p> <p>24 THE COURT: He's allowed to follow up.</p> <p>25 Overruled.</p> <p style="text-align: center;">ROUGH DRAFT</p>

377			379		
1	A	Which incident is there referring to.	1	A	Correct.
2		MR. NIDEL:	2	Q	Didn't get out -- do you drive a truck?
3	Q	In August?	3	A	I have a Ford escape.
4	A	I don't recall who submitted those pictures.	4	Q	Didn't get out of the Ford escape?
5	Q	But you never got a sample of material, right?	5	A	I don't recall if I got out any of those times.
6	A	No.	6	Q	You have no recollection of getting out and
7	Q	The pictures that you were looking at in June,	7		doing anything on these fields or around these fields, right?
8		who gave you those?	8	A	No.
9	A	I don't recall who specifically submitted	9	Q	You said that you've been reviewing the NMP and
10		those.	10		I believe you said that -- that they haven't violated the NMP,
11	Q	Somebody from Nicholas Meats?	11		right?
12	A	It might have been but I don't remember.	12	A	Not recently.
13	Q	You never took samples, right?	13	Q	They have violated the NMP?
14	A	No.	14	A	There have been some violations, yes and and
15	Q	You took their word for it that there was no	15		when we say over application -- we've heard this phrase quite a
16		runoff off the property, right?	16		bit -- over FLIKS, that was, that would be the 9,000 gallons
17	A	Correct.	17		per acre per application.
18	Q	And so it's just you, right, it's just you	18	A	That is part of it.
19		watching multiple generators of FPR, right 4 counties?	19	Q	That is a limit, right?
20	A	Yes.	20	A	Yes.
21	Q	And you testified that you were out there CHK	21	Q	Okay.
22		New Jersey last 4 the last time in 2020, right?	22		And so if they apply more than that that is
23	A	I was out there 2342020.	23		called over application, right.
24	Q	You were asked if you been there since and you	24	A	Correct.
25		said I might have driven by?	25	Q	Have you ever taken their FPR reports, their
ROUGH DRAFT			ROUGH DRAFT		
378			380		
1	A	Yes.	1		drag line reports, and done the math?
2	Q	And then you were asked well have you been out	2	A	We've done some basic math on the reports.
3		there sort of follow up and you said yes I've been out there	3	Q	Have you done it on all of their entries. You
4		driving by?	4		were getting them and there's been a big point made about the
5	A	Yes.	5		fact they just gave them to you. Did you ever do that math on
6	Q	Do you know if you've actually been out there	6		each and everyone of those entries?
7		since 2020?	7	A	I don't recall if we did or not.
8	A	Yes, I've been.	8	Q	So when you say we, it would be you, right?
9	Q	How many times?	9	A	We -- as the department. Like some of my
10	A	Probably between five and 10, I would say.	10		supervisors might have helped review those always at some
11	Q	Between five and 10. As part of your work	11		point.
12		you've been out there or just driving?	12	Q	I just want to make it clear for the jury. Who
13	A	Sometimes part of work sometimes I just drove	13		is two eyes are watching these reports? It's you, right?
14		through the area.	14	A	Correct.
15	Q	Five and 10 but some of those were just driving	15	Q	So when you say we, it's me, right?
16		through the area?	16	A	Correct.
17	A	Correct.	17	Q	And you have not gone and checked each and
18	Q	In the last five years you've been out there	18		everyone of those faculty members to make sure that they are in
19		between five and 10 times TP is it half times for fun and half	19		compliance, right?
20		the FIERMENTS firearms times for kind of work?	20	A	Not every time.
21	A	ITD say about five to six or so of those times	21	Q	Not even half the time, right?
22		were DB probably more than half times were for actual making	22	A	Maybe not. I don't remember.
23		observations. The remaining times I was through the area.	23	Q	Not a facts of the time, right. You may be
24	Q	In the last five years but of you've been out	24		spot checked a few of those numbers ^ CHECK WORD fraction?
25		there six times and by out there I mean driving by, right?	25	A	They maybe provide detailed reports it's east
ROUGH DRAFT			ROUGH DRAFT		

<p style="text-align: center;">381</p> <p>1 WRER to compare totals so I don't have to do the math any more.</p> <p>2 Q It's not just the totals, sir. The NMP -- you</p> <p>3 got an email about it because in 2020 you didn't know 10 years</p> <p>4 into the game you didn't know how the NMP worked, right?</p> <p>5 A I disagree.</p> <p>6 Q You had to ask TeamAg how to interpret their</p> <p>7 NMP 10 years ago, years after you had been enforcing and</p> <p>8 inspecting compliance with that NMP, right?</p> <p>9 A I don't recall.</p> <p>10 Q Well, let me help you refresh you shall</p> <p>11 recollection.</p> <p>12</p> <p>13 THE COURT: Do you have an consistent number.</p> <p>14 MR. NIDEL: It's D 119. .</p> <p>15 BY MR. NIDEL:</p> <p>16 Q Exhibit D 119, is that an email chain?</p> <p>17 A</p> <p>18 ? Is that an email chain where you had to ask</p> <p>19 Corey GROEFR how to THERPT the NMPs on July 28 of 2020.</p> <p>20 A I may have asked limb some specific questions</p> <p>21 on what how it how to interpret the nutrient management plan</p> <p>22 yes.</p> <p>23 Q You sent an email bottom of the page from you,</p> <p>24 Dustan Karschner, right?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">383</p> <p>1 A Right.</p> <p>2 Q You didn't know how to interpret that because</p> <p>3 in the nutrient management plans, that application, occurs in</p> <p>4 this type of fashion, right? It's 9,000 gallons per acre in</p> <p>5 seasonal amounts, right?</p> <p>6 A Essentially, yes.</p> <p>7 Q There's limit to it. Not just in terms of an</p> <p>8 ARNL an annual total and not just in terms of a per application</p> <p>9 9,000 gallons but it's also meant to be applied by the seats</p> <p>10 on, with the agronomic needs of the crop, right?</p> <p>11 A Yes.</p> <p>12 Q To the extent that that's written in the NMP,</p> <p>13 the answer is yes, right?</p> <p>14 A Yes.</p> <p>15 Q Did you know -- you might have done some</p> <p>16 calculations as to whether there was individual applications</p> <p>17 above 9,000 gallons per acre spot checked, right?</p> <p>18 A Correct.</p> <p>19 Q But have you ever collected to see if they are</p> <p>20 doing what they're supposed to do odor in early fall, winter</p> <p>21 spring and SMURM RP SMURNL ^ CHECK WORD odor?</p> <p>22 A I have at time but not all of the time.</p> <p>23 Q Do you know in blue we have applications that</p> <p>24 occur all through the spring or all throughout the summer. Do</p> <p>25 you know if they do that?</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">382</p> <p>1 Q Judgment 28, 2020?</p> <p>2 A Yes.</p> <p>3 Q And you seven that email. And you said: --</p> <p>4 what did you say in you said also my program manager has</p> <p>5 expressed interest in maybe trying to have a KFRPTS call with</p> <p>6 you, him myself and my supervisor to go over a little bit of</p> <p>7 the methodology for NMP development and discuss any KWETSS we</p> <p>8 might have about how these are setup and how to interpret them.</p> <p>9 Right.</p> <p>10 A Yes.</p> <p>11 Q So you had been responsible foreign forcing and</p> <p>12 inspecting this application of Nicholas Meats for 10 years and</p> <p>13 en enforcing their NMPs and you still DRN did not know how to</p> <p>14 do your job, right?</p> <p>15 A I disagree.</p> <p>16 Q You didn't know how to interpret they're NMPs,</p> <p>17 right?</p> <p>18 A I knew mostly how to THERPT RN THERPT interpret</p> <p>19 P nutrient management plan. We might have had specific</p> <p>20 questions. We always have a waterways that deals with nutrient</p> <p>21 management plan frequently and we've also bounced questions off</p> <p>22 of them to make sure we understand what that entails.</p> <p>23 Q Well, you didn't know how to interpret the</p> <p>24 season by season application of the NMP, the 9,000 gallons PRK</p> <p>25 some say GIEN, you say limit, right?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">384</p> <p>1 A No, I don't.</p> <p>2 Q Do you know if that violates their NMP?</p> <p>3 A I don't have, I don't offhand. I would refer</p> <p>4 back if we got a complaint.</p> <p>5 Q Do you know if that's consistent with best</p> <p>6 management practices?</p> <p>7 A As far as the best management practices are</p> <p>8 outlined FOF a nutrient management plan and to follow that</p> <p>9 plan. So as long as they were, they are following the plan,</p> <p>10 THAERLD THERLD that would be following by the Court BMPs.</p> <p>11 Q As long as they're following the plan, sir, but</p> <p>12 you don't know if that's required the plan, right?</p> <p>13 A Not offer HND. I would have to look at it</p> <p>14 closer if we got a complaint or something like that.</p> <p>15 Q You have got en complaints, right?</p> <p>16 A We have and we looked at it at the time.</p> <p>17 Q But you can't tell me now 15 years sincy</p> <p>18 started this role whether applying like the blue in all in the</p> <p>19 spring or all in the summer or just in the spring and summer,</p> <p>20 is a violation of nutrient management plan which has it planned</p> <p>21 out in early fall, winter spring, summer, right? You don't</p> <p>22 know?</p> <p>23 A Sometimes some fields have different spreads</p> <p>24 when they're MRAKSS, applications occur. Sometimes they are</p> <p>25 more frequent or in different season and not all season.</p> <p style="text-align: center;">ROUGH DRAFT</p>

<p style="text-align: center;">385</p> <p>1 Q What Corey Grove, TeamAg no contest EE</p> <p>2 consultant told you there's supposed to 9,000 gallons per acre</p> <p>3 in seasonal applications, right?</p> <p>4 A Whatever the nutrient management plan said. I</p> <p>5 don't recall.</p> <p>6 Q We got an email he sent to you, Dustan?</p> <p>7 A Yeah.</p> <p>8 Q And he told you, it's what the nutrient</p> <p>9 management plan says is it's 9,000 gallons per acre per</p> <p>10 seasonal application, right?</p> <p>11 A I guess that's what's written there, yes.</p> <p>12 Q That's what he told you, right?</p> <p>13 A I believe so, yeah.</p> <p>14 Q Have you ever ever FOERNSed that limit?</p> <p>15 A I don't recall that we've ever had an</p> <p>16 enforcement of that.</p> <p>17 Q Have you ever assessed, inspected, done more</p> <p>18 than a drive by to see if they in fact comply with this?</p> <p>19 A I don't remember.</p> <p>20 Q For the NMP?</p> <p>21 A I don't recall any specific instances of that.</p> <p>22 Q You don't recall making any assessment other</p> <p>23 than a drive by as to whether any can comply with their NMP</p> <p>24 nand the way that AERTS it's written in the way that Mr. Corey</p> <p>25 Grove emailed you and exMRIEND to you, do you?</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">387</p> <p>1 Q But you don't know if you should be giving them</p> <p>2 a fine, right?</p> <p>3 A You don't know if they are over applying 9,000</p> <p>4 gallons per acre per application, right.</p> <p>5 A I don't specifically.</p> <p>6 Q You don't know if they're complying with their</p> <p>7 NMP the way it's written not just the way it's written but the</p> <p>8 way it was explained to you, right?</p> <p>9 A Correct. I don't.</p> <p>10 Q You haven't bothered to inspect what they're</p> <p>11 doing? Right. Not to see if it complies with what they're</p> <p>12 required to do. You've done drive business?</p> <p>13 A Right.</p> <p>14 Q Sometimes for fun, sometimes for work, right?</p> <p>15 A Correct.</p> <p>16 Q Have you heard of the term FWAS lighting?</p> <p>17 A I've heard of it, yes.</p> <p>18 Q When somebody is complaining Mr. Something and</p> <p>19 they might be right but area, you're telling them they're</p> <p>20 wrong?</p> <p>21 MR. CLARK: Objection. Argue IMENTive.</p> <p>22 THE COURT: Sustained.. next question. How</p> <p>23 much longer do you have.</p> <p>24 MR. NIDEL: I have two minutes.</p> <p>25 THE COURT: Two minutes.</p> <p style="text-align: center;">ROUGH DRAFT</p>
<p style="text-align: center;">386</p> <p>1 A Correct.</p> <p>2 Q You receive complaints about FPR, right?</p> <p>3 A Correct and and you're aware of that the DEP</p> <p>4 has received more and more complaints about FPR primarily for</p> <p>5 the reasons of water contamination and runoff and offensive and</p> <p>6 damaging odors, right.</p> <p>7 A Correct.</p> <p>8 Q Okay. And you said you've known Trish Leigey,</p> <p>9 right?</p> <p>10 A Correct.</p> <p>11 Q She called and complained, right?</p> <p>12 A The I believe RS I believe so, yeah and you</p> <p>13 told her they were come Mr. Dewing with their BRP BMP, right.</p> <p>14 A I don't recall exactly what I have told her</p> <p>15 pardon Lock Haven I've spoken with her.</p> <p>16 Q You haven't taken any enforcement action, right</p> <p>17 ^ CHECK QUESTION Dewing?</p> <p>18 A Other than the notice of violation for that</p> <p>19 instance referenced in 2020. That's the time frame we're</p> <p>20 speaking off, of, that's the only recollection I have.</p> <p>21 Q Y have never find them, right?</p> <p>22 A I personally have not. I don't know if they</p> <p>23 received penalties.</p> <p>24 Q You haven't find them for these fields, right?</p> <p>25 A I don't recall.</p> <p style="text-align: center;">ROUGH DRAFT</p>	<p style="text-align: center;">388</p> <p>1</p> <p>2 MR. NIDEL:</p> <p>3 Q You were asked about what crops are out in</p> <p>4 fields. You said I've seen crops?</p> <p>5 A Yeah.</p> <p>6 Q You haven't been by there by five, six times,</p> <p>7 right?</p> <p>8 A Correct.</p> <p>9 Q You don't know what crops were on F1 F2 F3 SN1</p> <p>10 SN3 OERNG weeds and FWRAS at any specific year at NE any</p> <p>11 specific time sitting here today?</p> <p>12 MR. CLARK: Objection misstates his testimony.</p> <p>13 THE COURT: Overruled feminine you can answer.</p> <p>14 A I know I've seen corn on those fields and hay</p> <p>15 silage.</p> <p>16 Q Which fields?</p> <p>17 A I know F3 has had corn. I don't recall if F1</p> <p>18 or F2 have had corn on them. I believe SN1, 2, and 3 fields</p> <p>19 have had corn on them at least once once.</p> <p>20 Q When has F3 had corn?</p> <p>21 A Within the last couple years.</p> <p>22 Q Within the last year or two?</p> <p>23 A Correct.</p> <p>24 Q After this lawsuit was filed, right?</p> <p>25 A Yes.</p> <p style="text-align: center;">ROUGH DRAFT</p>

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1	Q	Okay. And SN1, 2, and 3, do you know when they	1	Q	You've never talked to me, have you?
2		had corn on them?	2	A	No.
3	A	I don't remember Theft by Unlawful Taking.	3	Q	You didn't talk to Ms. Leigey before trial, did
4	Q	And the last thing you did with respect to	4		you?
5		Nicholas Meats prior to coming to trial, what was that ^ CHECK	5	A	No.
6		WORD?	6	Q	You didn't talk to Carolyn Leigey before trial,
7	A	With -- I don't understand the question.	7		did you FLOFRMENT?
8	Q	The last thing that you did -- let me ask you	8	Q	You didn't talk to Leanna Rockey before trial,
9		this. Are you paid for being here today, are you collecting	9		did you?
10		your salary or did you take time off?	10	A	No.
11	A	I'm working for the Commonwealth currently.	11	Q	You didn't talk to Alaina Leigey before trial,
12	Q	You're working for the Commonwealth. What was	12		did you?
13		the last thing that you did with respect to Nicholas Meats	13	A	No can.
14		before coming to trial?	14		MR. NIDEL: No further questions.
15	A	I believe we had a complaint this year.	15		THE COURT: All right. Can he be excused.
16	Q	When was that?	16		MR. CLARK: Just one last question.
17	A	Sometime earlier in the year, LIERJ like June	17		Did any of the FOKTS that they just referenced
18		or something.	18		ask to meet with you.
19	Q	Back in June, right YERJT?	19	A	No.
20	Q	That wasn't the last thing you did with respect	20		MR. CLARK: Nothing further.
21		it Nicholas Meats, right? What was the last thing you did?	21		THE COURT: Can he be excused.
22	A	That was the lasso figures.	22		Mr. Clark.
23	Q	Last official thing you did was the Complaint	23		MR. CLARK: Yes sir.
24		back in June, right?	24		THE COURT: I'm trying to ask you first.
25	A	That's the last thing.	25		Mr. Nidel can he be excused.
ROUGH DRAFT			ROUGH DRAFT		
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1	Q	What was the last unofficial thing you did?	1		MR. NIDEL: The sooner the better.
2	A	Are you referring to the speaking with his	2		THE COURT: Stay there for a second.
3		lawyers.	3		SIRDZ have a seat. Don't move.
4	Q	The last thing you did with respect to Nicholas	4		All right, ladies and gentlemen, pack
5		Meats was meet with them to discuss the exhibits and the	5		everything up.
6		violations and the things that you would be talking about here	6		
7		at trial, right?	7		THE COURT: (Whereupon, the jurors were
8	A	I met with them, yes, we did.	8		escorted from the courtroom.
9		MR. NIDEL: No further questions.	9		
10		THE COURT: Redirect.	10		THE COURT: Mr. Karschner I didn't want you
11		MR. CLARK: Examination during during HAUR	11		interfering with the jurors as they left.
12		conversation was your lawyer present every time.	12		THE WITNESS: Thank you, Your Honor.
13	A	Yes.	13		THE COURT: You're good to go.
14	Q	At any TOINT during those SKFRGSs did I suggest	14		
15		look answer a question to you?	15		THE COURT: Do you rest Clarks defendants
16		No Clark thank you. No further questions.	16		rest, Your Honor.
17		THE COURT: Recross.	17		THE COURT: Are you going to have any rebuttal
18		MR. NIDEL: Yes, Your Honor.	18		tomorrow morning -- Mr. KFC. Are you going to say something.
19			19		MR. KELSAY: Yes, Your Honor, we move for
20		EXAMINATION	20		direct verdict on their and I want to mark exhibits.
21			21		THE COURT: Are you going to have any
22			22		rebuttal.
23		MR. NIDEL:	23		MR. KELSAY: No, Your Honor.
24	Q	Mr. Karschner, you've never met me, have you?	24		THE COURT: All right. . I'm not going to
25	A	No.	25		hear the directed VERT, verdict now. See you at 8:is a. It's
ROUGH DRAFT			ROUGH DRAFT		

1 been a long day.

2 MR. LACKS: I didn't want to miss my CHARG  
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

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<p><b>\$</b></p> <p><b>\$100</b> [1] - 16:14  <b>\$150</b> [1] - 16:6  <b>\$200</b> [2] - 12:21, 16:20  <b>\$250</b> [1] - 310:16  <b>\$50</b> [1] - 323:12  <b>\$500</b> [1] - 310:18</p>	<p><b>10:28</b> [1] - 74:10  <b>10:31</b> [1] - 75:5  <b>110</b> [1] - 256:4  <b>112</b> [2] - 229:12, 230:4  <b>119</b> [2] - 381:14, 381:16  <b>11:57</b> [1] - 143:18  <b>12</b> [7] - 337:22, 339:7, 342:6, 344:4, 347:17, 348:13, 351:11  <b>12.6</b> [1] - 238:4  <b>120</b> [1] - 260:9  <b>120,00</b> [1] - 260:17  <b>120,000</b> [1] - 260:11  <b>1245</b> [1] - 269:8  <b>1256</b> [10] - 28:12, 31:3, 31:4, 31:5, 31:9, 65:5, 66:5, 67:3, 68:18, 163:20  <b>12:00</b> [1] - 145:9  <b>13</b> [1] - 102:22  <b>13419</b> [1] - 357:19  <b>14</b> [3] - 71:15, 209:24, 211:8  <b>14's</b> [1] - 237:18  <b>14.5</b> [1] - 222:8  <b>15</b> [13] - 26:16, 211:8, 221:22, 221:23, 221:25, 222:3, 222:14, 222:23, 257:3, 300:3, 371:24, 372:15, 384:17  <b>150</b> [8] - 230:23, 230:25, 232:4, 232:6, 232:8, 232:11, 232:16, 372:23  <b>165</b> [1] - 256:10  <b>167</b> [1] - 237:4  <b>17</b> [4] - 163:1, 163:14, 256:24, 314:11  <b>17745</b> [2] - 339:7, 339:13  <b>18</b> [7] - 27:13, 51:7, 52:12, 256:24, 329:6, 329:13, 329:21  <b>19</b> [1] - 172:1  <b>19'80s</b> [1] - 67:20  <b>193</b> [1] - 165:1  <b>1938</b> [1] - 65:3  <b>197</b> [3] - 73:16, 73:17, 73:24  <b>1970</b> [1] - 192:13  <b>1972</b> [1] - 118:13  <b>1981</b> [6] - 66:6, 66:20, 67:5, 163:18, 165:1, 183:17</p>	<p><b>1983</b> [22] - 65:22, 66:4, 67:2, 68:12, 80:4, 101:17, 102:13, 102:25, 103:6, 103:15, 159:8, 162:11, 162:16, 163:15, 165:4, 174:7, 191:13, 191:21, 192:4, 192:12, 194:3, 194:24  <b>1992</b> [2] - 121:6, 236:4  <b>1994</b> [3] - 236:9, 236:23, 236:24  <b>1995</b> [1] - 236:13  <b>1998</b> [3] - 67:17, 68:10, 68:22  <b>1:10</b> [2] - 144:12, 145:8  <b>1:15</b> [2] - 144:10, 145:11  <b>1:26</b> [1] - 151:20  <b>1:30</b> [3] - 143:10, 143:15, 151:3</p>	<p><b>2011</b> [1] - 193:18  <b>2012</b> [2] - 158:25, 329:13  <b>2014</b> [6] - 90:4, 90:10, 90:11, 90:16, 90:18, 90:21  <b>2015</b> [1] - 127:13  <b>2017</b> [2] - 165:25, 166:3  <b>2018</b> [2] - 336:15, 336:21  <b>2019</b> [9] - 119:22, 157:2, 159:12, 266:5, 266:10, 320:14, 324:24, 336:13, 342:10  <b>2020</b> [50] - 99:9, 159:10, 162:11, 162:18, 165:8, 166:13, 166:18, 166:21, 166:24, 167:2, 167:19, 168:11, 168:14, 174:10, 174:18, 235:18, 235:24, 266:5, 266:11, 320:19, 323:9, 334:1, 334:4, 334:8, 334:23, 336:4, 336:11, 337:12, 337:16, 338:22, 338:24, 339:4, 339:8, 342:6, 342:20, 344:5, 347:17, 349:15, 352:5, 352:9, 358:1, 358:14, 359:1, 361:5, 377:22, 378:7, 381:3, 381:19, 382:1, 386:19  <b>2021</b> [8] - 99:10, 167:23, 209:9, 237:15, 237:22, 266:5, 360:25, 361:9  <b>2022</b> [4] - 99:10, 361:1, 361:5, 361:9  <b>2024</b> [8] - 28:4, 59:22, 69:8, 131:10, 237:22, 274:9, 274:10, 275:6  <b>2025</b> [3] - 1:11, 70:13, 229:6  <b>234</b> [1] - 257:25  <b>2342020</b> [1] - 377:23  <b>24</b> [1] - 69:11  <b>25</b> [13] - 11:22, 12:13, 12:15, 12:16, 13:23, 14:19, 15:5, 16:13, 118:23, 198:24,</p>	<p>199:25, 200:18, 251:11  <b>250</b> [4] - 146:6, 232:11, 232:16, 310:11  <b>2500</b> [1] - 310:13  <b>26</b> [2] - 119:24, 120:4  <b>260</b> [1] - 185:15  <b>27</b> [2] - 166:11, 185:9  <b>27,000</b> [1] - 155:10  <b>28</b> [7] - 128:18, 146:13, 149:22, 151:14, 381:19, 382:1  <b>284</b> [2] - 163:18, 163:19</p>
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