

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

Wednesday, August 24, 2016

BE IT REMEMBERED THAT at 9:10 a.m., on Wednesday, the 24th 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 Jodi Cardenas and Lorrie A. Schnoor, Certified Shorthand Reporters.

Volume 8

Pages 1691 - 1963

1 PROCEEDINGS

2 WEDNESDAY, AUGUST 24, 2016

3 (9:10 a.m.)

4 (Exhibits Applicant Nos. 45 through 47
5 marked)6 JUDGE QUALTROUGH: All right. This is
7 SOAH Docket No. 582-15-2082; TCEQ Docket No.
8 2015-0069-MSW. It is August 24, 2016. It is 9:10 a.m.
9 We're in Austin, Texas, and we are starting back up with
10 the Protestants' case.11 Go ahead and call your next witness,
12 please.13 MS. PERALES: TJFA and EPICC call our next
14 witness, Mr. Scott Courtney.15 JUDGE QUALTROUGH: All right.
16 Mr. Courtney, I need to swear you in.

17 (Witness Courtney sworn)

18 JUDGE QUALTROUGH: All right. You may --
19 go ahead and have a seat and state your name for the
20 record.

21 THE WITNESS: Craig Scott Courtney.

22 JUDGE QUALTROUGH: Thanks.

23 You may proceed.
24
25

1 PRESENTATION ON BEHALF OF PROTESTANTS (CONTINUED)

2 SCOTT COURTNEY, P.E.,

3 having been first duly sworn, testified as follows:

4 DIRECT EXAMINATION

5 BY MS. PERALES:

6 Q Mr. Courtney, in front of you, you should have
7 a binder that includes Protestants' Exhibit 7. Do you
8 see that?

9 A Yes.

10 Q And you should also have in front of you
11 separately another Protestants' Exhibit 7 with a
12 paperclip, and it probably says replacement on there?

13 A Yes, it does.

14 Q Okay. Can you flip through Protestants'
15 Exhibit 7, the replacement, and note for us the redline
16 changes that have been made.

17 A Yes, I can.

18 Q Okay.

19 A Okay. On Protestants' Exhibit 6, Page 8.

20 Q And let me stop you there, because it's
21 somewhat confusing. The footer at the bottom of the
22 page says 6, but it's actually 7. It was a mistake.

23 A Redline it?

24 Q Sure. It was a mistake on our part.

25 A Protestants' Exhibit 7, Page 8, Line 17, I'm

1 going to change the sample designation from "A1" to
2 "U5."

3 Q Okay.

4 A Line 18 -- we'll change the interval from "0 to
5 2" to the numbers "8 to 10."

6 Q Okay.

7 A On Line 22, the description sample -- we're
8 going to change -- to be consistent, that is U5,
9 striking out A1. We're going to revise the
10 description -- we're going to strike "dark," add the
11 word "tan."

12 Q Is that all for that page?

13 A That's all on Page 8.

14 JUDGE QUALTROUGH: Actually, there's a
15 Line 3 change.

16 THE WITNESS: Oh, on top?

17 Q (BY MS. PERALES) Oh, that's right.

18 A We're going to strike a space.

19 Q Okay.

20 A Line 3.

21 Q Okay.

22 A On Page 9, Protestants' Exhibit 7, scratch --
23 on Line 1 scratch the words "very stiff, too." Add the
24 words "ferrous-stained and calcareous nodules,
25 moist/pebbles, dry."

1 Then on Line -- Line 2, beginning with
2 "on," all the way through Line 9 through the word
3 "recovered," scratch that whole sentence or paragraph.

4 Q Okay. And are there any other changes that
5 you've noted on Exhibit 7?

6 A I don't believe so.

7 Q Okay. Now, can you turn to the binder, and
8 flip through the Exhibits marked 7A, B, C, and D.

9 A Okay.

10 Q And let me know if you recognize those
11 exhibits.

12 A A, yeah. B, yes. C, yes. D, yes.

13 Q Okay. And are these the exhibits that have
14 been referenced in your prefiled testimony?

15 A Yes, I believe so.

16 Q Okay. If I asked you the questions that are in
17 your prefiled testimony today, would your responses be
18 the same as the revised responses that you provided in
19 your prefiled testimony?

20 A Yes, they would.

21 MS. PERALES: Your Honors, I would offer
22 replacement Exhibit 7, 7A, 7B, 7C, and 7D into evidence.

23 JUDGE QUALTROUGH: Any objections?

24 MR. RYAN: No objection.

25 JUDGE QUALTROUGH: All right. Those

1 exhibits -- Protestants' Exhibit 7 and 7A through D are
2 admitted.

3 (Exhibit Protestants Nos. 7 and 7A through
4 7D admitted)

5 MS. PERALES: And I'll pass the witness.
6 And I'll ask you to go ahead and
7 physically replace your prefiled testimony in the
8 binder.

9 THE WITNESS: All right.

10 JUDGE QUALTROUGH: Cross-examination for
11 Plum Creek?

12 MR. MCCARTHY: Your Honor, Eddie McCarthy
13 for Plum Creek. Nothing for Plum Creek.

14 JUDGE QUALTROUGH: All right. Thank you.
15 Caldwell or -- Caldwell County?

16 CROSS-EXAMINATION

17 BY MR. MAGEE:

18 Q Well, your change just took a lot -- away a
19 bunch of my questions, because I was going to ask some
20 questions about Page 9 and the Protestants'
21 Exhibit 130EP-4, Page 51 --

22 A Where am I looking?

23 Q 130EP-4, Page 51. It's in Volume 4.

24 A Okay. I'm sorry. Now that I've got my right
25 volume, which -- what am I looking for?

1 Q Page 51.

2 A EP-54?

3 Q 51.

4 A Log of BME-01?

5 Q Correct.

6 A Okay.

7 Q In your prefiled testimony, the new version on
8 Page 8, do you use -- starting at Line 15, you use this
9 boring as a, I guess, example of some -- of the -- of
10 the testimony that you provide following that. Right?

11 A Correct.

12 Q And I think I know where you got most of the
13 information. There had been a section down there under
14 remarks that you've now struck through. And I guess
15 one -- one question that I have is it describes the
16 sampling method at the bottom of the page --

17 A Correct.

18 Q -- as thin-walled tube. Is that what we've
19 been referring to as Shelby tube?

20 A Yes, sir.

21 Q Okay. And then it says, slash, split barrel?

22 A Yes.

23 Q Is it your understanding that they use split
24 barrel in any of their drilling operations?

25 A I believe they did occasionally. I think the

1 protestant -- I mean, the Applicants predominately use
2 Shelby tube. Shelby tube is kind of a generic name.
3 Thin-walled tube is ASTM standard. Occasionally, they
4 used split tube -- split barrel, split tube.

5 Q What's the difference between -- can you
6 explain for me what split barrel sampling means?

7 A It's a split spoon sampler. Okay?

8 Q Split spoon?

9 A Split barrel, split spoon, they're
10 interchangeable terms.

11 Q Okay.

12 A Okay. First of all, let's talk about the
13 thin-walled tube. That's the Shelby tube. It's just
14 the thin-walled tube, 2 to 3 feet long. They advance it
15 for collecting fine grain soils.

16 Typically, there's a progression in soil
17 sampling. When the soils are soft cohesive clays,
18 relatively speaking, you try to obtain the sample. You
19 get a larger, more representative sample with a Shelby
20 tube.

21 When it gets too hard to push the Shelby
22 tube, typically you advance to split barrel, split tube.
23 And then that is a smaller diameter sample that is
24 driven with a 140-point hammer repeatedly to basically
25 beat the sampler into the soil.

1 Q I guess this is kind of where I'm confused just
2 because this is not my area --

3 A Sure.

4 Q -- of knowing something, but -- so there's a
5 method in which you do the sampling. Right?

6 A Right.

7 Q And that's what the split spoon is and a Shelby
8 tube?

9 A Yeah. They both have their own procedures.
10 Okay? The split tube -- split barrels, split spoon --
11 typically, what you do is you -- you connected the split
12 barrel to the -- to the end of the drill pipe. And if
13 you're going to sample -- I think in this case, what do
14 we say, from 8 to 10. So you would have advanced the
15 bore hole to a depth of 8 feet, drilling and sampling
16 of -- then when you get to that depth of 8 feet, you
17 pull the drilling stems out, and then you replace it
18 with drill pipe or, you know, a pipe. And you put the
19 split spoon sampler on the end of the pipe, and you
20 lower it into the hole. And then you connect the
21 140-pound hammer to it above the ground. Then you lay
22 like a stake or a shovel or something down there to --
23 so you have a common data point. Then you typically
24 mark the pipe in three 6-inch increments.

25 And basic split-spoon sampling and basic

1 geotechnical sampling, what you typically do is then
2 you'll start driving the hammer. You pick it up with a
3 cable or a rope, pick it up, 140 pounds, 30 inches, and
4 then drop it real quick. And then you pick it back up
5 and drop it again. Pick it back up and drop it again.
6 Each one of those is called a blow. You count the blows
7 to advance the sampler. And typically, you collect that
8 data and you log the blow counts every 6 inches. The
9 first 6 inches is typically to, what they call, seat the
10 sampler. Oftentimes you'll have a little bit of fill
11 material, some drill cuttings, things like that. And so
12 ideally you drive the first 6 inches to seat the
13 sampler. Then the second 6 inches -- the next two
14 subsequent 6-inch increments are actually those that the
15 engineers use the most. And then you just count the
16 blow counts as you drive through these successive
17 6-inch --

18 Q Were you here yesterday with Mr. Rubinov's
19 testimony?

20 A Yes, I was.

21 Q Okay. So you saw the samples that he brought
22 in?

23 A Right.

24 Q So the first part, how were those samples
25 collected?

1 A Okay. There's a difference between the split
2 barrel that we used for continuous sampling versus the
3 split-spoon sampler that I just described.

4 Q Okay. When you say -- were they Shelby tube or
5 split barrel, the samples?

6 A I believe those -- I'd have to -- I didn't --
7 the samples didn't make it back to me. I didn't see
8 exactly which ones he presented, to be honest.

9 Q Okay. I was just curious --

10 A I was in the back of the room.

11 Q -- if all the samples looked the same. Like
12 when you pull them out with, like, a Shelby tube, if the
13 sample looked similar to when you pull it out with this
14 split spoon.

15 A Okay. No. Let me address that. And I'll
16 actually try to differentiate between all three sampler
17 types.

18 Q Okay.

19 A The Shelby tube is 3 inches in diameter. It's
20 round, cylindrical. And then whatever section gets
21 extruded -- gets collected and it's extruded, typically
22 you push like a 2-foot interval, and then you extract
23 it.

24 Q Let me stop you there. So when you extract it,
25 then you're looking at roughly a 2-foot interval that's

1 come out of that Shelby tube. Right?

2 A Well, let me get there. Okay, you push the
3 tube through the interval. Like in this case, 8 to 10.
4 Okay? And then, see, typically, what we like to do is
5 we like to document that. How -- how far -- you attempt
6 to push from 8 to 10. Okay? And then you want to
7 document it. Okay. Did you push from 8 to 10, or did
8 you push from only 8 to 9 or 8 to 8.5 because it got too
9 hard and it would no longer -- you know, it starts
10 picking up the rig, and you start risking crushing the
11 Shelby tube or -- or pulling it off, leaving it in the
12 hole.

13 And so when the resistance gets too hard,
14 then that's when you stop pushing. So you document the
15 length of push. That's the push interval. Then when
16 you extract it out of the ground -- when you go to pull
17 it up, you try to carefully do that so that you retrieve
18 the actual sample that you pushed. Then you get up
19 above ground, you disconnect it from the drill pipe and
20 you put it in the Shelby tube extruder. The Shelby tube
21 extruder then extrudes the core sample of the soil out
22 of the Shelby tube itself. And then you will have a
23 section of core, 3 inches in diameter, cylindrical,
24 whatever the length of the recovery is. That's the
25 length of the recovery. So you document the length you

1 pushed and the length to recover it. And then the
2 logger or the geologist will take it and do whatever
3 he's going to do to describe the sample and preserve it.

4 Q So like we saw with Mr. Rubinov yesterday --

5 A Right.

6 Q -- whether he's -- whatever descriptions, then
7 he's logging those onto some kind of log.

8 A Right.

9 Q Then how do you -- what is a split spoon
10 sample?

11 A Okay. A split spoon is a smaller diameter.
12 It's approximately 2-inch diameter. Okay? And it's got
13 a shoe on the end that screws onto the barrel. The
14 barrel is 18 inches long -- approximately 18 inches to 2
15 feet. And then it's got a head and a shoe. The shoe is
16 a drive shoe. And they're designed for rougher and
17 tougher soils, sampling through gravels, unconsolidated
18 sands of gravels, and consolidated clays, silts, the
19 hard -- things that are hard -- too hard to push the
20 Shelby tube through. It's a smaller diameter. Then
21 when you -- you do the 140-pound hammer, and you slap it
22 down, drive it down. Then you extrude that. Then you
23 take it out, and then you take the shoe off and you take
24 the head off, and then the split sampler opens up.
25 Okay? It opens up, and then -- so you'll have a core,

1 but it's a smaller diameter core in the, you know -- and
2 then you'll typically just like roll that into a tray.
3 Then the logger will take that and do the description.

4 Q So yesterday, if we had looked at samples that
5 were 3-inch in diameter, roughly, then that's -- we
6 probably were looking at Shelby tube samples. Right?

7 A Well, when the protestants -- when we sampled,
8 we used a different method altogether.

9 Q Okay.

10 A We used a 4-inch core-barrel/split-barrel
11 sampler. It's like a very large diameter split spoon.
12 Okay? It's 4-inch diameter, 5-foot long. And it's
13 advanced inside what we call hollow-stem augers. The
14 sample barrel is inside the hollow-stem augers. You
15 rotate -- and basically, you're -- you're coring it
16 down. You're drilling while advancing the sampler --
17 the sampler extrudes in front of the drill bit. And as
18 the core -- as the augers are coring down, drilling
19 down, you're basically just swallowing the core sample.
20 So when we extrude it -- so that's why -- I think what
21 Mike had yesterday -- again, I didn't actually put my
22 hands on it, so I didn't see the diameter. It looked --
23 from where I was, it was the 4-inch core sample.

24 We also took Shelby tube samples while we
25 were out there, so that's the only reason I'm not sure

1 if it was the 3-inch or 4-inch diameter.

2 Q Okay. And then if we -- if we would have seen
3 the split-spoon thing, it would have been much smaller
4 at like two --

5 A Correct.

6 Q Okay. Two inches. So you said what kind of
7 auger? Hollow?

8 A Hollow-stem auger. That's the drilling method
9 we used.

10 Q I think on your prefiled testimony on Page 9,
11 starting at Line 11 --

12 A Okay.

13 Q -- you're referring back to Page 51, 130EP-4,
14 Page 51?

15 A Yes.

16 Q And the last sentence under remarks says that,
17 "Groundwater was not observed prior to the introduction
18 of drilling fluids." And then you -- your sentence
19 after that at Line 13 says, "This is inconsistent with a
20 wet rotary drilling method."

21 Do you see where I'm reading from?

22 A Yes, I do.

23 Q And that sentence was on Page 9 of your
24 Protestants' Exhibit 6, your prefiled testimony at
25 Line 13?

1 A Correct.

2 Q So you used a hollow-auger drilling method. Is
3 that what your testimony was earlier?

4 A Yes.

5 Q And then tell me what this wet-rotary drilling
6 method is.

7 A Okay. Wet rotary is what the Applicants
8 described as what they used. Okay? And I don't know if
9 it will help if I illustrate --

10 Q Sure.

11 A Okay.

12 Q There's a pad behind you.

13 A Okay. Let me give a brief description, and
14 then I'll try and draw a picture. With wet rotary,
15 you're -- I want to be clear. There's a difference --
16 we need to separate drilling versus sampling. Okay?
17 You have to drill the hole, and you also collect samples
18 in geotechnical applications like what we're doing. So
19 wet rotary is a common drilling method. With wet
20 rotary, what you do is you have a mud pump which pumps
21 fluid connected through hoses, and it pumps fluid down
22 through the drill pipe out through a drill bit. As
23 you're rotating the drill pipe and drill bit, the
24 drill -- the fluid comes out the bottom or the little
25 side discharge jets. And then the fluid rises up the

1 bore hole and carries the fluid and the cuttings -- it
2 provides two things. It cools the bit and carries the
3 cuttings up the bore hole and out. Any time you're
4 drilling, you have to do two things. You have to
5 penetrate, and you have to excavate.

6 And so the penetration is the downward
7 force, and the rotation of the bit helps penetrate.
8 Then excavation comes with the fluid pressure rising up
9 through the bore hole carrying the cuttings away. So as
10 you advance the bore hole, the cuttings are being
11 excavated.

12 I'll just draw a brief little diagram
13 here.

14 So this is a wet rotary. You have your
15 land surface. And you have kind of an area of the bore
16 hole. It's not perfect. Say it's 6-inch diameter
17 nominal. Then you'll have drill pipe, then you'll have
18 a drill bit, typically a tri-cone or what's a drag bit.
19 It's like a blade. Then it's connected up here to the
20 drill rig, and it's got a rotation rotary. Fluid is
21 pumped down through the inside of the drill pipe, comes
22 out of the bit, and then comes back up the bore hole.
23 And they typically have a pit that catches the fluid,
24 goes back to a suction hose, the pump, and so it
25 recirculates to keep a constant circulation. Then the

1 cuttings fall out of the pit. Then you can grab a
2 sample here, but those are just rough core samples
3 like -- like Mike described yesterday. That's the wet
4 rotary process there.

5 Q Okay. So if you look back at 130EP-4, Page 51,
6 at the very bottom of the left-hand side, it provides
7 like the drilling contractor, and then it says drilling
8 method. Right?

9 A Correct.

10 Q And that's the wet rotary?

11 A Yes.

12 Q And that's what you've drawn up there and
13 described. Right?

14 A Yes.

15 Q Okay. Help me understand that -- what your
16 testimony is that this is consistent with the wet rotary
17 drilling method.

18 A Okay.

19 Q And what you're relating that to on the next
20 side of Page 51, EP-4, that last sentence where it says,
21 "Groundwater was not observed."

22 A Right. Okay. This struck me as odd and
23 conflicting when I read, "Groundwater was not observed
24 prior to introduction of drilling fluid at approximately
25 55 feet."

1 So EP-1 -- I mean, BME-01, this boring
2 we're looking at was advanced to a total depth of
3 117 feet below ground surface.

4 Q You're looking on Page 53 of EP-1?

5 A Right, for the total depth.

6 Q And EP-4, Page 53?

7 A Yes, sir.

8 Q Okay.

9 A So on the far left-hand side, the depth of --
10 it looks like the boring was advanced to a total depth
11 of 117 feet -- or 108 feet. So when you get to the
12 bottom of the hole, that's what they call the total
13 depth of 118 feet below ground surface. Okay?

14 Now, what the note says -- and it's a
15 common note that's on virtually every log -- or almost
16 every log has a note about a certain depth. The
17 ground -- groundwater was not encountered prior to
18 introduction of drill fluids. And then I believe
19 Mr. Snyder testified that he drilled -- he had them
20 drill dry because he was looking for groundwater.

21 Okay. So all the logs note wet rotary.
22 So the only way to advance the bore hole with wet rotary
23 is to introduce fluids. So I found this at a conflict,
24 so I tried to understand how they advanced the hole for
25 the first 55 feet because it is physically and

1 mechanically impossible to advance the hole using a
2 wet-rotary method. Wet rotary implies you are pressure
3 pumping the fluid down the drill pipe, out the bottom
4 and pressurizing, lifting the cuttings up out of the
5 bore hole. There's no other way to advance, because,
6 again, if you penetrate, you must excavate, because
7 otherwise, you're just augering in the ground, and
8 you'll be stuck.

9 So I spoke with -- I was not there for the
10 Applicant drilling. Obviously, no one was there in
11 2013. And then Mike and Lauren were there for the 2016
12 Applicant drilling. I didn't get involved until the
13 protestants came up.

14 MR. RYAN: Objection. Your Honor, this
15 isn't responding to a question. This is a narrative
16 we've got going here. I'm going to ask that he respond
17 to questions.

18 JUDGE QUALTROUGH: All right. I mean, ask
19 him a question, but -- I think he was explaining the
20 wet-rotary drilling method and how that was in conflict
21 with this -- with this statement on this page.

22 MR. MAGEE: Right.

23 JUDGE QUALTROUGH: So I think he is
24 answering the question.

25 MR. MAGEE: Okay.

1 Q (BY MR. MAGEE) I was going to ask you to
2 continue, because I did the same thing it sounds like
3 you did last night -- or last night, what I did is I
4 pulled 130EP-4, Page 51, and looked all the way through
5 to EP-4, Page 149. I think those are all the boring
6 samples from 2013. Right?

7 A Uh-huh.

8 Q And all of them, where it says drilling method,
9 describes wet rotary.

10 A Right.

11 Q Is that your recollection?

12 A Yes, sir.

13 Q And how is that? All of these boring logs say
14 the method is wet rotary. How does that conflict with
15 how you've described it as inconsistent with finding
16 groundwater?

17 A Okay. If you look -- if you look on -- this is
18 where -- when I corrected my testimony, okay, if you
19 look on the log of Boring No. BME-01, 130EP-4, Page 151,
20 under the samples, the second column to the left, you
21 have A1, A2, A3, A4. Then you have U designations.

22 Q Correct.

23 A Okay. On the stand-alone log that I was
24 reviewing, there is no description of what that sample
25 designation is. I thought they were just sample

1 numbers. Okay? Then it was -- I was informed that
2 there's actually a -- if you turn back to 130EP-4,
3 Page 048 and 049 -- well, actually on 049, that's where
4 the -- the symbol -- this is the -- you know, the
5 symbols are described here. The symbols on the boring
6 logs are described here in this -- you know, in this --
7 on Page 49.

8 And when you see the A designation, auger
9 sample. Okay? So when you back to the boring log now,
10 the first three samples were collected with an auger.
11 Okay? So now I said, okay, well, auger is inconsistent
12 with wet rotary. They're totally different practices.

13 Okay. So let me describe auger. And I
14 think for the record -- and I could be corrected if I'm
15 wrong. Okay?

16 In this case, there's two kinds of augers.
17 So there's straight-flight auger, and there's
18 hollow-stem auger. Okay. Straight-flight auger
19 typically come in 3- to 5-foot sections, and it's a
20 solid piece of pipe with the flights -- it's like a
21 little bit. And you advance these. You put them in,
22 and then they'll cut the bore hole, and then you pull
23 this out, and then you'll have an open bore hole. Then
24 you'll run your sampler in here and either your Shelby
25 tube or a split barrel. And you'll push it over your

1 sample interval, and then you pull the drill pipe out,
2 and then you run the augers further in, and you'll
3 connect an auger to the next auger. Typically, that's
4 how you use straight-flight augers. Every time you
5 advance the hole, you add augers, and then you pull it
6 back out. Then you'll have an open bore hole, and then
7 you'll go back in and sample. What the -- this is what
8 the protestants -- I believe -- I was not there, but I
9 saw pictures of the drilling rig and the drilling tools
10 that they used in the 2016 borings. And I saw a picture
11 of a -- approximately 3-foot long auger on the end of
12 the drill pipe or what we call the drill pipe or the
13 drill kiln. That's what was connected to the wet-rotary
14 rig. Okay? I'll get back to that.

15 Now, a hollow-stem auger, it has about a
16 4-inch diameter opening in the center. It's a piece of
17 pipe. Okay? Approximately 4 inches -- it could be
18 varied -- it could be 3 inches, it could be 6 inches, it
19 could be 12 inches. Okay? And then the flights wrap
20 around. Okay?

21 And so then you run your drill pipe -- as
22 you advance your bore hole, you leave the augers in
23 place, and you just keep advancing the hole.
24 Essentially what you have is you have a cased hole.
25 Okay? Because the drill pipe stays in place, and you

1 have an open casing all the way down. And as you
2 advance the hole -- as you drill, the cuttings are being
3 excavated up here, same as the straight flight, but you
4 don't have to remove the hollow stem. You have to
5 remove the straight flight to go back in and collect
6 your sample. You leave the hollow-stem augers in place.
7 And what this does is it prevents material from up above
8 falling inside the bore hole. When you pull all this
9 out, anything from up above -- this is an open bore
10 hole -- if you're all the way down here at 60 feet --
11 55 feet -- this is an open bore hole when you pull the
12 straight-line auger out. And then you have an open
13 hole, and if you have 10 feet of gravels, as was fairly
14 consistent out at the site, you have the potential for
15 that to fall in.

16 Now, with the hollow-stem auger, you
17 basically have a case hole all the way down. And so
18 you -- you minimize and prevent things like that
19 happening.

20 So what I believe they did -- okay. So
21 the wet rotary is -- is not a straight flight. And when
22 they say, "Groundwater was not observed prior to the
23 introduction of the drilling fluids at approximately
24 55 feet," then I believe what the Applicants did, using
25 the wet-rotary drill rig and drill pipe, I'm assuming

1 what they did is they connected the -- the 3-foot auger,
2 and they would -- say they would sample from 10 to 12
3 with the Shelby tube. Then they would go back in and
4 clean out that section with the -- with the auger on the
5 end of the drill pipe and then pull it all out, and then
6 go back in and sample their next interval. I -- I
7 believe that's what they did down to 55 feet.

8 Now, I'm using anecdotal evidence because
9 I wasn't there. I saw pictures of a 3-foot --
10 approximately 3-foot long straight-flight auger
11 connected to drill rods leaning up against the drill rig
12 the protestants took of the Applicant's drilling
13 process. I -- they documented on their log that --
14 according to their legend -- that they used an auger to
15 collect those samples. And they documented the auger
16 samples were just the cuttings.

17 When you rotate with straight-flight
18 augers, the flights are at an angle like that
19 (indicating). When you're rotating, the cuttings are
20 carried up the bore hole through the rotation. They
21 just work their way up on the auger -- what they call
22 the auger flights. Those are the blades. And so the
23 cuttings are -- well, they're more than just disturbed.
24 They're basically obliterated, and there's a mix-match
25 of whatever you could be getting, you know, whatever is

1 coming up the hole. If you're augering down to 55 feet,
2 when you're pulling those augers back up -- when you're
3 augering down to 55 feet, cuttings -- and so it just
4 continues to smear up and down, dragging material from
5 up above down and from down below up as you're tripping
6 in and out. I'll make a point about that later.

7 And so they documented they used the
8 straight-flight auger, or they documented auger. I saw
9 pictures of a straight-flight auger.

10 Q Well, that was from 2016. Right? Or did you
11 see pictures from 2013?

12 A No. What I saw in 2016.

13 Q Okay. Well, these boring logs are 2013.
14 Right?

15 A Right. So I don't know what they did. This is
16 my belief --

17 Q Okay.

18 A -- that this is how they collected samples.
19 And they'll -- for the record -- I -- you know, I'm just
20 saying that's where they -- when I saw the
21 inconsistency, okay, then when it was pointed out to me
22 that I had missed the legend because all I was reviewing
23 was stand-alone boring holes. So then when I saw they
24 had auger samples, I said, "Okay, well, how did they
25 collect samples down to 55 feet?" Well, not introducing

1 fluid because the only way you can advance the bore hole
2 with wet rotary is using fluid, Mr. Snyder testified
3 they didn't use fluid because he was wanting to look for
4 groundwater, so he had them drill dry. Okay?

5 Now there is another rotary method called
6 air rotary. Okay? That's where you use an air
7 compressor. Okay? And instead of pumping water -- I
8 mean, fluid is fluid, whether it's air or water. Okay?
9 When they drilled the piezometers, I believe they used
10 air rotary, which was documented in testimony.

11 Okay. Drilling with air rotary is not
12 drilling dry. I haven't heard any testimony or seen any
13 evidence or any documentation they used air rotary. So
14 that leads me to believe they used the auger drilling
15 method for the first 55 feet.

16 Regardless of what I believe, it's
17 inconsistent on every single boring log virtually, that
18 I -- that I reviewed, that they advanced the top
19 approximate 50-foot of the hole with some method other
20 than wet rotary.

21 Okay. Now, one of the key salient points
22 to all of this, in the approved boring plan, they
23 mentioned wet rotary, air rotary, and hollow-stem auger.
24 And I believe that was the approved boring plan that was
25 submitted after they had already done drilling.

1 Q But these boring logs --

2 A So they didn't do what they documented.

3 Q And I think the inconsistency here is if I'm
4 understanding your testimony correct, is that on the
5 actual boring logs, all it describes is wet. Right?

6 A Right.

7 Q And that's where the inconsistency lies, with
8 if you're introducing water into the borings, then you
9 wouldn't know whether you were observing groundwater or
10 not.

11 A Well --

12 Q Am I tying the two together correctly, or am I
13 confusing two issues?

14 A You might be confusing two issues.

15 Q Okay. Tell me how.

16 A You can use wet rotary and still collect
17 discrete samples. Because the bore hole -- say the bore
18 hole is advanced to a depth of 50-foot using wet rotary,
19 air rotary, whatever. You're going to sample the next
20 2-foot interval. Okay. You're sampling down here. The
21 drill bit stops here (indicating). If you use proper
22 ASTM methods, you don't have a bottom discharge bit,
23 which forces pressure down. But in unconsolidated, you
24 might have problems, but in consolidated soils, you're
25 not going to get much fluid penetration very far into

1 mother nature. She's tough enough. And so this is a
2 discrete sample that's collected. So you can collect
3 discrete samples, and you can discern whether or not
4 there's water or not in consolidated soils using the wet
5 rotary method, air rotary method.

6 Q So help me understand, I guess -- I think I
7 understand the various drilling methods and various
8 types of equipment now. Help me understand in the 2013
9 borings, your prefiled testimony where you believe it's
10 inconsistent with what's described and what it appears
11 to have been done.

12 A Well --

13 Q I think part of it was this description that
14 they've used an auger method which isn't indicated.
15 Right?

16 A Correct.

17 Q And then --

18 A It's indicated as a sample collection method.

19 Q But not as a drilling method?

20 A Not as a drilling method.

21 Q Okay. What other inconsistencies?

22 A And then, you know, the other -- again,
23 groundwater was not prior to introduction of fluids at a
24 depth of 55 feet. You can't get to 55 feet using wet
25 rotary if you're not introducing fluids. Physically,

1 mechanically, cannot occur. So those are the two
2 inconsistencies.

3 Q Okay. I think when I look back at your
4 qualifications -- and you are a licensed geologist.
5 Right?

6 A Yes.

7 Q And what about a driller?

8 A Yes. I'm a licensed driller.

9 Q Okay.

10 MR. MAGEE: I think that's all the
11 questions I have.

12 JUDGE QUALTROUGH: OPIC?

13 CROSS-EXAMINATION

14 BY MR. TUCKER:

15 Q Good morning, Mr. Courtney.

16 A Good morning.

17 Q My name is Aaron Tucker with the Office of
18 Public Interest Council. I just have a few questions.
19 If you could, turn to Page 10 of your prefilled
20 testimony.

21 A (Witness complies).

22 Q And you're talking about here where Shelby
23 tubes would be inappropriate for soils -- for the soils
24 found on the site, given the hardness of the -- of the
25 material?

1 A Correct.

2 Q And we -- the majority of soil samples
3 extracted at the site were very stiff to hard, 4.0 to
4 4.5 positive on a pocket penetrometer?

5 A Correct.

6 Q If you look at Applicant's Exhibit 130EP-4,
7 Page 49 --

8 A Page what?

9 Q Sorry. 49.

10 JUDGE QUALTROUGH: I'm sorry.

11 MR. TUCKER: 49. I'm sorry.

12 Q (BY MR. TUCKER) We see in the middle of the
13 page on the right side, it says, "Consistency of fine
14 grain soils."

15 A Correct.

16 Q And it has a chart that says -- it has
17 different strengths and consistencies?

18 A Correct.

19 Q And what we're talking about right there,
20 that's readings from a pocket penetrometer?

21 A Yes.

22 Q And the consistencies --

23 A Yes.

24 Q -- are those ranges -- is -- are those ranges
25 and the respective consistency agreed upon?

1 A Oh, yeah. Yeah.

2 Q Okay.

3 A The pocket penetrometer is a standard logging
4 tool in the geotechnical industry. And again, I think
5 Mike testified to this yesterday. It's used to give a
6 commonality so that you can be consistent in your
7 description between samples, between borings, and
8 between sites. Okay? What might be a hard soil to one
9 person is a soft soil to another, depending on the frame
10 of reference. If you grew up in the mountains of
11 Colorado, hard is pretty hard. If you grow up in the
12 swamp of Louisiana, soft is pretty soft. Everything is
13 relative.

14 By using the pocket penetrometer, it
15 measures the penetration, the depth and the rate of
16 penetration. It gives you a resistance. It's about the
17 size of this pen. You just push it into the soil about
18 a quarter of an inch. There's a little mark there. And
19 then once you go to that quarter-inch, you see where the
20 spring is depressed, then you get your measurement. And
21 so that's how you get a consistent measurement. Then
22 there's this soft of -- very soft, firm, stiff, very
23 stiff, hard. That's a very common -- you know, the
24 Unified Soil Classification System.

25 Q And the readings go from 0 to 4.5. Is that

1 the --

2 A Yes.

3 Q And the measurement is tons per square foot?

4 A Yes.

5 Q Okay. So looking at Page 51 that we were just
6 on, those hand penetrometer readings, all of them say
7 4.5 plus?

8 A They do.

9 Q So based on the -- the -- the chart on Page 49,
10 those would all be classified as hard?

11 A Correct.

12 Q Okay. And the ASTM standards say that when you
13 get to a clay of that stiffness, that's going to -- a
14 Shelby tube is going to be inappropriate?

15 A Correct.

16 Q Okay. And is the concern -- when you're
17 dealing with soils that are that hard, it seems like
18 there's two concerns, one, it bends the Shelby tube?

19 A It can. Absolutely.

20 Q Is that a concern because just -- it's damaging
21 your equipment or it also returns a fault -- an
22 inaccurate reading?

23 A Well, two good points. One, yes, you can
24 damage the Shelby tube, you can break it off down a
25 hole, which then you have to fish it out or move over

1 and start another hole. So that can be a problem. When
2 you're pushing too hard, bad things happen. Okay? Like
3 in life. Okay. But then -- okay.

4 In my testimony and other testimony,
5 you've heard the words "disturbed" and "undisturbed."
6 Okay. Those have very specific meanings in the
7 geotechnical industry. Okay? But they're very
8 relevant. Okay? And -- and they're only pertinent
9 depending on the type of analytical method that you want
10 to utilize for that sample. In this case, the only
11 sample, the only analysis of value that anybody uses is
12 the permeability samples, the permeability tests. The
13 Applicants took them and the protestants took them. You
14 must collect samples for a soil permeability analysis --
15 what they describe as an undisturbed sample using the
16 Shelby tube. Okay?

17 Now, when you read the ASTM standard,
18 it -- it basically says, hey, all samples are disturbed.
19 The very nature of collecting a sample says you
20 disturbed it from its in situ place. There's a minor
21 amount of compression. There's a minor amount of skin
22 friction. By the very nature of collecting the sample,
23 you're disturbing it. But the Shelby tube is the best
24 method available today to collect the sample. And the
25 reason it's critical for the permeability test is the

1 type of analysis they do and the machine they use and
2 the equipment they use. So they need a nice cylindrical
3 undisturbed sample to collect. Okay.

4 The other pertinent section is when it
5 gets too hard to push a Shelby tube, you can't push very
6 far. Okay? And part of my concern is -- and this is in
7 my testimony -- from the entire length of like U5, it
8 shows the sample was collected from 8 to 10 feet. Okay?
9 We don't have field logs. They were thrown away. We
10 don't have soil samples. They were thrown away. All we
11 have is a sample designation over a 2-foot interval. We
12 don't know if it pushed the full 2 feet. We don't know
13 if it retrieved the full 2 feet. Then we don't know
14 which component of that that they actually ran their
15 analysis on. So knowing we had problems pushing Shelby
16 tubes due to the difficulty of the soils, we changed our
17 drilling method to -- we weren't -- if we were going to
18 collect a sample for a permeability analysis, we would
19 drill another hole or we would go back and recollect
20 another sample using the Shelby tube when and where we
21 thought we could, A, collect a sample, and, B, where we
22 needed a sample.

23 Okay. The rest of the time we use that
24 continuous rail, and we've seen testimony that said,
25 "Well, it was very disturbed." Well, it's all

1 relatively disturbed. It -- we don't change the
2 structure. We don't change the secondary features. We
3 don't change the grain size. If anything, the
4 compression would have made a smaller grain size. Take
5 it from, say, a silt to a clay, which would only help
6 the Applicant's case. So we -- our drilling method
7 didn't do anything to the soils other than give us a
8 very large diameter sample and a very long core to
9 review. So --

10 Q Okay. If we could just stick with Page 10 of
11 your prefiled, I just want to go down to the next
12 paragraph, continuing on our conversation on Shelby
13 tubes.

14 The ASTM standard says, "Gravelly soils
15 cannot be sampled, and gravel will damage the
16 thin-walled tubes -- thin-walled tubes."

17 A Yeah.

18 Q Why can't the gravelly soils be sampled? Does
19 that -- are they not being picked up?

20 A Depending on the diameter, if they're coarse
21 grain gravels up to cobble size -- and there was a lot
22 of discussion about that. Anything larger than a coarse
23 grain sand and smaller than 4 inches of gravel.

24 Q Okay.

25 A Above that, it's a cobble. We observed cobbles

1 and gravel at the site at service down to a depth of,
2 you know, 8 to 10 feet, 10 to 12 feet, depending on
3 where you are at the site. That upper section was
4 very -- essentially, you can. And even the
5 Applicants -- that's when they used augers. If y'all
6 look at the log on EP-4, Page 51, the top three samples
7 were augered. When they say "pebbles," that's a fairly
8 minimalistic term. I mean, there's cobbles where they
9 have pebbles. But they augered it. I notice there's no
10 hand penetrometer because there's no real cohesive
11 sample to even test. It's just a bag of sand and gravel
12 and clay. So yeah. It will bend a tube. It will crush
13 the end of the tube. It will break a tube. You just do
14 not use Shelby tubes in gravel. It's just not a good
15 idea, and it's not a recommended practice.

16 Q Okay. Thank you. So while you're in the
17 field, the things that can give you feedback about
18 whether your drilling and sampling method is being
19 successful or is the appropriate one, is the readings
20 you're getting from the penetrometer, and also whether
21 you're getting -- you're breaking or bending Shelby
22 tubes?

23 A Absolutely.

24 Q Okay.

25 A That's why field notes are important, and

1 that's why field logs are important, to note the depth
2 of force, the depth of penetration, the sampling method,
3 the success, to note the number of blow counts.
4 Anything approaching 50 blows for a 6-inch interval,
5 you're in very, very tough, difficult soils. And
6 anything above 50 per 6, I call it, 50 blows for 6
7 inches, you go to the next method, which is a coring
8 method, because essentially you're in rock.

9 So when you're -- typically, you stop
10 pushing Shelby tubes when it gets too hard, and then you
11 go to the split spoon. And then when it gets too hard,
12 you go to core barrel. So there's a progression there.
13 And all those things are important to note on the logs?

14 Q And --

15 A Penetration of the rig, things of that nature.

16 Q And when you're in the field, is it common
17 practice to switch up methods?

18 A Oh, sure, absolutely.

19 Q Okay.

20 A I mean, geology changes. And so what you do is
21 you adjust your sampling protocol to match the existing
22 conditions, and then in addition with the analytical
23 methods you want to employ, so it's -- you know, it
24 looks all rough and tough and not a lot of science, but
25 there's actually a lot of thought that goes into it.

1 MR. TUCKER: Thank you. I have no further
2 questions.

3 JUDGE QUALTROUGH: All right. Executive
4 Director?

5 CROSS-EXAMINATION

6 BY MR. VARGAS:

7 Q So you talked about that Shelby tubes were
8 appropriate for these hard soils or stratum. Right? Is
9 it impossible for a Shelby tube to collect a sample from
10 that kind of material?

11 A No, sir.

12 Q So they could conceivably have actually gotten
13 the samples using the Shelby tubes?

14 A Yes, sir.

15 Q So then on Page 11 of your prefiled testimony,
16 your answer starting at Line 6 -- I guess, Line 8, "The
17 larger barrel combined with the pressure was able to
18 collect samples of gravel and gravelly clay, siltstones,
19 sandstones that could not be collected using Shelby
20 tubes."

21 A Correct.

22 Q So would it be correct to say that your -- that
23 you can only collect those materials when you're using
24 methods other than Shelby tubes?

25 A No. Just your likelihood of success are

1 significantly greater using other methods than Shelby
2 tube for gravels, gravelly clays, siltstones, sandstones
3 as described -- you just have a greater success.

4 Q Okay. Do you think the location of a boring
5 hole would affect if you were able to collect those
6 samples or not -- or those materials, I guess?

7 A Well, I mean, wherever you encounter a
8 location, you encounter location. So varying the
9 location -- I mean, at times we try to move over to
10 avoid, you know, a big pile of gravel, something like
11 that, but, I mean --

12 Q I guess, let me clarify. So I mean, it's clear
13 you can't sample the same boring hole. Correct?

14 A Yeah, yeah. Once you -- once you attempt an
15 interval, it's attempted. You -- if you want to collect
16 something at that interval again for any kind of
17 geotechnical analysis, typically you need to grab
18 another sample or drill another hole or grab another
19 sample from a different depth.

20 Q So if -- say you had to move adjacent to that
21 hole, is it possible you can find, you know, one hole
22 with 5-inch gravel and graveling clay, siltstone and
23 sandstone and the adjacent hole wouldn't -- or boring --
24 sorry.

25 A Well, typically -- you know, adjacent is a

1 relative temple. I mean, if you move 5 feet over,
2 you're likely going to encounter similar soils unless
3 you cross the fault line or the major faces change or
4 you get real lucky.

5 Q Okay.

6 MR. VARGAS: No questions. Pass the
7 witness.

8 JUDGE QUALTROUGH: All right. 130EP?

9 MR. RYAN: Thank you, Your Honor.

10 REDIRECT EXAMINATION

11 BY MR. RYAN:

12 Q Mr. Courtney, have you ever prepared a geology
13 report for a municipal solid-waste landfill permit
14 application?

15 A No, sir.

16 Q Have you ever worked with TCEQ staff on their
17 review of an MSW landfill permit application?

18 A No, sir.

19 Q And I think you testified earlier that you were
20 not present at any time during the drilling of borings
21 on behalf of the Applicant earlier this year?

22 A Yes, sir.

23 Q That's correct?

24 A Yes, sir.

25 Q And you also were not present at any time

1 during the drilling of borings on behalf of the
2 Applicant in 2013. Correct?

3 A Correct, sir.

4 Q Did you do any -- any logging of any of the
5 materials collected by the protestants?

6 A No, sir.

7 Q Did you ever go to look at any of the samples
8 collected by the protestants during their 2016 boring
9 program?

10 A I assisted in collecting and retrieving many of
11 the samples. Actually, I was working with the drill rig
12 opening the sampler tube.

13 Q No. My question is, did you ever go to look at
14 any of the samples collected by the Applicant during its
15 2016 boring program?

16 A Well, I just testified that I saw samples, so,
17 yes.

18 Q Well, do you recall -- you do know that the
19 absence of samples from the 2013 boring program has been
20 a pretty big deal in this case?

21 A I didn't realize it was that big of a deal.

22 Q Okay. So not a big deal to you?

23 A No, sir.

24 Q Okay. Are you aware that a request was made,
25 that the Applicant allow its professionals to observe

1 the samples they had collected following the boring
2 program? Are you aware that that request was made?

3 A Yeah. I was there when they came and observed
4 the samples.

5 Q I'm talking about, are you aware that a request
6 was made that the Applicant make available for review by
7 you, Mr. Rubinov, Dr. Ross, the samples the Applicant
8 had collected in 2016?

9 A I didn't go --

10 Q Okay. I know -- so you didn't go look at
11 those?

12 A No.

13 Q Okay. Are you aware --

14 A I wasn't sure --

15 Q Are you aware that a request was made that you
16 be allowed to do that?

17 A I don't recall a request being made to me to go
18 and look -- I guess I'm confused as to what you're
19 talking about.

20 Q Okay. Are you aware that the Applicant rented
21 a hotel conference room, put all of its samples in that
22 conference room, and had them there for three days so
23 that you or Mr. Rubinov and/or Dr. Ross could come
24 observe those if they wanted to?

25 MS. PERALES: Objection; this assumes

1 facts that are not in evidence.

2 MR. RYAN: I'm asking him if he's aware of
3 it.

4 JUDGE QUALTROUGH: Right. And I'm going
5 to overrule that.

6 THE WITNESS: I'm not aware of it.

7 Q (BY MR. RYAN) Okay. So you don't know of --
8 well, let me ask you this: It wasn't important to you
9 to be able to observe any of the samples collected by
10 the Applicant?

11 A Well, it was never my task. I mean, I -- I
12 guess the answer is no. I mean, I don't --

13 Q Okay.

14 A -- know where you're going with this.

15 Q That wasn't important to you?

16 A No.

17 Q Okay. And you don't know whether those samples
18 were made available for you to look at or not?

19 A This is the first I've heard of this.

20 Q You don't remember sending and receiving
21 e-mails related to whether or not you were going to go
22 look at the Applicant's samples?

23 A I don't recall that, no. I mean --

24 Q Would you agree that a standard penetration
25 test is appropriate to use in granular material but not

1 clay?

2 A No.

3 MR. RYAN: May I approach, Your Honor?

4 JUDGE QUALTROUGH: Yes, you may.

5 (Pause in proceedings)

6 Q (BY MR. RYAN) Mr. Courtney, do you have in
7 front of you there what have been marked as Exhibits
8 130EP-45 and 130EP-46?

9 A Yes, sir.

10 Q And do you recognize those as two exhibits that
11 you looked at and testified about during your deposition
12 that was taken in this case?

13 A Yes, I do.

14 Q And 130EP-45 was Exhibit 8 to your deposition.
15 Right?

16 A Yes, sir.

17 Q And 130EP-46 was Exhibit 10 to your deposition?

18 A Yes, sir.

19 Q Do you have in front of you there a copy of the
20 transcript from your deposition?

21 A Yes, sir.

22 Q Would you turn to Page 92?

23 A (Witness complies).

24 Q And do you see at the bottom of the page -- do
25 you see at the bottom of Page 92 there where you're

1 asked about Exhibit 10 to your deposition?

2 A Yes.

3 Q And you testified, "I believe I've seen this
4 document." Right?

5 A Yes, sir.

6 Q And earlier in your deposition, you had been
7 asked about Exhibit 8, which is 130EP-45, and you
8 testified that you had seen that, that it's an e-mail
9 from you with some attachments.

10 A Yes, sir.

11 Q Okay. And if you look at the last page of
12 Exhibit 130EP-45, that is a map that was prepared by
13 Mr. Feathergail Wilson. Right?

14 A I don't know who prepared this map.

15 Q Well, if you look at the first page of
16 Exhibit 130EP-45, there's an e-mail from you to somebody
17 named Michael Miller. Right?

18 A Yes, sir.

19 Q And what does the text of the e-mail say?

20 A "FYI, Info from Feather Wilson."

21 Q Okay.

22 A I don't know who prepared any of this.

23 Q Okay. And the info from Feather Wilson
24 included the map that's on the last page of the exhibit.
25 Right?

1 A Apparently.

2 Q And then back to your deposition transcript, on
3 Page 93, beginning at Line 2, I asked you, "Would you
4 agree that the two areas on the last page of Exhibit 8
5 that say drill site are in the -- are in approximately
6 the same location as AR1 and AR2 on Exhibit 10"?

7 A Yes.

8 Q What was your answer to that?

9 A Starting on what line here, 22?

10 Q On Page 93.

11 A Right.

12 Q That question started on Line 2. Then I think
13 your answer starts on Line 6. What was your answer?

14 A "No, I wouldn't agree to that."

15 Q Okay. And if we look at Exhibits 130EP-45 and
16 46, on the last page of 45, you can see the two
17 light-colored circles with the labels that say "drill
18 site" with a question mark. Right?

19 A Right.

20 Q And then on Exhibit 130EP-46, this shows
21 locations of proposed borings and trenches that the
22 protestants were considering doing. Right?

23 A Correct.

24 Q Two of which were AR1 and AR2 that are over
25 there near the right-hand side of the exhibit?

1 A Yes, sir.

2 Q Okay. And then back to your deposition
3 transcript on Page 93, beginning at Line 7, I asked you,
4 "Okay. Do you think they're in different places,
5 different locations."

6 What was your answer?

7 A Do we -- my answer is, "I think the scale of
8 two documents and the symbols utilized on lack of
9 orientation does not allow me" --

10 THE REPORTER: I'm sorry. I don't
11 understand you.

12 THE WITNESS: Okay. My answer is, "I
13 think the scale of the two documents and the symbols
14 utilized and the lack of orientation does not allow me
15 to render a professional opinion."

16 Q (BY MR. RYAN) Okay. Just to help the court
17 reporter out here, if we talk a little slower, she'll be
18 able to get down everything we're saying, because she
19 doesn't have a copy of this to go from.

20 A Okay.

21 Q And then my question beginning at Line 12 is,
22 "Okay. If you had a scale, could you locate on the last
23 page of Exhibit 8, the locations identified as AR1 and
24 AR2 on Exhibit 10."

25 And what was your answer?

1 A Okay.

2 THE WITNESS: Your Honor, we -- we went
3 through like five page of deposition. And at the end of
4 the -- this whole line of questioning, I agreed that
5 the -- the locations were similar. So do we have to go
6 through every painful line by line when, at the end, I
7 agreed they are similar locations?

8 I mean, I'll concede they are similar
9 locations. You asked if they were the same location.
10 10 pages later we got to they're similar locations. Do
11 we have to go through every painful line by line to get
12 to that answer?

13 Q (BY MR. RYAN) What was your answer to that
14 question, Mr. Courtney?

15 JUDGE QUALTROUGH: And, yes, we'll go
16 through it. But your attorney will -- the Protestants'
17 attorney will be able to clear things up through
18 redirect.

19 THE WITNESS: Okay. I mean, it was
20 just -- I thought we were in a hurry.

21 "I think the scale of the two documents
22 and the" --

23 Q (BY MR. RYAN) I'm sorry. We're now on your
24 next answer, beginning at Line 15.

25 A "If I'm being asked to produce work, I'll send

1 you a contract and invoice. If you want to do the work,
2 go ahead."

3 Q And just for a little background, look back up
4 here at the question that I asked you beginning on Line
5 2 of Page 93. Wasn't the question, "Would you agree
6 that those two drill sites are in approximately the same
7 location as AR1 and AR2?"

8 A I do now.

9 Q That's the question I had originally asked you.
10 Right?

11 A Okay.

12 Q Isn't that right?

13 A I guess during the deposition I missed the word
14 "approximately." I thought you said the same location.
15 I'm pretty sure you said the same. I think
16 "approximately" was added. Because what you said was
17 the same location. This was not what the testimony was.
18 I clearly remember you saying the same location.

19 Q Okay. And then on Page 93, beginning at
20 Line 19 or beginning at Line 18, the question is, "That
21 was not my -- that wasn't my question. My question is,
22 if you had a scale, could you plot AR1 and AR2 on the
23 last page of Exhibit 8?"

24 And what was your answer?

25 A "They don't seem to be the same scale, and I'm

1 not going to postulate whether these locations are in
2 the same location" -- see no approximate -- "the same
3 location as those locations."

4 Q And then on Page 94, beginning at Line 3, the
5 question was, "My question is, if you had a scale, could
6 you plot AR1 and AR2 as they're shown on Exhibit 10 on
7 the last page of Exhibit 8?"

8 And what was your answer?

9 A "I don't have a scale."

10 MS. PERALES: Your Honor, I'm going to
11 object to this line of questioning.

12 THE WITNESS: This is ridiculous.

13 MS. PERALES: As Mr. Courtney has pointed
14 out, these questions have been asked and answered. He's
15 conceded that the locations are at approximately the
16 same location. And so -- now it seems like we're being
17 unnecessarily repetitive and argumentative.

18 JUDGE QUALTROUGH: Mr. Ryan?

19 MR. RYAN: Well, Your Honor, I think what
20 you're going to see is that the argumentative part of
21 this came from this witness. And I think I'm entitled
22 to show the process that he goes through as a
23 professional when asked to carry out a pretty simple
24 function related to two maps that he was using in this
25 case.

1 MS. PERALES: Then I'll add to my
2 objection that this is also irrelevant.

3 MR. RYAN: And, Your Honor, in response to
4 that I would point out that it's not irrelevant. We
5 asked Mr. Wilson about this the other day. And I think
6 it's highly relevant where these proposed boring
7 locations were in relationship to the two locations that
8 Mr. Wilson suggested be drilled in an effort to
9 determine the presence of Wilcox material here.

10 MS. PERALES: That relevant portion, he's
11 already answered.

12 JUDGE QUALTROUGH: Right. It seems like
13 we're kind of going over this again. Is there any way
14 you can just put the relevant depo testimony as
15 an exhibit?

16 MR. RYAN: Okay. I can do that, but let
17 me ask this question: Are we not going to do this
18 anymore for any witnesses? Because my witnesses all did
19 this when they were asked to do it.

20 JUDGE QUALTROUGH: And I understand. I
21 mean...

22 MR. RYAN: But if that's the rule, then
23 I'll live by it.

24 JUDGE QUALTROUGH: Go ahead.

25 JUDGE BELL: Well, what I was going to say

1 is, it sounded like what you said was the reason that
2 you're going through all these questions from the
3 deposition was to show the process that he went through
4 as a professional to -- to answer what you consider to
5 be a fairly simple question with regards to these maps.

6 MR. RYAN: Yes, sir.

7 JUDGE BELL: If that's all we're doing,
8 why not just enter the deposition transcript as opposed
9 to taking all the time it's going to take to go through
10 each and every one of those questions?

11 MR. RYAN: Okay. I'll be glad to do that.

12 JUDGE BELL: It's not about we can't ask
13 other witnesses or that your witnesses had questions
14 about what they said in their deposition. But that was
15 for impeachment purposes, as I recall, not for purposes
16 of what you're trying to do here.

17 And so if that's your purpose, it doesn't
18 seem as though we need to take the time for him to just
19 read all of that deposition transcript into the record.
20 It will speak for itself if we just get it admitted.

21 MR. RYAN: Okay. Can I then have the
22 opportunity to admit his deposition transcript later,
23 because I don't have enough copies of it? I didn't
24 really need to introduce the deposition transcript as an
25 exhibit. I was going to go through this part of it with

1 the witness. But if you want me to make it an exhibit,
2 I'll do it if I can do that later.

3 JUDGE QUALTROUGH: The entire deposition
4 or just the relevant testimony you want in the record?

5 MR. RYAN: I'll just do the relevant parts
6 that I want -- parts that I had intended to go through
7 the witness with (sic). I'd just like to make a
8 separate exhibit of those, but I can't do it now.

9 JUDGE QUALTROUGH: Right. I understand.

10 JUDGE BELL: There's no problem with that.

11 Q (BY MR. RYAN) Mr. Courtney, let me ask you
12 this. If you look at your deposition transcript and go
13 from Page 93 to Page 108, this is the entirety of
14 those -- that portion of your deposition transcript
15 related to me trying to get you to locate the relative
16 positions of these two drill sites in AR1 and AR2.

17 A As I recall, it was the same locations; but,
18 yes, this was the discussion we had.

19 Q Okay. And then I -- I just want to refer to a
20 couple of things here, if I may. Starting on Page 107,
21 Line 19, I asked you a question, "So is there nothing on
22 Exhibit 10 in the last page of Exhibit 8, nothing there
23 that you could use to come up with a scale difference
24 between the two? None of the property lines or
25 anything?"

1 And what was your answer?

2 MS. PERALES: I'm going to object to this.
3 This is irrelevant, and, again, we're just --

4 MR. RYAN: I've got three questions and
5 answers.

6 JUDGE QUALTROUGH: Yeah. I'm going to
7 overrule. I'm going to let him run his case.

8 MS. PERALES: Okay.

9 JUDGE QUALTROUGH: This isn't -- this --

10 THE WITNESS: Repeat the lines again, and
11 the question. I'm sorry.

12 Q (BY MR. RYAN) The question that I asked you on
13 Page 107 --

14 A Okay.

15 Q -- Lines 19 through 22, what was your answer to
16 that question?

17 A "You know, I guess I could sit here and take
18 the time."

19 Q And my question was, "So you could do it?"

20 A "Yeah, I could do it."

21 Q My question was, "Okay. Will you?"

22 A "I'd rather not, but what do you want me to do?
23 Do you want me to say these are the general vicinity of
24 these two holes?"

25 Q "Yes, I do."

1 A "Okay. Because you asked me if they were the
2 same location, which is dramatically different than the
3 general vicinity. Had you asked the right question, we
4 could have gone through this exercise a long time ago.
5 Yeah, they appear to be in the general vicinity. Can we
6 skip the math now?"

7 Q Did you review your deposition transcript when
8 it was provided to you?

9 A I believe I did.

10 Q And I do understand it's your testimony here
11 today that on Page 93, beginning at Line 2, the question
12 where I asked you if those things are in approximately
13 the same location, your testimony here today is that the
14 question that was asked was, are they in the same
15 location?

16 A What I'm saying today is in these 136 pages, I
17 may have missed the one word "approximately."

18 Q Well, that wasn't my question. Is it your
19 testimony here today that when I asked you the question
20 during your deposition, I didn't include the word
21 "approximately"?

22 A I don't recall you using the word
23 approximately; otherwise, I don't think we would have
24 gone through this many pages of exercise.

25 Q When we went through your deposition, did you

1 identify that as what you believed to be an error in the
2 transcript?

3 A Apparently not.

4 Q Would you agree here today that the two drill
5 sites shown on the last page of Exhibit 130EP-45 are in
6 approximately the same locations as the drill site
7 locations proposed by the Protestants' AR1 and AR2?

8 A I would agree with the one qualifier.

9 Q What is it?

10 A Well, I mean, there are -- okay. Let's just
11 say, yes. They're approximately the same location. I
12 was getting ahead of myself.

13 Q Now, it's true, isn't it, that the protestants
14 did not drill a boring at the location shown as AR1 on
15 Exhibit 130EP-46?

16 A Correct.

17 Q But you did drill a boring at location AR2?

18 A Yeah. I don't know if it's exactly this
19 location, but it was a location labeled AR2 that was in
20 this vicinity, yes, sir.

21 Q And AR2 stood for aquifer reconnaissance?

22 A Aquifer reconnaissance, aquifer receptor -- I
23 can't -- back January when we did these holes, there was
24 some nomenclature thrown about. It was one of those,
25 something like that.

1 Q But you don't know what AR stood for?

2 A Not exactly. I mean, I think I heard Mike say
3 aquifer receptor. It could have been aquifer
4 reconnaissance. I don't recall the exact phrase used.

5 Q Do you know what MP stands for?

6 A Migration pathways, migration potential. I
7 thought I heard Mike's testimony. I'm trying to recall.

8 Q But is that your understanding of what that
9 means, or are you just remembering what he testified?

10 A Well, I heard him testify just yesterday, and
11 that jogged my memory from, what, six months ago.

12 Q Okay. And what do you recall it stands for?

13 A I can't remember if it was migration pathway or
14 migration potential.

15 Q Okay.

16 A They seem similar.

17 Q How about IV?

18 A I thought that was integrity and voracity.

19 Q And if you look on Exhibit 130EP-46, if you go
20 to the left of AR2 and down just a little bit, there's a
21 location P2. What does P stand for?

22 A Maybe pathways.

23 Q Did you participate in selecting the locations
24 for the Protestants' borings and trenches?

25 A We had multiple meetings looking at multiple

1 reasons for drilling. We -- we had -- I was logistics
2 primarily, as you recall. And a large part of my deal
3 was site access, drillability, equipment, so I was
4 participating in -- in those events, yes.

5 Q So the answer to my question is yes?

6 A Repeat the question again.

7 Q Did you participate in selecting the locations
8 for the Protestants' borings and trenches?

9 A I guess I did, yes.

10 Q And who else participated in that?

11 A I think -- as is in my deposition, I think I
12 identified Mike Rubinov and Dr. Lauren Ross and myself
13 and Ms. Perales, if I recall correctly.

14 Q Anybody else?

15 A I don't recall if there was anybody else.

16 Q Okay. Were you present when the boring at
17 location AR2 was drilled?

18 A I was present at all the locations at times.
19 Oftentimes I was off plugging and abandoning other bore
20 holes. I was unloading bentonites. I was coordinating
21 lots of different activities. So I didn't always sit
22 and participate on every hole for every sample.

23 Q Okay. When AR2 was drilled, was any sand
24 identified in that hole?

25 A I don't recall. We would have to look at the

1 log.

2 Q Okay. Well, let's do. That's in Protestants'
3 Exhibit 6 -- 6D.

4 A Volume? Help me out, please.

5 Q It should be Volume --

6 JUDGE BELL: It's going to be one of the
7 black binders.

8 JUDGE QUALTROUGH: It should be the same
9 volume as your testimony.

10 THE WITNESS: Oh, I'm sorry. Okay.
11 What -- what are we looking for, sir?

12 Q (BY MR. RYAN) Exhibit 6D.

13 A It's covered up. Okay. And we're looking at
14 MP1, you said?

15 Q AR2.

16 A AR2. Okay. I have it.

17 Q Okay. Was any sand encountered in the
18 drilling?

19 A Give me a moment to review, please. There is a
20 term glauconitic from 15 to 20 feet. Glauconitic --
21 it's like a sand-size particle. I'm not speaking to
22 whether or not that was his reference, but as -- I do
23 know that glauconitic indicates a small, very granular,
24 grain-size particle. I'll just leave it at that.
25 That's at 15 to 20 feet.

1 Q Let me ask you this: Other than looking at
2 Mr. Rubinov's logs, do you not know anything about what
3 was found when AR2 was drilled?

4 A In general, but not specifically.

5 Q Okay. In general, what was found? Do you have
6 any knowledge other than what you can glean from looking
7 at Mr. Rubinov's log?

8 A Not specifically, no. I mean --

9 Q Generally?

10 A No.

11 Q Okay.

12 A I mean, again, I had a lot going on besides
13 looking at the dirt.

14 Q Okay.

15 JUDGE QUALTROUGH: Mr. Ryan, would this be
16 a good time to take a break?

17 MR. RYAN: Sure.

18 JUDGE QUALTROUGH: Go off the record and
19 come back at 10:45.

20 (Recess: 10:36 a.m. to 10:51 a.m.)

21 JUDGE QUALTROUGH: You may proceed.

22 Q (BY MR. RYAN) Mr. Courtney, in your testimony
23 earlier regarding the depths to which gravel was
24 encountered during the drilling of Protestants' borings,
25 if your testimony this morning conflicts with what is

1 shown in Mr. Rubinov's logs, whose information should we
2 rely on, yours or his?

3 A His.

4 Q Okay. So if your testimony conflicts with what
5 is shown on his logs, we should ignore your testimony on
6 the subject of depth through which gravel was
7 encountered?

8 A I didn't say that.

9 Q Okay.

10 A I mean, I don't know that I testified the
11 actual depth that gravel was encountered in any specific
12 boring.

13 Q Well, do you remember saying gravel was
14 encountered to depths of 8 to 10 or 10 to 12 feet,
15 depending on where you are on the site?

16 A Okay. Can I explain my answer to that?

17 Q Well, my question is, do you remember --

18 A Yes.

19 Q -- giving that testimony?

20 A Yes. Okay.

21 Q And is that still your testimony?

22 A If I could clarify -- okay. I remember during
23 our drilling and sampling, as I recall, it seemed in the
24 approximately top 5 to 10 feet, 8 to 10 feet, whatever,
25 we had difficulties retrieving some Shelby tube samples

1 in the beginning due to gravels and the occurrence of
2 gravels and blocking the use of our Shelby tubes.
3 That's -- and it's just a general statement. I wasn't
4 specifying any depth in any bore hole. It was just a
5 general statement. Clearly, the bore hole logs stand
6 alone. What is logged is what was encountered.

7 Q And your earlier testimony would have just been
8 some sort of general guess?

9 A No. It wouldn't be a general guess. I just
10 testified. It was based on my recollection of drilling
11 and sampling issues that we had at depth off the top of
12 my head.

13 Q Okay. And if your recollection conflicts with
14 Mr. Rubinov's boring logs, are you suggesting that the
15 ALJs should give credence to your testimony or
16 Mr. Rubinov's boring logs?

17 MS. PERALES: Objection; asked and
18 answered.

19 THE WITNESS: I made a general statement.

20 Q (BY MR. RYAN) Okay. And do you understand
21 that your general statement conflicts with Mr. Rubinov's
22 boring logs?

23 A To a certain extent, I guess. I mean, I see --

24 Q Do you think Mr. Rubinov's logs are wrong?

25 A No.

1 MS. PERALES: Objection; asked and
2 answered.

3 THE WITNESS: Can we discuss an actual
4 boring log and go to some detail here?

5 JUDGE BELL: We need to answer just the
6 questions that he's asking you.

7 THE WITNESS: Okay.

8 JUDGE BELL: I think we -- overrule the
9 asked and answered question.

10 THE WITNESS: I don't see the conflict. I
11 see gravels listed down to a depth of 10 feet on AR2.
12 So how could Mike --

13 Q (BY MR. RYAN) Would you agree that there are
14 places on the site where gravel was not encountered down
15 to a depth of 8 feet?

16 A Sure.

17 Q Would you agree that there are places on the
18 site where gravel wasn't encountered down to a depth of
19 5 feet?

20 A I don't recall that, but -- I know that in
21 places there was gravels, and in places there was more
22 gravels.

23 Q Okay. And would you agree that there was
24 nowhere on the site where the protestants encountered
25 gravel down to a depth of 12 feet?

1 A I would have to review every boring log to
2 answer that question.

3 Q Okay. But if you wanted to go find out the
4 depths at which gravel was encountered, you would go
5 look at the boring logs to get that information?

6 A Specifically, yes.

7 Q Okay. If you will, take a look at your
8 prefiled testimony, Protestants' Exhibit 7, at Page 10.

9 A Yes, sir.

10 Q Well, I tell you what -- let's flip over to
11 Page 11 first.

12 A Okay.

13 Q Do you see at Lines 9 through 10 where -- I'm
14 sorry -- 8 through 10, you say, "The larger barrel
15 combined with the pressure applied by the drill rig was
16 able to collect representative samples of the gravels,
17 gravelly clay, siltstone and sandstone that could not be
18 collected using Shelby tubes. Do you see that?

19 A Yes, sir.

20 Q Now, I think you've testified earlier about the
21 presence of gravel embedded in clay in the upper
22 portions of borings. Right?

23 A I didn't say anything about embedded in clay.
24 I just said the presence of gravel in the upper portion
25 of the borings.

1 Q Okay.

2 A You're the one to keep using the term
3 "embedded."

4 Q Was that gravel surrounded by clay?

5 A Oftentimes it was grain, but -- see, I'm glad
6 you brought that up, because oftentimes it was
7 grain-to-grain contact. Sometimes it was matrix
8 supported. That's how you actually define clay to
9 gravel and gravel to clay, is it grain-to-grain contact,
10 are the grains and gravel in contact with each other, or
11 are they individually supported in a fine grain matrix.
12 We observed both on location.

13 Q Okay. When you say here, "gravelly clay," what
14 does that mean? What's that a reference to?

15 A Gravelly clay.

16 Q What is that?

17 A It's gravelly clay. Clay with gravel.

18 Q Okay. So you collected some samples of clay
19 with gravel in it. Right?

20 A Or gravel with clay in it, depending on which
21 was more predominately present.

22 Q Well, I'm asking you about your statement here
23 on Page 11, between Lines 8 and 10.

24 A Uh-huh.

25 Q That's a reference to collecting representative

1 samples of gravelly clay. Right?

2 A Yes.

3 Q And right before that, it talks about
4 collecting representative samples of gravels.

5 A Yes.

6 Q Did you collect any sample that consisted
7 solely of gravel?

8 A Okay. Well, see, you want to put everything in
9 a box, and geology is not in boxes. Almost never do you
10 get just get a gravel or just a clay.

11 Q Did you collect any samples that consisted of
12 siltstone?

13 A Yes, I believe we did.

14 Q Where?

15 A I recall -- it might have been the AR boring.
16 I recall seeing very hard, rock-like material. As a
17 matter of fact, the driller was complaining to me that
18 his equipment was not designed to sample rock.

19 Q Well, if you were going to look and see where
20 you encountered -- where you collected representative
21 samples of siltstone, where would you look?

22 A Boring logs.

23 Q Okay. Would you do that?

24 A What was that exhibit again, the boring logs?

25 Q 6D.

1 A Okay. I don't recall exactly. I do recall
2 seeing siltstone in some of the samples. What I was --
3 well, let me put it to you this way: What I would refer
4 to as a siltstone.

5 Q Okay. My question to you is, where did you
6 encounter -- where did you collect --

7 A I don't recall.

8 Q -- representative samples of siltstone?

9 A I don't recall which boring or at what depth.

10 Q And --

11 A I was not logging the samples. I made that
12 abundantly clear. But I did handle probably half the
13 samplers. I actually physically removed them from the
14 bore hole, physically opened them up, physically carried
15 them over to the sample tables and then dumped the
16 sample onto the sample table, and then put the sample
17 barrel back together. During that time, which I was
18 very busy working very hard, I had a lot of things on my
19 mind. I recall seeing some representative samples of
20 siltstone. I can't tell you which boring, and I can't
21 tell you which depth.

22 Q Okay. And isn't it true that there's no
23 reference to siltstone in any of these boring logs?

24 A I don't know if that's true or not. I haven't
25 reviewed the boring logs.

1 Q Okay. If the borings don't have any reference
2 to siltstone, would you agree that no siltstone was
3 encountered in the borings drilled by the protestants?

4 A Not necessarily.

5 Q Okay. Because your opinion about what was
6 encountered out there might differ from Mr. Rubinov's.

7 A If you get 10 geologists in a room, you're
8 liable to get 10 different descriptions of a soil
9 sample.

10 Q Is that -- is that a "yes" in answer to my
11 question?

12 A I'm not sure. Can you repeat the question?

13 Q Yes. And I'd like you to listen to the
14 question and answer the question that I ask you.

15 A Okay.

16 Q Do you believe that your opinion regarding
17 materials encountered during the Protestants' borings
18 may differ from Mr. Rubinov's descriptions?

19 A Yes, sir.

20 Q So if he didn't identify any siltstone in any
21 of his borings logs, do you believe his logs are
22 incorrect in that regard?

23 A I wouldn't say they're incorrect. I mean,
24 where he says something is hard, okay, hard is hard.
25 Okay? What I -- you know, what I might call a siltstone

1 versus what he might call a hard silt -- it could be the
2 same piece of material.

3 MR. RYAN: Can I have just a minute? I
4 need to go through and look at his -- the old version of
5 his prefiled testimony and the new version and try to
6 get some line and page numbers, because they obviously
7 changed.

8 JUDGE QUALTROUGH: That's fine.

9 JUDGE BELL: Sure.

10 (Pause in proceedings)

11 Q (BY MR. RYAN) Okay. So, Mr. Courtney, still
12 there on Page 11 of your prefiled testimony at Line 9,
13 it's your testimony that you collected multiple
14 samples --

15 A I'm sorry. Where are we at again?

16 Q In your prefiled testimony at Page 11.

17 JUDGE QUALTROUGH: It's in that binder.
18 You'll probably have to go back to Exhibit 7.

19 THE WITNESS: I'm sorry.

20 Q (BY MR. RYAN) That's okay.

21 A Page 11. Okay.

22 Q So is it your testimony that you collected
23 multiple samples of siltstone?

24 A I -- let me -- I think I -- what I'm seeing
25 here on his logs, the way he has them described, the

1 iron -- the stratified iron oxide layers, those are very
2 hard silty-sized particles of iron oxide. I believe
3 that might be what I was referring to as siltstone,
4 where he says like larger than half-inch thick, that
5 would be what I would refer to as like a siltstone if I
6 was doing the logging.

7 Q Okay.

8 A I'm just saying I think that might be what I'm
9 calling siltstone, what he calls iron oxide layer.

10 MR. RYAN: Objection; nonresponsive.

11 THE WITNESS: Okay.

12 JUDGE BELL: What was the question?

13 Q (BY MR. RYAN) Is it your testimony that you
14 collected multiple samples of siltstone?

15 A I thought I saw more than one sample, yes, of
16 siltstone.

17 Q And is it your testimony that you collected
18 more than one sample of sandstone?

19 A I thought I saw some samples that appeared to
20 be sandstone. Again, I didn't log each individual
21 sample, so --

22 Q So if there are not multiple identifications of
23 sandstone in Mr. Rubinov's boring logs, does that mean
24 that you didn't collect multiple samples of sandstone?

25 A No.

1 Q Okay. So it's your testimony that you did
2 collect multiple samples of sandstone?

3 A I thought in general I observed in different
4 borings at different depths and different samples what
5 appeared to me to be some sandstone.

6 Q That's why you put that in your prefiled
7 testimony?

8 A I'm not trying to imply anything other than
9 that.

10 Q So it's your testimony that you collected
11 multiple samples of sandstone?

12 A I didn't say multiple samples. Anywhere in
13 here does it say multiple. It says collected
14 representative samples of gravels, gravelly clay,
15 siltstone, and sandstone. There's no multiple.

16 Q The word "samples," with an S on it, doesn't
17 imply multiple?

18 A Mr. Clinton (sic), we can parse words all day
19 long if you want. Okay? Samples of gravels as one
20 example. Gravelly clay is another example. Siltstone
21 is another example. Sandstone, that would be the
22 multiple samples.

23 Q Okay. So my question to you is, did you
24 collect multiple samples of sandstone, or do you know?

25 A I don't know.

1 Q Okay.

2 A I didn't do the logging. I didn't meant to
3 imply that, you know, we collected tons of sandstone.
4 This was a general statement regarding sampling methods.

5 Q So if I wanted to know how many samples of
6 sandstone were collected, I should look at the boring
7 log?

8 A If you want to count the number of sandstones
9 that were noted in the boring log, you could do that.

10 Q Well, you testify here on Page 11 of
11 Protestants' Exhibit 7 between Lines 8 and Line 10 about
12 representative samples of various material that was
13 collected, do you not?

14 A Yes, I do.

15 Q And I'm just trying to find out if you
16 collected more than one sample of sandstone?

17 A I don't know.

18 Q Okay.

19 A And I didn't --

20 Q Did you -- did you collect more than one sample
21 of siltstone?

22 A I -- I don't know. I believe if siltstone is
23 what we're referring to as iron oxide, I saw a lot of
24 that.

25 Q So you don't know if you collected more than

1 one sample of siltstone?

2 A I believe we did.

3 Q Okay. How many?

4 A I don't know.

5 Q Did you collect more than one sample of gravel?

6 A Yes.

7 Q How many?

8 A I don't know.

9 Q If I wanted to find out where you collected
10 samples of gravel, how could I do that?

11 A The trenches -- the samples from the trenches,
12 there was lots of gravels.

13 Q So I would have to go look in the trenches?

14 A Or look at the sample description of the
15 trenches. I don't know where all that information is.
16 I didn't put this together.

17 Q You didn't put your prefiled testimony
18 together?

19 A I put the prefiled testimony together. You
20 don't see any documentation and a number of samples.
21 This is a general statement regarding sampling
22 methodology relative to lithology encountered.

23 Q So would you turn to Exhibit 6B, as in boy.

24 A (Witness complies).

25 Q And do you see on that map the locations at

1 which the protestants drilled borings?

2 A Let me make sure -- this map is 6B.

3 Q Yes.

4 A Okay. Because it's not titled. It just
5 says -- okay. Yes, sir.

6 Q So the red dots that have T with a number --
7 those are trench locations. Right?

8 A I believe so. Yes.

9 Q And the other red dots identified locations at
10 which borings were drilled?

11 A Yes, sir. I believe so.

12 Q So is it true that there are -- one, two,
13 three, four, five, six -- seven locations at which the
14 protestants drilled borings?

15 A One, two, three, four, five, six, seven -- yes,
16 sir, apparently.

17 Q And is it true that you had to restart your
18 borings at three of those locations because of sample
19 recovery problems with the sample method you were using?

20 A All the sample methods we were using. Yes,
21 that's true.

22 Q And the places where you had to move over and
23 restart a boring because of those sample recovery
24 problems were at MP1, IV1 and IV2?

25 A If you say so. I don't recall.

1 Q Well, that was a question.

2 A I don't know.

3 Q Can you tell by looking on this map?

4 A I see in the legend -- approximate locations.
5 I see red dots that said site explored by protestants.
6 I see red dots.

7 Q Do you see up there near the top of the
8 exhibit, the red dot that says next to it IV1?

9 A Yes.

10 Q And then right next to that it says 1A?

11 A Yes.

12 Q What does that mean?

13 A I think that's where we move over and build
14 multiple holes.

15 Q Moved over and drilled another hole there
16 because of sample recovery problems with the sampling
17 method you were using there. Right?

18 A Which could have been the Shelby tube.
19 Initially, I recall we had trouble with the Shelby tube.
20 That's when we switched over to the split rail.

21 Q Okay. And then the same thing at IV2 and 2A?

22 A I believe so, upon recollection.

23 Q And then at MP1 and 1A, you also had to move
24 over and start that hole over again?

25 A That -- I believe that was the last one we did,

1 if I recall -- yes. Okay. We did move over -- okay. I
2 think -- I don't -- I think we went back over to get a
3 Shelby tube sample at depth because we found some
4 permeable soil that we wanted to run a permeability
5 sample on if I recall. So that's why we redrilled that
6 depth there. It wasn't a sample problem.

7 Q Okay. So you didn't have any trouble
8 recovering the samples in MP1 and 1A?

9 A I -- that's right. We did, yes, at the bottom.

10 Q What --

11 A We moved over and drilled a hole for multiple
12 reasons.

13 Q What was the problem that you had?

14 A I believe that's where the sample barrel got
15 stuck in the lead auger.

16 Q And what happens when that occurs?

17 A The sample barrel -- it's a split barrel, and
18 so it -- when it's 5-foot long, it has the ability --
19 when it gets a -- backfill with a sample in it, the
20 barrel kind of opened up, and so then it was -- it
21 filled the inside diameter of the hollow-stem auger, and
22 it was full. And so when they tried to retrieve the
23 sample barrel, it was pulling the whole stem of augers
24 up.

25 Q So you had -- you drilled at seven locations,

1 and you had to restart your borings at three of them.
2 Right?

3 A Correct.

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

5 JUDGE QUALTROUGH: Redirect?

6 MS. PERALES: I have just a few questions.

7 RECROSS-EXAMINATION

8 BY MS. PERALES:

9 Q Mr. Courtney, you provided us a -- a good
10 descriptive explanation of the difference between wet
11 rotary and -- I can't remember what the SFP means.

12 A Straight-flight auger.

13 Q Straight-flight augers. Okay. Thank you.
14 Now, my question is if there was lost circulation -- if
15 we heard testimony that there was lost circulation
16 during the drilling of one of the borings, would that be
17 an indication that wet rotary was used?

18 A Yes.

19 Q And could it have been straight-flight auger if
20 there was lost circulation?

21 A No.

22 Q Why is that?

23 A Well, again, let me illustrate. If you
24 recall -- in a wet-rotary process, you advance the hole
25 that you're drilling with downward force and rotating,

1 pumping fluid down the inside of the drill pipe out the
2 bottom of the bit, lifting the cuttings and the fluid
3 back up to the top. And what happens in a lost
4 circulation scenario is somewhere in the boring fluids
5 go out into the formation. It could be multiple places,
6 it could be in one place. It could be an interval, but
7 somewhere fluid is pumped down and comes out of the pipe
8 up into the boring and then out into the bore hole.
9 Then it exits the bore hole and goes out in the
10 formation and fails to return to the circulation pit.
11 And straight-flight augers, okay, there's no fluid
12 medium.

13 So there's no way to lose circulation when
14 you're using the straight-flight auger. So like in the
15 top 55 feet of most of the borings, where the weather
16 zone is where you typically lose circulation, you have
17 no way of knowing that using a straight-flight auger
18 scenario. And if they employ the straight-flight auger
19 scenario in the wetter portion of the top 55 feet, that
20 zone would be smeared by the auger. And so using a
21 wet-rotary process, they lost circulation somewhere, but
22 just don't know where. That's how you lose circulation.

23 Q Okay. Thank you. And I think just to make
24 sure that I'm clear about that and the record is clear,
25 your testimony was that it appeared, based on

1 Mr. Snyder's testimony and description, that in 2013,
2 wet rotary was not used for the first 55 feet generally?

3 A Correct. As noted on the boring logs, they
4 didn't use fluid for the top 55 feet. So -- and then I
5 believe they used augers for the first 55 feet, because
6 there was no other way to -- to advance the bore hole
7 using rotary methods dry. That's the auger method.

8 Q Okay. So there would have been no fluid to
9 lose?

10 A Right.

11 Q So you were asked a few questions about the
12 types of -- I'll call it dirt -- that you observed
13 during your drilling on the site with the protestants.
14 And I would like to direct your attention to
15 Protestants' Exhibit 6D, as in dog. You were looking at
16 that earlier.

17 A Okay.

18 Q If you turn to Page 4 of that exhibit --

19 A Okay.

20 Q -- at about 11 feet, what is cemented silt
21 rock?

22 A There it is right there. That's probably the
23 sample I was talking about.

24 Q What -- when you say the sample you were
25 talking about, what do you mean?

1 A Okay. We heard testimony yesterday about --
2 I'm sorry. We heard testimony yesterday about logging
3 samples in the field. One of the common field logging
4 methods for determining whether it's a silt or a clay is
5 what they call a dry-strength method. You take a small
6 representative sample about the size of the end of your
7 thumb and kind of roll it up in a ball, put it on the
8 table, and then just gently push down with your finger.
9 A clay which is usually a very fine grain, it will have
10 a high dry strength test. You typically can't just push
11 it and it fall apart. Okay. A silt conversely typical
12 logging method, if you generally push on it and it kind
13 of falls apart, it's more friable. A silt is a larger
14 grain material. It's more friable. In the dry strength
15 test, a silt will fall apart, where a clay will, you
16 know, stand up in resistance. Now, if you have silt
17 side particles and they're hard as a rock, then they're
18 cemented. There's some kind of cement, either an iron
19 oxide cement, a calcium carbonate cement, in some cases
20 it's a silicious cement. There's multiple kinds of
21 cement. But a cemented silt rock, very hard, little
22 recovery, would be a piece of cemented silt-sized
23 particles.

24 Q Okay. Thank you. And if you stick with that
25 same exhibit and turn to Page 5 --

1 A Yes.

2 Q -- and take a look at the depth at 45 -- 45.0
3 to 45.5.

4 A Okay. Oh, there we go.

5 Q There we go with what?

6 A The light greenish-gray is cemented sand.

7 Q Okay.

8 A Again, this is larger particles than a silt, so
9 you can identify them. You can see them better. Again,
10 I'm not logging the sample. I'm just telling you in
11 general when you look at a sample, you will see a sand.
12 If it's not cemented, it will just fall apart. There
13 will be no resistance. There will just be a pile of
14 sand there. When you push on it, it will disburse. But
15 a cemented sand, it's a sandstone. It's a rock, hard
16 nonplastic, okay, rock layer. There you go.

17 Q And --

18 A Half a foot thick.

19 Q Turn to Page 6 of that same exhibit, please.

20 A Okay.

21 Q And look down at the description -- at the
22 lithologic description at 20 to 37 feet. Do you see
23 where it says "cemented silt layer" from about 25 to
24 25.5 feet?

25 A Okay. I'm sorry.

1 Q Page 6.

2 A Okay. Page 6.

3 Q 20 to 37 in the lithologic description?

4 A Okay.

5 Q What is cemented silt layer? What does that
6 indicate?

7 A It looks like they have about a half-foot
8 thick -- again, that same cemented silt layer where
9 you -- it's a silt-sized particle, but it's cemented.
10 It's hard. It's very indurated.

11 Q And can you turn to Exhibit 6C. Are you there?

12 A Yes.

13 Q Okay. Do you see under boring No. MP-1A?

14 A Yes.

15 Q Do you see visual descriptions there that are
16 consistent with what you recollect?

17 A Okay. Yeah. There's light gray sandstone.
18 Okay.

19 Q Going down to MP-3, do you see the description
20 there?

21 A Yeah. Reddish laminated claystone.

22 THE REPORTER: I'm sorry. I didn't hear
23 you.

24 THE WITNESS: I'm sorry. Reddish-brown
25 laminated claystone.

1 Q (BY MS. PERALES) And Exhibit 6C, can you tell
2 us what this is, what this document is?

3 A Summary of laboratory test results.

4 Q So these descriptions, does that mean that it
5 came from the laboratory?

6 A Yes.

7 Q Okay. And would these descriptions have
8 followed some sort of web analysis?

9 A Yes. You can see where they take the sample,
10 they run various tests on it. Typically you take
11 representative samples of each -- representative
12 portions of each soil sample and you run various tests,
13 the Atterberg limits -- where you see hydraulic
14 conductivity, those would be permeabilities. I mean,
15 that's what I was talking about, you only want to
16 collect permeability samples with a Shelby tube because
17 that is the only method that is consistent with running
18 the permeability samples. The last part is a sieve
19 analysis. That's just essentially where they take the
20 soil sample and run it through a series of sieves so you
21 get a distribution of the grain size.

22 Q Okay.

23 A Percentages by volume.

24 Q So would it be fair to say that this summary of
25 lab results is an independent conformation of what

1 Mr. Rubinov noted in his boring logs?

2 A Yes.

3 MS. PERALES: I'll pass the witness.

4 Thank you.

5 THE WITNESS: Thank you.

6 JUDGE QUALTROUGH: Plum Creek, any

7 recross?

8 MR. McKARTHY: Nothing here, Your Honor.

9 JUDGE QUALTROUGH: Caldwell County?

10 MR. MAGEE: No, Your Honor.

11 JUDGE QUALTROUGH: OPIC?

12 MR. TUCKER: No questions.

13 JUDGE QUALTROUGH: ED?

14 MR. TATU: No questions.

15 JUDGE QUALTROUGH: 130EP?

16 MR. RYAN: No, Your Honor.

17 JUDGE QUALTROUGH: Thank you very much.

18 THE WITNESS: Thank you all.

19 JUDGE QUALTROUGH: All right. It's 11:25.

20 I think we're done with your witnesses. Is that

21 correct?

22 MS. PERALES: Yes. I think we're done
23 with my witnesses. We did want to -- we had a couple of
24 excerpts from a deposition, which we wanted to project
25 on the projector, and they are part of our prefiled, so

1 it's about a 10-minute recording.

2 JUDGE QUALTROUGH: It's already in your
3 prefiled?

4 MS. PERALES: Not the -- the transcript
5 only is in the prefiled.

6 JUDGE QUALTROUGH: What are you wanting to
7 project?

8 MS. PERALES: The video of the deposition.

9 JUDGE QUALTROUGH: The actual video of the
10 deposition?

11 MS. PERALES: Right.

12 MR. RYAN: Your Honor, I'm going to object
13 to that. It's not an exhibit. They didn't file it.

14 MS. PERALES: Well, we -- it's a
15 transcript.

16 MR. RYAN: They're showing up with new
17 evidence. The transcript is in the evidence?

18 MS. PERALES: Yes, the transcript is in
19 the evidence.

20 MR. RYAN: I'm objecting to the
21 introduction of additional evidence. It should have
22 been a part of their prefiled case.

23 MS. PERALES: I think it's just another --
24 okay.

25 JUDGE QUALTROUGH: So let me make sure I

1 understand. You've got deposition transcripts in your
2 prefiled.

3 MS. PERALES: Right.

4 JUDGE QUALTROUGH: And you want to -- all
5 the deposition or just part of it?

6 MS. PERALES: Just about a 10-minute
7 snippet. It's a deposition of Mr. Kaufmann, so it's a
8 witness who isn't present and hasn't testified in
9 person.

10 MR. RYAN: Your Honor, I didn't know they
11 intended to do that. I don't have any clips of the
12 video from the deposition. They -- they prepared an
13 exhibit that consists of transcript information. This
14 is the first I've ever heard that they now want to show
15 a video.

16 JUDGE QUALTROUGH: Have you provided this
17 video to them?

18 MS. PERALES: We have CDs.

19 MR. RYAN: The answer is no.

20 MS. PERALES: We've provided the
21 transcript. I mean, it's a different version of the
22 same information and the same words.

23 MR. RYAN: If it's the same thing, she
24 doesn't --

25 JUDGE QUALTROUGH: Then why do we need to

1 have it in the record if it's already in there?

2 MS. PERALES: Because Mr. Kauffman is not
3 present and hasn't provided any testimony. I don't
4 think that the transcript itself will convey the same
5 type of evidence that we would get from watching his
6 actual -- his -- hearing his voice and him testifying.

7 JUDGE BELL: Why didn't you put them on
8 notice sooner that you wanted to do that?

9 JUDGE QUALTROUGH: That should have been
10 in prefiled.

11 JUDGE BELL: Because what he's saying and
12 what I can appreciate is that he hasn't had the
13 opportunity to get his own cuts of the video from the
14 deposition to show in response to whatever you're
15 intending to show.

16 MS. PERALES: I just didn't appreciate
17 that we could prefile the actual video.

18 MR. RYAN: We did.

19 JUDGE QUALTROUGH: Yeah, it's just a disc.
20 Right?

21 MR. RYAN: Yes.

22 JUDGE BELL: I don't think we're going to
23 allow that because it -- it -- as far as Judge
24 Qualtrough and I are concerned, it should have been
25 something that was prefiled.

1 MS. PERALES: Okay.

2 JUDGE BELL: At the very least, it should
3 have been something that he was put on notice of -- the
4 Applicant was put on notice of in order to be able to
5 take a position one way or the other and respond
6 accordingly.

7 MS. PERALES: So we could, I guess, also
8 have a witness just read from the transcripts. You
9 know, somebody sitting in the place of Mr. Kauffman and
10 do a question and answer.

11 JUDGE QUALTROUGH: But the transcript is
12 already in your prefiled?

13 MS. PERALES: Uh-huh.

14 JUDGE QUALTROUGH: Has it been admitted?
15 Have you offered it?

16 MS. PERALES: I haven't offered it.

17 JUDGE QUALTROUGH: I mean, I -- I don't
18 know what we gain by having someone read it if it's
19 already -- and there's been no objection to the -- to
20 the depo, as I recall.

21 MR. RYAN: Correct.

22 JUDGE QUALTROUGH: So it will most likely
23 be admitted if you offer it. I guess what you could do
24 is submit the pages that your video covered if you
25 wanted us to focus on that.

1 JUDGE BELL: Are you offering the entire
2 deposition?

3 MS. PERALES: I believe we have included
4 the entire deposition. It is --

5 MR. ROCKWELL: I just highlighted
6 versions.

7 JUDGE QUALTROUGH: I think we can rely on
8 that.

9 JUDGE BELL: I don't see any need to have
10 anybody read it.

11 JUDGE QUALTROUGH: Do you want to offer
12 that now? Do you want to make it separate from the rest
13 of your exhibits?

14 MS. PERALES: Yes.

15 JUDGE QUALTROUGH: Do you want to give the
16 rest of your -- offer the rest of your exhibits?

17 MS. PERALES: Yes.

18 JUDGE QUALTROUGH: All right.

19 MS. PERALES: So we have previously
20 prefiled Exhibits 10 through 15. I believe there were
21 objections that were sustained on some of those.

22 JUDGE QUALTROUGH: I don't have a whole
23 exhibit list.

24 JUDGE BELL: Hold on. Let me see if I do.

25 JUDGE QUALTROUGH: My exhibit list ends at

1 9D. Is there another page or two?

2 JUDGE BELL: Mine does, too.

3 JUDGE QUALTROUGH: Our exhibit lists end
4 at Page 5.

5 Let's go off the record.

6 (Discussion off the record)

7 JUDGE QUALTROUGH: All right. We are back
8 on the record. We -- we were addressing TJFA's and
9 EPICC's exhibit list. Okay. So we've got -- as I see,
10 everything that's been admitted except for Exhibits 10
11 and 11 --

12 MS. PERALES: Correct.

13 JUDGE QUALTROUGH: All right.

14 MS. PERALES: And so we're offering
15 Exhibits 10 and 11 now.

16 JUDGE QUALTROUGH: All right. Any
17 objection?

18 MR. RYAN: No objection.

19 JUDGE QUALTROUGH: All right. Those two
20 exhibits are admitted.

21 (Exhibit Protestants Nos. 10 and 11
22 admitted)

23 MR. RYAN: Your Honor, because they
24 withdrew the offer of Exhibits 12 through 15, I
25 would ask that they be removed from the binders of the

1 exhibits that have been admitted.

2 JUDGE QUALTROUGH: I agree. So those need
3 to be -- have you submitted copies of those to the court
4 reporter, or are they in the additional record?

5 MS. PERALES: I think they might be in the
6 binders.

7 JUDGE QUALTROUGH: All right. If you
8 would, please.

9 All right. So with that --

10 MS. PERALES: We rest.

11 JUDGE QUALTROUGH: Okay. So now we have
12 Caldwell County. It's 11:30. We still have Hobby.

13 MR. RYAN: Yes.

14 MR. MAGEE: We agreed to let you go after
15 Courtney.

16 JUDGE QUALTROUGH: Do we have a time
17 issue? Should we break for lunch now or take Mr. Hobby
18 up after lunch? I don't know how much cross y'all have
19 for him.

20 MR. ROCKWELL: Probably -- it's hard to
21 predict, but I would say about a half hour or so.

22 MR. MAGEE: I was going to say less than a
23 minute for us. I just have a few questions.

24 JUDGE QUALTROUGH: Do you want to keep
25 going?

1 MR. RYAN: Sure.

2 JUDGE QUALTROUGH: All right. So we're
3 back on the record, and -- oh, yeah -- okay. So we --
4 we've got all of your exhibits admitted.

5 Going back to the Applicant, did you offer
6 45 and 46?

7 MR. RYAN: I will do that now. I'll offer
8 Exhibits 45 and 46.

9 JUDGE QUALTROUGH: Any objections to those
10 two coming into the record?

11 MS. PERALES: No objection.

12 JUDGE QUALTROUGH: All right. So
13 Exhibits -- 130EP Exhibit 45 and 46 are admitted.

14 (Exhibit Applicant Nos. 45 and 46
15 admitted)

16 JUDGE QUALTROUGH: We also have a copy of
17 EP -- excuse me -- 130EP-44. Do you want to address
18 that now or later?

19 This was in the logs -- this was the --
20 the notated copy from Mr. Rubinov's testimony.

21 MR. RYAN: Your Honor, at this time, I'd
22 offer Exhibit 130EP-44.

23 JUDGE QUALTROUGH: All right.

24 MS. PERALES: I do have an objection.

25 JUDGE QUALTROUGH: Go ahead and state your

1 objection.

2 MS. PERALES: I -- well, I'm not sure I've
3 been provided with a copy of a marked-up version. I
4 don't see it.

5 MR. MOORE: I put it there this morning.
6 It's right there.

7 JUDGE QUALTROUGH: It should say -- it has
8 record copy on it, but I think what that is, it's a copy
9 of the record copy.

10 MS. PERALES: I also have an objection
11 because the document -- the original document was a
12 document that was sealed by Mr. Rubinov. And it now
13 includes -- I guess I do have it. It now includes
14 mark-ups or notations that look like Mr. Ryan's opinions
15 regarding what a change is.

16 JUDGE QUALTROUGH: Also, I don't -- I
17 can't tell the mark-ups.

18 MR. RYAN: Just the last page.

19 JUDGE QUALTROUGH: It's just on the last
20 page?

21 MR. RYAN: Yes.

22 JUDGE BELL: They're clear, then.

23 JUDGE QUALTROUGH: Oh, there they are.
24 Thank you. Last page.

25 Do you have a response, Mr. Ryan?

1 MR. RYAN: Well, I guess I'm not exactly
2 sure what the objection is.

3 JUDGE QUALTROUGH: I think the objection
4 is it reflects your -- the position to change, does it
5 not, the witness.

6 MR. RYAN: I think the record is clear
7 that he didn't make any changes that he didn't agree
8 were changes.

9 JUDGE QUALTROUGH: That's not my
10 recollection.

11 MR. RYAN: We went through a discussion of
12 that, and when Ms. Perales was objecting to that, I told
13 the witness, "Don't mark that if you don't think it's a
14 change." And I asked him, "Did you mark that," and he
15 said "no." And it's very clear in the record that the
16 only time he put a mark on there is when he agreed there
17 was a change.

18 JUDGE QUALTROUGH: All right. I'm going
19 to overrule that objection and admit the exhibit -- I'll
20 look at that exhibit when we're done with the transcript
21 and give it the weight we think it should be given. So
22 we'll admit that.

23 (Exhibit Applicant No. 44 admitted)

24 JUDGE QUALTROUGH: All right. So now you
25 may call your next witness.

1 MR. RYAN: Thank you, Your Honor. We'll
2 call Mr. Jeff Hobby.

3 JUDGE QUALTROUGH: Can you give me an
4 indication of what volumes I'm going to need?

5 MR. RYAN: Yes. Volume 7 and Volume 1.

6 JUDGE QUALTROUGH: Mr. Hobby, if I can get
7 you to come to the stand. I need to swear you in.

8 (Witness Hobby sworn)

9 JUDGE QUALTROUGH: All right. If I could
10 get you to take a seat and state your name for the
11 record.

12 THE WITNESS: Billy Jeffery Hobby.

13 JUDGE QUALTROUGH: Thanks. You may
14 proceed.

15 PRESENTATION ON BEHALF OF APPLICANT (CONTINUED)

16 B. JEFFERY HOBBY, P.E.,

17 having been first duly sworn, testified as follows:

18 DIRECT EXAMINATION

19 BY MR. RYAN:

20 Q Mr. Hobby, do you have in front of your there
21 what have been marked Exhibits Hobby 1 through Hobby 6?

22 A I do.

23 Q What is Exhibit Hobby 1?

24 A Direct testimony of Billy Jeffery Hobby.

25 JUDGE QUALTROUGH: Mr. Hobby, if I could

1 get you to speak into that microphone.

2 THE WITNESS: Direct testimony of Billy
3 Jeffery Hobby.

4 Q (BY MR. RYAN) And that's you?

5 A It is.

6 Q Okay. Are there any corrections that need to
7 be made to Exhibit Hobby 1?

8 A Yes, there is.

9 Q Okay. Where's the first one?

10 A Line 16.

11 Q On which page?

12 A Page 4.

13 Q Okay. What's the change that needs to be made?

14 A Strike out "Texas."

15 Q "Texas and"?

16 A "Texas and."

17 Q Have you ever been --

18 JUDGE BELL: What page is that? Sorry.

19 MR. RYAN: Oh, Page 4, Line 16.

20 JUDGE BELL: Thank you.

21 Q (BY MR. RYAN) Have you ever been a licensed
22 professional engineer in Texas?

23 A I have.

24 Q But you aren't any longer?

25 A As we speak today, I'm not.

1 Q Okay. Do you have a pen with you there?

2 A I do.

3 Q Can you make that change, just cross out those
4 words?

5 A All right.

6 Q Did you make that change?

7 A I did.

8 Q Any other changes?

9 A Yes.

10 Q Okay. Where's the next one?

11 A Page 5.

12 Q Okay. What line?

13 A 23.

14 Q Okay.

15 A Appendix D4. Change "Appendix D" to "Appendix
16 D4."

17 Q Okay. And on the line above that, does there
18 need to be a change?

19 A Yes. I'm sorry.

20 Q What's that change?

21 A Change "specifically" -- or strike out
22 "specifically."

23 Q Okay. Did you make those changes?

24 A I did.

25 Q Are --

1 A And also it's pages -- instead of 151, 154 is
2 51, 54 --

3 Q I'm not sure where you are there.

4 A I'm sorry. Line 23.

5 Q Okay. Instead of "150 to 154"?

6 A Yes.

7 Q It should say what?

8 A "51 to 54."

9 Q Are Exhibits Hobby 2 through Hobby 6 exhibits
10 that are referred to in your prefiled testimony, Exhibit
11 Hobby 1?

12 A I'm sorry. Say that again.

13 Q Okay. Exhibits Hobby 2, Hobby 3, Hobby 4,
14 Hobby 5, and Hobby 6, are those exhibits that are
15 referred to in your prefiled testimony, Hobby 1?

16 A They are.

17 MR. RYAN: Your Honor, I would offer
18 Exhibits Hobby 1 through Hobby 6.

19 JUDGE QUALTROUGH: Any objection?

20 MR. ROCKWELL: No objection, Your Honor.

21 JUDGE QUALTROUGH: All right. Those
22 exhibits are admitted.

23 (Exhibit Applicant Hobby Nos. 1 through 6
24 admitted)

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

1 JUDGE QUALTROUGH: Any cross from Plum
2 Creek?

3 MR. McKARTHY: No questions, Your Honor.

4 JUDGE QUALTROUGH: All right. TJFA?

5 MR. ROCKWELL: Yes. Yes, Your Honor.

6 CROSS-EXAMINATION

7 BY MR. ROCKWELL:

8 Q Good morning, Mr. Hobby.

9 A Good morning, sir.

10 Q My name is Brad Rockwell. I'm here
11 representing the protestants, TJFA and EPICC. You have
12 a -- I'm asking questions based on your resumé here.
13 You had previously worked for Republic Waste Services.
14 Is that correct?

15 A I did. Yes, sir.

16 Q And what is the relationship of Republic Waste
17 Services and BFI?

18 A Just in a general speaking, it's my
19 understanding that Allied Waste acquired BFI, and then
20 either there was a merger or Republic acquired Allied
21 Waste.

22 Q So BFI is part of Republic or what used to be
23 BFI?

24 A That would be my understanding.

25 Q And you -- do you keep in touch with any of the

1 people at Republic that you used to work with?

2 A I'm sure there's some that -- I'm not sure if
3 they're still with Republic, but I'm -- I call myself
4 staying in touch with the industry.

5 Q So that would be a yes?

6 A That would probably be a yes. Yeah.

7 Q And for 10 years you worked for WCA Waste
8 Corporation?

9 A Yes, sir. Yes, sir, I did.

10 Q And who was the owner of this company?

11 A Mr. Tom Fatjo -- Mr. Jerry Kruska -- you know,
12 it was a -- to say who was the owners -- I'll tell you
13 they were the leaders.

14 Q Okay. And Mr. Fatjo has been one of the
15 founders of BFI. Correct?

16 A That's my understanding. Yes.

17 Q I'm going to ask you some questions now about
18 your opinion.

19 A Okay.

20 Q First of all, the exhibit -- Hobby Exhibit 1,
21 is that a document that you wrote yourself?

22 A You asked me did I type it?

23 Q Did you draft it?

24 A I did not type it. I reviewed it.

25 Q You -- somebody else prepared it for you?

1 A I'm guessing -- are you asking me are these my
2 questions that I answered or did I type this. These are
3 questions that I answered.

4 Q And did you tell someone that you were a
5 professional engineer in Texas?

6 A I'm sure at some point I did, because I was.

7 Q Okay. And when did you -- when -- at what
8 point were you no longer a professional engineer in
9 Texas?

10 A You know, it was going to be from the September
11 of '13, '14 or '15. I don't remember -- I just chose
12 not to renew my license when it expired at the end of
13 that period of time.

14 Q And when did you answer the questions on Hobby
15 Exhibit 1?

16 A I don't remember that answer, sir.

17 Q Was it more recently than September of 2015?

18 A Probably, yes, sir.

19 Q So is it your opinion that the portion of the
20 application of 130 Environmental Park application
21 dealing with waste acceptance rates meets the
22 requirements of TCEQ's MSW rules?

23 A I would say -- what I reviewed was -- is it --
24 I know TCEQ's rules, and I will say that's a good
25 representation or estimate of waste -- that -- it coming

1 into that site.

2 Q And can you look at Page 5 of your prefiled
3 testimony? This would be Hobby Exhibit 1.

4 A Okay.

5 Q And look at Lines 43 and 44.

6 A All right.

7 Q And then your answer would be on Line 46, is it
8 accurate to say that your testimony is that these TCEQ
9 rules do not, quote, "Require a permit application to
10 include accurate information on waste acceptance rates"?

11 A Accurate.

12 Q Isn't that what your testimony is right there?

13 A Yes, sir.

14 Q So if waste acceptance rates do not have to be
15 accurate, in your opinion, then can any waste acceptance
16 rates meet TCEQ regulations?

17 A Now, this is my opinion. You know, I think
18 that's a broad question. You've got to know the market.
19 You've got to know how much is generated in that market,
20 and how much you can get -- reasonably get into that
21 waste -- I mean, into that market, so --

22 Q But your testimony is that really -- it doesn't
23 really matter too much what the waste acceptance rates
24 that are estimated by the Applicant, because they can be
25 modified or --

1 A They can be adjusted.

2 Q Uh-huh. So it doesn't really matter too much
3 specifically what the rates are that are --

4 A You're talking about the acceptance rates?

5 Q Yes.

6 A I don't want to say it doesn't matter. I mean,
7 you've got to have some justifications. You can't come
8 in and say you'll take 2500 tons when a market only
9 generates 1500.

10 Q And you're -- you've testified that landfill
11 acceptance rates for a new landfill are particularly
12 difficult to estimate. Correct?

13 A Without a doubt.

14 MR. ROCKWELL: May I approach the
15 witness?

16 JUDGE BELL: Yes.

17 Q (BY MR. ROCKWELL) You've got a copy of the
18 rules here, so I'm going to ask you some questions. Can
19 you look at the rule -- TCEQ rule Section 330.127,
20 Subparagraph 2?

21 A 127 or 37.

22 Q 330.127, Subparagraph 2.

23 A Okay.

24 Q And this section dictates what has to be in a
25 site-operated plan. Correct?

1 A Yes, sir.

2 Q And have you -- are you familiar with this
3 section?

4 A Generally.

5 Q And did you look at this section before you
6 gave your opinion?

7 A No, sir.

8 Q In Subparagraph 2, it requires a description
9 including, "The minimum number, size, type, and function
10 of equipment to be utilized at the facility based on the
11 estimated waste acceptance rate." Do you see that?

12 A Yes.

13 Q So the waste acceptance rate is what's used to
14 determine the minimum number, size, type, and function
15 of the equipment used at the facility. Do you see
16 that?

17 A Yes, sir.

18 Q One of the types of -- is it still your opinion
19 that the waste acceptance rates don't have to be
20 accurate?

21 A I didn't -- what I am saying is it's hard to --
22 to make them accurate. You're trying to make your best
23 estimate, but I mean, it's a good estimate.

24 Q So one of the pieces of equipment often found
25 in landfills is a trash compactor. Correct?

1 A Yes, sir.

2 Q And the trash compactor was one of the things,
3 the size and number of trash compactors would be
4 relating to the waste acceptance rate. Correct?

5 A As far as how many is needed?

6 Q Right.

7 A That would be an opinion, too.

8 Q Well, what is your opinion on that?

9 A As to how many is needed?

10 Q Well, whether there's a relationship between
11 the waste acceptance rate and the -- whether there's a
12 trash compactor or how many or the size?

13 A Typically, in my opinion, you want a compactor
14 on the site so that you can utilize the air space to the
15 best of its ability. Do you have to have one? I mean,
16 I don't know if you have to have one, but -- you want to
17 utilize air space to the best of your ability.

18 Q Are you aware that when I was cross-examining
19 another witness that counsel for 130 Environmental Park
20 represented there was not going to be a trash compactor
21 at this site?

22 A Was I aware?

23 Q Yeah. Were you aware of that?

24 A No, sir.

25 Q Would that surprise you?

1 A Surprise me? That's -- that's a -- that -- no.
2 I don't know if it would surprise me. No, sir.

3 Q Do you know what the initial waste acceptance
4 rate 130 Environmental Park gave in its application?

5 A 1500 tons a day.

6 Q Would it be possible for this particular
7 landfill site to accept 1500 tons per day and not have a
8 trash compactor?

9 A Possible, yes.

10 Q Does that make any sense at all?

11 A I mean, it's possible.

12 Q Would it make it more difficult to process
13 trash without a trash compactor and put it in a
14 landfill?

15 A No.

16 Q No? And do you know exactly how 130
17 Environmental Park came up with its projected waste
18 acceptance rate?

19 A I do not.

20 Q So you don't know whether they used the --
21 the -- the best possible way of coming up with that
22 number, best efforts?

23 A Well, I don't know what the best efforts is,
24 but I would say they're realistic estimates.

25 Q And it's your testimony that -- that until a

1 new landfill is actually permitted and constructed, it
2 is nearly impossible to line up customers and control
3 significant volumes of waste?

4 A In my opinion, that is correct.

5 Q And how much does it cost to permit a new
6 landfill and get it operating?

7 A Are you talking about the application -- does
8 it have a public hearing, construction, equipment -- I
9 mean --

10 Q Contested --

11 A That's a moving target.

12 Q Contested case hearing, the whole process,
13 lining up the application?

14 A I will tell you that it depends on the number
15 of equipment and the equipment that you have, a variety
16 of things, how deep is the seal, what's the number of
17 groundwater wells that has to be there, the number of
18 probes. How long is the entrance road, what amenities
19 are proposed with it, that's -- I mean, you can -- that
20 can vary by a big margin. Whether you've got to have
21 screening berms, I mean, a lot of things.

22 Q But the permitting process probably costs --
23 you're talking about millions of dollars. Right?

24 A Yes, sir.

25 Q And it's important to have some idea of who the

1 sources of your waste may be. Correct?

2 THE REPORTER: I'm sorry. Repeat your
3 question, please.

4 Q (BY MR. ROCKWELL) Yeah. It's important to
5 know who the sources of your waste may be. Correct? In
6 general?

7 A I would say it's important to know what the
8 market generates.

9 Q Does it make a difference whether the landfill
10 operator itself is a hauler hauling waste?

11 A No, sir.

12 Q Does it make any difference?

13 A Obviously, if you're hauling waste, you can
14 control more waste. But if there's a lot of third-party
15 haulers in the market, that's not a big deal.

16 Q But if the operator and owner of a landfill
17 itself is a hauler, that provides a certain predictable
18 rate of waste acceptance. Correct?

19 A No, because contracts -- I mean, most contracts
20 are just three to five years. They're ongoing, changing
21 regularly, so the hauler could be different.

22 Q Have you talked to anyone at Republic or WAC
23 about this 130 Environmental Park landfill?

24 A You know, I'm sure I've made a passing comment
25 when I've seen them at a show here and there, but to go

1 out of my way to talk to them, no, sir.

2 Q Has anyone from Republic or WAC ever expressed
3 interest in purchasing 130 Environmental Park landfill
4 or providing waste to it?

5 A To me? Provided that -- you're talking about
6 to me? Not to my knowledge.

7 Q Have you heard of that?

8 A Not to my knowledge. No, sir.

9 Q Okay. Do you have any knowledge or opinion as
10 to how many truck trips it takes to haul 1500 tons per
11 day into the landfill?

12 A Yes, sir. There was an estimate in the
13 application.

14 Q And from your own personal knowledge, do you
15 have any idea?

16 A Yeah. It's -- 110 is a realistic number. I
17 mean, the way they were figuring it was 75 percent
18 direct and 25 percent transfer, so --

19 Q Do you know the proposed shape of this
20 landfill?

21 A I know -- I know the layout of it, yes, sir.

22 Q And it has kind of an amoeba shape?

23 A It's -- it's -- it's a -- it is a -- it's not a
24 square or a rectangle or a triangle or anything.

25 Q And is this -- is this an unusual shape?

1 A Not really. You have to work around terrain a
2 good bit or something, obstacles, I mean.

3 Q So you've seen quite a few landfills that are
4 amoeba-shaped?

5 A I have seen quite a few landfills that are not
6 shaped square, triangle, or rectangle. I'm not sure
7 what amoeba-shaped is.

8 Q Nothing but curved edges?

9 A Yes, sir. I've seen some.

10 Q You've seen some?

11 A Yes.

12 Q Okay. Would it be more difficult to construct
13 and operate a landfill that has an amoeba shape as
14 compared to an equivalent landfill that's square or
15 rectangular?

16 A Not in my opinion.

17 MR. ROCKWELL: Pass the witness.

18 JUDGE QUALTROUGH: Caldwell County?

19 CROSS-EXAMINATION

20 BY MR. MAGEE:

21 Q Good morning, Mr. Hobby.

22 A Good morning, sir.

23 Q My name is Eric Magee. I represent Caldwell
24 County. I just had a couple of questions. I think most
25 of my questions just got answered. But if you look at

1 your prefiled testimony, Hobby 1, Page 5 -- if you'll
2 look at the portions that you corrected starting on
3 Line 23 -- actually, if you'll move up to Line 20, it
4 says -- the question was at Line 18, "What materials
5 from the application have you reviewed?"

6 And then it says, "The detailed highway
7 map and application, Part 2, Appendix 2A.1, Exhibit
8 130EP-1, Page 117. Data on the estimated site traffic
9 and the traffic impact analysis, Exhibit 130EP-1, Page
10 195. And information on site life in" -- and then
11 there's a space and a period. Are you referring to the
12 documents you reviewed in the information on sites
13 like -- those are the documents contained in Attachment
14 B, Appendix D4 at Page 51 and 54 -- through 54?

15 A Yes, sir.

16 Q Okay. If you look down at Line 25 through 30,
17 it says, "Have you also reviewed information regarding
18 municipal solid waste in Texas." Your answer is, "Yes,
19 I generally keep up with waste industry." What do you
20 mean by "generally keep up"?

21 A Just know what's going on. I mean, I read the
22 daily blog. I talk with people at shows and that type
23 of stuff, just general what's going on.

24 Q What do you mean, on a daily blog?

25 A Waste 360 has a little daily thing that they

1 come out with which is a magazine that talks about solid
2 waste throughout the US, the latest news and that type
3 stuff.

4 Q Is Waste 360 a governmental entity?

5 A No. It's a private magazine.

6 Q And then shows, you mean like conferences or
7 something?

8 A Yes, sir.

9 Q Then the only traffic analysis that you've done
10 or testified from your review is just based on the
11 traffic that would be coming to or leaving the site.
12 Right?

13 A Yes, sir.

14 Q You've done no other type of traffic -- your
15 testimony today is not meant to be about any type of
16 traffic in the area other than what this site creates?

17 A Yes, sir.

18 Q Okay. No traffic on new developments out in
19 that area or anything related to that?

20 A No, sir.

21 MR. MAGEE: No further questions.

22 JUDGE QUALTROUGH: OPIC?

23 MR. TUCKER: No questions, Your Honor.

24 JUDGE QUALTROUGH: Executive Director?

25 MR. TATU: No questions. Thank you.

1 JUDGE QUALTROUGH: Redirect?

2 MR. RYAN: No, Your Honor.

3 JUDGE QUALTROUGH: All right. Thank you
4 very much. Your testimony is concluded.

5 All right. So anything before we break
6 for lunch?

7 (No response)

8 JUDGE QUALTROUGH: Then we'll pick up with
9 Mr. Bratton. All right. Let's come back at 1:15.

10 (Lunch Recess: 12:05 p.m. to 1:22 p.m.)

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1 AFTERNOON SESSION

2 WEDNESDAY, AUGUST 24, 2016

3 (1:22 p.m.)

4 (Exhibit Applicant No. 48 marked)

5 JUDGE BELL: All right. We're back on the
6 record after our lunch break. And I believe it's time
7 for Caldwell County to put on its direct case.

8 MR. MAGEE: Thank you, Your Honor.

9 Would you state your name for the record,
10 please?

11 JUDGE BELL: Hold on. We've got to get
12 him sworn in.

13 MR. MAGEE: Oh, yeah. Sorry.

14 JUDGE BELL: That's okay.

15 (Witness sworn)

16 JUDGE BELL: All right. Thank you.

17 Go ahead, Mr. Magee.

18 PRESENTATION ON BEHALF OF CALDWELL COUNTY

19 TRACY A. BRATTON, P.E.,

20 having been first duly sworn, testified as follows:

21 DIRECT EXAMINATION

22 BY MR. MAGEE:

23 Q Would you state your name for the record,
24 please?

25 A Tracy Allen Bratton.

1 Q Mr. Bratton, do you have in front of you what's
2 been marked as Exhibit -- Caldwell County Exhibit 1?

3 A Yes.

4 Q Okay. And what do you identify Exhibit 1 as?

5 A It's my prefiled testimony.

6 Q And have you and I discussed any corrections
7 that need to be made to this exhibit?

8 A Yes.

9 Q And do you have a pen with you?

10 A Yes, I do.

11 Q Okay. If you'd turn to Page 9 -- and I'm sorry
12 that the numbers are faint down in the bottom left-hand
13 corner.

14 JUDGE QUALTROUGH: They are.

15 Q (BY MR. MAGEE) On Line 3, did you make a
16 correction there?

17 A Yes. The last word in Line 3 says "excessing,"
18 and it should be "excessive."

19 Q And then if you'd turn to the next page, Page
20 10, would you make that correction?

21 A Yes.

22 Q Okay. And then if you'd turn to Page 10, Lines
23 6 and 7, did you make a correction there?

24 A Yes.

25 Q And can you tell us what that correction is?

1 A In the last part of Line 6, strike the word
2 "to." In the first part of Line 7, strike the words
3 "thirds slower than," and it -- those words should be
4 replaced to read "and a speed approximately half an
5 average walking speed."

6 Q Then if you'd turn to Page 13.

7 A Yes.

8 Q On Line 1, did you make a change?

9 A Yes. On Line 1, 0.045 should read 0.065.

10 Q Would you make that correction?

11 A Yes.

12 Q And is that the same correction that we heard
13 testimony from with Mr. Traw where one number was .045,
14 and then it was changed to .065?

15 A Yes.

16 Q Okay. I think I had that backwards. It was
17 .065, and then it had been changed to .045.

18 And then any other changes on Lines 1 and
19 2?

20 A Yes. You can strike the period after "reach
21 2.1" and the remainder of Line 1. And Line 2, the words
22 "coefficient of 0.65 in these reaches," comma.

23 Q Okay. So then would you read Lines 1 and 2 as
24 it should be?

25 A Yes. Values of 0.65 for reach 2.0 and reach

1 2.1 when a value of 0.45 would have been more
2 appropriate -- I'm sorry -- in Line 2, that's 0.045.

3 Q And that's not a change; you just misspoke?

4 A I just misspoke when I read it.

5 JUDGE QUALTROUGH: And on that first line,
6 is it 0.0 --

7 THE WITNESS: 065.

8 JUDGE QUALTROUGH: -- 65?

9 Q (BY MR. MAGEE) And then on Page 17?

10 A Yes, on Line 9 of Page 17, the last two words
11 it says "two locations," and that should be "four
12 locations."

13 Q And then that change is consistent with the
14 testimony where we've heard there's two locations where
15 it crosses the floodplain inside the permit boundary,
16 but there's also two locations where the access road
17 crosses the floodplain outside the permit boundary for a
18 total of four?

19 A Correct, outside the permit boundary but on the
20 Hunter tract, between the facility boundary and 183.

21 MR. MOORE: Could you repeat the page and
22 line?

23 MR. MAGEE: It was Page 17, Line 9. The
24 second to last, it says "two" -- it should say "four"
25 instead of "two."

1 Q (BY MR. MAGEE) The next page, Page 18, Line
2 4 -- Line 3? I'm sorry.

3 A I'm sorry, Line 3, the last word is "even," and
4 it should be "event." There's a "T" that's been
5 dropped.

6 Q The next page, Line 19 -- Page 19, Line 2?

7 A Yes. It uses -- in Line 2, it uses my name,
8 which is a little awkward, talking about yourself in the
9 third person. So it should just read "notations by me."

10 Q I think we went over one more change, and
11 that's on Page 22?

12 A Yes.

13 Q Line 19?

14 A Yes. In Line 19, where it says "with slopes,"
15 it should say "with side slopes." So insert the word
16 "side" between "with" and "slopes." This is
17 specifically referring to the side slopes of the side
18 slope drainage swales.

19 Q And then I may have missed one. It's actually
20 on Page 28. I just hadn't got to it yet.

21 A Yes, that's correct.

22 Q Line 11?

23 A Yes. Line 11 says "20 percent," and it should
24 be "45 percent."

25 Q And does that appear to be all the revisions

1 we've made?

2 A Yes.

3 Q And you've made all those on the copy in front
4 of you. Correct?

5 A Yes.

6 Q And if I asked you these same questions today
7 that we've now made these revisions to, as well as all
8 the other answers contained in here, would your answers
9 be the same?

10 A Yes.

11 Q Okay. And then if you would turn to --
12 following that, there looks like there is a group of
13 exhibits labeled A through H to your prefiled?

14 A Yes.

15 Q I'll give you a few minutes to flip through
16 those.

17 A Okay.

18 Q And do those appear to be the exhibits you
19 referenced in your prefiled testimony?

20 A Yes.

21 MR. MAGEE: Your Honor, at this time we'd
22 offer Caldwell County Exhibit 1, the prefiled testimony
23 of Tracy Bratton and the attached exhibits, A through H,
24 in his prefiled testimony.

25 JUDGE BELL: Okay, thank you.

1 Any objections to Caldwell County Exhibit
2 1?

3 MR. RYAN: No, Your Honor.

4 JUDGE BELL: It is admitted.

5 (Exhibit Caldwell County No. 1 admitted)

6 MR. MAGEE: We'll pass the witness.

7 JUDGE BELL: All right, thank you.

8 Any cross-examination for Mr. Bratton from
9 Plum Creek?

10 MR. McCARTHY: No, Your Honor.

11 JUDGE BELL: How about, I guess, TJFA?

12 MR. ALLMON: Yes, sir.

13 JUDGE BELL: Okay.

14 CROSS-EXAMINATION

15 BY MR. ALLMON:

16 Q Mr. Bratton, my name is Eric Allmon. I
17 represent Protestants TJFA and EPICC in this matter.
18 How are you?

19 A Just fine. How are you?

20 Q Were you here for testimony earlier in the
21 hearing where references were made to the regulatory
22 authority of the county with regard to land use?

23 A I was here when there was some testimony made
24 in regard to upstream drainage and how that might be
25 affected in the future and ability to regulate that land

1 use.

2 Q What type of authority does the county have to
3 regulate land use with regard to drainage?

4 A The county doesn't have any direct authority
5 over land use; the county has authority related to
6 development. It is -- is a narrow authority related to
7 subdivision, as well as issuance of commercial and
8 residential construction permits. There is quite a bit
9 of changes in land use that can happen outside of the
10 county's authority, such as clearing of wooded land by a
11 rancher to become pasture land. That would change --
12 the testimony that was being made at the time was about
13 drainage. That would change upstream drainage patterns.
14 How that land is used in an agricultural sense can be
15 changed. It would change the factors related to runoff.

16 In addition, there's quite a bit of
17 development happening in Caldwell County in what we
18 refer to as exempt subdivisions. And those are
19 development of property into ten-acre tracts in the
20 county or five-acre tracts or larger within the ETJ of
21 the city that the county does not have authority over
22 in.

23 So there's actually quite a bit of
24 residential development happening in Caldwell County
25 that we have no regulatory authority over.

1 Q So do you think that the regulatory authority
2 of the county would prevent development upstream of this
3 landfill in a way that would prevent an expansion of the
4 floodplain?

5 A It is possible and likely that development
6 occurs upstream of this landfill that the county does
7 not have authority over and will affect the floodplain.

8 Q And could that type of development raise the
9 level of the floodplain within the landfill?

10 MR. MAGEE: It's a little difficult just
11 to hear over here because this thing has kicked on at a
12 higher rate.

13 JUDGE QUALTROUGH: Speak into the
14 microphone.

15 A Yes, it can.

16 Q (BY MR. ALLMON) Okay. Now, were you here for
17 some prior testimony regarding shallow concentrated flow
18 versus open channel flow?

19 A Yes, I was.

20 Q And are different equations used for shallow
21 concentrated flow versus open channel flow?

22 A Yes.

23 Q And what is the difference between the
24 equations used in those two cases?

25 A The base formula is the Manning's equation.

1 When we're referring to calculating those flows in
2 TR-55, which was the matter being discussed at the time,
3 the Manning's equation requires a hydraulic radius which
4 is a parameter that describes the geometry of a channel
5 in which the water is flowing in. And that's important
6 because the Manning's N value, which is a key to the
7 Manning's equation, assumes a roughness which is a
8 friction between the water and the surface in which it
9 is flowing next to. And the channel geometry, how much
10 of the water is in contact with the friction surface,
11 changes the amount of capacity within a channel. When
12 we're talking about shallow concentrated flow, we don't
13 have a channel or ability to construct a channel shape.

14 And so within TR-55, there has been an
15 effort to empirically derive a solution to the Manning's
16 equation that does not require the cross-sectional area
17 of the channel. It basically assumes a high level of
18 contact between the water and the surface it's running
19 against. And it also assumes two different N values,
20 not a variety of N values, too: One for paved
21 conditions and the other for unpaved conditions.

22 And that solution of Manning's equation is
23 provided in TR-55 and is shown in both a formulaic way
24 in the appendices, as well as in a chart fashion in
25 which you can use to pick the slope off of an estimated

1 velocity.

2 The use of that is restricted to an
3 environment which meets the definition of shallow
4 concentrated flow. And that is that the water is
5 basically in contact with this friction surface
6 everywhere, and you have relatively slow velocities.
7 It's not appropriate to use that derivation of the
8 Manning's equation when you have concentrated flow or
9 flow depths that have exceeded about six inches.

10 Q So -- and I just want to try and under -- make
11 sure I understand that. So when you have shallow
12 concentrated flow, as I would understand you, there's
13 certain things that have been determined empirically
14 that are just assumed and incorporated into that
15 equation; whereas if you had open channel flow, those
16 things are parameters that are still variables that are
17 put into when you -- put into the model. Is that
18 correct?

19 A Correct --

20 Q Okay.

21 A -- within the confines of TR-55.

22 Q And we say TR-55. Is TR-55, is that the NRCS
23 guidance on the use -- this type of modeling?

24 A It -- TR-55 is a simplified method of what was
25 originally called TR-20 developed by the SCS. And TR-20

1 was very complicated and essentially required a computer
2 to solve, and it was developed in the '60s. So in the
3 '70s, they created TR-55, which is a simplified method,
4 no longer required computers to use and implement. It
5 has a narrower applicability than TR-20, but it
6 functions basically for basins up to about 25 square
7 miles.

8 Q Is TR-55 kind of the only reference document or
9 guidance out there on the use of these equations?

10 A No, it's not. TR-55, again, is a guidance
11 document -- it's a method put together within certain
12 confines. It is not the end-all, be-all of everything
13 an engineer would need to know related to calculating
14 runoff or drainage or peak flows.

15 Q There's been some testimony regarding where the
16 use of shallow concentrated flow was appropriate versus
17 open channel flow. Do you think the Applicant
18 appropriately characterized each reach with regard to
19 open channel flow or shallow concentrated flow?

20 A No, I do not.

21 Q Okay. Could you -- you should have the
22 application up there. Could you turn with me to
23 130EP-2, Page 94?

24 A I have Volume 1 and -- I have Volume 1 up here
25 right now, I believe.

1 Q Yeah. This would be in Volume 2.

2 A Okay.

3 Q What is shown on Page 94 here?

4 A Page 94 is a table in which the Applicant has
5 calculated lag time for the existing conditions of the
6 watershed.

7 Q And does this show -- well, we have references
8 to watershed names in the left-hand column. Is that
9 correct?

10 A Yes.

11 Q And if we were to look a few pages prior to
12 Page 91, do these correspond to the watershed shown on
13 Page 91?

14 A I believe they do.

15 Q To give us an idea of physically what on the
16 ground we're looking at?

17 A Yes.

18 Q And so does this also show kind of how within
19 each of those watersheds it was divided up between sheet
20 flow, shallow concentrated flow, and channel flow?

21 A Page 91?

22 Q Page 94, the table.

23 A I'm sorry, Page 94, yes, it does represent the
24 three different flow regimes of sheet flow, shallow
25 concentrated flow, and channel flow.

1 Q And do you concur with the division as shown on
2 this page?

3 A No, I do not.

4 Q Are there particular watersheds where you feel
5 like shallow concentrated flow was mischaracterized when
6 perhaps channel flow should have been used?

7 A Yes, and the number is many of them. It's
8 really any one that's over about a thousand or 1200 feet
9 in the column of Watercourse Length under Shallow
10 Concentrated Flow.

11 Q So which ones of those listed here would those
12 be?

13 A OS1, OS2, OS3, OS4, OS5, OS6, OS7, OS8, OS9,
14 OS10. OS14 and 15 I'd have to look at a little closer
15 to decide. OS16, OS17, A2, A4, and A5.

16 Q And in making that determine, are you
17 essentially -- making that determination, are you
18 essentially looking at where that length exceeded
19 1,000 feet?

20 A Somewhere between 800 and 1200 feet.

21 Q And is there any particular reason that you're
22 using that standard?

23 A Yes. The National Engineering Handbook
24 produced by NRCS, the same agency that is the author of
25 TR-55, defines shallow concentrated flow as areas in

1 which the flow is between one-tenth of a foot and a half
2 a foot in depth.

3 And if you look at a land area that's
4 approximately 50-foot wide and about 900- or a
5 thousand-foot long and how much water would come off of
6 that, if you assumed a hundred-year -- just type
7 rainfall event -- that water falling on watershed that's
8 50-foot wide and a thousand-foot long, by the time it
9 exits that watershed at a width of 50-foot wide, it
10 would be six inches deep.

11 So to say that you're going to go much
12 more than 900 or a thousand feet or 1200 feet and have a
13 water depth that is six inches or less leaving a
14 watershed, it doesn't -- it doesn't compute, either
15 mathematically or engineering-wise, with what a
16 calculation would support. It really doesn't compute
17 with what we all know when we're out in the real world
18 in the middle of a huge rain storm.

19 Q Okay. So when you made -- when you did your
20 analysis, did you also look at aerial photographs?

21 A When I did my review of --

22 Q When you reviewed to see whether open channel
23 flow versus shallow concentrated flow was appropriate in
24 an area.

25 A Yes. We looked at -- and I want to separate

1 it. So how we initially began looking at this, myself
2 and my firm, was with the Applicant's preliminary plat
3 application to Caldwell County. Their initial
4 application included the same drainage -- existing
5 conditions drainage analysis that they supplied to TCEQ.

6 When we began reviewing that, in looking
7 at this issue, in particular, shallow concentrated flow
8 and channel flow, we looked at aerial photographs, drove
9 the area in terms of what we could see from nearby
10 roadways.

11 Q And so kind of -- and did you hear some
12 testimony regarding blue lines on a USGS map?

13 A Yes. There was some prior testimony about blue
14 lines on a USGS map.

15 Q So in evaluating where shallow concentrated
16 flow versus open channel flow should be, kind of you're
17 considering several factors, including the length, the
18 blue lines, the aerial photographs?

19 A Yes. That's amongst the factors. The other is
20 availability of topographic data, and there was publicly
21 available topographic data for the entire region, the
22 five-county region served by CAPCOG. And the initial
23 application that was delivered to us only had one-foot
24 topography for the site itself and was relying only on
25 USGS maps for the remainder of the watershed.

1 Q And how can the -- this mischaracterization
2 that is your opinion was done, how can that impact the
3 peak flows flowing downstream or flowing across the
4 landfill site?

5 A A -- overestimation of the time of
6 concentration leads to an underestimation of the
7 rainfall event to be analyzed. And so it decreases the
8 peak flow being generated by the calculations.

9 Q So if the distribution between shallow
10 concentrated flow and channel -- open channel flow had
11 been more what you think should have been, would that
12 increase the peak discharge on-site?

13 A It would increase the peak discharge coming
14 from upstream.

15 Q Okay.

16 A Our analysis focused primarily on what was
17 submitted to Caldwell County, which was existing
18 conditions, floodplain information, not discharge from
19 the site or the landfill itself.

20 Q Yeah. And how would that impact the -- how
21 would those upstream conditions, had different
22 assumptions been used, impacted the floodplain
23 determination?

24 A Increased flows will increase the water surface
25 elevation in the streams and increase the floodplain,

1 make it wider.

2 Q Okay. And, in fact, were you here for prior
3 testimony that was kind of comparing what was submitted
4 to the TCEQ versus what was submitted to the county?

5 A Yes.

6 Q Do you have Caldwell County Exhibit 6, 7, 8,
7 and 9 up there in front of you available? Could you
8 please pull those?

9 A Yes.

10 Q And what is Exhibit 6?

11 A Exhibit 6 is the peak flows submitted by the
12 Applicant in the technically complete application to
13 TCEQ for existing conditions.

14 MR. RYAN: I'm having trouble finding
15 that.

16 MR. ALLMON: They were hearing exhibits.

17 MR. RYAN: Okay. Thank you.

18 JUDGE BELL: Mr. Bratton, could you make
19 sure you're speaking into that microphone as best you
20 can?

21 THE WITNESS: People usually complain that
22 I'm loud. I don't usually have a microphone problem.
23 I'll try to get closer to it.

24 JUDGE BELL: Thank you.

25 Q (BY MR. ALLMON) And I -- and then Exhibit 7,

1 is that kind of a map that corresponds to the area shown
2 on Exhibit 6?

3 A Yes, it is.

4 Q And then is Exhibit 8 kind of the number
5 submitted to the county?

6 A Yes, it is.

7 Q And Exhibit 9, the watershed delineations
8 corresponding to those?

9 A Yes. And in clarification, Exhibit 8 is one
10 iteration that was submitted to the county. It wasn't
11 actually the last iteration.

12 Q Okay. Did the numbers change substantially in
13 subsequent iterations?

14 A I believe the last version is in my prefiled
15 testimony. And it is Exhibit D to my prefiled
16 testimony. And the numbers did increase.

17 Q So the numbers for, say, peak discharge
18 increased?

19 A Yes.

20 Q Okay. So I know in questions the other day, it
21 was pointed out that as we look at Exhibit Caldwell 6 --
22 and this is the information submitted to the TCEQ?

23 A Yes.

24 Q This is 100-year, 24-hour modeling. Is that
25 correct?

1 A Yes.

2 Q Whereas what was submitted to the county is
3 100-year, 10-day modeling?

4 A Yes.

5 Q Now, are some of these -- like as we look at
6 the TCEQ, is -- when we say "hydrologic element," is
7 that essentially a watershed area?

8 A Correct, on these sheets.

9 Q Is A5, as designated, the TCEQ equivalent to
10 DC4 as submitted to the county?

11 A Yes, within .1 percent.

12 Q Okay. But for analysis purposes, essentially
13 equivalent?

14 A Yes.

15 Q And then is OS16, as submitted to the TCEQ,
16 essentially equivalent to DC-3 submitted to the county?

17 A Yes.

18 Q And is OS5, as designated to TCEQ, essentially
19 equivalent to TF1 as submitted to the county?

20 A Yes.

21 Q And let's take those -- let's start with A5 to
22 the TCEQ.

23 A Yes.

24 Q And if we were just to look on these, we have a
25 hundred-year, 24-hour storm compared to a hundred-year,

1 10-day storm. I think --

2 A A5 is DC4. Okay.

3 Q Yes. Is that a -- is that comparison helpful?

4 A Yes. And after the testimony last week, I had
5 not been aware that the Applicant had switched the
6 rainfall event being analyzed. And I went back and
7 looked at all of our review and comment letters and did
8 not find any indication that we had asked them to
9 analyze anything other than the 100-year, 24-hour event.

10 I also talked to my two staff members who
11 had interacted with the Applicant, in addition to
12 myself, and they were not aware of the change. So when
13 this came up in testimony, it was kind of a surprise to
14 me.

15 So I took the final model that corresponds
16 to Exhibit D of my prefiled testimony and changed the
17 storm event in that model back to a 100-year, 24-hour
18 SCS storm event to eliminate any distinction that was
19 being created by the storm event itself. And the
20 results of that analysis for A5 resulted in
21 approximately 626 cfs.

22 MR. RYAN: I'm going to object. This is
23 absolutely nothing but friendly cross-examination. The
24 witness has gone back and changed things. I didn't know
25 he'd done it. I didn't know he was going to do it. And

1 it -- you know, I guess to his credit, Mr. Magee didn't
2 offer this, but there's an effort being made to get it
3 into evidence through friendly cross-examination, and
4 I'm going to object to that. I still haven't ever seen
5 it.

6 JUDGE QUALTROUGH: Well, to get to the
7 friendly cross, I mean, that's why you go last. The
8 most adverse party goes last. But --

9 MR. RYAN: Then I'll object to it on the
10 basis it hasn't been provided to us.

11 JUDGE QUALTROUGH: Have you provided these
12 new calculations to -- I assume it's a supplement to a
13 discovery request that they've submitted to you?

14 MR. MAGEE: He just notified me that he
15 went back and ran it, because the testimony the other
16 day by Mr. Traw was apples to oranges. And I think it's
17 not -- I think that -- my understanding from just
18 talking to Mr. Bratton is, it's not apples to oranges.
19 It's apples to apples. Just by saying it's a 10-hour,
20 24, hundred-year -- 24-hour, hundred-year, 10-day, the
21 numbers are pretty close to being the same thing. We
22 hadn't even got to a question yet about what they are.

23 It just -- the relevant matter is, it
24 doesn't matter if it's a hundred-year, 10-day, or a
25 hundred-year, 24-hour. The information in the

1 application is incorrect. And it shows an increased
2 peak discharge regardless of what the number actually
3 says, 599.1 or 626. I think that's where -- I think
4 this line of questioning is going. That's what it
5 sounds like to me, because it's comparison apples to
6 oranges, is what Mr. Traw said.

7 JUDGE QUALTROUGH: But you didn't have the
8 new calculations?

9 MR. MAGEE: I don't have them.

10 JUDGE QUALTROUGH: Okay. So he can't
11 supplement what he doesn't have.

12 MR. RYAN: Well, but his witness is
13 clearly under an obligation to provide any new work he
14 does.

15 JUDGE QUALTROUGH: I understand that.

16 MR. RYAN: He didn't do that. I don't
17 have it.

18 JUDGE QUALTROUGH: Well, he didn't give it
19 to his attorney, so --

20 MR. RYAN: Well, I'm not blaming Mr. Magee
21 for that.

22 JUDGE QUALTROUGH: They can give you the
23 new calculations tonight, and you can provide them to
24 your expert to look at and respond in rebuttal, if need
25 be.

1 MR. MAGEE: I can e-mail them out.

2 THE WITNESS: We just did it Monday night.

3 JUDGE QUALTROUGH: Yeah, he's responding
4 to the testimony he's heard on cross of the Applicant's
5 witness.

6 MR. RYAN: Well, Your Honor, this is the
7 sort of thing they should have put in their direct case.

8 JUDGE QUALTROUGH: But he doesn't know
9 what your witness is going to testify to on cross when
10 he's preparing his direct case. Right? He doesn't
11 know.

12 MR. RYAN: Well, sure he does. He's the
13 one that asked the questions so his guy could go out and
14 do a bunch of work that they don't give to us, and then
15 he shows up here and testifies about it. That's exactly
16 what's going on here.

17 JUDGE QUALTROUGH: You need to have it. I
18 agree they need to supplement --

19 MR. MAGEE: I can provide it.

20 JUDGE QUALTROUGH: -- and give that to
21 you. But this is responding to cross that came out last
22 week.

23 MR. RYAN: By Mr. Magee. And so he had
24 his witness go do some work that they didn't give to us.

25 JUDGE QUALTROUGH: But they're going to.

1 But he's explaining -- I think this is where I see this
2 testimony going, that -- regarding the discrepancy on
3 the time on this modeling. So he's --

4 JUDGE BELL: The meteorological model.

5 JUDGE QUALTROUGH: Right, the modeling in
6 Caldwell Exhibit 6 and Exhibit 8.

7 MR. TATU: Judge, could I just ask
8 Mr. Bratton and the attorneys to just go slowly? because
9 right now we're comparing calculations on three
10 different tables and additional calculations done by
11 Mr. Bratton which we don't have before us. So I'm just
12 asking that they take it slow so everyone could follow
13 along.

14 JUDGE QUALTROUGH: Right. And I agree.
15 What's your third table? I've only got
16 two.

17 JUDGE BELL: It's in here.

18 JUDGE QUALTROUGH: Oh, in his Exhibit D?

19 MR. TATU: Right. He's got two attached
20 to his prefiled, and then we've got Caldwell 6 and 8 and
21 then additional calculations that have done -- that
22 Mr. Bratton's referencing now. And the hydrologic
23 elements are marked differently, so that's what makes it
24 a little bit difficult to follow along.

25 JUDGE QUALTROUGH: I'm sorry, the

1 exhibit's D?

2 THE WITNESS: Exhibit D is from my
3 prefiled.

4 JUDGE QUALTROUGH: And that --

5 THE WITNESS: That is the summary of model
6 results from the final version that the Applicant gave
7 to Caldwell County per their preliminary plat
8 application.

9 MR. RYAN: Your Honor --

10 THE WITNESS: And I think right now, I'm
11 not even really referring to that.

12 MR. RYAN: Your Honor, here's what
13 happened here. Mr. Bratton took these two different
14 tables, Exhibit C and Exhibit D, put them in his
15 prefiled testimony, and explained that they show
16 something that's different. Well, he should have at
17 that point in time realized what they were. They say
18 what they are. One of them says it's a hundred-year,
19 24-hour; one of them says it's a hundred-year, 10-day.

20 JUDGE BELL: Both of his C and D say a
21 hundred-year --

22 MR. RYAN: I'm sorry. Now I'm talking
23 about Caldwell 6 and 8. He should have realized what
24 those were when he saw them. And if he wanted to
25 address that in his prefiled testimony, he had a chance

1 to do it.

2 What he's saying here is, he hadn't
3 evaluated this information well enough to even know what
4 it was until somebody else pointed it out during
5 cross-examination by his own lawyer.

6 MR. MAGEE: Well, that's not what he's
7 saying, but...

8 MR. RYAN: This is their failure to have
9 evaluated this information in a timely manner. They
10 didn't just get this; they've had this for months.

11 MR. ALLMON: And, Your Honor --

12 JUDGE BELL: It's also -- go ahead.

13 MR. ALLMON: Just -- it is my pending
14 question. If anything, there was testimony last week by
15 Traw criticizing this. And I'm, through
16 cross-examination, essentially trying to present him
17 with those criticisms and seeing if the difference even
18 matters at all. You know, there's the question was this
19 something that was not addressed in the prefiled because
20 it simply doesn't matter.

21 JUDGE QUALTROUGH: So you're saying
22 Traw -- in Traw's cross, he was criticizing Bratton's?

23 MR. ALLMON: He said it was improper, as I
24 understood the cross-examination, that because Exhibit
25 Caldwell 6 is -- as submitted to the TCEQ is a

1 hundred-year, 24-hour storm; whereas Exhibit Caldwell 8,
2 as submitted to the county, is a 100-year, 10-day storm.
3 You're comparing a 24-hour storm versus a 10-day storm.

4 Part of my understanding of Traw's
5 testimony was this is apples to oranges, and you
6 can't -- the numbers don't tell you anything because
7 you're looking at -- his contention was you're looking
8 at two different storm events.

9 MR. MAGEE: And then when I continued to
10 question him along those at how the storm event, whether
11 it be 24 or 10-day, that those numbers actually show
12 something different that's in the application. Mr. Traw
13 was really difficult on answering those questions or
14 even understanding what my questions were in
15 relationship to the documents he prepared and submitted
16 to the county and that are different than what's in the
17 application.

18 The overall effect, he still wouldn't
19 answer the questions as to whether this one page is an
20 apple and this page is an orange. There's still an
21 overall effect, and he couldn't come up with answers for
22 those questions.

23 JUDGE BELL: All right. We're going to
24 overrule the objection and allow the testimony to come
25 in on these new calculations that were done. They need

1 to be provided to the Applicant as soon as possible, and
2 the Applicant is going to have as much time as they need
3 to look at them, analyze them, and provide any rebuttal
4 evidence and testimony that they feel as though they're
5 going to need to address them.

6 MR. MAGEE: I'll e-mail that soon --
7 today, you know.

8 THE WITNESS: If we get a break and call
9 my office, I might even be able to get them here on a CD
10 before --

11 JUDGE BELL: Yeah, it needs to happen as
12 soon as possible so that -- we cannot have this
13 extending for a long time, because we are going to give
14 the Applicant as much a time as it needs to address
15 this.

16 All right. Go ahead. Sorry. Go ahead,
17 Mr. Allmon.

18 Q (BY MR. ALLMON) And as noted, perhaps it would
19 be best to take this as much one step at a time as we
20 can.

21 A Okay.

22 Q So looking at Caldwell 6, which is the
23 submission by the Applicant to the TCEQ.

24 A Yes.

25 Q You see Element A5?

1 A Yes.

2 Q Is that element depicted on Exhibit Caldwell 7?

3 A Yes.

4 Q Where is that element depicted on Caldwell 7?

5 A It is along Homannville Trail, and it's
6 approximately the northeastern boundary of the landfill
7 site.

8 Q Okay. Now, if we look at Caldwell 8, which
9 is -- and -- for now I'm going to stick with Caldwell 8
10 and not deal with Exhibit D to your testimony.

11 If we look at Caldwell 8, there is
12 Hydraulic Element DC4.

13 A Yes.

14 Q And is that shown on Exhibit Caldwell 9?

15 A Yes.

16 Q Where is that shown on Exhibit Caldwell 9?

17 A It's adjacent to Homannville Trail in
18 approximately the northeastern portion of the landfill
19 permit boundary.

20 Q And what is -- as we stick with Caldwell 8, the
21 information submitted to the county, what is the
22 drainage area given for DC4?

23 A 0.233 square miles.

24 Q And on Exhibit 6, as we look at A5, what is the
25 drainage area indicated for Hydraulic Element A5?

1 A 0.234 square miles.

2 Q And is that -- so these look to be located in
3 the same general -- in the same area. Is that correct?

4 A Yes.

5 Q And the area is within -- it's only a
6 difference of one-thousandth of an acre?

7 A One-thousandth of a square mile.

8 Q One-thousandth of a square mile. Correct.

9 And so the correlation of that location
10 and area is what leads you to the conclusion those are
11 corresponding elements?

12 A They're -- they're more or less the same. They
13 describe the same area of land, the differences --
14 because what goes into the model are the CN value that
15 affects how much water runs off the property; the
16 calculation of the lag time which comes from sheet flow,
17 shallow concentrated flow, channel flow. It's impacted
18 by the Manning's N value for your channel flow. And the
19 watershed characteristics which -- what type of
20 vegetation is on it.

21 Because these are in the same location and
22 within such a small percentage of each other, they would
23 yield the same result except for changes being made in
24 the input such as the characteristics of the land, like
25 CN value, the calculation of lag time, and the

1 calculation of -- well, the calculation of lag time, and
2 that encompasses shallow concentrated flow and N values
3 for your open channel flow.

4 Q So if I'm understanding you, the areas being
5 looked at are both the same, and the reason you would
6 get different outputs is because a difference is in the
7 way the analysis is performed?

8 A The difference of the inputs going --

9 Q Difference of the inputs, so your assumptions
10 that you make in your analysis?

11 A Right. And with the same land area, it's why
12 are the inputs changing, becomes the question.

13 Q And as you reviewed the Applicant's submittals
14 to the county --

15 A Yes.

16 Q -- did you ask that they use different
17 assumptions than what they had used in their analysis
18 provided to the TCEQ?

19 A Yes.

20 Q What was the difference in the assumptions that
21 you asked them to use?

22 A Generally speaking -- and this was not
23 universal -- we asked for changes to Manning's N values,
24 any calculation of velocity for open channel flow. We
25 asked for changes in the calculation of lag time in

1 respect to which portions of flow were shallow
2 concentrated flow versus open channel flow. There may
3 have been some early comments on the CN values, but I
4 don't recall that being a major issue as we discussed
5 it.

6 Q So were those differences primarily because you
7 disagreed on the characterization regarding where
8 there's open channel flow versus shallow concentrated
9 flow?

10 A Yes.

11 Q Okay. So that was, in a sense, kind of the
12 main point of contention between you and EP130, as was
13 developed?

14 A Yes.

15 Q And that's the primary -- in a broad sense,
16 having them characterize shallow concentrated flow
17 versus open channel flow, according to the standards
18 that you're applying, is the primary difference between
19 the calculations they did for the county and the
20 calculations done for the TCEQ? Perhaps should I
21 rephrase that?

22 A The word "primary" I'm struggling with. That
23 was a major difference. Saying "primary" is me
24 assigning a proportional impact to the changes in the
25 Manning's N versus the shallow concentrated flow, and I

1 don't know that I'm prepared to do that.

2 Q And when you say changes to the Manning's N,
3 how was that related to -- well, how was that related to
4 the disagreement over shallow flow and open channel
5 flow?

6 A It -- they both are part of calculating the lag
7 time, time of concentration, but they are two separate
8 things. So if you look at Applicant's 130EP-2, Page 94,
9 the -- what we were -- what we were doing was moving
10 part of this watercourse length that shallow
11 concentrated flow, we were decreasing those and moving
12 more of that length over into the channel flow length,
13 which is the middle column, under Channel Flow; but also
14 in making changes to the Manning's N value, the water is
15 flowing faster in those channels than what was in the
16 Applicant's original application.

17 So there are two different -- there's
18 three parts calculating lag time: Sheet flow, shallow
19 concentrated flow, channel flow. And we were moving
20 part of that responsibility from the -- or flow from
21 shallow concentrated flow to channel flow and also
22 saying, Hey, in the channel flow velocities or times
23 you're calculating, you need to make a change in the
24 Manning's N value because we think it's going a little
25 faster than what you're saying.

1 Q So you were both shifting things in the channel
2 flow and also asked asking for an alteration of the
3 assumptions for those channel flow numbers?

4 A Yes.

5 Q And those are essentially the two differences
6 between the assumptions made to the TCEQ versus the
7 assumptions made as submitted to the county?

8 A Those were the primary changes. We redrew some
9 basins that we thought were not representative of true
10 hydrological elements because they're cut off at
11 artificial boundaries such as roads or property lines
12 and things. So there's not real logical analysis
13 points. And so we had them redraw some of the
14 hydrologic elements, and that's why some of these
15 hydrologic element numbers don't match up.

16 Personally, I would not have chunked the
17 entire numbering system for something else, but the
18 basins internally are broken up slightly differently.

19 We also had them use -- if you look at
20 Caldwell 9 and Caldwell 7, you'll notice for all of the
21 boundary outside of the landfill itself, there is
22 different topography being used. And one of the things
23 the Applicant told us was that they tried to say, Oh, we
24 can't do channel flow calculations because we don't have
25 any topography, because they only had the USGS

1 information.

2 And we informed them that CAPCOG, the
3 council area -- Capital Area Council of Governments has
4 Lidar for all five counties that was free and publicly
5 available. So we provided them with that Lidar
6 information, which is one-foot topo for the region that
7 they needed so that they could get channel geometry
8 information.

9 Q So -- but that difference in delineation of
10 subbasins, is that what these are referred to --

11 A Yes.

12 Q -- these elements as subbasins?

13 A Yes.

14 Q That is not a factor in comparing A5 and DC4.
15 Is that correct?

16 A Not really. There are some slight differences
17 in the boundaries of the basins where they shifted a
18 little bit, because on the northeastern portion of
19 Caldwell 7, they had used Homannville Trail as the
20 boundary, and there's a portion of that water that
21 actually doesn't flow to their analysis point that's the
22 discharge of DC4. And that's near the lower -- and they
23 also analyzed it at the property boundary and not where
24 all the water had collected to gather. I may not be
25 doing a good job of explaining that part.

1 Q I mean, it's important to understand, but as we
2 compare -- part of this is trying to figure out the
3 consequences of the critiques that you have.

4 A Right.

5 Q And the data ultimately submitted to the county
6 kind of reflects those consequences. Is that correct?

7 A Yes.

8 Q And so as we look at A5 and submitted to the
9 TCEQ, there's a peak discharge of 550.5 cfs?

10 A Yes.

11 Q And do you know for that equivalent storm in
12 DC4 -- so 100-year, 24-hour storm -- approximately what
13 the peak discharge would be under the assumptions for
14 the CN value and the shallow concentrated flow as you
15 would have them to be done?

16 A Approximately 626.

17 Q So that's an increase of about 75 cfs?

18 A Yes.

19 Q And, now, looking at what's designated as OS16,
20 as submitted to the TCEQ, if we look at Caldwell --
21 Caldwell Exhibit 7 --

22 A Yes.

23 Q -- is OS16 shown on Caldwell Exhibit 7?

24 A Yes.

25 Q Where is OS16 shown on Caldwell Exhibit 7?

1 A It is almost due east of the landfill site, in
2 the lower-right portion, the most lower-right basin that
3 is delineated on Caldwell 7.

4 Q And this is Caldwell 7, the submission to the
5 TCEQ. Correct?

6 A Yes.

7 Q And, now, is that equivalent to DC3 as
8 submitted to the county?

9 A Approximately, yes.

10 Q And is that shown as we look at Caldwell
11 Exhibit 9? Is DC3 shown on Caldwell Exhibit 9?

12 A Yes.

13 Q And where is that located?

14 A It's in the same area. It's the most lower
15 right-hand basin delineated on Caldwell Exhibit 9.

16 Q And as we compare -- do the areas for these two
17 basins, how do they compare?

18 A OS16 is 0.521 square miles. On Exhibit 6 and
19 on Exhibit 8, DC3 is 0.510 square miles.

20 Q So does that indicate to you that these are
21 essentially the same watershed area?

22 A Essentially. They depict the same area.
23 There's been a decrease in the area of 3-ish percent.

24 Q Okay. Now -- and were you able to determine
25 how the peak discharge for the 100-year, 24-hour storm

1 under the assumptions, the CN and the shallow
2 concentrated flow assumptions, that you feel are
3 appropriate would compare?

4 A Yes. For the element DC3 that corresponds to
5 OS16, using the same 24-hour, 100-year storm event, the
6 peak discharge was approximately 1,163 cfs.

7 Q So for that one, there wasn't much of a change?

8 A Correct.

9 Q All right. And, now, we have OS5 is another
10 one that's roughly equivalent. Is that correct?

11 A Yes.

12 Q And as we look at Caldwell Exhibit 7, where is
13 OS5 located?

14 A It is the most lower left-hand basin.

15 Q And what is the -- as we look at Exhibit
16 Caldwell 6, what is the drainage area for OS5?

17 A 0.527 square miles.

18 Q And is that equivalent to TF1 as designated to
19 the county?

20 A Approximately, yes.

21 Q Is that shown on Caldwell Exhibit 9?

22 A Yes.

23 Q Where is TF1 shown on Caldwell Exhibit 9?

24 A It is the most lower-left basin on Caldwell --
25 Caldwell Exhibit 9.

1 Q And what is the drainage area of TF1?

2 A 0.527 square miles.

3 Q So are those comparable -- equivalent in terms
4 of the area covered, the location of the area covered
5 and the size of the area covered?

6 A They're corresponding, yes.

7 Q And were you able to determine how a peak
8 discharge from a 100-year, 24-hour storm would compare
9 under the assumptions that you feel appropriate for open
10 channel flow and the proper CN values?

11 A Yes.

12 Q And how do those compare?

13 A It was approximately -- approximately 1,350
14 cfs, using the 24-hour, 100-year storm.

15 Q And how does that compare to what was submitted
16 to the TCEQ?

17 A TCEQ, the corresponding basin shows a peak
18 discharge of 1,149 cfs. I think that's an increase of
19 about 20 to 25 percent.

20 Q Okay. So for Element A5, as designated TCEQ,
21 and Element OS5, properly characterizing as you view the
22 shallow concentrated flow and the CN results in an
23 increase in the peak discharge?

24 A Yes.

25 Q You can put those away. I'm moving on to a

1 different line of questions.

2 A I hope this is not the only copy, because I
3 have shuffled it pretty good.

4 Q Now, could you please turn to 130EP-2, Page
5 270?

6 A 270?

7 Q Yes.

8 A Okay.

9 Q And to make a distinction that's somewhat
10 helpful to me, thus far the analysis we primarily looked
11 at a drainage analysis verse kind of peak discharge. Is
12 that correct?

13 A Yes.

14 Q And then there's also analysis of flooding
15 analysis. Is that correct?

16 A Yes. You take the peak discharge, and you try
17 and determine a water elevation in a given reach or
18 particular analysis point within the stream to determine
19 the floodplain.

20 Q So kind of the numbers we've been looking at is
21 that first step of determining the peak discharge?

22 A Yes.

23 Q And then if you want to determine flooding, you
24 then take an additional step. Is that correct?

25 A Yes.

1 Q Is there a certain model used to determine our
2 peak discharge?

3 A On our peak discharge, we're using -- or the
4 Applicant used HEC-HMS.

5 Q And is there -- I'm going to say additional
6 model that's then used to do the flooding analysis?

7 A Yes. The Applicant used HEC-RAS.

8 Q Okay. And as we look at 130EP-2, Page 270,
9 does this reflect assumptions for that floodplain
10 evaluation step?

11 A I think this is actually part of the hydrologic
12 model information entered into HMS.

13 Q Okay. So this is still looking at some of the
14 drainage?

15 A I believe so, because it's within the section
16 Existing Conditions HEC-HMS Evaluation. And it's
17 specifically the kinematic-wave routing parameters,
18 which is part of how HMS uses to -- we have all these
19 basins, and we get a flow from each basin, but you don't
20 get to just add all those together as they go
21 downstream; they arrive at different times. Just like
22 people leave an office building, they hit the interstate
23 at different times.

24 And this kinematic-wave routing parameters
25 is part of determining how the storm flows migrate

1 through the basin and when they get to different
2 analysis points.

3 Q And so this then feeds into your drainage
4 analysis, which then feeds into the floodplain analysis?

5 A Yes.

6 Q Now, is Manning's roughness depicted here on
7 Page 270?

8 A Yes, it is.

9 Q Could you -- in kind of layman's term, what is
10 Manning's roughness?

11 A It is a parameter that approximates the
12 friction of water flowing through the channel.

13 Q And does, say if --

14 MR. RYAN: Objection. Your Honors, what
15 we've got going on here is a direct case that's being
16 put on under the guise of cross. This wasn't put in
17 Mr. Bratton's prefiled testimony. Mr. Allmon and
18 TJFA/EPICC didn't put it in their prefiled testimony.
19 They're putting on the case they both wish they would
20 have put on in their prefiled, and they're doing it here
21 by way of cross-examining each other's witnesses. And
22 I'm not saying they couldn't put on this evidence, but
23 this is based on information they've had for a long,
24 long time.

25 MR. ALLMON: Your Honor, this is related

1 to changes made to the testimony at the beginning, to
2 corrections that were made. Perhaps we go back to the
3 prefile. There were corrections made with regard to
4 Manning's roughness at the beginning of his testimony,
5 and all I'm trying --

6 MR. MAGEE: I actually do have something
7 to say -- and I'm not trying to cut you off, Mr. Allmon,
8 but what Mr. Ryan just said is totally a
9 mischaracterization of the direct evidence. You can
10 turn to Page 13, which talks about these very two
11 reaches right here, Reach 2.0 and 2.10, and that the
12 change was from .065 Manning roughness to .045. I mean,
13 it's in Mr. Bratton's testimony. It's not -- it's
14 something that was put on in this case. It's not
15 something that anybody's trying to now put in. It
16 starts on Page 12, Line 23.

17 JUDGE QUALTROUGH: Hold on. Let me get
18 there. I'm sorry, what page again?

19 MR. MAGEE: Page 12, Line 23.

20 JUDGE QUALTROUGH: Here it is. Page 12.

21 MR. MAGEE: Actually, you can start at
22 Page 21, 20: Do you disagree about the Applicant's
23 assumptions of roughness, C2-B-5a? It's the same page
24 we're looking at, 130EP-2, Page 270. And then the
25 answer starts on Line 23, continues on to Page 13, about

1 the Manning's roughness value. This was direct case put
2 on by --

3 MR. RYAN: Well, Your Honor, if these
4 questions are simply to repeat his prefiled testimony,
5 as Mr. -- and I don't know what Mr. Allmon thinks, but
6 if that's what's going on here, I'll object to it,
7 because it's repetitive and it's already asked and
8 answered. I don't think we need to sit here and go
9 through every witness's prefiled testimony.

10 MR. ALLMON: Your Honor --

11 MR. RYAN: It's either old or it's new.

12 MR. ALLMON: I'll just move on to a
13 different line of questioning.

14 JUDGE BELL: Good.

15 JUDGE QUALTROUGH: Well, okay. But he
16 does -- TJFA/EPICC does have a right to cross-examine
17 the witness. And to address the issue of friendly
18 cross, that's why you go last, so you have an
19 opportunity to address this.

20 MR. RYAN: Okay. But if all they're doing
21 is just getting him to repeat his prefiled testimony,
22 then we're just wasting time.

23 JUDGE QUALTROUGH: I'm not sure that's
24 what he's doing.

25 JUDGE BELL: Well, there is a question in

1 here about what is Manning's roughness, and that's what
2 you just asked him, so...

3 MR. ALLMON: Yes. And I'll admit some of
4 that's just so that I'm not using terms here in the
5 hearing out of context that no one knows what they mean.

6 MR. MAGEE: And it was put on. I mean --

7 JUDGE QUALTROUGH: I understand your
8 concern, but I think this is legitimate cross. I mean,
9 I don't -- he's tied it directly to this direct
10 testimony.

11 MR. RYAN: And, in fact, Mr. Magee says
12 he's not doing anything but repeating his direct
13 testimony.

14 MR. MAGEE: Well, I didn't say that,
15 either.

16 JUDGE QUALTROUGH: We don't know where
17 that's going.

18 MR. RYAN: Well, that's what we've heard
19 so far.

20 MR. MAGEE: No.

21 JUDGE QUALTROUGH: I don't believe so.

22 MR. RYAN: He ought to be able to testify
23 about it because it's exactly what's in his prefiled
24 testimony.

25 JUDGE QUALTROUGH: And it can very well be

1 just background to get to the meat of his question. I
2 don't know that at this point.

3 MR. MAGEE: I mean, it's got to -- the way
4 I don't feel about friendly cross is you got to put
5 things in context so we all know what we're talking
6 about here. It's not friendly cross when you're trying
7 to understand what somebody wrote down on a piece of
8 paper and applying it to the very exhibits that are used
9 in this case. And to say that -- I've already said what
10 I need to say, I think.

11 JUDGE QUALTROUGH: Right. And putting it
12 in context helps me. I read this testimony last week,
13 so it's pulling me back to where I need to be, I think.
14 So overruled.

15 Please continue.

16 MR. ALLMON: I'm kind of seeking -- just
17 trying to understand how this fits in with some of the
18 other critiques.

19 Q (BY MR. ALLMON) So is this Manning's -- you
20 have disagreements on this Manning's roughness, these
21 numbers used here?

22 A Yes.

23 Q And is that a different disagreement than what
24 we've been discussing on shallow flow and open channel
25 flow?

1 A No. This would be part of the open channel
2 flow, Manning's roughness.

3 Q So these numbers reflected here are essentially
4 a consequence of that disagreement?

5 A Yes.

6 Q And how do you feel these numbers should have
7 been changed?

8 A 0.045 for Reaches 2.0 and 2.1, as in my
9 prefilled testimony.

10 Q Now, we discussed the process of -- that the
11 Applicant is required to obtain a development permit
12 from the county. Is that correct?

13 A If the Applicant intends to build a landfill,
14 they will need to acquire a commercial development
15 permit from Caldwell County.

16 Q Based on what you know of the proposed
17 landfill, are there some areas associated with the
18 landfill that will be constructed within the floodplain?

19 A From what I've seen in this application, there
20 are parts of the landfill that are to be constructed in
21 the floodplain, yes.

22 Q And is that why a development permit is
23 required?

24 A No. Floodplain permits will be required for
25 those structures. A commercial development permit, or a

1 commercial construction permit, will be required because
2 they're proposing to construct a nonresidential thing,
3 entity.

4 Q Have they obtained a development permit?

5 A No.

6 Q Have they obtained the floodplain permit?

7 A No.

8 Q Okay.

9 A Let me -- let me add that Caldwell County's
10 authority is to issue floodplain permits, which is to
11 construct anything in the floodplain. If there is an
12 alteration needed to the floodplain, we act as a local
13 floodplain administrator, review that documentation.
14 Once we're satisfied with it, we sign what -- I think
15 the form's called MT-2, and it's a local concurrence
16 letter that the applicant would then send to FEMA as
17 part of a conditional letter of map revision or a letter
18 of map revision to officially change the floodplain.

19 MR. ALLMON: Your Honor, that's all of my
20 questions. I pass the witness.

21 JUDGE BELL: Thank you.

22 Any cross-examination for Mr. Bratton from
23 OPIC?

24 MR. TUCKER: Yes, Your Honor.

25

1 CROSS-EXAMINATION

2 BY MR. TUCKER:

3 Q Good afternoon, Mr. Bratton. Aaron Tucker with
4 the Office of Public Interest Counsel. How are you?

5 A Just fine. How are you?

6 Q Great.

7 If I could get you to turn to Applicant's
8 Exhibit 130EP-2, Page 270.

9 A Okay.

10 Q And we were just talking about Manning's
11 roughness and the N coefficient?

12 A Yes.

13 Q So do you -- we have three roughness
14 coefficients here. So do you believe that the roughness
15 coefficient that they used for Dry Creek is correct?

16 A Yes.

17 Q Okay. And you asked 130EP to correct the
18 coefficient for Reach 2.0 and 2.1 from 0.065 to 0.045?

19 A Yes.

20 Q Okay. Do you believe that -- and that's the
21 same roughness coefficient as Dry Creek?

22 A Yes.

23 Q So do you believe these -- what was the -- so
24 do you believe that these two streams exhibit similar
25 characteristics -- similar or same characteristics?

1 A In part, this is going to come back a little
2 bit to discussion that had happened before about factor
3 of safety.

4 Q Okay.

5 MR. RYAN: Objection. Your Honor, he was
6 asked a question that calls for a yes-or-no answer, not
7 a discussion of factor of safety. He was asked if he
8 thought the characteristics of the two streams were
9 similar, and now he's starting to talk about a factor of
10 safety.

11 JUDGE QUALTROUGH: And he'll say yes or
12 no, and then he'll follow back why. And we'll start
13 talking about factor of safety, will be my guess.

14 JUDGE BELL: Sounds like it.

15 Q (BY MR. TUCKER) Okay. I'll repeat the
16 question.

17 Do you believe that Dry Creek and the two
18 reaches have similar characteristics? Yes or no?

19 A No.

20 JUDGE QUALTROUGH: Yes or no?

21 Q (BY MR. TUCKER) That was no?

22 A Yes.

23 JUDGE QUALTROUGH: Wait. Stop.

24 (Laughter)

25 A The answer was no.

1 JUDGE QUALTROUGH: No, they don't have the
2 same characteristics?

3 THE WITNESS: Not identical.

4 MR. RYAN: Similar.

5 Q (BY MR. TUCKER) Same or similar?

6 A I'm going to -- I'm going to go with no.

7 Q No? Okay.

8 Can you explain why you believe they're
9 different?

10 A Yes. Currently, Reach 2.0 and 2.1 are -- is
11 there a good exhibit in here we can find with an aerial
12 photograph behind it? My recollection is that 2.0 and
13 2.1 have a different degree of undergrowth within those
14 streams, currently, than Dry Creek.

15 Q Is there a page you want to turn to?

16 A I -- if someone can direct me in this creation
17 to a good photograph. I'm trying to refresh myself on
18 what I recall. Okay. I'm looking at EP-1, Page 62.

19 Q Okay. Now that you're looking at that page,
20 can you explain the difference between those two?

21 A Yes.

22 Q Or, sorry, those three bodies of water or
23 channels.

24 A Yeah. Yes. Let me find another exhibit real
25 quick. So --

1 Q And if we look at Exhibit E of your prefiled --

2 A Yes.

3 Q -- that has the maps.

4 A So Reach 2.0, I would say, is similar, now that
5 I'm looking at the photograph. And Reach 2.1 has a
6 higher degree of undergrowth within it.

7 Q But you still believe those have a similar
8 roughness coefficient?

9 A I believe it would be appropriate to use the --
10 a similar roughness coefficient for developing the
11 model.

12 Q Is that because you think it should be a
13 conservative estimate?

14 A That's because I believe a 0.065 is not a
15 conservative parameter to use. And there's no
16 assurances on future use of the land that might not
17 remove some of the underbrush and vegetation and then
18 thus turn into being similar to Reach 2.0 and Dry Creek.

19 Q Okay. In your prefiled, you state that the
20 value of 0.0 -- and I'm looking at Page 13, beginning on
21 Line 13. This value of 0.045 is an appropriate
22 Manning's N for small natural streams that are winding,
23 weedy, and include ineffective areas or areas of
24 pooling. What is the source for this?

25 JUDGE QUALTROUGH: Can you give us the

1 page number?

2 MR. TUCKER: Oh, I'm sorry. This is Page
3 13 of Mr. Bratton's prefiled testimony. And Line 13 as
4 well.

5 A I don't recall using a specific reference text
6 for that.

7 Q Okay.

8 A That is -- there's many different text and
9 sources I'm familiar with as an engineer, and -- but I
10 don't remember the source for that description. That's
11 a colloquial or my -- those are my words.

12 Q Okay.

13 MR. TUCKER: I have no more questions.
14 Thank you.

15 JUDGE BELL: Thank you.

16 Cross-examination for Mr. Bratton from the
17 Executive Director?

18 MR. TATU: Just a few, please. Thanks.

19 JUDGE BELL: Sure.

20 CROSS-EXAMINATION

21 BY MR. TATU:

22 Q Good afternoon. Anthony Tatu on behalf of the
23 Executive Director.

24 A Hi.

25 Q I just want to ask you a few more questions

1 about drainage. And I don't want to take a lot of the
2 Court's time, but I just want to go over a few. I might
3 have to have you explain it to me slowly.

4 A Okay.

5 Q Do you have some familiarity with the TCEQ
6 rules as they relate to drainage at landfills?

7 A I have reviewed parts of the Texas
8 Administrative Code in preparation for this and prefiled
9 testimony.

10 Q Okay. Well, would you agree with me that one
11 of the things that the rules require is a discussion
12 analysis to demonstrate that existing drainage patterns
13 will not be -- the term is adversely altered as a result
14 of proposed landfill development? Does that sound
15 right?

16 A Yes, it does.

17 Q Okay. And can I ask you for your professional
18 opinion on how you would define that term "adverse
19 alteration"?

20 A I would define that as an alteration that
21 increases the peak flows either at a discrete discharge
22 point or a cumulative effect that increases peak flows
23 at some point downstream; that increases a velocity of
24 discharge in such a way that turns -- that creates an
25 erosive flow where there had been a nonerosive flow.

1 Q How about volume? Is that a consideration?

2 A Total involve, no, you need to provide the
3 tension so you don't have a peak -- a change in the peak
4 runoff rate, but you can't engage in any kind of
5 development without increasing the total volume.

6 Q Okay. So your primary concern would be peak
7 flows and velocity?

8 A Yes.

9 Q Okay. And do you know what storm event is
10 required by the TCEQ for the modeling?

11 A Do I know? I'm not going to say I know. My
12 understanding is that the design of the actual landfill,
13 the drainage structures on the landfill, my recollection
14 is they're designed to a 25-year storm event. And the
15 flows for your floodplain are designed based upon a
16 hundred-year storm event. That's my recollection. If
17 you have a section reference --

18 Q I think you answered the question. So for the
19 drainage analysis, we're looking at the 25-year,
20 24-hour?

21 A For those facilities on the landfill --

22 Q Right.

23 A -- yes.

24 Q Okay. I want to ask you about your two
25 exhibits -- I guess it's C and D that are attached to

1 your prefiled testimony.

2 A Yes.

3 Q And tell me if I'm mischaracterizing this, but
4 my understanding is that the Applicant came to the
5 county for, I guess, a permit for plat development?

6 A Yes.

7 Q And as part of that, they submitted this
8 analysis?

9 A Yes. One of the things with the preliminary
10 plat we require is delineation of the floodplains, if
11 you have a drainage basin larger than 64 acres.

12 Q Okay. So C -- I guess Exhibit C is the initial
13 submittal by 130 Environmental Park?

14 A It's -- it's not the initial submittal; it's
15 the second one. The initial submittal we received was
16 the same thing that the Applicant had supplied to TCEQ.
17 And this is a period of time when the application was at
18 TCEQ but before it was declared technically complete.
19 And so we have that version that had been -- that's what
20 they submitted to us, is what they had submitted to
21 TCEQ.

22 Q Okay. So this was the second submittal, and
23 you reviewed the submittal --

24 A Yes.

25 Q -- and --

1 A We --

2 Q -- requested that they make changes?

3 A Yes. We had -- the comments we had on the
4 first submittal were so substantial as to not be able to
5 compare basins. So many of the basins had to change.
6 There wasn't good comparison points. As we went through
7 just a little while ago, there were only a couple of the
8 basins that were similar enough in size and location for
9 us to say, What was the impact from the initial
10 submittal to what finally came out the other side?

11 So what these exhibits show is the
12 analysis submitted shown on Exhibit C contains the same
13 items I don't agree with. And Manning's roughness
14 factor, shallow concentrated flow, those things, all
15 those things still exist in Exhibit C. They had not
16 been changed yet. At this point mostly the primary
17 thing that had been done is the basins redrawn. So now
18 when you go to Exhibit D --

19 Q Let me ask you that next question.

20 A Okay.

21 Q So what is Exhibit D, then?

22 A Exhibit D is the results of their model after
23 they made all the changes we had requested.

24 Q Okay. And if I understood your prefiled
25 testimony correctly, you said that there were -- there

1 were certain points where I guess I would refer to this
2 as hydrologic elements. There are certain hydrologic
3 elements where we saw an increase between 15 and
4 20 percent of peak flow. Is that right?

5 A I believe there's one of them as high as
6 25 percent.

7 Q And were there -- were there any hydro --
8 hydrologic elements. I'm just going to say comparison
9 points? Is that okay? Will you understand what I'm --

10 A You can say basins, too, if you want to.

11 Q Okay, basins. Okay. I don't know if you ever
12 saw the movie Philadelphia, but there's this great scene
13 where, you know, Denzel Washington's interviewing his
14 client, Tom Hanks, and he's like, I want you to explain
15 this to me like I'm a five-year-old. So I'm kind of
16 asking you to do the same thing for me.

17 Okay. Are there any basins where there
18 was no change between these two analysis?

19 A I'm sure there are, if we go through and look
20 at them. I'm sure there will be something that is
21 either no change or de minimis.

22 Q How about -- how about a reduction? Is there
23 any -- are there any basins where there was actually
24 reduced peak flow between C and D?

25 A Again, I would expect there probably is. If

1 there was a reduction, it would be very, very minor
2 percent or two.

3 Q Okay. So let me go back to this definition of
4 adverse alteration. You said you were concerned with
5 peak flow and velocity. And I guess the difficulty, at
6 least for me, is trying to quantify that. Is it -- you
7 know, you had mentioned percentage increase. Is there
8 like an understanding in the industry of what percentage
9 is something to be concerned about?

10 A Well, if I may, these changes here are changes
11 in their existing conditions analysis. These changes
12 between Exhibits C and D are not changes resulting from
13 the fact that the landfill will be constructed.

14 Q Right. So if this isn't predevelopment and
15 postdevelopment?

16 A This is all predevelopment.

17 Q Okay. So, yeah, let me clarify that.

18 A Okay.

19 Q If you're looking at predevelopment and
20 postdevelopment, and you're trying to determine if there
21 is an adverse alteration, is there a certain percentage
22 that you'd be concerned with?

23 A Yes. And it depends upon how the goal for peak
24 discharge is to have no increase. And you design your
25 detention ponds such that you provide no increase.

1 When you go over and begin to talk about
2 adverse, you begin to get into other legal definitions,
3 that there are enough lawyers in the room I'm not going
4 to interpret that, but you also get into elements within
5 the Texas Water Code as to what -- what is the damage.
6 And you can have a minor increase in peak discharge and
7 not create an adverse condition or a damage because you
8 have not made a measurable change.

9 This comes down to if we have a thousand
10 cubic feet per second, traveling at a stream as it
11 crosses the property line in predeveloped conditions,
12 and in postdevelopment conditions we have -- we go from
13 a thousand to a thousand and 10, but it's a really steep
14 channel, we may have moved the water surface elevation
15 by, you know, a quarter of an inch. Can someone
16 actually claim an adverse impact from a
17 quarter-of-an-inch change? Lawyers in civil courts
18 decide that.

19 The goal of detention, though, is to keep
20 the increase for peak discharge to be zero, so you stay
21 out of any contention that you've made in adverse
22 change.

23 In terms of velocity, it is something,
24 from my understanding, relies more on case law, that --
25 and it's more about going from a nonerosive velocity to

1 an erosive velocity. And that determines -- that's
2 dependent upon the type of soils you're working with.

3 For these existing streams, in this soil,
4 I wouldn't be worried about a change in velocity unless
5 I was going from, you know, a 4- to a 7-foot per second.
6 If I was going from -- if it was already a 7- or 8-foot
7 per second, it's already an erosive velocity, and so you
8 need to have no increase because you're going to add to
9 the damage.

10 But if it's at a 4 and 4 feet per second
11 and you get it to a 4.5 feet per second and it's a very
12 cohesive soil that can handle a 6- or 7-foot-per-second
13 velocity without erosion, you haven't really created an
14 adverse impact.

15 Q Is it fair to say it's a bit of a case-by-case
16 analysis depending on the receiving body and also the
17 size of the basin --

18 A Yes. Yes.

19 Q -- is that true?

20 A Yes.

21 Q Okay.

22 A If you had a silty material, that would be very
23 different. Your velocities would be much slower before
24 you encountered erosive velocity, much more sensitive
25 issue to deal with.

1 Q Okay. So the -- when the county -- the county
2 doesn't request a predevelopment and postdevelopment
3 comparison?

4 A Actually, we do.

5 Q Okay. Is that in any of your exhibits?

6 A No, because what they filed with Caldwell
7 County was a preliminary plat, and it didn't show us
8 what any of their development was going to be. They
9 were simply proposing to chop the land up into different
10 property boundaries. And so the only thing we could
11 deal with as part of platting that property is existing
12 conditions. And what we asked them to do is to model
13 the existing drainage conditions, following Caldwell
14 County's ordinances, and to contain those 100-year flows
15 inside drainage easements.

16 Once that preliminary plat is done, they
17 would record a final plat that records those easements,
18 and then they will come to us presumably for a
19 commercial development permit. And that will show their
20 site plan, what they propose to do, how it's going to
21 affect the runoff and the drainage. They would then
22 have detailed erosion controls and permit their
23 detention ponds and the crossings of the floodplain and
24 all the other stuff. They've not submitted any of that
25 to the county yet.

1 Q So that's something that you haven't received
2 at this point, and if you do receive it, it would be in
3 the future?

4 A Correct. In my role as the county's consulting
5 engineer, I've not received an application from them for
6 that.

7 Q Okay. And when I said "you," I guess I meant
8 the county. You understood that. Right?

9 A Yeah.

10 Q Okay.

11 MR. TATU: Can I just have one second?

12 JUDGE BELL: Yes.

13 (Pause)

14 MR. TATU: No further questions. I'll
15 pass the witness. Thank you.

16 JUDGE BELL: Thank you.

17 Let's go ahead and take a break until
18 three o'clock or so, then we'll start with the
19 Applicant's cross-examination.

20 (Recess: 2:52 p.m. to 3:08 p.m.)

21 (Exhibit Applicant Nos. 49 and 50 marked)

22 JUDGE BELL: All right. We're back on the
23 record after a short break and ready for Applicant's
24 cross-examination of Mr. Bratton.

25 MR. RYAN: Thank you, Your Honor.

CROSS-EXAMINATION

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BY MR. RYAN:

Q So, Mr. Bratton, it's true, isn't it, that your firm ultimately concluded that the materials submitted in connection with the preliminary plat met the applicable requirements, and you recommended that the preliminary plat be approved by the Caldwell County Commissioners Court?

A We agreed that the documents submitted were substantially in conformance with the Caldwell County regulations and recommended the Court approve the preliminary plat.

Q Okay. General conformance. Does that phrase sound right?

A Yes.

Q Okay. And did the Caldwell County Commissioners Court approve the preliminary plat?

A Yes.

Q As part of the materials that were submitted for the preliminary plat, is one of the things that you asked for that wasn't in the original submittal, a letter from Polonia Water Supply Corporation, indicating that they would provide water service to the 130 Environmental Park project?

A I believe that's right. We usually require a

1 water availability letter on -- associated with any
2 plat. I'm sorry, I should phrase that as water service
3 letter, or will serve letter, as often called. Water
4 availability refers to groundwater availability study.

5 Q Okay. When you're dealing --

6 (Simultaneously speaking)

7 A -- with the will serve.

8 Q -- when you're dealing with a water supplier,
9 like a water supply corporation, it's a will serve
10 letter, is what you call it?

11 A Yes.

12 Q And do you --

13 A 48?

14 Q Yeah. Mr. Bratton, do you have there what's
15 been marked as Exhibit 130EP-48?

16 A Yes.

17 Q And is that a copy of the will serve letter
18 from Polonia Water Supply Corporation that you testified
19 about?

20 A Without looking at my files, I can't know that
21 it's the exact one, but if you represent it as that, I
22 will say yes, it is.

23 Q Okay. You did receive a will serve letter from
24 Polonia related to the 130 Environmental Park project?

25 A To the best of my recollection, yes.

1 Q Okay.

2 A And this corresponds to approximately the same
3 time frame in which that would have occurred.

4 Q Okay. So do you see Exhibit 130EP-47?

5 A Yes. Yes.

6 Q And that's a letter -- oh. Wait till those get
7 passed out. Do you have in front of you what's been
8 marked as Exhibit 130EP-47?

9 A Yes.

10 Q And that's a copy of your letter to the
11 Commissioners Court, stating that the preliminary plat
12 for 130 Environmental Park appears to be in general
13 conformance with the county's development ordinance.
14 Correct?

15 A Yes.

16 Q And that's dated February 27th of 2015?

17 A Yes.

18 Q So that would have been relatively soon after
19 you received the final preliminary plat-related
20 documents from 130 Environmental Park?

21 A Yes.

22 MR. RYAN: I'm now going to turn to a
23 couple of exhibits that have already been previously
24 admitted, but they're hearing exhibits, 130EP-24 and 25.

25 JUDGE BELL: Did you want to go ahead and

1 offer 47 and 48, then?

2 MR. RYAN: Yes.

3 JUDGE BELL: Any objections to 130EP-47 or
4 48?

5 MR. MAGEE: No, Your Honor.

6 JUDGE BELL: All right. Hearing none,
7 they are admitted.

8 (Exhibit Applicant Nos. 47 and 48
9 admitted)

10 JUDGE BELL: I'm sorry, which ones are we
11 going to?

12 MR. RYAN: 130EP-24 and 25, and this is
13 what they are.

14 JUDGE BELL: I've got them. They're
15 hearing exhibits.

16 MR. RYAN: Yeah.

17 Q. (BY MR. RYAN) Mr. Bratton, do you have in
18 front of you there Exhibit 130EP-25?

19 A Yes.

20 Q And are you familiar with the term that's been
21 used in prior testimony in this case "landfill
22 footprint"?

23 A I've been made aware of it as part of these
24 proceedings.

25 Q Okay. And is it your understanding that that

1 represents the approximate boundaries of the area within
2 which waste is disposed of at a landfill?

3 A Yes.

4 Q Now, if you look on Exhibit 130EP-25, down
5 near -- down to the left of the title block, at the
6 bottom of the page, below where it says, Issued for
7 permitting purposes only, there's a revisions block. Do
8 you see that?

9 A Yes.

10 Q And there's Revision 1 is January 2015, and it
11 says, Revised to include CAPCOG Lidar.

12 A Yes.

13 Q And is that one of the requests that your
14 office had made to 130 Environmental Park in connection
15 with its floodplain analysis?

16 A Yes.

17 Q And then Revision 2 is dated February 2015, and
18 it's described as Revised Hydraulic and Hydrology
19 Models.

20 A That's what it says.

21 Q And had your office requested changes to the
22 hydraulic and hydrology models as part of the materials
23 submitted in connection with the preliminary plat
24 application?

25 A Yes, we have.

1 Q And do you recall that sometime in
2 February 2015, 130 Environmental Park submitted revised
3 materials related to the preliminary plat, including a
4 revised floodplain analysis that addressed the comments
5 that your office had made related to floodplain
6 analysis?

7 A There were four, I believe, rounds of comments.
8 One was a fairly substantial e-mail, and three were
9 formal written comments. And we received -- or formal
10 by -- issued in form of a letter that actually has
11 letterhead on it and a signature. We received responses
12 to those comments, from a timing perspective, I believe
13 there is one in middle of January, another one at end of
14 January, and the final one in mid- to late February.

15 Q Okay. And do you recall that that final
16 submittal in mid- to late February included a revised
17 map that showed the model delineation of the 100-year
18 floodplain?

19 A That submittal included a map that accompanied
20 it. I'm going to pick out part of the question, though.
21 You said it reflected a revision to the 100-year
22 floodplain on the map, and my recollection was that it
23 did not. There was correspondence and phone discussions
24 between myself and the Applicant between January 23rd
25 and January 26th of 2015 in which they requested to not

1 redraw the lines for the drainage easements because we
2 were running out of time.

3 It was very apparent that Caldwell County
4 was not going to consider another extension of the
5 timeline to approve the preliminary plat. It had
6 already been extended twice, if I remember correctly.
7 We were running out of time to address the technical
8 issues going back and forth. Redrawing the line was
9 going to be time consuming, and I acquiesced to the
10 Applicant's request to not redraw the drainage easements
11 because there was an opportunity to redraw those between
12 the time of the preliminary plat and the final plat.

13 Q Okay. So maybe here's the problem. What I was
14 asking you about was not the drainage easements.

15 A Uh-huh.

16 Q I was asking you about the delineation of the
17 hundred-year floodplain based on the revised modeling to
18 satisfy the request from your office.

19 A Right. The drainage easements parallel the
20 floodplain. So once you have the floodplain in CAD,
21 it's a simple act to offset that to create the drainage
22 easements. So my presumption is that if they weren't
23 going to redraw the drainage easement, they weren't
24 redrawing the floodplain. I don't remember every nuance
25 of the conversation we had in January of 2015.

1 It also says it's revised for hydraulic
2 and hydrology models. Those revisions could be changes
3 to some of the basin boundaries on here from the prior
4 version. And I know there were also changes we
5 requested related to the cross-sectional data used in
6 the HEC-RAS model. Those are represented on here by the
7 green lines, that there were some of those
8 cross-sectional locations in which we said -- the
9 cross-section needs to be oriented perpendicular to the
10 direction of flow. It doesn't -- the model doesn't work
11 right if you cut it diagonal and try and estimate the
12 flow. It needs to be perpendicular.

13 So there were some locations we asked them
14 to go back and look at further to alter the shape of
15 this cross-section. Most of these are straight, but
16 you'll see some of them have bent lines. There were
17 also a few locations that we noted on a letter in
18 January of 2015 -- I don't remember the exact date -- in
19 which we had spot-checked the floodplain versus the
20 results of the HEC-RAS model. And the width shown on
21 the cross-section in HEC-RAS models for the floodplain
22 didn't match the widths drawn for the corresponding
23 cross-section location on the maps that had been
24 provided at that time.

25 So I understand your question --

1 Q No, I don't think you do.

2 A Okay.

3 MR. RYAN: I'm going to object to that
4 answer as nonresponsive and ask that it be stricken.

5 Q (BY MR. RYAN) The question was: Did the
6 submittal in mid- to late February include a revised
7 floodplain delineation map?

8 JUDGE BELL: Do we know whether or not
9 that's what the question said, what he was responding
10 to?

11 (Discussion with the court reporter)

12 JUDGE BELL: All right. I'll overrule the
13 objection.

14 Q (BY MR. RYAN) Mr. Bratton, what I want to know
15 is: Did the mid- to late February submittal include a
16 revised floodplain delineation map that incorporated
17 changes to the analysis to satisfy the request made by
18 your office?

19 A It included a map. I don't know if it included
20 all the -- all the revisions as had been discussed with
21 our office.

22 Q Okay. So you don't know --

23 A Okay.

24 Q -- is that right?

25 A I don't know -- I don't know if it included all

1 the things that you listed in your question.

2 Q What did I list in my question?

3 A My understanding of your question is that it
4 implied that the exhibit that we received in February of
5 2015, along with the revised hydrology and hydraulic
6 models, included on the exhibit all of the revisions for
7 the hydrology and the hydraulics and redrew those
8 floodplains. And I don't know if it included the
9 redrawing of those floodplains or not, based upon my
10 conversations with the Applicant.

11 Q Okay. So you believe that the Applicant may
12 have submitted to you the revised modeling and
13 floodplain analysis and given you a revised map that
14 only addressed part of those changes?

15 A That was the conversation that we had in
16 January of 2015, yes.

17 Q I didn't ask you about the conversation you had
18 in January. I'm asking you if you believe that what was
19 submitted to you many mid- to late February was revised
20 modeling that satisfied your requests and a revised map
21 that addressed only part of those changes that had been
22 made.

23 A That was my understanding, yes.

24 Q Okay. And is that still your understanding of
25 what was submitted?

1 A Yes.

2 Q Okay. So if a map was submitted to your office
3 in February of 2015 that included -- well, that was
4 based on the revised model that incorporated your
5 office's request for changes, you don't know that? If a
6 map -- if a map incorporating those changes was
7 submitted, you don't know about that?

8 A Yes.

9 Q Okay. Do you have an opinion as to whether or
10 not the proposed landfill footprint for the 130
11 Environmental Park landfill is outside the 100-year
12 floodplain?

13 A I believe the footprint of the landfill falls
14 outside of the 100-year floodplain.

15 Q Do I recall correctly from your deposition that
16 you have performed slope stability analysis for at least
17 one landfill?

18 A Not for a municipal solid waste landfill. I
19 performed slope stability analysis for containment cells
20 on a -- I don't remember if it was a RCRA site or a
21 CERCLA site. It was a Superfund site, hazardous waste
22 containment cell.

23 Q Do you remember testifying in your deposition
24 about slope stability analysis that you did for a closed
25 municipal solid waste landfill?

1 A Yes, that is correct. I had forgotten that.
2 There was some preliminary work I did on a landfill
3 south of Houston that was a beneficial reuse they were
4 going to convert it, I believe, into a golf course.

5 Q Okay. And part of the work that you did was
6 slope stability analysis of that landfill?

7 A I participated in the work on the slope
8 stability analysis of the landfill.

9 Q Okay. Isn't it true that a two-dimensional
10 slope stability model would be more conservative than a
11 three-dimensional slope stability model?

12 A I don't -- I don't remember -- I don't know.

13 Q Okay. Do you know of any existing municipal
14 solid waste landfills in the state of Texas that have a
15 flood control reservoir within, say, a mile downstream
16 of the landfill?

17 A No, I don't.

18 Q Okay. I want to ask you to take out three
19 different exhibits, and I'm going to ask you to perform
20 a calculation based on information in them.

21 A Okay.

22 Q The first two are in 130EP-2, which is the
23 binder --

24 A Uh-huh.

25 Q -- Volume 2. And the two pages -- and I think

1 it would probably be easier if you just took these pages
2 out of there, and we'll put them in afterwards. The two
3 pages are 134 --

4 A Okay, I'm sorry. Okay.

5 Q -- and 452.

6 A 134 --

7 Q 134 and 452.

8 A Okay.

9 Q I tell you what. While we're in this volume,
10 why don't you also pull out the next -- no, I'm sorry --
11 449. No, let's don't do 449. Let's do -- yeah, 449.
12 That one will work. And then the other one I want you
13 to take a look at is a Plum Creek Conservation District
14 exhibit, part of their prefiled.

15 A Where do I locate that?

16 Q Oh.

17 A This says "Applicant Record" --

18 Q That one won't be it.

19 A Okay.

20 Q Okay. And we're going to want to look at
21 Exhibit 1.6 in the Plum Creek documents there, Page 61.

22 A I have page numbers up to 28, and I have --
23 okay.

24 Q Down at the bottom middle.

25 A So near the very back?

1 Q Yes.

2 A Okay. There's a whole bunch of pages in the
3 middle that don't have page numbers.

4 Q Okay. Wasn't me.

5 (Laughter)

6 A Okay.

7 Q (BY MR. RYAN) All right. So let's start off
8 by looking at 130EP-2, Page 449, this landfill site plan
9 drawing.

10 A Okay.

11 Q Do I understand from your prefiled testimony
12 one of your concerns has to do with the potential
13 failure of side slope berms on the outer slope of the
14 landfill?

15 A Yes.

16 Q And what I guess I would describe as some sort
17 of domino effect, where one of those side slope berms
18 fails and each berm below it, downslope also fails.
19 Right?

20 A That is a scenario, yes.

21 Q Which leads to water flowing in -- additional
22 water flowing in -- well, which leads to, either by
23 virtue of water or, I guess, the soil material in the
24 berms, the failure of one of the detention ponds?

25 A Yes. More likely that the soil then completely

1 blocks the outlet and now you have water going over the
2 top of the embankment of the pond and then you blow the
3 pond out.

4 Q Okay. Okay. So -- and then your concern after
5 that is all of the water in that storage pond being
6 released all at once downstream and into the reservoir
7 at Site 21?

8 A And debris.

9 Q Okay.

10 A Definitely include debris in there.

11 Q So isn't it true that if we had a catastrophic
12 failure of any of the ponds, that the instantaneous
13 release of the total volume of water that could be
14 stored in a pond, proposed pond for the landfill, the
15 release of that into the reservoir would raise the water
16 surface elevation in the reservoir by less than three
17 inches -- or let me just start off with by an
18 insignificant amount?

19 A I would say that the -- I would not disagree
20 with that statement. The volume of water compared to
21 the total volume of the Site 21 reservoir is not so high
22 as to raise the water level by multiple feet. No, it
23 would be a --

24 Q Would it surprise you if it was as little as
25 two to three inches?

1 A That would not surprise me, no.

2 Q Okay. Well, I don't need all these pages, and
3 you don't need your full bottle of water.

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

5 JUDGE BELL: Thank you. Redirect for
6 Mr. Bratton?

7 MR. MAGEE: Very short.

8 REDIRECT EXAMINATION

9 BY MR. MAGEE:

10 Q The scenario that Mr. Ryan just went over with
11 you about the amount of water in a pond and if there's
12 some sort of catastrophic failure, he was talking about
13 the amount of water in the pond that would wind up in
14 the reservoir. Right?

15 A Yes. And I -- I even understood his -- we may
16 have to go back and read the question again -- but I
17 even understood at one point, as he was phrasing the
18 question, for it to potentially even include a failure
19 of all the ponds, the volume of water in all the ponds.

20 And I was very careful, making sure that I
21 included debris, because I'm -- the volume of water is
22 not that significant. The introduction of large volumes
23 of debris -- that would be the soil. As you blow out
24 the embankment of the pond, it flows into these natural
25 tributaries -- Dry Creek in Reach 1, Reach 2 of the

1 unnamed tributary. It can pull out trees and things.

2 That introduction of the debris into the
3 auxiliary spillway can have a major effect in the
4 capacity -- the ability of the spillway to convey that
5 water, and not so much that the volume of water itself
6 is the problem.

7 Q And I think that was going to be my next
8 question, was: You weren't talking about the quality of
9 water that's in this catastrophic event that's winding
10 up in the reservoir, either?

11 A I think you just said "quality."

12 Q The quality, right. The -- you've described it
13 differently now than with Mr. Ryan is that is part of
14 your concern is that quality in the water, the debris
15 and those types things?

16 A Yeah, it's a sudden introduction. It's
17 introduction just as you would in any dam breach -- dam
18 breach, yeah, the water is a problem, but it's the
19 debris that's getting carried along with it that is a
20 major problem.

21 Q And then I think Mr. Ryan asked you a question
22 about -- any opinions you had about the footprint of the
23 landfill. Are there other things outside the
24 footprint -- like the drainage control system
25 structures, ponds, buildings, roads, all of those

1 different things we've heard testimony in here -- that
2 may be in the floodplain?

3 A Yes.

4 Q So the analysis that the county looked at in
5 the preliminary plat process is on preexisting
6 conditions. Right?

7 A Yes.

8 Q And that's a portion of the Applicant's Exhibit
9 2. Right?

10 A Referring to this big binder?

11 Q Right.

12 A Yes.

13 Q And the data that was submitted to the county
14 concerning those existing conditions and the
15 calculations that go behind that are different than
16 what's in the application. Correct?

17 A Correct.

18 Q And so there's other portions of Exhibit 2 that
19 talk about the postdevelopment of the landfill. Right?

20 A Yes.

21 Q And those calculations have not been submitted
22 to the county?

23 A Correct.

24 Q When you reviewed the -- would you expect --
25 since the preexisting conditions submitted to the county

1 are different than what's in the application, would you
2 expect to see different calculations in the
3 postdevelopment calculations that should be submitted to
4 the county for this commercial construction site permit
5 that are in the application?

6 A Well, I'm going to break that into two parts --

7 Q Okay.

8 A -- because the majority of the analysis that's
9 being performed in the preexisting conditions, the
10 overall majority of it is offsite stuff that is not
11 changed by the landfill construction.

12 Q Okay.

13 A So all that offsite stuff should really -- I'm
14 using a very technical term there with "stuff" -- that
15 really remains the same, from predeveloped to
16 postdeveloped conditions, unless they're going to assume
17 future land use changes for upstream --

18 Q Right.

19 A -- and stuff.

20 Then the other part is the portions of
21 their site -- the landfill, the transfer station, the
22 scales, and all those little areas that they are
23 altering -- those -- the analysis for those areas would
24 change.

25 Q And so, for example -- I'm just pulling this

1 page randomly out of here.

2 A Okay.

3 Q If you look at Page EP130-2, Page 154.

4 A That's going to get me close to where I can put
5 this page back in, and the retentive part of me really
6 wants to get this page back in. 154. Okay.

7 Q Well --

8 A Looking at something entitled Postdevelopment
9 Condition 25-year Velocity Calculations at Comparison
10 Points?

11 Q Well, what I really wanted to find -- actually,
12 hold on just a second.

13 You can skip that page, because I don't
14 think it's going to do what I want. I guess basically
15 what I'm trying to understand is, in your prefiled
16 testimony, you requested changes to the preexisting, and
17 we heard about what that is --

18 A Yes.

19 Q -- the drainage areas, the roughing Manning --
20 the Manning's roughness --

21 A Uh-huh.

22 Q -- and those types of things. So would you
23 expect to see changes in the postdeveloped modeling
24 based on the changes you requested from the preliminary?

25 A Yes. And I'm trying to find a page to compare.

1 So if you compare -- let me find a basin that matches,
2 because we like changing numbers around. Find a basin
3 in this.

4 MR. RYAN: Your Honor, I'm going to
5 object. I don't believe he was asked any questions on
6 cross-examination about differences between pre- and
7 postdevelopment analyses. In fact, I think his
8 testimony was that the changes he was talking about were
9 just the two different ways of doing the predevelopment
10 analysis.

11 JUDGE QUALTROUGH: Well, you asked him
12 about postdevelopment conditions, and then he got into a
13 discussion where they hadn't really gotten to that part
14 in the process yet.

15 MR. MAGEE: Right.

16 MR. RYAN: No, I didn't ask him about
17 postdevelopment conditions. I asked him --

18 MR. MAGEE: That was asked, and I don't
19 know who asked it.

20 MR. RYAN: -- whether the floodplain map
21 we submitted included the changes that they asked --
22 that's all predevelopment. No postdevelopment
23 information.

24 JUDGE QUALTROUGH: Well, somebody talked
25 about postdevelopment.

1 MR. TATU: Well, I asked if they did do
2 postdevelopment --

3 JUDGE QUALTROUGH: You're the culprit.
4 Okay. Overruled. I knew I heard that testimony.

5 MR. MAGEE: Okay.

6 A Okay. So if you compare EP-2, Page 106, and
7 EP-2, Page 148, that is a summary table of peak
8 discharge per hydrologic element in predeveloped
9 conditions for Page 106 and postdeveloped conditions for
10 Page 108.

11 And if you look at one of the -- one of
12 the basins we discussed prior was OS16, which is
13 actually on Page 107, and compared that to Page 148. On
14 both pages, it provides a peak discharge of 928.4 cfs.
15 And per the changes we requested relating to the shallow
16 concentrated flow, the Manning's N, those things, it
17 would also change the discharge from that basin in the
18 postdeveloped conditions, too. That's an offsite basin,
19 and its analysis needs to stay.

20 Because it's an offsite basin, or basin
21 that's not being altered by the Applicant, that analysis
22 would remain unchanged from predeveloped to
23 postdeveloped. So if it needs to be changed in one
24 place, it needs to be changed in the other as well.

25 Q (BY MR. MAGEE) Okay. Thank you. That's kind

1 of what I was trying to get at, and I didn't know which
2 page to turn to. Just the county has all this different
3 data than what's in the application, and you would
4 expect to see different data in these postdevelopment
5 numbers when they submit something --

6 A Yes.

7 Q -- to you for that?

8 A Yes.

9 MR. MAGEE: No further questions.

10 JUDGE BELL: Thank you.

11 Any recross based on that redirect from
12 Plum Creek?

13 MR. McCARTHY: No, sir.

14 JUDGE BELL: How about from TJFA? No?
15 OPIC? Executive Director?

16 MR. TATU: No questions.

17 MR. RYAN: No, Your Honor.

18 JUDGE BELL: Nothing from Applicant? All
19 right. Very good. Thank you, Mr. Bratton. Appreciate
20 your time.

21 THE WITNESS: Thank you.

22 JUDGE BELL: Does that conclude Caldwell
23 County's direct case?

24 MR. MAGEE: It does, Your Honor -- yeah,
25 we've offered everything. I believe we offered 1, 2, 3,

1 and 4 have already been admitted, and then 6, 7, 8, and
2 9. The only one not admitted was 5, I believe, if
3 that's correct. I think we marked it, and it didn't get
4 included anywhere, if I remember correctly, and we
5 didn't actually cross-examine the witness on it. Is
6 that right? Okay. I think I'm right.

7 JUDGE BELL: We definitely have 1 through
8 4 and 6 through 9.

9 MR. MAGEE: Okay. And 5 was one, I think,
10 when we were asked just to premark everything, if we
11 thought we may use it.

12 JUDGE QUALTROUGH: Okay. So we don't have
13 a 5?

14 MR. MAGEE: Nobody should have 5, except
15 for you. So that concludes our case.

16 JUDGE BELL: Very good. Thank you,
17 Mr. Magee.

18 I believe that takes us to the Executive
19 Director.

20 MR. VARGAS: We have some housekeeping
21 stuff.

22 JUDGE BELL: Sorry?

23 MR. VARGAS: We have some housekeeping
24 matters to take care of.

25 JUDGE BELL: All right. What's that going

1 to entail?

2 MR. VARGAS: I just need to pass out the
3 prefiled.

4 JUDGE BELL: All right. Very good. Let's
5 go off the record.

6 (Recess: 3:46 p.m. to 3:51 p.m.)

7 JUDGE BELL: All right. Mr. Vargas, you
8 ready to proceed?

9 MR. VARGAS: Yes, we're ready.

10 JUDGE BELL: All right. Very good. Go
11 ahead.

12 MR. VARGAS: Your Honor, at this time the
13 Executive Director calls Steve Odil.

14 JUDGE BELL: Mr. Odil, will you raise your
15 right hand?

16 (Witness sworn)

17 JUDGE BELL: Thank you, sir.

18 PRESENTATION ON BEHALF OF EXECUTIVE DIRECTOR

19 STEVE ODIL,

20 having been first duly sworn, testified as follows:

21 DIRECT EXAMINATION

22 BY MR. VARGAS:

23 Q Could you please state your name for the
24 record?

25 A Steve Odil.

1 Q And who is your current employer, and what is
2 your position there?

3 A My employer is the Texas Commission on
4 Environmental Quality. I work in the municipal solid
5 waste permits section, and I'm a permit engineer.

6 Q And how long have you been at the Commission?

7 A About 12 years.

8 Q Mr. Odil, in front of you, you have nine
9 documents that have been marked Exhibit ED-SO-1 through
10 ED-SO-9, copies of which were provided to all the
11 parties on July 12th. Can you please identify these for
12 the Court?

13 A Certainly. ED-SO-1 is my prefiled testimony.
14 ED-SO-2 is my resume. ED-SO-3, 4, and 5 are notice of
15 deficiency letters. ED-SO-6 is an e-mail that was my
16 final communication of deficiencies. ED-SO-7 is two
17 technical review checklists. ED-SO-8 is what we refer
18 to as the chief clerk's office package. It contains the
19 draft permit, technical summary, and other documents.
20 And ED-SO-9 is the Executive Director's amended response
21 to public comments.

22 Q Okay. Are these true and correct -- correct
23 records of your resume, technical memoranda, and
24 prefiled testimony?

25 A They are.

1 Q Do these documents present facts that support
2 your opinion expressed in your testimony?

3 A They do.

4 Q Do you have any changes or corrections you wish
5 to make?

6 A I do not.

7 Q And would your answers to the questions
8 contained in this testimony remain unchanged if you were
9 to give them orally today?

10 A Yes.

11 MR. VARGAS: Your Honor, I would like to
12 offer ED-SO-1 through SO-9.

13 JUDGE BELL: All right. Any objections to
14 ED-SO-1 through ED-SO-9?

15 MR. RYAN: No.

16 MR. ALLMON: None other than already
17 submitted.

18 MR. MAGEE: I have a quick question. I'm
19 sorry.

20 JUDGE BELL: Yes.

21 MR. MAGEE: We went from 36 pages to 37
22 pages. Is there changes that were made?

23 MR. VARGAS: The changes are from the
24 order, the objections sustained in the -- the struck-out
25 testimony. So if it's -- if the -- yeah, it's probably

1 just formatting and striking.

2 MR. MAGEE: I just wanted to make sure --
3 I think that's what it was, but I just noticed that it
4 went from 36 pages to 37, and I thought it had struck
5 out some things. And I think -- I just wanted to be
6 sure, like on Page 25, it looks like the formatting got
7 off and probably made it longer than it should have
8 been. And I just wanted to make sure I was assuming
9 that was correct.

10 MS. MURRAY: I attempted to do this, so
11 everything is struck out. There's nothing additional
12 other than Mr. Odil's testimony.

13 MR. MAGEE: Thank you. I just wanted to
14 be sure.

15 JUDGE BELL: All right. Thank you.

16 ED-SO-1 through ED-SO-9 are admitted.

17 (Exhibits ED-SO-1 through ED-SO-9
18 admitted)

19 MR. VARGAS: Pass the witness, Your Honor.

20 JUDGE BELL: Thank you.

21 Who would be going first with cross?

22 MR. RYAN: Me.

23 JUDGE BELL: Did you have any questions,
24 Plum Creek?

25 MR. McCARTHY: Do not.

1 JUDGE BELL: All right. To the Applicant?

2 MR. RYAN: No questions.

3 JUDGE BELL: All right. OPIC?

4 MR. TUCKER: I have no questions.

5 JUDGE BELL: All right. TJFA or --

6 TJFA/EPICC?

7 MR. ALLMON: Yes, we do have a few
8 questions.

9 JUDGE BELL: All right.

10 CROSS-EXAMINATION

11 BY MR. ALLMON:

12 Q Hello, Mr. Odil.

13 A Good afternoon.

14 Q My name Eric Allmon. I represent Protestants
15 in this matter, TJFA and EPICC. How are you doing?

16 A Fine. Thank you.

17 Q Okay. Let's start with a few questions related
18 to drainage. What was your role in reviewing the
19 drainage portion of the application?

20 A I was the engineer who reviewed that section.

21 Q Are you a hydrologist?

22 A No.

23 Q So it was your main role to make sure that the
24 information requested was submitted?

25 A Yes.

1 Q So not being a hydrologist, did you form, say,
2 an expert opinion on whether the proper Manning's
3 roughness was used?

4 A No.

5 Q Okay. And not being a hydrologist, did you
6 perform an expert opinion as to whether proper areas
7 were characterized as shallow concentrated flow versus
8 open channel flow?

9 A No.

10 Q Could you turn with me in Exhibit SO-4, at Page
11 4?

12 A I'm there.

13 Q And I would direct your attention to 17B there.

14 A Yes.

15 Q In -- is this one of your notices of
16 deficiency?

17 A Yes, it is.

18 Q And what concern were you expressing in 17B
19 here? I'll give you a second to review it.

20 A (Witness complying)

21 I was seeking the -- an illustration of an
22 easement that I understood existed partially within the
23 permit boundary.

24 Q Okay. Now, were the -- does CP stand for
25 comparison point?

1 A I believe that's what it was -- they did act as
2 comparison points in the -- in the application.

3 Q And so when we're talking about CP7 and CP8,
4 those are comparison points?

5 A Yes.

6 Q And is it your recollection that those were
7 points actually on the permit boundary?

8 A I believe that's right. That was my primary --
9 my initial focus was on permit boundary discharge
10 points.

11 Q And in this notice of deficiency, I see there
12 you state that, The requirement that drainage patterns
13 not be altered at the permit boundary is not met where
14 alterations are mitigated on offsite property.

15 Is that an accurate characterization of
16 TCEQ policy?

17 A I'm sorry, could you point me to that sentence,
18 please?

19 Q Yes, the second sentence, I believe it is, you
20 state that, The requirement that drainage patterns not
21 be altered at the permit boundary is not met where
22 alterations are mitigated on offsite property.

23 Do you see that?

24 A I'm sorry, we're still --

25 Q Well, let me just ask you -- is the focus for

1 the -- is one of the focuses for the analysis of
2 drainage conditions looking at the comparison points at
3 the permit boundary?

4 A The initial evaluation is always going to be at
5 the permit boundary.

6 Q And if we have an adverse impact at the permit
7 boundary, is that adverse impact allowed to be mitigated
8 by other things offsite?

9 A It can be.

10 Q Under other places downstream?

11 A Potentially. I've had at least one other
12 example where this has occurred, a discharge point was
13 eliminated, and we basically asked them to explain why
14 it was not an adverse change. And they explained that
15 at a point downstream, essentially everything was back
16 to even, that there was no adverse change at this
17 downstream point.

18 So we asked them to establish an easement
19 from the permit boundary, a drainage easement from the
20 permit boundary, to the -- what we referred to as a
21 point of consolidation, to make sure that nothing was
22 developed in that area that was outside of the permit
23 boundary.

24 Q But, now, is that -- has an easement been
25 obtained in this case?

1 A The easement information was illustrated at
2 some point. The impression I get is that that is not
3 final information, so we put a special provision into
4 the draft permit to require final agreement with the
5 local flood authority.

6 Q Is there any TCEQ rule allowing for mitigation
7 offsite?

8 A No.

9 Q Is the TCEQ rule focused on the property
10 boundary?

11 A The TCEQ rule is --

12 Q Excuse me, let me rephrase that.

13 A I'm sorry.

14 Q Is the TCEQ rule focused on the permit
15 boundary?

16 A TCEQ rules are primarily focused on the
17 facility which is bounded by the permit boundary.

18 Q Permit boundary.

19 And was your concern here -- well, let's
20 take CP7. What type of alteration of drainage patterns
21 was going to occur at CP7?

22 A I'm -- could I refer to the --

23 Q Could you turn to Page -- let's move there,
24 EP-2, Page 79?

25 A That's where I was going to ask to go to.

1 Thank you.

2 Q Could you please identify what's shown on Page
3 130EP-2, Page 79?

4 A It's the -- it's a summary table of pre- and
5 postconditions, pre- and postdevelopment conditions,
6 that provide the discharge rates, the velocities, and
7 the volumes discharged.

8 Q And if we turn to the immediate proceeding
9 page, Exhibit 130EP-2, Page 78, is that a map of the
10 site in the area?

11 A It is.

12 Q And are our -- are the comparison points
13 indicated on Page 79 labeled on Page 78?

14 A They are.

15 Q So let's look at CP7 for a minute. Where is
16 CP7 located, as we look on Page 78?

17 A CP7 is generally to the southeast of the waste
18 unit.

19 Q And is that at the permit boundary?

20 A It is.

21 Q Okay. And looking on Page 79, do you see CP7
22 shown there?

23 A Yes.

24 Q How does the 25-year peak discharge change as a
25 result of the landfill?

1 A It reduces significantly.

2 Q And what is -- in absolute terms, what's that
3 value?

4 A I'm sorry, the before or after?

5 Q The difference. Well, I would guess before, do
6 we have a quantity of 243.4 cfs?

7 A Yes.

8 Q And after is the 141.8 cfs?

9 A Yes.

10 Q And that's a difference -- a reduction of 101.6
11 cfs?

12 A Yes.

13 Q So is that the 42 percent reduction you were
14 making reference to in the NOD, the notice of deficiency
15 we just viewed?

16 A That looks to be about 42 percent.

17 Q Yes. And then if we look at the -- the next
18 table down is our existing versus postdevelopment volume
19 summary. Is that correct?

20 A Yes.

21 Q So when we say "volume," what is that referring
22 to?

23 A That's the actual discharge volume of water
24 that leaves the facility.

25 Q So the amount of water that would then be

1 leaving?

2 A Yes.

3 Q And what was the volume of water under Existing
4 Conditions at CP7?

5 A 38.5 acre-feet.

6 Q And what's the volume of water after the
7 landfill is in place?

8 A 61.8 acre-feet.

9 Q So that means we're having an increase of 23.3
10 acre-feet?

11 A Yes.

12 Q As a percentage, what type of change is that?

13 A Off the top of my head, about 67 percent.

14 Q Well, if we go from -- so around 67 percent?

15 A Yes. It's an increase in 23 over the 38.5.

16 Q Yeah.

17 A Little less than that.

18 Q Is that a significant change in volume?

19 A It would be a significant change.

20 Q Yeah. And this is at the permit boundary?

21 A Correct.

22 Q Now, can an increase in volume be an adverse
23 alteration of drainage patterns?

24 A We have not deemed it to be such. The
25 discussion we had earlier, I agreed with everything

1 Mr. Bratton said. A decrease in velocity, or a decrease
2 in volumetric flow, would not represent an adverse
3 change. From a possible supply standpoint, a decrease
4 in water could remove a supply downstream, so we have
5 not considered a -- an increase in volume necessarily to
6 be a problem, to be an adverse change, as long as it was
7 discharged at a slower rate and velocity.

8 Q Okay. Now, can an increase in volume -- say
9 you've got a downstream sensitive use. Can an instream
10 volume be harmful to those uses?

11 A It could.

12 Q It could.

13 So in other instances, have you considered
14 an increase in volume to be an adverse alteration of
15 drainage patterns?

16 A No.

17 Q Is there any rule establishing that?

18 A No.

19 Q Okay. Now, when you said in your --

20 A Excuse me, I'm sorry.

21 Q Okay.

22 A The rule establishing it refers to adverse.
23 There is no direct clarification in the rule of what
24 adverse is.

25 Q Okay.

1 A So there is a basis, but there's not a
2 clarification, if that makes sense.

3 Q And if I understand correctly, when we're doing
4 our evaluation, we look at the peak discharge, the
5 volume, and the velocity. Are those the three
6 parameters we're primarily interested in?

7 A Those are.

8 Q So in this case, we have about a 67 percent
9 increase in volume --

10 A Yes.

11 Q -- that you don't consider that -- do you
12 consider that to be significant?

13 A Typically, I would -- I would not. As long as
14 it was released at a slower rate, the increase in volume
15 I would not immediately consider to be adverse.

16 Q If there were a pond downstream that could be
17 impacted by an increased volume, could that be an
18 adverse impact?

19 A I suppose there's a scenario in which it could
20 be.

21 Q Now, does the rule say a significant adverse
22 impact at this point?

23 A It says an adverse change.

24 Q Did it used to say significant?

25 A It did.

1 Q And was the word "significant" removed from the
2 rule?

3 A Yes.

4 Q Okay. So, really, we're just looking at an
5 adverse impact, not necessarily making a judgment as to
6 how significant it is or not?

7 A If -- excuse me. If it's significant -- if
8 it's insignificant, then I would argue it's not adverse
9 because it's essentially zero. It's no change at all.
10 But if there is a significant change, we now have to
11 decide whether it's adverse or not adverse.

12 Q But the word "significant" isn't in the rule?

13 A Correct. The way you phrased it confused me a
14 little bit. I wanted to just clear that up.

15 Q We were probably just talking past each other a
16 little bit there.

17 A Sure.

18 Q Now, when in the -- in your notice of
19 deficiency, you noted -- looking back on No. 17 in the
20 paragraph -- the summary paragraph at the beginning, it
21 ended saying, The tabulated information indicates
22 arguably adverse changes to drainage at permit boundary
23 discharge points CP1, CP7, and CP8. At that time when
24 you --

25 A I'm sorry, you're back up in the bulk of the

1 comment, that started the comment?

2 Q Yes, back in the bulk, under 17.

3 A Yes. That's where I lost you.

4 Q And I'm looking at the last sentence of that
5 introductory paragraph, I'll call it. There you state
6 that, The tabulated information indicates arguably
7 adverse changes to drainage at permit boundary discharge
8 points CP1, CP7, and CP8. Is that correct?

9 A That's correct.

10 Q And the values we just looked at for CP7, for
11 peak discharge and 25-year volume, are those the same
12 values as you were looking at at that time?

13 A I believe they were.

14 Q Okay. And why is it at that time that you
15 considered these to indicate arguably adverse changes?

16 A They were certainly significant. And so,
17 essentially, I was asking the Applicant to make their
18 case for why they would not be adverse.

19 Q And when you said they were arguably adverse,
20 what factors were you looking at to make that
21 determination?

22 A Well, now that I'm seeing this comment, I'm not
23 sure why I was that concerned about reductions in
24 discharge rates. I recall by the end we were concerned
25 to some degree about the -- I was concerned about the

1 discharges, the increase in volume discharge to the
2 reservoir.

3 Q And if -- so in the end, how did the Applicant
4 address this particular concern?

5 A They -- it's --

6 Q Or at least seek to address this particular
7 concern?

8 A It's described at length in Attachment C1 --
9 I'm sorry, I'll get you a page number -- Applicant's
10 Exhibit 130EP-2, Page 68 and 69. I think that's it. 68
11 and 69. So they used the volume -- there was some
12 offsetting of one discharge point increased, one
13 decreased. And they all went into a reservoir, and the
14 change in volume to the reservoir was about 1 percent of
15 the volume of that reservoir.

16 Q So, in essence, the demonstration they provided
17 was trying to offset different impacts at points on the
18 permit boundary through the use of the reservoir
19 downstream?

20 A Yes.

21 Q Okay. If you were -- if the reservoir were not
22 present, and we looked just at the permit boundary,
23 would that alteration at CP7 be considered an adverse
24 alteration of drainage patterns?

25 A Not for discharge volume, not for peak

1 discharge, and not for velocity. That's -- I say I'm a
2 little confused by the specifics of my deficiency now.

3 Q Now let me ask you this. Did you do a specific
4 analysis of whether CP7 would be an adverse alteration
5 of drainage patterns looked at itself?

6 A I would have at that time. My initial
7 assessment is at the permit boundary.

8 Q And that's when you said they were arguably
9 adverse changes to drainage?

10 A I was seeking more information.

11 Q And in the end, was that concern addressed
12 through downstream mitigation?

13 A The -- some of it is. There were -- I -- and
14 forgive me, I recognize this doesn't quite say this.
15 The -- one of the volume discharges, CP8, went down.
16 And under the logic I was describing earlier, a
17 reduction in discharge volume at any point at the permit
18 boundary would give me initial concern, the potential
19 loss of supply downstream. Even though the rates -- the
20 rate and the velocity both went down, it was also a
21 reduction in volume, and so I was concerned.

22 It was through that that they introduced
23 that -- well, yes, but the pond -- there is a plus and a
24 minus. They're both discharging into the same water
25 body, so there is some offsetting there between those

1 two points.

2 And then we compared -- they provided a
3 comparison of the increase -- the decrease in -- no, I'm
4 sorry. It's two different issues. The increase in
5 volume they did compare to the pond volume, the
6 reservoir volume, and was found to be less than
7 1 percent, or about 1 percent.

8 Q And so at CP8, we have a reduction in volume?

9 A That's correct.

10 Q Would that, viewed in isolation, be considered
11 an adverse alteration of drainage patterns?

12 A Potentially.

13 Q And so the reason that you did not conclude
14 there was an adverse alteration of drainage patterns
15 given the reduction at CP8 was the mitigation of that
16 impact by virtue of the downstream reservoir?

17 A Yes.

18 Q Okay. Have you been here for the prior
19 testimony in this hearing?

20 A Yes.

21 Q Do you recall that in examining the high hazard
22 status of the downstream -- SCS Reservoir 21, that one
23 option was a controlled, essentially, elimination of
24 that dam?

25 A I recall that discussion.

1 Q Is there anything in the permit that requires
2 that reservoir to remain in place?

3 A No.

4 Q Is that reservoir within the permit boundary?

5 A No.

6 Q Is that reservoir part of the surface water
7 management structures of the site?

8 A No.

9 Q So is there any assurance that reservoir will
10 continue to be present?

11 A I don't know.

12 Q Okay. So if that reservoir were not present,
13 would the alteration at CP8 be adverse?

14 A Potentially.

15 Q Potentially, you haven't made that
16 determination?

17 A Correct.

18 Q So at this time you don't have an opinion as to
19 whether the alteration at CP8 would be adverse in the
20 absence of that reservoir?

21 A That's correct.

22 Q Do you know if the easements required would be
23 consistent with the easements held by the Plum Creek
24 Conservation District?

25 A I don't know.

1 Q You haven't made that determination?

2 A No.

3 Q Now, turn with me now, please, to Exhibit SO-3
4 to your prefiled. And I would refer you to Page 4.

5 A I'm there.

6 Q Looking at Item 20, did you require
7 site-specific modeling of the floodplain in this case?

8 A I did.

9 Q And why was that required?

10 A "Required" is a little challenging here.

11 Q Why did you -- well, maybe I'll make your life
12 easier. Why is it that you sought site-specific
13 modeling in this case?

14 A I'm sorry. I sought it because the -- our rule
15 says that a FEMA map is prima fascia evidence of the
16 floodplain. However, in this case, the floodplain was
17 A, not AE. A is an estimated floodplain. No baseline
18 elevation has been established, so I take that to be
19 estimated. And I can't tell you a distance, but when
20 it's in near proximity to the waste unit, I ask that
21 they model it to provide a more precise value, precise
22 illustration of that floodplain.

23 Q And in this case, do you consider the
24 floodplain to be in near proximity to the waste unit?

25 A I do.

1 Q And why is that?

2 A The figures show it within -- I don't know a
3 distance off the top of my head, but it's in near
4 proximity -- it's within the -- it's within the permit
5 boundary, and it was also an issue raised at public
6 meetings, a great concern -- as a concern from the
7 public.

8 Q And close enough to give you a concern?

9 A Yes.

10 Q If the FEMA -- FEMA being federal -- if the
11 FEMA map were the only map available, would that
12 demonstrate that this meets the requirements?

13 A It's so hard to give definitive answers on some
14 of these.

15 If the FEMA map -- the rule says prima
16 fascia evidence of the floodplain.

17 Q Uh-huh.

18 A If it were an established floodplain, if it
19 were an AE zone designation, I would not have sought
20 additional information.

21 Q Does the rule make any distinction between an A
22 zone versus an AE zone?

23 A It does not.

24 Q And so in this case, I guess the prima fascia
25 assumption would be that that FEMA map is the accurate

1 depiction of the flood zone, whether it be a FEMA A or
2 FEMA AE?

3 A I have interpreted and been supported on the
4 idea that where the FEMA map is estimated, and in near
5 proximity to the waste unit or other waste units, the
6 disposal unit or other units, that I've been supported
7 in asking that that information be modeled and provided.

8 Q Okay. But if -- if modeling is insufficient,
9 is that FEMA map still -- well, of course, the modeling
10 is intended to overcome that prima facie assumption of
11 the FEMA map. Correct?

12 A I'd say I'm more interpreting it the point of
13 when they say the FEMA map, they don't just mean a piece
14 of paper with images on it; they mean a FEMA map that
15 provides an established -- a floodplain based on an
16 established baseline.

17 Q But now it is, as you said, a FEMA map can have
18 a Zone A. Correct?

19 A Correct.

20 Q And that's still a FEMA map relied upon for,
21 say, flood insurance purposes and such?

22 A Yes.

23 Q So it's a FEMA map?

24 A It is a FEMA map.

25 Q And there's nothing in the rules that make a

1 distinction between an A versus an AE floodplain?

2 A That's correct.

3 Q So would a FEMA map be the prima fascia
4 assumption of the floodplain whether it's an A or an AE
5 floodplain, under the rule?

6 A I interpreted that it is not, that if, in my
7 opinion as the reviewer who is trying to make sure I
8 have adequate information, that -- and I'm not
9 suggesting that either has priority over the other.
10 What I am suggesting is that when that map is an
11 estimate, that I would like the information to also be
12 modeled and determined hopefully more accurately.

13 Q Okay. Do you have the rules up there --

14 A I do.

15 Q -- available? Could you turn with me to 30
16 TAC, Section 330.63(c)? And I'm specifically looking at
17 (c)(2), capital (D), and then (ii). What does that
18 provision require?

19 A Approval from the government entity with
20 jurisdiction over Texas Water Code 16.236, as
21 implemented by Chapter 301 of this title, relating to
22 levy improvement districts, district plans of
23 reclamation, and levies and other improvements.

24 Q Who would be the regulatory authority in this
25 case for that?

1 A I believe the county.

2 Q Now, in your notices of deficiency, did you
3 request this type of approval?

4 A Certainly.

5 Q Did you make that request on repeated
6 occasions?

7 A I did. I have a habit, when I'm reviewing an
8 application on these coordination steps, to request the
9 response letter. And as we await its arrival, I
10 continue to put it into each successive NOD letter so
11 that I don't lose track of it.

12 Q Was that -- was that approval ever provided to
13 you?

14 A It was not.

15 Q Okay. Now, in the rules, this set forth as a
16 requirement to be submitted with the application?

17 A Yes, it's expected in the application.

18 Q But it's not contained in the application?

19 A It's addressed through a special provision in
20 the draft permit.

21 Q But it's not contained in the application?

22 A That's correct.

23 Q At this point in time, has that yet been
24 submitted?

25 A Not to my knowledge.

1 Q Are you familiar with the location of the
2 entrance road in this case?

3 A Yes.

4 Q Could you turn with me in Exhibit EP-1? Is
5 there a general site plan contained in the application
6 in Part 1?

7 A Yes.

8 Q Could you turn to that page? Well, actually
9 could you turn with me in 130EP-1, Page 124?

10 JUDGE QUALTROUGH: Sorry, EP-1?

11 MR. ALLMON: 130EP-1, Page 124.

12 A Yes.

13 Q (BY MR. ALLMON) Are you there?

14 A I am.

15 Q Does this show the entrance road at the
16 facility?

17 A It does.

18 Q Is that entrance road contained entirely within
19 the permit boundary?

20 A It's not.

21 Q Is there a scale on this map?

22 A Yes.

23 Q Can you estimate the approximate length of the
24 road that's outside the permit boundary here?

25 A A wild stab, maybe 6,000 feet.

1 Q So that's more than a mile?

2 A It is.

3 Q Were you here for prior testimony by Mr. Welch?

4 A Yes.

5 Q And do you recall questions regarding other
6 facilities where the entrance road was located outside
7 the permit boundary?

8 A Yes.

9 Q And was the New Boston Landfill identified as
10 such a facility?

11 A I believe that's what he said.

12 MR. ALLMON: Your Honor, may I approach?

13 JUDGE QUALTROUGH: Yes, you may.

14 (Exhibit Protestants No. 45 marked)

15 Q. (BY MR. ALLMON) Mr. Odil, do you have before
16 you Exhibit P-45?

17 A I do.

18 Q Is this a general site plan for the Waste
19 Management of Texas, New Boston Landfill?

20 A Yes.

21 Q Are you able to identify the permit boundary on
22 this figure?

23 A I believe so. It winds around quite a bit.

24 Q Is that reflected by essentially a black line
25 with two small dashes within it?

1 A Yes.

2 Q Are you able to locate the entrance road on
3 this figure?

4 A Yes.

5 Q Is the entrance road for this facility located
6 wholly within the permit boundary?

7 A It's a little confusing. It appears to be
8 within the permit boundary, but it's also marked Access
9 Easement.

10 Q But it's within the permit boundary?

11 A Yes.

12 Q Okay. Are you familiar with any case where a
13 permit was approved with the access road outside of the
14 permit boundary?

15 A I -- I believe it has been done on numerous
16 occasions.

17 Q Which occasion -- are you familiar with a
18 particular occasion where the permit was approved?

19 A I -- as far as I know, that has not been a
20 restriction. The -- in fact, we've had cases where the
21 gate house was outside of the permit boundary. We have
22 been attempting to stop having buildings outside of the
23 permit boundary.

24 Q And why is it that you have concern over
25 facility -- over buildings outside the permit boundary?

1 A Well, I would -- I would argue that a scale
2 and -- a gate house and scale are pertinences required
3 for the landfill, and they should be located within the
4 permit boundary.

5 Q Okay. Could you turn with me again in the
6 rules to 330.237?

7 JUDGE BELL: Mr. Allmon, did you want to
8 offer this exhibit?

9 MR. ALLMON: Yes, I would offer Exhibit
10 P-45 into the record at this time.

11 JUDGE BELL: Any objections to
12 Protestants' Exhibit 45?

13 MR. RYAN: No objection.

14 JUDGE BELL: Protestants' Exhibit 45 is
15 admitted.

16 (Exhibit Protestants No. 45 admitted)

17 Q (BY MR. ALLMON) And could you, again, turn
18 with me to 330.237?

19 A I'm there.

20 JUDGE BELL: Give us a second. Hold on.

21 JUDGE QUALTROUGH: Yeah, what's the number
22 again?

23 MR. ALLMON: 330.237.

24 JUDGE QUALTROUGH: 237?

25 Q (BY MR. ALLMON) Are you there?

1 A Yes.

2 Q Does this address facility access roads?

3 A It does.

4 Q And this would require all-weather roads be
5 platted within the facility?

6 A All-weather roads.

7 Q And then as -- is it also required that a
8 tracking of mud and debris onto public roadways shall be
9 minimized?

10 A Yes.

11 Q Now, at the 130EP facility, where is the wheel
12 wash located?

13 A I believe it's -- I'd have to go -- I believe
14 it's in that area -- oh, I'm sorry. It's labeled. It's
15 about halfway between the Citizens Convenience Center
16 and the transfer station.

17 Q So is that -- and we discussed the entrance
18 road outside the permit boundary is more than a mile
19 long here. Correct?

20 A Yes.

21 Q So is it -- it's fair to say that the wheel
22 wash is located more than a mile from the public
23 roadways?

24 A That's correct.

25 Q Now, is there potential for mud to develop onto

1 the trucks as they use that facility entrance road?

2 A I think the -- the road is concrete, and the
3 likelihood of mud is within the waste area where they're
4 unloading.

5 Q Is the road within the permit boundary?

6 A Part of the road is, and much of it is
7 without -- or is outside of.

8 Q In fact, as we said, more than a mile is
9 outside the permit boundary?

10 A Correct.

11 Q And is there any requirement that that road be
12 paved?

13 A The reference to all-weather would expect some
14 sort of coating -- some sort of surface that would allow
15 for all-weather access.

16 Q If something is outside the permit boundary,
17 does the TCEQ have jurisdiction to enforce that
18 provision?

19 A I think we do.

20 Q Okay.

21 A I don't work in enforcement, but I believe we
22 do.

23 Q But -- so do you know the answer to that or
24 not, if you don't work in enforcement?

25 A I -- I assume that we have the ability to

1 regulate anything that is required by the permit even
2 when it's outside of the permit boundary. For example,
3 we have trash pickup on roads that serve the facility
4 which is two miles in each direction, and that's all
5 outside the facility.

6 Q Okay. Now, why in this case was the entrance
7 road not fully enclosed within the permit boundary?

8 A It's how the Applicant proposed it.

9 Q And why did the TCEQ not require that it be
10 included within the permit boundary?

11 A We asked the -- it's challenging to define a
12 history on this, but my understanding is that the scale
13 and gate house, citizens collection center, any waste
14 unit must be within the permit boundary. And the
15 appurtenances must be within the permit boundary, but
16 appurtenance is not defined, and we have chosen to allow
17 access roads outside of the permit boundary.

18 Q So you don't consider this entrance road to be
19 an appurtenance to the facility?

20 A Not past the gate house.

21 Q Is this entrance road necessary for the
22 operation of the facility?

23 A Certainly.

24 Q How does the shape of the landfill footprint in
25 this case compare to landfill footprints you've seen in

1 other applications?

2 A It has far more curves.

3 Q Does it have far more curves than any other
4 application you've seen?

5 A I believe it does.

6 Q Okay. Does that impact the constructability of
7 the landfill?

8 A I don't know that I know that.

9 Q Okay. Could that impact, say, the -- do you
10 have an opinion as to whether that could impact the
11 stability of the landfill?

12 A I have no opinion on that.

13 Q That's not something that was within your
14 review?

15 A The stability information was in my review, but
16 an analysis of whether it is less stable due to these
17 curves was not part of my analysis.

18 Q So you don't have -- do you have an opinion as
19 to whether two-dimensional analysis is sufficient with a
20 landfill of this shape?

21 A I -- it's what I expect to see in an
22 application. I've not seen anything else. I don't have
23 any guidelines to recommend anything else for this type
24 of shape.

25 Q But do you have an opinion as to whether this

1 type of shape would require a level analysis beyond a
2 two-dimensional analysis?

3 A I do not.

4 Q Could you turn with me to Exhibit SO-5, Page 4?

5 A I'm sorry, Page 4.

6 Q Actually, Page -- yes, SO-5, Page 4.

7 A Okay.

8 Q And I'm looking at Item No. 19 specifically.

9 A Okay.

10 Q Here were you expressing a concern regarding
11 the supply of adequate water under pressure for
12 firefighting purposes?

13 A Yes.

14 Q And in the end, how was water for firefighting
15 purposes being provided by the Applicant?

16 A I don't recall without looking in the SOP.

17 Q Okay. Is the Applicant relying on the tank at
18 the transfer station?

19 A I've heard that discussion, but I don't recall
20 specifically.

21 Q Well, let's turn to Page -- Exhibit -- just to
22 refresh your memory --

23 A Sure.

24 Q -- Exhibit EP-5, Page 133.

25 A I'm going to put a couple things back, if

1 that's all right.

2 Q Sure.

3 A Are we headed for the site operating plan?

4 Q I believe so.

5 JUDGE BELL: Yes.

6 A Is that in 4?

7 JUDGE BELL: 5. It's in Volume 4 at the
8 end, Exhibit 5.

9 A That's confusing.

10 MR. VARGAS: What page was that?

11 MR. ALLMON: Page 133.

12 A I'm there.

13 Q (BY MR. ALLMON) Is this where the firefighting
14 is addressed in the SOP?

15 A Yes.

16 Q So this would be the section where you're
17 concern over adequate water under pressure would be
18 addressed?

19 A I believe so.

20 Q And in the final SOP, how was adequate water
21 for firefighting purposes provided? Is that addressed
22 in the third bullet from the top on Page 133?

23 A Oh, okay. Yes.

24 Q And how was that water -- how do they say it's
25 going to be provided?

1 A An adequate supply of water under pressure is
2 available for firefighting purposes, for the storage and
3 entrance facilities located within the entrance area.
4 These facilities include -- and then it's a number of
5 units. The supply of water under pressure is provided
6 from the above-ground storage tank located adjacent to
7 the transfer station as provided under Registration
8 40269.

9 Q Is that storage tank part of the transfer
10 station?

11 A It is.

12 Q Is there any requirement that the transfer
13 station be constructed as part of the landfill permit?

14 A No, although I would now argue they need to
15 build the tank either way, but I see the challenge.

16 Q So it would be -- so your interpretation would
17 be that this tank must be built whether the transfer
18 station is built or not?

19 A Correct.

20 Q Is that reflected anywhere in the permit?

21 A No.

22 Q Okay. Where is the water in this tank going to
23 come from?

24 A I don't know.

25 Q And so do you know what the pressure is of the

1 water going -- that's being supplied to the tank?

2 A I don't.

3 Q Now, does this supply water for any fires at
4 the facility, or does this only address fire at certain
5 portions of the facility?

6 A This is specifically addressing the areas on
7 the entrance road just inside the permit boundary. The
8 landfill, the waste footprint, is addressed through a
9 demonstration -- stockpiling of soils and a
10 demonstration that you can cover the largest active face
11 within one hour.

12 Q For what all purposes will water be required at
13 this facility? Well, it'll be required for firefighting
14 purposes?

15 A Firefighting, liner construction, sanitation.

16 Q Cleaning of the processing areas?

17 A Certainly.

18 Q And when we say "liner construction," are we
19 talking about the water that's necessary to reach
20 certain moisture contents?

21 A In the clay.

22 Q In the clay.

23 Can that be a rather significant amount of
24 water?

25 A I would think so.

1 Q Have you determined where the water for the
2 facility will be coming from?

3 A No.

4 Q What is being used for potable -- to supply
5 potable water at the facility?

6 A I believe we saw the other day that it
7 indicates that bottled water will be used.

8 Q Okay. And what is -- what all is potable water
9 needed for at a facility?

10 A I -- I don't know. Certainly for drinking.

11 Q Certainly for drinking. And so you've got the
12 landfill personnel as well as visitors. Is that
13 correct?

14 A Yes.

15 Q Does the application specify any particular
16 volume of bottled water that would be available?

17 A Don't believe so.

18 Q So if a person were just operating the
19 facility, there's nothing in the site operating plan to
20 tell them how much water to have on hand?

21 A That's true.

22 Q Do you have an opinion as to whether bottled
23 water is a sufficient supply of water for potable
24 purposes at a landfill?

25 A I have no opinion.

1 Q Okay. Could you turn with me, please, to
2 Exhibit SO-7?

3 A All right.

4 Q And what is this exhibit?

5 A This actually contains two checklists. The
6 application came in originally bifurcated, meaning I
7 received Parts 1 and 2 without the rest of the
8 application. 3 and 4 were provided with the response to
9 the first NOD on Parts 1 and 2. And so this -- I
10 created a checklist when 1 and 2 came in, and then I
11 created a checklist when 3 and 4 came in.

12 Q Okay.

13 A And they are both here.

14 Q Could you look with me to Page 112 of Exhibit
15 SO-7?

16 A Is that using the numbers on the Document 112
17 of 115?

18 Q Yes.

19 A Thank you.

20 Q 112 of 115.

21 A I'm there.

22 JUDGE QUALTROUGH: I have two 115s.

23 THE WITNESS: In the bottom right corner,
24 it would indicate 112 of 115.

25 JUDGE QUALTROUGH: But I have two pages --

1 JUDGE BELL: Looks like an extra.

2 THE WITNESS: It looks from here like
3 you're right at the front of that, and this is almost
4 all the way to the back.

5 JUDGE QUALTROUGH: What I'm saying is I
6 have two Page 1 of 115s, and the two Page 1s are
7 different.

8 MR. ALLMON: And if it would help, I'm
9 looking at Page 112, which the regulatory citation is
10 330.241(a). I believe the pages are in order of
11 regulatory citation, also.

12 JUDGE QUALTROUGH: Yeah, but I have
13 repeating page numbers.

14 MR. VARGAS: I think the second Page 1 is
15 Parts 3 and 4. It says date application received, and
16 it says Parts 3 and 4 written.

17 MR. ALLMON: And I'm looking at the last
18 Page 112.

19 A There will be a second title page, because I
20 maintained it for both of these, but the first group is
21 the title page for Parts 1 and 2, and then the second
22 page will be the title page, then I deleted all the 1
23 and 2 part and printed the 3 and 4 part.

24 JUDGE BELL: Got it.

25 THE WITNESS: So there is a second Page 1,

1 I'm sorry.

2 JUDGE QUALTROUGH: So just for exhibit
3 purposes, I've got SO-7 with more than one Page 1 of
4 115.

5 THE WITNESS: I understand.

6 JUDGE QUALTROUGH: Which is going to be
7 difficult to cite to. Okay.

8 THE WITNESS: Other than that one glitch
9 of that one page, the other page numbers are sequential.

10 JUDGE QUALTROUGH: So that's the only
11 duplicate is 1 of 115?

12 THE WITNESS: And it's not actually a
13 duplicate; it's two different Page 1s that I used at two
14 different times. They're both numbered the same, but
15 they aren't the same page.

16 MR. RYAN: Isn't there also a -- there are
17 also two Page 20s. It's the last page in the first one,
18 and the second page in the second one.

19 THE WITNESS: Sorry.

20 MR. RYAN: Could the --

21 JUDGE QUALTROUGH: Oh, I see.

22 MR. RYAN: In the second one, could the
23 first and second pages be labeled Page 1A of 115 and
24 Page 20A?

25 MR. VARGAS: We're fine with that.

1 JUDGE BELL: How about that?

2 JUDGE QUALTROUGH: That works.

3 JUDGE BELL: 1A and 20A?

4 MR. VARGAS: And then 1B and 20B, or just
5 1 and 1 -- or 1 and 20?

6 JUDGE BELL: 1 and 1A to 20 and 20A.

7 JUDGE QUALTROUGH: When we finish, we can
8 get the record marked, and you can tell me how to --

9 MR. VARGAS: Sorry about that.

10 JUDGE QUALTROUGH: That's okay. All
11 right. So we're -- I'm sorry.

12 JUDGE BELL: 112.

13 JUDGE QUALTROUGH: 112.

14 MR. ALLMON: Page 112.

15 JUDGE QUALTROUGH: There's only one 112.

16 Q (BY MR. ALLMON) And I'm looking at Page 112 of
17 Exhibit SO-7. Is over -- so this essentially a chart
18 that you completed in reviewing the application?

19 A This was the first review.

20 Q Okay.

21 A Once I go beyond the first NOD, I'm simply
22 using the first letter rather than coming back to this
23 checklist.

24 Q Okay. And I see we've got a title for
25 Overloading and Breakdown. And that -- I'm -- reflects

1 a requirement 330.241(a). Is that right?

2 A Yes.

3 Q And here, did you indicate that requirement is
4 not applicable?

5 A I did.

6 Q Now, at any point later, did you alter that
7 opinion that this is not applicable?

8 A No.

9 Q So throughout your review, you did not apply
10 that requirement?

11 A That's correct.

12 Q And what's the nature of that requirement?

13 A It's a -- it's from Subchapter D, which is site
14 operating requirements for storage and processing units.

15 Q And it essentially require -- does it require
16 that provisions be made for acceptance to be stopped for
17 that material once its -- the facility becomes full?
18 Put in a layman's terms, is that one of the
19 requirements?

20 A Or if there is some breakdown of equipment,
21 anything that would stop a processing, they would need
22 to account for how they're going to address it.

23 Q And why did you exempt this application from
24 that requirement?

25 A Because the concern was over nuisance and

1 odors.

2 Q Uh-huh.

3 A Now, I would have accounted for it in closure
4 costs, but I did not see it as an odor issue.

5 Q Do you have a note here that this is only
6 processing wood?

7 A Yes, I do.

8 Q As you evaluated it, did you assume that the
9 only waste processing was going to be for wood?

10 A I -- I did at this point, and I didn't come
11 back to this checklist.

12 Q Are white goods going to be accepted at this
13 facility?

14 A Yes.

15 Q And will those white goods potentially be
16 recycled?

17 A They -- yes.

18 Q Would that be processing of waste?

19 A If it's recycled, it's exempted from the
20 definition of solid waste. Materials segregated for
21 recycling are not solid waste.

22 Q Is the process of segregating those materials
23 constitute processing?

24 A Potentially, yes.

25 Q So the process of segregating those white goods

1 on-site would constitute the processing of waste?

2 A If the loads come in segregated, then I would
3 say no. If they are going to an area and being
4 processed, for example, if it were occurring at the
5 transfer station, then they would have accounted for
6 that possibility at the transfer station.

7 Q But is there the possibility this landfill, for
8 a load to come in containing white goods and -- well,
9 first, I'll back up.

10 When we use the term "white good," what
11 does "white good" refer to?

12 A Typically appliances and other large, bulky
13 items.

14 Q Like a refrigerator or an oven or something?

15 A Sure.

16 Q Is there -- could a waste load come in here
17 that contains a refrigerator and oven mixed in with
18 other solid waste?

19 A It could.

20 Q And if that were to happen, according to the
21 SOP, would the operator go through a process of
22 segregating those white goods from the other waste?

23 A Yes.

24 Q And does that constitute the processing of
25 solid waste?

1 A Yes.

2 Q So you didn't consider that processing in
3 applying this rule?

4 A I did not.

5 Q Now, does this facility have the provision for
6 accepting things like bricks and asphalt?

7 A Certainly.

8 Q And are those --

9 A I'm sorry. Do you mean as waste acceptance?

10 Q Yes, as waste that would be taken at the
11 facility.

12 A Absolutely.

13 Q And is there a provision made for those to be
14 reused for purposes at the landfill?

15 A I don't recall.

16 Q Would that constitute processing?

17 A If it were being separated from other
18 materials, it could be.

19 Q Did you consider that in the application of
20 this rule?

21 A I did not.

22 Q If we have processing for -- asphalt processing
23 for bricks and processing for white goods in addition to
24 wood processing, should the requirements of 330.241 A be
25 applied?

1 A They could.

2 Q But those weren't in this case?

3 A I don't believe so.

4 MR. ALLMON: Your Honor, if I could review
5 my notes for --

6 JUDGE BELL: Sure.

7 Q (BY MR. ALLMON) Could you turn with me --
8 staying here with SO-7, turn with me to Page 25.

9 A I'm there.

10 Q Under Sanitation, we have, Processing facility
11 designed for proper cleaning. Did you find it to be
12 technically adequate at this time of this form?

13 A It appears that I had problems with (b)(3) and
14 (b)(3)(A), not much here for this facility but reusable
15 material staging area does not discuss noninert
16 materials.

17 I don't recall exactly what I meant by
18 that at the time.

19 Q Is the -- in the ultimate application, is the
20 runoff from the inert material at the site controlled
21 prevent it from entering the waterways near the site?

22 A I'm sorry, which runoff?

23 Q Do we have inert materials storage facilities
24 here? Are there areas of the site where inert material
25 will be stored?

1 A Don't recall offhand. It wouldn't surprise me
2 if they had a gravel stockpile or something like that
3 somewhere. I don't recall it.

4 Q And do you know if there's any control for the
5 runoff from those areas?

6 A If there is a gravel area, for example, crushed
7 rock area, we wouldn't need runoff control.

8 Q And by "inert material," do you refer to
9 material such as brick and concrete?

10 A Correct.

11 Q If that entered the landfill, would that
12 constitute waste?

13 A Yes.

14 Q So would water that came into contact with that
15 brick and concrete constitute contaminated water?

16 A If it had been disposed.

17 Q Well, would it -- would it be contaminated
18 water as -- is contaminated water, water that has come
19 in contact with waste?

20 A Yes.

21 Q And so if the brick and concrete is waste,
22 would water that had come in contact with that be
23 contaminated?

24 A Yes.

25 Q And should that be controlled so that it is

1 disposed of?

2 A At the face, at the active face, absolutely.

3 Q If that's at a storage area outside of the
4 active face, would that still be required?

5 A I would argue that that is not a waste storage
6 area; that's materials that are going to be reused. And
7 recycled materials are exempted from the definition of
8 waste, of solid waste.

9 Q So it's your opinion that brick and concrete
10 accepted at this facility may not be waste, depending on
11 where it's put?

12 A I don't recall an area for its storage. If it
13 is disposed, it is waste. And water that contacts it
14 would be contaminated water.

15 Q If it's set aside for recycling or reuse?

16 A I would say it doesn't need runoff control.

17 Q Okay. Did you examine the seasonal high water
18 elevations at this site?

19 A Yes.

20 Q Okay. Did water reach a level that is above
21 the deepest extent of the excavation?

22 A No.

23 Q What is the highest water level that was
24 reached in wells of this height?

25 A I don't recall.

1 Q Is there a particular part of the application
2 that would be in?

3 A Certainly. It's a matter of finding it.

4 Q Could you look for that?

5 A Okay.

6 Q And could you refer us to where you're at?

7 A Applicant's Exhibit 130EP-3, Page 457.

8 Q Now, Page 457, that provides us with a map of
9 the piezometer. Is that correct?

10 A That's correct.

11 Q Does this show the seasonal high water levels?

12 A To the extent that there are water levels.

13 Q Okay. What is the highest seasonal high water
14 level that was recorded at the site?

15 A Let me go back to D7 and see if there is a
16 discussion.

17 Q Could you look with me on Page 457?

18 A That's where I was.

19 Q If we look at P1, that's the piezometer, the
20 upper left-hand figure there.

21 A Okay.

22 Q Is there a water level reflected at that
23 piezometer?

24 A 534.14.

25 Q How does that compare to the deepest extent of

1 the excavation at the site?

2 A Well, there are deeper points, but that point
3 is outside of the waste unit.

4 Q And is the excavation of the landfill just
5 immediately south of that location at approximately
6 530 feet above mean sea level?

7 A It is.

8 Q So in that area, was water observed at a depth
9 above the base of the excavation?

10 A Sorry. Is the piezometer located -- is the
11 water level in the piezometer outside of the waste
12 footprint --

13 Q Yeah, is the waste -- let me rephrase it.

14 Is the waste footprint in the area of that
15 piezometer extend to a depth below the water level
16 observed at that piezometer?

17 A It's hard to define "in the area of," but there
18 are parts of the landfill that are below that point.

19 Q Okay. Is there a potential for water to be in
20 contact with the side of the landfill in the area of P1,
21 if that water is at a level of 534.14 feet?

22 A With the side?

23 Q Yeah. Is there -- does the landfill have kind
24 of a side wall there in the excavation?

25 A Certainly.

1 Q Okay. If water is at a level within the ground
2 of approximately 534 feet, as observed in that
3 piezometer, in that area, is there the potential for
4 water to be in contact with the side wall of the
5 excavation?

6 A Well, I'm relying on the fact that the -- that
7 P7 is down to 525.45 and that no water was encountered
8 there.

9 Q Well, and I guess --

10 A If -- if the 526 -- I'm sorry. If the 534.14
11 were a plane that established the water surface, it
12 would be within the waste unit at that point.

13 Q And that's my question. So if water were
14 present in that area of P1, at 534 feet, it would be
15 above the depth of the excavation and on that side wall
16 there?

17 A If that level of groundwater continued into the
18 waste unit, it would be below -- the excavation would be
19 below the water table at that point.

20 Q And we described groundwater -- we looked at
21 seasonal high water levels because they do fluctuate
22 some, don't they?

23 A Absolutely.

24 Q Okay. Now, what is the impact of water is in
25 contact with the side wall of an excavation?

1 A It's a -- it's a construction issue, and it's
2 also a -- where is my word? -- it creates uplift on the
3 liner system.

4 Q Is that heave?

5 A I think heave is the response when you remove
6 soils and the removal of the upper pressure, the bottom
7 pressure will create an uplift --

8 Q I think you're right. I think uplift is the
9 better term when you're dealing with water.

10 Did the Applicant evaluate the potential
11 for uplift as a result of contact with groundwater?

12 A No.

13 Q So the Applicant didn't address the situation
14 where you had water in contact with a side wall of the
15 landfill?

16 A There -- their belief is that the excavation is
17 above the seasonal high water table.

18 Q Even though at this point, we have water in the
19 vicinity of the landfill at an elevation above the base
20 of the landfill?

21 A Again, it's challenging for me to define
22 vicinity, but yes, based on that data point, they still
23 believe that the excavation was above the seasonal high
24 water table.

25 Q Okay. Turn with me, please, back to Exhibit

1 SO-7.

2 A I'm there.

3 Q And look with me at, I believe, Page -- page
4 numbers are different -- Page 31.

5 A I'm there.

6 MR. ALLMON: Give me just a second.

7 Q (BY MR. ALLMON) Does Page 31 address the
8 requirements for storage and transfer units of the
9 facility?

10 A Under 330.63(d)(1)(A)?

11 Q Yes.

12 A Yes.

13 Q And at the time of initial submittal, did you
14 find those requirements to be technically adequate?

15 A I did not.

16 Q Does that requirement address that the
17 Applicant address a worst case spill?

18 A Yes, under -- under capital B.

19 Q Okay. And did the Applicant characterize the
20 worst case spill at the facility?

21 A I don't recall how, but I wouldn't have dropped
22 the deficiency if I didn't think they had.

23 Q Was this address -- was this -- now, this
24 applies to processing areas. Is that correct?

25 A Storage and transfer units.

1 Q Okay. So any area where waste is stored?

2 A Yes.

3 Q And which areas did you examine to determine
4 where worst case spill might occur?

5 A Don't recall.

6 Q So did you look at the -- or did anyone look at
7 the white goods storage area?

8 A I don't believe I did -- well, I -- I wasn't
9 looking at places where solid materials were stored; I
10 was looking at places where liquid waste would be by any
11 sort of waste storage tank would count. I don't recall
12 one here. There's -- the leachate storage tank, for
13 example.

14 Q Uh-huh.

15 A That would need secondary containment.

16 Q Now, could you look with me to Page 33 of SO-7?

17 A All right.

18 Q As I look at 330.339(b)(2)(A), does this
19 require evaluation of excavation recompaction of in-situ
20 or borrow source locations?

21 A Yes.

22 Q What are going to be the borrow source
23 locations here?

24 A I don't know.

25 Q So did you -- were you provided any details

1 regarding those borrow source locations?

2 A I don't recall how they responded to this.

3 Q Okay. Can you identify where in the
4 application this would have been addressed?

5 A Probably still in Attachment D7, which is where
6 we were before. D7 starts at Applicant's Exhibit
7 130EP-3, Page 422.

8 Q The liner quality control plan?

9 A Yes.

10 Q And are the borrow pits addressed anywhere in
11 this plan?

12 A I don't recall borrow pits being addressed
13 anywhere in the application.

14 Q But is it your understanding there will be
15 borrow pits at the site?

16 A It is not. I -- I don't know where the clay
17 will come from. I don't know where the soil will come
18 from other than the excavation. Any others they would
19 have to import.

20 Q Were you here for testimony indicating that it
21 was possible borrow pits could be placed at the site?

22 A Yes, that's my understanding.

23 Q But you've been provided no information on
24 those?

25 A That's correct.

1 Q Now, let me ask you to turn to Page 37, please.

2 A Still in the checklist?

3 Q Still in the checklist.

4 A Okay.

5 Q If we look at Page 37, we've got 330.339(c)(7)
6 regarding certain floor permeability tests. On Page 37
7 of 115, the second item from the bottom.

8 A I'm sorry, I had a page flipped. Okay. Page
9 37. And, I'm sorry, which rule?

10 Q The 330.339(c)(7).

11 A Yes.

12 Q Did you -- under Comments, what is the comment
13 that you made here?

14 A Letting this go, 1994 guidance doesn't require
15 for constructed liners.

16 Q So this is a requirement that you simply didn't
17 apply to this landfill?

18 A That's correct.

19 Q Do the rules provide any sort of exemption that
20 would exempt this landfill from that requirement?

21 A Clearly, I referenced the '94 guidance. Beyond
22 that, I don't recall.

23 Q So do the rules contain an exemption for this?

24 A There is a rule that says that the agency can
25 use guidance to clarify technical standards.

1 Q Is guidance allowed to override the rules?

2 A I would say -- I hope that doesn't exist. I'm
3 suggesting that where a guidance provides additional
4 clarification, that it would be followed.

5 Q Okay. Do you still have the rules up there
6 with you?

7 A Yes.

8 Q Could you turn with me to 330.339(c)(7)?

9 MR. ALLMON: And, Your Honor, I didn't
10 know if we wanted to go ahead and break. I do think I
11 have a fair amount more cross-examination. It's past
12 5:00 already.

13 JUDGE QUALTROUGH: If you've got more, I
14 assume Caldwell County has some.

15 MR. MAGEE: I just wanted to give an
16 update on that document that Mr. Bratton was getting for
17 us, the models. They'll be here any minute.

18 JUDGE QUALTROUGH: Okay.

19 MR. MAGEE: And if not, if you'll tell me
20 where to bring them to you, either to your office,
21 Brent, or wherever you want them. I mean, with traffic,
22 I don't think we can predict that they'll be here in two
23 minutes or 20 minutes, but they're on their way here.
24 That's the update that we have.

25 JUDGE QUALTROUGH: Okay.

1 JUDGE BELL: You've got more than 20
2 minutes?

3 MR. ALLMON: It's hard to judge. I think
4 so, yes.

5 JUDGE BELL: But then we've got redirect.

6 JUDGE QUALTROUGH: Yeah, so I don't think
7 we'll be done with this witness today.

8 JUDGE BELL: No.

9 JUDGE QUALTROUGH: So are you arguing to
10 keep going until the models get here? Is that -- we can
11 go off the record.

12 (Discussion off the record)

13 Q (BY MR. ALLMON) So turn with me again to
14 330.339(c)(7).

15 A Yes.

16 Q Does this rule at (c)(7) contain any exemption
17 for a landfill such as this?

18 A It does not.

19 Q Okay. So if the guidance were to contain such
20 an exemption, would it be contrary to this rule?

21 A I would need to read the guidance.

22 Q Okay. And you don't have that?

23 A No, I didn't bring it.

24 Q But it was based on that guidance alone that
25 you made this exemption?

1 A That's what my note indicates, yes.

2 Q And yet if we look just above it, on Page 37, I
3 see two places where you noted against '94 guidance. Do
4 you see those?

5 A I'm sorry, repeat that.

6 Q Staying on Page 37, looking in the Comments
7 column, are there certain things that were approved
8 where you noted against '94 guidance?

9 A I do see the note. I don't recall what I was
10 saying. I don't recall what I intended by that. I did
11 find the information, so I moved on.

12 Q So you didn't follow the 1994 guidance in other
13 cases. Is that correct?

14 A Based on what I see here, it looks like I
15 didn't have them remove information to be consistent
16 with the guidance.

17 Q So in some places you applied that guidance,
18 and some places you didn't?

19 A It appears that way.

20 Q And this place where you exempted them from
21 requirement is one place where you applied that
22 guidance?

23 A Yes.

24 Q Are the operating hours of the transfer station
25 consistent with the operating of the landfill in this

1 case?

2 A I don't know.

3 Q What are -- do you remember the operating hours
4 for the transfer station?

5 A No.

6 Q Is that 7 a.m. to 7 p.m.?

7 A I don't recall. The -- my next-door neighbor
8 reviewed the transfer station, and I wasn't part of that
9 review.

10 Q Okay. Could you look -- would it -- could it
11 cause a problem if the hours are inconsistent?

12 A I don't know.

13 Q That's not something you evaluated?

14 A Each authorization was evaluated on its own.

15 Q Would you look with me to Page 112 of SO-7?

16 A Okay.

17 Q Under Noise Pollution and Visual Screening, I
18 see a note. You say noise was addressed by operating
19 hours?

20 A I see that as well.

21 Q What are the operating hours for the facility?

22 A I believe it was 3 a.m. to 7 p.m. -- oh, I'm
23 sorry. The operating hours are 24/7.

24 Q Yes. And that's for heavy equipment?

25 A Those are hours during which heavy equipment

1 can be operated.

2 Q So how does 24/7 operation address noise?

3 A I do not recall what I meant by that note.

4 Q Okay. Does 24/7 operation create the potential
5 for nuisance noise?

6 A I'm sorry. We're in 332.39, which is operator
7 of a transfer station. It looks like I've made a
8 comment about the transfer station here, probably
9 because Charles Brown was my next-door neighbor, as I
10 said, and we did try to be consistent in what we were --
11 the deficiencies we were sending. We didn't want to
12 have a mixed message, him asking for something that I
13 wasn't or vice versa.

14 These are all marked "not applicable"
15 because there is no transfer station within -- I'm
16 sorry, it's within the permit boundary, but it is not
17 part of this authorization. So he would have addressed
18 that through his review of the transfer station
19 registration application.

20 Q Is there potential for the landfill to produce
21 noise that may cause a nuisance?

22 A Yes.

23 Q And are there any operating hour limitations
24 applicable to the landfill that would mitigate those
25 impacts?

1 A There are not.

2 Q Is the draft permit included in the exhibits to
3 your testimony?

4 A It's part of ED-SO-8.

5 Q Could you turn to that?

6 A And apologies again. This is a packet of
7 information that we send downstairs. There's -- there
8 are quite a few things within this paper clip.

9 The easiest to get to is right at the back
10 of this package. It doesn't have the "Draft" stamp on
11 it, but it is still the draft permit because no permit
12 has been issued. It's the same document but without the
13 "Draft" water mark.

14 Q And you have to give me a second. I also have
15 a hard time finding my way around this particular
16 exhibit.

17 And if you look with me, I'm looking
18 specifically at Page 4 of the draft permit, looking at
19 F. Does this include the paved entrance road within
20 the -- indicated that's within the permit?

21 A There is entrance road within the -- within the
22 permit boundary. There is also entrance road outside of
23 the permit boundary.

24 Q So is this reference in the permit intended to
25 include the entire entrance road or only that portion

1 within the permit boundary?

2 A I'm sorry, which reference?

3 Q The reference in heading F, that second
4 paragraph. It says, Waste disposal activity is confined
5 to the type -- that the Type I landfill will include,
6 and it lists certain things, including a paved entrance
7 road to the side when it says, The landfill will include
8 a paved entrance road.

9 Is that only the entrance road within the
10 permit boundary or the entire entrance road?

11 A I'm not sure I listed a paved entrance road to
12 the site, which I would guess is be outside the permit
13 boundary. And all-weather access roads are probably the
14 roads within the permit boundary. I don't recall making
15 that distinction.

16 Q So is it your indication -- intention here that
17 the paved entrance road is considered part of the Type I
18 landfill?

19 A It is a requirement of the landfill. Whether
20 we are authorizing that road is not clear to me, but it
21 is -- it is a feature of the landfill that some sort of
22 access must be in place. If they replaced it with a
23 second access road, a different access road, I don't
24 think there would be a problem. It would still be an
25 access road providing access from 183 to the permit

1 boundary.

2 Q How would one evaluate whether a different
3 access road was still in compliance with the terms of
4 this permit?

5 A It would need to meet the design requirements
6 of the current access road --

7 Q But --

8 A -- currently approved, currently proposed.

9 Q So are the -- so it could -- when you say "meet
10 the design requirements," which design requirements
11 would those be?

12 A The ones designated in the application. The
13 application is part of the draft permit by reference.

14 Q So -- but are you considering the location of
15 the road to be a design requirement?

16 A This is a level of detail I've not really
17 considered. The, An access road must be provided
18 outside the permit boundary. In accordance with the
19 current permit is where it is proposed to be located.
20 You -- you could modify your permit, as far as I can
21 see, to relocate that access road. Right now, it
22 couldn't be built somewhere else because there's no
23 permit. Once the permit is issued, it could be modified
24 to be relocated.

25 Q Okay. Does it currently provide access to the

1 facility via Highway 183?

2 A I'm sorry, the proposed road, or is there an
3 actual road?

4 Q The proposed entrance road. Does it go to 183?

5 A It would go from 183 to the permit boundary.

6 Q But, now, you've just said that they would be
7 allowed to move that road within the terms of the
8 permit.

9 A I said if they had a permit, and they were to
10 modify their permit, I don't think relocation of that
11 road outside the permit boundary would be an issue. It
12 would still need to go from 183 to the permit boundary,
13 to the gate house.

14 Q So would they be able to locate it down to
15 1185?

16 A No.

17 Q And what is it in the permit that makes that
18 distinction?

19 A Well, because changing an entrance road is --
20 there are -- is a provision in 305.70 for changes to an
21 entrance that have an effect on traffic. Going to a
22 different road would be an effect to traffic. It could
23 be changed. It would just be a -- I would have to speak
24 to my management to see what authorization would be
25 required but probably a notice modification at least.

1 Q Is it your understanding as to whether the
2 Applicant has any ownership in the property at this
3 point in time?

4 A I don't believe they do.

5 Q Do they have any easements of any nature on the
6 property at this time?

7 A The -- the landowner is listed within the
8 permit -- within the application -- within the draft
9 permit. The -- the landowner of the proposed facility
10 is also the landowner of the extra property. You all
11 referred to the tract. I'm sorry, I don't recall her
12 name.

13 Q Hunter tract?

14 A Yes. So I'm sorry, what was the original
15 question?

16 Q Well, I asked you if the Applicant has any
17 ownership interest in the property.

18 A I said I don't believe so.

19 Q Okay. And then I asked you if they had any
20 ownership of any nature in the property.

21 A Not that I know of.

22 Q Is the Applicant required to ensure access to
23 the facility by the TCEQ?

24 A Yes.

25 Q Okay. And how can the Applicant ensure that

1 access if they don't own the property that is necessary
2 to access the facility?

3 A Sorry, could you ask that again?

4 Q How could the Applicant ensure access to this
5 facility if the Applicant is not the owner of the
6 entrance road nor is the owner of an easement for the
7 entrance road?

8 A Because the landowner has also signed an
9 affidavit as part of the application, a certification
10 that -- I should go to the certification. But the
11 landowner is involved in the process even though the
12 Applicant, to my knowledge, does not currently own the
13 property.

14 Q Is the landowner the permittee?

15 A I don't think so.

16 Q So is the landowner in any way bound by the
17 terms of the permit, going forward?

18 A If she's still the landowner -- if the land
19 were not transferred, she would still be -- the
20 certification indicates that she is jointly or
21 individually responsible for what may occur here. I'm
22 not sure I can answer your question. I'm sorry.

23 Q But do the requirements of the permit apply to
24 that landowner?

25 A I don't know.

1 Q Is she one of the entities being regulated by
2 this permit?

3 A By this permit is the challenging part. She is
4 certainly responsible for what -- she is somewhat
5 responsible partially or -- I'm sorry, there's a certain
6 phrase in the certification -- but she has some
7 responsibility for what occurs here. If land were -- if
8 the -- if there were -- I'm sorry. Beyond that, I don't
9 know.

10 Q So could the TCEQ, pursuant to this permit,
11 force that landowner to install this entrance road?

12 MR. TATU: I'm going to object, Judge.
13 This is the same question being asked multiple times in
14 different forms. It's 5:29, and we're asking the same
15 question over and over again.

16 JUDGE BELL: I tend to agree with that. I
17 think it's been asked and answered. Are you at a point
18 where you can break now?

19 MR. ALLMON: Yeah, I'm at a stopping
20 point. I was going to move on to another line of
21 questioning.

22 JUDGE BELL: Okay. That's good. Then
23 let's break for the day and reconvene at 9 a.m. in the
24 morning. Thank you.

25 (Proceedings recessed at 5:29 p.m.)

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C E R T I F I C A T E

STATE OF TEXAS)
COUNTY OF TRAVIS)

We, Jodi Cardenas and Lorrie A. Schnoor,
Certified Shorthand Reporters in and for the State of
Texas, do hereby certify that the above-mentioned matter
occurred as hereinbefore set out.

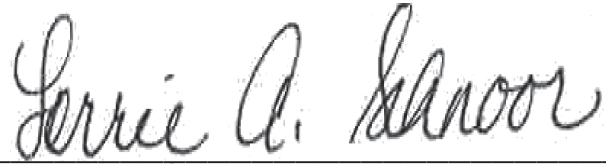
WE FURTHER CERTIFY THAT the proceedings of
such were reported by us or under our supervision, later
reduced to typewritten form under our supervision and
control and that the foregoing pages are a full, true,
and correct transcription of the original notes.

IN WITNESS WHEREOF, we have hereunto set our
hand and seal this 8th day of September, 2016.

JODI CARDENAS, RPR
Certified Shorthand Reporter
CSR No. 7594-Expires 12/31/16

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LORRIE A. SCHNOOR, RDR, CRR
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