

SOAH DOCKET NO. 582-15-2082

TCEQ DOCKET NO. 2015-0069-MSW

APPLICATION OF)	BEFORE THE STATE OFFICE
130 ENVIRONMENTAL PARK,)	
LLC, FOR PROPOSED)	OF
PERMIT NO. 2383)	
)	ADMINISTRATIVE HEARINGS

HEARING ON THE MERITS

Tuesday, August 16, 2016

BE IT REMEMBERED THAT at 9:05 a.m., on Tuesday, the 16th day of August 2016, the above-entitled matter came on for hearing at the State Office of Administrative Hearings, William P. Clements, Jr., Building, 300 West 15th Street, Room 404, Austin, Texas, before KERRIE JO QUALTROUGH and CASEY BELL, Administrative Law Judges, and the following proceedings were reported by Dalia F. Inman and Jodi Cardenas, Certified Shorthand Reporters.

Volume 2

Pages 278 - 511

P R O C E E D I N G S

TUESDAY, AUGUST 16, 2016

(9:05 a.m.)

(Exhibit Caldwell County Nos. 1 through 5
marked)

JUDGE BELL: So we are back on the record
this morning. 582-15-2082, second day of the Hearing on
the Merits. And we'll begin with cross-examination of
Mr. Denholm by Caldwell County.

PRESENTATION ON BEHALF OF APPLICANT (CONTINUED)

JOHN P. DENHOLM,

having been previously duly sworn, testified as follows:

CROSS-EXAMINATION

BY MR. MAGEE:

Q Good morning, Mr. Denholm.

A Good morning.

Q The scary thing about taking a break overnight
is sometimes lawyers get the opportunity to come up with
a lot more questions. Good news for you is I crossed a
bunch off the list. So it is going to be a little
shorter than what I anticipated yesterday.

In Volume 1, which is your traffic impact
study, 2C, I wanted to ask you a couple of questions
about that.

A Okay.

1 JUDGE QUALTROUGH: Can you give us a page
2 number?

3 MR. MAGEE: It's 15. 130EP-1, Page 155.

4 Q (BY MR. MAGEE) When you prepared the
5 transportation study, did you take into consideration
6 the industrial park that's proposed at the site?

7 A No, sir. There was -- there was not an
8 industrial park in what I was asked to study.

9 Q So that could potentially increase the amount
10 of traffic out in that area as well?

11 A If there's additional development, yes.

12 Q And did you take into consideration any
13 additional development out in that area, new homes, new
14 commercial businesses, anything like that?

15 A The background traffic, which is the existing
16 traffic, it was growing at a rate of 1.7 percent
17 throughout the life of the study.

18 Q And tell me about how that study was conducted.

19 A Which portion?

20 Q The life of the study, like, where did you get
21 the data to come up with the 1.7 calculation?

22 A Looking at TxDOT's statewide planning map, they
23 have the existing volumes or they have -- they have a
24 2010 and a 2030 volume, and so based on the projected
25 2030 volume from TxDOT, we're able to work into a --

1 that 1.7 percent growth rate, and then we kept it going
2 past 2030.

3 Q So if you look at Page 179 of your report --

4 A Yes, sir.

5 Q -- is that the type of historical data from
6 TxDOT that you looked at?

7 A I missed part of that. Can you repeat it?

8 Q Is this the type of historical data that you
9 were looking at when you came up with that calculation?

10 A Yes, sir. It's a portion of it. And then on
11 TxDOT statewide planning map, it's an online GIS
12 application, and so that's where I get that future
13 volume, the 2030 daily traffic volume.

14 Q So when you look at this data that's on Table 5
15 on Page 179, it goes from 2002 through 2012. During
16 this time frame, you would agree with me that State
17 Highway 130, the toll road, wasn't open?

18 A Correct.

19 Q Okay. So this traffic data does not take into
20 consideration the new toll road?

21 A That historical volume, correct.

22 Q Okay. If you'll go back to Page 170, Table 2,
23 I think you were asked some questions about this
24 yesterday. I just want to make sure I understand.

25 Footnote 1 talks about traffic counts that

1 were collected on May 15th, 2013.

2 A Yes, sir.

3 Q Those traffic counts were not performed by you.
4 Correct?

5 A They were performed by GRAM Traffic, who is a
6 subcontractor to us. They're a data collection company,
7 and they, they do the vast majority of all the actual
8 traffic counts that we collect.

9 Q And it was only for a one-day period?

10 A Correct.

11 Q Have there been other studies besides that
12 one-day period?

13 A There may have been. I don't believe I've
14 counted more than that one day.

15 Q Okay. So just by you -- and what day of the
16 week was May 15th, 2013?

17 A I would have to -- it may be in the study; and
18 if it's not, I'd have to look at a calendar.

19 It should be a Tuesday, Wednesday, or a
20 Thursday, which are the typical days traffic studies are
21 conducted, because those are considered average
22 weekdays, so -- but I can read through to see if I
23 actually documented the day of the week, or I can open
24 my phone and turn it on and look at a calendar.

25 Q You anticipate that it's not a weekend. Right?

1 A No, sir. It's definitely not a weekend.

2 Q Yesterday I believe Mr. Tucker asked you a
3 question about whether you had reviewed crash data or
4 accident data from TxDOT concerning this particular
5 location.

6 A Correct.

7 Q Your answer was no. Correct?

8 A Not formally. I did pull an extract just to
9 see the number of crashes. But I did not analyze them
10 in the form of is there a specific crash type happening.
11 You know, I did not perform any type of safety study.

12 Q And yesterday I wrote down you said something
13 about you didn't think it was a significant crash
14 problem. What do you mean by that?

15 A Correct. There just wasn't very many crashes
16 in the sample I pulled. There was only a few.

17 Q So what do you consider -- I guess, let me ask
18 this: How would you characterize this intersection of
19 1185 and Highway 130? Is it a low, medium, or
20 high-volume intersection?

21 A I think generally it's a low- to medium-volume
22 intersection. It's not heavy enough yet to warrant
23 traffic signals.

24 Q What do you consider a significant number of
25 accidents?

1 A The -- well, every site's going to vary, number
2 one. But historically, one of the thresholds that we
3 would look at in an unsignalized intersection would be
4 five crashes that are susceptible to correction in a --
5 through the use of a signal, in a 12-month-period. So
6 that would be kind of the first starting point, would be
7 are there five or more.

8 And -- but again, I did not conduct a
9 formal safety study. It's, like, I looked -- there's
10 been -- at the time and, you know, whatever sample I had
11 pulled, there had been a few accidents, but there
12 weren't enough to make it jump out to go, oh, wow, I
13 should tell TxDOT that, hey, there's been accidents out
14 here.

15 Q So the data you reviewed was at TxDOT. Right?

16 A It was from the TxDOT crash record information
17 system, which is an online database of crashes that you
18 can download a public extract of those crashes.

19 Q So if I told you there had been eight so far
20 this year, how would you consider that, a significant
21 number of accidents out there in that --

22 A It could be. We would need to look at it more
23 closely to see what type of crashes are they.

24 Q What about -- do you look at the number of
25 fatal crashes or incapacitating crashes that have injury

1 in that area?

2 A It depends on the type of analysis that's being
3 done. From a -- say, a signal warrant perspective, the
4 severity of the crash does not factor into that
5 decision. They look strictly at the number of crashes
6 that are susceptible to correction, which those would be
7 right-angle crashes, crashes that involve turning
8 conflicts, like, if you have got a left turning vehicle
9 that's getting hit by opposing traffic, something like
10 that, you would expect to be able to be corrected by a
11 signal.

12 Generally, when it comes to safety
13 analysis, now the current trend is to -- instead of
14 chasing fatalities, which is kind of the way we've
15 analyzed safety over the years, which that results in --
16 say, you had one fatal crash or two fatal crashes out at
17 some rural faraway intersection that only has, like,
18 2000 cars a day, okay. I'm just making up hypothetical
19 numbers. It's like that results -- when you go through
20 the traditional safety practices, a location like that
21 might be selected for an overpass.

22 The current trend in safety analysis is to
23 look for high locations that have low-cost improvements
24 that you can make to reduce just the total number of
25 crashes. So we still consider fatalities, but -- it

1 sounds callous, but we don't -- you know, we don't jump
2 the instant one person is killed at an intersection or,
3 you know, two or three. It's like it could be
4 indicative of there being the need for, you know, a
5 study, which that would fall to TxDOT. You know,
6 TxDOT -- for instance, the crashes database that they
7 give us public access to, it does not contain all the
8 same information that TxDOT itself has access to,
9 though. So it's, like, they're the only ones that can
10 truly look at that intersection and change something.

11 Q But as part of your study, you're looking at
12 the overall impact increasing the amount of traffic,
13 because, I mean, you're literally almost on the corner,
14 right, of 1185 and Highway 183?

15 A I mean, if you want to consider 1500 feet north
16 of there, on the corner, then yeah. So the -- I mean,
17 realistically, we are not talking about a lot of traffic
18 here. The -- if you look at Table 1 on Page 169 of the
19 study, that's our trip generation breakdown. And so our
20 opening day traffic volume, if you look at the -- kind
21 of the left set of numbers where it says actual daily
22 trips, because those are the actual number of vehicles.
23 Okay?

24 For the analysis, I actually scaled those
25 up to account for the fact that the truck traffic

1 operates differently than passenger car traffic. But
2 when you actually look at the raw number of vehicles in
3 this table, we've only got 470 or 468 vehicles at
4 opening day, and only 918 or so projected way out in the
5 future, at 2058 or so. That, from a traffic
6 perspective, is not a high volume of traffic. We're
7 talking less than a thousand trips a day in the long
8 range future. Most cities, they wouldn't even require a
9 traffic study until you hit a thousand trips a day.

10 Another threshold that is used for
11 determining do we need a traffic study is a hundred
12 entering vehicles during a peak period. And our site
13 does not exceed that.

14 Q But the problem with the 468 total number,
15 that's just the landfill traffic. You haven't studied
16 or taken into consideration the proposed industrial park
17 out in the area. You haven't looked at any of the
18 additional data that goes into further development and
19 growth trends in that area. Correct?

20 MR. RYAN: Objection to the form of the
21 question. Mr. Magee's assumption about a proposed
22 industrial park is not in evidence.

23 MR. MAGEE: He testified to it during his
24 deposition. That was questioned and --

25 MR. RYAN: But there isn't a proposed

1 industrial park.

2 JUDGE BELL: If you've got testimony from
3 his deposition with regard to that, let's just bring
4 that out.

5 MR. MAGEE: I will pull it out in just a
6 second.

7 JUDGE BELL: Okay.

8 Q (BY MR. MAGEE) The other thing is, yesterday
9 I believe you were asked questions about Strawn
10 Elementary.

11 A Yes, sir.

12 Q Did you also look at Plum Creek Elementary?

13 A No, sir.

14 Q And I think you said yesterday the attendance
15 zone for Strawn Elementary is not in this area. Do you
16 know where the attendance zone of Plum Creek Elementary
17 is?

18 A It would include the site.

19 Q Did you do any analysis about the various bus
20 routes and what roads both Strawn Elementary and Plum
21 Creek Elementary would use?

22 A No, sir.

23 Q And the number of traffic that would either
24 been increased or decreased by the addition of this
25 newly implemented elementary school on 1185?

1 A Plum Creek is an existing elementary school, is
2 it not?

3 Q And Strawn is the new one?

4 A Right. Strawn is the new one. And Strawn,
5 there was a traffic impact analysis that I, I've seen,
6 that it has a very small number of traffic, like, 20 to
7 30 vehicles or so on 1185, which that's not enough to
8 impact the operations down at 1158 and 130 or 183.

9 Q And have you looked at one for Plum Creek
10 Elementary?

11 A No, sir. It wasn't introduced in any of the
12 information. So -- but that school is existing, so that
13 traffic should be already on the roadways.

14 Q The boundaries changed for Strawn and Plum
15 Creek?

16 A Right. But that --

17 Q You didn't look at how the bus traffic -- I
18 think, yesterday you said 70 percent of the bus
19 traffic -- or we have heard testimony in this case,
20 about 70 percent of Strawn Elementary and potentially
21 Plum Creek would consist of bus traffic.

22 A Correct.

23 Q And so you haven't looked at the new routes
24 that have been changed by these boundaries?

25 A No.

1 MR. MAGEE: I don't have any further
2 questions.

3 JUDGE BELL: All right. Thank you.
4 Any redirect for Mr. Denholm by the
5 Applicant?

6 MR. RYAN: Yes, Your Honor.

7 REDIRECT EXAMINATION

8 BY MR. RYAN:

9 Q Mr. Denholm, you testified that you don't
10 consider the volume of traffic proposed to be generated
11 by this facility to be a lot of traffic. How does it
12 compare to other types of development?

13 A As an example, a Walmart, a typical retail
14 development like that, you would expect about 10,000
15 trips a day. Roughly 400 to 450 entering vehicles
16 during the PM peak hour. Something like a Love's or
17 QuickTrip, gas station, travel center, truck stop type
18 of configuration, you would expect 3000 to 3500 trips
19 per day, with maybe 200 to 250 during the PM peak hour
20 entering the site. And so those are far greater than
21 what we're seeing with our site.

22 Q What about, like, a fast-food restaurant?

23 A Fast food, I'd have to pull -- I want to say
24 about 3500 trips a day.

25 Q Mr. Magee asked you about the table on Page 179

1 of Exhibit 130EP-1.

2 A Yes, sir.

3 Q And you testified that these numbers didn't
4 include -- well, that this data was gathered prior to
5 the opening of State Highway 130?

6 A I believe that's true.

7 Q If that were correct, would you expect traffic
8 volumes on 183 to go up or down after State Highway 130
9 went into service?

10 A To go down somewhat. Some of those vehicles
11 would've diverted to the toll lanes.

12 Q In your experience, when TxDOT reviews a TIA in
13 a driveway permit, do they consider safety issues?

14 A Sometimes.

15 Q And would a part of that be crash data?

16 A I've never seen them request it of -- of the
17 engineer conducting the traffic impact study. So...

18 Q But like you said, that's information that they
19 have in their database; and, in fact, they have more
20 information available than you do?

21 A Yes.

22 Q Okay. In your experience, when TxDOT reviews a
23 TIA and considers a request for a driveway permit, does
24 TxDOT consider issues related to structural integrity of
25 the roadway?

1 A Yes. They'll look at it from the standpoint of
2 what type of driveway are you proposing and whether the
3 state facility that you're connecting to, whether it
4 holds up to it. They also look at the driveway design
5 itself to make sure that it's not going to, you know,
6 fall apart right after you build it within the
7 right-of-way.

8 Q Would they also consider the structural
9 integrity of the public roadway as it relates to the
10 proposed traffic loading you're proposing?

11 A Yes, sir, they do.

12 Q Would you look on Page 195 of Exhibit 130EP-1?

13 A Okay.

14 Q Do you see up there, under the list of
15 assumptions at the top of the page, No. 11?

16 A Yes.

17 Q It says "Recycling Trucks," and that shows a
18 year one estimated number of 40 trucks per day.

19 A Yes, sir.

20 Q What does that consist of? What does that
21 include?

22 A That consists of the vehicles that are
23 accessing the -- both the recycling center and the
24 recycling transfer station.

25 Q And is that the transfer station that you

1 testified about yesterday?

2 A I believe it is.

3 Q And so the incoming waste volume shown there in
4 Item 1 of 1500 tons per day, does that include anything
5 coming in on what's identified as the recycling trucks,
6 or is that the other --

7 A It's the -- the 1500 tons per day is the
8 landfill traffic only. It does not include the
9 recycling. But the volume projections in the table
10 below and then used throughout the study do include the
11 recycling.

12 Q You testified yesterday about -- you used a
13 phrase, "conflicting traffic."

14 A Yes, sir.

15 Q What does that mean?

16 A Basically, when you have two different
17 movements of traffic, specifically traffic flows that
18 conflict, those are points on the roadway where -- just
19 where those flows conflict. An example would be, just
20 if you have a northbound through movement, and an east
21 or west movement, that's a conflicting movement.

22 Q And I think you talked about conflicting
23 traffic in terms of the proposed site driveway or
24 entrance road.

25 A Correct.

1 Q What are the points of potential conflict for
2 traffic associated with that?

3 A With a right in/right out movement, typically
4 we only have two conflict points. One is the diverge
5 from the roadway; the other is the merge onto the
6 roadway. In this case, that would be the right turn off
7 of the roadway and the right turn onto US 183. In our
8 instance, we have added a deceleration lane to allow
9 traffic that's accessing the site entrance roadway.
10 They can exit 180 -- they can exit the right lane of 183
11 at full speed, and then complete all their slowing and
12 right turn maneuver in that lane, so they're actually
13 removed from the US 183 travel stream, leaving us with
14 just that single conflict point.

15 Q Because if they're using that deceleration lane
16 to make the right turn into the site entrance road,
17 that's removed a point of conflict because you have a
18 decel lane for that traffic to use?

19 A Yes, sir.

20 Q Now, how does that one potential point of
21 conflicting traffic associated with that site entrance
22 road compare with, say, a typical intersection?

23 A A typical intersection has -- so a four-legged
24 intersection with all four directions of travel has 32
25 points of conflict.

1 Q And the proposed site entrance road here has
2 only one?

3 A Yes.

4 Q So from the standpoint of conflicting traffic,
5 potential opportunities for accidents and that sort of
6 thing, you have much less opportunity and points of
7 conflict here than at a standard four-way intersection?

8 A Yes, sir.

9 Q You testified yesterday about drivers selecting
10 gaps.

11 A Yes, sir.

12 Q Could you explain what a "gap" is and what you
13 mean when you're talking about drivers selecting gaps?

14 A Okay. A gap in traffic is simply the distance
15 and -- both in time and space between two vehicles on a
16 roadway. And so as motorists, when we're making a right
17 or left turn, either from a minor street onto a major
18 street, which would be the movement from our site
19 entrance road onto 183, that's a right turn from the
20 minor street onto the major, we're going to be looking
21 to the left and looking for that gap in traffic, between
22 two vehicles, that's large enough for us to safely
23 complete that right-turn maneuver.

24 Q And would you expect professional drivers to
25 select appropriate gaps?

1 A Yes.

2 Q In fact, would you expect them to be better
3 than the general public at doing that?

4 A Yes.

5 Q You testified yesterday about the onramp from
6 US 183 northbound onto State Highway 130. Do you
7 remember that?

8 A Yes, sir.

9 Q When TxDOT evaluates a driveway permit, do they
10 consider proximity to an onramp if one is nearby?

11 A Yes, sir. The -- TxDOT, they'll look at that
12 driveway, the spacing distance between an onramp or an
13 offramp, and any proposed driveway. In their roadway
14 design manual, they require a 200-foot minimum distance,
15 and in our case, we've got at least three times that
16 distance between our driveway and the onramp.

17 Q If TxDOT has concerns about proximity to an
18 onramp like that, what would occur in the process of
19 reviewing the driveway permit application?

20 A If the State has concerns, they may ask for
21 additional information, such as a weaving analysis be
22 conducted. And then based on the results of a weaving
23 analysis, they may ask for the driveway to be relocated,
24 moved further away from the onramp. In some instances,
25 we've seen them move it -- where they've asked for it to

1 be moved past the onramp. But as they review the
2 driveway permits, they look at things like that.

3 Q Did they make any requests for additional
4 information or suggest relocation of the site driveway?

5 A Not that I'm aware of.

6 Q Does traffic exiting the site entrance road and
7 making the right turn onto US 183 north, does it have to
8 make that movement over into the left lane and merge
9 onto State Highway 183?

10 A Onto State Highway 130?

11 Q Sorry. State Highway 130.

12 A They don't have to. I mean, if a driver
13 doesn't want to use the tollway, they wouldn't make that
14 maneuver. Or if the driver just determined they didn't
15 want to get on right there, they could easily proceed
16 further north along the frontage road and use the next
17 onramp.

18 Q So if for some reason there wasn't an
19 appropriate gap available for them to make the maneuver
20 to get in the left lane and then merge onto the highway,
21 they could just continue on 183 north?

22 A They could, yes.

23 MR. RYAN: I'll pass the witness.

24 JUDGE BELL: All right. Any recross from
25 Plum Creek?

1 MR. WILSON: No questions.

2 JUDGE BELL: How about the from the ED?

3 MR. TATU: No questions.

4 JUDGE BELL: OPIC?

5 MR. TUCKER: No questions.

6 JUDGE BELL: TJFA?

7 MR. ALLMON: Yes, just a few questions.

8 RE-CROSS-EXAMINATION

9 BY MR. ALLMON:

10 Q Could you turn to Exhibit 130EP-8?

11 A I'm sorry, EP-8?

12 Q EP-8, yes.

13 JUDGE BELL: What volume is that?

14 MR. ALLMON: Volume 5, I believe.

15 A Volume 5?

16 Q (BY MR. ALLMON) Yes.

17 A Okay.

18 Q What is the document contained in 130EP-8?

19 A I'm assuming the entire exhibit's one document,
20 or...

21 Q Yes.

22 A Okay. On Page 2, there's a document with TCEQ
23 letterhead. It says, "Registration for municipal solid
24 waste management site issued under provisions of Texas
25 Health and Safety Code, Chapter 361." It -- I guess

1 it's kind of similar to what you showed me yesterday, I
2 think. Right?

3 Q Now what we looked at yesterday was the draft
4 permit for the landfills. Is that correct?

5 A Yes.

6 Q And so this is the authorization for the
7 registration also on site?

8 A Okay.

9 Q Could you turn with me to Page 4 of Exhibit 8,
10 130EP-8?

11 A Okay.

12 Q Does this -- do you see Roman numeral II in
13 Paragraph D?

14 A Yes, sir.

15 Q Does that provide a waste acceptance rate at
16 the transfer station?

17 A Yes, sir, it does.

18 Q And what is that waste acceptance rate?

19 A It says, "Solid waste may be accepted for
20 processing at this facility at a rate of up to 94 tons
21 per day."

22 Q And do you recall what the number was that was
23 projected to be accepted at the landfill in the draft
24 permit?

25 A 1500, I believe.

1 Q So these are two separate authorizations. Is
2 that correct?

3 A Yes, sir.

4 Q So between the waste accepted at the landfill
5 and the waste at the transfer station, what is the total
6 waste coming into, say, the driveway of the facility?

7 A If it all happens the same day, it would be
8 1,594 tons.

9 Q Okay. But the waste for 1,500 was all that was
10 modeled.

11 A The waste for 1,500 entering the landfill is
12 all that was modeled.

13 Q But you did not also consider this 94 tons of
14 waste at the transfer station?

15 A The transfer station, that traffic is included
16 in the recycling center traffic of 40 trucks per day.

17 Q But that was rolled in as part of 1500 tons of
18 waste per day?

19 A No, it's not.

20 Q Okay. Let's look back at that.

21 Now, can you turn back to the TIA.
22 Page 179, I think we were looking at. Or no, pardon me,
23 Page 195 of Exhibit 130EP-1.

24 So the total given at the top for this
25 modeling is 1500 tons per day?

1 A Yes. That's the waste accessing the landfill
2 itself.

3 Q Now, is there any indication that this
4 breakdown of vehicles reflects waste in addition to that
5 1500?

6 A The recycling -- everything down at, I believe,
7 Lines 9 through 12.

8 Q Are those indicated as in addition to that
9 1500?

10 A No. They're different assumptions. Those were
11 all assumptions that went into the estimate.

12 Q And one of the assumptions was a waste
13 acceptance rate of 1500 tons per day?

14 A For the landfill.

15 Q Now, does the landfill have a citizens
16 convenience center on site?

17 A I believe so.

18 Q And will recycling be brought to that citizens
19 convenience center?

20 A Yes, sir.

21 Q Do you have any reason to believe these
22 vehicles are not associated with that citizens
23 convenience center?

24 A No.

25 Q So --

1 A Wait, wait. I'm sorry. Which vehicles?

2 Q Do you have any reason to believe these
3 vehicles for recycling are not associated with the
4 citizens convenience center?

5 A Which vehicles?

6 Q The vehicles listed in -- first look at 10,
7 "Recycling Passenger Cars." So those are passenger
8 cars.

9 A Correct.

10 Q Would those be something you could associate
11 with a citizens convenience center?

12 A I believe that line is for employees.

13 Q Okay. But do you have -- what is the basis of
14 your knowledge that you believe these are in addition to
15 those 1500 tons per day?

16 A That -- "these" meaning?

17 Q Meaning the ones listed under 10, 11, and 12.

18 A Discussions with Thad Owens, who generated
19 those traffic numbers.

20 Q And what is the reason for the discrepancy
21 between 1500 tons per, day being only the amount for the
22 landfill, versus the fact that 1594 is the total, if you
23 look at the landfill plus the transfer station?

24 A That's -- I believe you're talking apples and
25 oranges. They're two different components. And so the

1 incoming waste volume here, that 1500, that went into
2 strictly the route trucks, the transfer trucks, and the
3 small load trucks. And so when you back those numbers
4 out, you get 1500. And so then the 94 tons, that's
5 included in the recycling trucks per day.

6 Q Is there any indication that those vehicles
7 were for additional waste on top of the 1500?

8 A Those vehicles?

9 Q The ones listed on 10, 11, and 12. Is there
10 any indication in the application those were waste in
11 addition to the 1500?

12 A I'm not sure I understand. And additionally,
13 the -- I'm not familiar with the entire application, so
14 I can't testify to what else may be in it.

15 Q Does the material coming into the transfer
16 station constitute solid waste?

17 A It's construction debris that's being recycled.

18 Q Is that considered solid waste?

19 A I don't know for sure.

20 Q So you're not an expert on landfill material to
21 determine whether that is solid waste or not?

22 A The material, no.

23 Q No.

24 So you don't know whether that would be
25 included in the 1500 tons per day?

1 A The recycling materials are not included in the
2 1500 per day.

3 Q Based on your belief?

4 A Based on my discussions with Thad Owens, who
5 generated these forms.

6 Q Now, the analysis, both your analysis and
7 TxDOT's analysis, is based on the assumptions for trip
8 generation provided by 130 Environmental Park. Is that
9 correct?

10 A Yes, sir, it is.

11 Q So both your analysis and TxDOT's analysis is
12 only as accurate as these assumptions?

13 A Yes.

14 Q And you did not develop those assumptions?

15 A No, sir, I did not.

16 Q And you're not an expert in municipal solid
17 waste facilities to evaluate the accuracy of those
18 assumptions?

19 A No, sir.

20 Q You discussed conflicting traffic and that
21 there was one point of conflict as between the driveway
22 of the landfill and Highway 183?

23 A Yes, sir.

24 Q Do you recall this discussion?

25 If you combine that intersection of the

1 landfill entrance road in addition to the onramp, how
2 many locations of conflict are there?

3 A Well, that's -- that wouldn't be -- that
4 wouldn't be how you would do a conflict point analysis
5 at that location. We don't look at a 700-foot stretch
6 of road as one location for conflict points.

7 Q If we looked at the number of conflict points
8 associated with the entrance road intersection with
9 Highway 183, in addition to the conflict points
10 associated with the onramp, how many total conflict
11 points are there?

12 A Two.

13 Q Two.

14 So the one you described is not actually
15 the number of conflict points that are involved getting
16 on to the onramp with Highway 183?

17 A No. I was speaking about the entrance road,
18 the right turn in and out of it.

19 Q And you were asked questions regarding TxDOT's
20 review of the structural integrity of roadways.

21 A Yes, sir.

22 Q Do you recall that?

23 Does TxDOT have any jurisdiction over the
24 entrance road on the property?

25 A On the property, no. Within the right-of-way,

1 they do. And I believe the driveway permit specified
2 a -- that the entrance road would be constructed out of
3 the same materials that US 183 is constructed out of.

4 Q And that would apply how far inland on -- how
5 far within the property would that type of a designation
6 apply?

7 A I don't know.

8 Q So, to your knowledge, did TxDOT review the
9 structural integrity of the entrance road on the
10 property?

11 A Of the private roadway on the property?

12 Q Uh-huh.

13 A No. Well, I don't know that.

14 Q You don't know that?

15 A I don't know if TxDOT looked at that.

16 Q You were asked questions regarding, saying,
17 comparing this facility to a Walmart or a Lowe's or a
18 fast-food restaurant. Do you remember those?

19 A Correct. I said a Love's, though, like the
20 truck stop, not Lowe's.

21 Q Okay. Now, when we're doing a traffic impact
22 analysis, does it depend as much on the configuration of
23 the roadways as it does the amount of traffic?

24 A Could you rephrase that some.

25 Q When we're doing a -- when one is doing a

1 traffic impact analysis, one factor is the amount of
2 traffic --

3 A Correct.

4 Q -- which is what we're talking about here. Is
5 another important factor the configuration of the area
6 roadways?

7 A Yes, sir.

8 Q Is that very important in determining the
9 potential for a conflict?

10 A I'm not quite sure I follow.

11 Q Precisely. I understand.

12 Is the configuration of the roadway as
13 equally important in determining the adequacy of the
14 nearby roadway network?

15 A I think that's a fair statement.

16 Q So what may be too many cars for one roadway
17 network may be not too many on another roadway network?

18 A Correct. It's, you know, like, you can put
19 something on a six-lane roadway that you can't really
20 put on a two-lane roadway.

21 Q Now, let me represent to you that under the
22 TCEQ rules, the question is whether the roadways nearby
23 are available and adequate. Is that your understanding
24 of the regulations?

25 A Yes, sir.

1 Q Is that focus on the roadways or on the
2 facility?

3 A The roadways.

4 Q The roadways?

5 A (Nods head.)

6 Q So even a facility with a small amount of
7 traffic would not meet the regulations if the roadways
8 nearby were simply not adequate?

9 A Correct.

10 MR. ALLMON: That's all of my questions.

11 JUDGE BELL: All right. Thank you.

12 Any recross from Caldwell County?

13 MR. MAGEE: No recross.

14 JUDGE BELL: All right. Thank you,

15 Mr. Denholm. Appreciate your time.

16 MR. RYAN: Your Honor, our next witness is
17 going to be Mr. Snyder.

18 JUDGE BELL: All right.

19 MR. RYAN: So I think that's going to be
20 Volumes 6 and 4.

21 JUDGE BELL: All right. Thank you.

22 MR. RYAN: And 5. I'm sorry. 4, 5, and
23 6.

24 JUDGE QUALTROUGH: We're off the record.

25 (Recess: 9:47 a.m. to 9:55 a.m.)

1 (Exhibit Protestants Nos. 31 through 35
2 marked)

3 JUDGE QUALTROUGH: Okay. We are back on
4 the record. And I believe you have called your next
5 witness.

6 Mr. Snyder.

7 THE WITNESS: Yes, ma'am.

8 JUDGE QUALTROUGH: All right. I will need
9 to swear you in.

10 (Witness sworn)

11 JUDGE QUALTROUGH: All right. Please have
12 a seat. And state your name for the record.

13 THE WITNESS: My name is John Michael
14 Snyder, S-N-Y-D-E-R.

15 JUDGE QUALTROUGH: Everybody hear that?
16 All right. You may proceed.

17 JOHN MICHAEL SNYDER, P.G.,
18 having been first duly sworn, testified as follows:

19 DIRECT EXAMINATION

20 BY MR. RYAN:

21 Q Mr. Snyder, do you have in front of you
22 Applicant's Exhibit Volume 6?

23 A I do.

24 Q And do you see Exhibit Snyder 1 through
25 Snyder 7 there?

1 A I do.

2 Q What is Exhibit Snyder 1?

3 A Snyder 1 is my prefiled testimony.

4 Q And what are Exhibits Snyder 2 through 7 that
5 are described as a group?

6 A They are all exhibits that are referred to in
7 my prefiled testimony.

8 Q Are there any corrections that need to be made
9 to Exhibit Snyder 1?

10 A Yes, there are. There are three. One is on
11 Page 19 on --

12 Q Give us just a minute here to get to the page.

13 A Okay.

14 Q Okay.

15 A Page 19, Lines 37 through 39 -- actually,
16 Line 38, specifically. The word may run -- the word
17 "may" should be inserted between the word "we" and
18 "run."

19 JUDGE QUALTROUGH: And Mr. Snyder, if I
20 could get you to speak directly into that microphone. I
21 know it's awkward, and I apologize.

22 THE WITNESS: It's all right.

23 JUDGE QUALTROUGH: Thank you.

24 THE WITNESS: Should I go ahead and mark
25 those?

1 Q (BY MR. RYAN) Yes, would you make that
2 change?

3 A Okay. The second one is on Page 20 and on
4 Lines 24 through 26, specifically starting on Line 24
5 where it says, "were not logged, it should say "were not
6 surveyed." From which samples -- now we are on Line 26,
7 were not tested. And I've made those changes.

8 Q Okay.

9 A And lastly, on --

10 Q Oh, before you do that one, let me ask you
11 about it.

12 A Okay.

13 Q What is Exhibit -- let's see. Do you have
14 Volume 5 of Applicant's exhibits?

15 A I do.

16 Q And can you turn to Exhibit 130EP-7. What is
17 that?

18 A EP-7 is a supplement that we prepared detailing
19 drilling that was done in 2016 and interpretations
20 related to that.

21 Q Okay. And are there any changes that need to
22 be made to Exhibit 130EP-7?

23 A Yes. There's one typo on Page 7. I need to
24 find it. Hold on just a second.

25 Q Is that on Page S7, which is Page 11 --

1 A Yes.

2 Q -- of the exhibit?

3 A Yes, it is. Thank you.

4 On line -- I didn't call out my line
5 number, so I'm going to have to find it.

6 Q At the bottom.

7 A Oh, on the third line from the bottom, inside
8 the parentheses it says "0.07." It should say "0.007
9 feet per feet."

10 Q Okay. Would you make that change?

11 A I did so.

12 Q Okay. Now, with regard to Exhibit Snyder 1, if
13 you were asked here today, orally, each of the questions
14 that's set out in Exhibit Snyder 1, would your answers
15 be the same as set out in the exhibit?

16 A They would.

17 MR. RYAN: Your Honor, at this time I
18 would offer Exhibits Snyder 1 through Snyder 7 and
19 Exhibit 130EP-7.

20 JUDGE QUALTROUGH: All right. Any
21 objections to those exhibits coming into the record?

22 MS. PERALES: Nothing, other than the
23 previous objections we made.

24 JUDGE QUALTROUGH: All right. And those
25 were overruled.

1 We're admitting Snyder Exhibits 1 through
2 7 and 130EP-7.

3 (Exhibit Applicant Snyder Nos. 1 through 7
4 admitted)

5 (Exhibit Applicant 130EP-7 admitted)

6 MR. RYAN: Thank you, Your Honor.

7 And I'll pass the witness.

8 JUDGE QUALTROUGH: All right. Any cross?

9 MR. WILSON: Yes, Your Honor.

10 If I go first, I'll need the microphone.

11 CROSS-EXAMINATION

12 BY MR. WILSON:

13 Q Mr. Snyder, good morning. My name is Bob
14 Wilson. I represent Plum Creek Conservation District.
15 And I've moved down a little bit from where I was
16 yesterday during the cross.

17 A Good morning, Mr. Wilson.

18 Q All right. Thank you for being here.

19 My questions are general questions, having
20 to do with the nature of geology at the site.

21 Did you consult at all with the geologist
22 for Plum Creek Conservation District in forming any of
23 your opinions?

24 A I did.

25 Q And when did you do that?

1 A I don't remember the exact date, but it was
2 sometime when we had prepared the first draft of the
3 permit application, and myself and Green Group had asked
4 to meet with Plum Creek and Dr. Wilson. And so we -- we
5 did. We met with him in the Plum Creek offices.

6 Q Okay. I'm sure he would appreciate being
7 called Dr. Wilson, but I think his most significant
8 degree is a master's degree in geology, and he would
9 claim that.

10 A I stand corrected.

11 Q All right. Are you aware that his opinions
12 about Wilcox outcrop placement underneath the site are
13 different from yours?

14 A I'm generally aware of that. I don't think we
15 specifically discussed the Wilcox the day that we met
16 with him. I've read some of his other opinions and some
17 of his thoughts on that. So I'm generally aware of it.

18 Q One of the things that I wanted to ask you
19 about pertains to the definition of uppermost aquifer
20 and TCEQ rules. Okay?

21 A Okay.

22 Q Are you familiar with that definition?

23 A Generally.

24 Q The -- I'll represent to you -- and I can read
25 the exact definition; I have it here. But it says, An

1 uppermost aquifer is one that's nearest the material
2 ground surface -- the natural ground surface that is an
3 aquifer. But the second phrase is that it also includes
4 lower aquifers hydrologically [sic] interconnected with
5 this aquifer within the facility's property boundary.

6 And will you accept that representation of
7 the definition? I could show you the exact definition,
8 if you care to see it.

9 A Would you mind if I looked up the definition?

10 Q Go ahead. Please do so. It's 330.3,
11 Paragraph 168.

12 A Okay.

13 Q And the definition says that a facility
14 property boundary is the defining area that's governed
15 by the definition of uppermost aquifer, not the facility
16 site. Is that correct?

17 A That's what it says.

18 Q Is the Hunter tract the property boundary for
19 this facility?

20 A Some of the Hunter tract is part of that.

21 Q Isn't the Applicant optioned the entire Hunter
22 tract?

23 A I believe so. But the permit boundary -- in
24 other words, the facility boundary was specifically
25 carved out of that.

1 Q This definition talks about a property
2 boundary, not a facility boundary. Is that correct?

3 A Actually, it says the facility's property
4 boundary.

5 Q It says facility. And I'll read you the
6 definition of facility, because there's also a
7 definition of facility in Paragraph 52. Do you want to
8 look at that?

9 A Sure.

10 Okay.

11 Q That definition, my notes say, is all
12 contiguous land and structures or other appurtenances
13 and improvements on the land used for the storage,
14 processing, or disposal of solid waste.

15 Is your understanding that the definition
16 of "facility" would then take the -- carve a subset of
17 the property of the Hunter tract to where not all the
18 tract would be included in the definition?

19 A My understanding of what facility means in a
20 solid waste facility, it would say that you can carve
21 those out.

22 Q So if the Applicant chose not to apply for a
23 permit covering the portion of the tract that had the
24 Wilcox outcrop, if it were present, then there would be
25 no requirement to monitor the Wilcox. Is that correct?

1 A There's a lot of assumptions in that statement.

2 Q Yes, sir, I understand that. But there are a
3 lot of assumptions in this whole application. That's
4 why I'm asking these questions.

5 A Could you re-ask that question. I apologize,
6 but it -- I would like to hear it specifically.

7 Q Yes, sir. I want you to assume with me -- and
8 I'll go to this in a minute -- that there is -- the
9 Wilcox outcrop is present underneath the Hunter tract.

10 A Okay.

11 Q Okay. Under that assumption, if the outcrop is
12 not present in the permit boundary area, then your
13 interpretation of these rules is that the Wilcox would
14 not have to be monitored because it wouldn't be included
15 in the definition of uppermost aquifer?

16 A I think I agree with that statement.

17 Q Their reasons for this -- and let me get back
18 to the question related to the possibility of the
19 outcrop of the Wilcox under the site.

20 What did you do to determine whether the
21 Wilcox actually outcrops under the Hunter tract?

22 A Well, first we started with the regional
23 geology, the geologic maps. We made inquiries with the
24 Bureau of Economic Geology to find out how those were
25 mapped, what was the source of their maps. We were

1 unable to determine that there was ever a site-specific
2 study on that, which means, that all of the -- all of
3 the geologic boundaries are very approximate because
4 they were mapped with something other than a site study.

5 And we -- on the borings that we drilled,
6 we determined that it was consistent with the midway,
7 with some gravel and cobbles and pebbles on the surface.

8 Q Were any of the borings outside the area of the
9 permit for which EP130 made its application?

10 A No.

11 Q So if the Hunter tract had more land in it, and
12 it does, outside the permit area boundary, you did not
13 explore the entire Hunter tract to see whether or not
14 the Wilcox might outcrop in another portion of it?

15 A We did not specifically explore it by drilling
16 borings. I did walk over it. And while I'm not certain
17 that the soil conservation service's soils maps are any
18 more accurate, I did look at the soils on the other side
19 of the creek to determine what they may be made up of
20 and didn't see anything that suggested to me that there
21 was Wilcox there, or at least not any sandy Wilcox
22 there.

23 Q Are there Wilcox water wells within a mile of
24 the site?

25 A There are water wells, I believe, near the

1 mile -- within a mile of the site to the east that have
2 recorded that they were in the Wilcox. I'm not really
3 sure that it's been confirmed that they're in the Wilcox
4 or not, and I just don't know. Quite often, drillers
5 will call something a formation when they don't really
6 know what it is.

7 Q They don't know how to look at the rocks, do
8 they, as a geologist would?

9 A That's probably true.

10 Q All right. Is there a Wilcox -- reportedly, a
11 Wilcox well on the other side of 1185, immediately south
12 of the site?

13 A Would you mind if I refer to the permit
14 application to answer that question?

15 Q No, I wouldn't mind at all. Sure.

16 A Okay. I'm referring to Applicant's
17 Exhibit 130EP-4, Page 42, which is a water well location
18 map.

19 Q Mr. Snyder, I see, and I've got a different
20 map.

21 A Okay.

22 Q I've got a map that you stamped. It's drilling
23 1A.4. It's a well, springs, and water bodies location
24 map.

25 A Okay.

1 Q And this is from your administratively complete
2 application.

3 A Let me pull that one so we can be speaking from
4 the same map.

5 Q Sure.

6 A Could you refer me to the number again, please.

7 Q It's drawing 1A.4.

8 MR. RYAN: That's in Volume 1?

9 MR. WILSON: I couldn't tell you. I don't
10 keep up with the --

11 THE WITNESS: I have it. It's in
12 Volume 1.

13 MR. RYAN: And it's Page 61.

14 MR. WILSON: It's all I could do to keep
15 up with the stuff on file. I can't -- I don't have my
16 books with me.

17 A I have it in front of me.

18 Q (BY MR. WILSON) Right. Does it show -- and
19 I'll give you the well numbers -- two well numbers on
20 the other side of 1185. One is Well No. 670-3601. The
21 other one is 670-3603.

22 A Yes, sir.

23 Q Is it also in the report that those were
24 reportedly completed in the Wilcox?

25 A Yes. If you refer to Applicant's Exhibit

1 130EP -- 130EP-4, Page 18, which is also in Volume 4,
2 the Water Well Drillers records as indicated on Table E3
3 in our report says that the driller reported that it was
4 Carrizo-Wilcox.

5 Q Thank you, sir. Were you present yesterday
6 when I asked about the groundwater monitoring plan and
7 whether there was any proposal to monitor the Wilcox?

8 A I was present yesterday. I don't remember that
9 question.

10 Q Is there -- let me ask it again, then.

11 Is there a proposal in the groundwater
12 monitoring plan to monitor water quality in the Wilcox
13 aquifer?

14 A No, sir.

15 Q Why not?

16 A Well, we have no Wilcox present that we've been
17 able to identify, and so there's -- there's no -- if
18 there's no Wilcox present, there's no way to monitor it.

19 Q There are ways to monitor it. You just don't
20 have any on-site ways to monitor it. Is that what
21 you're telling me?

22 A There's no way -- if it's not present on site,
23 there's no way for us to monitor it on site. I'm not
24 sure what the other ways you referred to were.

25 Q Plum Creek Conservation District could

1 certainly monitor it.

2 A I presume that's true.

3 Q All right. My question really relates to the
4 possibility that the Wilcox outcrop, which you described
5 in your report between the contact of the midway and the
6 Wilcox, is -- that's one of the ways that water occurs
7 at the site; it's at the contact point. Is that
8 correct?

9 A Could you repeat that. I'm not sure that I
10 understand the connection there.

11 Q Yes, sir. Where is the water that you claim is
12 the midway water? Does it occur at the contact between
13 the midway and the Wilcox formation?

14 A No.

15 Q It's all in the midway?

16 A I believe it's all in the weathered midway,
17 above the contact with the unweathered midway.

18 Q If there is a contact between the Wilcox and
19 the weathered or unweathered midway underneath the
20 property, would you anticipate that groundwater could be
21 present there?

22 A If there is water present there, it would be, I
23 believe, flowing again through the unweathered part of
24 the midway, which would be stratigraphically below the
25 Wilcox.

1 Q So the Wilcox would be above the unweathered
2 portion -- the weathered portion of the midway?

3 A Yes.

4 Q Would water, if it were available in the
5 Wilcox, then tend to drain down into that portion?

6 A You know, the Wilcox in this area, as described
7 in the literature, is similar to the midway in that it's
8 mostly mud stone at the base, meaning it's mostly a
9 clay. And so the likelihood that there's any recharge
10 material in the Wilcox contiguous to the site is pretty
11 low, I think.

12 Q What's the source of water -- assuming it's
13 Carrizo-Wilcox water, in those two water wells, where
14 does that come from?

15 A I would suggest that they are very shallow and
16 that it comes from infiltration from the surface, very
17 near the wells.

18 Q How does it get into the Carrizo-Wilcox if it's
19 not present?

20 A Well, the two wells we talked about are south
21 of 1185 and not on the property.

22 Q You testified a few minutes ago that the
23 geologic map boundaries of these formations are very
24 inaccurate. Is that correct?

25 A Yeah, I'm not sure I used the word

1 "inaccurate," but I'll go with it for the assumption of
2 your question.

3 Q All right. Let me ask it this way, then. Are
4 those boundaries, based upon the literature review,
5 accurate within a hundred feet or 2500 feet? Or how
6 close are they to where the actual geology would be?

7 A I don't think there's any way to know with any
8 precision at all exactly how accurate. I think it
9 would -- the information that we have would not suggest
10 that we know whether it's within a hundred feet or 500
11 feet.

12 Q Okay. Now, there is a way to find out if there
13 is an outcrop of the Wilcox underneath, for example, the
14 easement area of Plum Creek Site 21, is there not? What
15 would that way be? Coring?

16 A Well, that would be a start, but once you core,
17 then you need to interpret what it is you're looking at.
18 So, I mean, presumably, with enough borings and enough
19 other data supporting that, you could determine if there
20 was Wilcox or not.

21 Q Okay.

22 A I suggest that it's probably unlikely that
23 simply by coring you would be able to tell the
24 difference between the mud stones of the midway and the
25 mud stones of the Wilcox.

1 Q Okay. I'll accept that from your perspective.

2 Now, the question is: If there was a
3 discovery through data generation that there was an
4 outcrop of the Wilcox underneath the property boundary
5 of the Hunter tract, would that be important?

6 A Where?

7 Q Let's say it's underneath the area covered by
8 the Plum Creek easement for Site 21.

9 A Well, I guess it depends on where exactly. I
10 mean if it's -- if it is immediately contiguous, it
11 might be important. If you could show that there was a
12 pathway based on the lithology of the material that you
13 found, if you simply drilled and cored and found mud,
14 stone, or clay that could reasonably be considered to be
15 Wilcox, that may not have anything to do with
16 monitoring.

17 Q Okay. Where does the water from the site
18 drain? From the proposed landfill site, where does it
19 drain to?

20 A Are you talking about surface water?

21 Q Yes, sir.

22 A The surface water, to my knowledge, all
23 eventually drains to the Plum Creek Site 21 pond.

24 Q If something gets in there and there is this
25 outcrop -- and I'm making another assumption -- of the

1 Wilcox, wouldn't that be kind of disturbing?

2 A What do you mean by "if something gets in
3 there"?

4 Q If a pollutant is discharged from the site that
5 enters the body of water impounded behind the structure
6 at Site 21, and assuming that there is an outcrop of the
7 Wilcox, is that a problem?

8 A I don't know if that would be a problem or not
9 because I don't know what it is that is in it or what
10 concentrations it was, or as I mentioned a minute ago,
11 what is the pathway. Again, if it's Wilcox clay, then I
12 don't think it would be a problem.

13 Q If Wilcox were sandstone, could it be a
14 problem?

15 A If the Wilcox were a sandstone and you could
16 see that there was a contaminant that got in there, then
17 there's a potential for connection there.

18 Q That was a question that led me to wonder why
19 there is no monitoring of the Wilcox. And your answer
20 is because you're not required to monitor the Wilcox
21 under your interpretation of the TCEQ rules?

22 A No. I think it's -- it's partly that. But
23 it's partly that I don't think we have any evidence that
24 the Wilcox is present on the site, or present on the
25 site in a form that could be monitored, or present on the

1 site in a form that could monitored where we were not
2 previously monitoring any water that came out of the
3 site, out of the groundwater in the site of the midway.
4 In other words, we're monitoring the groundwater that's
5 exiting the site, exiting the facility.

6 Q I understand you're monitoring the groundwater
7 exiting the permitted boundary of the facility. Are you
8 doing that -- proposing to do that?

9 A Are we proposing to?

10 Q Monitor the groundwater as it leaves the
11 landfill area in the -- in the permitted facility?

12 A Yes, at the point of compliance.

13 Q Okay. What about beyond the landfill area, in
14 the permitted facility, are you proposing to monitor any
15 of that groundwater?

16 A Presumably any groundwater that would continue
17 to flow away from the site, we would've already tested
18 it before it got any further away from the site.

19 Q Doesn't that assume that all of the groundwater
20 that you're going to find in the landfill facility will
21 be contained by the engineered structures within the
22 landfill facility?

23 A I think your question just asked me if I
24 thought the groundwater was being contained. Did I
25 misunderstand that?

1 Q Well, let me put it this way. If there is
2 contaminated water -- and this is another one of those
3 definitions. A contaminant at a municipal solid waste
4 landfill, is a defined term, is it not?

5 A Yeah, I think it is. I don't know the
6 definition off the top of my head.

7 Q Okay. Well, I'll represent to you that it is a
8 defined term. And I got into this yesterday because my
9 question is: Is there some water in the landfill that
10 is not within the definition of contaminated water that
11 could still pose a problem if it got loose, because it
12 contains pollutants?

13 A I'm going to -- sorry. I'm going to ask you to
14 repeat that, because I think what you just said was
15 water that was not contaminated, but then at the end of
16 your question, it said contaminated. So...

17 Q There is a specific definition of a
18 contaminated water in the municipal solid waste
19 regulations of TCEQ.

20 A Yes, sir.

21 Q All right. And that is leachate gas
22 condensate, or water coming into contact with waste.
23 That's the definition of contaminated water.

24 A Okay.

25 Q Now, there's -- could there be pollutants in

1 groundwater or surface water from a solid waste facility
2 that are outside the definition of contaminated water?
3 That's my question.

4 A I'm not sure what you're asking, because if --
5 any of the other pollutants were considered to be
6 contaminated, which would meet the definition -- I'm
7 obviously not understanding where you're going with
8 this.

9 Q Yes. And the reason I'm asking these questions
10 is because I'm confused by some of these definitions
11 myself. Because if contaminated water is only leachate,
12 gas condensate, or water that comes into contact with
13 wastewater, that's all that it is, and everything else
14 is defined as uncontaminated water. What do you have to
15 do to test water leaving the site, if it's not
16 contaminated under this definition, to make sure that it
17 doesn't have bad stuff in it, a pollutant?

18 MR. RYAN: I'm going to object to the form
19 of the question. And not to make this any more
20 difficult than it already is, but Mr. Wilson, I think,
21 unintentionally misstated what the definition says when
22 he talked about leachate, gas condensate, or water that
23 has come into contact with wastewater. And the
24 definition doesn't end with wastewater; it ends with
25 "waste." So I'm going to object to the form of the

1 question.

2 MR. WILSON: I'm sorry. I apologize.
3 That it comes into contact with waste. You are
4 absolutely correct.

5 Q (BY MR. WILSON) And my question is: If it
6 doesn't meet that definition under the solid waste
7 rules, it's not contaminated, is it?

8 A I guess not. I'm not really sure what you're
9 talking about. I'm not sure what other contaminant
10 you're referring to that wouldn't be covered by those
11 definitions.

12 Q Okay. Well, I'm going to get into this with
13 the surface people. But you are not the surface guy, so
14 I will avoid that with you.

15 A Thank you.

16 Q Let me ask you another question about your
17 direct testimony. You said that you've never seen a
18 site like this, with very little groundwater available.
19 Is that correct?

20 A A solid waste site.

21 Q A solid waste site.

22 A Yes, sir.

23 Q Are there close-by formations that have similar
24 geologic characteristics to the midway --

25 A Generally -- generally, yes.

1 Q All right. Are you familiar with the uses that
2 are planned for water, for site operations under the
3 Applicant's application if it's permitted?

4 A Only generally.

5 Q Where is the water going to come from?

6 A My understanding is, is that they currently
7 have a Polonia water tap to the site and that they've
8 applied for additional service to the site.

9 Q Were you here yesterday when I asked questions
10 about that?

11 A Yes.

12 Q And my understanding is the Polonia connection
13 to Mrs. Hunter's tract has a -- under their tariff, the
14 standard service agreement, and it's a one-and-a-half or
15 one and 3/4-inch line. Is that correct?

16 A I don't know the details.

17 Q All right. Well, that's what I heard
18 yesterday.

19 And I also heard that they have applied to
20 Polonia, but they have not received a response.

21 A I'm not aware of -- I know that they've
22 applied. I'm not aware if there's been a response.

23 Q Do you even know whether water is available
24 from Polonia?

25 A My understanding has been that Polonia has been

1 receptive to providing water to the site. Beyond that,
2 I don't know any specific details.

3 Q And you don't know whether there's an existing
4 service agreement between EP130 and Polonia Water Supply
5 Corporation?

6 A I don't know.

7 Q Is it necessary to use water during
8 construction of the material -- of berms and things at
9 the site?

10 A I'm generally aware of that. I'm not usually
11 involved in the construction or the design or the
12 management of construction. So I'm generally aware that
13 you need water to do some of those.

14 Q You're not a geotechnical engineer, are you?

15 A I am certainly not.

16 Q All right. Has it been your experience,
17 associated with municipal solid waste sites, that when
18 they construct earthen facilities, they need to add
19 moisture to the soils?

20 A As I said, I'm generally aware of that.

21 Q Have you done a water balance calculation for
22 the water needs and availability for the site?

23 A I have not.

24 Q Do you know if anybody has done that?

25 A I am not aware. I don't know if they have or

1 they haven't.

2 Q Okay. Give me just a second. I'm trying to...

3 On Page 23 of your prefiled testimony, you
4 talked about fracturing. And it begins with a question
5 at Line 29, and you go through there.

6 A Yes.

7 Q And here, you're talking about the nature of
8 the materials of the soils at the site. Is that
9 correct?

10 A Yes.

11 Q Is this what's known to a lot of people as
12 "desiccation cracking of clays"?

13 A Well, the weathering that we talk about in this
14 testimony is partly made up of desiccation cracking.
15 But other fractures may be something other than
16 desiccation cracking.

17 Q At the surface, we're very familiar in our part
18 of the world with these wide cracks that come and go
19 with rainfall and moisture content in the surface of the
20 soil. Is that what you're talking about here?

21 A Well, that's what I was talking about when I
22 said weathered and desiccation crackings. The fractures
23 themselves may be something other than -- they may come
24 from that and/or from structural fracturing.

25 Q All right. The reason I was asking about water

1 sources is, would it be necessary during construction,
2 given these types of soils, to keep them moist?

3 A Again, I'm only generally aware of soil
4 mechanics. But the geotechnical engineer and Mr. Adams
5 could tell you more about because that's what he does
6 for a living.

7 Q All right. Well, I'll ask him about that.
8 Thank you for the suggestion.

9 MR. WILSON: I believe that's all the
10 questions I have on cross-examination. Thank you.

11 JUDGE QUALTROUGH: Thank you. Executive
12 Director, any cross-examination?

13 CROSS-EXAMINATION

14 BY MS. MURRAY:

15 Q Good morning. I'm Kayla Murray, representing
16 the ED.

17 A Good morning.

18 Q I just have a few questions for you.

19 You state in your prefiled testimony that
20 there are no mapped or known faults of any age located
21 within 200 feet of the proposed landfill.

22 A That's correct.

23 Q Just to clarify, does that mean that there
24 could be faults, but you just didn't find any through
25 your analysis?

1 A No, because we did a site walkover and fault
2 study on the site to determine that it's not on the site
3 or within 200 feet.

4 Q What does your site walkover look like? What
5 do you do during that?

6 A Well, we start, and while we don't do maps,
7 transects of the site, we do cover most of the site,
8 usually in a vehicle, but in part on foot. It also
9 includes the perimeters of the site, driving around
10 roads, and other nearby views.

11 Q Okay. On Page 4 of your testimony, the first
12 couple of lines, you state that you've never seen a site
13 for a landfill with better geology and hydrogeology than
14 this landfill.

15 A Yes.

16 Q Can you just tell me what a less ideal landfill
17 would look like, as far as geology and hydrogeology?

18 A Well, first of all, that statement needs to be
19 put in the context of, that the rules pretty much
20 don't -- don't have site restrictions on any kind of
21 site, unless you're in the outcrop of the Edwards or
22 unless you have active faults or unless you're in a
23 seismic impact zone. There's some specific location
24 restrictions, but mostly of the material, there are not.

25 What we're talking about here is that, to

1 the extent that we are going to build a containment
2 system out of the available materials, this material
3 makes excellent liner material. And specifically there
4 is no aquifer -- beyond the definition of the aquifer,
5 there is no mapped or designated aquifer by the State
6 beneath this site. That makes it desirable because that
7 means that the potential for contamination in other
8 deeper aquifers doesn't exist.

9 Q Okay. Thank you.

10 Can you tell me what 130EP-7 is?

11 A 130EP-7, we're speaking of the thing that's in
12 Volume 5, am I correct? Are we talking about same --

13 Q Yes.

14 A Is a supplement that we prepared to detail the
15 findings of the 2016 drilling by us and the Protestants.
16 And it was submitted to TCEQ as a supplement to the
17 application.

18 Q So it's not an amendment; it's a supplement?

19 A It's not an amendment; it's a supplement.

20 Q And whose decision was it to prepare and submit
21 this supplement?

22 A The Applicant and their attorneys.

23 Q And do you know why it was prepared?

24 A Beyond that it was prepared to document what we
25 found in this drilling that was done in this matter, I

1 don't know beyond that.

2 Q Okay. So is it your testimony that the
3 information in this supplement does not affect the
4 conclusions or recommendations that are in attachments E
5 and F of the permit application?

6 A It is my opinion, and I think I stated that in
7 my prefiled testimony.

8 Q Okay. Thank you.

9 MS. MURRAY: Those are all my questions.

10 JUDGE QUALTROUGH: OPIC?

11 CROSS-EXAMINATION

12 BY MR. TUCKER:

13 Q Good morning, Mr. Snyder. My name is Aaron
14 Tucker with the Office of Public Interest Counsel.

15 A Good morning, Mr. Tucker.

16 Q Thank you for being here. I have a few
17 questions.

18 You state in your testimony that on -- why
19 don't you turn to Page 7 -- that you've never had an
20 application denied by the Texas Commission on
21 Environmental Quality that you've worked on.

22 A That's correct.

23 Q Have you ever had an application returned that
24 you've worked on?

25 A Yes.

1 Q What application was that?

2 A That was the application for the Pintail
3 Landfill that was returned last fall.

4 Q And what was the reason for returning of the
5 application?

6 A Following when we were technically complete and
7 while we were preparing for the SOAH hearing, there were
8 record rainfalls pretty much across the state, but in
9 the Waller County area, and water levels rose to as much
10 as 5 feet above the water levels that we had determined
11 during the time of our study.

12 Q And those water levels -- the study on water
13 levels was developed by yourself. Is that correct?

14 A Yes.

15 Q And the levels in the study did not accurately
16 characterize the water levels at the site. Is that
17 correct?

18 A I'm going to quibble with that statement.

19 Q Okay.

20 A The water levels in the study accurately
21 determined the water levels during the period that we
22 studied them. After they were -- after we were
23 technically complete, this happened. Water levels went
24 up. We went back to SOAH and asked to have it referred
25 back to the agency, which was granted by the judges, as

1 I understand, and then TCEQ determined that they were
2 going to return the application.

3 Q For 130 Environmental Park, have you dealt with
4 any rainfall issues that have changed your analysis in
5 the application? Let me restate that. I'm sorry.

6 A Okay.

7 Q Have there been any events that would cause you
8 to reassess the water levels that were included in this
9 application for 130 Environmental Park?

10 A Well, there have been rainfall events that have
11 gone on during that period, since we were technically
12 complete. But unlike Pintail, we have continued to take
13 water levels at the site monthly, even as recently as
14 last month, and we've not found anything that would
15 cause us to reconsider our design or our conclusions.

16 Q And how many times -- and water was observed at
17 how many points?

18 A We had 17 piezometers at the site, and water
19 level was found, at one time or another, in three of
20 them. One of them just briefly. One of them for a
21 period of a year, year and a half, a small water column
22 that eventually dried up. And then one at the southern
23 end of the site, the lowest end of the site, where there
24 has been water throughout the period.

25 Q And that water is what you're referring to as

1 the uppermost aquifer. Is that correct?

2 A That water and any other potential water that
3 would fall or occur in the future, at the interface of
4 the weathered midway and the unweathered midway.

5 Q And those were all on the southern parts of the
6 facility, you said?

7 A When you say "all"...

8 Q You said you found water at three piezometers?

9 A No. There was one on the northeast, which had
10 a small amount of runoff for a brief time. There was
11 one on the northwest that had a little bit more water
12 than that, and it was there for a year, year and a half,
13 and it eventually dried up. And then the one on the
14 south end of the site.

15 Q So water was found at the piezometers that were
16 part of the boring plan. Correct? Sorry. Let me
17 rephrase that.

18 When did you initially drill the boring
19 holes and piezometers?

20 A May I refer to the application?

21 Q Yes.

22 A I think all of the borings were drilled in
23 August and September of 2013.

24 Q When did you submit the boring plan to the
25 Executive Director?

1 A You know what, I don't know if I remember the
2 original submittal date. I know we submitted a second
3 one. If you don't mind, I'll refer to the application.

4 Q Yeah, please.

5 A On Applicant's Exhibit 130EP-4, Page 35, is the
6 boring plan approval letter wherein Mr. Avakian
7 documents the dates, and he says that -- on September
8 4th was the date we submitted it originally, I believe.
9 And then we had responses to comments that he had
10 subsequent to that.

11 Q And it's correct that boring occurred prior to
12 the submission of the boring plan to the Executive
13 Director?

14 A It is correct.

15 Q And all the boring logs have the date that the
16 boring occurred. Is that correct?

17 A Yes.

18 Q Okay. Do you know if the TCEQ rules require
19 the boring plan to be submitted before boring occurs at
20 the site?

21 A Yes. The TCEQ has a rule that suggests that an
22 approval of the plan shall be approved prior to the
23 initiation of the work.

24 Q But that's not what happened in this case?

25 A It is not.

1 MR. TUCKER: No further questions.

2 JUDGE QUALTROUGH: All right. Cross for
3 TJFA, EPICCC?

4 Should we take a break at this point?
5 We've been going since about 9:00.

6 All right. Come back at five 'til 11:00.
7 All right. We're off the record.

8 (Recess: 10:44 a.m. to 11:02 a.m.)

9 (Exhibit Plum Creek Nos. 1.0 through 1.6
10 marked)

11 JUDGE QUALTROUGH: All right. We're back
12 on the record. And we're changing it up a little bit.
13 I think Caldwell County is going to -- cross examine
14 this witness for TJFA.

15 You may proceed.

16 MR. MAGEE: thank you.

17 CROSS-EXAMINATION

18 BY MR. MAGEE:

19 Q Mr. Snyder, how are you?

20 A I'm well. Thank you.

21 Q I'm Eric Magee. I think we've met before.

22 A Yes, sir, we have.

23 Q How are you?

24 A Good.

25 Q So I wanted to first ask you about some

1 questioning that Mr. Wilson asked you about. And I
2 think you identified a map in part one on Page 61. If
3 you wouldn't mind pulling that.

4 A Are you referring to the map entitled "Wells,
5 Springs, and Water Body Location Map"?

6 Q Yes, sir.

7 A I have it.

8 Q And then you have a chart that you were looking
9 at. I believe that was in EP134 on Page 18 -- EP4, and
10 I believe it was on Page 18.

11 A Actually, I think it was on Page 8.

12 Q 8. Sorry.

13 A That's all right.

14 JUDGE QUALTROUGH: I'm sorry. Can you
15 give us --

16 JUDGE BELL: Are you talking about Table
17 E3, Water Wells Within One Mile?

18 MR. MAGEE: Yes.

19 JUDGE BELL: That's 18, Page 18.

20 THE WITNESS: I'm sorry. It's Page 18 of
21 the exhibit.

22 JUDGE BELL: Yes.

23 MR. MAGEE: Right. We're talking about
24 the number in the top right-hand corner --

25 THE WITNESS: I have it.

1 Q (BY MR. MAGEE) You mentioned there were some
2 wells south of the site. Are those the two down here
3 labeled 6703, 603, and 601 at the end?

4 A Yes. Those were the ones that Mr. Wilson had
5 asked me about.

6 Q Okay. And those two are domestic, according to
7 the table on Page 18?

8 A Yes. And that was according to the Water Well
9 Drillers reports that we retrieved from the State.

10 Q So when you look at 67 -- the one with 603 on
11 the end of it, does it appear that that sits on Dry
12 Creek?

13 A It appears that it is located close or on the
14 blue line that I think is Dry Creek.

15 Q And does -- Site 21 Reservoir, is that where
16 water flows into Dry Creek from?

17 A It appears so.

18 Q Okay. And then the two that are east of the
19 site that are on your chart, 302 and 301 --

20 A Yes, sir.

21 Q -- those are also in the Wilcox. Correct?

22 A According to the Water Well Drillers reports
23 that we pulled from the State, yes.

24 Q And they both indicate that they're within the
25 floodplain?

1 A Yeah. I think the floodplain is not
2 specifically marked on here, but I think that is what
3 the cross hatch --

4 Q Those little blue dots or dashes, is that what
5 that's representing?

6 A Yeah, I'm not really sure that I know what that
7 is exactly. But it's something close to the floodplain,
8 I would think.

9 Q Well, according to the legend on the side, it
10 says "surface water body or other water."

11 A Yes, sir.

12 Q Okay. And Mr. Wilson asked you some
13 hypothetical questions about potential contamination or
14 possible contamination, and these are four of the wells
15 that -- if there were any contamination in the Wilcox,
16 that would be affected by that hypothetical
17 contamination?

18 A I guess so. I mean, that was his question.
19 I'm not sure that I -- that I know -- that I understood
20 to answer it well enough, but...

21 Q It's a potential?

22 A To the extent that I know what these are in,
23 you know, the Water Well Drillers report says it's in
24 the Carrizo-Wilcox. It may well be in Alluvium that's
25 in the creek bank and not in the Carrizo-Wilcox. We

1 only represented that that's what we got from the Water
2 Well Drillers Board.

3 Q And then that's what your -- I guess, your seal
4 on the front of Page 6 of this report, actually shows
5 it's just -- you're just spitting out data that you
6 collected somewhere else. Correct?

7 A We're reporting data that we got from a State
8 source, yes.

9 Q Have you done any further inquiry concerning
10 these four water wells to determine whether the State
11 was correct?

12 A No.

13 Q It was either in your deposition or your
14 prefiled; I think you said you've worked on over a
15 hundred landfill projects. Is that correct?

16 A I haven't counted them lately. I may have said
17 those numbers, and that's probably right.

18 Q How many landfill projects have you worked on
19 where there has been a dam that has been labeled "high
20 risk" that has been within the one-mile radius of the
21 landfill project?

22 MR. RYAN: Objection to the form of the
23 question.

24 Q (BY MR. MAGEE) Have you worked on any
25 landfill projects where a dam has been labeled high risk

1 within a "one mile" radius?

2 A I'm not aware that I have.

3 Q Have you worked on any landfill projects where
4 there's been a reservoir in as close of proximity as
5 Site 21 to a proposed landfill?

6 A I'm trying to think back through the years. I
7 know there have been some nearby water bodies. I don't
8 know that I've worked on one where there was a nearby
9 reservoir.

10 Q Okay. And looking at the design of the
11 landfill, how would you describe that? I think
12 yesterday someone described it as "organic." Were you
13 here for that testimony?

14 A Yes.

15 Q Have you -- tell me about landfill projects
16 you've worked on where the design has been similar to
17 this one.

18 A As somebody said yesterday -- and I don't
19 remember which witness it was -- many landfills are
20 designed in a rectilinear fashion, rectangular shapes.
21 I did work on one back in the '90s. The City of Corpus
22 Christi Landfill, which now has a different name. And
23 it -- at the time that I was working on it, it had sort
24 of a curvilinear-type shape. I don't know -- I haven't
25 looked at that in probably 15 years or more, so I don't

1 remember it exactly. But it did have a shape that had
2 been partly designed by a land planner to fit into the
3 surrounding area.

4 Q So besides that one, pretty much all the
5 landfills you've worked on fall within this -- how did
6 you describe it? -- triangular shape?

7 A Rectangular.

8 Q Rectangular?

9 A I'd say most of them are rectangular or pretty
10 close to being rectangular.

11 Q EP4, Page 47.

12 A Okay.

13 Q I think these are the -- it's a map that
14 follows the letter that you had testified to earlier
15 when you were being questioned by someone else. Is this
16 a map that shows piezometers?

17 A It shows both the locations of borings and
18 piezometers.

19 Q I think somebody asked you a question about
20 there was 17 piezometers, and you described that there
21 were three that had water in them.

22 A Yes.

23 Q And you said there was one piezometer that for
24 a brief period of time had some water in it. Do you
25 recall which one that is?

1 A P4.

2 Q No. 4?

3 A P4, which was near the boring BME-4.

4 Q So up in the northeast corner, I guess?

5 A Yes, sir.

6 Q And that's right outside the landfill
7 footprint. Is that correct?

8 A Yes, sir.

9 Q Okay. And then what was the one that had water
10 in it for a little over a year period?

11 A P1 was the one I was referring to.

12 Q And that's the one directly north, I guess?

13 A Yeah. North or northwest of the main waste
14 body.

15 Q And then what was the piezometer that had water
16 throughout the year?

17 A P32 on the south end.

18 Q And does that one still have water in it today?

19 A Yes.

20 Q And how far is that piezometer from the
21 landfill footprint?

22 A I'd estimate approximately 200 feet.

23 MR. MAGEE: I don't have any further
24 questions.

25 JUDGE QUALTROUGH: All right. TJFA?

CROSS-EXAMINATION

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BY MS. PERALES:

Q Good morning, Mr. Snyder.

A Good morning, Ms. Perales.

Q So you and I have met before. Isn't that right?

A Yes, ma'am, we have.

Q And, in fact, I've taken your deposition a few times in this very case. Isn't that right?

A Yes, ma'am, you have.

Q So let's start out by me asking you, can you generally remind us what a seal for a professional geoscientist signifies?

A It stands for, that this was work that was done under my direction and approval, and that I've reviewed all the work, that I've signed, and I'm responsible for it.

Q Thanks.

And do -- you have your seal on the applications geology report. Isn't that right?

A I do.

Q Among other portions of the application?

A Yes, ma'am.

Q So I want to return your attention to your prefiled testimony, Exhibit Snyder 1, and in particular,

1 Page 7.

2 A Okay.

3 Q On about Line 39 of Page 7 -- are you there?

4 A Yes, ma'am.

5 Q Okay. You're asked whether any application for
6 a MSW facility that was sealed or prepared by you was
7 ever denied by TCEQ, and you say, no. Is that right?

8 A Yes.

9 Q But that's not entirely true, is it?

10 A To my knowledge, that's true.

11 Q Well, you testified earlier that you worked on
12 Pintail, didn't you?

13 A Yes. And I responded to Mr. Tucker that that
14 application had been returned.

15 Q Okay. And that was an application for a solid
16 waste facility in Waller County?

17 A Yes, ma'am.

18 Q And the Applicant in that case was also a
19 subsidiary of Green Group Holdings. Is that right?

20 A I didn't hear the last part of your question,
21 I'm sorry.

22 Q Was -- the Applicant in the Pintail case, was
23 that also a subsidiary of Green Group Holdings?

24 A I don't know the legal entity, but it was
25 related to Green Group Holdings.

1 Q Okay. And in that case, the application had
2 already been referred to SOAH for a contested case
3 hearing, such as the one we're in today --

4 A Yes.

5 Q -- right? Okay.

6 And before the hearing was scheduled to
7 commence, you or Pintail requested a remand of the
8 application to the Executive Director. Is that right?

9 A That's my understanding.

10 Q And you prepared an affidavit in support of
11 that request for a remand. Is that right?

12 A I recall that I did. I don't have specific
13 memory of what was in that affidavit.

14 Q Okay.

15 MS. PERALES: May I approach?

16 JUDGE QUALTROUGH: Yes, you may.

17 Q (BY MS. PERALES) So I've handed you a document
18 that's labeled P31. Do you recognize this document?

19 A Yes, I believe I do.

20 Q Can you describe what this document is?

21 A This was a -- an affidavit that I prepared. I
22 don't recall exactly when it was submitted or the
23 purpose for which it was submitted. And in it, it
24 talked about the water levels and the information that
25 we found and suggested -- I think it was in support of a

1 motion to -- to have the application remanded, but I
2 don't know that for sure.

3 Q Okay. But do you recall that the request that
4 was made by either you or Pintail was to have the
5 application remanded to the Executive Director?

6 A Yes, ma'am.

7 Q And that was to allow you to revise the design
8 of the landfill in response to the water level data you
9 had obtained. Is that right?

10 A To the extent that my involvement was to --
11 would've been to revise the water levels and the
12 characterization, and things related to the
13 characterization, presumably others would've been
14 providing some redesign elements of the thing.

15 Q Okay. And just so we're clear, on Page 3 of
16 your affidavit, the first full paragraph, about maybe 10
17 lines down, it states: Based on this new information --
18 and the new information would be the groundwater data.
19 Right?

20 A Yes.

21 Q -- I anticipate that appropriate revisions will
22 be made to the landfill design and the permit
23 application for the Pintail Landfill to, again,
24 demonstrate compliance with the landfill design and
25 permitting requirements in TCEQ's rules, taking into

1 account the recent higher groundwater levels at the
2 site.

3 So that statement talks about a redesign
4 of the -- or revisions to the landfill design. Right?

5 A Yes.

6 Q And among the revisions that you talk about
7 here are revisions to the design of the groundwater
8 monitoring system. Is that right?

9 A Yes.

10 Q And that's in part because based on the new
11 groundwater data that you had collected, the
12 application, as it was pending at SOAH, would not have
13 complied with the TCEQ rules. Is that right?

14 A Yeah, I think that's what my affidavit says.
15 For clarity, the application allowed for water levels --
16 for no construction of the landfill above the water
17 table. So technically, it would not have prevented a
18 permit from being issued regarding that. But it
19 would've prevented some of the excavations, not all, but
20 some of the excavations.

21 Q Okay. So the way that the new groundwater
22 level data was encountered -- well, let me back up.

23 I think I heard you testify in response to
24 Mr. Tucker's questions that in that case, the -- you or
25 Pintail had not been continuously collecting groundwater

1 elevation data. Is that right?

2 A That's true, yes.

3 Q And so it was after the Protestants in that
4 case had requested and obtained approval to access the
5 site that you first went out there. Isn't that right?

6 A That's true.

7 Q So you went out there just before the
8 Protestants went out there to the site and took some
9 groundwater level measurements, and that's when you
10 discovered that the water levels at the site had gone up
11 approximately 5 feet across the site. Is that right?

12 A Yes.

13 Q And these groundwater level measurements were
14 higher than any of the water levels that had been
15 recorded and reflected in the application materials. Is
16 that right?

17 A I think that's true. I'm not sure. There
18 might've been one that was not. But I think in general,
19 that that's true.

20 Q Okay. And you explained to me during your
21 deposition, and I think you also explained today during
22 your testimony, the elevated groundwater levels in your
23 opinion were a result of extraordinary high
24 precipitation events in Waller County between the months
25 of March and June. Is that right?

1 A Roughly, yes.

2 Q And, in fact, those extraordinary precipitation
3 events had followed a long period of drought. Is that
4 right?

5 A Well, I think that wouldn't be a completely
6 fair characterization. We had a long period of drought.
7 And then in 2012, during the period that we took water
8 levels at the site, we had two, three month significant
9 rainfall events that exceeded, from my memory, somewhere
10 around 70 percent of normal --

11 Q Okay.

12 A -- 70 percent above normal. And when we
13 plotted those, we saw that water levels rose in the
14 southern part of the site.

15 Q Okay. So those water -- I'm sorry. Those rain
16 events that you just described, when were those?

17 A In 2012, which was during the period when we
18 were taking water levels that went into the permit
19 application.

20 Q I see. Okay.

21 So what you're saying is that the 12-month
22 period during which you took water level elevations for
23 the purposes of your characterization, that period
24 wasn't all a drought -- a dry period. Is that what
25 you're saying?

1 A Yes.

2 Q Okay. The extraordinary high precipitation
3 events that resulted in the elevated water levels were
4 in March and June of 2013. Is that right?

5 A Yeah. I think it was actually from March
6 through June.

7 Q Okay. You're right.

8 And yet it wasn't until the Protestants
9 were granted access to the site in July that you went
10 out and rechecked those water level elevations. Isn't
11 that right?

12 A Until they asked that, I had no knowledge that
13 the rainfall events had happened at the site. We were
14 technically complete. We had studied it through an
15 18-month period, and we were headed to a hearing. And I
16 don't live at Pintail, so I did not know that the water
17 levels were -- or that the rainfall had happened like
18 that.

19 Q Okay. And as we've discussed, as a result of
20 those water -- elevated water levels that you collected
21 that day that you went out before the Protestants,
22 that's what led to the preparation of your affidavit
23 wherein you acknowledged that because of this newly
24 discovered water level information, Pintail's permit
25 application no longer satisfies TCEQ permitting rules.

1 Is that right?

2 A Yes.

3 Q And so your intent there was to remand the
4 application to allow the Executive Director to allow you
5 to revise the application and the design?

6 A Well, not just specifically me, but the
7 Applicant.

8 Q The Applicant? Okay.

9 And yet, the Executive Director ultimately
10 decided not to grant you that opportunity and instead
11 returned the application. Is that right?

12 A That's my understanding.

13 MS. PERALES: May I approach?

14 JUDGE QUALTROUGH: Yes.

15 Q (BY MS. PERALES) I've handed you a document
16 that's labeled Protestants 32. Have you seen this
17 document before?

18 A Yes, I have.

19 Q Okay. This letter is a letter from the
20 Executive Director to Mr. Kaufmann that basically says
21 that the application is being returned because Pintail
22 got too many bites at the apple. Is that fair?

23 A I don't know what -- I don't know that that's
24 how they characterize it, nor do I really know exactly
25 what went into this letter and their decision.

1 Q Okay. Well, do you want to take a moment to
2 read the second full paragraph in that letter?

3 A Okay.

4 Q So there -- the TCEQ basically -- or the TCEQ
5 staff acknowledges that it spent 1300 hours reviewing
6 the application, found over 400 instances of
7 deficiencies resulting in four written technical NODs,
8 and then despite the significant effort, the application
9 was still deficient. Do you see that?

10 A Yes, ma'am.

11 Q And so that led to the TCEQ's decision to
12 return the application. Isn't that right?

13 A That's what I understand.

14 Q And so ultimately, that application was not
15 approved. Right?

16 A It was not approved.

17 Q You sought approval, but that request was
18 denied, wasn't it?

19 A In the context of the question that was asked
20 me about a permit being denied, this is different, as
21 Mr. Tucker suggested, in that it was returned, which is
22 somewhat different regulatorily than being denied.

23 Q Okay. So in your testimony, you were making a
24 distinction between the return of the Pintail
25 application and an outright denial?

1 A Yes, ma'am.

2 Q Okay. So turning back to Snyder 1, your
3 prefiled testimony, can you turn to Page 17, please.

4 A Okay.

5 Q At about Line 17, you talk about -- you testify
6 about two deep soil borings that were done on the site,
7 and you describe what was shown in those two borings.
8 Is that right?

9 A Yes.

10 Q But back when I took your deposition, I guess,
11 that would've been in the fall of 2015, I asked you if
12 you drilled any preliminary borings in this case, and do
13 you recall what your answer was?

14 A I did not remember that we -- that we had.

15 Q And so you don't recall answering no to my
16 question, did you drill any preliminary borings in this
17 case? You don't recall answering no?

18 A I may have answered no, but then you followed
19 that up, and I think the understanding was, I said,
20 well, I didn't remember that.

21 Q Well, isn't it true that I asked more than once
22 whether there were two sets of borings drilled, two
23 initial borings, and then the rest that were drilled
24 under the soil boring plan, and you responded no?

25 A Ultimately, I responded that I didn't remember

1 that we had.

2 Q Okay. And even if 130 Environmental Park had
3 had two preliminary borings drilled early on, you
4 wouldn't have maintained any field notes or samples or
5 anything that could jog your memory about what those
6 borings showed. Isn't that right?

7 A Well, that's not entirely true. We would've
8 had field logs, that, in fact, we had. And -- and so
9 certainly we would've had those logs to have made final
10 logs had we chosen to do so.

11 Q So for those two borings, you had the two field
12 logs?

13 A Yes.

14 Q And those were prepared by Mr. Stamoulis?

15 A Yes.

16 Q The driller?

17 A Yes.

18 Q Did you make any revisions to those logs?

19 A Not that I recall.

20 Q Were you out there on site during the drilling
21 of those two preliminary borings?

22 A No, I wasn't.

23 Q And then next you talk about -- still on
24 Page 17, you talk about the soil boring plan that you
25 designed. That soil boring plan was submitted on August

1 30th. Is that right?

2 A I thought I read earlier with Mr. Tucker that
3 it said that the State said it was submitted on
4 September the 4th.

5 Q Okay.

6 MS. PERALES: May I approach?

7 JUDGE QUALTROUGH: Yes, you may.

8 Q (BY MS. PERALES) I've handed you a document
9 labeled Protestants -- or P33. Do you recognize this
10 document?

11 A Yes, ma'am.

12 Q Can you describe what it is, please.

13 A This appears to be a copy of the boring plan as
14 originally submitted. The date on it is August 30th,
15 2013.

16 Q Okay. And there is a received stamp on there,
17 isn't there?

18 A Yes, there is.

19 Q Okay. And that says September 4th. Is that
20 right?

21 A Yes, ma'am.

22 Q So that would've been when the TCEQ presumably
23 received it, but it appears you submitted it August
24 30th. Is that right?

25 A Yes, ma'am.

1 Q Are you aware that 130 Environmental Park was
2 not formed or its paperwork was not filed with the
3 Secretary of State until August 20th?

4 A I'm not aware of that.

5 Q Have you reviewed any portion of Part I of the
6 application, the core data form, for instance?

7 A I have not looked at the core data form.

8 Q Okay. Let's look at 130EP Volume 1. Give me a
9 second. I'll direct you to a page here. Let's turn to
10 Page 75. And the tab is 1D, if that helps.

11 A Okay.

12 Q So according to this document anyway, it
13 appears that -- that the paperwork for 130 Environmental
14 Park was submitted to the Secretary of State on
15 August 20th, 2013. Is that right?

16 A That's what it says.

17 Q So do you recall who the client was or who it
18 was you were preparing your soil boring plan for?

19 A My client was HHNT, specifically the client
20 contact was Bill Hodges.

21 Q And how is HHNT or Bill Hodges related to the
22 Applicant in this case?

23 A Well, I think they -- I don't know the specific
24 contractual relationship between them. But I think that
25 they were hired by 130 to represent them and to cause a

1 permit application to be prepared and submitted, in
2 which they hired us as a subcontractor to do that.

3 Q Okay. And HHNT, were they also your client in
4 the Pintail case?

5 A Yes.

6 Q Have they been your client in any other solid
7 waste projects?

8 A None others that have resulted in a permit
9 application being prepared.

10 Q Okay. And when you drilled the two preliminary
11 borings, was that also for HHNT?

12 A Yes.

13 Q So going back to your boring plan submittal,
14 that was dated August 30th, but it wasn't approved until
15 October 10th. Is that right? And you can check your
16 application if you need to.

17 A The letter was dated October 10th, yes.

18 Q Okay. And, in fact, isn't it true there were
19 many revisions to -- or minor revisions, but revisions
20 to the soil boring plan before it was approved?

21 A There were several.

22 Q Okay. And one of those revisions, one that was
23 in response to a request by TCEQ staff, was the addition
24 of language acknowledging that if the soil boring plan
25 needed to be modified, you would first seek approval of

1 the modification. Isn't that right?

2 A I believe so, yes.

3 Q And that language is consistent with TCEQ
4 rules, isn't it? Why don't I refer you to a rule,
5 rather than ask you.

6 A Thank you.

7 Q Can you take a look at 330.63, and it's
8 subsection E4.

9 A Okay. I think I'm there. Specifically where?

10 Q Are you there?

11 A I'm at E4.

12 Q Okay. And does that basically say that the
13 soil boring plan must be approved before initiating soil
14 boring work?

15 A Yes.

16 Q Okay. Yet, by the date of the approval letter,
17 which was October 10th, you had already drilled all of
18 the borings that you intended to drill for this
19 application. Is that right?

20 A I believe that's correct, yes.

21 Q Okay.

22 MS. PERALES: May I approach?

23 JUDGE BELL: (Nods head.)

24 Q (BY MS. PERALES) So I've handed you a document
25 that's labeled P34. Do you recognize this document?

1 A Yes.

2 Q And can you describe it, please.

3 A This appears to be a response letter to TCEQ,
4 notice of deficiency, prepared by me and an attached
5 response to notice of deficiency boring plan.

6 Q Can you speak a little more closely into the
7 microphone.

8 A Sorry.

9 Q That's okay. You were fading off there at the
10 end.

11 So this is a response to an NOD regarding
12 the soil boring plan. Is that right?

13 A That's what it appears -- well -- yes, that is
14 right.

15 Q Okay. And -- well, if we look at the first
16 deficiency noted, it asks for additional information
17 regarding the owner and operator, and in particular
18 Part 1 of the application form. Is that right?

19 A Yes.

20 Q And so -- and you submitted that, that's what
21 this says. Is that right?

22 A That's what it says.

23 Q And so this -- this letter reflects that you
24 were still submitting revisions in response to TCEQ's
25 NODs as of September 16th. Is that right?

1 A This represents that we were responding to
2 mostly administrative comments about the boring plan as
3 of that date, yes.

4 Q Okay. And yet you'd already drilled some
5 borings by the date of this letter. Is that right?

6 A Yes.

7 Q But that's not reflected in -- anywhere in this
8 letter. Is that right?

9 A No. We were specifically responding to the
10 comments.

11 Q And I believe when I asked you during your
12 deposition about why you had drilled the borings before
13 the approval was issued, you explained that the agency
14 never enforces the rule. Is that what you recall?

15 A Well, I recall talking about that. I'm not
16 sure that I was saying that's why we drilled the
17 borings.

18 Q Okay. That's fair.

19 Now, in the -- in the soil boring plan you
20 submitted -- and we can stick with P34. If you look at
21 Page 2 of the revised boring plan.

22 A Okay.

23 Q So that would be the fourth page, I guess, of
24 this document.

25 A Okay.

1 Q There, it states that slug tests -- at the very
2 bottom, "Slug tests will be conducted in selected
3 piezometers." Do you see that?

4 A Yes.

5 Q Did that happen?

6 A No, it didn't.

7 Q Under "Drilling Methods," it also says that all
8 drilling operations will be supervised by a professional
9 geoscientist or engineer who's familiar with the geology
10 of the area and licensed to practice in the State of
11 Texas. Do you see that?

12 A Yes.

13 Q If we go back to the narrative in the geology
14 report in the application, which is -- I know it's E10,
15 but I don't -- let me get the actual Bates number. It's
16 on Page 20 of 130EP-4.

17 A Okay. I'm there.

18 Q So this -- near the top of that page, it states
19 that all drilling was supervised by you. Is that right?

20 A Yes.

21 Q And during your deposition, I believe you
22 explained to me that you were out on the site two or
23 three times while the drilling operation was occurring.
24 Is that right?

25 A That's correct.

1 Q And sometimes you weren't out there all day.
2 Is that right?

3 A Yeah. I think I did say that. I don't
4 remember at this point, when I was or wasn't out there
5 all day.

6 Q And at the time of the deposition anyway, you
7 couldn't recall how many drilling rigs were out there.
8 Is that right?

9 A On the days that I was there or at all?

10 Q At all.

11 A I don't remember that. There were certainly
12 times when there were two drilling rigs out there.

13 Q Okay. And initially when I asked you if all
14 operations were supervised by you, "Supervised" by you,
15 you asked me, "What does that mean exactly"? Do you
16 recall that?

17 A I asked you what that means?

18 Q Yes.

19 A I don't recall that. I'm sorry.

20 Q Okay. But ultimately, you said that the
21 drilling was done under your direction. Is that right?

22 A Yes.

23 Q And what you meant by that is that you talked
24 on the phone frequently to the guys that were out in the
25 field. Right?

1 A Well, at least that. I made site visits. I
2 talked with them on the phone. Mr. Adams went out there
3 nearly every week, and we communicated about what he
4 saw, and I directed the activities.

5 Q Okay. During these conversations and phone
6 calls, you're not taking any notes. Is that right?

7 A I would say generally not. I don't know that I
8 didn't scribble something somewhere, but generally not.

9 Q Okay. The one person during these drilling
10 operations who was taking notes or recording something
11 on paper was the driller, Mr. Stamoulis. Isn't that
12 right?

13 A That's correct.

14 Q And to be clear, when Mr. Stamoulis is out on
15 the field, drilling these borings, he's out there as a
16 driller and logger. Right?

17 A Well, he was in this case. I'm not sure that's
18 always the case. But he is a licensed professional
19 geologist. In this case, he was hired by us to be a
20 driller and a logger.

21 Q Right. And that's his understanding too,
22 right, based on his deposition testimony, that he was
23 not out there as a professional?

24 A I think he testified to that.

25 Q Okay. Now, the field logs that he created,

1 those would have been just his observations of the
2 lithology as he observed them out in the field. Right?

3 A Well, it would've included -- other than just
4 lithologic observations, it would've included the
5 depths, the sample numbers, the dates, the name of the
6 site, administrative kinds of things like that.

7 Q Okay. But as far as the lithology that's
8 recorded, it's only based on his observations out in the
9 field. Right?

10 A In his logs, that's correct.

11 Q Okay. And that's because he didn't have the
12 benefit of the lab testing that was later done. Is that
13 right?

14 A Well, among other things. For instance, his
15 general instructions from us are to take the sample, to
16 wrap and preserve it, and to briefly describe it. We
17 ask him generally -- it's not that he never does it --
18 but generally to describe what he sees without damaging
19 the samples so that we can look at it. So it not only
20 doesn't include the lab testing, it also doesn't include
21 him examining very much of the internal structure or the
22 fabric of the material.

23 Q Okay. And Mr. Stamoulis didn't take any photos
24 during the drilling operations. Isn't that right?

25 A He didn't take any photos while drilling that

1 I'm aware of. I believe that he took photographs of the
2 piezometers when they were completed.

3 Q But he didn't have any photos of any samples.
4 Is that right?

5 A That's correct.

6 Q After the samples were collected in the field,
7 Mr. Adams, who we haven't heard from yet, but who was
8 the geotechnical engineer in this case -- Mr. Adams, for
9 the most part, was in charge collecting the samples. Is
10 that right?

11 A Yeah, I'm not sure that he was in charge of it.
12 He did collect a lot of the samples and brought them
13 back to our office. I'm not sure that he collected all
14 of them.

15 Q Okay. Some of those -- well, to be clear,
16 there was no written chain of custody that was collected
17 for the samples. Is that right?

18 A That's correct.

19 Q Okay. And some of the samples that were
20 collected by Mr. Adams were sent directly to the lab
21 from the field. Isn't that right?

22 A I'm not sure of that.

23 Q You don't recall whether some of the samples
24 went directly to the lab?

25 A I don't -- I don't know if they went directly

1 to the lab or if they came back to our office and went
2 to the lab, which is close to being the same thing,
3 because they might've brought them back to the office,
4 and we may have looked at them and sent them to the lab
5 the same day. I just don't remember.

6 Q Is the lab in the same building as your office?

7 A No. But the laboratory people that we
8 employ -- we contract with people that are in our
9 office.

10 Q Okay.

11 A Not in our office. I'm sorry. In our
12 building.

13 Q In your building.

14 In any event, you were not part of the
15 process of selecting the samples to be sent to the lab.
16 Is that right?

17 A I don't know that I wasn't part of any process
18 in the original borings. I think certainly there were
19 some that Gregg selected, and I think Gregg was the
20 primary -- the primary decider of what was going to be
21 sent to the lab.

22 Q Okay. Mr. Stamoulis' field logs, were those
23 brought back to the Biggs & Matthews office with any
24 samples that had not yet been sent to the lab?

25 A Well, all the field logs would've been brought

1 back to the office. Whether there had been stuff sent
2 to the lab or not, yes, they all came back to the
3 office.

4 Q Okay. And then any samples that did not go
5 directly to the lab from the field, those were also
6 brought back to your office?

7 A Yes.

8 Q And is there also a storage facility where some
9 of those samples are sent?

10 A Yes.

11 Q Do you recall whether continuous sampling was
12 done?

13 A From a geotechnical standpoint, there were --
14 it was not continuous. Below depths of approximately 50
15 or 60 feet where they did intermittent sampling,
16 sometimes geologically we refer to that as continuous,
17 but geotechnical engineers would not.

18 Q Okay. So the original -- the field logs that
19 Mr. Stamoulis created and then that were sent to your
20 office, those don't exist anymore. Is that right?

21 A To my knowledge, they don't exist.

22 Q And, in fact, they were -- they were destroyed
23 before the application was even declared technically
24 complete. Isn't that true?

25 A Since I'm not sure exactly when they were

1 destroyed, I guess I'm hard pressed to know exactly.
2 But in accordance with our normal policy, field logs --
3 once the final logs have been produced, field logs are
4 destroyed because they don't reflect what the final log
5 reflects, and we don't like to have them in our files.

6 Q Okay. So when those final logs were prepared,
7 presumably the original logs were destroyed?

8 A I'm sorry. Could you repeat that?

9 Q When the final logs were prepared, that's when
10 the field logs would've been destroyed. Is that right?

11 A Or soon thereafter.

12 Q Okay. And to create those final logs, I
13 believe what you described to me was that you first
14 compare the logs, the field logs, to the samples
15 themselves that were brought back to your office. Is
16 that right?

17 A Well, certainly we do that.

18 Q Okay. And in this case, Mr. Adams looked at
19 way more of the samples than you did. Isn't that right?

20 A Mr. -- Mr. Adams looked at more samples than I
21 looked at. I don't know that I would say way more, but
22 I don't really have a number.

23 Q Well, do you recall whether Mr. Adams looked at
24 more samples than you did?

25 A I presumed that that was true. We didn't count

1 up and decide how many were looked at by either one.

2 But --

3 Q Okay. And those samples were just the ones
4 that were brought back to your office. Isn't that
5 right?

6 A I'm not sure what you mean by that.

7 Q So the samples that went directly to the lab
8 from the field, you're not able to look at those and
9 compare them to the field logs. Isn't that right?

10 A That's true. Although, I don't know if --
11 there may have been samples that were partial returned
12 from the lab that I may have looked at. I don't
13 remember that, but it's possible.

14 Q Okay. Then based on the observations by
15 Mr. Adams, and you too in some cases, those logs are
16 marked up, and lab tests are assigned to some of the
17 samples. Isn't that right?

18 A Yes.

19 Q And then once the lab results get back to
20 confirm the material, then you or Mr. Adams begins
21 preparing the final log. Is that right?

22 A Yeah. Usually both of us participate in that
23 at some point.

24 Q Well, those lab results, the actual lab
25 reports, those are reviewed by Mr. Adams. Isn't that

1 right?

2 A That is right -- well, wait. I'm not saying I
3 never look at the lab reports, but it's primarily his
4 responsibility.

5 Q Okay. And we looked at some of those reports
6 from the 2016 lab results during one of your
7 depositions. Isn't that right? Do you recall that? I
8 asked you about some of the dates on the report and --

9 A Yes, I --

10 Q -- you weren't familiar?

11 A Yes, I remember that.

12 Q You weren't familiar with those reports at all.
13 Right?

14 A I wasn't familiar with the administrative part
15 of the reports, about what those things meant or what
16 the dates meant or when they were assigned.

17 Q Okay. So -- so who is it that's reviewing and
18 noting the secondary features from the samples on the
19 logs? Is that you or Mr. Adams?

20 A Both.

21 Q So he's also noting secondary features?

22 A Yes.

23 Q And that's because Mr. Adams looked at many of
24 the samples that you didn't look at. Isn't that right?

25 A Well, I think I've said that he looked at more

1 samples than I did. I'm, again, not sure of the --

2 Q Okay. But Mr. Adams, he's not a geologist, to
3 be clear. Is that right?

4 A He's not a geologist. That's a true statement.

5 Q So I'm going to return your attention to the
6 narrative portion of the geology report, and in
7 particular Page 22.

8 A I'm at Page 22.

9 Q Starting at the bottom of Page 22, we have a
10 description of Stratum II, and it's described as "silty
11 fat clay." Isn't that right?

12 A Yes.

13 Q And you also note -- and it might be on the
14 next page. You note that there was no evidence of
15 fracturing through -- that slickenside was observed in
16 one boring. Is that right?

17 A Yes, we did not encounter any fractures in the
18 material that we drilled in 2013.

19 Q And when you say "we did not encounter any
20 fractures," are you referring to yourself and Mr. Adams?

21 A Yes.

22 Q And do you recall who it was that observed the
23 one slickenside?

24 A I don't know whether he did or not. I presume
25 he did. I did for sure.

1 Q You did?

2 A Yeah.

3 Q If I had any questions about lab analyses or
4 samples that were sent to the lab, should I -- are those
5 better addressed by Mr. Adams?

6 A I think so.

7 Q So the borings, were those drilled with --
8 well, tell me, how, the borings drilled.

9 A Which borings?

10 Q The borings for the geology report in the
11 application.

12 A The 2013 borings?

13 Q Yes, the technically complete geology report.

14 A We used a mud rotary rig. We pushed Shelby
15 tubes and occasionally split-spoon samples, and we
16 eventually introduced water when we reached some level
17 of refusal. And other -- before that, they were drilled
18 without water primarily because I was interested in
19 seeing if we encountered any water.

20 Q When you say you were interested in seeing if
21 you encountered water, do you mean whether Mr. Stamoulis
22 encountered water?

23 A Yeah, well, I guess I was meaning whether the
24 borings encountered the water. But, yeah, Mr. Stamoulis
25 was the one on site.

1 Q So you said mud rotary, and what you described
2 was really, you had, I guess, air rotary until drilling
3 fluid was added. Is that right?

4 A Yeah. I should explain a little bit, that I
5 think the terminology that you just used is not one that
6 I agree with. When we use air rotary, it's when we
7 actually have an air compressor on the site. So when I
8 said we drilled without water, that didn't mean we were
9 using an air compressor. So...

10 Q Okay. I was just going off the deposition
11 transcript. And so --

12 A Okay.

13 Q Maybe --

14 A I should have clarified in the deposition about
15 that.

16 Q Okay. So you didn't mean air rotary?

17 A No.

18 JUDGE QUALTROUGH: Ms. Perales, could you
19 be looking for a place to break for lunch. You don't
20 have to do it now but --

21 MS. PERALES: We could break now because I
22 am about to start going through the logs, and it would
23 be a natural breaking point.

24 JUDGE QUALTROUGH: Do you want to ask any
25 final questions on this before we break?

1 MS. PERALES: No. I'm actually about to
2 go through the boring logs, so this is good.

3 JUDGE QUALTROUGH: Okay. Good. All right
4 then, we are going to break for lunch. We'll be back at
5 1:00 o'clock. All right? Is that okay with everyone?
6 All right. This hearing's adjourned for now.

7 (Exhibit Caldwell County Nos. 6 through 9
8 marked)

9 (Exhibit Protestants No. 36 marked)

10 (Lunch Recess: 12:12 p.m. to 5:01 p.m.)

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1 AFTERNOON SESSION

2 TUESDAY, AUGUST 16, 2016

3 (1:00 p.m.)

4 (Exhibit Protestants Nos. 37 and 38
5 marked)

6 (Exhibit Applicant Nos. 22 and 23 marked)

7 JUDGE QUALTROUGH: All right. We are back
8 on the record, and we'll resume with the
9 cross-examination from TJFA and EPICC. You may proceed.

10 MS. PERALES: Thank you.

11 PRESENTATION ON BEHALF OF THE APPLICANT (CONTINUED)

12 JOHN MICHAEL SNYDER, P.G.

13 having been previously duly sworn, testified as follows:

14 CROSS-EXAMINATION (CONT'D)

15 BY MS. PERALES:

16 Q Good afternoon, Mr. Snyder.

17 A Hi, Ms. Perales.

18 Q So just before we broke, we were talking about
19 the borings. And I want to -- well, first of all, how
20 many -- can you remind us how many borings were drilled
21 for the application?

22 A 32.

23 Q And can you explain -- so you talked about the
24 type of drilling that was used, but can you explain how
25 that is done, how the drill goes in and creates the

1 hole, and then how the sampling apparatus takes the
2 sample?

3 A Well, the -- to the extent that I'm going to be
4 able to tell you the drilling apparatus, we sample -- we
5 drill with a rotary tool, inside which we have a sample
6 tube, which we push Shelby tubes, which are
7 approximately 2-foot-long thin-walled tubes that advance
8 the hole with that. And then typically then you ream
9 the hole to the next inner boring and push that tube.

10 Sometimes we use split spoons. Split
11 spoons are typically used in the sandstone environments
12 because they are -- they use standard penetration tests,
13 and that's a tool where they actually use a type of
14 hammer to hammer the tool down into the formation.

15 Q So when the bore hole is advanced -- so you
16 take a sample, I think you described, a 2 foot?

17 A Approximately 2 feet.

18 Q So then you pull that out. Right?

19 A Yes.

20 Q And then you drill a little deeper beyond that
21 2 feet to advance the borehole. Right?

22 A Well, when we're sampling continuously, you --
23 the sample tube has about a -- has about a 2-inch
24 diameter. And so when you push the tube, that's all the
25 bigger the hole is. So then you ream it out with the --

1 with the -- the drill tube down to that 2-foot depth.
2 Then if we're doing it continuously, then you push the
3 tube from that point.

4 Q Okay. So you -- okay.

5 Are you removing any cuttings between
6 sampling?

7 A There would be cuttings that come up when you
8 ream the hole.

9 Q Okay. And if there -- if there are any gravels
10 in the shallower or closer to the surface, is it
11 possible that those would be falling into the hole?

12 A That is possible. It's possible that you --
13 that one could push gravel or pebbles down, which is why
14 we set a shallow casing through that interval so that
15 when we came in and out of the hole, we would not be
16 pushing pebbles down.

17 Q So you mention that sometimes you used Shelby
18 tubes and sometimes you used split spoons. Is that
19 right?

20 A Yes.

21 Q So do you know whether during the 2013 drilling
22 operation, whether there were any Shelby tubes that were
23 bent?

24 A I didn't personally witness any. It wouldn't
25 surprise me. I know in 2016, there were Shelby tubes

1 that were bent and then were reused even in their bent
2 state, so --

3 Q So how would -- how would we or anyone know
4 whether Shelby tubes were bent during the sampling
5 process?

6 A I don't know that you would know, nor do I know
7 if it would be important to know.

8 Q Okay. It's not something that you consider
9 in -- in characterizing the subsurface geology?

10 A It's not something that I considered in this
11 case when I looked at the samples.

12 Q Okay. So of the 32 borings -- is 32 the right
13 number -- is it 32 borings? Is that right?

14 A Yes, ma'am.

15 Q Of the 32 borings, how many of those boring
16 locations were piezometers installed at?

17 A At 17 -- well, there were 17 piezometers.
18 There were a couple of them that were -- a shallow and
19 deep were installed, so I don't know the exact number of
20 locations.

21 Q Okay.

22 A I could count them, but...

23 Q So when you say they were "shallow and deep,"
24 you mean that there were actually two piezometers
25 installed at one boring location, a shallow one and a

1 deep one. Is that right?

2 A Yes. That's what I intended to say, yes.

3 Q Okay. I'm just making sure I understood it.
4 And in the application, we have logs for all of those
5 piezometers. Is that right?

6 A Yes.

7 Q If we look at the logs for the piezometers,
8 those basically mirror the boring logs that are for the
9 borings that are right next to the piezometers. Is that
10 right?

11 A Yes. I think I -- as I recall explaining in
12 deposition, that I used the lithologies from the
13 original boring because those were actually sampled.

14 Q Okay. And the piezometers, they're -- well,
15 the piezometers that have -- let's say, just to use an
16 example and make sure we're being sort of clear here, if
17 we have a boring labeled as BME-05 and a piezometer was
18 installed in the general vicinity of BME-05, then it
19 would be labeled P5. Is that right?

20 A I believe that's correct, yes.

21 Q Or if it was a shallow one, it might be P5S?

22 A Something like that.

23 Q Okay. And so when you say that you use the
24 boring logs for the piezometer logs, what you're saying
25 is that you would have taken the log for BME-5 in my

1 example and reproduced it for Piezometer P5. Is that
2 right?

3 A Generally, that's right. Okay.

4 Q And were you on site during the -- the drilling
5 and installation of the piezometers?

6 A I don't recall that I was.

7 Q And so do you recall whether there were any
8 field logs created by Mr. Stamoulis as he drilled the
9 piezometers?

10 A Sorry.

11 Q That's okay.

12 A There were field logs for the piezometers, and
13 there were as-built field logs for the piezometers.

14 Q Okay. And the as-built, are you talking about
15 those that were submitted to the regulatory agency?

16 A No. That's a third one.

17 Q Okay. All right. And the logs that were
18 created were edited by you or Mr. Adams so that they
19 would match the final boring logs. Is that right?

20 A Yeah. I think I did all the editing of the --
21 the logs had been edited by the time I created the
22 piezometer logs so that --

23 Q The boring logs had been edited. Is that what
24 you mean?

25 A Yes. The boring logs had been created prior to

1 the creation of the piezometer logs.

2 Q And the reason that the final piezometer logs
3 were revised to match the boring logs is because by that
4 point, you had the benefit of the observations from your
5 lab testing for the boring samples. Is that right?

6 A That is true, but the reason is twofold. One
7 is that when we drill piezometers, all we are looking at
8 is cuttings --

9 Q Uh-huh.

10 A -- to confirm what we saw on the boring so we
11 knew where to set the piezometer. So the actual
12 sampled -- looking at the hard sample, not cuttings,
13 seemed to me to be a better -- better way to indicate
14 what -- where we were and what we had.

15 Q Okay. And to be clear, when you say
16 "cuttings," that -- you're talking about what -- you're
17 talking about a different drilling method for the
18 piezometers. Is that right?

19 A Yes.

20 Q So for the piezometers, you used wet rotary --
21 augering with wet rotary, and so that's why you ended up
22 with cuttings. Is that right? Am I getting that right?

23 A I'm thinking through what you just said. I
24 think that's right.

25 Q Okay. And so it's because you have those

1 cuttings that you would prefer to rely on the boring
2 logs to describe the lithology in the piezometer logs,
3 but you don't want to rely on the cuttings. Is that
4 right?

5 A Well, certainly we relied on the cuttings to
6 identify when we got to the top of the dark gray clay,
7 which is where -- near where we were setting the
8 piezometers. So we rely on the cuttings, but in terms
9 of a more full description for -- for the final log, I
10 just thought it better to use the -- the nearby sampled
11 versions.

12 Q Okay. And that's my question, is for the logs,
13 you're relying on the borings because those had been --
14 the samples had been lab tested versus relying on the
15 cuttings that you were getting from the piezometers?

16 A Not just lab tested. I'm sorry. I didn't mean
17 to speak over you.

18 Q Sure. No. That's fine.

19 A Not just lab tested, but actually looked at
20 samples of an intact fabric of sample that came out of a
21 Shelby tube or a split spoon as compared to simple
22 cuttings.

23 Q Okay. So can you turn to Page 132 in 130EP-4?

24 A Okay.

25 Q And this is an example of a log for a

1 piezometer. Right?

2 A Yes.

3 Q And so what we've been talking about is that
4 this piezometer log was -- was revised so that it
5 matches the boring for BME-07. Right?

6 A Yes.

7 Q So down between 30 and 35 feet at that
8 interval, there's a note that says "silts partings." Do
9 you see that?

10 A Yes.

11 Q And that observation of silt partings, that
12 would have been an observation from the boring, not the
13 piezometer?

14 A Yes, it would.

15 Q Okay. So let's see. I'm going to keep you in
16 that general portion of the application, but turn your
17 attention to Page -- Page 54.

18 A Okay.

19 Q And Page 54, this is a log for boring BME-02.
20 Right?

21 A Yes.

22 Q And if we look at this log, it appears that any
23 samples that were collected up to -- at least up to
24 maybe -- is it 70 feet that there -- there was no lab
25 sampling. Is that right?

1 A That's correct.

2 Q At least there's none reflected on this boring
3 log. Is that right?

4 A I believe that's correct.

5 Q So does that mean that there were no samples
6 that were selected from -- from this boring at least up
7 to 70 feet that were sent to a lab?

8 A I haven't checked the lab tests, so I can't say
9 for certain, but apparently not.

10 Q Okay. And that -- is -- is it your intent
11 to -- yours and Mr. Adams' intent to include all lab
12 results in these boring logs for any samples that were
13 sent to a lab?

14 A It is.

15 Q Okay. So if it -- unless there was a mistake
16 made, if it's not reflected here, then it wasn't sent to
17 the lab?

18 A I believe that's correct.

19 Q Do you have any knowledge as to why there were
20 no samples selected from BME-02 -- why there were no
21 samples sent to the lab?

22 A I think Mr. Adams can probably more
23 specifically answer that, but I can generally answer.
24 Our process is to try to characterize the subsurface
25 strata. And so there are times when we say, "Look, I've

1 got tests over here and I've got tests over here, and
2 this material seems to be the same." And it reasonably
3 can be characterized by that.

4 Q Okay. Now, earlier I asked you whether you
5 recalled if the field logs and samples had been
6 destroyed before the application was declared
7 technically complete. And -- and I think that you --
8 you couldn't say for sure. Is that right?

9 A Yeah. I don't know the dates.

10 Q Okay. So I've handed you a document that's
11 labeled P-36. Do you see that?

12 A Yes.

13 Q Do you recognize this document?

14 A Yes, ma'am.

15 JUDGE QUALTROUGH: We don't have that.

16 MS. PERALES: Oh, sorry about that.

17 JUDGE QUALTROUGH: That's okay.

18 (Pause in proceedings)

19 Q (BY MS. PERALES) So can you describe what
20 P-36 is?

21 A P-36 is a copy -- appears to be a copy of a
22 letter that I was copied on, a letter that you wrote to
23 Ernest Kaufmann of 130 Environmental Park, and I was
24 copied.

25 Q And this letter basically asks that all

1 evidence, original logs, field notes, and samples be
2 preserved. Is that right?

3 A Yes.

4 Q And the date of this letter is March 20th,
5 2014. Right?

6 A Yes.

7 Q And by the time you received this letter, had
8 all of the original field logs, field notes, and samples
9 been destroyed?

10 A At the time of this letter, the field notes had
11 been destroyed because final logs had been produced. I
12 can't say for sure about the samples. At some point, I
13 went and checked for samples, and the vast boxes of
14 samples that were there were no longer there. I -- I
15 don't remember exactly when that was. So it was
16 sometime after this, but I just don't remember when.

17 Q Okay. And the application was declared
18 technically complete on October 28th, 2014. Right? Is
19 that right?

20 A I don't remember. I can look at that.

21 Q If you can look at the date that's at the very
22 corner of any of the documents in the application, do
23 you see it?

24 A No.

25 Q Maybe Page 54 if you're on that page. That's

1 just --

2 A October 28th, 2014.

3 Q Okay. So if the field logs and original notes
4 had been destroyed by the time of my letter, March 20th,
5 2014, then that means they had been destroyed before the
6 application was declared technically complete. Isn't
7 that right?

8 A As I suggested, the -- for sure the field notes
9 were gone by then. At some point after your letter, the
10 samples were gone. When I checked the storage unit, the
11 samples were gone. I don't remember what the date of
12 that was.

13 Q Okay. So I'm going to direct your attention
14 now to 130EP-7.

15 A Okay.

16 Q And in particular, I'm looking at Page 9.

17 JUDGE QUALTROUGH: What volume are you in?

18 MS. PERALES: Volume 5. I took mine out.

19 Is it Volume 6?

20 MR. MAGEE: What page is it?

21 MS. PERALES: Page 9. Okay. So Volume 5,
22 130EP-7, and I'm on Page 9.

23 Q (BY MS. PERALES) Are you there? Are you with
24 me?

25 A Yes. I'm sorry.

1 Q Okay. So if we look at this and you -- and
2 you've described this as a supplement. Is that right?

3 A Yes.

4 Q And to be clear, this was submitted after the
5 Executive Director had declared the application
6 technically complete. Right?

7 A Yes.

8 Q So -- and after the technically complete
9 application had already been referred to SOAH. Is that
10 right?

11 A Yes.

12 Q And according to the narrative in the
13 supplement, you note about in the first full paragraph,
14 the only full paragraph, towards the end, you note that
15 there -- you observed 19 fractures during the 2016
16 borings. Is that right?

17 A Yes, ma'am.

18 Q And were those fractures -- did you personally
19 observe those?

20 A I did.

21 Q Okay. And you also note that in 2013 you had
22 observed no fractures. Is that right?

23 A That's right.

24 Q Did that seem unusual to you?

25 A No.

1 Q If you had had the 2013 samples, if they had
2 been preserved and you still had them in your office or
3 in a storage facility, would this discovery have caused
4 you to want to go back and look at those?

5 A It's unlikely because each of those borings is
6 separate places. And I think it would be fair to
7 describe what we found in 2016, which was about half of
8 those fractures we found east of the site in areas where
9 we hadn't drilled before. And in one boring that was on
10 the site, we found a collection of fractures that we
11 hadn't seen anywhere -- in fact, hardly even on the
12 stuff east of the site.

13 Beyond that, there were a couple of
14 borings where we found either one or two fractures next
15 to a boring where we found no fractures.

16 Q Uh-huh.

17 A The occurrence of fractures is -- is a bit hit
18 and miss in a weathered zone like this. So it did not
19 seem unusual to me.

20 Q So -- and you used the term "hit and miss."
21 That's also how you described the plan that you came up
22 with for the boring locations in 2016. Isn't that
23 right? Kind of hit and miss?

24 A I don't remember using that term, but if -- if
25 you say that I did, I -- I believe you.

1 Q Okay. Well, the way that the boring locations
2 were selected for your 2016 work, would you agree that
3 it was hit and miss?

4 A Maybe it would be fair for me to describe what
5 it was.

6 When the time came that you guys and
7 everybody had agreed that the -- that the Protestants
8 were going to go and drill, at that point, a discussion
9 was had, if they're going to drill, are we going to
10 drill where they drill. And so we decided at some point
11 that that's what we would do. The timing of that was
12 such that our client requested that we go ahead and
13 drill and not wait for you to drill.

14 So when we drilled locations. I -- I
15 don't know about the term "hit and miss." We were
16 trying to anticipate where you might drill so that we
17 had a boring nearby.

18 Q Okay. And to be clear, you did not confer with
19 TCEQ staff about revising your boring plan or
20 supplementing your initially approved boring plan.
21 Isn't that right?

22 A We did not.

23 Q Okay. And do you recall how many days
24 Mr. Stamoulis was out there drilling the borings in
25 2016?

1 A Not off the top of my head.

2 Q But you were there about two days. Is that
3 right?

4 A Something like that.

5 Q Do you recall in 2016 whether you revised any
6 of Mr. Stamoulis's initial logs?

7 A Certainly, we did.

8 Q And do you still have Mr. Stamoulis's initial
9 logs?

10 A I think we do.

11 Q So you're able to go back and compare and see
12 where exactly you made those revisions?

13 A Theoretically, we could.

14 Q And do you still have the soil samples?

15 A Yes.

16 Q And you also took photos in 2016, didn't you?

17 A We did.

18 Q So you could also go back and verify the final
19 logs by looking at those soil samples or those photos.
20 Isn't that right?

21 A Because we have soil samples, I probably
22 wouldn't do any verification with photos, but --

23 Q Right. But it's another back-up measure that
24 you have should the samples get destroyed again.

25 A I'm not sure what you're asking me there. I'm

1 sorry.

2 Q The photos are helpful in that regard, aren't
3 they? That you can go back and --

4 A Photos -- we don't use photos as a normal
5 process. We did in this case.

6 Q Okay.

7 A Because we knew that you guys -- we anticipated
8 that you would be asking for parts of our sample. Maybe
9 parts that we hadn't been able to test and would never
10 be able to look at again. So we decided to take
11 photographs. It's not part of our normal procedure.

12 Q So you were concerned that you would not be
13 able to test some of the samples you collected? Is that
14 what you said, or did I misunderstand?

15 A No. At the time when all this was going on --
16 and some of this may have been my misunderstanding of
17 it. But my understanding was that -- that we were going
18 to split samples and that we were all going to be
19 sitting across the table looking at samples and say, I
20 want to test that. And I -- I actually thought we would
21 be able to examine and maybe test anything other than
22 just what you tested.

23 Q Uh-huh.

24 A And so it -- accordingly, I thought that's what
25 you guys were going to do, too. The decision about all

1 the sample splitting that happened amongst the lawyers
2 and the judges was maybe not completely in accordance
3 with how I thought maybe it was going to go.

4 Q Okay. And, you know, to be fair, I wasn't sure
5 about whether we were going to get your -- split your
6 samples either. So I think we were all going to --

7 MS. PERALES: May I approach?

8 JUDGE QUALTROUGH: Yes, you may.

9 MS. PERALES: Now I think 37 and 38 should
10 be here.

11 THE REPORTER: Yes.

12 Q (BY MS. PERALES) So you've been handed two
13 documents. One labeled P-37 and one labeled P-38. Can
14 you take a look at those and see if you recognize them?

15 JUDGE BELL: Ms. Perales, we only have 37.

16 MS. PERALES: You're good.

17 JUDGE BELL: Oh, okay.

18 JUDGE QUALTROUGH: So this is going to be
19 37.

20 MS. PERALES: That's 37. Yes.

21 Q (BY MS. PERALES) So have you had a chance to
22 look at these?

23 A Yes.

24 Q Do you recognize them?

25 A I do.

1 Q Can you start by describing what P-37 is?

2 A Those are a collection of some of the final
3 logs from the Pintail permit application.

4 Q And so these are the final logs that were
5 included in the technically complete application. Is
6 that right?

7 A Yes.

8 Q Okay. And then P-38, can you describe what
9 that is?

10 A P-38 is a collection of field logs from
11 Mr. Stamoulis, also on the Pintail project.

12 Q So earlier we were talking about field logs
13 related to this -- to the 130EP project. I asked you a
14 series of questions about field logs that Mr. Stamoulis
15 would have created. Is P-38 an example of the types of
16 field logs that Mr. Stamoulis generally creates?

17 A Yes.

18 Q So this is where he would have documented his
19 observations during the drilling operations. Is that
20 right?

21 A Yes.

22 Q Okay. Can you turn to -- on P-38, log of
23 boring BME-A5, and the small Bates number in the
24 right-hand corner would be PIN018828.

25 A That's the bottom part of that log.

1 Q Okay. So that's the bottom part of the boring.
2 Is that right?

3 A Yeah. The -- 18A27 is the -- is the first
4 part.

5 Q Uh-huh.

6 A Actually, it's the middle part. And the 18A28
7 is the last -- Page 3 of the bore.

8 Q Okay. So that is where we would find
9 documentation of the subsurface in the bottom of that
10 boring. Sorry. At the bottom of the boring?

11 A On his field log, yes.

12 Q Right. Okay. And can you -- on page -- or I'm
13 sorry. On P-37, can you turn to the third page of that
14 exhibit?

15 A (Witness complies).

16 Q And this page is the final version of the page
17 that we were looking at on P-38. Is that right?

18 A Yes, it is.

19 Q And if we look at the bottom of the boring
20 there just around the 70 feet interval, there's a
21 difference in the way that the lithology is described,
22 isn't there?

23 A Yes.

24 Q In the final log, it's described as clay versus
25 the field log where it's described as abundant gravel.

1 Right?

2 A Well, technically the field log says
3 "with/abundant gravel."

4 Q Okay. But the gravel is noted in the original
5 field log but not in the final log. Isn't that right?

6 A That's correct.

7 Q And so this is a revision that you would have
8 made?

9 A Greg and I made it.

10 Q Okay. And did you -- do you recall in that
11 case whether the samples were destroyed before other
12 parties had an opportunity to look at them?

13 A The samples were destroyed some time after we
14 finalized our logs. I have no idea when, but I presume
15 it was before it was in a hearing.

16 Q Right. Okay. So we have two different
17 descriptions, but there's no way for an independent
18 third party or any third party to verify which one is
19 accurate. Is that right?

20 A I'm not sure what you mean by verify. The
21 final log says that it's clay.

22 Q Okay. But if I wanted to check to see whether
23 the final log accurately describes that interval, is
24 there anything I could look at?

25 A The final log.

1 Q Okay. So I just have the final log and what's
2 reflected in there. Is that right?

3 A Yes.

4 Q Okay.

5 MS. PERALES: Can I take just a short
6 break?

7 JUDGE QUALTROUGH: Sure.

8 MS. PERALES: I think I might be almost
9 done.

10 JUDGE QUALTROUGH: Sure. We're off the
11 record.

12 (Off the record)

13 JUDGE QUALTROUGH: All right. We are back
14 on the record.

15 MS. PERALES: I'm ready to pass the
16 witness. Thank you, Mr. Snyder.

17 THE WITNESS: You're welcome.

18 JUDGE QUALTROUGH: Let's do some
19 housekeeping. I've got a bunch of exhibits. I'm going
20 to forget.

21 MS. PERALES: I did forget.

22 JUDGE QUALTROUGH: Okay. So I've got
23 P-31, 32, 33, 34, 36, 37 and 38. Is that right? No 35?

24 MS. PERALES: I didn't mean to use it.

25 JUDGE QUALTROUGH: All right.

1 MS. PERALES: So I will offer P-31, 32,
2 33, 34, 36, 37, and 38 into evidence.

3 JUDGE QUALTROUGH: Any objections?

4 MR. RYAN: No.

5 JUDGE QUALTROUGH: All right. So those
6 exhibits are admitted.

7 (Exhibit Protestants Nos. 31 through
8 34 and 36 through 38 admitted)

9 JUDGE QUALTROUGH: All right. Redirect?

10 MR. RYAN: Yes. Thank you, Your Honor.

11 REDIRECT EXAMINATION

12 BY MR. RYAN::

13 Q Mr. Snyder, do you have in front of you Volume
14 5 of the Applicant's exhibits?

15 A I do.

16 Q If you could, turn in Exhibit 130EP-7 to
17 Page 13.

18 A Okay.

19 Q What is that?

20 A This is a geologic vicinity map in the area of
21 the 130 Environmental Park.

22 Q What does it show?

23 A It shows the -- from the online USGS database,
24 the geologic formations that they say are present at the
25 surface.

1 Q Okay. And -- and does that Note 1 also refer
2 to the Bureau of Economic Geology as a source?

3 A Yes, it does.

4 Q Okay. So this is a map that represents
5 geologic formations present at the surface in various
6 locations?

7 A It represents geologic -- someone's opinion of
8 the geologic formations that are at the surface as
9 recorded in these two sources.

10 Q Okay. And is the information in these based on
11 on the ground geological investigations for the entire
12 area that -- let's just say for the entire area that's
13 shown within this map?

14 A In this case, I know that it wasn't, because
15 when we started it -- regional geologic maps are built
16 in a number of ways. A lot of it is by aerial
17 photograph mapping and interpolations and things, but in
18 this case, before we started -- or when we started this
19 project -- excuse me -- I called the Bureau of Economic
20 Geology at the University of Texas and Texas A&M
21 universities to find out or to at least make inquiries
22 if site-specific geologic mapping had been done on our
23 site, and I could confirm that there had not been. In
24 addition to that, I checked with the landowner, and he
25 did not know of any site-specific geology.

1 Q Okay. So during your testimony this morning,
2 you referred to at least a couple of different
3 geological formations, the Midway formation and the
4 Wilcox formation?

5 A Yes, sir.

6 Q Okay. Are -- are those represented in this --
7 in the area mapped on this exhibit?

8 A Yes, sir.

9 Q How are those identified?

10 A In two ways. The -- the Midway is identified
11 with an EMI, and a light orangish color. And the Wilcox
12 is identified with a capital EWI in a light yellow
13 color.

14 Q So if we look in the area of the proposed
15 landfill site -- and that's outlined on this map.
16 Right?

17 A It is.

18 Q Okay. If we look down near the southeast
19 boundary of the proposed landfill site, am I correct
20 that there are a couple of little waves of what's
21 represented as Wilcox that extend into that southeast
22 boundary?

23 A Yes.

24 Q And then if you move outside of what's
25 identified as Wilcox there to the north and west, then

1 you get into that light orange color that's identified
2 as the Midway?

3 A Yes.

4 Q And then if you continue on farther to the
5 north and west, there's a little darker yellow color,
6 and that's QLE?

7 A Yes.

8 Q What does that symbol represent?

9 A That stands for Leona.

10 Q Okay. And then if we go a little farther still
11 to the north and west, are we back into the Midway?

12 A Yes.

13 Q And then still farther north and west, what's
14 the area shown in white?

15 A That's the Cretaceous Navarro, I think.

16 Q And what's the symbol for that?

17 A KNM.

18 Q Okay. And this morning Mr. Wilson asked you
19 about -- asked you some questions about the Wilcox, the
20 Midway, and the Navarro. Right?

21 A Yes.

22 Q Okay. So then it -- if we go even a little
23 farther to the northwest, we're getting almost to the
24 corner of the map now -- there's another little piece of
25 Midway shown there.

1 A There is.

2 Q Okay. And then if we go back to the south and
3 east from the site, once we get past what's mapped as
4 the Wilcox there, we're back into another band of
5 Midway. Right?

6 A Yes.

7 Q And then if we go farther south and east, back
8 into another band of Wilcox?

9 A That's correct.

10 Q Other than what is shown on maps prepared by
11 the USGS or the Bureau of Economic Geology, are you
12 aware of any other evidence suggesting that there is any
13 Wilcox formation material present on the surface within
14 the proposed permit boundary?

15 A No.

16 Q Other than maps like this one, are you aware of
17 any other evidence that there is Wilcox formation
18 material present beneath the surface anywhere within the
19 proposed permit boundary?

20 A No.

21 Q Why is it that you don't believe there's any
22 Wilcox formation material present within the permit
23 boundary even though it's represented as being there on
24 these maps?

25 A Well, I guess to begin with, it's my

1 explanation's of regional geologic maps, which are not
2 intended to be precise and not intended to be used as
3 site-specific information. And then the next thing that
4 I would do is to look at the material, both described in
5 the literature and described in what we have found. All
6 the material that I have found at the site suggests that
7 there's no Wilcox material. All the -- the -- you know,
8 the -- in that case, I was talking about in the
9 footprint. All of the material that I've looked at
10 outside the footprint of the 2016 borings did not
11 suggest to me either that there was any Wilcox on the --
12 within the permit boundary.

13 Q For the Midway formation material that was
14 identified within the permit boundary, how would you
15 generally describe that material as it's present on or
16 beneath the surface of the site?

17 A It is a -- is described in the application as a
18 silty fat clay that occurs in -- well, we divide it up
19 as three strata. Basically, it was all Midway. The
20 top, Stratum 1, was clay that had embedded gravels with
21 pebbles in it. Stratum 2 was weathered Midway, and
22 Stratum 3 was hard, dark gray unweathered Midway.

23 Q As you did initial borings earlier this year to
24 the south and east of the proposed landfill footprint.
25 Were there any notable changes in the -- in the material

1 that was encountered in the subsurface?

2 A Yes. I think that as we move further east,
3 which is generally as it's mapped, moved towards the
4 Wilcox, we began to see a little bit more silt than what
5 we had seen on site.

6 Q When you say "on site" --

7 A In the footprint.

8 Q Okay.

9 A The clay itself was very similar, but the --
10 but we did start to see a little bit more silt.

11 Q Okay. When you say you saw a little bit more
12 silt, how was that silt -- what's the relationship
13 between the silt and the clay you're talking about?

14 A Well, the silt -- except for one place where we
15 actually had a silt -- thin silt layer, the silt is in
16 the clay either as silt partings -- we may have
17 identified a silt seam or two to the east, but it's also
18 just part of the clay.

19 Q Okay. What do you mean when you refer to a
20 silt parting?

21 A A silt parting -- I think there's a specific
22 definition of something less than an eighth of an inch
23 thick along the bedding plain, something more than that,
24 but a half an inch or less would be something called --
25 what we would call a seam.

1 Q So in -- in the borings that you did moving to
2 the south and east from the footprint, was there more
3 silt present in each of these forms mixed in with the
4 clay and in partings and in seams?

5 A I'm not sure I would have described it like
6 that because I think there were places where the clay
7 appeared to be exactly like the clay was that we found
8 inside the footprint. So in general, we ran in to more
9 silt, maybe more silt partings, maybe an occasional silt
10 seam. I don't think the silt that was in the clay was
11 in any kind of different form than what we had seen it
12 before.

13 Q Okay. Then you talked about the -- the hard,
14 dark -- hard, dark gray unweathered clay?

15 A Yes.

16 Q Was that material present all across the site?

17 A To my recollection, it was present in every
18 boring that was drilled in 2013 and all the ones in
19 2016, inside the footprint and out.

20 Q Okay. And in all of those borings, both inside
21 the footprint and out, was there weathered clay above
22 that unweathered clay?

23 A Yes.

24 Q And that was true everywhere across the site?

25 A Everywhere across the site, inside and outside

1 the footprint.

2 Q And you've identified that as Stratum 2?

3 A Yes.

4 Q Now, Stratum 1, you identified as clay with
5 cobbles and pebbles in it?

6 A Yes.

7 Q Now, when you say -- when you describe clay
8 with cobbles and pebbles in it, can you give us a -- a
9 more specific explanation of how the cobbles and pebbles
10 are present there?

11 A Of course, it's obvious if you walk on the site
12 that there's cobbles and pebbles on the surface of the
13 site. Once you drill down into the upper part of that
14 weathered clay, you also see cobbles and pebbles. And
15 I've described them variously as being embedded in the
16 clay or settled into the clay or mostly surrounded by
17 clay. There was no -- to my knowledge, there is nowhere
18 in the footprint or east of our site where that gravel
19 occurs in any kind of a stratified layer of any kind of
20 continuous nature. It's all surrounded by and embedded
21 in the clay.

22 Q And in your opinion, does gravel that -- does a
23 situation where you have gravel embedded or surrounded
24 by clay like that create any sort of significant pathway
25 for migration of groundwater?

1 A Not a significant one.

2 Q And why is that? If you've got gravel and
3 cobbles and pebbles, why don't you have pathways for
4 migration?

5 A If the pebbles and gravel are not connected
6 into a continuous or semi-continuous strata, then when
7 there's water surrounding or near where there's some
8 gravel, it has to travel through the clay to get to the
9 next piece of gravel. It's a similar kind of pathway
10 that you would see with -- with secondary features in
11 any of the weathered clay.

12 Q And so the clay that surrounds the cobbles and
13 pebbles limits -- would limit the migration of
14 groundwater through that matrix?

15 A Yes.

16 Q If there were Wilcox formation material present
17 within the proposed permit boundary, would you expect it
18 to be above or below the Midway material?

19 A Above.

20 Q Why?

21 A Because it's a younger strata. It's a geologic
22 formation that was laid down, according to the
23 literature, conformably on top of the -- on top of the
24 Midway. Conformably means that there was no major
25 interruption in the deposition through time so that it's

1 awful hard to tell when you've gotten to a -- kind of an
2 arbitrary geologic point there.

3 Q So does that mean that if there were Wilcox
4 formation material present within the permit boundary,
5 it would be present at or at least very near the ground
6 surface?

7 A Yes.

8 Q And it would be above Midway formation
9 material?

10 A Yes, it would.

11 Q So if you were to drill a boring and get down
12 in to material that's clearly Midway formation material,
13 like, let's say, the hard, dark, unweathered gray clay,
14 once you get there, is there any reason to keep going
15 looking for Wilcox there in that hole?

16 A No.

17 Q Do you still have the rules in front of you
18 there?

19 A Yes, I do. Yes, I do.

20 Q I'd like you to take a look at the rule
21 provision that Mr. Wilson was talking about this morning
22 in 330.3, Subsection 168. It's the definition of
23 uppermost aquifer.

24 A I'm there.

25 Q Okay. Before we talk about that, I want to ask

1 you a little more about the Wilcox. In central Texas,
2 is the Wilcox formation and aquifer everywhere Wilcox
3 formation material is present?

4 A No.

5 Q But there is such a thing as the Carrizo-Wilcox
6 Aquifer?

7 A Yes, sir.

8 Q Well, then, how can it be if there's an aquifer
9 that's called the Carrizo-Wilcox, how can it be that
10 there can be Wilcox material that isn't an aquifer?

11 A An assemblage of a geologic formation or group
12 of formations that represents hundreds, if not
13 thousands, of feet and represents different depositional
14 environments that are collected into not just the Wilcox
15 group, but specific formations of different lithologies.
16 The areas where the lithology is not an aquifer-type
17 material, there would not be an aquifer there. The
18 formation is there, but the -- the -- the part or the
19 group is there, but the formation that contains mostly
20 clay or other non-aquifer material would not be part of
21 the aquifer, although it's generally referred to in the
22 same colloquial sense that this is the Carrizo-Wilcox.

23 Q Looking on the map on Page 13 in Exhibit
24 130EP-7 --

25 A Yes.

1 Q -- is there anything here that's identified as
2 the Carrizo?

3 A No.

4 Q Where is it?

5 A East of this map.

6 Q So does that mean that the Wilcox also extends
7 east of this map?

8 A Yes. I'm not exactly sure where the contact is
9 between the geologic Wilcox group and the Carrizo, but
10 somewhere east of this map.

11 Q So the -- did the Wilcox and then the Carrizo
12 extend many miles east of the area shown on this map?

13 A Yes.

14 Q Any idea -- I mean, tens of miles, do you have
15 something that might shed some light on that?

16 A No, I really don't. I don't have the full
17 geologic map here, but, for instance, this map extends
18 from our site maybe 4 or 5 miles east of the edge of our
19 site if my math is correct there. And you haven't yet
20 gotten to the Carrizo, and the Carrizo is many miles --
21 the outcrop of the Carrizo is also many miles wide.

22 Q Is there a geologic cross section in the
23 application?

24 A Yes, there is. It would be -- it would be --
25 bear with me a second. It is 130EP-4, Page 40.

1 Q Okay. Is this a cross section that generally
2 goes across Caldwell County from west to east?

3 A Yes, it is.

4 Q And that's as shown down in the small inset map
5 of Caldwell County?

6 A Yes.

7 Q Can you -- can you tell us generally what is
8 shown on this cross section?

9 A This cross section attempts to show in a
10 cross-sectional sense the relationship both vertically
11 and horizontally between the geologic groups and
12 formations that occur across Caldwell County.

13 Q Okay. And it looks to me like the -- like
14 the -- the Carrizo appears over there on the right-hand
15 side, like maybe two-thirds of the way across the
16 county?

17 A That's correct.

18 Q Let me also ask you about -- so I see from
19 looking at the -- the little inset map of Caldwell
20 County, it's got the cross section along which this
21 larger exhibit is cut. Right?

22 A Yes.

23 Q But then it's got the site location, and it's
24 several miles to the north of that location. Right?

25 A Yes.

1 Q So how is it that you have an arrow up at the
2 top pointing to the approximate site location?

3 A We're required to show a regional geologic
4 cross section in the application as part of the geologic
5 report. And I think this was the closest regional
6 section that we had to the site. So a typical process
7 would be to show geologically approximately where the
8 site occurs and project it into the line of section in
9 that deal. You'll see that it -- where we've projected
10 it into the line of sections in an outcrop of the Midway
11 where there's Wilcox to the east of it.

12 Q Okay. But then immediately below that arrow
13 that's pointing down from the approximate site location,
14 is that a little thin layer of what's referred to as
15 Leona Formation?

16 A Yes.

17 Q Is that referring specifically to what's
18 identified as Leona Formation material on the geologic
19 map on Page 13 in 130EP-7?

20 A Yes and no. On this regional geologic section,
21 I think that from A to A prime actually goes through the
22 main part of the Leona down near Lockhart. So it's
23 representing the main deposit of Leona.

24 Q Okay. And so that's why that shallow zone
25 identified as Leona Formation on Page 40 of

1 Exhibit 130EP-4 probably covers -- I don't know -- 25,
2 30 percent of -- of the section across Caldwell County?

3 A Yeah. It looks like it's covering
4 approximately 10 miles --

5 Q Okay.

6 A -- along this line of section.

7 Q So that would be actually what is on the line
8 that goes through about the middle of the county as
9 opposed to what had been mapped as Leona up in this
10 north part of the county where the site is?

11 A Yes, sir.

12 Q So is this cross section on Page 40 also
13 helpful in understanding why you said that if there was
14 Wilcox material present within the permit boundary, it
15 would be above the Midway material?

16 A It sure is.

17 Q And how is that?

18 A Well, if you simply look at where the Midway
19 occurs and then look at where the Wilcox occurs, the
20 Wilcox occurs above the Midway, on top of the Midway.

21 Q So in your opinion, if someone were to start
22 drilling borings moving from the site to the east or the
23 southeast, at some point, would they encounter Wilcox
24 formation material?

25 A On the site, did you say?

1 Q No. If somebody started drilling at the
2 southeast edge of the site and moved outward from there,
3 moved to the east and southeast, at some point, would
4 they encounter Wilcox material?

5 A Eventually, they would.

6 Q And it would be at or near the surface?

7 A It would be at or near the surface, and if you
8 got far enough, you would be through a big thickness of
9 Wilcox.

10 Q And if you kept going farther to the east,
11 eventually you would get into what's labeled on here as
12 Carrizo sand?

13 A Yes.

14 Q And over there in the eastern part of the
15 county where you've got the Carrizo sand overlying some
16 more Wilcox group material, is that where that
17 Carrizo-Wilcox Aquifer is a more prolific producer of
18 groundwater?

19 A Yes, it is.

20 Q And is that the area where the Water
21 Development Board maps the Carrizo-Wilcox as a major
22 aquifer in Texas?

23 A Yeah, I'm not really sure exactly where the
24 Water Development Board's map starts and stop. But that
25 would certainly be within the -- where the Water

1 Development Board maps the aquifer.

2 Q Okay. So now, let's look at that rule
3 provision. What did you identify as the uppermost
4 aquifer within the proposed permit boundary?

5 A The groundwater that occurs at and above the
6 contact between the weathered and the unweathered
7 Midway.

8 Q And is -- is that the location relative to the
9 weathered and unweathered, is that the location at which
10 groundwater was found in P-1, P-4, and P-32?

11 A Yes, it was.

12 Q In the weathered material immediately above the
13 unweathered dark gray clay?

14 A Yes.

15 Q In your opinion, is there enough water there
16 to, let's say, provide a source of water for a municipal
17 drinking water system?

18 A No.

19 Q Is there enough water present in that -- what
20 you referred to as the uppermost aquifer to supply water
21 to a subdivision?

22 A No.

23 Q Is there enough water present there to supply
24 enough water for a single house?

25 A Unlikely.

1 Q Then how can that be considered an aquifer?

2 A The -- the rules and the definition of aquifer
3 in one place in the TCEQ rules is somewhat different
4 than where we talk about aquifers that are going to be
5 sampled. And --

6 Q Well, let's look at the definition of aquifer
7 in 330.3. Okay?

8 That's in 330.3, Subsection 8. Is that
9 right?

10 A Yes.

11 Q Okay. And what's that definition?

12 A "A geologic formation, group of formations, or
13 a portion of a formation capable of yielding significant
14 quantity of groundwater to wells or springs."

15 Q Okay. How is it that this unweathered
16 material -- that this weathered material just above the
17 unweathered constitutes an aquifer in your opinion?

18 A Over the past 20 years or so as I've worked in
19 municipal solid waste, the TCEQ and its predecessor
20 agencies use -- and they can speak for themselves, but
21 I'm telling you my understanding of it. They've used
22 this definition to say that if there's a significant
23 quantity of water, meaning if you're able to retrieve a
24 sample and sample it, that constitutes a significant
25 quantity of water. And so for the purposes of

1 groundwater monitoring, it is an aquifer.

2 Q Can you give us a general idea of how much
3 water has to be collected in order to run the analyses
4 that are required as part of the routine groundwater
5 monitoring? Is it 100 gallons? Is it 5 gallons?

6 A A gallon or less.

7 Q Okay. And so in your opinion, that weathered
8 material on top of the unweathered zone and the amount
9 of groundwater present in there may be enough to conduct
10 groundwater monitoring and testing on, and so it
11 satisfies the municipal solid waste permit section's
12 concept of an aquifer?

13 A Yes.

14 Q And would you consider that to be -- to be a
15 fairly extreme concept of what constitutes an aquifer?

16 A In the traditional sense of what an aquifer is,
17 these shallow groundwater occurrences that occur in
18 weathered clays are not deemed to be an aquifer
19 anywhere. In places, there's enough water across the
20 state in some of these to yield enough to serve a
21 household, but mostly not. Often, they go dry when you
22 sample them. We purge them to be ready to sample them.
23 So from that standpoint, from the traditional
24 understanding of what is an aquifer that serves lots of
25 people, it's an extreme -- it's an extreme definition.

1 Q Are there other examples of municipal solid
2 waste landfill sites in the state where you have
3 similarly applied this extreme definition of an aquifer
4 and concluded that something that might not be
5 considered an aquifer in most senses qualifies as an
6 aquifer under this definition in the municipal solid
7 waste rules?

8 A Yes.

9 Q If this -- this weathered material sitting on
10 top of the unweathered were not considered an aquifer,
11 do you have an opinion as to what would be the uppermost
12 aquifer beneath this proposed site?

13 A With that assumption, there would be no
14 uppermost aquifer beneath the site.

15 Q To your knowledge, have there ever been any
16 wells drilled on the Hunter Tract, any water wells?

17 A No.

18 Q If there were water available at some
19 reasonable depth within the tract that could be used,
20 would you expect that at some point in the past there
21 would have been wells drilled?

22 A Yes.

23 Q Are you surprised, based on what you know about
24 the subsurface geology out there, that no wells have
25 been drilled in the past?

1 A No, I'm not surprised. And if you look at the
2 regional work, as far back as in the '40s, the regional
3 geologists have said farmers on the outcrops of the
4 Midway have to use cisterns or other sources of water.
5 So I'm not at all surprised that no wells have been
6 drilled.

7 Q Okay. Let's go back -- and I promise I'm going
8 to get to this. Let's go back to the definition of
9 uppermost aquifer in 330.3(168).

10 A Okay.

11 Q So is it true that in order for the Wilcox
12 formation to be the uppermost aquifer or part of the
13 uppermost aquifer on this proposed site, you would first
14 have to have Wilcox formation material present within
15 the site?

16 A Yes.

17 Q And then because the Wilcox material is below
18 the Midway and the aquifer --

19 A You mean above the Midway?

20 Q -- above the Midway -- well, without regard to
21 that, if -- if the Wilcox were going to be considered --
22 it were present and it were going to be considered a
23 part of the uppermost aquifer, would it also have to be
24 below the aquifer that you've identified out there?

25 A I'm not sure I understand your question. I'm

1 sorry.

2 Q Okay. Well, doesn't this definition
3 contemplate three things in order to have an uppermost
4 aquifer? You've got to have an out. You've got to have
5 an aquifer, and it can include lower aquifers that are
6 hydraulically connected if that connection is within the
7 facility's property boundary.

8 A Yes.

9 Q In your opinion, is there any aquifer within
10 the facility property boundary that is nearer the ground
11 surface than the unweathered -- than the weathered zone
12 that you've identified as an aquifer?

13 A No.

14 Q In your opinion, within the proposed facility
15 boundary, is there a lower aquifer that is hydraulically
16 interconnected with what you have identified as the
17 uppermost aquifer within the facility's property
18 boundary?

19 A There is none.

20 Q Mr. Snyder, do you have what's been marked as
21 Exhibit 130EP-22?

22 A I do.

23 JUDGE BELL: Mr. Ryan, do you have extra
24 copies of those for us?

25 MR. RYAN: Oh, I'm sorry. We do.

1 JUDGE QUALTROUGH: I'm sorry. What was
2 the number again?

3 MR. RYAN: 22. 130EP-22.

4 Q (BY MR. RYAN) Mr. Snyder, what is this
5 exhibit?

6 A This is a copy of a brief letter report and
7 attachments that were a summary of the preliminary site
8 investigations of two borings that were -- that was done
9 in March of 2000 -- or the report was done in March of
10 2013. The report was sent to our client, Mr. Hodges.

11 Q And does this refer to the two preliminary
12 borings that you testified about earlier?

13 A Yes.

14 Q And if you turn over to the third page of the
15 exhibit, what does that show?

16 A That is a map that is the -- I believe the USGS
17 quadrangle map that was a base map where we show the
18 approximate locations of two borings that were drilled.

19 Q Okay. And those are shown with the dark circle
20 with a black square around them?

21 A Yes.

22 Q And just to get oriented, north is to the right
23 on this map?

24 A Yes.

25 Q Okay. And Homannville Trail is a straight line

1 that's running from southeast to northwest -- no, I'm
2 sorry -- yeah, southeast to northwest?

3 A Yes.

4 Q Okay. And the -- the blue area down in the
5 southeast corner is Dry Creek in the upper part of the
6 Site 21 Reservoir?

7 A It is.

8 Q Now, on here there's a dashed line that's
9 identified in the legend as proposed landfill footprint?

10 A Yes.

11 Q And that's different than the way that appears
12 on other maps and drawings we've seen, isn't it?

13 A Yes, it is. This footprint was the conceptual
14 footprint that was provided to us by HHNT, and so we put
15 that on the map just to give a reference point of
16 approximately where the -- where the landfill footprint
17 might be.

18 Q Okay. So this was an early version of what was
19 being proposed?

20 A Yes.

21 Q Okay. And then the last four pages of this
22 exhibit are the logs of those two borings?

23 A Yes.

24 Q In your opinion, is what is shown on these
25 boring logs consistent with what has been identified

1 during subsequent borings conducted on the proposed
2 site?

3 A Generally consistent, yes.

4 MR. RYAN: Your Honor, I would offer
5 130EP-22.

6 JUDGE QUALTROUGH: Any objections?

7 MS. PERALES: No.

8 JUDGE QUALTROUGH: All right. The page --
9 these aren't numbered. So --

10 MR. RYAN: Your Honor, we'll --

11 JUDGE QUALTROUGH: Yeah. It's -- it's --

12 MR. RYAN: I apologize for that.

13 Q (BY MR. RYAN) Mr. Snyder, would you number
14 these pages in the lower right-hand corner to start with
15 1?

16 A Yes, I will do that.

17 JUDGE QUALTROUGH: So the map is going to
18 be 3?

19 MR. RYAN: Yes, ma'am.

20 THE WITNESS: Yes.

21 JUDGE QUALTROUGH: And the first log
22 boring is 4?

23 MR. RYAN: Yes.

24 JUDGE QUALTROUGH: 5 and 6.

25 MR. RYAN: Did you get up to 7?

1 THE WITNESS: I got to 7.

2 JUDGE QUALTROUGH: 7.

3 MR. RYAN: Okay. Thank you.

4 JUDGE QUALTROUGH: 130EP Exhibit 22 is
5 admitted.

6 (Exhibit Applicant No. 22 admitted)

7 Q (BY MR. RYAN) Mr. Snyder, on the -- the
8 Pintail project, when you learned of the higher
9 groundwater levels that had been identified out on the
10 site during the summer of 2015, what did you recommend
11 should be done?

12 A I recommended that we should, in whatever
13 manner was the appropriate manner, to notify the TCEQ
14 and let them know, first, what had happened and then to
15 make appropriate changes, to incorporate that
16 information.

17 Q And why was the decision made to request a
18 remand of the application to the Executive Director's
19 staff?

20 A I guess I don't know all of the reasons why it
21 was, but I think that the -- that our client said that's
22 what we need to do.

23 Q Did you agree with that?

24 A Well, I thought that there was -- that there
25 were ways that we could, within the process, modify the

1 information and do it under that sense. So I didn't
2 disagree with the team's decision to -- to request
3 remand, but I also was not -- I also thought that there
4 were ways that we could modify the -- the permit without
5 remand. But again, my judgment of that is I don't
6 really know what all the legal ramifications of each of
7 these steps are, so --

8 Q Okay. What did the permitting rules require in
9 terms of evaluation of groundwater levels at a proposed
10 site?

11 A Well, once a site is permitted, you have to
12 continue --

13 Q Before that -- as part of the permitting
14 process, what information has to be provided about
15 groundwater levels?

16 A The -- the rules generally say -- in fact, it
17 might be better if I can refer to the rule.

18 Q Sure.

19 A Actually, I'm not finding what I'm looking for,
20 but my recollection of the rule says that groundwater
21 levels and interpretation of groundwater need to be
22 looked at through a seasonal period.

23 Q Okay. And generally, what's that considered to
24 be?

25 A In most cases, it's considered to be a year.

1 Q To get you through all the seasons?

2 A Yes.

3 Q And what do you do with that information?

4 A Well, like we did in the permit application, we
5 prepared a potentiometric surface through all the months
6 of the groundwater data that we had so that you can see
7 if it makes any differences in the groundwater flow
8 direction.

9 Q Okay. And does that result in identification
10 of something called the seasonal high-water level?

11 A Yeah. That's kind of a curious term that they
12 use, seasonal high-water level. That came into being
13 sometime in the '90s when they were looking at ballast
14 requirements for liners at landfills. But the idea is
15 that through the life of the site, during the permit
16 preparation and afterwards, any water level that you
17 find at a given location needs to be mapped, and you
18 need to be able to ballast and design your liner in
19 accordance with that high-water level.

20 Q Okay. So during the application preparation
21 process, if there's enough groundwater present at a
22 site, are you required to identify and map what's
23 referred to as the seasonal high-water level?

24 A Yeah. The application needs to include a map
25 that shows the highest water levels ever measured.

1 Q And did the Pintail Landfill permit application
2 show that?

3 A It did.

4 Q And over what period of time was that
5 groundwater data collected?

6 A I'd have to go back and look, but I think it
7 was over either a 13- or a 14-month period. We
8 continued to sample the -- the water through a total of
9 18 months by the time it was technically complete. But
10 I think in the application, it was either 13 or 14
11 months.

12 Q And did you testify this morning that during
13 that time period, there were at least two several-month
14 periods where rainfall was significantly greater than
15 normal?

16 A Yes, I did.

17 Q Did you do a seasonal high-water level map for
18 the 130 Environmental Park application?

19 A I don't do the seasonal high map. That's
20 information that I give to Greg Adams. He constructs
21 it. I don't know exactly what's -- the 130
22 Environmental Park as to that.

23 Q So you don't know if one was ever prepared?

24 A I assume it was, but I don't know for sure.

25 Q How many data points could have -- could there

1 have been for such a map of 130 Environmental Park?

2 A Three.

3 Q And why is that?

4 A Because those were the only three points that
5 we had where groundwater had been identified.

6 Q At Pintail, were there just two or three
7 piezometers that had water or more?

8 A There were a total of 15 piezometers at
9 Pintail, and all of them had water.

10 Q Over the course of the time that groundwater
11 levels have been measured at the 130 Environmental Park
12 site, have you seen any sort of significant increase in
13 those levels over time?

14 A No.

15 Q Have there been significant rainfall events
16 during that time?

17 A Oh, yes.

18 Q Would you expect in the future that there would
19 be significant increases in groundwater levels measured
20 in the piezometers at the 130 Environmental Park site if
21 they continued to be monitored into the future?

22 A In the near future, I would say no.

23 Q And why would you say that?

24 A Because we've now watched water levels at that
25 site for three years, including over several significant

1 rainfall events, and -- and have not seen rises in water
2 level or occurrence where there wasn't any.

3 Q Why didn't you obtain TCEQ approval of the
4 boring plan for 130 Environmental Park before the actual
5 soil boring activity started?

6 A My client wanted to evaluate the property and
7 asked us to proceed.

8 Q In advance of obtaining that approval?

9 A Yes.

10 Q Is that a scenario that -- that you have
11 encountered and been a part of in the past?

12 A Many times.

13 Q Mr. Snyder, do you have what's been marked as
14 Exhibit 130EP-23?

15 A I do.

16 Q Does this refer to another situation, another
17 landfill project, in which you were involved where soil
18 borings were done in advance of TCEQ approval of a
19 boring plan?

20 A Yes, it is.

21 Q And what facility is referenced in this
22 exhibit?

23 A This is a reference to a Type IV landfill of
24 our client -- Greenhouse Road Landfill in the Houston
25 area.

1 Q And what -- what was the situation there in
2 terms of the timing of doing the boring work and
3 obtaining TCEQ approval of the boring plan?

4 A Our client approached us to do some conceptual
5 design work on the site that included many things, but
6 one of which was the potential for the small expansion
7 of his landfill.

8 And so he wanted us to drill some borings
9 so that they could conceptually evaluate the sand mining
10 operation and possibly a subsequent landfill expansion.
11 At that time, I advised him, if you're going to do those
12 borings, we should do the borings in accordance with
13 the -- with manners such that the borings could be used;
14 in other words the drilling, the sampling, the depths,
15 et cetera, and he agreed. So we did that. After we had
16 done that and provided an evaluation of the -- his
17 conceptual idea of can we have an expansion here, he
18 decided to go ahead with an expansion and asked us to
19 prepare a boring plan, which we did and submitted to
20 TCEQ.

21 Q And when TCEQ learned that the borings had
22 already been drilled prior to approval of the boring
23 plan, what happened?

24 A We received -- the boring plan was submitted by
25 my colleague, Beth Floyd. She had signed and submitted

1 the boring plan. And she received this e-mail in
2 September of 2015 explaining what their rule is and that
3 they discovered that in our plan we told them that the
4 borings had already been drilled a year prior. And then
5 he reminded us that the rules say --

6 MS. PERALES: I'm sorry. I'm going to
7 have to interject with an objection regarding anything
8 that's specific -- any language specifically in this
9 e-mail as hearsay.

10 JUDGE QUALTROUGH: Do you have a response,
11 Mr. Ryan?

12 MR. RYAN: Well, Your Honor, it's an
13 e-mail from the manager in the municipal solid waste
14 permit section that addresses the issue of prior
15 approval of boring plans.

16 Ms. Perales asked Mr. Snyder quite a few
17 questions about the timing of approval of boring plans,
18 and I think it's relevant to the issue. I don't think
19 there's -- I don't know that this helps, but it has a
20 nice little "Taking Care of Texas" stamp on the back to
21 prove its authenticity.

22 JUDGE QUALTROUGH: That -- that's not the
23 hearsay issue.

24 MR. RYAN: Well, Your Honor, I guess I
25 would suggest that I think it's clear that it's a public

1 record and that it reflects activities of the agency.

2 JUDGE QUALTROUGH: I'm not sure that fits
3 under that exception. Can you open that back up?

4 MR. RYAN: 8038, Your Honor.

5 JUDGE QUALTROUGH: Yeah. I don't see it
6 sitting under 8038. I think I'm going to have to
7 sustain that objection.

8 MR. RYAN: Thank you, Your Honor.

9 Q (BY MR. RYAN) Mr. Snyder, you testified that
10 there have been other circumstances in which you have
11 initiated a boring program prior to approval of the
12 boring plan?

13 A Yes.

14 Q In any of those circumstances, has the TCEQ
15 municipal solid waste permit section not ultimately
16 approved the boring plan?

17 A I'm unaware of any situation where they have
18 declined to approve the plans.

19 Q And --

20 A I'm not sure if I answered your question.

21 Q It was. Even where boring work was done prior
22 to submittal or approval of the plan?

23 A Even then.

24 Q You have experience on multiple occasions where
25 that has occurred, and yet the municipal solid waste

1 permit section approved the boring plan?

2 A Yes, sir.

3 Q And do you have experience where following
4 that, the permit or permit amendment that was supported
5 by those borings was subsequently approved?

6 A In every case.

7 Q With the possible exception of Pintail? Well,
8 was Pintail one of those? Do you recall?

9 A Well, Pintail was declared technically complete
10 by the agency, so --

11 Q Okay. But I guess my first question is, was
12 the boring work done prior to approval of the boring
13 plan?

14 A In part --

15 Q Okay.

16 A -- as I recall.

17 Q In this case, the 130 Environmental Park case,
18 has -- has the TCEQ staff requested the drilling of
19 additional borings?

20 A No.

21 Q You testified this morning about the language
22 in the boring plan that was submitted to TCEQ for the
23 130 Environmental Park project, and in particular about
24 language in there that referred to conducting slug
25 tests?

1 A Yes.

2 Q What are slug tests?

3 A Slug tests is a field permeability test that is
4 conducted in several different ways, but generally it is
5 a small-scale aquifer test where you move the water and
6 measure the response -- move the water by injecting a
7 slug or a volume into a well and then measuring the
8 response and doing calculations based on that.

9 Q Okay. Let's sort of take the pieces of that.
10 You place a slug or a volume into the well. What are
11 you talking about there?

12 A Into the water column inside of a piezometer --

13 Q Okay.

14 A -- or some other well.

15 Q So we've got a piezometer or a well that
16 extends down through the subsurface, and there's water
17 in the bottom of it?

18 A Yes.

19 Q And when you say that you -- that you place a
20 slug or volume in it. What's a slug?

21 A A slug can refer to either a solid slug, which
22 is a -- which, typically, is a stainless steel piece of
23 metal that occupies a certain volume and then displaces
24 the water in the well by moving it up, thereby raising
25 the -- the hydrostatic head that's applying on the

1 formation through the well.

2 Q Okay. So you drop the piece of metal down in
3 the well, and the water rises when the metal gets down
4 into the water?

5 A Yes.

6 Q And then you make some sort of measurements?
7 What do you measure?

8 A Once you've raised the water level, it begins
9 to decline. It's called a falling head test. And what
10 you're hoping to measure with that test is what's the
11 permeability of the formation. So you're measuring the
12 water levels versus time, and then through a series of
13 equations, you calculate a hydraulic conductivity from
14 it, a permeability.

15 Q Okay. So when you drop the slug in, the water
16 level in the hole goes up, and then over time, it starts
17 dropping down. You measure those water levels over
18 time, and from that information, if you're somebody who
19 knows what you're doing, you can make estimates of the
20 permeability of the formation material around the well?

21 A Yes.

22 Q If you submitted a boring plan that said you
23 intended to do slug tests, why didn't do you any at 130
24 Environmental Park?

25 A We felt like that we didn't -- our judgment was

1 that we didn't have enough water column in any of the
2 piezometers that we had to conduct a valid slug test.

3 Q Did -- did the TCEQ staff ever ask about the
4 slug tests that had been proposed?

5 A I don't remember that they did, but I can't say
6 for sure that they didn't. I just don't remember.

7 Q Well, did they ever tell you to go conduct some
8 slug tests?

9 A No.

10 JUDGE QUALTROUGH: Mr. Ryan --

11 MR. RYAN: Yes.

12 JUDGE QUALTROUGH: -- be looking for a
13 good time to stop.

14 MR. RYAN: How about right now?

15 JUDGE QUALTROUGH: Okay. All right. We
16 are off the record. We'll come back in 10 minutes.

17 MR. RYAN: Thank you.

18 (Recess: 2:51 p.m. to 3:09 p.m.)

19 JUDGE QUALTROUGH: Okay. We are back on
20 the record. We'll take back up with the redirect of
21 Mr. Snyder.

22 MR. RYAN: Thank you, Your Honor.

23 Q (BY MR. RYAN) Mr. Snyder, do you have there
24 Exhibit 130EP-7, Page 14?

25 A I do.

1 Q What is that?

2 A That is the boring piezometer location plan
3 that incorporated the Applicant's and the Protestants'
4 borings that were done in the first quarter of 2016.

5 Q Okay. And how are the 2016 borings done by 130
6 Environmental Park shown on here?

7 A Those are shown with red circles and -- and red
8 subset numbers with the name of the boring.

9 Q And how are the 2016 borings done by TJFA and
10 EPICC shown on this exhibit?

11 A They're shown with an orange circle and orange
12 subset letters with the name of the boring.

13 Q (BY MR. RYAN) Okay. And I -- I see down in
14 the lower right-hand corner of the map area, there's a
15 boring labeled AR2?

16 A Yes.

17 Q That's a boring that was done by the
18 Protestants?

19 A Yes.

20 Q And that is to the southeast of the proposed
21 permit boundary?

22 A Yes.

23 Q What was shown in that boring?

24 A Primarily clay.

25 Q Did it -- did it show the hard, dark,

1 unweathered gray clay?

2 A Yes.

3 Q Did it show anything that appeared to be Wilcox
4 formation material?

5 A No.

6 Q In your opinion, was the material encountered
7 in that boring Midway formation material?

8 A Yes, it was.

9 Q Mr. Wilson asked you whether it would be
10 possible to monitor water quality in the Wilcox. Do you
11 remember that question?

12 A Yes.

13 Q I want to narrow that question a little bit.
14 Would it be possible to monitor water quality in the
15 Wilcox formation within the proposed permit boundary for
16 the 130 Environmental Park landfill?

17 A I don't believe so.

18 Q Why not?

19 A Because I don't believe that we have any
20 aquifer material present within the -- the boundaries of
21 the property footprint -- I mean, the property permit
22 boundary.

23 Q Other than the aquifer you've identified?

24 A Other than the aquifer we've identified.

25 Q Do you have Exhibit Protestants' 37, the

1 Pintail boring logs?

2 A Yes.

3 Q Now, Ms. Perales was asking you in particular
4 about the log for boring A5. Is that right?

5 A Yes.

6 Q Which is on the third page of the exhibit, the
7 one -- Page No. E2-13. Is that right?

8 A Yes.

9 Q And is it correct that in preparing the final
10 log you deleted the reference to gravel in that interval
11 on the log from 67 to 71 feet --

12 A Yes.

13 Q -- and you referred to that material as clay?

14 A Yes.

15 Q Why did you do that?

16 A Well, there were three reasons, really four.
17 The overarching reason is I think I have a professional
18 obligation to describe the material accurately that's
19 there.

20 But specifically about this -- this
21 boring, when we got the samples -- when I say "we" -- I
22 mean Greg Adams and I got the sample, and we were making
23 our log, we looked at S23 and said that is clay. What
24 was Mr. Stamoulis looking at when he logged it as
25 something with gravel? And so we -- we logged it. But

1 there's two other things that go into why we logged it.
2 We saw it as clay.

3 At Pintail, as in most places where we
4 drill on the Gulf Coast where we are trying to find a
5 lower confining unit or a boundary, it is our standard
6 practice to drill every boring to the clay. We -- when
7 we have a lot of sand or gravel, we never stop at the
8 sand and gravel. Those were his instructions. On this
9 site we drilled 36 borings, and 32 of them, we drilled
10 substantially into the clay. This one, we just tapped
11 the top foot or so. We then went and put a piezometer
12 right next to this boring where we had a specific depth
13 that we identified the clay in at 67. So we combined
14 S23 with 67 and -- and said that's where our clay unit
15 is.

16 Q So when you said that you and Mr. Adams looked
17 at S23, what is S23?

18 A S23 is the sample from 68 to 70 identified as
19 S23 on this log.

20 Q So that's an actual core sample of material
21 that was removed from that depth in this boring?

22 A Yes. Yes.

23 Q And you and Mr. Adams both observed that?

24 A We did.

25 Q Where?

1 A In our office when we were logging this.

2 Q Did the final logs that you prepared at Pintail
3 have any references to gravel?

4 A Yes, nearly all of them did.

5 Q And in fact, if -- on this same page, if you
6 look up at the description that starts at 46 feet, did
7 that one include a reference to gravel?

8 A It does.

9 Q If you look at the first page of this exhibit,
10 the page that's numbered E2-9, at the description that
11 begins at 38 feet, does that refer to gravel?

12 A It does.

13 Q If you look at the second page, E2-10, the
14 description that begins at 76 feet, does that refer to
15 gravel?

16 A It does.

17 Q And I think you said that you drilled how many
18 borings out there?

19 A 36.

20 Q As part of the initial investigation?

21 A Yes.

22 Q And are these the only references to gravel in
23 the logs?

24 A No. There's gravel in nearly all the borings;
25 maybe not all, but most of them.

1 Q Ms. Perales also asked you about verifying the
2 presence of the clay in the bottom of BME-A5, the
3 hole with the log, on Page E2-13.

4 A Okay.

5 Q Have you done anything to verify the presence
6 of that clay?

7 A Yes, we have. We went out and drilled another
8 boring, drilled it 10 feet or so below this one to
9 confirm that we had 10 feet or so of clay.

10 Q And did you testify earlier that your standard
11 practice, when you're drilling on the Gulf Coast, is to
12 not terminate a boring in sand or gravel?

13 A Yes.

14 Q And why is that?

15 A Well, as part of the design of a groundwater
16 monitoring system, we have to be able to show the lower
17 confining unit, typically of clay. You need to be able
18 to show that it's correlatable across the site. It is
19 actually a confining unit beneath you.

20 So we've just made it -- over the years,
21 we've established that as our process that every boring
22 that we drill in a landfill case where we're trying to
23 find an uppermost aquifer and a lower confining unit, we
24 drill the well to clay. We don't stop in the sand.

25 Q And did you say that of the initial 36 borings,

1 didn't you say that 30 something of those went deep
2 enough to show at least several feet of clay in the
3 initial boring?

4 A I believe the number was 32 that went at least
5 5 feet. And of those, 27 of them went at least 10 feet.
6 And then maybe half of those went as much as 30 or
7 40 feet into the clay.

8 Q Have you ever made any changes to boring logs
9 to make the geology or the soils appear more favorable
10 than they actually are?

11 A No.

12 Q Did you do that in connection with any of the
13 boring logs associated with the 130 Environmental Park
14 project?

15 A No.

16 MR. RYAN: I'll pass the witness.

17 JUDGE QUALTROUGH: Mr. Wilson, redirect?

18 MR. WILSON: I have a couple of
19 questions.

20 JUDGE QUALTROUGH: Excuse me. Recross.

21 RE-CROSS-EXAMINATION

22 BY MR. WILSON::

23 Q Just a couple of questions.

24 What's the hydraulic gradient from any
25 groundwater from the proposed landfill location? What's

1 the direction of the gradient?

2 A We determine in the application that when there
3 is groundwater present, based on the concept that in a
4 weathered clay zone the groundwater typically mimics
5 the -- the -- I'm sorry -- the top of the unweathered
6 zone typically mimics the topography and that the
7 groundwater surface typically mimics that. So we've
8 identified groundwater flow directions based on the
9 top -- contour map of the top of the unweathered. It's
10 basically in all directions radially from the site
11 except for a small piece to the north.

12 Q So it could go to the southeast to the south or
13 the southwest based upon the surface topography that you
14 discussed?

15 A I would anticipate so, yes.

16 Q Are you familiar with any of the studies done
17 by Plum Creek Conservation District on the geology in
18 the vicinity of the site, and particularly of the dam at
19 the site?

20 A Was your question am I familiar with them?

21 Q Yes, sir.

22 A Let's say that I'm aware of them and familiar
23 with some. I didn't -- at times I have reviewed some of
24 the geologic studies on the Plum Creek site. I don't
25 know that I'm familiar with all of them or at all

1 familiar with the details of the -- or the conclusions
2 that have been drawn.

3 Q Do you know that within the last two months
4 there has been a new report by the Plum Creek geologist
5 on the geology under the Dam Site 21?

6 THE REPORTER: I'm sorry. "Under the" --
7 repeat that last part, please.

8 JUDGE QUALTROUGH: Repeat what you said,
9 please.

10 Q (BY MR. WILSON) Are you aware that within the
11 last two months, there has been a report by the Plum
12 Creek geologist about the geology under the dam at
13 Site 21?

14 A I'm not aware of a report that was done. I was
15 aware of that conclusion from an interview that
16 Ms. Perales did of Mr. Wilson wherein he mentioned some
17 conclusions such as that.

18 Q I didn't state his conclusion but he just gave
19 a report to the board about his findings of the geology.
20 And you're not aware of that, are you?

21 A No.

22 Q Does -- you spoke in terms of overlying and
23 underlying younger and older formations. Does the
24 gradient of the formations generally go dim in the
25 southeasterly direction from the northwest.

1 A Yes.

2 Q Is that universally true for the formations?
3 Do they stair-step? Do they have bright-line
4 distinctions between the two of them?

5 A I'm sorry. I guess I don't understand what you
6 mean by that.

7 Q Right. Can you always -- is there a defined
8 contact line in formations such as the Midway and the
9 Wilcox to where you can always easily differentiate the
10 rocks being part of one or the other?

11 A No. I think I testified earlier that there
12 would be places where you might not know the difference
13 between Midway and Wilcox because of the clay nature of
14 both of those formations or both of those groups.

15 Q Is it possible to have a Wilcox formation and
16 look at it and say, I really believe that this is
17 Midway?

18 A I guess you could theoretically say that was
19 possible. I've not seen anything in any of the borings
20 that have been drilled on this site to suggest that
21 we've -- that we have any Midway. It all seems to point
22 to -- I'm sorry. That we don't have any Wilcox.

23 Q I understood. You said --

24 A Yeah, but I need to make sure that everybody
25 does.

1 It all seems to point to the material that
2 we have is Midway, and that we haven't yet reached in
3 the borings that have been drilled, any contact with the
4 Wilcox.

5 Q Are you aware of any of the groundwater-dating
6 studies performed by Plum Creek Conservation District
7 about the age of water in various groundwater
8 formations?

9 A I'm not aware of that.

10 Q All right.

11 MR. WILSON: That's all the questions I
12 have.

13 JUDGE QUALTROUGH: Okay. Executive
14 Director.

15 MS. MURRAY: Yes, I have a few follow-up
16 questions.

17 REXCROSS-EXAMINATION

18 BY MS. MURRAY::

19 Q There have been a lot of questions comparing
20 the 130 site to the Pintail site.

21 A Yes, ma'am.

22 Q In your opinion, is the 130 site a better site
23 from a geological perspective?

24 A I think as I was explaining this morning, that
25 those things are qualitative evaluations. From the

1 standpoint of availability of clay, from the standpoint
2 of -- that you're not below an aquifer -- I mean, I'm
3 sorry -- that an aquifer is not beneath the site, from
4 the standpoint of limited groundwater, it is a better
5 site. That's not to say that the Pintail site isn't a
6 good site. It is to say that this is better.

7 Q Okay. Earlier, you were testifying about TCEQ
8 rules regarding groundwater levels and the design of the
9 groundwater monitoring system. Can you look at Rule
10 330.403(e)(1)? And it's in Subchapter J if that helps
11 you.

12 JUDGE QUALTROUGH: Did you say J?

13 MS. MURRAY: Yes.

14 JUDGE BELL: 330.403. What was the rest
15 of the reference?

16 MS. MURRAY: (e)(1).

17 THE WITNESS: That is the reference I was
18 looking for earlier but couldn't find it.

19 Q (BY MS. MURRAY) Yes. So this is the rule that
20 requires the characterization of groundwater including
21 seasonal and temporal fluctuations?

22 A Yes.

23 Q Was that done in this case?

24 A Yes. We've measured -- well, the technically
25 complete application includes, as I recall, well more

1 than a year of data for groundwater. And we've
2 continued to take water levels right up until this last
3 month. So we've had it for a period of about three
4 years. And -- so yes.

5 Q Okay. Okay. 330.63(e)(4), the soil boring
6 plans. When you submitted these plans in the past
7 without the requisite ED approval that is set out in
8 this rule, the ED never asked you for -- for any changes
9 prior to approving these plans?

10 So you testified that you submitted these
11 plans in the past without getting the required ED
12 approval?

13 A Okay.

14 Q Did -- in those instances, did the ED ever ask
15 you for any changes prior to the ED approving those
16 plans? Like, did he ever ask you to change the location
17 of the borings?

18 A You know, in the last eight or ten years, it's
19 become very common. It used to not be common at all
20 when you would submit a boring plan, if you had the
21 numbers that met the rules, there would no comment. In
22 the last 10 years or so, it has been an increasing more
23 complete review by the agency asking to make sure that
24 certain things are mentioned.

25 So there have been a lot of times when

1 they've asked me to add up -- add a paragraph or clarify
2 something or things such as that. I don't specifically
3 remember that anybody has ever asked me to either drill
4 more borings or to add piezometers. I could be wrong
5 about that. I just don't remember that that's happened.

6 Q And then you -- it was today or it was in your
7 deposition you said that the -- the ED doesn't enforce
8 this rule. What -- can you tell me what you mean by the
9 term "enforce"?

10 A Sure. It may be a bad choice with the terms on
11 my part. What I meant by that was my own personal
12 opinion, that the rule was an unenforceable rule in that
13 borings that are appropriately done and properly done
14 surely will be allowed to be used. And the remedy for
15 that would be to cause -- the remedy that they could use
16 to enforce the rule is to cause an Applicant to go
17 redrill a boring for which they already have a
18 legitimate boring log. And to my knowledge, at least in
19 my experience, they've never done that. So I -- I think
20 somewhere along the line, I explain that -- not that
21 they don't -- I mean, I know I said that, that they
22 don't enforce it. What I meant was they use judicious
23 response in looking at this and say, "We don't need to
24 ask them to drill any more borings." Now that this has
25 been highlighted and the debate among a lot of people, I

1 suspect that will change going forward. In my 25 years
2 of being at the agency and dealing with the agency, I've
3 never had somebody suggest that we needed to go redrill.

4 And furthermore, most of the permits that
5 we do are permit expansions, and you're using boring
6 logs that are sometimes 20 or 25 years old for which
7 nothing exists except for a log that was included, and
8 those are legitimately used to make interpretations
9 because the process by which you create a log is a
10 standard process called for in geotechnical engineering
11 and groundwater monitoring and in the rules of the
12 agency.

13 MS. MURRAY: I have no further questions.

14 JUDGE QUALTROUGH: All right. OPIC?

15 MR. TUCKER: I have a few questions.

16 RE-CROSS-EXAMINATION

17 BY MR. TUCKER::

18 Q Good afternoon, Mr. Snyder.

19 A Good afternoon.

20 Q Can I get you to turn to Applicant's
21 Exhibit 130EP-7, Page 17? This is in Volume 5.

22 A Okay.

23 Q Mr. Ryan asked you a few questions
24 distinguishing between the borings conducted by Biggs &
25 Mathews and -- or by 130 Environmental Park and the

1 Protestants' borings.

2 A Yes, sir.

3 Q Can you -- so for the borings conducted by 130,
4 BME stands for Biggs & Mathews Environmental. Is that
5 correct?

6 A Yes.

7 Q And for the Protestants' borings, what do the
8 different letters stand for as it appears there?

9 One says -- some say MP; some say AR; and
10 some say IV. Can you explain the difference?

11 A I'll attempt to do that.

12 Q Okay. Thank you.

13 A To my level of understanding, those were their
14 designations. And my understanding was that MP stood
15 for migration pathways, that AR stood for aquifer
16 recognizance, and IV stood for investigation and
17 voracity, I think.

18 Q And those were labels from the Protestants?

19 A Yeah. That's how they named their borings.

20 Q Okay. And -- and I'll get you to keep this
21 open, but turn to Applicant's Exhibit 22.

22 A What's Applicant's Exhibit 22?

23 Q Preliminary geology.

24 A Okay.

25 Q And if you turn to Page 3 that you labeled, it

1 has the two preliminary borings.

2 A Yes.

3 Q And those were done in March of 2013. Correct?

4 A Yes.

5 Q Okay. And did those borings appear -- those
6 preliminary borings appear on the later maps?

7 A No. We did not include them in the permit
8 application because we hadn't surveyed them. We hadn't
9 done any lab testing. They were very preliminary in
10 nature for our client. We didn't see a need. In fact,
11 I think we drilled very near both of these points with
12 our regular boring plan, so --

13 Q And who was the client?

14 A HHNT.

15 Q Okay. And I see on Page 3 that it's labeled
16 below the title "Preliminary Borings Location Plan,"
17 and it says, "Green Group Holdings, LLC."

18 A Yes.

19 Q Is that correct? So is that the company that
20 HHNT was doing the work for?

21 A They were doing the work for Green Group. I
22 don't know the legal entity. I'm not sure why we used
23 that. They may have told us to use that. I just don't
24 remember.

25 Q Okay.

1 MR. TUCKER: That's all my questions.
2 Thank you.

3 JUDGE QUALTROUGH: Caldwell County.

4 RECROSS-EXAMINATION

5 BY MR. MAGEE::

6 Q Hello. Do you know how deep the landfill is
7 going to go?

8 A Off the top of my head, not specifically, but
9 I'd suggest probably about 50 feet.

10 Q So when we're looking at, for example, the
11 cross section that you were going through earlier with
12 Mr. Ryan which is 130EP-4 at Page 40 --

13 A Okay.

14 Q -- this will show us if we're talking about how
15 far, roughly using your approximation of 50 feet, that
16 we could figure out which formations, right, that we
17 could potentially be getting into, according to this
18 map?

19 A I guess so. It's in the Midway, and that's
20 what you'd be getting into. The deeper you go, the
21 deeper you will be in the Midway.

22 Q So I think I understood your testimony. Well,
23 first, let me ask you a question since we're on this
24 exhibit. This is a map that was prepared in 1975. Is
25 that correct?

1 A Which map?

2 Q Well, not map, but this cross section.

3 A Yes. It's from a publication. It's one of the
4 few where regional cross-sections were constructed, and
5 we have to include one of those. So we have to use
6 whatever is available.

7 Q Okay. So this -- you just pulled this out of a
8 publication, and then put your stamp on it. Right?

9 A Well, I pulled it out of a publication for the
10 purposes of complying with a rule and put the
11 approximate site location and other markings and put my
12 stamp on it.

13 Q What other markings did you put on there?

14 A Well, we have our -- we have our title block.

15 Q Okay.

16 A We've marked the reference on there.

17 Q So the reference you're referring to that line
18 in the middle of the county?

19 A No. I mean below that map showing that --

20 Q Okay.

21 A -- is a reference that says where we got the
22 map.

23 Q Right. The 1975. Right?

24 A Yes.

25 Q And just because I'm nitpicky, and I represent

1 Caldwell County, I'm assuming you didn't misspell my
2 county's name, did you?

3 A I'll take responsibility for it.

4 Q What did these -- when you looked at the cross
5 section and then you put up here at the top the
6 approximate site location and then it says, "Projected
7 into the line of the section," do you see where I'm
8 referring to?

9 A Yes, sir.

10 Q And you go down on both sides of that, there's
11 a question mark in between each formation where it says
12 like the Midway group to the Navarro group, and then the
13 same thing on the other side, Wilcox group down to the
14 Midway group, down to the Navarro group. Does that mean
15 that they didn't have enough accurate data and they're
16 just projecting what they anticipate it to be?

17 A I interpreted it to mean that the person who
18 was doing the interpretation didn't think that he had
19 enough information to specifically know exactly where
20 that line was.

21 Q And that's what the question symbol is?

22 A I assume so.

23 Q Earlier, you testified about a well springs and
24 water bodies location map. Do you recall that earlier?
25 It's 131 at Page 61.

1 A Okay. I have it.

2 Q I think you and I had a discussion about this
3 map; also, you and Mr. Wilson had a discussion about
4 this map. And then we also looked at EP-4, Page 18,
5 which was the table that showed the wells that have been
6 identified in the Carrizo-Wilcox. Do you recall that?

7 A I do.

8 Q Okay. So I kind of want to look at all three
9 of these documents, and I want to mention one more here.
10 You and Mr. Tucker just went over EP-22, which is your
11 March 19, 2013 letter, specifically Page 3.

12 A Okay.

13 Q Okay. So these -- the two dots you've already
14 referred to as your initial boring samples. Just to --
15 a hair to the left of your two initial boring samples,
16 there's a dotted line. Does that indicate a roadway or
17 something?

18 A It does.

19 Q Okay. And so then you told us that the line --
20 the single dotted line surrounding this area was the
21 initial proposed landfill site. Correct?

22 A I don't know that it was the initial. It was
23 some early version of a conceptual plan that was
24 provided to us.

25 Q And then if you compare that to EP-1, Page 160,

1 that shows the wells, springs, and water bodies --

2 A Page 61.

3 Q Yeah. Page 61. Thank you for that correction.

4 A All right.

5 Q So the record is clear, you identified a single
6 line, dotted, up there that is identified as the
7 landfill footprint. Correct?

8 A Yes.

9 Q Okay. Then we see a solid line that appears to
10 match the line on Page 3 that shows that roadway. Is
11 that correct?

12 A I believe it's the same.

13 Q Okay. So then, if we just eyeballed it, it
14 looks like these two initial borings are currently in
15 the landfill footprint?

16 A Yes.

17 Q Okay. So your testimony today has been that
18 all the materials you found are in the Midway, and you
19 did not experience the Wilcox at all. Right?

20 A That's right.

21 Q Okay. If you'll turn back to Page 2 --

22 A (Witness complies).

23 Q -- the very top of the page -- and I'm
24 referring to Page 2 of 130EP-22. It says "Material
25 Types" at the top?

1 A Okay.

2 Q The second sentence says, "Shallow silty clays
3 were encountered from 5 to 35 feet in depth."

4 Did I read that correctly?

5 A Yes.

6 Q So if the landfill at least in some parts is
7 going to be 50 feet deep, maybe not at all places,
8 that's the type of material types that you would have
9 encountered, correct, based on these two initial
10 borings?

11 A Yes.

12 Q And then if you look at the second to last
13 sentence in that same paragraph, when you provided this
14 description to your client, Mr. Hodges, in March of
15 2013, you describe the formations that were encountered
16 appear to correspond with the Eocene Midway/Wilcox
17 formation. Correct?

18 A Yes.

19 Q Okay. So at that time you at least identified
20 it as Wilcox?

21 A Actually, what I identified was the materials,
22 I think I said, appeared to correspond.

23 Q Right.

24 A I didn't really know much about what the
25 geologic formations were. But I'm generally familiar

1 with both the Taylor Midway which turned out we are not
2 anywhere the Taylor Midway, but the material was similar
3 to that, and the Eocene Midway silty clays, which I was
4 familiar with, it turns out were not near that either,
5 so --

6 Q And you describe that as, in part, Wilcox
7 formations. So then when we look over at EP-4, Page 18,
8 the table of that identifies the stock ponds and the
9 domestic wells; we can see depths associated with those
10 of -- it looks like the first one, 301, is 20 feet.

11 A I've lost your reference. Tell me again where
12 I'm at.

13 Q It's 130EP-4, Page 18. It's Table 3.

14 A Okay. Okay.

15 Q So that description of March 19th, 2013, that
16 in part says (as read), "Wilcox forming, encountered
17 what appears to correspond with Wilcox formation."

18 Then we look over at the wells that are in
19 this same range, the 5 to 35 feet that you mentioned.
20 And that is 301, the well ID number that ends in 301, on
21 130EP-4, Page 18 shows a depth of 20 feet and says it's
22 completed in the formation of the Carrizo-Wilcox.
23 Correct?

24 A That's what the well report said.

25 Q Okay. And same thing with Well 302. It's

1 within a depth of 41 feet, and it's in the Wilcox. And
2 then the last two, just so we don't go through each one,
3 601 and 603 show depths of 49 feet and 26 feet both in
4 the Carrizo-Wilcox respectively. Do you agree with
5 that?

6 A That's what the well report said.

7 Q Okay. Well, your report also mentions the
8 Wilcox, your initial report.

9 A I think I need to reiterate that what I said
10 was that it was this material appears to correspond with
11 Eocene Wilcox-type material, silty clay. I wasn't
12 saying that it was for sure that. I said it appears to
13 correspond to that.

14 Q Well --

15 A And --

16 Q Except today, you kind of said something a
17 little different. You said these two borings that are
18 shown on No. 3, your two initial borings, they are near
19 other existing borings, I believe, is what I heard you
20 say. And then you made it pretty clear that you have
21 experienced no materials from the Wilcox, that it's only
22 been Midway. So I'm just trying to correlate all these
23 documents together to understand that initially you
24 yourself thought it was the Wilcox formation. Correct?

25 A Again, I didn't say that I thought it was. I

1 said that it corresponds with that type of material.
2 This was as noted on the report as a preliminary report.
3 Since then, we've incorporated numerous geologic maps,
4 regional groundwater and geology reports, and done a lot
5 of drilling to suggest that we are not anywhere near the
6 Wilcox, and I don't believe we've encountered anything
7 that suggests that it's Wilcox.

8 Q And since then, there's also been a report
9 issued by Plum Creek Conservation District. That also
10 characterizes the geology under the site that you
11 haven't reviewed. Correct?

12 A Wait a minute. It characterizes the site under
13 what?

14 Q Under the dam.

15 A Okay. Not understood our site. Under the dam.

16 Q Correct.

17 A Those are two different things.

18 Q How close to the dam is this site?

19 A I don't know exactly. Half a mile --

20 Q Okay.

21 A -- estimated.

22 Q So when you were looking at these maps that
23 showed -- the orange and yellow maps that showed various
24 colors of the Wilcox and Midway, we now may have
25 information that would not be consistent with those maps

1 showing the orange and yellowish colors because you
2 potentially have a report from the dam that describes
3 the geology under the site and may identify the Wilcox.
4 I don't know.

5 A You mixed a whole lot of things right there
6 that I'm not sure I understand you question. Would you
7 mind --

8 Q (BY MR. MAGEE) Well, I probably can't,
9 because I can't find that map right now that you --

10 A It is EP-7, Page 13 --

11 Q Okay.

12 A -- Volume 5. I believe that's what you're
13 referring to.

14 Q That's the one. So earlier when you gave a
15 description of the various colors up here that show the
16 landfill site, the permit boundary includes what type of
17 formations, according to this map?

18 A Primarily, it shows Midway and Leona. There's
19 a thin little sliver -- somebody described it as a
20 couple of small intrusions on the far southeast corner
21 that could be Wilcox, according to the geologic map.

22 MR. MAGEE: I don't think I have any
23 further questions.

24 JUDGE QUALTROUGH: All right.

25 JUDGE BELL: TJFA, EPICC cross -- recross?

1 Excuse me.

2 RE CROSS-EXAMINATION

3 BY MS. PERALES::

4 Q Mr. Snyder, first, just kind of a housekeeping
5 question. Do you have 130EP-7, Page 13, in front of you
6 still?

7 A Yes, ma'am.

8 Q That's not a good example. Let me instead
9 refer you to EP -- 130EP-4, Page 40.

10 A Okay.

11 Q So you have your seal on this document, and
12 then it has -- it bears a date of November 6, 2014.
13 Does that reflect the date you -- you attached your seal
14 to the document?

15 A Yes.

16 Q But this is part of an application that was
17 declared technically complete on October 28, 2014.
18 Isn't that right?

19 A I believe we said that earlier. Yes.

20 Q So was this sealed after the application was
21 declared technically complete?

22 A There was -- before that, there was a seal on
23 it when we produced a technically complete document
24 which was obviously after the date that they declared it
25 technically complete. We apparently signed and sealed

1 it on the date that we did it.

2 Q Okay. So you replaced some of the pages?

3 A No. I think we just -- I think that the pages
4 were the same. I think that we applied our seal as is
5 our practice when we have a -- when it's been declared
6 technically complete, we prepare a technically complete
7 application. And we put our signs and seals --
8 sometimes we do it on the date that they declare it, but
9 sometimes briefly thereafter.

10 Q So what was submitted to TCEQ did not have a
11 seal?

12 A No. It had a seal of a different date.

13 Q Okay.

14 A The date that it was submitted.

15 Q And so why would you change it?

16 A Well, because when we do a technically complete
17 application, we've changed it and noted that it was the
18 technically complete version.

19 Q So the new date just is simply intended to
20 reflect that it's now been declared technically
21 complete?

22 A Yeah. I think that's the answer.

23 Q Okay. So in -- you don't recall making any
24 changes to any of the documents after it was declared
25 technically complete other than the supplements you've

1 already talked about?

2 A I do not.

3 Q And other than obviously the seals said the
4 dates that you had it?

5 A Yes. Well, please note on each of those
6 drawings, there's a little box down there that says
7 "technically complete," and it has the date that -- that
8 it was technically complete, just to the left of the
9 main title block.

10 Q Okay. And so that's the revision that you've
11 sealed?

12 A Yes.

13 Q Okay. You -- you testified earlier about
14 collecting a year's worth of groundwater data in the --
15 or maybe it was 18 months of groundwater data in the
16 Pintail case. Is that right?

17 A Yes, ma'am.

18 Q And in this particular case, the 130EP case,
19 how many months of groundwater data had you collected
20 when you prepared and submitted the application to TCEQ?

21 A I don't remember.

22 Q Would it have been less than a year's worth?

23 A Quite often it is because the -- the review
24 time takes time, takes months usually. So quite
25 frequently we will have done six or seven months of

1 water level readings knowing that we're going to have
2 two sets of NODs to respond to and we will -- we will
3 have completed the required amount of time before they
4 are done reviewing.

5 Q You're saying that typically you've collected
6 six to seven months of groundwater data before you
7 submit an application?

8 A I'm not sure I said that. I --

9 Q Okay.

10 A What I'm saying was, typically we will submit
11 it with less than the full year on the first submittal
12 because we will be continuing to take water level
13 readings over the time that things are being reviewed.

14 Q Do you recall when it was that you first
15 submitted an application to TCEQ in this case?

16 A In 130EP?

17 Q Yes.

18 A No, I don't.

19 Q Could it have been just a couple of months
20 after you drilled your borings?

21 A With that, I don't remember. So I -- I'm not
22 going to speculate.

23 Q And to be clear, in this case, you submitted
24 Parts 1 and 2 before you submitted the entire
25 application. Is that right?

1 A Yes.

2 Q So when you talk about collecting six to seven
3 months of groundwater data before submitting an
4 application, are you referring to the full application
5 or Parts 1 and 2?

6 A Well, in my mind, I was referring to a full
7 application.

8 Q Okay. So you would not have collected -- to be
9 clear, you would have not -- you would not have
10 collected an entire seasonal period of groundwater data
11 by the time you submitted an application. Is that
12 right?

13 A Yeah. I think what I was saying was I think
14 that's the case. I don't remember the specific dates,
15 but --

16 Q Okay. You also testified that in the Pintail
17 case, BME-A5, I think you said that you drilled another
18 boring. Is that right?

19 A Yes, ma'am.

20 Q So when did you do that?

21 A Sometime last fall.

22 Q And it was at the same location --

23 A Same location.

24 Q -- as 85?

25 A Approximately.

1 Q For what purpose?

2 A The purpose was to confirm throughout that case
3 there have been -- there were people that accused us of
4 making things up about that, and I have tried to explain
5 what we did. And at some point, our client said, "Go
6 drill another boring; show me the clay." So we did.

7 Q And is it because that's the only why that you
8 could confirm or dispute what it is that's reflected in
9 the borings?

10 A Well, I don't know that it's the only way, but
11 we ended up drilling more footage than we did the first
12 time. That was the real point of this was to drill to
13 show that we had 10 feet, and we hadn't drilled that
14 before, so --

15 Q After you drilled BME-A5, did you retain the
16 samples in the field logs -- or you -- after you -- I'm
17 sorry -- after you drilled the boring near BME-A5?

18 A It happens that I have them.

19 Q Okay.

20 MS. PERALES: May I approach?

21 JUDGE QUALTROUGH: Yes, you may.

22 Q (BY MS. PERALES) I have handed you a document
23 that's been marked BME -- I'm sorry. It's been marked
24 P-22. Do you see that?

25 A Yes.

1 Q Do you recognize it?

2 A Yes, I believe I do.

3 Q What is this document?

4 A This appears to be a response letter to a
5 Notice of Deficiency on 130EP's permit application.

6 Q And this response is dated June 27, 2014. Is
7 that right?

8 A Yes, ma'am.

9 Q So this would have been after the field logs
10 and samples had been destroyed. Is that right? It's
11 after the Preservation of Evidence letter?

12 A I think so. Yes.

13 Q So if you turn to Page 19 of the document --
14 and the page numbers I'm referring to are in the top
15 left-hand corner.

16 A Okay.

17 Q And take a look at No. -- the NOD Number 54.
18 Do you see that?

19 A Yes.

20 Q And so here the NOD observes that the
21 application -- or the geology report describes Stratums
22 2 and 3 as having very little evidence of fractures or
23 slickensides. And the permit reviewer asked that this
24 be revised to clarify whether fractures or slickensides
25 exist. Is that right?

1 A Yes.

2 Q And your response was that there were no
3 fractures and only one slickenside. Is that right?

4 A What I -- what the response is that the
5 paragraphs have been revised to clarify the presence.

6 Q Okay. But we know from looking at your geology
7 report that -- that there were no fractures and there's
8 one slickenside, and that's what you mean by clarify.
9 Right?

10 A Yes. Because my original report was very
11 little evidence of fractures or slickensides. And I
12 think Art suggested that that was not as clearcut as he
13 would like it to be based on the logs.

14 Q Right.

15 A So we revised it in accordance with that.

16 Q So when you made this revision, you only had
17 your final logs to look at to determine for sure whether
18 there were no fractures. Is that right?

19 A Yes.

20 Q Because there were no longer any samples or
21 field logs. Right?

22 A There were certainly no field logs. And as I
23 said, I don't really remember when the samples were
24 destroyed. But I didn't look at any samples certainly
25 to answer that question.

1 Q Okay. Have you -- have you been involved in
2 any other landfill case where you've mischaracterized a
3 formation that's -- that bears groundwater?

4 A I don't know that I've ever been involved in
5 one where I mischaracterized anything.

6 Q Well, you were the -- the geologist who put
7 together the geology portion of the application for
8 IESI's proposed landfill in Jack County. Isn't that
9 right?

10 A I was.

11 Q And in that case, do you recall describing an
12 aquiclude beneath the subsurface of the proposed
13 landfill site?

14 A Yes.

15 Q That aquiclude was a formation referred to as
16 the Pennsylvania. Isn't that right?

17 A Yes.

18 Q Do you recall whether the ALJs agreed with your
19 characterization in that case?

20 A I don't remember what the ALJ agreed to.

21 MS. PERALES: So we need to take a short
22 break to get a document marked.

23 JUDGE QUALTROUGH: Okay. Are you going to
24 offer Exhibit 22?

25 MS. PERALES: Yes. I will offer

1 Exhibit 22. The reason it's out of order is I intended
2 to use it to Mr. Maroney, so I'll have a gap.

3 JUDGE QUALTROUGH: Any objections to 22?

4 MR. RYAN: No.

5 JUDGE QUALTROUGH: 22 is admitted.

6 (Exhibit Protestant No. 22 admitted)

7 (Discussion off the record)

8 (Exhibit Protestant No. 39 marked)

9 JUDGE QUALTROUGH: All right. We're going
10 to go back on the record. Go ahead.

11 Q (BY MS. PERALES) Okay. Mr. Snyder, I've
12 handed you a document that's labeled Exhibit P-39. And
13 I'll ask you to turn to -- this is a double-sided
14 document. I'll ask you to turn to the back side of
15 Page 2 where at the top -- the caption at the top should
16 help you identify what this document is. Do you see
17 that? I'm referring you to the caption that says,
18 "Application of IESI Texas Landfill, L.P. For A New Type
19 I MSW Permit." Do you see that?

20 A Yes, ma'am.

21 Q Okay. And if you take a look at the front page
22 of the one, two -- the fourth page?

23 JUDGE QUALTROUGH: You can just go off the
24 PFE page numbers.

25 MS. PERALES: The page numbers don't start

1 until --

2 JUDGE QUALTROUGH: That's okay.

3 MS. PERALES: It would be Page 1 where it
4 says, "Amended proposal for decision." Do you see that?

5 THE WITNESS: Yes, ma'am.

6 Q (BY MS. PERALES) And do you see the
7 introduction there?

8 A Yes.

9 Q Can you take a moment to review that
10 introduction and see if you recall what this is?

11 A Okay.

12 Q So does this appear to be the proposal for
13 decision for the proposed IESI Landfill in Jack County
14 that we discussed earlier?

15 A I think it is. It says the amended proposal
16 for decision.

17 Q Okay. Then if we go to Page 4 of the PFD...

18 A (Witness complies).

19 Q At the very bottom of that page, there's a
20 paragraph that starts with "John Michael Snyder CPG."
21 Do you see that?

22 A Yes.

23 Q Is that a reference to you?

24 A Yes.

25 Q Okay. And so this appears to be an amended

1 proposal for decision for the Jack County landfill case
2 that you worked on. Is that right?

3 A Yes.

4 Q Okay. Can you turn to Page 18?

5 A Okay.

6 Q Underneath the paragraph that has the
7 subheading "Analysis," do you see that?

8 A Yes.

9 Q Can you read that paragraph there?

10 A (As read), "The ALJ finds that the Applicant
11 did not adequately address areas of recharge to the
12 aquifer within 5 miles of the site primarily because the
13 Pennsylvania is not an aquiclude and supplies water to
14 wells on properties within 1 mile of the site where the
15 Applicant would have landfill operations. The greater
16 weight of the evidence shows that one reason the
17 Pennsylvania has higher water quality in southeastern
18 Jack is because it underlies the cretaceous Trinity
19 aquifer sediments for which the Pennsylvania may be
20 recharged."

21 Q Okay. Thank you. So based on that description
22 or that paragraph that you just read, it appears that
23 the ALJ disagreed with your description of the
24 Pennsylvania as an aquiclude. Isn't that right?

25 A It appears so.

1 Q Okay. And, in fact, the ALJ determined that
2 usable groundwater was withdrawn from the Pennsylvania.
3 Isn't that right?

4 A I believe that's correct.

5 Q Okay. Do you recall whether in that case the
6 samples and original field logs had been destroyed by
7 BME before we got to a hearing?

8 A I don't recall when samples were destroyed.
9 I'm almost certain that field logs were destroyed
10 because that is our process once we've completed the
11 final log as I mentioned earlier today.

12 Q You also testified that this particular site in
13 Caldwell County, in your opinion, appears to be better
14 than the proposed Pintail site. Did -- in making that
15 evaluation, did you consider the presence of the High
16 Hazard Dam that is near the proposed site?

17 A I did not consider the High Hazard Dam as part
18 of my evaluation.

19 Q What about the presence of the floodplain. Is
20 that part of your evaluation?

21 A Yes. We are out of the floodplain, so it -- it
22 didn't affect my decision.

23 Q So having the floodplain right up against the
24 proposed boundary of the site, that doesn't affect your
25 evaluation of whether this site is one of the best

1 you've ever seen?

2 A Certainly I was referring to geologically --
3 hydrogeologically in the groundwater sense, so I was not
4 thinking about or considering --

5 Q Okay.

6 A -- surface water.

7 MS. PERALES: Okay. I'll pass the
8 witness. Thank you, Mr. Snyder.

9 JUDGE QUALTROUGH: Is there an offer on
10 the IESI PFD?

11 MS. PERALES: There is. I will offer
12 P-39 into evidence.

13 JUDGE QUALTROUGH: Any objections?

14 MR. RYAN: Your Honor, I would -- I won't
15 object to it if I can get you to take official notice of
16 the court of appeals opinion in the appeal from that
17 case.

18 JUDGE QUALTROUGH: All right. Do you have
19 a cite by any chance? You can always give it to me.

20 MR. RYAN: Okay.

21 JUDGE QUALTROUGH: All right.

22 MR. RYAN: I don't have the -- the
23 Southwest third cite, but I'll get that.

24 JUDGE QUALTROUGH: Right. We'll take
25 official notice of the Court of Appeals' decision, and

1 P-39 is admitted.

2 (Exhibit Protestant No. 39 admitted)

3 JUDGE QUALTROUGH: All right. So you pass
4 the witness. Okay. So that was it. Thank you. You
5 may step down.

6 So it's 4:15. Do you have another witness
7 that we can pick up with our remaining 45 minutes of the
8 day?

9 MR. RYAN: Sure. Mr. Traw.

10 JUDGE QUALTROUGH: Okay.

11 (Pause in proceedings)

12 JUDGE BELL: We are back on the record.

13 Mr. Ryan, are you ready to call your next
14 witness?

15 MR. RYAN: Yes, Your Honor. We will call
16 Mr. Tyson Traw.

17 JUDGE BELL: Raise your right hand,
18 please.

19 (Witness Traw sworn)

20 THE WITNESS: I do.

21 JUDGE BELL: All right. If you'll have a
22 seat.

23 Mr. Ryan, when you're ready.

24 MR. RYAN: Thank you, Your Honor.

25

1 TYSON L. TRAW, P.E.,
2 having been first duly sworn, testified as follows:

3 DIRECT EXAMINATION

4 BY MR. RYAN::

5 Q First, would you state your name for the
6 record?

7 A Tyson Traw.

8 Q Mr. Traw, do you have in front of you the
9 binder that's labeled Applicant's Exhibits Volume 7?

10 A Yes.

11 Q And do you see the exhibits labeled -- the
12 first exhibit labeled Traw 1?

13 A Yes.

14 Q And what is that?

15 A It looks to be my prefiled testimony.

16 Q And what is Exhibit Traw 2?

17 A It looks like it's a resumé.

18 Q Of who?

19 A Of mine.

20 Q Okay. If you were asked today orally each of
21 the questions that are set out in Exhibit Traw 1, would
22 your answers be the same as the answers in that exhibit?

23 A Yes.

24 MR. RYAN: Your Honor, I would offer
25 Exhibits Traw 1 and Traw 2.

1 JUDGE BELL: Any objections to Traw 1 or
2 Traw 2?

3 (No response)

4 JUDGE BELL: Hearing none, Traw 1 and
5 Traw 2 are admitted.

6 (Exhibit Applicant Traw Nos. 1 and 2
7 admitted)

8 MR. RYAN: I'll pass the witness.

9 JUDGE BELL: Thank you. Cross-examination
10 for Mr. Traw from Plum Creek?

11 CROSS-EXAMINATION

12 BY MR. WILSON::

13 Q Mr. Traw, good afternoon. I'm Bob Wilson. I
14 represent Plum Creek Conservation District. I'll start
15 off by asking, have you ever participated in a
16 conceptual plan development for a landfill that's in a
17 small watershed protection plan promulgated by Natural
18 Resources Conservation Service?

19 A I have not.

20 Q Is it unusual to have a stormwater --
21 floodwater retention structure in close proximity to a
22 landfill such as the one being proposed here?

23 A I don't know that I would use the word
24 "unusual." Perhaps uncommon, but I know of other
25 instances that that's the case.

1 Q Did it present any special problems or
2 difficulties to you in designing the water flow around
3 the landfill or from the landfill?

4 A Could you repeat that one time for me?

5 Q Did the fact that we have a floodwater
6 retarding structure in fairly close proximity downstream
7 present any special problems to you?

8 A I wouldn't characterize them as problems. I
9 certainly had to account for it in my analysis. So it
10 expanded the analysis that maybe we normally would have
11 done had the reservoir not been there.

12 Q And I totally understand it, and I've looked at
13 your calculations and understand them to be that you now
14 have it designed to prevent run-on water from going off
15 the landfill and then exiting the landfill to the site.
16 You're diverting run-on water around the landfill. Is
17 that correct?

18 A I'm not sure I understand your question.

19 Q Okay. Water coming onto the site upgradient in
20 the surface watersheds from the landfill will be
21 diverted around the operational part of the landfill.
22 Is that correct?

23 A I don't think I'd characterize it that way
24 because we don't really have a lot of run-on where this
25 site is because of the existing topography where the

1 site is.

2 Q The rules require you to address run-on to some
3 limited extent; do they not?

4 A They do.

5 Q And you did take that into consideration in
6 your design of this landfill?

7 A Absolutely.

8 Q All right. There are at least seven detention
9 ponds designed in and around the active portion of the
10 landfill, are there not?

11 A Yes.

12 Q What happens to the water in those detention
13 ponds?

14 A It's discharged to waters of the US.

15 Q Does that mean it would flow into the Site 21
16 capturing basin downstream?

17 A Yeah. And I probably should back up and be
18 more specific that that is what it does. It discharges
19 in -- the water would go along its normal drainage
20 pattern, which in this case, is downstream to the Site
21 21 Reservoir.

22 Q Is the presumption that all of the water in
23 those retention ponds on site will be uncontaminated?

24 A Can you repeat the question?

25 Q Is it your presumption that all of the water in

1 those ponds that will be discharged in the normal course
2 will be uncontaminated?

3 A In the -- in regards to the definition in the
4 TCEQ rules and the MSW section about contaminated water,
5 that would be true, yes.

6 Q Is there a plan to do any quality -- water
7 quality sampling of the water in the ponds upon
8 discharge or prior to discharge?

9 A If there -- if there is, I don't know that that
10 plan has been set out yet because it would -- it would
11 involve the -- the general stormwater permit for
12 industrial sites. I can speak to that in part of the
13 application if you would like.

14 Q I'm going to -- I understand the general
15 stormwater permit for industrial sites, you are going to
16 comply with that site because that's in your
17 application -- I mean, comply with that permit. Does
18 that permit require any water quality testing of the
19 water before it's discharged?

20 A It may. Those are highly dependent on the
21 actual site. And those rules also change regularly. In
22 fact, I think it was updated as late as a couple weeks
23 ago, the requirements for those, so --

24 Q Would the requirements associated with that be
25 in any way special because of a municipal solid waste

1 site, or would they just be the general characteristics
2 of industrial operations?

3 A I think there's a specific code for municipal
4 solid waste sites. I don't recall what that code is,
5 but -- so there are specific requirements.

6 Q Do you know generally what any of those quality
7 requirements are?

8 A I don't recall.

9 Q All right. But the intent is to require -- or
10 to comply with whatever those requirements are?

11 A Correct.

12 Q One of the things I noticed about the
13 application and your drainage studies is that the
14 entrance road, there are two places on the entrance
15 road -- two drainage pathways. One of them goes in the
16 Site 21, and one does not. Is that correct?

17 A I'm not sure I -- that I'm following which ones
18 you're talking about.

19 Q Okay. Coming in to the site immediately off of
20 183, the access road, does that portion of the site
21 drain into the lake at Site 21 or does it drain below
22 it?

23 A There is a portion of the property that's
24 outside of the facility boundary that does not drain
25 into the Site 21 Reservoir.

1 Q Does the entire pathway of the entry road on
2 the site that's being permitted drain into Site 21?

3 A What do you mean by "the site that's being
4 permitted"?

5 Q The landfill permit that's under consideration
6 here today, that portion of the Hunter Tract that
7 contains the entry road whereby waste trucks come in
8 before they reach the guardhouse.

9 A Well, I believe a portion of the access road is
10 outside of the facility boundary. So the facility
11 boundary drains to the Site 21 Reservoir, but there are
12 portions of the property that the access road crosses
13 that does not drain to the Site 21 Reservoir.

14 Q So everything inside the facility boundary
15 that's covered in this application that is not part of
16 the 183 frontage road, all of that property drains into
17 the lake at Site 21?

18 A Could I ask you to repeat that, please?

19 Q Yes, sir.

20 A Sorry.

21 Q My understanding is that there is an access
22 road that's going to be constructed by the facility from
23 183 to being accessed into the site. Is that correct?

24 A That's correct.

25 Q Is that entire access road part of the

1 permitted area or not?

2 A I don't believe that it is. I believe a
3 portion of that access road is outside of the facility
4 boundary.

5 Q Is there any -- did you do any studies or have
6 any plans to consider contamination that might occur on
7 that part of the access road that is outside the
8 facility boundary?

9 A No.

10 Q Give me a minute. I'm looking for an exhibit.

11 MR. WILSON: Excuse me, Your Honor. I
12 never can find the right page when I need to find it.
13 I'm looking for the site layout drawing.

14 Q (BY MR. WILSON) Do you have one available to
15 you, Mr. Traw?

16 A I probably have several.

17 Q And what I'm looking for in particular is the
18 configuration of the road as it enters this facility.
19 Fortunately I have some good health, and they're showing
20 me a general site plan that Mr. Maroney prepared. It's
21 labeled 1A6. I don't know the page. It's Volume 1 of
22 the application.

23 JUDGE BELL: 130EP-1, Page 63.

24 MR. WILSON: Yes.

25 JUDGE BELL: Do you have that exhibit?

1 THE WITNESS: I'm sorry. Which one?

2 JUDGE BELL: We're looking at 130EP-1,
3 which is in Volume 1.

4 THE WITNESS: Okay. I have Volume 1.

5 JUDGE BELL: It's at Page 63.

6 THE WITNESS: Okay. I think I have that.

7 Q (BY MR. WILSON) And, Mr. Traw, my
8 understanding is that the permit area extends out to the
9 boundary of US 183. Is that correct? Is that your
10 understanding?

11 A No, sir.

12 Q Okay. What is your understanding of what the
13 permit area is?

14 A Well, give me just a moment to review this. I
15 think it might be on here, but it's not real clear.
16 Okay. On 130EP-1 on Page 63.

17 Q Yes, sir.

18 A Approximately in the -- in the -- if you look
19 at the seal there of Kerry Maroney --

20 Q Yes, sir.

21 A -- if you look above that and to the left about
22 an inch and a half, it says "facility boundary, 520
23 acers," and has a line out that points to a line on the
24 map that shows the facility boundary. That's what --
25 what I understand the facility boundary to be.

1 Q Okay. Thank you. So is the access road that
2 shows on Document 1A6 on Page 63, that's not part of the
3 facility boundary?

4 A Well, it looks like the access road extends
5 from 183 to the facility boundary. I don't know if that
6 answers your question.

7 Q Well, one of my questions is, you didn't -- and
8 I've already asked it. I think that you answered it.
9 You didn't consider any stormwater or drainage that
10 might come from that road outside the facility boundary?

11 A I think your earlier question was about
12 contamination because I did consider the road in
13 portions of my analysis.

14 Q Did you -- and you considered drainage off the
15 road. Is that correct?

16 A Yes, sir. I considered drainage off of the
17 access road.

18 Q Let me ask that question, then, because I see
19 that in your drawings, you talk about the road -- how
20 it's going to be paved, do you not? Is that in your
21 narrative?

22 A I'm not sure. Can you direct me to a location?

23 Q Well, how is the road, access road, going to be
24 constructed?

25 A I didn't design that, but it's my understanding

1 that a portion of it, I think, is described in the
2 highway permit, that it will use the same section of
3 pavement that -- that 183 uses, at least up to the
4 gatehouse.

5 Q Okay. Is the gatehouse the entrance to the
6 permitted area?

7 A Yeah. I guess actually it should say scale
8 house. It's shown on this exhibit, this 130EP-1, Page
9 63, over on the -- close to the middle on the left side,
10 it says "scale house and scales."

11 Q Yes, sir. I see that. And then slightly above
12 that, I see the location of the wheel wash facility. Is
13 that correct?

14 A Yes.

15 Q And you told us what happens at the wheel wash
16 facility and what happens to that water. And my
17 question really is, if there is any kind of -- I'm going
18 to say pollutant in the road leading up to that point,
19 what happens to it?

20 A Can you repeat the question, please?

21 Q Yes, sir. If there is something leaking off a
22 truck coming in to the site before it reaches the scale
23 house, what happens to that stuff dropping on the road?

24 A I guess in the scenario it would be pretty
25 difficult to say since I don't really know what the

1 substance you're referring to would be.

2 Q You don't know whether it just falls to the
3 side of the road and just has washed off in the rain and
4 drains into the lake?

5 A Well, there's an awful lot in that. I
6 certainly don't know what potential contaminant you're
7 talking about, and it may or may not drain into the
8 lake, depending upon the location of --

9 Q I understand.

10 A -- of where this would occur.

11 Q Excuse me. It depends on the slope and the
12 construction --

13 THE REPORTER: I'm sorry. I'm sorry.
14 Repeat that, please.

15 Q (BY MR. WILSON) Is that correct?

16 THE REPORTER: I didn't get your question.

17 JUDGE QUALTROUGH: The court reporter
18 didn't hear your question.

19 Q (BY MR. WILSON) Sure. I understand that it
20 depends upon a lot of factors, such as the slope of the
21 top of the road and what the drainage is like alongside
22 the road and whether -- I'm just interested in fluid
23 development, fluid movement, Mr. Traw.

24 Does fluid move from that road into Plum
25 Creek's lake?

1 A There's -- are you -- are you asking about
2 runoff?

3 Q Yes, sir.

4 A Okay. Excuse me. There is certainly a portion
5 of the access road that would drain to the Site 21
6 Reservoir.

7 Q Thank you. Are there any controls on the
8 quality of the water that might run off of that road?

9 A Well, it would be my understanding that it
10 would be included in the -- in the general stormwater
11 permit.

12 Q Even though it's outside the facility?

13 A Yeah. I think because the -- the stormwater
14 permit would be independent of the application, and it's
15 really more tied to the -- the kind of activity or land
16 use that's being -- that that area is being used for.

17 Q So you're telling me, then, as I understand
18 your answer, that the general stormwater permit is going
19 to cover a bigger area than the permitted landfill?

20 A I can't answer that because the permit
21 obviously has not been applied for or issued.

22 Q Let me get back to the internal area within the
23 permit, then, once you pass what's labeled on this
24 exhibit as the scale house. Is your understanding at
25 that point, you are inside the area that is to be

1 permitted?

2 A Yes. I believe the scale house is within the
3 facility boundary.

4 Q Okay. And your design, then, on runoff
5 addresses runoff from all roadways and pathways inside
6 the facility boundary?

7 A Everything -- all the improvements within the
8 facility boundary were included in my analysis.

9 Q Including the roads?

10 A Yes.

11 Q From the scale house, citizens' convenience
12 center, wheel wash, where does that water flow that
13 falls on the roads?

14 A What -- what location specifically?

15 Q I'm talking about from the entry at the scale
16 house. If you go north, you go to what is called the
17 proposed transfer station and MSW registration number.
18 It's got a number. Do you see that?

19 A Yes.

20 Q Between the scale house and that location,
21 where does the water go?

22 A Generally it would flow to the -- when you say
23 water, you mean stormwater?

24 Q Stormwater, yes, sir.

25 A Generally it would flow to the east and south.

1 Q Would it be captured in one of your sediment
2 ponds?

3 A No.

4 Q Would it be captured in one of the retention
5 ponds?

6 A No.

7 Q So if there is -- if there are pollutants in
8 it, there's nothing to stop them other than whatever you
9 do to test under your MSW stormwater permit. Is that
10 correct?

11 A I'm not sure I understand the question.

12 Q I'm trying to figure out how you characterize
13 the water that's released from on-site operations in
14 terms of its water quality.

15 A Okay.

16 Q How is that done?

17 A I'm sorry. I'm having difficulty understanding
18 what you're trying to ask.

19 Q Let me see if I can straighten it out a little
20 bit in my own head as well as for you.

21 There's all sorts of water that falls on a
22 site like this from rains and other operations, is there
23 not?

24 A Well, I -- I certainly think that there will be
25 rainfall on the site.

1 Q And I'm trying to find out before you reach the
2 area that is inside the landfill footprint, how is that
3 water directed? Is it directed -- let me just ask the
4 question. Is it directed by some constructed facilities
5 on site?

6 A Not in any major way. Generally, we're not
7 changing the natural drainage patterns in -- in those
8 areas that are -- that are outside of the landfill
9 footprint.

10 Q Is there a possibility that there could be
11 pollutants placed on the surface of the ground in areas
12 subjected to rainfall that would just flow across the
13 site?

14 A I suppose there could be just like anywhere
15 else, I suppose, or any other roadway.

16 Q Would those pollutants be different in a
17 municipal solid waste site than they would be from
18 agricultural operations, if you know?

19 A One more time for me. I'm sorry.

20 Q Yes. Would the pollutants associated with a
21 municipal solid waste site tend to be something other
22 than you would find in a normal farming or ranching
23 operation?

24 A You know, I'm not terribly familiar with
25 farming and ranching operations, so it would be hard for

1 me to compare those. I would say that, you know -- the
2 trucks that come in on the access road, they're already
3 on our public right-of-ways, you know, from 183 to 130
4 and other places, so it seems that there would be that
5 potential for pollution in those places as well.

6 Q Did you do anything to estimate the possibility
7 of increased pollutant loading to the lake at Site 21
8 associated with municipal landfill operations?

9 A I did not do any of that analysis, no.

10 Q Did anybody that you know of do any analysis
11 like that?

12 A I'm not aware of any analysis that would
13 characterize the release of contaminated water other
14 than what was done for handling that in the sense of the
15 landfill operations in leachate.

16 Q In the narrative, I believe you say, where does
17 the water from the truck wheel wash go, Mr. Traw?

18 A I'm sorry? The narrative?

19 Q Just let me ask you the question. If there is
20 wheel wash water for trucks using the road, where does
21 that water go?

22 A I'm not specifically sure about the design of
23 the wheel wash area because that's something more of the
24 operating plant and not the -- the drainage.

25 Q Mr. Traw, I'm reading from something in the --

1 that I downloaded from the version of the
2 administratively complete application posted on the TCEQ
3 website, and it's Attachment C, which is a facility
4 surface water drainage report, and it's got your
5 signature on it. Are you familiar with the document?

6 A I'm not sure.

7 Q Let me see if I can get you a reference real
8 quick. It's in Volume 1, Page 47 -- or excuse me. I'm
9 sorry. It's Volume 2, Page 47, of the application.

10 A Okay.

11 Q The first paragraph on C1 says that the
12 facility designed -- this is in the middle of the
13 paragraph -- complies with the requirements of TCEQ
14 municipal solid waste removal.

15 A I'm sorry. I don't see that on Page 47.

16 JUDGE QUALTROUGH: We need a page number.

17 MR. WILSON: I'm sorry. It's Page 49.

18 Q (BY MR. WILSON) Do you have that paragraph in
19 front of you?

20 A Which paragraph was it?

21 Q The first paragraph, and it's page -- it's
22 No. 1 under narrative. I'm particularly -- I looked at
23 the middle of that paragraph where it says, "The
24 facility design complies with the requirements of Rule
25 330.303(a)(b) concerning the management of run-on and

1 runoff during peak discharge of a 25-year rainfall
2 event."

3 Do you see that sentence?

4 A I do.

5 Q "The prevention of off-site discharge of waste
6 and feedstock materials and the control of surface water
7 discharge in and around the facility," do you see that?

8 A I do.

9 Q I'm trying to understand basically how your
10 design prevents off-site discharge of waste materials
11 from the permitting facility.

12 A Well, I guess it would be my understanding that
13 the waste materials would be contained in the -- in the
14 landfill footprint of which we have various drainage
15 systems to -- to control that water.

16 Q If I understand your answer, is it correct --
17 is my understanding correct it's your assumption, then,
18 is the only waste material at the facility of concern,
19 would be all contained within the landfill footprint?

20 A Can you repeat that, please?

21 Q Yes, sir. Is the only material -- it says
22 waste and feedstock material. The only material of
23 concern for this design is, under your assumption, all
24 going to be in the landfill footprint. It won't be
25 outside of that?

1 A I'm going to try to answer that. I'm still not
2 sure I understand the question. It's my understanding
3 again that the -- that the waste that's going to be on
4 site will be contained within the landfill, and we have
5 a drainage system in place within the landfill to -- to
6 prevent or control that surface water discharge.

7 Q If there is an accidental spill outside that
8 area of the landfill, how does your plan control
9 releases of an accidental spill?

10 A I guess what kind of spill would you be
11 referring to?

12 Q An accidental spill of waste that is brought in
13 to the site in a vehicle or a container.

14 A Well, I'm not really sure how this plan
15 addresses that, but I would think it would probably be
16 addressed any other way that, you know, that might occur
17 on a public roadway or somewhere outside of a managed
18 facility.

19 Q Page 63 in Volume 2, top of the page on 63,
20 says, "Proposed drainage system design." And it says,
21 "Will consist of drainage swells, downshoots, perimeter
22 challenge, detention ponds, and outlying structures."
23 Correct?

24 A Yes.

25 Q Is the entire area, not just the landfill area,

1 but the entire area of operations, subject to the
2 drainage swells, downshoots, perimeter channels,
3 detention ponds and outlet structures?

4 A Well, there are areas within the facility
5 boundary that -- that don't drain to one of those
6 controlled structures.

7 Q Where would they drain?

8 A Well, they would -- they would drain in the
9 same manner that they drained as the existing -- with
10 the existing drainage patterns.

11 Q Are all of the water channels running through
12 the site boundary that now exists going to continue to
13 exist the way they do now?

14 A Well, some of those will be modified because of
15 the -- the landfill itself.

16 Q The ones that are not modified because of the
17 placement of the landfill, will they be modified at all?

18 A That's not my understanding.

19 Q It's your understanding that they will not be
20 modified. Is that your answer?

21 A Well, I guess let me clarify. There will be
22 some places where, for example, if the access road were
23 to cross a stream, we have, you know, provisions for a
24 culvert or things like that. There may be some -- some
25 minor modifications, but as a whole, there are areas

1 within the facility boundary that I presume will be left
2 unchanged.

3 Q The next paragraph deals with perimeter
4 drainage system design. And my question is, is that
5 just a perimeter around the landfill cell?

6 A The perimeter drainage channel is a channel
7 that -- that conveys stormwater from the landfill to a
8 detention pond.

9 Q And then the next paragraph within that same
10 5.1 says, "The detention ponds" -- which are supposedly,
11 I guess, the receipt of that perimeter drainage system
12 -- "are designed to provide storage and outlet control
13 to mitigate impacts to the receiving channels downstream
14 from the park."

15 Is that correct?

16 A I see that. Yes.

17 Q What are they mitigating? Is it just water
18 flow or is it water quality, also?

19 A Well, 330.305 of the TCEQ rules requires that
20 the landfill not make adverse alteration to drainage
21 patterns. So the -- the ponds are there to -- to
22 mitigate the potential impact that the development of a
23 landfill may have on those drainage patterns.

24 Q So then the last sentence of that paragraph is
25 that the detention pond, the outlet structure, designs

1 its energy dissipaters to reduce the velocity and
2 turbulence of the flow leaving the detention ponds. Is
3 that correct?

4 A I believe that's what it says.

5 Q Is that the sole purpose of the detention ponds
6 and their design of the outlet structures of the
7 detention ponds?

8 A I'm not sure I understand what you mean by "the
9 sole purpose."

10 Q Is the sole purpose to reduce the velocity and
11 turbulence of the flow leaving the detention pond?

12 A No. I would -- I would say in general the
13 purpose of the detention ponds is to mitigate any
14 impacts on the receiving channels.

15 Q In terms of flow velocity and volume or in
16 terms of other things also?

17 A Well, certainly in terms of flow, velocity,
18 and -- and there may be some other benefits that I can't
19 think of right now.

20 MR. WILSON: Thank you. Your Honor, I
21 notice the time, and you said we were leaving today.

22 JUDGE BELL: Yes. I think we're finished.
23 Are you finished, or are you going to come back tomorrow
24 for some more?

25 MR. WILSON: I may come back tomorrow.

1 I'll think about it overnight.

2 JUDGE BELL: All right. We'll leave you
3 open, then.

4 All right. We're done for today. Back on
5 the hot seat tomorrow at 9 o'clock.

6 (Proceeding recessed at 5:01 p.m.)

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C E R T I F I C A T E

STATE OF TEXAS)
COUNTY OF TRAVIS)

We, Dalia F. Inman and Jodi Cardenas, Certified Shorthand Reporters in and for the State of Texas, do hereby certify that the above-mentioned matter occurred as hereinbefore set out.

WE FURTHER CERTIFY THAT the proceedings of such were reported by us or under our supervision, later reduced to typewritten form under our supervision and control, and that the foregoing pages are a full, true, and correct transcription of the original notes.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this 30th day of August, 2016.

JODI CARDENAS, RPR
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