

<p style="text-align: right;">1</p> <p>1 SOAH DOCKET NO. 582-22-0585</p> <p>2 TCEQ DOCKET NO. 2021-1001-MWD</p> <p>3</p> <p>4 APPLICATION OF) BEFORE THE STATE OFFICE</p> <p>5 CITY OF GRANBURY, FOR)</p> <p>6 TPDES PERMIT NO.) OF</p> <p>7 WQ0015821001)</p> <p>8) ADMINISTRATIVE HEARINGS</p> <p>9</p> <p>10 HEARING ON THE MERITS</p> <p>11 Monday, March 7, 2022</p> <p>12 (Via Zoom Videoconference)</p> <p>13</p> <p>14</p> <p>15 BE IT REMEMBERED THAT at 9:00 a.m., on Monday,</p> <p>16 the 7th day of March 2022, the above-entitled matter</p> <p>17 came on for hearing at the State Office of</p> <p>18 Administrative Hearings, William P. Clements, Jr.</p> <p>19 Building, 300 West 15th Street, Austin, Texas, before</p> <p>20 PRATIBHA J. SHENOY and SARAH STARNES, Administrative Law</p> <p>21 Judges, and the following proceedings were reported</p> <p>22 remotely by Lorrie A. Schnoor, LuAnn M. Gill, and Kim</p> <p>23 Pence, Certified Shorthand Reporters.</p> <p>24</p> <p>25 Volume 1 Pages 1 - 174</p>	<p style="text-align: right;">3</p> <p>1 APPEARANCES</p> <p>2 FOR THE EXECUTIVE DIRECTOR OF THE TEXAS COMMISSION ON</p> <p>3 ENVIRONMENTAL QUALITY:</p> <p>4</p> <p>5 Mr. Anthony Tatu</p> <p>6 Ms. Mattie Isturiz</p> <p>7 Environmental Law Division</p> <p>8 12100 Park 35 Circle, Building A, MC-173</p> <p>9 Post Office Box 13087</p> <p>10 Austin, Texas 78711-3087</p> <p>11 Telephone: 512-239-0600</p> <p>12 email: anthony.tatu@tceq.texas.gov</p> <p>13 mattie.isturiz@tceq.texas.gov</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>
<p style="text-align: right;">2</p> <p>1 APPEARANCES</p> <p>2</p> <p>3 FOR APPLICANT:</p> <p>4 Mr. Jason Hill</p> <p>5 J.T. HILL, PLLC</p> <p>6 3508 Far West Boulevard, Suite 170</p> <p>7 Austin, Texas 78731</p> <p>8 Telephone: 512-806-1060</p> <p>9 email: jason@jthill.com</p> <p>10 FOR PROTESTANTS GRANBURY FRESH AND VICTORIA CALDER:</p> <p>11 Mr. Eric Allmon</p> <p>12 Mr. John Bedecarre</p> <p>13 PERALES, ALLMON & ICE, P.C.</p> <p>14 1206 San Antonio Street</p> <p>15 Austin, Texas 78701</p> <p>16 Telephone: 512-469-6000 - Fax: 512-482-9346</p> <p>17 email: eallmon@txenvirolaw.com</p> <p>18 johnb@txenvirolaw.com</p> <p>19 FOR PROTESTANTS JAMES AND STACY RIST AND BENNETT'S</p> <p>20 CAMPING CENTER & RV RANCH:</p> <p>21 Mr. Michael J. Booth</p> <p>22 BOOTH & ASSOCIATES, P.C.</p> <p>23 5701 West Slaughter Lane, Suite A130</p> <p>24 Austin, Texas 78749</p> <p>25 Telephone: 512-472-3263 - Fax: 512-473-2609</p> <p>email: mjb@baw.com</p> <p>FOR THE OFFICE OF PUBLIC INTEREST COUNSEL OF THE TEXAS</p> <p>COMMISSION ON ENVIRONMENTAL QUALITY:</p> <p>Mr. Garrett Arthur</p> <p>Ms. Amanda Pesonen</p> <p>Assistant Public Interest Counsel</p> <p>12100 Park 35 Circle, Building F</p> <p>Post Office Box 13087, MC-103</p> <p>Austin, Texas 78711-3087</p> <p>Telephone: 512-239-5757 - Fax: 512-239-6377</p> <p>email: garrett.arthur@tceq.texas.gov</p> <p>amanda.pesonen@tceq.texas.gov</p>	<p style="text-align: right;">4</p> <p>1 P R O C E E D I N G S</p> <p>2 MONDAY, MARCH 7, 2022</p> <p>3 (9:00 a.m.)</p> <p>4 JUDGE SHENOY: Let's go on the record. I</p> <p>5 am calling today the hearing on the merits in SOAH</p> <p>6 Docket No. 582-22-0585. It is TCEQ Docket</p> <p>7 No. 2021-1001-MWD. It's the Application of the City of</p> <p>8 Granbury for Texas Pollutant Discharge Elimination</p> <p>9 System Permit No. WQ0015821001.</p> <p>10 My name is Pratibha Shenoy, along with</p> <p>11 Sarah Starnes. We are the Administrative Law Judges</p> <p>12 from the State Office of Administrative Hearings who are</p> <p>13 assigned to preside in this proceeding. It is March 7,</p> <p>14 2022, just past nine o'clock in the morning. This</p> <p>15 hearing is being convened via Zoom videoconference, and</p> <p>16 I will start by taking appearances for the Applicant,</p> <p>17 please.</p> <p>18 MR. HILL: Judges, my name is Jason Hill.</p> <p>19 I am the attorney for the Applicant, City of Granbury.</p> <p>20 JUDGE SHENOY: Thank you.</p> <p>21 For the Protestants, Granbury Fresh.</p> <p>22 MR. BEDECARRE: Good morning, Your Honor.</p> <p>23 My name is John Bedecarre. I'm here on behalf of</p> <p>24 Granbury Fresh and Victoria Calder.</p> <p>25 MR. ALLMON: And good morning, Your Honor.</p>

<p>5</p> <p>1 My name is Eric Allmon. I am also here on behalf of 2 Granbury Fresh and Victoria Calder.</p> <p>3 JUDGE SHENOY: Okay. Thank you. 4 For the Protestants, the Rists and 5 Bennett's RV.</p> <p>6 MR. BOOTH: Your Honor, Michael Booth for 7 the Rists and Bennett RV.</p> <p>8 JUDGE SHENOY: Okay. Thank you. 9 For OPIC, the Office of Public Interest 10 Counsel.</p> <p>11 MR. ARTHUR: Good morning, Judges. 12 Garrett Arthur for the Office of Public Interest 13 Counsel, and I have co-counsel that will introduce 14 herself. Thank you.</p> <p>15 MS. PESONEN: Good morning, Your Honors. 16 My name is Amanda Pesonen, also with the Office of 17 Public Interest Counsel.</p> <p>18 JUDGE SHENOY: Thank you very much. 19 And for the Executive Director.</p> <p>20 MR. TATU: Good morning, Your Honors. For 21 the record, Anthony Tatu on behalf of the Executive 22 Director, and I'll ask my co-counsel to introduce 23 herself.</p> <p>24 MS. ISTURIZ: Good morning, Your Honors. 25 I'm Mattie Isturiz, also here on behalf of the Executive</p>	<p>7</p> <p>1 So let me start with opening statements. 2 Please keep them brief if you have them. Would the 3 Applicant...</p> <p>4 OPENING STATEMENT ON BEHALF OF APPLICANT</p> <p>5 MR. HILL: Thank you, Judges. Good 6 morning, everyone. I'm happy to be here on behalf of 7 the City of Granbury. In September of 2019, the City of 8 Granbury filed the application for this wastewater 9 discharge permit. The record is clear with respect to 10 the administrative record that was admitted into the 11 record prehearing -- or the preliminary hearing, 12 rather -- in this contested case.</p> <p>13 Your Honor, we believe the application 14 obviously speaks for itself. We know the Protestants 15 have other things to say about it. I will say that the 16 City of Granbury has worked very hard through its 17 consultants Enprotec/Hibbs & Todd to put together a 18 facility that will be matched by few in its treatment 19 capability and its technology and its capability of 20 protecting water quality, human health, and the 21 environment.</p> <p>22 It's also abundantly clear through the 23 case that the City will put on, particularly through 24 Dr. Perryman, that this facility is urgently needed for 25 the city of Granbury. The City has existing capacity</p>
<p>6</p> <p>1 Director.</p> <p>2 JUDGE SHENOY: Okay. Great. Have I 3 missed anyone for appearances? I don't believe so. I 4 think we have witnesses and maybe some folks watching 5 with us. I will just say before we get right into it 6 that we are in a virtual hearing room; but, nonetheless, 7 we are in a formal hearing, so please act with 8 appropriate decorum.</p> <p>9 Importantly for a Zoom hearing, please be 10 careful not to talk over each other, because the court 11 reporter will not be able to hear anything and will not 12 be able to make a record for our hearing.</p> <p>13 As I mentioned before we went on the 14 record, this proceeding is being livestreamed on YouTube 15 on the State Office of Administrative Hearings' channel. 16 You can go to the web page, www.soah -- S-O-A-H -- 17 .texas.gov, and look for the YouTube channel.</p> <p>18 Related to that, the live stream will 19 remain on even when we take breaks during this hearing. 20 So be aware that that will be continually streaming in 21 the background and mute yourself and also turn your 22 video off or else you will be visible on the YouTube 23 stream during breaks.</p> <p>24 MR. BOOTH: Good to know. 25 JUDGE SHENOY: That's right.</p>	<p>8</p> <p>1 issues that have compelled the city council to institute 2 building moratoria, which has locked down development 3 within the city of Granbury. So the necessary move by 4 the city council wasn't a gratuitous one for sure, and 5 it will have to remain in place until additional 6 treatment capacity is permitted and ultimately 7 constructed.</p> <p>8 You'll hear from Mr. Crawford, who is the 9 head of the Public Works division for the City of 10 Granbury. He will -- his testimony will lay that issue 11 out quite clear. And you'll hear from Dr. Perryman 12 about the implications and the costs and constraints on 13 the Granbury economy and the important economic and 14 social development impacts that the absence of this 15 permit will create for the city of Granbury.</p> <p>16 Obviously, Your Honors, the application is 17 prima facie evidence that the City has met all 18 applicable federal, state, and local requirements, that 19 the draft permit is protective of health and -- public 20 health and the environment, and we look forward to 21 putting on our additional evidence to further support 22 that point.</p> <p>23 Thank you, Judges. 24 JUDGE SHENOY: Thank you, Mr. Hill. 25 Would any of the Protestants, either</p>

<p style="text-align: right;">9</p> <p>1 Granbury Fresh or the Rists and Bennett's RV, like to 2 make an opening statement now or at the beginning of 3 your case-in-chief? 4 MR. ALLMON: Your Honor, Granbury Fresh 5 can go ahead and make a brief opening statement at this 6 point. 7 JUDGE SHENOY: Okay. Please go ahead. 8 OPENING STATEMENT ON BEHALF OF 9 PROTESTANTS GRANBURY FRESH AND VICTORIA CALDER 10 MR. ALLMON: Yes. We're here to consider 11 the Application of the City of Granbury. This 12 application raises significant water quality concerns, 13 and modeling by the Executive Director did not even show 14 this met requirements for dissolved oxygen, which is 15 intended to protect aquatic life. 16 Furthermore, Lake Granbury has significant 17 water quality problems for bacteria, as measured by E. 18 coli, particularly in coves of Lake Granbury where there 19 is little circulation, such as Rucker Creek cove, where 20 this discharge will ultimately go into without any 21 dilution essentially prior to reaching that cove. 22 Furthermore, there are buffer zone issues 23 at this facility. The anaerobic units at the facility 24 are in direct violation of the explicit language of the 25 TCEQ rules, and it must be denied on that basis alone.</p>	<p style="text-align: right;">11</p> <p>1 I neglected to say that you were making your opening on 2 behalf of Dr. Calder as well as Granbury Fresh. So 3 thank you. 4 Mr. Booth? 5 OPENING STATEMENT ON BEHALF OF PROTESTANTS 6 JAMES AND STACY RIST AND 7 BENNETT'S CAMPING CENTER & RV RANCH 8 MR. BOOTH: Yes, I'd like to make a small 9 statement on behalf of the Rists and Bennett RV Ranch. 10 First of all, it's not our fault that 11 Granbury is at its point where it is, and we recognize 12 that they're having problems with their wastewater 13 capacity at the moment. And we'll go through there 14 and -- through the case and clarify all of these issues 15 that they could have done this quicker. 16 And they should have done a little bit 17 more background on the water quality using their models 18 as opposed to the Staff. And a lot of this delay is 19 their fault. And that's sad, and we're, you know, 20 having this delay -- concentrated hearing because the 21 statute requires it, although I question the due process 22 of anybody protesting one of these applications. 23 But the City out of -- this is a brand-new 24 plant. They chose to locate it, as we'll demonstrate, 25 in a pretty bad area as far as topography and size. And</p>
<p style="text-align: right;">10</p> <p>1 Furthermore, with regard to need, we do 2 not contest as to whether there may be some sort of need 3 for treatment capacity in this area. That's not the 4 issue in this case. The issue is whether there is a 5 need for this discharge, for this particular plant. 6 That, we think, has not been shown. 7 The instructions for the completion of the 8 application have not even been followed with regard to 9 whether or not there is a need for this facility. For 10 each of these -- for each of these reasons, we believe 11 the -- we think demonstrate that the application should 12 be denied. 13 With regard to the prima facie 14 demonstration, I will note that Chairman Niermann has 15 been very clear that the Protestants' only burden is a 16 burden of production, which is a fact issue on an issue. 17 We are not required to demonstrate that this violates a 18 requirement. We do not have a burden of persuasion. 19 The Applicant bears the burden of proof throughout the 20 proceeding, and the Applicant in this matter has not met 21 the burden of proof. 22 We believe the evidence will show the 23 permit should be denied due to the Applicant's failure 24 to meet its burden of proof. Thank you very much. 25 JUDGE SHENOY: Thank you, Mr. Allmon. And</p>	<p style="text-align: right;">12</p> <p>1 they chose to locate it right next to my client's 2 property and butted up, even with the buffer, next to 3 his property line. We believe it's going to cause a lot 4 of impacts. We'll bring that out in testimony, in 5 cross. But this isn't our fault; this is the City of 6 Granbury's fault. And thank you very much. 7 JUDGE SHENOY: Thank you, Mr. Booth. 8 Mr. Arthur or Ms. Pesonen for OPIC, do you 9 wish to make any statement? 10 MR. ARTHUR: Your Honor, I have no opening 11 statement. Thank you. 12 JUDGE SHENOY: Thank you. 13 Mr. Tatu or Ms. Isturiz for the Executive 14 Director? 15 MR. TATU: Your Honor, we'll waive opening 16 statement. Thank you. 17 JUDGE SHENOY: All right. Thank you very 18 much. 19 So with that, I believe we're ready to 20 proceed to the witnesses. For the Protestants, we had 21 discussed at our prehearing conference that the first 22 witness would be Ms. Rist for herself and her husband 23 and for Bennett's RV presented by Mr. Booth, but I 24 understand that Ms. Rist is going to be waived as a 25 witness. If anyone believes that they do have questions</p>

13	<p>1 for her, please speak up now.</p> <p>2 (No response)</p> <p>3 JUDGE SHENOY: Okay. Given that, is there</p> <p>4 any objection to the admission of Ms. Rist's testimony</p> <p>5 as sworn testimony for this proceeding? And it's not</p> <p>6 numbered. I will number it Rist and Bennett Exhibit 1.</p> <p>7 MR. BOOTH: Thank you, ma'am. I noticed</p> <p>8 that when I was looking through.</p> <p>9 (Exhibit Rist and Bennett No. 1 offered)</p> <p>10 JUDGE SHENOY: Okay.</p> <p>11 MR. HILL: Applicant has no objection.</p> <p>12 JUDGE SHENOY: I'm sorry, Mr. Hill?</p> <p>13 MR. HILL: Applicant has no objection.</p> <p>14 JUDGE SHENOY: Okay. And I'm looking</p> <p>15 around. Does not look like anyone has any other</p> <p>16 objection, so Rist and Bennett Exhibit 1 is admitted.</p> <p>17 (Exhibit Rist and Bennett No. 1 admitted)</p> <p>18 JUDGE SHENOY: The next witness I have is</p> <p>19 Dr. Victoria Calder, and it looks like Dr. Calder is</p> <p>20 there with us.</p> <p>21 THE WITNESS: Thank you.</p> <p>22 JUDGE SHENOY: All right. And,</p> <p>23 Dr. Calder, if you could raise your right hand.</p> <p>24 (Witness sworn)</p> <p>25 JUDGE SHENOY: Thank you. Mr. Allmon or</p>	15	<p>1 the record?</p> <p>2 (No response)</p> <p>3 JUDGE SHENOY: And seeing none, Granbury</p> <p>4 Fresh exhibit -- or exhibits for Dr. Calder are</p> <p>5 admitted.</p> <p>6 (Exhibit GF No. 100 admitted)</p> <p>7 MR. ALLMON: Your Honor, with that we</p> <p>8 would pass the witness for cross-examination.</p> <p>9 JUDGE SHENOY: Thank you.</p> <p>10 And going by the order of cross that we</p> <p>11 had, OPIC would be first.</p> <p>12 MR. ARTHUR: Thank you, Judge. I have no</p> <p>13 questions for Dr. Calder at this time. Thank you. I</p> <p>14 pass the witness.</p> <p>15 JUDGE SHENOY: Thank you.</p> <p>16 For the Executive Director?</p> <p>17 MR. TATU: Thank you, Your Honor. We have</p> <p>18 no questions for Dr. Calder. We pass the witness.</p> <p>19 JUDGE SHENOY: Very good.</p> <p>20 Mr. Hill?</p> <p>21 MR. HILL: I do have just a few questions.</p> <p>22 CROSS-EXAMINATION</p> <p>23 BY MR. HILL:</p> <p>24 Q Good morning, Dr. Calder.</p> <p>25 A Good morning.</p>
14	<p>1 Mr. Bedecarre, you may proceed.</p> <p>2 MR. ALLMON: Yes, Your Honor. This is</p> <p>3 Mr. Allmon. I will be presenting Dr. Calder this</p> <p>4 morning.</p> <p>5 PRESENTATION ON BEHALF OF PROTESTANTS</p> <p>6 GRANBURY FRESH AND VICTORIA CALDER</p> <p>7 VICTORIA CALDER, PH.D.,</p> <p>8 having been first duly sworn, testified as follows:</p> <p>9 DIRECT EXAMINATION</p> <p>10 BY MR. ALLMON:</p> <p>11 Q Dr. Calder, have you reviewed your prefiled</p> <p>12 testimony, which is marked as Exhibit GF-100 in this</p> <p>13 matter?</p> <p>14 A Yes, I have.</p> <p>15 Q And is this the testimony you would provide if</p> <p>16 you were to testify under oath today in this proceeding?</p> <p>17 A Yes, it is.</p> <p>18 Q Okay.</p> <p>19 MR. ALLMON: Your Honor, we would offer</p> <p>20 Exhibit GF-100.</p> <p>21 (Exhibit GF No. 100 offered)</p> <p>22 JUDGE SHENOY: Okay. And all -- any and</p> <p>23 all prefiled objections were overruled and will go to</p> <p>24 the weight. So are there any other objections that have</p> <p>25 not already been made that anyone wishes to raise for</p>	16	<p>1 Q Would you describe your Ph.D.? What is your</p> <p>2 Ph.D. in?</p> <p>3 A Oh. My Ph.D. is in educational psychology.</p> <p>4 Q Okay. And where did you receive that Ph.D.</p> <p>5 from?</p> <p>6 A The University of Texas in Austin.</p> <p>7 Q All right. When was that, Dr. Calder?</p> <p>8 A It was completed in 1984.</p> <p>9 Q Okay. Do you have a master's degree?</p> <p>10 A Yes, I do.</p> <p>11 Q And what is your master's degree in?</p> <p>12 A It's in school psychology.</p> <p>13 Q Where did you obtain that from?</p> <p>14 A The University of North Texas.</p> <p>15 Q What year was that, Dr. Calder?</p> <p>16 A Oh, let's see. I believe it was 1976.</p> <p>17 Q Okay. And then I'll end the list here with</p> <p>18 your undergraduate degree. What degrees or degree did</p> <p>19 you receive?</p> <p>20 A Psychology.</p> <p>21 Q Okay.</p> <p>22 A Master of science.</p> <p>23 Q Where did you receive those degrees from?</p> <p>24 A The University of Texas at Arlington.</p> <p>25 Q You ever been formally trained as a</p>

<p>1 hydrogeologist?</p> <p>2 A No.</p> <p>3 Q Have you ever provided hydrogeology services</p> <p>4 for anyone?</p> <p>5 A No.</p> <p>6 Q Okay. What about hydrology? Have you ever</p> <p>7 been trained as a hydrologist?</p> <p>8 A No.</p> <p>9 Q Okay. Have you ever provided hydrology</p> <p>10 services for anyone?</p> <p>11 A No.</p> <p>12 Q Okay. What about in aquatic biology?</p> <p>13 Dr. Calder, have you ever been trained in aquatic</p> <p>14 biology?</p> <p>15 A No.</p> <p>16 Q All right. And then have you ever provided</p> <p>17 aquatic biology services for anyone?</p> <p>18 A No.</p> <p>19 MR. HILL: That's it. Thank you,</p> <p>20 Dr. Calder.</p> <p>21 Pass the witness.</p> <p>22 JUDGE SHENOY: Mr. Allmon, do you have any</p> <p>23 redirect?</p> <p>24 MR. ALLMON: No. We have no redirect.</p> <p>25 JUDGE SHENOY: Okay. Thank you very much,</p>	<p>17</p>	<p>1 Fresh 200 is admitted.</p> <p>2 (Exhibit GF No. 200 admitted)</p> <p>3 JUDGE SHENOY: Okay. So, Mr. Nolte,</p> <p>4 you've been waived as a witness, so you're welcome to</p> <p>5 continue to observe if you'd like, but we won't be</p> <p>6 calling you to testify.</p> <p>7 THE WITNESS: Okay. Thank you very much,</p> <p>8 Your Honor.</p> <p>9 JUDGE SHENOY: Okay. So Mr. Esmond was</p> <p>10 next.</p> <p>11 MR. ALLMON: Yes, Your Honor. At this</p> <p>12 point Granbury Fresh and Dr. Victoria Calder would call</p> <p>13 Mr. Steven Esmond.</p> <p>14 JUDGE SHENOY: And Mr. Esmond, can you</p> <p>15 hear me?</p> <p>16 THE WITNESS: I can hear you.</p> <p>17 JUDGE SHENOY: Okay. Great. If you could</p> <p>18 raise your right hand.</p> <p>19 (Witness sworn)</p> <p>20 JUDGE SHENOY: Okay. And, Mr. Allmon, you</p> <p>21 may proceed.</p> <p>22 STEVEN E. ESMOND, P.E.,</p> <p>23 having been first duly sworn, testified as follows:</p> <p>24 DIRECT EXAMINATION</p> <p>25</p>	<p>19</p>
<p>1 Dr. Calder. Appreciate it.</p> <p>2 THE WITNESS: Thank you, Your Honor.</p> <p>3 JUDGE SHENOY: And I believe Mr. Nolte is</p> <p>4 next. I'm looking for him on my screen here.</p> <p>5 MR. HILL: Your Honor, if I may, I</p> <p>6 apologize. I was remiss. I -- the City of Granbury</p> <p>7 doesn't have any questions for Mr. Nolte.</p> <p>8 JUDGE SHENOY: Okay. So, then, let me</p> <p>9 ask, Mr. Nolte, if you could just hang on.</p> <p>10 Does OPIC have any questions for</p> <p>11 Mr. Nolte?</p> <p>12 MR. ARTHUR: I do not, Your Honor.</p> <p>13 JUDGE SHENOY: And Mr. Tatu or Ms. Isturiz</p> <p>14 for the Executive Director?</p> <p>15 MR. TATU: No questions for Mr. Nolte.</p> <p>16 Thank you.</p> <p>17 JUDGE SHENOY: Okay. So it appears</p> <p>18 Mr. Nolte may be waived as a witness. His exhibit was</p> <p>19 Granbury Fresh 200. Is there any objection other than</p> <p>20 the prefiled objections that were overruled to</p> <p>21 Mr. Nolte's testimony being admitted as sworn testimony</p> <p>22 for this proceeding?</p> <p>23 (Exhibit GF No. 200 offered)</p> <p>24 (No response)</p> <p>25 JUDGE SHENOY: And hearing none, Granbury</p>	<p>18</p>	<p>1 BY MR. ALLMON:</p> <p>2 Q Mr. Esmond, have you reviewed your prefiled</p> <p>3 testimony in this matter which is marked as GF-300?</p> <p>4 A Yes, I have.</p> <p>5 Q And is that testimony the same testimony you</p> <p>6 would provide if you were to testify live here in this</p> <p>7 proceeding today?</p> <p>8 A Yes, it is.</p> <p>9 Q And do those associated exhibits remain as you</p> <p>10 described them in your prefiled testimony?</p> <p>11 A That's correct.</p> <p>12 Q Okay.</p> <p>13 MR. ALLMON: Your Honor, we would offer</p> <p>14 the testimony of Steven Esmond, Exhibit GF-300 and</p> <p>15 associated exhibits.</p> <p>16 (Exhibit GF Nos. 300 through 307 offered)</p> <p>17 JUDGE SHENOY: Okay. And all prefiled</p> <p>18 exhibits having been overruled, are there any other</p> <p>19 objections that need to be raised for the record as to</p> <p>20 Mr. Esmond's testimony?</p> <p>21 (No response)</p> <p>22 JUDGE SHENOY: Hearing none, Granbury</p> <p>23 Fresh Exhibits 300 through 307, which I believe is</p> <p>24 inclusive of all the exhibits to Mr. Esmond's testimony</p> <p>25 are admitted.</p>	<p>20</p>

21	<p>1 (Exhibit GF Nos. 300 through 307 admitted)</p> <p>2 MR. ALLMON: And, Your Honor, with that,</p> <p>3 we would -- Granbury Fresh and Dr. Victoria Calder pass</p> <p>4 the witness for cross-examination.</p> <p>5 JUDGE SHENOY: All right. OPIC?</p> <p>6 CROSS-EXAMINATION</p> <p>7 BY MR. ARTHUR:</p> <p>8 Q Good morning. Oh, I'm a little confused.</p> <p>9 We've got two Mr. Esmond tiles.</p> <p>10 Okay. So good morning, Mr. Esmond. I</p> <p>11 have a few questions for you regarding your prefiled</p> <p>12 testimony.</p> <p>13 A Okay.</p> <p>14 Q Do you have that in front of you?</p> <p>15 A I would like to pull that up, if you don't</p> <p>16 mind. Just give me a second.</p> <p>17 Q Sure.</p> <p>18 A Yes. Go ahead, please.</p> <p>19 Q Okay. So, Mr. Esmond, I would like to turn</p> <p>20 first to Page 10, Line 16.</p> <p>21 A Okay.</p> <p>22 Q So there's an acronym there, ORP. Do you see</p> <p>23 that?</p> <p>24 A I'm sorry. On Page -- Page 10, Line 16, I</p> <p>25 don't see that on -- but I think you're referring to</p>	23	<p>1 A I'm referring there to the receiving water</p> <p>2 first. I realize the discharge is to a receiving stream</p> <p>3 that carries the effluent directly to Rucker Creek. So</p> <p>4 I think my reference was that the -- that the distance</p> <p>5 in the tributary is so short that there's little or</p> <p>6 no -- there is little or no change in effluent quality</p> <p>7 from that point until it reaches Rucker Creek.</p> <p>8 Q Okay.</p> <p>9 A I was -- I wasn't intending to testify about</p> <p>10 how long it takes from that point to the main stem of</p> <p>11 Lake Granbury.</p> <p>12 Q Okay. So that sentence might be more accurate</p> <p>13 if it stated that it's not mitigated to any significant</p> <p>14 degree by the unnamed tributary; and, therefore, the</p> <p>15 plant basically discharges to Rucker Creek. Would that</p> <p>16 make sense?</p> <p>17 A I would think so. Sure.</p> <p>18 Q Okay.</p> <p>19 MR. ARTHUR: Okay. That's all for now.</p> <p>20 Thank you, Mr. Esmond.</p> <p>21 Your Honor, I pass the witness.</p> <p>22 JUDGE SHENOY: Thank you.</p> <p>23 For the Executive Director, are there any</p> <p>24 questions for this witness?</p> <p>25 MR. TATU: Just a few questions. Thank</p>
22	<p>1 ORP, the parameter ORP, oxidation reduction potential.</p> <p>2 Is that --</p> <p>3 Q Right. So I just wanted to ask you to spell</p> <p>4 out that acronym and tell us what oxidation reduction</p> <p>5 potential is.</p> <p>6 A That's the -- basically, it's a -- it's an</p> <p>7 analytical parameter that tells you whether the water is</p> <p>8 oxidated for reductive environment. In other words,</p> <p>9 when it's oxidated, it's aerobic; when it's reductive,</p> <p>10 it's anaerobic.</p> <p>11 Q Okay. So I have a question from Page 17 of</p> <p>12 your prefiled testimony.</p> <p>13 A Okay.</p> <p>14 Q So I'm looking at the sentence starting on</p> <p>15 Line 17, which states: In such a short time, the</p> <p>16 effluent is not mitigated to any significant degree by</p> <p>17 Rucker Creek, therefore this plant basically discharges</p> <p>18 its effluent to Rucker Creek for all intents and</p> <p>19 purposes. Do you see that?</p> <p>20 A That's correct.</p> <p>21 Q So I'd like to clarify the sentence. So it</p> <p>22 seems to me that maybe in the first instance where you</p> <p>23 say "Rucker Creek," you might mean unnamed tributary, or</p> <p>24 in the second instance where you say "Rucker Creek," do</p> <p>25 you mean Lake Granbury?</p>	24	<p>1 you.</p> <p>2</p> <p>3 CROSS-EXAMINATION</p> <p>4 BY MR. TATU:</p> <p>5 Q Good morning, Mr. Esmond.</p> <p>6 A Good morning.</p> <p>7 Q I just wanted to ask you a few questions about</p> <p>8 the -- your concerns regarding E. coli in this permit.</p> <p>9 A Okay.</p> <p>10 Q Could you tell me what the standard is in the</p> <p>11 draft permit at this point?</p> <p>12 A It's 126.</p> <p>13 Q Okay. And I think you were asked another</p> <p>14 deposition -- in a deposition if you were familiar with</p> <p>15 other permits that had lower E. coli limits. Do you</p> <p>16 recall that?</p> <p>17 A I recall that, yes.</p> <p>18 Q Since that deposition, have you found any other</p> <p>19 permits in Texas with a lower E. coli limit?</p> <p>20 A No. I haven't really looked for those. I</p> <p>21 mean, I haven't addressed that question.</p> <p>22 Q I see. Okay. Thank you.</p> <p>23 MR. TATU: I don't have any further</p> <p>24 questions. Thank you.</p> <p>25 JUDGE SHENOY: Mr. Hill?</p>

<p style="text-align: right;">25</p> <p>1 MR. HILL: Yes, Judge. I do have a few 2 questions.</p> <p style="text-align: center;">CROSS-EXAMINATION</p> <p>3 BY MR. HILL:</p> <p>4 Q Good morning, Mr. Esmond.</p> <p>5 A Good morning.</p> <p>6 Q How are you doing?</p> <p>7 A I'm just fine.</p> <p>8 Q I want to revisit a little bit some of the 9 discussion that you and I had in your -- in your 10 deposition. Do you remember giving a deposition in this 11 case? 12 case?</p> <p>13 A Yes.</p> <p>14 Q And do you remember that deposition being on 15 January 31st of 2022?</p> <p>16 A That's probably right.</p> <p>17 Q Okay. Mr. Esmond, I remember in our 18 conversation that we talked about your initial -- your 19 initial engagement on this particular permit was back in 20 September of 2020. Do you recall that?</p> <p>21 A I wouldn't use the word "engagement." Maybe I 22 had spoken with Granbury Fresh and that group, but I 23 hadn't been engaged by them until December of 2021, 24 so...</p> <p>25 Q You emailed Ms. Rist and Ms. Calder on --</p>	<p style="text-align: right;">27</p> <p>1 A I didn't understand --</p> <p>2 Q Pardon me. Pardon me.</p> <p>3 MR. ALLMON: Your Honor, I would ask that 4 the witness be allowed to answer the question.</p> <p>5 MR. HILL: I would ask, Judge, that the 6 witness answer my question.</p> <p>7 JUDGE SHENOY: Okay. So let's -- just one 8 at a time.</p> <p>9 Mr. Esmond, Mr. Hill indicated that it was 10 a yes-or-no question. If you're unable to answer it as 11 yes or no, you can indicate that you're not able to do 12 that; but, otherwise, are you able to give a yes or no?</p> <p>13 THE WITNESS: Could you repeat the 14 question, please?</p> <p>15 Q (BY MR. HILL) Sure. In your review of the 16 application, you did not understand what the Applicant 17 meant by "temporary equalization basin" as it was 18 identified in the application. Isn't that correct?</p> <p>19 A That's correct.</p> <p>20 Q Okay. And have you since come to understand 21 what the Applicant intended by using the phrase 22 "temporary equalization basin" in the application?</p> <p>23 A I'm not really sure about that. I'm not sure 24 what their intent was.</p> <p>25 Q Did you read the prefiled testimony of Josh</p>
<p style="text-align: right;">26</p> <p>1 around September 7th or 8th of 2020?</p> <p>2 A That sounds about right, yes.</p> <p>3 Q And you expressed to them an interest in 4 looking at the application. Isn't that correct?</p> <p>5 A I think that's correct.</p> <p>6 Q Okay. And in your review of the application, 7 Mr. Esmond, you had some comments to make about the 8 equalization basin that was identified in the original 9 permit application, or your observations revealed to you 10 the lack thereof of an equalization basin. Do you 11 recall that?</p> <p>12 A I do recall that, yes.</p> <p>13 Q And you recall being -- not understanding the 14 terminology of a temporary equalization basin?</p> <p>15 A A temp -- I don't know what a temporary 16 treatment process is. I'm always -- throughout my 17 entire engineering career in this business, I've never 18 encountered temporary units before, especially in a 19 permit application.</p> <p>20 Q You didn't know what temporary equalization 21 basin meant as it was used in the permit. Isn't that 22 correct?</p> <p>23 A It's -- the -- well, the fact is it's --</p> <p>24 Q Mr. Esmond, this is a yes-or-no question. If 25 there are additional questions --</p>	<p style="text-align: right;">28</p> <p>1 Berryhill?</p> <p>2 A I did read that.</p> <p>3 Q Okay. And you did see Mr. Berryhill's 4 explanation of what temporary equalization basin means?</p> <p>5 A By my understanding of what he said, what he 6 wrote in that exhibit --</p> <p>7 Q I'm going to -- I'm going to ask you to hang on 8 right there, Mr. Esmond. My question is: Did you 9 understand what Mr. Berryhill's explanation of temporary 10 equalization basin meant?</p> <p>11 A The answer is I think so, but I'm not certain.</p> <p>12 Q Thank you.</p> <p>13 In your review of the application at any 14 time, other than a conversation with -- well, I'm sorry. 15 Let me step back.</p> <p>16 Did you in your review of the application 17 at any time contact anyone from the City of Granbury to 18 ask questions about the application?</p> <p>19 A I don't think so.</p> <p>20 Q Okay. Would you have remembered having that 21 phone conversation if it took place?</p> <p>22 A I think so.</p> <p>23 Q Okay. Did you at any time inquire with any of 24 the engineers at Enprotec/Hibbs & Todd, or EHT, with 25 questions about the application?</p>

<p style="text-align: right;">29</p> <p>1 A I don't think so.</p> <p>2 Q Okay. And that would have been a conversation</p> <p>3 that you would have remembered if you did. Correct?</p> <p>4 A I think so, yes.</p> <p>5 Q Okay. We talked in your deposition,</p> <p>6 Mr. Esmond, about your -- your work with the Rolling</p> <p>7 Ridge plant in the College Station area. Do you recall</p> <p>8 our discussion about that?</p> <p>9 A I think so, yes.</p> <p>10 Q Okay. And, in fact, you have been a plant</p> <p>11 operator for the Rolling Ridge treatment plant in</p> <p>12 College Station for several years. Isn't that correct?</p> <p>13 A That's correct.</p> <p>14 Q Okay. And that Rolling Ridge wastewater</p> <p>15 treatment plant in College Station is owned by Manitou.</p> <p>16 Is that right?</p> <p>17 A Correct.</p> <p>18 Q I've got some questions about that, Mr. Esmond,</p> <p>19 because you have obviously in your prefiled testimony</p> <p>20 expressed great criticism of the 150-foot buffer zone</p> <p>21 that the treatment facility complies with.</p> <p>22 Do you recall the buffer zone around the</p> <p>23 Rolling Ridge wastewater treatment plant owned by</p> <p>24 Manitou in College Station?</p> <p>25 MR. ALLMON: Your Honor, I would object to</p>	<p style="text-align: right;">31</p> <p>1 whether or not, in fact, that's true. And so this would</p> <p>2 be impeachment testimony if, in fact, we go down this</p> <p>3 road, and it appears as though Mr. Esmond was incorrect</p> <p>4 in his deposition testimony.</p> <p>5 JUDGE SHENOY: So are you asking him right</p> <p>6 now about matters that are not in his prefiled testimony</p> <p>7 but that were discussed at his deposition?</p> <p>8 MR. HILL: That's correct.</p> <p>9 JUDGE SHENOY: Okay. So if you're trying</p> <p>10 to impeach him, then you would need to have him agree or</p> <p>11 disagree with a statement and then produce that -- you</p> <p>12 can read it into the record.</p> <p>13 MR. HILL: Fair enough, Your Honor. Let</p> <p>14 me -- if I can, can I share a screen, Judge?</p> <p>15 JUDGE SHENOY: Yes.</p> <p>16 MR. HILL: All right.</p> <p>17 Q (BY MR. HILL) All right. Mr. Esmond, do you</p> <p>18 see a copy of this testimony here in front of you from</p> <p>19 your deposition transcript?</p> <p>20 A Yes.</p> <p>21 Q Okay. Let me draw your attention here to</p> <p>22 Page 93, Line 23 to 24. I'm going to ask you a question</p> <p>23 here, Mr. Esmond, whether or not I read this testimony</p> <p>24 correctly. Beginning at Line 22: So I have never used</p> <p>25 that number on any other facilities that I've permitted,</p>
<p style="text-align: right;">30</p> <p>1 form.</p> <p>2 JUDGE SHENOY: It's overruled.</p> <p>3 Mr. Esmond, are you able to answer?</p> <p>4 THE WITNESS: I don't recall what the</p> <p>5 buffer zone is there.</p> <p>6 Q (BY MR. HILL) Okay. Do you know whether or</p> <p>7 not the buffer zone is greater than 150 feet?</p> <p>8 A I'm sorry. I don't recall any of this</p> <p>9 information. I didn't -- I didn't come prepared to talk</p> <p>10 about that plant. I mean...</p> <p>11 Q Well, we discussed it -- you were very</p> <p>12 interested in describing it in our deposition testimony,</p> <p>13 and so I'd like to follow up with some more questions</p> <p>14 with you about that.</p> <p>15 When's the last time that you've been to</p> <p>16 the Rolling Ridge wastewater treatment plant?</p> <p>17 MR. ALLMON: Your Honor, we would object</p> <p>18 as to relevance. We are not here to consider the</p> <p>19 Rolling Ridge treatment plant; we're here to consider</p> <p>20 Granbury's application for a treatment plant.</p> <p>21 JUDGE SHENOY: Mr. Hill?</p> <p>22 MR. HILL: Yeah, the response is, Your</p> <p>23 Honor, that Mr. Esmond has given some very concrete</p> <p>24 testimony in deposition about never relying on a</p> <p>25 150-foot buffer zone, and I have some questions about</p>	<p style="text-align: right;">32</p> <p>1 and the 500-foot number is more reasonable.</p> <p>2 Did I read that correctly?</p> <p>3 A I think so, yes.</p> <p>4 Q And your testimony is that you've never used a</p> <p>5 150-foot buffer in any wastewater treatment plant that</p> <p>6 you have designed?</p> <p>7 A I don't believe I have, no.</p> <p>8 Q Okay. I just have one follow-up question here</p> <p>9 for you, Mr. Esmond.</p> <p>10 MR. HILL: Your Honor, I'm going to share</p> <p>11 my screen again, if I can. Okay.</p> <p>12 Q (BY MR. HILL) Do you see here on the screen</p> <p>13 renewal permit for TPDES Permit No. WQ0012015001 issued</p> <p>14 on June 12, 2014? Do you see that?</p> <p>15 A I see that.</p> <p>16 Q Okay. Is this the wastewater discharge permit</p> <p>17 for the Rolling Ridge facility that you operate?</p> <p>18 A Apparently so, yes.</p> <p>19 Q And this is the permit that you helped Manitou</p> <p>20 secure a major amendment for just a few years ago. Is</p> <p>21 that correct?</p> <p>22 A That's correct. I would like to point out one</p> <p>23 thing, if I could. This is -- this is not the original</p> <p>24 permit. And when I referred to the 150, that plant was</p> <p>25 already designed and operational when I came to be</p>

<p style="text-align: right;">33</p> <p>1 associated with it. In other words, the -- whatever 2 distances there may be in the -- in the offset, those 3 are already established by this plant site. So this was 4 a major amendment to that. I understand --</p> <p>5 Q I understand. I'm pointing you to Page 34 of 6 the permit here. And under Other Requirements No. 4, 7 this requirement obligates the facility to comply with 8 the requirements of Section 309.13 of the Agency's 9 rules, including ownership of the required buffer zone 10 area. Is that -- do you see that correctly?</p> <p>11 MR. ALLMON: Your Honor, again, I'm going 12 to object as to relevance. We're not here to consider 13 this application or any issues related to the Manitou 14 facility. It's an entirely separate facility from the 15 one under consideration in this proceeding.</p> <p>16 MR. HILL: And, Judge, I will concede the 17 point if we can equally concede the irrelevance of the 18 Hays County permit that the Applicant -- or that the 19 Protestants, rather -- are relying on to a large extent 20 in Mr. Frossard's testimony.</p> <p>21 MR. ALLMON: Your Honor, in Mr. Frossard's 22 testimony, I believe we lay the predicate that that 23 establishes the relationship of the impact that 24 nutrients can potentially have such as those nutrients 25 being discharged from the facility under consideration</p>	<p style="text-align: right;">35</p> <p>1 design detail that is required for the application stage 2 of a wastewater treatment plant project. Correct?</p> <p>3 A I am.</p> <p>4 Q Okay.</p> <p>5 MR. HILL: All right. Thank you, 6 Mr. Esmond. I have no questions.</p> <p>7 JUDGE SHENOY: All right. Mr. Allmon, do 8 you have redirect?</p> <p>9 MR. ALLMON: Yes, Your Honor. I have some 10 redirect for the witness.</p> <p>11 REDIRECT EXAMINATION</p> <p>12 BY MR. ALLMON:</p> <p>13 Q Mr. Esmond, you were asked some questions by 14 Office of Public Interest Counsel regarding ORP. Do you 15 recall those questions?</p> <p>16 A I do.</p> <p>17 Q And that's oxidation reduction potential?</p> <p>18 A Yes.</p> <p>19 Q Is that a parameter that can be measured with 20 precision?</p> <p>21 A I think so. There's some -- I'm sorry I didn't 22 come prepared to talk about the precision of that -- of 23 that measurement, but it is used for process control in 24 the BNR process. Correct.</p> <p>25 Q And you've just referred to the "BNR process."</p>
<p style="text-align: right;">34</p> <p>1 here.</p> <p>2 JUDGE SHENOY: Okay. So I'm going to keep 3 those two things separate.</p> <p>4 Mr. Hill, I think the point that you're 5 trying to make is regarding Mr. Esmond's involvement in 6 a plant that has a 150-foot or similar setback, and we 7 can -- I think you can ask about that without getting 8 further into the details of the permit of the other 9 plant.</p> <p>10 MR. HILL: Very good.</p> <p>11 Q (BY MR. HILL) Mr. Esmond, in your criticism of 12 the temporary equalization basin that is identified in 13 the application, do you understand the anticipated 14 design of that temporary equalization basin?</p> <p>15 A Look, there is no preliminary -- there's just a 16 preliminary design, but it's very preliminary.</p> <p>17 Q And so you don't know, then, what the design is 18 for that temporary equalization basin. Is that correct?</p> <p>19 A Well, in fact, this is just a permit 20 application. It doesn't contain a lot of design 21 information for one thing, so...</p> <p>22 Q Okay. And you've been involved in several 23 permit applications for TPDES permits. Correct?</p> <p>24 A Correct.</p> <p>25 Q Okay. And so you're aware of the level of</p>	<p style="text-align: right;">36</p> <p>1 Does this also -- does the facility proposed by the City 2 of Granbury also use the membrane bioreactor process?</p> <p>3 A It does --</p> <p>4 MR. HILL: And I'm going to object that 5 this exceeds the scope of any parties' 6 cross-examination.</p> <p>7 MR. ALLMON: Your Honor, if I could be 8 just allowed another one or two questions, this relates 9 to the questioning regarding the equalization basin.</p> <p>10 JUDGE SHENOY: Okay. I'll allow it.</p> <p>11 And let me just ask Ms. Schnoor: Were you 12 able to get the witness' response? I know there was a 13 little bit of overlap there. No.</p> <p>14 Okay. So in that case, Mr. Allmon, please 15 back up, ask the question that was just answered again.</p> <p>16 And, Mr. Esmond, please answer again.</p> <p>17 Q (BY MR. ALLMON) So does the facility proposed 18 by the City of Granbury employ the membrane bioreactor 19 process?</p> <p>20 A Yes.</p> <p>21 Q And is equalization of inflows important to the 22 functioning of a membrane bioreactor process?</p> <p>23 A It's very important, yes.</p> <p>24 Q And how is it important -- how is equalization 25 of flows important to the operation of a membrane</p>

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1 bioreactor process?

2 **A** **It's important because the diurnal pattern of**
3 **flow, not the storm flow, but the diurnal daily patterns**
4 **of flow need to be leveled out where the treatment**
5 **process is receiving virtually constant flow and**
6 **constant loading. And this does not include stormwater.**
7 **It's not designed for -- the process needs that for**
8 **diurnal daily flows and not necessarily just for**
9 **stormwater.**

10 **Q** **Okay. Now, you're using the word "diurnal."**
11 **Can you explain what that term means?**

12 **MR. HILL:** Your Honor, I'm going to
13 object. I think we're far afield from the scope of
14 cross-examination here.

15 **JUDGE SHENOY:** And, Mr. Allmon, I've let
16 you have a few questions on that. Where are we going
17 with this?

18 **MR. ALLMON:** Your Honor, there have been
19 questionings regarding Mr. Esmond's understanding of the
20 word "temporary," and the nature of this is a temporary
21 facility. Given the nature of the operation of the --
22 of the proposed plant as a membrane bioreactor facility,
23 the questioning seeks to explain how it simply makes no
24 sense to describe an equalization basin at a facility
25 such as this as temporary. There can be no such thing.

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1 **JUDGE SHENOY:** Well, why don't we get at
2 that more directly, then, if you can, because that
3 temporary issue was in the cross.

4 **Q** **(BY MR. ALLMON) So, Mr. Esmond, does the**
5 **nature of this facility using membrane bioreactor**
6 **process relate to your consideration of the description**
7 **of the equalization basin as temporary?**

8 **A** **Yes, it is connected with that.**

9 **Q** **And can you explain that connection?**

10 **A** **Because the membranes need relatively constant**
11 **flow. They depend on that. Virtually all of the MBR**
12 **plants that I'm familiar with have flow equalization for**
13 **diurnal daily flows and not for storm flows. And it's**
14 **widely known throughout the industry that flow**
15 **equalization is necessary for an MBR plant for that**
16 **reason.**

17 **Q** **So is equalization of an MBR plant something**
18 **that can be done on only a temporary basis?**

19 **A** **No, it can't be temporary; it needs to be**
20 **permanent.**

21 **Q** **And you used the word "diurnal." Can you**
22 **describe what you mean by that term?**

23 **A** **Diurnal would be the daily flow fluctuation in**
24 **flow rate, where at night you have low flows, then**
25 **during the peak hours of the day, you have high flows,**

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1 **and the equalization basin would level those out. It**
2 **would store excess water during the peak hours and**
3 **retain that so that during the nighttime hours, you**
4 **would still have flow coming through the plant, and it**
5 **would be leveled out where it would be averaged.**

6 Because let's say at 2 mgd, which is what
7 the permitted capacity is sought here, during the peak
8 hour of the day, you might have 4 to 5 mgd rate, flow
9 rate coming through the plant, and then at night it
10 might be 1 or less. And so that's a variable flow rate
11 that the membranes have difficulty performing their
12 function. And it becomes an operational issue.

13 So for that reason, all the MBR plants
14 that I'm personally familiar with have flow
15 equalization, and it's widely known throughout the
16 industry that they need flow equalization to be
17 successfully operated.

18 **Q** **And when you say "they need flow equalization,"**
19 **I would understand that you intend they need flow**
20 **equalization on an ongoing permanent basis?**

21 **A** **On a permanent basis, right.**

22 **Q** **Now, you were asked some questions regarding**
23 **the Rolling Ridge facility. In deposition, did you**
24 **describe how you were involved in the amendment of that**
25 **facility?**

40

1 **A** **No.**

2 **Q** **And were you involved in the renewal of the**
3 **permit for that facility?**

4 **A** **I wasn't for the renewal, yes.**

5 **Q** **Now, did you perform the initial design for**
6 **that facility?**

7 **A** **The plant site goes back -- it predates me and**
8 **my company, so I came in at a point where it was already**
9 **a treatment plant. And this was several years before I**
10 **became affiliated with that facility.**

11 **Q** **So were you responsible for determining the**
12 **buffer zones to that facility?**

13 **A** **No.**

14 **MR. ALLMON:** Your Honor, that is all of my
15 redirect for the witness.

16 **JUDGE SHENOY:** Okay. And as we discussed
17 at the prehearing conference, we have two rounds, so
18 this is the final round of recross.

19 Let me ask Mr. Arthur: Did you have any
20 anything further?

21 **MR. ARTHUR:** No, Your Honor. Thank you.

22 **JUDGE SHENOY:** Mr. Tatu?

23 **MR. TATU:** Nothing further, Your Honor.

24 Thank you.

25 **JUDGE SHENOY:** All right. And Mr. Hill?

<p style="text-align: right;">41</p> <p>1 MR. HILL: I do, Judge.</p> <p>2</p> <p>3 RE-CROSS-EXAMINATION</p> <p>4 BY MR. HILL:</p> <p>5 Q Mr. Esmond, have you ever designed an MBR</p> <p>6 facility?</p> <p>7 A I've never been on the design team. However --</p> <p>8 Q Mr. Esmond, my question is: Have you ever</p> <p>9 designed an MBR facility? Yes or no?</p> <p>10 A Can I explain my -- can I explain something</p> <p>11 here? I mean --</p> <p>12 Q If your attorney wants to follow up with some</p> <p>13 questions, you certainly can with him. My question is:</p> <p>14 Have you ever designed --</p> <p>15 (Simultaneous discussion)</p> <p>16 JUDGE SHENOY: And --</p> <p>17 MR. ALLMON: -- redirect on this witness?</p> <p>18 I would ask the witness be allowed to provide a full</p> <p>19 answer to the question.</p> <p>20 JUDGE SHENOY: And since there is no</p> <p>21 further redirect, and the witness -- it appears</p> <p>22 Mr. Esmond is unable to say yes or no he has</p> <p>23 participated -- he has designed or not.</p> <p>24 So, Mr. Esmond, I'll allow you to complete</p> <p>25 your answer.</p>	<p style="text-align: right;">43</p> <p>1 abandon it in the future.</p> <p>2 Q And you got that from Mr. Berryhill's</p> <p>3 testimony?</p> <p>4 A I --</p> <p>5 Q That's how you understood his testimony?</p> <p>6 A Yes, I think so. I think I inferred it from</p> <p>7 that.</p> <p>8 Q Okay. And so your testimony is, if I</p> <p>9 understand correctly, that your criticism of the</p> <p>10 equalization basin design in the City's proposed</p> <p>11 facility is that -- your understanding is, is that the</p> <p>12 intent -- that that facility will be deconstructed,</p> <p>13 taken away, broken down at some point. Is that correct?</p> <p>14 A Well, I wasn't sure, but the fact is, it is --</p> <p>15 it's not allowed within a 150-foot buffer zone.</p> <p>16 Q Mr. Esmond, I'm going to ask you to respond to</p> <p>17 my question.</p> <p>18 Isn't it true that your opinions about the</p> <p>19 temporary equalization basin in the application is based</p> <p>20 on your thought that the Applicant's designation, or</p> <p>21 description of that facility in the application, is that</p> <p>22 it will go away and be deconstructed, decommissioned,</p> <p>23 removed from the plant facility? Isn't that correct?</p> <p>24 A That was inferred, I guess, but the fact is</p> <p>25 it's still there, and it's --</p>
<p style="text-align: right;">42</p> <p>1 THE WITNESS: Thank you, Your Honor.</p> <p>2 A In the narrowest sense of the word, the word</p> <p>3 "design" in the Texas Board of Registration for</p> <p>4 Professional Engineers means responsible charge, the</p> <p>5 engineer who's putting their stamp on the drawings. No.</p> <p>6 The answer is, no, I haven't served in that capacity.</p> <p>7 However, as the regional manager in</p> <p>8 Southern California for one of the top 10 wastewater</p> <p>9 firms, I had many opportunities to interact with the</p> <p>10 design team and to oversee the design team's work and to</p> <p>11 serve in a QA/QC capacity to review drawings and that</p> <p>12 sort of thing.</p> <p>13 But, no, I didn't personally design an MBR</p> <p>14 plant, if that's what you're asking about. No, I</p> <p>15 haven't served as the engineer of record, but I have</p> <p>16 participated in the design.</p> <p>17 Q (BY MR. HILL) And going back to the question</p> <p>18 about the Applicant's use of an equalization basin in</p> <p>19 their design of an MBR facility, really isn't the issue</p> <p>20 whether or not you understand what they mean by</p> <p>21 temporary in their characterization of an equalization</p> <p>22 basin?</p> <p>23 A I think the way it was explained is that</p> <p>24 they're intending to consider whether they want it in</p> <p>25 the future, and they may take it out of service or</p>	<p style="text-align: right;">44</p> <p>1 Q Mr. Esmond?</p> <p>2 A -- it requires a 500-foot buffer zone.</p> <p>3 Q That's not my question. And we'll work on this</p> <p>4 a little bit more to make sure. I'll ask -- try to ask</p> <p>5 a clearer question.</p> <p>6 Your opinion is that the application</p> <p>7 includes a facility design with an equalization basin</p> <p>8 that will be decommissioned or removed from the facility</p> <p>9 at some point. Is that correct?</p> <p>10 A Well, it may be. It's unclear from the</p> <p>11 language that -- the documents that I read, it's unclear</p> <p>12 whether it would be or not.</p> <p>13 Q Okay. And so it's that absence of clarity in</p> <p>14 your mind that has led you to believe that that</p> <p>15 temporary equalization basin will go away. Yes or no?</p> <p>16 A But the problem there is that if it's in the</p> <p>17 permit, it needs to be treated as a permanent part of</p> <p>18 the facility, and it needs to be appropriately zoned</p> <p>19 with a buffer zone --</p> <p>20 Q Excellent. So if --</p> <p>21 (Simultaneous discussion)</p> <p>22 A -- that's 500 feet away.</p> <p>23 Q (BY MR. HILL) If the facility -- the</p> <p>24 equalization basin that is proposed, or part of the</p> <p>25 proposed facility design in the application, if, in</p>

<p style="text-align: right;">45</p> <p>1 fact, that equalization basin is a permanent structure 2 and is a permanent part of the design process of that 3 facility, that alleviates your concerns. Isn't that 4 correct? 5 A I think so, yes. 6 Q Okay. 7 MR. HILL: I pass the witness. 8 JUDGE SHENOY: Okay. And that would be 9 the end of our questioning for Mr. Esmond. 10 Thank you very much, Mr. Esmond. 11 Appreciate it. 12 THE WITNESS: Thank you. 13 JUDGE SHENOY: And I believe Mr. Machin is 14 next. 15 Mr. Machin, are you able to hear me? 16 THE WITNESS: Yes. Can you see me? 17 JUDGE SHENOY: Okay. And -- no, it looks 18 like there's something in front of your camera. That's 19 better. Now we can see you. Thank you. 20 THE WITNESS: All right. 21 JUDGE SHENOY: So, sir, if you could raise 22 your right hand. 23 (Witness sworn) 24 JUDGE SHENOY: All right. Thank you. 25 And Mr. Bedecarre.</p>	<p style="text-align: right;">47</p> <p>1 that need to be raised for the record? 2 (No response) 3 JUDGE SHENOY: No? Hearing none, Granbury 4 Fresh Exhibits 400 through 402, which I believe is 5 inclusive of all the exhibits for Mr. Machin, are 6 admitted. 7 (Exhibit GF Nos. 400 through 402 admitted) 8 MR. BEDECARRE: And with that, we would 9 pass the witness. 10 JUDGE SHENOY: For OPIC? 11 MR. ARTHUR: Thank you, Judge. 12 CROSS-EXAMINATION 13 BY MR. ARTHUR: 14 Q Good morning, Mr. Machin. Can you hear me 15 okay? 16 A Yes, I can. 17 Q All right. Thanks. 18 So I have a couple of questions about your 19 prefiled testimony. Do you have that available? 20 A I do. 21 Q Okay. So I'm first looking at Page 5 and the 22 question that begins on Line 18. Do you see that? 23 A Let's see. Okay. Let's begin with the first 24 part of your opinion. Is that it? 25 Q Yes, sir. So I just want to clarify: Your</p>
<p style="text-align: right;">46</p> <p>1 MR. BEDECARRE: Hi. Yes, I'm John 2 Bedecarre on behalf of Granbury Fresh and Dr. Victoria 3 Calder. I'll be presenting Mr. Machin. 4 JAMES L. MACHIN, P.E., 5 having been first duly sworn, testified as follows: 6 DIRECT EXAMINATION 7 BY MR. BEDECARRE: 8 Q Mr. Machin, have you reviewed your written 9 prefiled testimony in this matter, which is marked as 10 Exhibit GF-400? 11 A Yes. 12 Q And would you make that testimony today -- 13 adopt that testimony today? 14 A Yes. 15 Q Okay. And the associated exhibits with your 16 testimony, do they remain as described in your prefiled 17 testimony? 18 A Yes, they do. 19 MR. BEDECARRE: Okay. We would move to 20 admit Exhibit GF-400, the prefiled testimony of James 21 Machin. 22 (Exhibit GF No. 400 offered) 23 JUDGE SHENOY: Okay. And I don't believe 24 there were any prefiled objections to Mr. Machin's 25 testimony. So I will ask at this point: Are there any</p>	<p style="text-align: right;">48</p> <p>1 answer is talking about the TCEQ's modeling. Right? 2 A That is correct. 3 Q Okay. So when the question says "Applicant," 4 that should probably be TCEQ, since your answer is 5 regarding TCEQ's modeling. Right? 6 A That's right. 7 Q Okay. And I -- I have what I think is the same 8 clarification on the next page, Page 6, Line 8. Your 9 answer is about TCEQ's modeling, not Applicant's. 10 Right? 11 A Yes, that -- that's correct. It should say 12 "TCEQ's modeling," as I did in my answer to that 13 question. 14 Q Yes, sir. Okay. Thank you. 15 MR. ARTHUR: Your Honor, I pass the 16 witness. 17 JUDGE SHENOY: Thank you. 18 For the Executive Director? 19 MR. TATU: We have no questions. Thank 20 you, Your Honor. 21 JUDGE SHENOY: All right. Thank you. 22 Mr. Hill? 23 MR. HILL: I don't have any questions of 24 Mr. Machin. 25 THE WITNESS: I'm sorry?</p>

<p style="text-align: right;">49</p> <p>1 MR. HILL: No questions of you, 2 Mr. Machin.</p> <p>3 THE WITNESS: Ah. No questions. Okay. 4 JUDGE SHENOY: Okay. So, Mr. Bedecarre, 5 did you have any redirect based on the limited cross 6 that was done?</p> <p>7 MR. BEDECARRE: No, I did not. 8 JUDGE SHENOY: All right. Thank you very 9 much.</p> <p>10 Mr. Machin, appreciate your testimony, and 11 you are free to go.</p> <p>12 THE WITNESS: Thank you very much. 13 JUDGE SHENOY: So our next witness is 14 Mr. Frossard. And before we start with Mr. Frossard, I 15 will just say that I do intend to give us a break around 16 10:30. It's almost ten o'clock now. So that's the 17 goal, and I believe we'll be switching out court 18 reporters at that time, so we'll plan for that. But 19 let's start with Mr. Frossard.</p> <p>20 Mr. Frossard, can you hear me? 21 THE WITNESS: Yes, I can. Can you hear 22 me? 23 JUDGE SHENOY: Okay. Yes. Thank you. If 24 you could raise your right hand. 25 (Witness sworn)</p>	<p style="text-align: right;">51</p> <p>1 MR. BOOTH: And his exhibits which are 2 sequentially numbered.</p> <p>3 JUDGE SHENOY: It looks like they go 4 through 511.</p> <p>5 MR. BOOTH: Yeah, 501 through 511, yes, 6 ma'am.</p> <p>7 (Exhibit GF Nos. 500 through 511 offered) 8 JUDGE SHENOY: Okay. Very good. So 9 prefiled objections having been overruled, are there any 10 objections that need to be stated at this time for the 11 record?</p> <p>12 (No response) 13 JUDGE SHENOY: And hearing none, Granbury 14 Fresh Exhibits 500 through 511 are admitted. 15 (Exhibit GF Nos. 500 through 511 admitted) 16 JUDGE SHENOY: And, Mr. Booth, you've 17 tendered Mr. Frossard for cross? 18 MR. BOOTH: Yes, ma'am. Pass the witness. 19 JUDGE SHENOY: Okay. For OPIC? 20 CROSS-EXAMINATION 21 BY MS. PESONEN: 22 Q Good morning, Mr. Frossard. I have just a few 23 questions on behalf of OPIC about your prefiled 24 testimony. Can you hear me okay? 25 A Yes, I can.</p>
<p style="text-align: right;">50</p> <p>1 JUDGE SHENOY: All right. Thank you. 2 And I believe, Mr. Booth, you said you 3 would be presenting Mr. Frossard. And you are on mute.</p> <p>4 MR. BOOTH: Sorry about that. 5 WOODY FROSSARD, 6 having been first duly sworn, testified as follows: 7 DIRECT EXAMINATION 8 BY MR. BOOTH: 9 Q I apologize, but I'm having a technological 10 breakdown on my iPad, but -- so I'm trying to get it up. 11 But anyway, Mr. Frossard, do you have in 12 front of you your prefiled testimony? 13 A Yes, sir, I do. 14 Q Do you adopt that as your sworn testimony in 15 this matter? 16 A Yes, sir, I do. 17 Q And your exhibits, the same? You adopt them as 18 your sworn testimony -- as part of your sworn testimony? 19 A Yes, sir. 20 MR. BOOTH: I pass the witness. 21 JUDGE SHENOY: Mr. Booth, you're offering 22 exhibits? 23 MR. BOOTH: Yes. I'm sorry. I offer 24 Exhibit 500, as I believe now that I have it up. 25 JUDGE SHENOY: Okay.</p>	<p style="text-align: right;">52</p> <p>1 Q Okay, great. 2 So first of all, Mr. Frossard, you 3 testified that in Rucker Creek and in Rucker Creek cove, 4 the required dissolved oxygen standard is 5 milligrams 5 per liter. Is that correct? 6 A Yes. 7 Q Yes, it is. 8 And then TCEQ's QUAL-TX model resulted in 9 a dissolved oxygen of about 4.8 milligrams per liter. 10 Is that right? 11 A Yes. 12 Q So you testified the difference between 4.8 and 13 5 is more than a de minimis lowering of water quality. 14 Is that right? 15 A I don't think so. 16 Q What was your -- what do you recall your 17 testimony was with regard to whether 4.8 would be a de 18 minimus lowering of water quality? 19 A I believe my testimony was in regards to -- can 20 you hear me okay? 21 Q Yes, I can. 22 A Okay. I believe my testimony was in regards 23 once it reached 4.8, that the TCEQ should have had 24 additional modeling done in order to determine whether 25 that would have been a de minimis amount or not.</p>

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1 Q Okay. So can you just elaborate a little bit
 2 on what your definition of what de minimis would be?
 3 A Yes. It would be the amount of assimilative
 4 capacity that the receiving water exists and then how
 5 much that assimilative capacity would be used up by the
 6 new load or the new pollutant going into that receiving
 7 water.
 8 Q So your definition of de minimis is related to
 9 assimilative capacity. Is that correct?
 10 A That's correct.
 11 Q I see. Okay, thank you.
 12 And then just a couple more questions, if
 13 I can look through my notes really quick.
 14 Mr. Frossard, are you aware that the
 15 Applicant has conducted some modeling using the QUAL2K
 16 model?
 17 A Yes, I am.
 18 Q Have you had the opportunity to review that
 19 modeling?
 20 A I've seen the results that they've posted.
 21 I've not seen any of the modeling itself, just the
 22 graphs.
 23 Q I see. What is your understanding of the
 24 differences between QUAL-TX and QUAL2K modeling?
 25 A Both of them are still steady-state models.

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1 They're not (audio distortion) --
 2 JUDGE SHENOY: Okay. I'm sorry,
 3 Mr. Frossard?
 4 THE WITNESS: Yes.
 5 JUDGE SHENOY: Mr. Frossard, you broke up
 6 a little bit when you started your answer, so if you
 7 could just start again. And just make sure you speak a
 8 little slowly so that if there's any breakup, that the
 9 court reporter can get what you're saying. So if you
 10 could start again, you were describing the difference,
 11 to the extent that there is one, between the two models.
 12 THE WITNESS: Yes, the difference between
 13 QUAL-TX and QUAL2K. They're -- both are steady-state
 14 models, which means they're looking at one period of
 15 time, like a diurnal period of time, and that the QUAL
 16 model has the capability of looking at some additional
 17 parameters. Example would be phosphorus or nitrogen or
 18 some of the other components that QUAL-TX generally does
 19 not do in a predictive manner.
 20 Q (BY MS. PESONEN) Okay. So based on what
 21 you've been able to review with the QUAL2K model, would
 22 you say that that modeling has addressed any of your
 23 concerns about the QUAL-TX modeling that was done by
 24 TCEQ?
 25 A No.

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1 Q No, it hasn't. Okay.
 2 MS. PESONEN: Well, that's all the
 3 questions I have for you, Mr. Frossard.
 4 I pass the witness.
 5 JUDGE SHENOY: For the Executive Director?
 6 MR. TATU: We have no questions, Your
 7 Honor. Thank you.
 8 JUDGE SHENOY: All right. Very good.
 9 Mr. Hill?
 10 MR. HILL: I have a couple.
 11 CROSS-EXAMINATION
 12 BY MR. HILL:
 13 Q Good morning, Mr. Frossard.
 14 A Good morning. How are you, sir?
 15 Q You can't hear me?
 16 A No, sir. I can hear you fine.
 17 Q Okay. I'm going to try to be patient here,
 18 because it still seems like you're breaking up a little
 19 bit. If it gets too bad, then we'll figure out how to
 20 get around that. If you can't hear me, please let me
 21 know.
 22 A Okay.
 23 Q I'm just going to follow up on a couple of
 24 those questions that OPIC had posed.
 25 You have -- you are not a modeler. Isn't

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1 that correct?
 2 A That's correct.
 3 Q Okay. You have -- you don't have any
 4 experience operating -- or running, rather -- a QUAL2K
 5 model. Isn't that correct?
 6 A That's correct.
 7 Q But you do understand that a QUAL2K is a
 8 dynamic model. Correct?
 9 A I think it can be.
 10 MR. HILL: Okay. I pass the witness.
 11 JUDGE SHENOY: Mr. Booth, any redirect?
 12 REDIRECT EXAMINATION
 13 BY MR. BOOTH:
 14 Q Mr. Frossard, explain your experience when
 15 evaluating water quality models.
 16 A In my profession and my experience over the
 17 last 40 years, I've had quite a few different water
 18 quality models developed for different purposes. Early
 19 on in my career, I did develop and did implement
 20 modeling. But in my -- as my position is now, I take
 21 the results from the work that modelers do and provided
 22 to me.
 23 From that information, then I then look at
 24 the resulting information provided but similar to what
 25 was done in this case. I review it to see if I believe,

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1 one, the model is representing what is a realistic
 2 answer to what we're looking for. Example here would be
 3 DO. Is it representing a realistic DO compared to the
 4 background water quality data? If not, then I think you
 5 have to continue working on that model to get it
 6 calibrated.

7 Q Okay. Do you have an opinion whether the model
 8 that Mr. Osting -- is it QUAL-TK or QUAL-K?

9 A QUAL2K.

10 Q Yeah, QUAL2K -- whether it's operating in a
 11 steady state or a dynamic mode?

12 A I believe he has the data only necessary to run
 13 it as a steady-state model.

14 Q And what is the concern, or what is the -- what
 15 does that mean as far as evaluating water quality?

16 A I believe it means Mr. Osting was able to look
 17 at, at least in his modeling effort, what a diurnal
 18 impact would be for one day of the year, September maybe
 19 21st. I'm not exactly sure about that one day. But the
 20 problem with that is it doesn't look at what would
 21 happen the next day or a week after that from the
 22 standpoint of either DO or from the standpoint of algal
 23 growth that would cause a problem to either public
 24 health or to recreational activity.

25 Q Okay. Now, can you just reiterate what you

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1 were talking about with de minimis when the public
 2 interest advocate asked you about it? I kind of -- my
 3 notes got confused.

4 A Yes. I believe that the regulations that TCEQ
 5 follows are generally called the IPs, at least the
 6 implementation procedures, established methodology for
 7 doing a Tier 1 and a Tier 2 analysis. I think the
 8 antidegradation component is under the Tier 2 analysis
 9 identified in that document.

10 For me, the standard for antidegradation
 11 is you establish what the assimilative capacity of the
 12 receiving water is, you look at adding the additional
 13 pollutant or load going into that receiving water, and
 14 if it consumes more than 10 percent of that existing
 15 assimilative capacity, then that is not de minimus, and
 16 it is an impact.

17 Q Okay. And what you were saying about the
 18 modeling that you were being asked about, it wasn't
 19 enough for you to make that determination?

20 A There was no modeling done to look at
 21 assimilative capacity that I saw. There was also no
 22 modeling done to look at algal growth. There was no
 23 modeling done to look at specifically the potential for
 24 public health and cyanobacteria growth within the cove
 25 or within Rucker Creek.

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1 Q Okay. Thank you.

2 MR. BOOTH: I pass the witness.

3 JUDGE SHENOY: All right. Any further
 4 questions for the final round, Ms. Pesonen?

5 MS. PESONEN: No further questions.

6 JUDGE SHENOY: All right. Mr. Tatu?

7 MR. TATU: No questions. Thank you.

8 JUDGE SHENOY: All right. And, Mr. Hill.

9 RE-CROSS-EXAMINATION

10 BY MR. HILL:

11 Q Let me follow up on a couple issues there.
 12 What is assimilative capacity, Mr. Frossard?

13 A Mr. Hill, that's the ability of the receiving
 14 waters to basically accept nutrient loads in a normal --
 15 let me back up there for you.

16 It's ability of the receiving waters to be
 17 able to assimilate the nutrient load coming into it in a
 18 manner that it exists in its background form.

19 Q Where do you get that definition from?

20 A Basically 42 years of experience in doing this.
 21 I've done assimilative capacity studies over the years
 22 for three or four different streams.

23 Q Interesting about the 10 percent standard that
 24 you mentioned there is I don't hear a reference to the
 25 actual impact on biology. What component of biological

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1 impacts does assimilative capacity play in your
 2 analysis?

3 A Assimilative capacity is looking generally
 4 towards can the receiving waters handle that additional
 5 load such that it doesn't impair either the aquatic life
 6 or the ability of animals or plants to exist after that
 7 period of time.

8 MR. HILL: Okay. That's it. Pass the
 9 witness.

10 JUDGE SHENOY: All right. Then,
 11 Mr. Frossard, thank you very much. You are free to go.
 12 And let's go off the record.

13 (Recess: 10:12 a.m. to 10:51 a.m.)

14 JUDGE SHENOY: Let's go back on the
 15 record. It's about 10:50. We had our morning break,
 16 and while we were off the record, we discussed a few
 17 things about witnesses and whether or not Applicant's
 18 witnesses are going to be presented as a panel, some of
 19 them at least. And the parties have agreed that they
 20 will discuss this offline and let Judge Starnes and me
 21 know what the decision is.

22 If they can come to an agreement, that
 23 would be best, and that they will let us know tomorrow
 24 morning. We are not going to take up Applicant's
 25 witnesses before tomorrow morning. Whether or not we're

<p style="text-align: right;">61</p> <p>1 done with the Executive Director's witnesses today, 2 it'll be tomorrow before we get to Applicant's. 3 So that's what we discussed before we got 4 back on the record, and now I believe we are ready for 5 the Executive Director's witnesses. 6 And Mr. Tatu and Ms. Isturiz, who will be 7 presenting Mr. Cooper? 8 MR. TATU: Ms. Isturiz will be presenting 9 Mr. Cooper. 10 JUDGE SHENOY: All right. And, 11 Mr. Cooper, are you able to hear me? 12 THE WITNESS: Yes. 13 JUDGE SHENOY: Okay, great. If you can 14 raise your right hand. 15 (Witness sworn) 16 JUDGE SHENOY: All right. Please proceed, 17 Ms. Isturiz. 18 PRESENTATION ON BEHALF OF 19 EXECUTIVE DIRECTOR 20 GORDON COOPER, 21 having been first duly sworn, testified as follows: 22 DIRECT EXAMINATION 23 BY MS. ISTURIZ: 24 Q Good morning, Mr. Cooper. How are you doing 25 today?</p>	<p style="text-align: right;">63</p> <p>1 through -- 1 through 3 and ED-5 through 10. 2 3 (Exhibit ED Nos. 1 through 3 and 5 through 4 10 offered) 5 JUDGE SHENOY: Okay. And I'll note that 6 there were no prefiled objections to the Executive 7 Director's prefiled testimony or exhibits, and I think 8 some of the witnesses discussed some of the exhibits; 9 other witnesses for the ED discussed some of the 10 exhibits as well. But I -- since there were no 11 objections prefiled, I'll just ask: Are there any 12 objections at this time for those to be admitted? 13 (No response) 14 JUDGE SHENOY: And hearing none, Executive 15 Director's Exhibits 1 through 3 and -- is it 6 through 16 9? 17 MS. ISTURIZ: 5 through 10, Your Honor. 18 JUDGE SHENOY: -- 5 through 10. Great. 19 Thank you -- are admitted. It's 1 through 3 and 5 20 through 10 are admitted. 21 (Exhibit ED Nos. 1 through 3 and 5 through 22 10 admitted) 23 MS. ISTURIZ: Thank you, Your Honor. The 24 Executive Director passes the witness. 25 JUDGE SHENOY: And for cross for the</p>
<p style="text-align: right;">62</p> <p>1 A Great. How are you? 2 Q Doing well. Thank you. 3 Now, you should have the Executive 4 Director's Exhibits. Can you please identify Exhibit 5 ED-1? 6 A Executive Director's Exhibit 1 is -- hang on a 7 second -- it's my prefiled testimony. 8 Q Great. Now, would this be a true and correct 9 copy of your testimony that you would provide today? 10 A Yes, it is. 11 Q Thank you. 12 And could you also identify Exhibits ED-1 13 through 3 and 5 through 10? 14 A Yes. 1 through 3 is my direct testimony. ED-2 15 is my resume. ED-3 is the procedures to implement Texas 16 Surface Water Quality Standards. ED-5 through 10 are 17 water quality -- the water quality modeling memo. ED-6 18 is the statement of basis and technical summary. ED-7 19 is the Granbury draft permit. ED-8 is the EPA 20 correspondence. ED-9 is the City of Granbury compliance 21 history. And ED-10 is the Executive Director's response 22 to comments. 23 Q Thank you, Mr. Cooper. 24 MS. ISTURIZ: Your Honor, the Executive 25 Director would like to offer into evidence Exhibits ED-1</p>	<p style="text-align: right;">64</p> <p>1 Executive Director's witnesses, we were going to start 2 with Mr. Hill. 3 MR. HILL: Very good. Thank you, Judges. 4 CROSS-EXAMINATION 5 BY MR. HILL: 6 Q Good morning, Mr. Cooper. 7 A How are you doing? 8 Q I'm well. How are you doing? 9 A All right, so far. 10 Q I am going to ask you to explain to me, very 11 briefly, when you became involved in your review of the 12 application. 13 A My review of the application began when the -- 14 after the public meeting and as they were beginning to 15 draft the Executive Director's responses to comments. 16 Q You heard testimony earlier today -- I think 17 that I saw you were online from the beginning of the 18 hearing. Is that right? 19 A That's correct. 20 Q Okay. You heard the testimony from Mr. Esmond 21 earlier today when he and I discussed the temporary 22 equalization basin that is proposed in the facility 23 design for this application? 24 A Yes, I did. 25 Q Okay. Do you understand, Mr. Gordon (sic), the</p>

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1 equalization basin in this application, that's part of
 2 the design of the facility in this application, is to
 3 take on influent through storm surges, as an example?
 4 **A Yes, I do.**
 5 Q Okay. And is it your understanding that once
 6 that influent, that surge influent, has been captured in
 7 the equalization basin, it's then moved on to the rest
 8 of the treatment process. Is that correct?
 9 **A That's correct.**
 10 Q Okay. And it is a matter of time to just
 11 balance out that storm surge before you're able to
 12 capture it and then move it into the treatment process.
 13 Correct?
 14 **A I believe so, yes.**
 15 Q All right. And so in that instance, then, the
 16 equalization basin that's proposed in this application
 17 is to be used only temporarily to store influent. Isn't
 18 that your understanding?
 19 **A It's supposed to be for temporary influent**
 20 **storage.**
 21 Q Okay. I'm going to --
 22 MR. HILL: Judge, do you mind if I share
 23 my screen here?
 24 JUDGE SHENOY: No. Go ahead.
 25 MR. HILL: All right.

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1 Q (BY MR. HILL) All right. I have here on the
 2 screen a page from the administrative record, which is
 3 Admin Record 0665 is the page number in the bottom
 4 left-hand corner. Do you see that, Mr. Cooper?
 5 **A Yes. Yes.**
 6 Q I'm going to attempt to call out here a portion
 7 of this treatment design. Do you see here the reference
 8 to temporary EQ basin?
 9 **A Yes, I do.**
 10 Q All right. And in our discussion here that you
 11 and I have had, when we're talking about a temporary
 12 equalization basin, your understanding is this is the
 13 equalization basin that you and I have been discussing.
 14 Correct?
 15 **A Yes.**
 16 Q Okay. All right.
 17 MR. HILL: That's all the questions I
 18 have. Thank you, Mr. Cooper.
 19 I pass the witness.
 20 JUDGE SHENOY: OPIC, any questions?
 21 MR. ARTHUR: Yes, Your Honor. Thank you.
 22 CROSS-EXAMINATION
 23 BY MR. ARTHUR:
 24 Q Good morning, Mr. Cooper.
 25 **A How are you doing?**

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1 Q Good. Thanks.
 2 I have a few questions regarding your
 3 prefiled testimony. Do you have that available?
 4 **A Yes, I do.**
 5 Q Okay. So I'd like to start on Page 10 -- I'm
 6 sorry -- Page 7, where you're discussing effluent
 7 limits. And I note that the limits for ammonia nitrogen
 8 and total phosphorus go down from the interim phase to
 9 the final phase. Is that right?
 10 **A Hang on a second. You're saying the ammonia**
 11 **and what?**
 12 Q So I see that the ammonia nitrogen limit and
 13 the total phosphorus limits are going down between the
 14 interim phase and the final phase. Right?
 15 **A That's -- yes, that's correct. I had to find**
 16 **the lines. I'm sorry.**
 17 Q Sure. I understand.
 18 So can you please explain why they go down
 19 in the final phase?
 20 **A I don't know that I can, because these are**
 21 **numbers that come to us from the modeling group.**
 22 Q Okay.
 23 **A I can give you maybe a basic understanding, but**
 24 **from my experience, we get this information from the**
 25 **modelers --**

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1 Q Okay.
 2 **A -- and no matter how counterintuitive it may**
 3 **seem.**
 4 Q Okay. So this might be a better question for
 5 the modeler. Is that right?
 6 **A I believe so, yes.**
 7 Q Okay. Okay. So I -- my next question or
 8 couple of questions are regarding compliance history.
 9 **A Okay.**
 10 Q So I'd like to start on Page 9 at Line 28,
 11 where --
 12 **A Okay.**
 13 Q -- you state that the City's compliance history
 14 is classified as high. Right?
 15 **A That is correct.**
 16 Q Okay. So I noticed that later on, at Page 17,
 17 Line 25, you testified that the City's compliance
 18 history is on the high end of satisfactory. So I'm
 19 trying to understand which it is.
 20 **A Well, if we -- if we can pull up their**
 21 **compliant history sheets that we'd run -- I think there**
 22 **have been two of them run -- that might be real helpful,**
 23 **if you wouldn't mind.**
 24 Q That would be fine, sir. I'm just trying to
 25 understand if perhaps these compliance histories were

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1 run at different times and the number and the rating
 2 changed slightly, because they -- you're testifying to
 3 two different classifications.

4 **A Right. Hang on a second. Okay. The one**
 5 **that's -- that rates it high was run on September 22nd,**
 6 **2021. And the one that rates it as satisfactory with a**
 7 **rating of 0.10 was run on March 5th of 2020. So they**
 8 **were just right at a year apart from each other, I**
 9 **think.**

10 Q Okay.

11 **A A little more.**

12 Q Okay. I appreciate that explanation.

13 So my last question is regarding your
 14 testimony on Page 17 at Line 27, where you state: With
 15 regard to the Applicant's other facility.

16 Do you see that?

17 **A Uh-huh.**

18 Q So when you say "Applicant's other facility,"
 19 do you mean the south wastewater treatment plant?

20 **A Well, they have one existing one.**

21 Q Right.

22 **A And there -- and this is -- they're proposing**
 23 **this additional one, which I believe is called the east**
 24 **plant. Is that right?**

25 Q Right. So when -- so you mean there, their

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1 only existing plant right now, which I believe they call
 2 the south --

3 **A Yeah.**

4 Q -- south wastewater treatment plant. Right?

5 **A Yeah.**

6 Q Okay.

7 MR. ARTHUR: Okay. Thank you, Mr. Cooper.
 8 Judge, I pass the witness.

9 JUDGE SHENOY: Thank you.

10 And between Granbury Fresh and Dr. Calder
 11 and then on the Rists and Bennett's RV, have you decided
 12 which order you will cross this witness?

13 MR. ALLMON: Your Honor, for this witness,
 14 I believe that Victoria Calder and Granbury Fresh intend
 15 to go prior to the Rists.

16 JUDGE SHENOY: Okay. Please proceed.

17 MR. ALLMON: Okay.

18 CROSS-EXAMINATION

19 BY MR. ALLMON:

20 Q Good morning, Mr. Cooper. How are you?

21 **A Good. How are you, man?**

22 Q Oh, I'm doing all right. We're moving along at
 23 a good clip here this morning.

24 I would like to begin by discussing with
 25 you some odor issues.

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1 MR. ALLMON: And, Your Honor, may I share
 2 the screen?

3 JUDGE SHENOY: Yes. Please go ahead.

4 Q (BY MR. ALLMON) Okay. Mr. Cooper, do you now
 5 have in front of you an EPA technical report --

6 **A Yes.**

7 Q -- that you're able to see on the screen?

8 **A Yes.**

9 Q And this is EPA 430/9-76-003?

10 **A Uh-huh.**

11 Q And does this regard environmental factors at
 12 municipal wastewater treatment works?

13 **A Okay.**

14 Q I'd like to look at what is the PDF Page 14 of
 15 this, which is internal Page 25 on Bates No. GF 2662.
 16 Do you have that in front of you now?

17 **A I believe so. Page 25. Yeah.**

18 Q Page 25. And I want to look at what is within
 19 Section 3.2.2 regarding odor potential at wastewater
 20 treatment facilities.

21 **A Okay.**

22 Q And do you see in the second paragraph there,
 23 it states that any organic material containing sulfur
 24 and/or nitrogen and domestic wastewater can, in the
 25 absence of an oxygen source, undergo incomplete

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1 oxidation resulting in emissions of by-products which
 2 may be malodorous?

3 **A Yes.**

4 Q Do you agree with that statement?

5 **A I believe that is possible, yes.**

6 Q Okay. And look with me -- and would those be
 7 described at anaerobic conditions when you're talking
 8 about conditions where there's no oxygen source?

9 **A Yes.**

10 Q Okay. Look with me to Page 16. Do you see a
 11 discussion of hydrogen sulfide there?

12 **A That 3.2.4?**

13 Q Yes, sir.

14 **A Yes.**

15 Q And is hydrogen sulfide -- well, first, let me
 16 back up.

17 Is there a potential for sulfur to be
 18 present within the influent to the proposed plant to be
 19 operated according to the permit here?

20 **A I'm not real sure on the chemistry.**

21 Q Okay.

22 **A I wouldn't know for sure.**

23 Q Would there be human excretive present in the
 24 influent?

25 **A Oh, yeah.**

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1 Q So does this indicate that sulfur is present
 2 within human excretive?

3 A Are you asking me if this passage indicates
 4 that, or are you asking me if I know?

5 Q I'm asking if this passage in the first line
 6 under 3.2.4 indicates that sulfur is present in --

7 A Yes, it does.

8 Q And do you have any reason to agree with
 9 that -- I mean to disagree with that?

10 A No. It's right there.

11 Q Okay. And sorry. Do you see at the end of --
 12 let me move -- end of that paragraph, where it indicates
 13 that H2S, which is hydrogen sulfide, is treacherous
 14 because the ability of a person to sense it can be
 15 quickly lost?

16 A Yes.

17 Q Is that, in fact, the case?

18 A Yes.

19 Q In adequate concentrations, can hydrogen
 20 sulfide be damaging to health?

21 A Yes.

22 Q Okay. Thank you.

23 Now I'd like to look -- I've got to review
 24 my Zoom, if you'll give me just a second here. I'd like
 25 to look --

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1 MR. ALLMON: Your Honor, we would offer
 2 Exhibit GF-1.

3 (Exhibit GF No. 1 offered)

4 JUDGE SHENOY: And all prefiled objections
 5 having been overruled, are there any objections at this
 6 time that need to be stated for the record?

7 MR. HILL: Yes, Your Honor. I object that
 8 the document is hearsay.

9 MR. ALLMON: Your Honor --

10 JUDGE SHENOY: Mr. Allmon?

11 MR. ALLMON: -- the document is a formal
 12 government document, which has been developed by the EPA
 13 for purposes of implementing those matters which it is
 14 charged to investigate and develop, and so it falls into
 15 an exception of the hearsay rule.

16 MR. HILL: And there is no exception to
 17 the hearsay rule for a government document that is not
 18 certified by the publishing agency. And I don't see
 19 this document's been certified.

20 MR. ALLMON: Your Honor, that is an error.
 21 The nature of a document as a government document falls
 22 within a hearsay exception. The objection to the lack
 23 of certification goes to authentication. And for
 24 purposes of authentication, all that is required is a
 25 prima facie demonstration that a document -- that a

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1 reasonable person can conclude that a document is what
 2 it purports to be, which may be done through certain
 3 particular insignia or indications.

4 This document has an EPA-assigned number
 5 for a regulatory document. The authentication of the
 6 document can be easily done through resort to the EPA
 7 website. And so we think it has been adequately
 8 authenticated and does, as a government document, fall
 9 within the exception to the hearsay rule.

10 JUDGE SHENOY: All right. And can you
 11 remind me, Mr. Allmon, this was prefiled?

12 MR. ALLMON: No, Your Honor. This was
 13 disclosed through discovery but was not a prefiled
 14 exhibit.

15 MR. HILL: This, I believe, Eric was
 16 disclosed within the last few days. Is that one of the
 17 documents that was disclosed?

18 MR. ALLMON: Yes.

19 JUDGE SHENOY: Okay. And how had you
 20 numbered it?

21 MR. ALLMON: It is numbered Exhibit GF-1,
 22 is what we are assigning it at this time.

23 JUDGE SHENOY: Okay. The objection is
 24 overruled. It'll go to the weight. And Exhibit GF-1,
 25 Granbury Fresh-1, is admitted.

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1 (Exhibit GF No. 1 admitted)

2 Q (BY MR. ALLMON) Okay. So at this point,
 3 Mr. Cooper, I would like to look at the TCEQ rule that
 4 is relevant in considering the odor issue.

5 MR. ALLMON: Your Honor, may I share a
 6 screen?

7 JUDGE SHENOY: Yes. Please feel free.

8 Q (BY MR. ALLMON) Mr. Cooper, do you now have in
 9 front of you a copy of TCEQ Rule 309.13, Unsuitable Site
 10 Characteristics?

11 A Yes.

12 Q And let me scroll down to -- and that's -- let
 13 me look at 309.13(e). Does that set forth certain
 14 requirements to deal with to abate and control nuisance
 15 odor?

16 A Yes.

17 Q And under (e)(1), does that rule state that
 18 lagoons with zones of anaerobic activity --

19 A Yes.

20 Q -- e.g., facultative lagoons or un-aerated
 21 equalization basins may not be located closer than
 22 500 feet to the nearest property line?

23 A Yes.

24 Q In identifying the parenthetical there as
 25 un-aerated equalization basins, does the rule make any

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1 distinction between temporary basins versus permanent
 2 equalization basins?
 3 **A No, it does not.**
 4 Q Okay. Will the equalization basin, as
 5 described in the permit application here, be required to
 6 be aerated?
 7 **A I don't know.**
 8 Q So can you identify any requirement within the
 9 permit that would require that the equalization basin be
 10 aerated?
 11 **A No, it does not have that requirement.**
 12 Q Okay. Now, let me look and explore. And to be
 13 clear, when -- let me -- if you'll give me a second.
 14 Okay. I would like you to look with me
 15 now --
 16 MR. ALLMON: Your Honor, may I screen
 17 share?
 18 JUDGE SHENOY: You certainly may, and you
 19 don't need to ask. You can just go ahead.
 20 MR. ALLMON: Okay. Thank you.
 21 Q (BY MR. ALLMON) Let me look at the
 22 administrative record which has been submitted in this
 23 record, Exhibit A. And I'm looking at PDF Page 310,
 24 which is marked COG 102. Is that the flow diagram?
 25 **A Yes, it looks like it. Yeah.**

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1 Q And you see in the upper left, it indicates
 2 that we start with wastewater flow from the collection
 3 system?
 4 **A Yes.**
 5 Q Is wastewater directly coming from the
 6 collection system anaerobic?
 7 **A I wouldn't know for sure.**
 8 Q So in this case, would it potentially be
 9 anaerobic wastewater?
 10 **A I wouldn't know that for sure.**
 11 Q Okay. So you would not know whether that
 12 wastewater entering the temporary equalization basin is
 13 anaerobic?
 14 MR. HILL: Objection. Question is unduly
 15 repetitious.
 16 JUDGE SHENOY: I think he's already
 17 established he doesn't know, Mr. Allmon.
 18 MR. ALLMON: Okay.
 19 Q (BY MR. ALLMON) Do you see here where there is
 20 a labeling of particular stages being the BNR anaerobic
 21 basin?
 22 **A Yes, I do.**
 23 Q Would you anticipate that there will be zones
 24 of anaerobic activity within that basin?
 25 **A If you look at the label, yeah.**

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1 Q And do you have any reason to disagree with
 2 that label?
 3 **A There's information that I received from the**
 4 **permittee about it has to do -- it's a highly technical**
 5 **and engineering nature and where they demonstrate where**
 6 **the anaerobic will not be truly anaerobic.**
 7 Q Will the anaerobic -- well, let's back up.
 8 Are you familiar with the term "oxidation
 9 reduction potential"?
 10 **A Well, I heard the term earlier, yeah.**
 11 Q Do you know what that term means?
 12 **A I can't remember.**
 13 Q Generally, is any area with a negative ORP
 14 anaerobic?
 15 **A I don't know.**
 16 Q Do you know whether anaerobic conditions are
 17 required for biological nutrient removal?
 18 **A Yes.**
 19 Q And is the intent of this stage biological --
 20 is this a stage in the biological nutrient removal
 21 process?
 22 **A Yes.**
 23 Q And so are anaerobic conditions intended to
 24 exist here in order to facilitate that nutrient removal
 25 process?

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1 **A Yes and no, because what they're doing is**
 2 **they're bringing it down as close to anaerobic as they**
 3 **can.**
 4 Q Okay. Well, let me ask again: Are anaerobic
 5 conditions required for the initial stage of nutrient
 6 removal in a biological process?
 7 **A Yes.**
 8 Q So is it necessary to create anaerobic
 9 conditions within this unit in order to accomplish the
 10 initial stage of nutrient removal?
 11 **A I believe so, yes.**
 12 Q Okay. And, now, there's a BNR anoxic basin
 13 here. Is the potential for anaerobic conditions to
 14 exist within that basin?
 15 **A No. The oxygen level comes up.**
 16 Q Okay. Now, let me look -- now, do you see here
 17 later in the process we move on, after we've got -- are
 18 these three stages with the BNR anaerobic basin, then
 19 the anoxic basin, then the BNR aeration basin
 20 essentially the stages of the nutrient removal process
 21 here?
 22 **A I believe the first two have to do with**
 23 **nutrient removal, and then the aeration is where you**
 24 **provide oxygen to the -- to the bacteria so it'll start**
 25 **consuming what it could consume there.**

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1 Q All right. Then is the next step labeled here
2 MBR basin?
3 A Uh-huh.
4 Q What does MBR stand for?
5 A Membrane bioreactor.
6 Q Can you describe for us how a membrane
7 bioreactor functions?
8 A Yes. It goes -- the effluent passes through a
9 membrane and basically filters out the effluent.
10 Q Now, were you here earlier this morning for the
11 testimony of Mr. Esmond?
12 A Yes.
13 Q And did you hear his testimony indicating that
14 a consistent flow is necessary for the proper operation
15 of an MBR system?
16 A Yes.
17 Q Do you agree with that testimony?
18 A I wouldn't know, because I'm not an engineer.
19 Q Okay. Now, in your deposition -- well, let me
20 look at this point to Mr. Esmond's testimony. If you'll
21 give me just a second, please.
22 MR. ALLMON: I apologize, Your Honor.
23 Sometimes takes a minute here to get everything.
24 Q (BY MR. ALLMON) Do you have now in front of
25 you the testimony of Mr. Esmond, the prefiled testimony?

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1 A I do now, yes.
2 Q Yes. And if you would look with me to Page 11,
3 I'm looking at Line 19. Do you see where he was asked
4 whether the use of an equalization basin will be
5 necessary for the functioning of the plant?
6 A Yeah, I see that.
7 Q And then Lines 21 through 22, do you see his
8 answer: Yes. The MBR process is notoriously dependent
9 on EQ basins to provide efficient operation and permit
10 compliance?
11 A I see that.
12 Q Do you agree with that statement?
13 A I don't know, because I'm not an engineer.
14 Q In your deposition, did you indicate your
15 agreement with that statement?
16 A I can't -- I can't remember what I said about
17 it in my deposition.
18 Q Do you have any reason to disagree with that
19 statement?
20 A The only reason I would disagree with it is if
21 they found some way of bypassing that to be able to
22 circulate the effluent around and keep it -- and keep
23 the membrane operating.
24 Q Okay. If you'll give me --
25 MR. ALLMON: Your Honor, I apologize. If

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1 you can give me just one second. Okay. Let me...
2 Q (BY MR. ALLMON) Look here -- now, do you have
3 in front of you a copy of your deposition in this
4 matter --
5 A Yes.
6 Q -- February 14, 2022?
7 A Yes.
8 Q And I would like to look at Page -- Page 20 of
9 that exhibit. I'm looking at Line -- it's Page 20 of
10 his deposition, looking at Line 20. In the discussion
11 of Mr. Esmond's testimony, you were asked: Now, does
12 he -- just to be exact, does he state that the MBR
13 process is notoriously dependent on equalization basins
14 to provide efficient operation of permit compliance?
15 A Yeah, I see that question --
16 (Simultaneous discussion)
17 Q -- asked that question in deposition. And then
18 there was a bit of arguing over a form objection and --
19 MR. HILL: Your Honor, I'm going to raise
20 that objection right now.
21 JUDGE SHENOY: Okay. And I was following
22 along reading it, so there was an objection as to form.
23 And Mr. Allmon asked you the basis of it, and you said
24 that the evidence had not been admitted into the record,
25 if you look at the next page.

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1 MR. HILL: Yeah, that's right.
2 JUDGE SHENOY: Okay. And that's
3 overruled.
4 So, Mr. Allmon, you may need to ask the
5 question again. I'm not sure.
6 MR. ALLMON: All right. And I was
7 continuing on.
8 Q (BY MR. ALLMON) So looking kind of then asking
9 the question again, Line 7, said: It's accurate that he
10 states that an MBR process is notoriously dependent on
11 equalization basins to provide efficient operation of
12 permit compliance. You see that?
13 A Yeah, I see it.
14 Q And what was your answer on Line 11?
15 A Apparently, I said yes.
16 Q Okay. And in reviewing your deposition, did
17 you make any change to that answer?
18 A What do you mean?
19 Q Did you subsequent --
20 A From then till now?
21 Q Yes.
22 A Yeah, I did.
23 Q Did you ask that your deposition transcript be
24 revised to alter that answer?
25 A No, I did not.

<p style="text-align: right;">85</p> <p>1 Q Okay. So at the time, that was your honest 2 answer to the question?</p> <p>3 A I think both of them were my honest answer to 4 my question -- to the question.</p> <p>5 Q All right. Now, let's look -- you referenced 6 some material in the application, so I'll look back at 7 the administrative record in this matter and look to 8 that. Are you looking again at the administrative 9 record?</p> <p>10 A I think so, yeah.</p> <p>11 Q Yeah. And is this, again, a PDF Page 298 of 12 that?</p> <p>13 A I've seen this -- I've seen this PDF before, 14 yeah.</p> <p>15 Q Which is Bates-labeled COG 90 in the lower 16 right-hand corner?</p> <p>17 A Yeah.</p> <p>18 Q And do you see here the temporary -- apologies. 19 You see the temporary EQ basin in the lower right-hand 20 corner?</p> <p>21 A Yes, I do.</p> <p>22 Q And what is the distance from that to the 23 property line?</p> <p>24 A 150 feet.</p> <p>25 Q So if this is considered to be a lagoon with</p>	<p style="text-align: right;">87</p> <p>1 less, for the purposes of what this basin is being used.</p> <p>2 Q Is there any requirement that this basin -- and 3 we're talking about the temporary EQ basin at this 4 point. Is there any --</p> <p>5 A Yeah.</p> <p>6 Q -- requirement this be covered in the permit?</p> <p>7 A I'm not really sure. I think it -- I think 8 there is if it -- if it -- there -- I want to answer 9 your question yes or no, but I just can't. There's a 10 lot more information about this -- about this basin that 11 exists in the administrative record where the Applicant 12 and the ED were discussing it.</p> <p>13 Q And we'll get to that here in a minute. For 14 the moment --</p> <p>15 A Okay.</p> <p>16 Q -- you're not recalling any requirement that 17 this be covered, if I understand your answer?</p> <p>18 A Yeah. I would have to say you're -- you're 19 correct.</p> <p>20 Q And you recall we discussed earlier the EPA 21 indication that zones -- that anaerobic zones have the 22 potential to produce odor. Do you recall that?</p> <p>23 A Yes.</p> <p>24 Q So would that -- would that text by the EPA 25 apply to this -- this unit?</p>
<p style="text-align: right;">86</p> <p>1 zones of anaerobic activity, is this compliant with the 2 TCEQ rule requiring a 500-foot buffer?</p> <p>3 A I'm not sure quite how to answer that.</p> <p>4 Q Okay. Well, we looked previously --</p> <p>5 A Because it's not a lagoon.</p> <p>6 Q What is your basis for stating that you do not 7 believe it to be a lagoon?</p> <p>8 A Because it's not a pond that stores effluent 9 for a long period of time.</p> <p>10 Q Do the TCEQ rules make any such distinction?</p> <p>11 A I know that they talk about lagoons, and I'd 12 have to look at the rule to see, but I believe that's 13 what they intend.</p> <p>14 Q Does the status of this as either -- well, what 15 is the difference between a pond and a lagoon as you 16 describe it here?</p> <p>17 A Well --</p> <p>18 Q Well, let me back up.</p> <p>19 A A pond is a lagoon. I mean --</p> <p>20 Q Yeah. Let me revise that question. What is 21 the difference between a pond and the unit depicted 22 here?</p> <p>23 A I believe that it's actually a -- the pond or 24 lagoon is actually a treatment unit that's used for 25 treating and not -- not necessarily storage, more or</p>	<p style="text-align: right;">88</p> <p>1 A It could.</p> <p>2 Q Okay. And, now, looking at the BNR anaerobic 3 zone, if this were considered a lagoon -- well, let me 4 ask you: Looking at the BNR anaerobic zone here, what 5 is the distance from that to the property line?</p> <p>6 A 150 feet.</p> <p>7 Q And so if this was considered a lagoon, would 8 this comply with the TCEQ regulations?</p> <p>9 A If it was considered a lagoon, a true lagoon, 10 no.</p> <p>11 Q Okay. Do you consider it a lagoon?</p> <p>12 A No.</p> <p>13 Q What is your basis for that?</p> <p>14 A Because it's a different type of treatment 15 unit.</p> <p>16 Q In what way do you consider this a different 17 type of treatment unit than a lagoon?</p> <p>18 A A lagoon -- a lagoon is just going to sit there 19 and hold the -- hold the effluent for a period of time 20 while biological activity occurs, and then it will allow 21 it to leave. But it doesn't -- it isn't -- a lagoon 22 isn't, like, something that has a mechanical purpose or 23 mechanical application like this BNR zone.</p> <p>24 Q Is this going to hold wastewater for a certain 25 period of time in order for the biological -- for the</p>

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1 initial stage of the biological nutrient removal process
 2 to occur?
 3 **A For a little bit, yeah, but it'll always be**
 4 **passing through.**
 5 Q And is this, in accordance with the label,
 6 going to contain zones of anaerobic activity?
 7 **A True anaerobic activity or -- I don't know.**
 8 Q Okay. Now, let me look -- you indicated that
 9 there were certain information from the Applicant. Are
 10 you looking at that now? I'm looking at --
 11 **A Yes.**
 12 Q -- what is marked at Page COG 92 of the
 13 administrative record.
 14 **A Right.**
 15 Q And does this indicate -- well, first --
 16 there's the indication of the anaerobic selector
 17 and an --
 18 **A Okay.**
 19 Q -- indication that the ORP range will be
 20 limited to negative 50 to negative 100 to prevent it
 21 from going septic. Do you see that text?
 22 **A Yes.**
 23 Q Are zones with an ORP range from negative 50 to
 24 negative 100 still anaerobic?
 25 **A This is the terminology I was telling you that**

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1 it's really better directed to an engineer.
 2 Q Okay.
 3 **A Where we have -- this information that you have**
 4 **right here is information that I actually asked of the**
 5 **permittee whenever I saw that there was a zone of**
 6 **anaerobic activity. And I requested it so that they**
 7 **could qualify whether -- how the -- how their particular**
 8 **system would meet the 150-foot buffer zone. This**
 9 **information comes to us, and if we don't understand it,**
 10 **we direct it to some people in the water quality**
 11 **division that do.**
 12 Q So -- but did you make a finding that this
 13 facility complies with the buffer zone requirements?
 14 **A Yes, I did.**
 15 Q And was this statement the basis of your
 16 finding that it complied with the buffer zone
 17 requirements?
 18 **A Yeah, more or less. I think there may be some**
 19 **more to this somewhere.**
 20 Q Okay. Well, given that this was part of the
 21 basis for your decision, I'm trying to understand how
 22 this served as a basis for your decision given that
 23 zones with anaerobic activity are not allowed within
 24 less than 500 feet of the property line. Is it true
 25 that zones with ORPs of negative 50 to negative 100 are

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1 anaerobic?
 2 **A I wouldn't know.**
 3 Q Okay. Do the TCEQ rules make any distinction
 4 between anaerobic zones that are within negative 50 to
 5 negative 100 versus --
 6 **A No.**
 7 Q -- septic zones?
 8 **A No, not that I know of. Now, there is -- there**
 9 **is -- in 217, there's some information about anoxic**
 10 **zones, and I think we tend to apply it to the anaerobic**
 11 **zones and where there's a maximum amount of oxygen that**
 12 **could be present. And the whole thing on that is, is as**
 13 **along as there's a little bit of oxygen there, enough to**
 14 **keep it from forming H2S, that we -- that then we**
 15 **consider that as enough to keep it from needing the**
 16 **500-foot buffer zone.**
 17 Q Is that what you would consider a Commission
 18 policy?
 19 **A It's a water quality policy.**
 20 Q Is that reflected in Rule 309.13?
 21 **A I don't think so, no.**
 22 Q Okay. Is there any Commission policy that
 23 exempts zones within a limited negative oxidation
 24 reduction potential from Rule 309.13?
 25 **A If there is, I wouldn't be the one that would**

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1 know that one, because it would probably go -- be with
 2 the same group that we referenced that we go to and ask
 3 these questions of, who also do the final engineering
 4 review of the plant to make sure that -- that everything
 5 is going to be like the Applicant says it's going to be
 6 and that it will meet the requirements of the permit.
 7 Q So if I'm understanding your answer, you don't
 8 know of any Commission policy that says that there's an
 9 exemption from 309.13 for ORPs of less than negative
 10 100?
 11 **A No. The -- it doesn't spell out those numbers.**
 12 Q Now, does this statement within the application
 13 require that the facility be operated with ORPs of
 14 greater than negative 100?
 15 **A I'm sorry. Repeat the question again.**
 16 Q I know you stated that your opinion that this
 17 complied with buffer zones was based in part on this --
 18 well, let me -- am I understanding that your opinion
 19 that this facility complies with the buffer zone
 20 requirements is based on the representations regarding
 21 the oxidation reduction potential range that the
 22 facility would be operated within?
 23 **A I believe so, yes.**
 24 Q Okay. And so do you know of any Commission
 25 policy that creates an exception from 309.13(e) based

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1 upon the range of oxidation reduction potentials that a
 2 facility will be operated within?

3 **A** I'm not really that -- I don't -- I don't know
 4 if it goes into that oxygen reduction potential. So I
 5 wouldn't know quite how to answer that. And not having
 6 the rule open in front of me doesn't -- you know, so I
 7 can look at it and examine it doesn't really help me at
 8 all, because, I mean, we get -- we get these -- many of
 9 these things through here, or a few of them through
 10 here, and this is what we do. We look at whether or
 11 not -- how it applies to 217, how it applies to -- you
 12 know, how the engineering and the technical portion of
 13 the -- how all this stuff works is going to meet this
 14 requirement.

15 **Q** And what I'm trying to determine, when you
 16 say -- when you are saying this is what we do --

17 **A** Yeah, as a -- as a -- as a team.

18 **Q** As a team. So is that --

19 **A** Uh-huh.

20 **Q** -- a staff practice?

21 **A** Yes.

22 **Q** So that's not any Commission policy that you're
 23 applying?

24 **A** No.

25 **Q** Okay.

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1 **A** Well, yeah -- well, no. It's a -- it's
 2 isolated to the staff because we are -- it's our focus
 3 of what we do as far as permitting. I mean, there's
 4 industrial permitting that, you know, they probably
 5 don't even look at this.

6 **Q** Is there any written document that embodies
 7 this -- the adoption of this exception?

8 **A** No.

9 **Q** Now, I want to look, if you will, with me --
 10 just a second -- at what has been marked as Exhibit GF-2
 11 to this matter. Do you now see the EPA document,
 12 Nutrient Control Design Manual?

13 **A** Yeah.

14 **Q** Okay. And this has been marked Exhibit GF-2.
 15 You see there?

16 **A** Yeah.

17 **Q** And I would like to look at Section 6.4.4 of
 18 this -- do you see where it describes the presence of
 19 oxygen or nitrate in the aerobic zone?

20 **A** Yeah.

21 **Q** And you see there where it states if oxygen or
 22 nitrate is present in the anaerobic zone, then organisms
 23 that use oxygen or nitrate will preferentially grow?

24 **A** Yes.

25 **Q** Do you know whether nitrate tends to be present

95

1 at ORPs above a negative 100?

2 **A** This is another question that you need to ask
 3 an engineer.

4 **Q** Okay. Do you know whether phosphorus removal
 5 can efficiently occur by biological methods with ORPs
 6 higher than negative 100?

7 **A** You're going to have to ask an engineer.

8 **Q** So did you evaluate -- does this permit contain
 9 a phosphorus limit?

10 **A** Yes, it does.

11 **Q** Did you make any evaluation of whether that
 12 phosphorus limit can be met if the anaerobic zone is
 13 operated according to the representations regarding the
 14 oxidation reduction potential range?

15 **A** No, I did not.

16 MR. ALLMON: Your Honor, we would offer
 17 Exhibit GF-2 into the record.

18 (Exhibit GF No. 2 offered)

19 JUDGE SHENOY: And this is the same thing,
 20 Mr. Allmon. It wasn't prefiled, but this is something
 21 that was disclosed in discovery?

22 MR. ALLMON: Yes. This is a similar
 23 situation, and our tender would be based on a similar
 24 authentication and exception to the hearsay rule.

25 JUDGE SHENOY: All right. Do I hear any

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1 objections for the record to GF-2?

2 (No response)

3 JUDGE SHENOY: All right. Hearing none,
 4 Exhibit GF-2 is admitted.

5 (Exhibit GF No. 2 admitted)

6 **Q** (BY MR. ALLMON) Okay. Mr. Cooper, were you --
 7 are you familiar with the term "regionalization"?

8 **A** Yes.

9 **Q** And does the TCEQ -- well, can you explain the
 10 term "regionalization"?

11 **A** Well, what it has to do with is to make sure
 12 that not too many wastewater treatment plants are built
 13 so close together and that people can -- and that the --
 14 a nearby wastewater treatment plant can be utilized
 15 rather than to build another plant.

16 **Q** Okay. Did the Executive Director perform a
 17 review of whether this permit met the regionalization
 18 requirements --

19 **A** Yes, they did.

20 **Q** -- applicable?

21 And what was involved in that review?

22 **A** Well, they looked at -- they looked at the
 23 information that the Applicant presented, and they also
 24 compared it to what the application requires, plus
 25 there's also information I believe that's on the website

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1 and all -- and they evaluated all that.

2 Q Do the instructions for the application require

3 that letters be sent to all operators of facilities --

4 A Yes.

5 Q -- within three miles?

6 A Yes.

7 Q Did the Applicant in this case do that?

8 A No.

9 Q So was there a demonstration made that none of

10 the facilities within three miles would be unwilling or

11 unable to accept the effluent to be treated by this

12 plant?

13 A I'm sorry. Repeat your question again. I'm

14 sorry.

15 Q Yes, I will. And I used an incorrect term

16 there.

17 So was there a demonstration that none of

18 the wastewater treatment plants within three miles would

19 be either unwilling or unable to accept the influent to

20 be treated by this proposed facility?

21 A Demonstration, yes, I guess. Yes.

22 Q And how was that demonstration made if there

23 was no correspondence from any of those facilities?

24 A One is that they knew that the -- that neither

25 one of them were -- one of them wasn't even close to

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1 being capable of accepting the wastewater. And the

2 other one was also not capable. And plus, they are

3 built -- they are wanting to develop within their own

4 CCN.

5 Q Now, are the instructions for the application

6 only interested in whether they're capable, or are they

7 also an issue of whether they are willing to accept the

8 influent?

9 A I believe there's also a willingness.

10 Q So was any determination made as to the

11 willingness of treatment facilities within three miles

12 to accept the effluent -- I mean the influent to be

13 treated at this facility?

14 A That I know of, no.

15 Q Okay. And that's because you did not receive

16 any correspondence as would have been required from

17 those facilities?

18 A I would imagine so, yes.

19 Q Okay.

20 MR. ALLMON: Your Honor, I think I may be

21 done, but if I could take just a five-minute break to

22 review my notes, I would appreciate it. We have moved

23 very quickly this morning. I've been trying to catch up

24 a little bit.

25 JUDGE SHENOY: Yes. And sure, that's

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1 fine. Let's go off the record for five minutes.

2 (Recess: 11:42 a.m. to 11:48 a.m.)

3 JUDGE SHENOY: Let's go back on the

4 record. We took a short break so that, Mr. Allmon, you

5 were able to consult your notes. And you indicated

6 you're ready to pass the witness?

7 MR. ALLMON: Yes, Your Honor. I have no

8 further questions for the witness, and we pass the

9 witness.

10 JUDGE SHENOY: Thank you.

11 And, Mr. Booth, while we were off the

12 record, you said that you have some questions and

13 perhaps some follow-up to those questions that you have

14 that may take some time, but I indicated that we would

15 try to finish with Mr. Cooper before we take our lunch

16 break, so we'll try and do that. And, Mr. Booth, you

17 may proceed.

18 CROSS-EXAMINATION

19 BY MR. BOOTH:

20 Q Mr. Cooper --

21 A Yes.

22 Q -- good to see you again. Mike Booth. I

23 represent the neighbors, the Rists and Bennett RV Ranch.

24 I believe I asked you this during your

25 deposition, but who at the Commission, the TCEQ,

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1 determines whether a site is suitable for a wastewater

2 treatment plant?

3 A I believe there's some steps in this process --

4 there's some initial steps up front where the standards

5 reviewer will look at -- look at some things.

6 Q Let me interrupt --

7 A Sure.

8 Q -- interrupt you. I'm talking about from an

9 engineering perspective, not whether it's suitable based

10 on water quality.

11 A Okay. From an engineering perspective, this

12 usually happens after the permit is issued, and they do

13 a full engineering review of the -- of the design

14 specifications of the plant and the -- and the permit to

15 make sure that the plant --

16 Q Okay.

17 A -- will -- there's some -- they will also look

18 at the site and make sure that it's fine, too --

19 Q Okay.

20 A -- that it'll support -- it would be able to

21 hold a plant.

22 Q So it's -- at this stage, it's basically the

23 Applicant's engineers that are looking at whether it's a

24 suitable setup?

25 A Pretty much, yeah. There's some other things

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1 that we look at, but most of it is pretty general.

2 Q Okay. Now, you're familiar with your

3 correspondence of -- Mr. Allmon had part of that

4 exhibit, but there -- you're familiar that you have had

5 a series of correspondence with the Applicant about

6 whether or not they needed to follow the 150-foot

7 buffer, the 500-foot buffer. Do you recall those?

8 A That's correct. Yes.

9 Q Did they ever mention to you that if they had

10 to follow a 500-foot buffer, that they might not be able

11 to build it on that site, the plant on that site?

12 A No. It was apparent from the map of the site

13 itself.

14 (Simultaneous discussion)

15 A Not without -- not without getting some --

16 probably getting some easements. But I'm not really

17 sure how the easement regulations apply to, like, an RV

18 park or a -- or even a commercial -- I don't think it

19 applies to commercial or light industrial buildings.

20 Q (BY MR. BOOTH) What do you mean by that,

21 easement requirements?

22 A Easement would be like if the -- if the -- if

23 the buffer zone encroaches on another person's property,

24 and they get an easement or an agreement, if you will,

25 with the person that owns that property that they don't

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1 build a permanent residence structure on that

2 property --

3 Q Okay.

4 A -- in -- within the buffer zones.

5 Q Okay. So you're not saying that my client's --

6 that the RV park, if they had a 500-foot buffer

7 requirement -- or 150-foot buffer requirement but needed

8 to get some approval, that they'd be out of luck. I

9 don't know if I said that --

10 A Well, that would be -- that would be on you,

11 actually, because that would be your property.

12 Q Okay.

13 A So I don't know. I'm not -- like I said, I

14 don't -- I'm not quite sure how that -- how the rule

15 applies there.

16 Q Okay.

17 A But I do know that, like, under normal

18 circumstances where there's a house and all, they can't,

19 like, extend their house into the buffer zones --

20 Q Okay.

21 A -- if they wanted to add onto the house or

22 something.

23 Q And where would I look to see what the

24 requirements are? 309?

25 A I believe so, yes.

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1 Q Okay. All righty.

2 MR. BOOTH: I have no further questions of

3 this witness.

4 JUDGE SHENOY: Okay. Ms. Isturiz, do you

5 have any redirect?

6 MS. ISTURIZ: No redirect, Your Honor.

7 JUDGE SHENOY: Okay. With no redirect, we

8 will not have any recross, and it looks like we are done

9 with Mr. Cooper.

10 Thank you very much, Mr. Cooper.

11 THE WITNESS: Thank you.

12 JUDGE SHENOY: And let's go ahead and go

13 off the record.

14 (Lunch recess: 11:54 a.m. to 1:00 p.m.)

15 AFTERNOON SESSION

16 MONDAY, MARCH 7, 2022

17 (1:00 p.m.)

18 JUDGE SHENOY: All right. Let's go back

19 on the record. It is just about one o'clock. We are

20 resuming our hearing after our lunch break. And,

21 Mr. Tatu, we had finished your first witness and you're

22 ready to call Mr. Paull.

23 MR. TATU: Yes, Your Honor. At this time

24 we would call -- the Executive Director would call Jeff

25 Paull.

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1 JUDGE SHENOY: Okay. Mr. Paull, if you

2 could raise your right hand.

3 Do you swear or affirm that the testimony

4 you're about to give in this proceeding will be the

5 truth, the whole truth, nothing but the truth?

6 THE WITNESS: Yes, I do.

7 JUDGE SHENOY: All right. Thank you.

8 Please proceed, Mr. Tatu.

9 MR. TATU: Thank you.

10 PRESENTATION ON BEHALF OF EXECUTIVE DIRECTOR (CONTINUED)

11 JEFF PAULL,

12 having been first duly sworn, testified as follows:

13 DIRECT EXAMINATION

14 BY MR. TATU:

15 Q Mr. Paull, could you please identify Executive

16 Director's Exhibit No. 11?

17 A Let me grab that. That is my direct testimony.

18 Q Okay. And is that an accurate copy of your

19 direct testimony in this case?

20 A Yes, it is.

21 Q Thank you. And could you please take a look at

22 Executive Director Exhibit No. 12.

23 A That is my resume.

24 Q Okay. And could I ask you to also look at

25 Executive Director's Exhibit No. 4, please.

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1 **A** **Okay. That is my standards memo.**

2 **Q** **Okay. I wanted to ask you about this exhibit.**

3 **Are there any corrections that you would like to point**

4 **out in this exhibit?**

5 **A** **Yes. Thank you. In the third paragraph below**

6 **the headings, it starts, Unnamed tributary of Rucker**

7 **Creek; limited aquatic life use; 2.0 milligrams per**

8 **liter dissolved oxygen. That should be a 3.0 milligrams**

9 **per liter dissolved oxygen.**

10 **Q** **Okay. Was that just a typographical error?**

11 **A** **Yes, it was, and I apologize.**

12 **Q** **Okay.**

13 **A** **My cat decided -- they get the jumpies all of a**

14 **sudden.**

15 MR. TATU: Your Honor, at this time we

16 **would like to introduce ED Exhibits Nos. 11, 12 and 4**

17 **into the record, please.**

18 (Exhibit ED Nos. 4, 11, 12 offered)

19 JUDGE SHENOY: Okay. And there were no

20 **prefiled objections to the Executive Director's**

21 **exhibits. Are there any objections that need to be**

22 **registered at this time? Hearing none, Executive**

23 **Director Exhibits 4, 11, and 12 are admitted.**

24 (Exhibit ED Nos. 4, 11, 12 admitted)

25 MR. TATU: Pass the witness. Thank you.

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1 JUDGE SHENOY: Okay. So, Mr. Hill, you're

2 **up first.**

3 CROSS-EXAMINATION

4 **BY MR. HILL:**

5 **Q** **Good afternoon, Mr. Paull.**

6 **A** **Good afternoon.**

7 **Q** **Can you hear me okay?**

8 **A** **Yeah, just fine.**

9 **Q** **Good. To make clear, you're the staff member**

10 **responsible for conducting the antidegradation review**

11 **for the City of Granbury's application. Is that right?**

12 **A** **That's right. I'm in charge of providing**

13 **language and conducting a portion of that review.**

14 **Q** **Okay. Who else was responsible for conducting**

15 **the rest of that review?**

16 **A** **Well, I consider that a group effort, making**

17 **sure the permit conditions comply with our water quality**

18 **standards.**

19 **Q** **Okay. Would Mr. Michalk -- would you consider**

20 **him to be part of that review also?**

21 **A** **I do, personally.**

22 **Q** **Yes. In your role for the portion of the**

23 **review that you undertook, did you conduct nutrient**

24 **screening?**

25 **A** **Yes, I did.**

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1 **Q** **All right. And so can you tell me whether**

2 **there are nutrient limits for chlorophyll a in Lake**

3 **Granbury?**

4 **A** **If there are criteria or limits? Sorry.**

5 **Q** **If there are limits.**

6 **A** **There are no limits for chlorophyll.**

7 **Q** **Okay. What about are there any limits for**

8 **chlorophyll a in Rucker Creek?**

9 **A** **There are no limits for chlorophyll in the**

10 **permit as far as I know.**

11 **Q** **All right. I'm speaking specifically with**

12 **respect to the water quality standards.**

13 **A** **Oh, okay. There's -- there's no criteria for**

14 **chlorophyll in Rucker Creek, and I believe that's the**

15 **same for Lake Granbury.**

16 **Q** **Okay. I'm going to ask the same question about**

17 **phosphorous. Are there any phosphorous limits for -- in**

18 **Lake Granbury in the water quality standards?**

19 **A** **There's no phosphorus criteria.**

20 **Q** **What about for Rucker Creek? Are there any**

21 **phosphorous criteria in water quality standards for**

22 **Rucker Creek?**

23 **A** **No.**

24 **Q** **Okay. We had the -- we had the occasion of**

25 **visiting during your deposition in this case. Do you**

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1 **remember that?**

2 **A** **Oh, yes, yes, I remember you at my deposition.**

3 **Q** **That was back on February 16, I believe. Is**

4 **that correct?**

5 **A** **That -- I don't remember the exact date.**

6 **Sorry. But --**

7 **Q** **That's all right.**

8 **A** **-- sounds right.**

9 **Q** **You testified in your deposition that the**

10 **antidegradation review that the TCEQ performs on**

11 **applications like City of Granbury's is governed by the**

12 **implementation procedures. Do you remember that**

13 **testimony?**

14 **A** **Yes, I do.**

15 **Q** **And, in fact, that is -- that is correct,**

16 **right, that the antidegradation review that you**

17 **undertook was consistent with the protocol in the**

18 **implementation procedures? Correct?**

19 **A** **Correct.**

20 **Q** **Okay. And that is standard practice for the**

21 **Executive Director on antidegradation review for TPDES**

22 **permits. Correct?**

23 **A** **Correct.**

24 **Q** **Okay. And we visited before about whether or**

25 **not you had any indication or expectation that**

<p style="text-align: right;">109</p> <p>1 implementation procedures were inaccurate. Do you 2 remember that questioning that we went through? 3 A Somewhat. 4 Q Okay. Is there anything in the implementation 5 procedures that you consider to be inaccurate in the 6 context of your antidegradation review for TPDES 7 permits? 8 A No. 9 Q And then so same question with respect to your 10 review of the City of Granbury's application. 11 A Right. 12 Q Same answer? 13 A Same answer. 14 Q Okay. And then ultimately when we visited 15 during your deposition, I asked whether or not you 16 believed that the Executive Director's antidegradation 17 review was accurate in this application, and you 18 answered affirmative that you believed that it was. Is 19 that still your testimony today? 20 A Yes. 21 Q Okay. So you do believe that the Executive 22 Director's antidegradation review was accurate in this 23 application? 24 A Yes. 25 Q Okay. Thank you, Mr. Paull.</p>	<p style="text-align: right;">111</p> <p>1 A Page 7, you said? 2 Q Yes. So I'm looking at line 31 where you 3 testified that Rucker Creek is a perennial stream. Do 4 you see that? 5 A I might have a different copy on me. I'm 6 sorry. But I know what you were talking about. 7 Q Okay. Well, we may be able to do this without 8 your prefile. I just wanted to -- I just wanted you to 9 be able to refer to it if you need that. 10 So you testified that Rucker Creek is a 11 perennial stream, right? 12 A Yes. 13 Q Okay. So can you tell me, please, how you came 14 to that conclusion? 15 A Without redoing the review right here, I 16 usually look at aerial photography, U.S.G.S. maps, and 17 information in the application and any other information 18 that I can come across to try to make a best guess based 19 on weight of evidence type approach. 20 Q Okay. Are you aware that one of the 21 Protestants in this matter has testified that during 22 drought Rucker Creek runs dry? 23 A I believe I remember reading that, yes. 24 Q Is that -- is that consistent with your 25 description of Rucker Creek as perennial?</p>
<p style="text-align: right;">110</p> <p>1 MR. HILL: I pass the witness. 2 JUDGE SHENOY: All right. Any questions 3 from OPIC? Mr. Arthur, I can't hear you. I'm sorry. 4 No. Still can't hear you. But how about this? Just 5 nod your head if you did have questions. 6 MR. ARTHUR: (Nodding head up and down). 7 JUDGE SHENOY: You do. Okay. So we have 8 to fix this. It looks like Mr. Arthur is trying to 9 rejoin us. He signed off. 10 (Pause) 11 MR. ARTHUR: Can y'all hear me now? 12 JUDGE SHENOY: Yes, much better. Thank 13 you, Mr. Arthur. 14 MR. ARTHUR: Okay. I apologize for the 15 delay. 16 CROSS-EXAMINATION 17 BY MR. ARTHUR: 18 Q Good afternoon, Mr. Paull. 19 A Good afternoon. 20 Q So I have a few questions regarding your 21 prefiled testimony, and I'd like to start by referring 22 to page 7 at line 31. 23 A I'm sorry. I don't have it up, but let me grab 24 that. 25 Q Okay.</p>	<p style="text-align: right;">112</p> <p>1 A Possibly, I think. It depends on, you know, 2 how long it's dry for. 3 Q Okay. Well, I guess, how are you defining 4 perennial? I mean, if during a drought something runs 5 dry, does that -- does that still qualify as perennial 6 under your definition? 7 A Well, it wouldn't necessarily be intermittent 8 because I think an intermittent stream, if I recall 9 correctly, has to run dry for, I think, at least a week, 10 but I would need to check to be sure. But regardless, 11 in my judgment, using the material I had, perennial was 12 my best estimate. 13 Q Okay. And would that -- would you still 14 describe it that way if it does run dry in the drought? 15 A If it runs dry for a certain period of time, 16 but I would have to check with our rules to see if 17 that's -- see what our rules say about that, then -- 18 then that's something, yeah, I would consider. 19 Q So I have another question, and it is from your 20 prefiled testimony, so I hope we can get on the same 21 page. So I'm looking at page 11. It's also Bates No. 22 page 12. 23 A Okay. 24 Q And if it helps, this is under Roman Number 5, 25 Referred Issues.</p>

<p style="text-align: right;">113</p> <p>1 A Okay. That helps.</p> <p>2 Q Okay. So the question is: Please explain how</p> <p>3 your review did relate to the draft permit's potential</p> <p>4 impact to human health. And toward the end of your</p> <p>5 answer, it's my line 23, you state that the Tier II</p> <p>6 review preliminarily determined that no significant</p> <p>7 degradation of water quality is expected in Rucker Creek</p> <p>8 and Lake Granbury.</p> <p>9 Do you see that sentence?</p> <p>10 A I do.</p> <p>11 Q Okay. Great. So my question has to do with</p> <p>12 you saying preliminarily. To me, that implies that</p> <p>13 there was some later or other recommendation or</p> <p>14 determination on your part. So can you explain what you</p> <p>15 mean by preliminarily there?</p> <p>16 A Preliminarily is if we receive more information</p> <p>17 later on in the process or during a permit renewal or an</p> <p>18 amendment that -- if we find some information that</p> <p>19 degradation is likely, then we can update our opinion.</p> <p>20 Q Okay. And did that happen here or has that</p> <p>21 happened here?</p> <p>22 A Not that I'm aware of.</p> <p>23 Q Okay. Mr. Paull, thank you.</p> <p>24 MR. ARTHUR: Your Honor, I pass the</p> <p>25 witness.</p>	<p style="text-align: right;">115</p> <p>1 A That is correct.</p> <p>2 Q So would 307.5 be an element of the water</p> <p>3 quality standards?</p> <p>4 A Yes.</p> <p>5 Q Okay. And do you see 307.5(2)(b) where there's</p> <p>6 an antidegradation policy listed?</p> <p>7 A Yes.</p> <p>8 Q And so, one, we have Tier 1 and, two, you have</p> <p>9 Tier 2?</p> <p>10 A Right.</p> <p>11 Q So is the Tier 2 review a part of the Texas</p> <p>12 Surface Water Quality Standards?</p> <p>13 A Yes.</p> <p>14 (Simultaneous discussion)</p> <p>15 Q (BY MR. ALLMON) All right. I wanted to -- I</p> <p>16 wanted to clear that up because I think there may have</p> <p>17 been some testimony earlier that indicated that it was</p> <p>18 something other than part of the standards.</p> <p>19 Now, within that language of the rule,</p> <p>20 does it allow -- does it state that degradation is</p> <p>21 defined as a lowering of water quality by more than a de</p> <p>22 minimis extent but not to the extent an existing use is</p> <p>23 impaired?</p> <p>24 A Yes.</p> <p>25 Q Now, in this matter did you make a finding that</p>
<p style="text-align: right;">114</p> <p>1 JUDGE SHENOY: All right. Thank you. And</p> <p>2 as between Granbury Fresh and the Rists and Bennett,</p> <p>3 have you decided the order that you'll Cross?</p> <p>4 MR. ALLMON: I believe that I will -- that</p> <p>5 Granbury Fresh, Victoria -- Dr. Victoria Calder will go</p> <p>6 first.</p> <p>7 JUDGE SHENOY: Okay. Go ahead.</p> <p>8 CROSS-EXAMINATION</p> <p>9 BY MR. ALLMON:</p> <p>10 Q Good afternoon, Mr. Paull. I believe we met at</p> <p>11 the -- your deposition. My name is Eric Allmon. I</p> <p>12 represent certain Protestants in this matter.</p> <p>13 I'd like to start by orienting us to some</p> <p>14 of the -- to one, in particular, applicable rules, if I</p> <p>15 may. Do you have in front of you TCEQ Rule 307.5?</p> <p>16 A Yes.</p> <p>17 Q And is Chapter 307 the Texas Surface Water</p> <p>18 Quality Standards?</p> <p>19 A I cannot remember those numbers but --</p> <p>20 Q If you look at the top here, do you see where</p> <p>21 it lists --</p> <p>22 A Yes.</p> <p>23 Q -- certain title and parts and chapters? And</p> <p>24 is Chapter 307 entitled, "The Texas Surface Water</p> <p>25 Quality Standards"?</p>	<p style="text-align: right;">116</p> <p>1 the water quality would be lowered by no more than a de</p> <p>2 minimis extent?</p> <p>3 A I guess I would ask for all the parameters that</p> <p>4 I reviewed, yes.</p> <p>5 Q Okay. What parameters did you review?</p> <p>6 A Specifically, my review pertains to nutrients,</p> <p>7 TDS, pH, and then basically just setting the criteria in</p> <p>8 the water body so that things like DO can be met and</p> <p>9 toxicity criteria can be met.</p> <p>10 Q Okay. And I do want to look -- I believe that</p> <p>11 Exhibit ED-3 was a copy of the implementation</p> <p>12 procedures. Do you recall that?</p> <p>13 A Yes.</p> <p>14 Q Let me pull that up. Do you have that in front</p> <p>15 of you now?</p> <p>16 A It's still -- there it goes, yes.</p> <p>17 Q Okay. And so let me look here within that. So</p> <p>18 this is the implementation procedures. This is part of</p> <p>19 what you're using in conducting your review?</p> <p>20 A Correct.</p> <p>21 Q And on page 61 does that indicate some</p> <p>22 information regarding the Tier 2 review?</p> <p>23 A Yes, it does.</p> <p>24 Q And lower part of page 61, does it indicate</p> <p>25 parameters of concern for individual water bodies what</p>

<p style="text-align: right;">117</p> <p>1 those might include?</p> <p>2 A Yes.</p> <p>3 Q And if we turn to -- and you see that list,</p> <p>4 here, starts on page 61 and runs through page 62?</p> <p>5 A Yes.</p> <p>6 Q Are nutrients including phosphorus and nitrogen</p> <p>7 identified as parameters included within the Tier 2</p> <p>8 review?</p> <p>9 A Yes.</p> <p>10 Q Let me return to 307.5. Is that in front of</p> <p>11 you again?</p> <p>12 A Yes, it is.</p> <p>13 Q And as we look at 307.5(c)(2)(b), does that</p> <p>14 provide some additional guidance on Tier 2 reviews?</p> <p>15 A Provisions -- degradation policy. Yes, this is</p> <p>16 in the standards?</p> <p>17 Q Yes. We're still in 307.5.</p> <p>18 A Okay.</p> <p>19 Q And we've moved down to (c)(2), upper case (B),</p> <p>20 the provisions for implementing Tier 2 review. Does</p> <p>21 that provide that the highest water quality sustained</p> <p>22 since November 28, 1975 with a parenthetical referencing</p> <p>23 EPA standards defines baseline conditions for</p> <p>24 determining degradation?</p> <p>25 A I see -- I see that.</p>	<p style="text-align: right;">119</p> <p>1 Q Okay.</p> <p>2 A -- and --</p> <p>3 Q Go ahead. I apologize for the interruption.</p> <p>4 A Okay. So, yeah, I followed that screening</p> <p>5 procedure, and it basically calculates like yes or no</p> <p>6 value, should there be a nutrient limit to protect</p> <p>7 against algal growth or not.</p> <p>8 Q But from what I understand, you didn't actually</p> <p>9 identify a particular number, say, a concentration for</p> <p>10 phosphorous as a baseline?</p> <p>11 A As a -- like, are you asking did I sample the</p> <p>12 water to determine what the background levels of</p> <p>13 phosphorous were?</p> <p>14 Q Yeah. Did you look at any information and make</p> <p>15 a determination of what the baseline phosphorous</p> <p>16 concentration in the receiving waters was?</p> <p>17 A I don't -- no, I don't -- I think the answer's</p> <p>18 no to that question.</p> <p>19 Q Did you make any examination to determine what</p> <p>20 the baseline concentration of nitrogen -- the baseline</p> <p>21 concentration being the highest water quality sustained</p> <p>22 since November 28 of 1975 would be in, say, Rucker</p> <p>23 Creek?</p> <p>24 A Did not get a sample of the baseline levels of</p> <p>25 nitrogen.</p>
<p style="text-align: right;">118</p> <p>1 Q Okay. Did you make a determination of baseline</p> <p>2 for Rucker Creek for nutrients?</p> <p>3 A No, did not.</p> <p>4 Q Did you make a determination of baseline for E.</p> <p>5 Coli?</p> <p>6 A No. And you mean like did I -- when you say a</p> <p>7 baseline assessment, I guess --</p> <p>8 Q Yes.</p> <p>9 A -- what do you mean exactly.</p> <p>10 Q When you performed -- as I understood it, you</p> <p>11 were responsible for the Tier 2 review in this matter</p> <p>12 for nutrients. Is that accurate?</p> <p>13 A Yes.</p> <p>14 Q So in performing your Tier 2 review for</p> <p>15 nutrients, did you determine a baseline for nutrients?</p> <p>16 A No.</p> <p>17 Q Okay. How did you -- well, what process did</p> <p>18 you follow to perform your Tier 2 review for nutrients?</p> <p>19 A Well, I followed a screening procedure. And</p> <p>20 I'm not sure if this counts as a baseline that you're</p> <p>21 referring to, but I looked at -- our screening procedure</p> <p>22 looks at different parameters of, I guess, baseline</p> <p>23 characteristics of the receiving water that would --</p> <p>24 that would help one determine if there's sensitivities</p> <p>25 to nutrient loading --</p>	<p style="text-align: right;">120</p> <p>1 Q Then did you make any determination of what the</p> <p>2 baseline of nitrogen would be?</p> <p>3 A No, not nitrogen.</p> <p>4 Q What about E. coli? Did you make any</p> <p>5 determination what the baseline level of E. coli within</p> <p>6 Rucker Creek would be?</p> <p>7 A Oh -- no, I don't think so, but there is some</p> <p>8 information in our -- in our Texas Integrated Report. I</p> <p>9 can't remember if it had information on levels of</p> <p>10 bacteria. It may have.</p> <p>11 Q Okay. And did you make any determination what</p> <p>12 baseline levels for dissolved oxygen are in Rucker</p> <p>13 Creek?</p> <p>14 A No, but I -- I assigned -- I assigned the</p> <p>15 dissolved oxygen criteria.</p> <p>16 Q Did you make any determination what the</p> <p>17 baseline levels for dissolved oxygen are in Lake</p> <p>18 Granbury?</p> <p>19 A No.</p> <p>20 Q Now, let me -- you mentioned that you followed</p> <p>21 a screening procedure. I want to share a spreadsheet</p> <p>22 with you. I just want to look at this in order to try</p> <p>23 to understand the process you follow. Is the</p> <p>24 spreadsheet -- and let me know -- the spreadsheet before</p> <p>25 you was produced by the Executive Director in this</p>

<p style="text-align: right;">121</p> <p>1 matter. Is this -- does this reflect the screening 2 procedure you followed for nutrients? 3 A Yes. 4 Q And can you explain for us, kind of just walk 5 us through the process you used? 6 A Yes. I essentially looked at these different 7 categories and tried to use, you know, my best 8 professional judgment, looking at different resources I 9 had to assign points to each category. 10 Q So, for instance, on permitted flow, you 11 entered a point score of 5? 12 A Right. 13 Q And then due to the 2 milligram per liter 14 being -- milligram per day being above the 1.0 threshold 15 for being high? 16 A Right, 2, yeah, million gallons per day. 17 Q And for the size of discharge and distance to a 18 lake, that was also ranked as a 5? 19 A Right. 20 Q And for water clarity, that was a 3? 21 A Right. 22 Q And the water clarity tend to make a waterway 23 more sensitive to nutrient impacts? 24 A Typically, the clearer the stream, the more 25 sensitive it will be from light penetration.</p>	<p style="text-align: right;">123</p> <p>1 of this process that involves a determination of what 2 the concentration of phosphorous in Rucker Creek would 3 be as a result of the discharge? 4 A No. 5 Q Is there any stage of this process that 6 determines what the concentration of phosphorous would 7 be in Lake Granbury as a result of the discharge? 8 A Yes. 9 Q Where is that? 10 A Scroll down a little bit more. It says, 11 Predicted change in total phosphorous in the main pool 12 of reservoir. 13 Q And can you tell me what line you're on? 14 A Looks like about line 20. 15 Q And how was that number derived? 16 A That's a separate screening in the Main Pool 17 Effects tab. At the bottom of Xcel sheet, there's a tab 18 that says, Main Pool Effects. And that says that is a 19 separate calculation for the main pool screening. 20 Q Now, is Rucker Creek subject to an independent 21 Tier 2 review from the main pool of Lake Granbury? 22 A Yes. 23 Q So what phosphorous limit was added as a result 24 of this analysis? 25 A One milligram per liter limit in the 1 mgd</p>
<p style="text-align: right;">122</p> <p>1 Q And then, say, on shading, you rated it a 5? 2 A Yes. 3 Q And then we had one -- 1 for chlorophyll a, 4 total phosphorous ratio? 5 A Correct. 6 Q And continuing on, you assigned ratings. And 7 now on existing 305(b) and 303(d), you said no concerns? 8 A No. But there's concern for chlorophyll a -- 9 (Simultaneous discussion) 10 Q (BY MR. ALLMON) Okay. And you reached a sum 11 of 37 and an average of 4.11. And did that lead you to 12 any particular conclusion? 13 A Yes, it did. 14 Q And what was that conclusion? 15 A That a total phosphorous limit is most likely 16 needed in this permit. 17 Q Now, was there any stage in this process that 18 involved determining the baseline level of phosphorous? 19 A No. 20 Q Was there any stage in this process that 21 involved determining what the change in phosphorous 22 concentrations would be as a result of the discharge? 23 A Yes, in the main pool of the reservoir. 24 Q Now -- and, again, I'm looking at this process 25 that you used for your Tier 2 review. Is there any step</p>	<p style="text-align: right;">124</p> <p>1 phase and a three five milligrams per liter total 2 phosphorous limit in the 2 mgd phase. 3 Q And how was it determined that that limit would 4 prevent the -- well, did you conclude that that limit 5 would prevent a greater than de minimis lowering of 6 water quality in Rucker Creek? 7 A Based on the guidance center and our IPs, I 8 expect that it will. 9 Q Okay. And let's look back. Do you have -- 10 again, the Exhibit ED-3, I'll pull up in front of you. 11 Is that what you're referring to when you say "IPs"? 12 A Yes. 13 Q So where in the IPs does it state that that 14 process -- that following that process satisfies a Tier 15 2 review? 16 A Well, as far as degradation, there are some 17 considerations of when degradation is likely to and not 18 likely to occur. And I'll try to look for that. Okay. 19 It's on page 65. 20 Q Yes. Uh-huh. 21 A These are examples where degradation is 22 unlikely to occur. 23 Q Okay. 24 A And there's a bullet on increased loading of 25 total phosphorous, nitrate -- nitrate, or total</p>

<p style="text-align: right;">125</p> <p>1 nitrogen.</p> <p>2 Q I see that. And that states if it can be</p> <p>3 reasonably demonstrated detrimental increases to the</p> <p>4 growth of algae or aquatic vegetation will not occur?</p> <p>5 A Right.</p> <p>6 Q Okay. And is it your testimony that that</p> <p>7 screening procedure demonstrated that detrimental</p> <p>8 increases of the growth of algae or aquatic vegetation</p> <p>9 will not occur?</p> <p>10 A When I applied the recommended nutrient limits</p> <p>11 based on the IPs, yes.</p> <p>12 Q But did you make any specific evaluation on</p> <p>13 what the impact of the quantity of phosphorous being</p> <p>14 added by this discharge, how that would impact the algae</p> <p>15 growth in Rucker Creek?</p> <p>16 A Well, I'm relying on the IPs to guide me on</p> <p>17 that.</p> <p>18 Q And I know you're relying on the IPs, and the</p> <p>19 IPs here say, if it can be reasonably demonstrated</p> <p>20 detrimental increase to the growth of aquatic -- of</p> <p>21 algae or aquatic vegetation will not occur. And I'm</p> <p>22 asking you what that demonstration was.</p> <p>23 Is it your testimony there was a</p> <p>24 demonstration that detrimental increases to the growth</p> <p>25 that algae or aquatic life will not occur?</p>	<p style="text-align: right;">127</p> <p>1 Q And does this anywhere establish that this</p> <p>2 limit will not -- will ensure that there will be no</p> <p>3 growth of -- significant growth of algae or aquatic</p> <p>4 vegetation?</p> <p>5 A I can't answer that.</p> <p>6 Q Okay. Have you reviewed any monitoring or --</p> <p>7 well any monitoring done by the TCEQ as to what occurred</p> <p>8 in the receiving water bodies where such a limit was</p> <p>9 imposed?</p> <p>10 A I'm sorry. Could you repeat that, please?</p> <p>11 Q Have you reviewed any information to determine</p> <p>12 whether the imposition of these limits prevents the</p> <p>13 growth of significant amounts of algae or aquatic</p> <p>14 vegetation?</p> <p>15 A I think are you asking about how these limits</p> <p>16 were determined to be protective?</p> <p>17 Q Well, no. I'm asking whether you have made any</p> <p>18 review of other instances where such limits were imposed</p> <p>19 to determine whether these limits prevent the growth of</p> <p>20 algae and aquatic vegetation?</p> <p>21 A Not an official capacity. I mean, I've just</p> <p>22 perused. I've seen, you know, other permits in my just</p> <p>23 experience working at the agency, but I've not made any</p> <p>24 official determinations on whether or not limits were</p> <p>25 adequate in past permits.</p>
<p style="text-align: right;">126</p> <p>1 A The demonstration is in determining that there</p> <p>2 is a sensitivity, and applying a total phosphorous limit</p> <p>3 helps protect that sensitivity such that detrimental</p> <p>4 increases to the growth of algae will not occur.</p> <p>5 Q And so are you able to draw this conclusion</p> <p>6 without determining the quantity of algae that would</p> <p>7 grow as a result of the discharge?</p> <p>8 A To the best of my ability.</p> <p>9 Q Okay. But I think that you earlier testified</p> <p>10 that there was no determination of the amount of algae</p> <p>11 or aquatic vegetation that would grow as a result of the</p> <p>12 discharge?</p> <p>13 A Not -- no quantifiable determination.</p> <p>14 Q Was there a narrative determination that no</p> <p>15 detrimental increase in the growth of algae or aquatic</p> <p>16 vegetation would occur?</p> <p>17 A I guess I would point to the -- I think it's</p> <p>18 page 29 of the IPs.</p> <p>19 Q Okay. Yes. I think is that in front of you</p> <p>20 now?</p> <p>21 A Yeah. That -- the top of it, Effluent Limits</p> <p>22 for Total Phosphorous. So when the screening asks</p> <p>23 for -- or when the screen results say that there's</p> <p>24 sensitivities to nutrients, this is what we're guided to</p> <p>25 apply as far as limits to protect against algal growth.</p>	<p style="text-align: right;">128</p> <p>1 Q All right. Did you do any evaluation other</p> <p>2 than the screening procedure we looked at to determine</p> <p>3 whether or not there will be a greater than de minimis</p> <p>4 lowering of water quality for nutrients?</p> <p>5 A No.</p> <p>6 Q Did you do any evaluation other than a</p> <p>7 screening procedure we just walked through to determine</p> <p>8 whether there would be a greater than de minimis</p> <p>9 lowering of water quality for algal growth?</p> <p>10 A No.</p> <p>11 Q Did you do any evaluation other than the</p> <p>12 screening procedure we just walked through for whether</p> <p>13 there would be any lowering of water quality for aquatic</p> <p>14 vegetation?</p> <p>15 A No.</p> <p>16 Q And how did you determine there would be less</p> <p>17 than a de minimis lowering of water quality for E. coli?</p> <p>18 A For E. coli, I made sure that there would be E.</p> <p>19 coli limits in the permit that are protective of the</p> <p>20 criteria for E. coli standards.</p> <p>21 Q Okay. I want to go back and look at 307.5 as</p> <p>22 we were reviewing before. Do you have in front of you</p> <p>23 307.5 again?</p> <p>24 A Yes.</p> <p>25 Q And when we look at (b)(1), do you see Tier 1</p>

<p style="text-align: right;">129</p> <p>1 where that describes that existing uses in water quality 2 sufficient to protect those existing use must be 3 maintained? 4 A Yes. 5 Q And is that what is accomplished by making 6 sure, say, as you just described, that the E. coli 7 concentration remains above the criteria? 8 A Yes. 9 Q And how did you independently perform an 10 evaluation to make a Tier 2 determination as to whether 11 the change in E. coli would meet the requirements of a 12 Tier II review? 13 A I'm not sure what you mean. 14 Q Will the discharge -- will the authorized 15 discharge -- is it understanding that it will discharge 16 E. coli into the receiving water bodies? 17 A Yes. 18 Q And will that discharge potentially increase 19 the E. coli concentration in the receiving water bodies? 20 A Not sure. 21 Q So did you make a determination of whether the 22 discharge of E. coli into the receiving water bodies 23 would potentially increase the concentration of E. coli 24 in those water bodies? 25 A No. I applied the criteria to make sure it</p>	<p style="text-align: right;">131</p> <p>1 Q Will it prevent water quality by being lowered 2 by more than a de minimis amount? 3 A I don't know. 4 Q With regard to E. coli, what constitutes a 5 greater than de minimis change? 6 A I don't know. 7 Q Now, are you familiar that there's a watershed 8 protection plan in place for Lake Granbury with regard 9 to E. coli? 10 A I'm somewhat familiar, yes. 11 Q And does that plan indicate that water quality 12 for E. coli has been lowered over the past several 13 decades? 14 A I don't know. 15 Q Okay. So -- so based on your prior answers, I 16 presume you didn't make a determination of what the 17 resulting concentration of E. coli would be in 18 comparison to the highest water quality for -- water 19 quality for E. coli sustained since November 28, 1975? 20 A I did not sample water quality in the stream -- 21 Q Okay. 22 A -- continuously since 1975. 23 Q That makes sense, but that wasn't quite, I 24 think, what I was asking. I was asking whether you 25 reviewed information to determine what the change in E.</p>
<p style="text-align: right;">130</p> <p>1 wouldn't -- concentration of E. coli wouldn't -- 2 wouldn't raise, you know, go above our criteria or 3 contribute to an impairment. 4 Q And so when you say above the criteria or 5 contribute to an impairment, that's your protection of 6 existing uses under the Tier 1 standard. Am I correct? 7 A That's correct. 8 Q And I'm trying to figure out what -- so did you 9 perform any review other than that to determine the 10 impact of the change in water quality for E. coli? 11 A That's the extent of my review for E. coli. 12 Q So do you consider that you did a Tier 2 review 13 for E. coli impacts of the discharge? 14 A I think so. 15 Q So what was that Tier 2 review that you did 16 with regard to E. coli? 17 A So it's asking if water quality with respect to 18 E. coli in this case will be lowered by more than a de 19 minimis amount. 20 (Simultaneous discussion) 21 Q (BY MR. ALLMON) And it's asking -- well, go 22 ahead. Let me -- I apologize. 23 A Yeah. Applying a, you know, the E. coli limits 24 to the -- your permit should help protect water quality 25 from dropping below our criteria.</p>	<p style="text-align: right;">132</p> <p>1 coli concentration within the receiving waters would be 2 in comparison to the highest water quality for E. coli 3 sustained within Rucker Creek since November 28, 1975. 4 A I guess are you asking if I determined what the 5 highest -- or what the highest quality of bacteria has 6 been in Rucker Creek since 1975? 7 Q Yeah, what the highest water quality with 8 regard to the parameter of bacteria has been sustained 9 in Rucker Creek since 1975? 10 A Yeah, I did not determine that. 11 Q Okay. Did you make any effort to determine 12 that? 13 A No. 14 Q Okay. Now, I want to look -- I want to 15 consider dissolved oxygen for a second here. Let me 16 share my screen with you. 17 And this is what has been marked as 18 Exhibit GF-4. Do you recognize Exhibit GF-4? 19 A It looks different, but, yes, I know what that 20 report is. 21 Q Is it labeled, "The Draft 2022 Texas Integrated 22 Report for Water Bodies with Concerns for Use 23 Containment and Screening Levels"? 24 A Yes. 25 Q Can you describe what that report is? First,</p>

<p style="text-align: right;">133</p> <p>1 let me ask you: Are you familiar with the nature of 2 that report?</p> <p>3 A Yes, I am.</p> <p>4 Q Can you describe what the integrated report is?</p> <p>5 A Yeah, it lists constituents of concern and 6 different water bodies that have that concern if they 7 are not meeting their -- if the water bodies are not 8 meeting their criteria or their standards or if they are 9 close to not meeting their standards, it will be 10 documented in this report.</p> <p>11 Q And as you look, do you have various segment 12 names identified here corresponding to segment IDs?</p> <p>13 A Yes.</p> <p>14 Q And let's look -- I think in your report you 15 noted Lake Granbury is roughly Segment 1205. Do you see 16 that here?</p> <p>17 A Yes, I do.</p> <p>18 Q And is that listed as of concern for any 19 parameter?</p> <p>20 A Yes, it's depressed dissolved oxygen and water.</p> <p>21 Q Okay. And did you consider that concern in any 22 way in your analysis?</p> <p>23 A I don't -- I believe I was looking at 2016 24 Texas Integrated Report when I performed this review, as 25 I believe that was the report that was available to us</p>	<p style="text-align: right;">135</p> <p>1 MR. ALLMON: Yes, Your Honor.</p> <p>2 JUDGE SHENOY: Okay. And this is the 3 same, something that was produced in discovery but not 4 part of your prefiled exhibits?</p> <p>5 MR. ALLMON: I believe so. It is a public 6 document of the TCEQ. I'm not certain whether it was 7 produced in discovery.</p> <p>8 JUDGE SHENOY: Okay. 9 (Simultaneous discussion)</p> <p>10 MR. HILL: Your Honor -- I apologize. Go 11 ahead.</p> <p>12 JUDGE SHENOY: No, I was going to ask for 13 objections, and it sounds like, Mr. Hill, you're ready 14 to make one.</p> <p>15 MR. HILL: I do have one. 16 You will note the absence of a Bates mark 17 at the bottom of that document, so we have not seen it, 18 to my knowledge anyway, as a product of discovery. And 19 it is a draft document, it is not a final report, so I'm 20 going to object that the document's hearsay. If it 21 wants to be offered as to prove that there is a draft 22 report that exists, fine; but if it's being offered to 23 prove the truth of the matters asserted inside the 24 document, it is hearsay without an exception.</p> <p>25 MR. ALLMON: Again, Your Honor, while in</p>
<p style="text-align: right;">134</p> <p>1 at the time.</p> <p>2 Q And did the 2016 report identify Lake Granbury 3 as of concern for depressed dissolved oxygen and water?</p> <p>4 A It did not.</p> <p>5 Q So would the listing of Lake Granbury in the 6 2022 report indicate there's been degradation of Lake 7 Granbury with regard to depressed dissolved oxygen in 8 the water?</p> <p>9 MR. HILL: Objection, Your Honor. That 10 question calls for the witness to speculate. The 11 document is a draft. He's already testified about what 12 it was that he reviewed, and that was not this document.</p> <p>13 JUDGE SHENOY: It's overruled. Mr. Paull, 14 if you're able to answer that, you can.</p> <p>15 A In my mind, that's a lowering of water quality.</p> <p>16 Q (BY MR. ALLMON) Is that a lowering of water 17 quality by more than a de minimis extent?</p> <p>18 A I believe it is.</p> <p>19 Q Okay.</p> <p>20 MR. ALLMON: Your Honor, we would offer 21 Exhibit GF-4. 22 (Exhibit GF No. 4 offered)</p> <p>23 JUDGE SHENOY: Okay. And so you're 24 offering that whole thing, which is, looks like, 38 25 pages?</p>	<p style="text-align: right;">136</p> <p>1 draft form, it is a government document that has been 2 developed pursuant to a duty of the agency to 3 investigate and make a determination on certain matters. 4 The fact that it's in draft form does not impact that 5 exception to the hearsay rule.</p> <p>6 MR. HILL: I don't see any indicia of 7 reliability in that document. I can't even -- I mean, 8 the only view that I have is what's on the screen. I 9 see that it -- it says that it's an integrated report. 10 I don't see any indication that this came from a 11 government agency. It has not been properly 12 authenticated, it is hearsay, and there is no exception 13 for it.</p> <p>14 MR. ALLMON: Your Honor, the witness 15 recognized the document and again --</p> <p>16 JUDGE SHENOY: Well --</p> <p>17 MR. ALLMON: -- in these proceedings, 18 authentication of the document may be easily had by 19 looking on the TCEQ website where this is posted. If 20 Your Honor determines not to admit it into evidence, we 21 would ask that the Court take judicial notice of the 22 document.</p> <p>23 JUDGE SHENOY: All right. I will overrule 24 the objections, but it will go to the weight. The 25 record will speak for itself, but the witness indicated</p>

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1 that he didn't quite recognize this format but he was
 2 familiar with what it was. And so we'll take that for
 3 what it is, and Granbury Fresh Exhibit 4 is admitted.
 4 (Exhibit GF No. 4 admitted)
 5 MR. ALLMON: Thank you, Your Honor.
 6 Q (BY MR. ALLMON) Now, I want to look, if you
 7 would, at some of the discovery responses received from
 8 the Executive Director in this matter, if you'll give me
 9 just a second.
 10 Okay. Mr. Paull, do you have in front of
 11 you what's been marked as Exhibit GF-3?
 12 A I do.
 13 Q And I think we discussed this in the
 14 deposition. Is this the Executive Director's Response
 15 to Protestants' First Set of Interrogatories and Request
 16 for Production?
 17 A Yes.
 18 Q And do you -- if you would look with me within
 19 this document, do you see Interrogatory No. 2 where the
 20 Executive Director was asked to identify the highest
 21 water quality sustained in Rucker Creek since 1975 with
 22 regard to certain parameters?
 23 A I do.
 24 Q And was that indicated that, for example, for
 25 dissolved oxygen it was determined to be 5.0 milligrams

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1 per liter?
 2 A I see that. It says that, yes.
 3 Q And was that based upon that being the
 4 dissolved oxygen criteria?
 5 A That's their dissolved oxygen criteria, yes.
 6 Q Is that consistent with your understanding of
 7 what baseline was determined to be?
 8 A That is the presumed baseline, if you will.
 9 Q So was it presumed that the baseline would be
 10 consistent with the bare minimum criteria required for
 11 dissolved oxygen?
 12 A Would you repeat that, please?
 13 Q Let me ask you: Is this consistent with the
 14 implementation procedures?
 15 A As far as I know, yes.
 16 Q Do the implementation procedures provide that
 17 absent information otherwise, existing water quality is
 18 presumed to be the baseline?
 19 A I mean, not quite sure what you're asking, but
 20 the presumed water quality and associated dissolved
 21 oxygen criteria is a 5.0 milligrams per liter dissolved
 22 oxygen.
 23 Q Okay. I apologize. Let me get back to --
 24 And, similarly, for nutrients, what was --
 25 what, according to the discovery response, was

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1 determined to be the baseline for nutrients?
 2 Does it state, It is assumed that these
 3 levels be relatively low in -- I assume that was a
 4 typographical area -- in Rucker Creek, but subject to
 5 non-point source inputs?
 6 A I see that.
 7 Q Was it -- does this reflect any particular
 8 value determined for nutrients?
 9 A Not particular other than relatively low, or
 10 whatever it said up above.
 11 Q Did you make this determination described here
 12 as to the baseline level for nutrients?
 13 A No, that was not me.
 14 Q Okay. Do you know --
 15 (Simultaneous discussion)
 16 A Well, I think -- I'm not sure who described
 17 Rucker Creek as having relatively low nutrients; but
 18 that is typical, I would say, of streams in that area as
 19 far as my understanding and knowledge that I've
 20 acquired.
 21 Q (BY MR. ALLMON) Okay. And likewise, for E.
 22 coli, does this indicate that baseline was presumed to
 23 be 126 CFUs?
 24 A Can you repeat? Can I read that for one
 25 second?

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1 Q Yeah. Go right ahead.
 2 A Where does it say that?
 3 Q Under (C) E. coli. See ED response?
 4 A Okay.
 5 Q Now, this says this is -- forms the baseline
 6 for the highest sustainable use since November 28, 1975.
 7 Is the highest sustainable use the same as the highest
 8 sustained water quality?
 9 A That would be a part of water quality, I think.
 10 Q But is the highest sustainable use the same as
 11 the highest sustained water quality?
 12 A I don't know. I'm not sure I can answer that.
 13 Q Were you responsible for developing this
 14 response?
 15 A I don't remember those words exactly, but I may
 16 have -- I may have had a hand in it.
 17 MR. ALLMON: Your Honor, we would offer
 18 Exhibit GF-3.
 19 (Exhibit GF No. 3 offered)
 20 JUDGE SHENOY: Okay. And this is a
 21 particular response to interrogatories?
 22 MR. ALLMON: No. We're offering the
 23 document, Exhibit GF-3, as a copy of the Executive
 24 Director's Response To Protestants' First Set of
 25 Interrogatories.

141	<p>1 JUDGE SHENOY: Response to the first set, 2 not to any other set?</p> <p>3 MR. ALLMON: Yes.</p> <p>4 JUDGE SHENOY: Okay. Are there any 5 objections to GF-3? Hearing none, Granbury Fresh 6 Exhibit 3 is admitted.</p> <p>7 (Exhibit GF No. 3 admitted)</p> <p>8 Q (BY MR. ALLMON) Mr. Paull, did you inspect the 9 discharge route for this proposed discharge?</p> <p>10 A From a desktop review, yes.</p> <p>11 Q Did you make any site visit to the area?</p> <p>12 A No.</p> <p>13 Q And I use the word "site visit." Any visit to 14 the discharge route?</p> <p>15 A No.</p> <p>16 MR. ALLMON: Your Honor, that's all of my 17 questions for this witness. I pass the witness.</p> <p>18 JUDGE SHENOY: Okay. Thank you. Mr. 19 Booth.</p> <p>20 CROSS-EXAMINATION</p> <p>21 BY MR. BOOTH:</p> <p>22 Q I'm sure the last thing you want to do is to 23 have somebody else ask you questions.</p> <p>24 Mr. Paully, [sic] why didn't -- why did 25 you use that particular set effluent limits that you</p>	143	<p>1 A Yes.</p> <p>2 Q Why didn't you require that effluent set in the 3 Lake Granbury or the Granbury -- City of Granbury 4 recommendations?</p> <p>5 A I wasn't basing this review off of that review.</p> <p>6 Q What does your cat think? I shut my door. 7 (Simultaneous discussion)</p> <p>8 Q (BY MR. BOOTH) I have five of them scratching, 9 wanting to come in and see what I'm doing.</p> <p>10 Okay. The reason why I ask that is 11 further down on that same page, you have -- on page or 12 line 19 and 20, you said based upon -- that effluent 13 limit was recommended based upon reasonably achievable 14 technology based effluent limits.</p> <p>15 And so that sounds like to me you were 16 thinking that they could treat to a higher level than 17 what you recommended. Is that correct?</p> <p>18 A Well, I think -- so that's kind of a statement 19 that's in our IPs, and I'm imagining that the guidance 20 in the IPs is based on what reasonable technology can 21 treat down to, and that's not something that I made a 22 specific determination on myself.</p> <p>23 Q Okay. Are you familiar with the type of 24 wastewater plant that is in -- will be or is constructed 25 for Belterra?</p>
142	<p>1 talk about on page 10 of your prefiled testimony, line 2 10 through 12?</p> <p>3 You said that based upon your screening -- 4 did you recommend anything to prevent degradation? And 5 you said, yes, I recommended this particular phosphorous 6 effluent limit.</p> <p>7 A Yeah, I recommended those limits commensurate 8 with the recommendations in the IPs based on the 9 permitted flow of the treatment plant.</p> <p>10 Q So you recognize there's a potential for 11 phosphorous problem so you put that effluent set on it. 12 Is that correct?</p> <p>13 A Correct, correct.</p> <p>14 Q How come you didn't do one for nitrogen?</p> <p>15 A Our IPs got us to focus on phosphorous instead 16 of nitrogen, and there's some -- a few bullet points 17 that explain the reasoning for that.</p> <p>18 Q But you made no independent analysis. You just 19 followed what your IP's guidance said?</p> <p>20 A Correct.</p> <p>21 Q Are you familiar with the Belterra wastewater 22 permit?</p> <p>23 A I'm somewhat familiar, yes.</p> <p>24 Q Are you -- do you realize they used a lower 25 effluent set for total phosphorous?</p>	144	<p>1 A No, I'm not.</p> <p>2 Q Would you be surprised if I told you it was an 3 MBR plant just like this one?</p> <p>4 A No.</p> <p>5 Q Okay. By the way, for the record, that's in 6 the Granbury Fresh Exhibit 507 is the Belterra permit. 7 Are you aware of any cyanobacteria 8 problems in the Lake Granbury watershed?</p> <p>9 A I'm not aware.</p> <p>10 Q Do you know -- I'm sure you're aware of what 11 cyanobacteria is?</p> <p>12 A Yes.</p> <p>13 Q Okay. What is the concern about cyanobacteria?</p> <p>14 A I believe it is toxic in toxic amounts.</p> <p>15 Q Okay. And do you know how that cyanobacteria 16 is caused in a watershed or in a lake or river, creek?</p> <p>17 A I believe it is similar to how other bacteria, 18 I mean, algae grow; nutrient inputs, sunlight, you 19 know, attachment sites, that sort of thing.</p> <p>20 Q Uh-huh. Do you think that a creek that is 21 covered with algae in the bottom is something suitable 22 for recreation?</p> <p>23 A I don't have an opinion on that.</p> <p>24 Q Would you like to recreate on a creek covered 25 with algae?</p>

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1 **A** **I don't have an opinion on that.**

2 Q Have you ever seen a creek covered with algae?

3 **A** **Yes.**

4 Q So you don't have an opinion whether you would

5 like to walk around in it? Yes or no? It doesn't

6 matter.

7 **A** **Yeah, I'm not giving an opinion on that.**

8 Q Okay. All right. Let me check one more thing.

9 MR. BOOTH: Okay. I pass the witness.

10 JUDGE SHENOY: All right. Mr. Tatu, do

11 you have any Redirect?

12 MR. TATU: No Redirect, Your Honor. Thank

13 you.

14 JUDGE SHENOY: All right. No Redirect

15 means no Recross. So, Mr. Paull, thank you very much

16 for your time.

17 THE WITNESS: Thank you.

18 JUDGE SHENOY: And are you ready for your

19 next witness, Mr. Tatu?

20 MR. TATU: Yeah, I just want to make sure

21 that Mr. Michalk is prepared here.

22 THE WITNESS: Sorry. I'm here. I've got

23 too many computers going at the same time.

24 JUDGE SHENOY: Okay. Great. If you could

25 raise your right hand.

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1 Do you swear or affirm the testimony

2 you're about to provide in this proceeding will be the

3 truth, the whole truth, and nothing but the truth?

4 THE WITNESS: Yes.

5 JUDGE SHENOY: Okay. Thank you. Go

6 ahead, Mr. Tatu.

7 MR. TATU: Thank you, Your Honor.

8 JAMES MICHALK,

9 having been first duly sworn, testified as follows:

10 DIRECT EXAMINATION

11 BY MR. TATU:

12 Q Mr. Michalk, do you have a copy of the ED

13 Exhibit 13 before you?

14 **A** **13 point --**

15 Q Sorry. ED Exhibit No. 13?

16 **A** **I do, yes.**

17 Q And is this a true and correct copy of your

18 direct testimony in this case?

19 **A** **Yes, it is.**

20 Q And will you be introducing ED Exhibits 14

21 through 24 as part of your testimony?

22 **A** **Yes.**

23 MR. TATU: Your Honor, at this time the

24 Executive Director would like to submit ED Exhibits 13

25 through 24.

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1 (Exhibit ED Nos. 13 through 24 offered)

2 JUDGE SHENOY: And there were no prefiled

3 objections. Are there any objection at this time that

4 need to be raised for the record to ED Exhibits 13

5 through 24?

6 And hearing none, ED Exhibits 13 through

7 24 are admitted.

8 (Exhibit ED Nos. 13 through 24 admitted)

9 MR. TATU: Pass the witness. Thank you.

10 JUDGE SHENOY: Okay. So Mr. Hill.

11 MR. HILL: No questions for the witness.

12 JUDGE SHENOY: I'm sorry?

13 MR. HILL: No questions, Your Honor.

14 JUDGE SHENOY: Okay. Thank you.

15 OPIC?

16 CROSS-EXAMINATION

17 BY MS. PESONEN:

18 Q Hi, Mr. -- is it Michalk? Is that correct?

19 **A** **Yes.**

20 Q Thank you. Okay, Mr. Michalk, I have just a

21 few questions for you today. Can you please explain why

22 the limits for ammonia-nitrogen and total phosphorous

23 decrease from the interim phase to the final phase in

24 the draft permit?

25 **A** **I have no role in the total phosphorous limit.**

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1 Q Okay.

2 **A** **Regarding the ammonia-nitrogen limit, a more**

3 **stringent limit was required for the higher flow phase**

4 **in order to meet the dissolved oxygen criterion for the**

5 **receiving waters.**

6 Q Okay. So are you aware of any technical reason

7 why the Applicant could not meet the final phase limits

8 for ammonia-nitrogen during the interim phase?

9 **A** **Not aware of any technical reasons. Those**

10 **numbers were just based on the modeling.**

11 Q Okay. Thank you.

12 Let's see. Can you tell me what does it

13 mean for the QUAL-TX model that was used for this permit

14 to be uncalibrated? What is an uncalibrated model?

15 **A** **Well, a calibrated model is a model that**

16 **requires a great deal of information to be able to set**

17 **various rates and other parameters to make it more**

18 **site-specific, whereas an uncalibrated model in this**

19 **case is a model that incorporates at least some default**

20 **values, and the scope of what's default and what's not**

21 **can vary, but the model hasn't -- or the modeler hasn't**

22 **gone through a process to develop a calibration for the**

23 **model.**

24 Q So when you use the term "uncalibrated," is

25 that equivalent to when you're using the term "default"

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1 or "default modeling"?

2 A They are not entirely analogous. Default has
 3 additional implications. It can represent -- like when
 4 I write a memo and I use the default, if it's more just
 5 a model that has, for example, default hydraulic
 6 information as well, whereas uncalibrated, there may be
 7 some either site-specific information or information
 8 taken from aerial imagery or something to try to refine
 9 the hydraulic parameters in the model somewhat. So
 10 that's kind of the difference from my perspective.

11 Q Okay. Thank you. So can you tell me when
 12 would TCEQ require the use of a calibrated model?

13 A Well, model calibration can inherently be kind
 14 of tricky. It's -- if there is not a water quality
 15 gradient within the modeled area -- actually,
 16 calibrating a model can be problematic. If you can't
 17 see any trends in water quality because there aren't
 18 currently any wastewater discharges or other point
 19 sources, the validity of the calibration can come into
 20 question as well as its usefulness as a predictive tool,
 21 and that's especially the case if you're in a section
 22 where there aren't currently any discharges and you're
 23 trying to extrapolate that model, calibrated model into
 24 a scenario that would represent potential future
 25 discharge conditions.

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1 And I've lost track of what your question
 2 was.

3 Q Sorry. I was just asking when would TCEQ
 4 require the use of a calibrated model rather than an
 5 uncalibrated model?

6 A Typically, the only time that TCEQ will develop
 7 a calibrated model is in situations where there are
 8 already wastewater discharges present. For example, in
 9 a watershed that has multiple dischargers and you're
 10 trying to get a handle on what the -- what the impact
 11 already seen from those discharges is and then be able
 12 to base a calibration on that and then extrapolate that
 13 into future discharge conditions or conditions that
 14 represent full permitted flows, it's used -- my section
 15 of the agency used to do -- used to create a lot of
 16 calibrated models back in the '80s and '90s that we
 17 called "waste load evaluation models." These days, the
 18 total maximum daily load program, they create
 19 sophisticated calibrated models to investigate
 20 watersheds that have documented dissolved oxygen
 21 impairment issues, and that's where we mostly see the
 22 calibrated dissolved oxygen type models at least these
 23 days.

24 Q Okay. And I think my last question, how was it
 25 determined that a default modeling approach rather than

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1 a site-specific approach was sufficient for this permit?

2 A Well, what we typically do in modeling
 3 situations like this just partially because of the shear
 4 number of permitting reviews that we do, we'll, first,
 5 approach a modeling analysis with a default approach.
 6 And in a case like this, we may use default hydraulic
 7 assumptions for flowing water bodies but then try to
 8 develop a somewhat more site-specific approach for the
 9 lake codes and backwaters just as far as dimensions and
 10 depths of the lake portion of the model.

11 And, again, I've forgotten the question.

12 Q That's okay. You had mentioned in your
 13 testimony that it was determined that a default modeling
 14 approach rather than a site-specific approach was
 15 sufficient for this permit. How was it determined that
 16 that was sufficient?

17 A Yeah. Sorry about that.

18 So we'll start off with the approach that
 19 I described. And if in the process of performing that
 20 review we determine that we're unable to find any
 21 effluent limits that are predicted to be adequate, or it
 22 could be just that the effluent limits that we do come
 23 up with as a result of the modeling are way off from
 24 what the applicant had proposed, then we'll -- we won't
 25 do a calibrated model, but we may pull site-specific

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1 information from the Surface Water Quality Monitoring
 2 Program data where we could define parameters like
 3 temperature and percent dissolved oxygen saturation,
 4 levels of chlorophyll that are in the lake. And then we
 5 may also take a seasonal approach instead of just
 6 modeling with the most critical summertime conditions
 7 since some of those parameters like chlorophyll may vary
 8 seasonally also. And then if that doesn't work, we, at
 9 that point, we may discuss more with the applicant what
 10 options they may have that they may wish to develop a
 11 more sophisticated calibrated model, but we would not
 12 typically initiate that on our own.

13 Q Okay. Then just to clarify, for this specific
 14 permit, you did determine that a default modeling was
 15 adequate or sufficient?

16 A Correct. Based on modeling that we did, the
 17 effluent limits were a little bit more stringent than
 18 what the Applicant had proposed, but they had already
 19 proposed fairly stringent limits from a dissolved oxygen
 20 perspective. And the limits that we came up with were
 21 within the range that we would consider acceptable to
 22 recommend, and they were close enough to what the
 23 applicant recommended that we didn't go further into a
 24 more site-specific refined model.

25 Q I see. Okay, Mr. Michalk, that's all the

<p style="text-align: right;">153</p> <p>1 questions I have for you. Thank you.</p> <p>2 MS. PESONEN: Your Honor, I pass the</p> <p>3 witness.</p> <p>4 JUDGE SHENOY: Thank you. Mr. Allmon,</p> <p>5 will you be next or Mr. Booth?</p> <p>6 MR. BOOTH: It will be me, Your Honor.</p> <p>7 JUDGE SHENOY: Okay.</p> <p>8 CROSS-EXAMINATION</p> <p>9 BY MR. BOOTH:</p> <p>10 Q Mr. Michalk, my name is Mike Booth, and I</p> <p>11 represent the neighbors to the proposed wastewater</p> <p>12 treatment plant, the Rists and Bennett RV Ranch.</p> <p>13 Now, along the lines of the last</p> <p>14 questions, on page 11 of your prefiled, along lines 17</p> <p>15 through 24, you said you were going through this process</p> <p>16 running the model and looking at effluent sets, and then</p> <p>17 you got to the one that you ended up recommending and</p> <p>18 you thought it was sufficiently stringent. What would</p> <p>19 have been the next effluent set you would have plugged</p> <p>20 in?</p> <p>21 A Could you direct me to where --</p> <p>22 Q I'm on -- I'm on, let me see, page 11, and I'm</p> <p>23 looking at the lines 19 through 24 where you're talking</p> <p>24 about working through your effluent set.</p> <p>25 A Okay.</p>	<p style="text-align: right;">155</p> <p>1 (Simultaneous discussion)</p> <p>2 Q (BY MR. BOOTH) Okay. So in other words, in</p> <p>3 your judgment, you couldn't require anymore stringent</p> <p>4 effluent limits short of telling them to go put their</p> <p>5 plant somewhere else?</p> <p>6 Well, let me back up. That is kind of</p> <p>7 obnoxious, I suppose.</p> <p>8 But your recommended DO is less than 5,</p> <p>9 correct? Or the result from the model is less than 5,</p> <p>10 correct?</p> <p>11 A The result from the model is less than 5.0.</p> <p>12 Q And 5 is what you're suppose to do, right,</p> <p>13 that's the standard?</p> <p>14 A The criterion is 5.</p> <p>15 Q Yeah. So are you saying that you couldn't have</p> <p>16 told them to do any other lower effluent set so you</p> <p>17 could have produced a 5 DO on the model?</p> <p>18 A As I'm -- as I'm sure you or others will ask me</p> <p>19 soon enough, the modeling practice that we -- that TCEQ</p> <p>20 Water Quality Division has had since before I started</p> <p>21 working there in 2000 has been to allow model results as</p> <p>22 low as 4.80 milligram per liter to demonstrate that the</p> <p>23 5 milligrams per liter criterion would be met. So they</p> <p>24 could certainly propose limits that would result in a</p> <p>25 higher DO, but --</p>
<p style="text-align: right;">154</p> <p>1 Q Effluent limits.</p> <p>2 A Okay.</p> <p>3 Q And, apparently, you stopped at the one that's</p> <p>4 currently recommended. And I was wanting to know if you</p> <p>5 had looked at the next more stringent effluent set and</p> <p>6 see what DO would have produced?</p> <p>7 A Well, for the interim phase, I recommended a 5</p> <p>8 milligrams per liter CBOD5 limit, 1.6 milligram per</p> <p>9 liter ammonia-nitrogen limit, and a 6 milligram per</p> <p>10 liter minimum effluent DO limit. At that point, 5</p> <p>11 milligrams per liter is the most stringent CBOD5 limit</p> <p>12 we would recommend.</p> <p>13 For ammonia-nitrogen, at that point, we</p> <p>14 would start decreasing the ammonia-nitrogen limit by .1</p> <p>15 milligram per liter and then a 6 milligram per liter</p> <p>16 effluent DO limit is the highest DO limit we would go.</p> <p>17 So for that phase, we would go down 1.5, 1.4, et cetera.</p> <p>18 For the final phase, the limit -- it was</p> <p>19 the same CBOD and effluent DO limits; 5 milligrams per</p> <p>20 liter and 6 milligrams per liter, respectively; and the</p> <p>21 ammonia-nitrogen was a 1.0 milligram per liter, which is</p> <p>22 the lowest that we would typically go. There are one or</p> <p>23 two permits in the state where a permittee specifically</p> <p>24 requested something less stringent, but 1 milligram per</p> <p>25 liter is the minimum --</p>	<p style="text-align: right;">156</p> <p>1 Q Oh --</p> <p>2 (Simultaneous discussion)</p> <p>3 A -- I would recommend limits to meet something</p> <p>4 that's higher than that threshold.</p> <p>5 Q (BY MR. BOOTH) I didn't understand that last</p> <p>6 part of your answer.</p> <p>7 A I -- if there were more stringent limits that I</p> <p>8 could recommend, I couldn't recommend them just based on</p> <p>9 trying to increase that model -- that minimum model</p> <p>10 prediction from 4.80 to 5.0.</p> <p>11 Q You just wouldn't do it? Is that what you're</p> <p>12 saying? Or you don't think it was necessary?</p> <p>13 A It's inconsistent with our SOPs.</p> <p>14 Q Now, do you have any of those SOPs written down</p> <p>15 in a rule or a guidance document that has been approved</p> <p>16 by the public or at least reviewed by the public?</p> <p>17 A I don't know that they have been reviewed by</p> <p>18 the public, but I have provided a couple of the SOP</p> <p>19 documents as exhibits.</p> <p>20 Q But they're not any rules of the Commission</p> <p>21 that established the policy that that's okay?</p> <p>22 A There aren't any rules of the Commission, but</p> <p>23 we do submit all of these modeling reviews to EPA to</p> <p>24 review before --</p> <p>25 Q That's not the question I asked you. I was</p>

<p style="text-align: right;">157</p> <p>1 asking about the Commission. There's no rules? Yes or 2 no?</p> <p>3 A I'm not aware of any rules.</p> <p>4 Q Okay. All right. Now, I'm looking at page 13 5 in your prefiled. And I'm trying to understand what 6 you're saying here by situations where irregular in 7 channel morphology create occasional conditions, blah, 8 blah.</p> <p>9 But your point is, is, you know, that 10 might exist, but you're not going to worry about it, 11 you're just going to use your default model. Is that 12 correct?</p> <p>13 That would be 6 through -- 14 (Simultaneous discussion)</p> <p>15 Q (BY MR. BOOTH) -- just characterize what 16 you're trying to say between 6 and 15 line on page 13.</p> <p>17 A This was more in reference to some of the -- I 18 think it was Mr. Frossard's discussion about thinking 19 that the lake should potentially be modeled at a lower 20 level. And I was mentioning -- mentioning this here. 21 It seemed that some people were of the understanding 22 that when the lake is lower, there may be pooled areas 23 that form within what's defined as the normal pool 24 elevation, but it could just be pools behind some little 25 higher elevation --</p>	<p style="text-align: right;">159</p> <p>1 model, at least DO model, is the reaeration rate. Is 2 that correct?</p> <p>3 A Correct.</p> <p>4 Q Okay. And deeper the water, the lower the 5 reaeration rate, right, as a general rule?</p> <p>6 A That sounds correct.</p> <p>7 Q Okay. So do you recall what you used as a 8 value for your reaeration rate for the lake part of the 9 modeling?</p> <p>10 A For the lake reaches, the reaeration is 11 basically one over whatever the depth average --</p> <p>12 Q Okay.</p> <p>13 A -- would reach.</p> <p>14 Q Is that known as K2 in the model?</p> <p>15 A Yes, I believe so.</p> <p>16 Q And that's y'all's' common default, right?</p> <p>17 A That is our default approach for lake modeling, 18 yes.</p> <p>19 Q Okay. So let's get -- getting back to when 20 you're looking at running your model, it doesn't -- you 21 didn't make any adjustments for the lake being lower 22 during the summer. You were just using a conservation 23 pool as the elevation of the lake?</p> <p>24 A That is correct.</p> <p>25 Q So what happens, or maybe y'all just don't or</p>
<p style="text-align: right;">158</p> <p>1 Q Okay.</p> <p>2 A -- when the lake is lower.</p> <p>3 Q So you recall that there was testimony about 4 isolated pools. And so are you saying that we don't 5 worry, the TCEQ does not worry about that in their water 6 quality modeling, or what are we saying --</p> <p>7 A I mean, the way that the modeling is put 8 together, we are trying to evaluate under pessimistic 9 and conservative conditions as much as we are able at 10 low-flow and high temperature, summertime, dry 11 conditions as far as the creeks go; but for actual 12 classified segment lakes our practice has been to model 13 them at normal pool elevation. For one reason, the 14 water from the discharge would enter the more 15 restrictive lake backwater area.</p> <p>16 Q Okay -- 17 (Simultaneous discussion)</p> <p>18 Q (BY MR. BOOTH) -- let me stop you there. 19 We're talking about Rucker Creek right now. But when 20 we're talking about getting cut off or how far the creek 21 flows before it hits the lake, you're looking at a -- a 22 reaeration rate. Isn't that correct?</p> <p>23 A I don't follow your question. Could you repeat 24 that?</p> <p>25 Q One of the important factors in a water quality</p>	<p style="text-align: right;">160</p> <p>1 can't worry about it, when the lake drops and they are 2 these isolated pools in a creek upstream of the lake, 3 what happens to the water quality in those pools?</p> <p>4 A I couldn't tell you, honestly.</p> <p>5 Q Okay. Fair enough. Fair enough.</p> <p>6 Now, you made some statements about Mr. 7 Machin changing the barometric pressure. Do you recall 8 that?</p> <p>9 A Yes.</p> <p>10 Q That's somewhere along page 15 and 16 of your 11 prefile.</p> <p>12 A Okay.</p> <p>13 Q And as I understand your testimony, and you 14 correct me, please, that you were saying that he -- the 15 barometric pressure that he put in his model, that is 16 Mr. Machin, was correct. The reaches that he was 17 running the model were correct, but you can't do it that 18 way. That's number one. We'll talk about that 19 separately.</p> <p>20 And then, number two, you said that you 21 would have to -- when you ran that -- Mr. Machin's -- 22 when you ran your model using Mr. Machin's barometric 23 pressure, you could not reproduce the DO that the model 24 produced. Is that correct?</p> <p>25 A Yes. In his -- I guess I don't remember if</p>

<p style="text-align: right;">161</p> <p>1 it's prefiled testimony or the deposition or both he --</p> <p>2 Q It was prefiled testimony.</p> <p>3 A Okay. He said that he had gotten a result of</p> <p>4 4.03 milligrams per liter by making that change, and I</p> <p>5 was unable to recreate that.</p> <p>6 Q Okay. But when you ran it, what did you get</p> <p>7 with your modeling? You changed the barometric</p> <p>8 pressure. What DO values did you get or value?</p> <p>9 A At first, I just changed the barometric</p> <p>10 pressure without changing anything else, and I got 4.63.</p> <p>11 I then kept that same barometric pressure but then</p> <p>12 reinitialized the model, which basically means that I</p> <p>13 adjusted the dissolved oxygen concentration for</p> <p>14 headwater flow and what's called the "lower boundary</p> <p>15 conditions," which is the DO concentration at the very</p> <p>16 end of the model, and then we run what's called a</p> <p>17 "no-load run," which is basically inputting the amount</p> <p>18 of flow that would be represented by the proposed</p> <p>19 discharge but at ambient quality, CBOD ammonia and DO,</p> <p>20 and then adjust sediment oxygen demand values until we</p> <p>21 get a predicted dissolved oxygen in all the lake model</p> <p>22 reaches that are approximately the same as a target</p> <p>23 dissolved oxygen that we're trying to hit at that</p> <p>24 revised barometric pressure. And I believe the -- I</p> <p>25 don't recall offhand what that number was but ended up</p>	<p style="text-align: right;">163</p> <p>1 Q Okay. You said earlier or maybe during the</p> <p>2 same line of your testimony that the default criteria</p> <p>3 for temperature is very conservative because in this</p> <p>4 part of the state, it's not as hot as what your default</p> <p>5 temperature is and that that's another reason why, which</p> <p>6 I don't understand why it would make a difference,</p> <p>7 except for you said that it would -- it tends to -- the</p> <p>8 higher temperature tends to decrease the DO and that --</p> <p>9 so that little change there and this little change over</p> <p>10 here, you just can't do it that way, I guess. That's</p> <p>11 kind of what I'm getting out of this testimony of yours,</p> <p>12 is that only way to do it is the way you guys want to do</p> <p>13 it.</p> <p>14 A Well, I don't --</p> <p>15 Q That wasn't a question but --</p> <p>16 (Simultaneous discussion)</p> <p>17 Q (BY MR. BOOTH) That was -- my point is that</p> <p>18 you say, okay, you can't change the barometric pressure</p> <p>19 even though you agreed that it's wrong because if you</p> <p>20 change the barometric pressure, you got to change all</p> <p>21 these other things for some reasons that I don't</p> <p>22 understand, except that you're trying to get the result</p> <p>23 of something close to a 5 DO. Because I don't know --</p> <p>24 is that -- is that what you're trying to do with your --</p> <p>25 getting what you ultimately ended up with the 4.65?</p>
<p style="text-align: right;">162</p> <p>1 changing the sediment and oxygen demand value slightly,</p> <p>2 and that had a pretty minimal impact on my predicted DO</p> <p>3 and bumped it up, I believe, to 4.65 instead of 4.63.</p> <p>4 Q So you were turning quite a few knobs. Well,</p> <p>5 that's -- 4.65 is still lower than 5?</p> <p>6 A It is, right.</p> <p>7 Q And it's lower than what you predicted without</p> <p>8 the change in barometric pressure?</p> <p>9 A Correct. It's my opinion that changing only</p> <p>10 the barometric pressure wouldn't be appropriate if you</p> <p>11 were going away from default with a barometric pressure.</p> <p>12 I think you would have to start pulling the surface</p> <p>13 water quality monitoring data and refining some other</p> <p>14 aspects of the model like temperature and the percent DO</p> <p>15 saturation since the DO saturation, as Mr. Machin</p> <p>16 mentioned, does change when you change the barometric</p> <p>17 pressure, so your target dissolved oxygen for these --</p> <p>18 Q Well, didn't you say that the temperature that</p> <p>19 you use in your default model is conservative and that</p> <p>20 so it would be kind of over estimating or under</p> <p>21 estimating the amount of DO that would be in the water</p> <p>22 in all probability? If you don't understand, just let</p> <p>23 me ask --</p> <p>24 A Yeah, I think I understand, but if you can</p> <p>25 repeat that.</p>	<p style="text-align: right;">164</p> <p>1 A I still don't follow the line of questioning.</p> <p>2 Q Okay. Okay. Well, let's back up.</p> <p>3 Okay. So you changed the barometric</p> <p>4 pressure to what Machin said or Mr. Machin said, and you</p> <p>5 agreed that that's the right number. And then you</p> <p>6 started running the model. You adjusted the sediment</p> <p>7 oxygen demand values to achieve the baseline target</p> <p>8 dissolved oxygen. So what does that mean? We're</p> <p>9 looking at 24, lines 24 and 25 --</p> <p>10 A Right. Well --</p> <p>11 Q -- 26?</p> <p>12 A -- when I only change the barometric pressure,</p> <p>13 that decreases the solubility of oxygen in the water at</p> <p>14 a specific temperature, so instead of having a target</p> <p>15 ambient DO of roughly 6 milligrams per liter, it would</p> <p>16 reduce that to 5.85 milligrams per liter or something.</p> <p>17 So we would -- we would do these no-load run models to</p> <p>18 adjust the sediment oxygen demand and the individual</p> <p>19 model reaches until we hit the predicted dissolved</p> <p>20 oxygen target value. I don't know. It's kind of</p> <p>21 technical to try to explain but --</p> <p>22 Q I'm following with what you're saying right</p> <p>23 now.</p> <p>24 A Yeah. If that's -- if that's the only -- if</p> <p>25 the barometric pressure is the only change that we made,</p>

165	<p>1 I did this -- these additional model runs to hit this</p> <p>2 target no-load dissolved oxygen concentration that would</p> <p>3 equate to just making that barometric pressure change;</p> <p>4 but the other values used in the model would still be</p> <p>5 defaults; the default summertime temperature, a default</p> <p>6 80 percent dissolved oxygen saturation, et cetera.</p> <p>7 Q Okay. And that resulted in a 4.65 milligrams</p> <p>8 per liter of DO?</p> <p>9 A Correct.</p> <p>10 Q Okay. Let's back up for a second. You were</p> <p>11 talking about calibrated models. What all do you have</p> <p>12 to do to calibrate a model because, you know, generally?</p> <p>13 Let's be -- specifically, what do you have to do to</p> <p>14 calibrate QUAL-TX?</p> <p>15 A Well, it's a fairly involved procedure.</p> <p>16 There's -- you have to go out in the field and collect</p> <p>17 various types of information. You really needed to do</p> <p>18 some sort of -- usually when we would do it, we would do</p> <p>19 a dye study to determine the time of travel from certain</p> <p>20 upstream point A to certain downstream point B and use</p> <p>21 that information to develop site-specific hydraulic</p> <p>22 coefficients both for the flowing part of the creek.</p> <p>23 And in this case, you would have to do something like</p> <p>24 that for the lake backwaters and cove also. I've</p> <p>25 actually not done a lake backwater or cove calibration.</p>	167	<p>1 MR. BOOTH: Pass the witness.</p> <p>2 JUDGE SHENOY: Thank you. And,</p> <p>3 Mr. Allmon, I don't -- I don't know how much you have.</p> <p>4 It might be a good time to take a break, but let me know</p> <p>5 how much do you think you have.</p> <p>6 MR. ALLMON: Well, actually Mr. Bedecarre</p> <p>7 was going to handle this with me.</p> <p>8 JUDGE SHENOY: All right.</p> <p>9 Mr. Bedecarre, how much time do you think</p> <p>10 you have?</p> <p>11 MR. BEDECARRE: Yeah. Could we take a</p> <p>12 quick break before we start?</p> <p>13 JUDGE SHENOY: Sure. I know the court</p> <p>14 reporters are also going to switch out, so let's take a</p> <p>15 break until three o'clock and come back at 3:00.</p> <p>16 Okay. We're off the record.</p> <p>17 (Recess: 2:42 p.m. to 3:00 p.m.)</p> <p>18 JUDGE SHENOY: Okay. Let's go back on the</p> <p>19 record. It's about three o'clock. We had taken an</p> <p>20 afternoon break, and we're -- we'll now pick up with</p> <p>21 cross-examination of Mr. Michalk by Mr. Bedecarre.</p> <p>22 CROSS-EXAMINATION</p> <p>23 BY MR. BEDECARRE:</p> <p>24 Q Hi. Good afternoon, Mr. Michalk. My name is</p> <p>25 John Bedecarre. I'm an attorney for some of the</p>
166	<p>1 I have calibrated models for creeks that had large</p> <p>2 pooled sections, but that's different. So that's kind</p> <p>3 of the first step.</p> <p>4 And then you have multiple locations along</p> <p>5 the discharge route or assessed portion of the water</p> <p>6 bodies, multiple different points along there that the</p> <p>7 field teams, the way we would do it at least, go out and</p> <p>8 collect various different sorts of data; temperature,</p> <p>9 DO, oxygen demanding constituents, stuff related to</p> <p>10 chlorophyll, various components and collect --</p> <p>11 (Simultaneous discussion)</p> <p>12 Q (BY MR. BOOTH) It sounds pretty involved.</p> <p>13 A Pretty involved, yes.</p> <p>14 Q How long does that typically take timewise? I</p> <p>15 guess it also depends how many people you have --</p> <p>16 (Simultaneous discussion)</p> <p>17 A I mean, there's a planning phase and a recon</p> <p>18 phase. The actual data collection you can usually</p> <p>19 collect most of the data in just a couple days. The</p> <p>20 time of travel dye study portion sometimes takes longer,</p> <p>21 but then actually compiling that information into a</p> <p>22 model, a calibrated model typically will take months.</p> <p>23 Q (BY MR. BOOTH) Okay. All righty. Well, I</p> <p>24 don't think I have anymore questions, Mr. Michalk.</p> <p>25 Thank you so much. Appreciate it.</p>	168	<p>1 Protestants in this matter. I just had a few questions</p> <p>2 for you, and I'm trying to get to where I can see you.</p> <p>3 There you are.</p> <p>4 So my first question, and I guess my main</p> <p>5 question, is: As far as you know, does TCEQ Staff use</p> <p>6 the QUAL2K model in its TPDES permitting analysis?</p> <p>7 A The only use of the QUAL2K model that I'm aware</p> <p>8 of for TPDES permitting is the Oyster Creek total</p> <p>9 maximum daily load project for dissolved oxygen which</p> <p>10 uses the QUAL2K model to assess effluent limits for</p> <p>11 oxygen-demanding constituents for permittees that are</p> <p>12 within the scope of that TMDL project.</p> <p>13 Q Okay. Is that -- is that a specific -- so</p> <p>14 that's like one specific permit?</p> <p>15 A It's a specific classified segment. There are</p> <p>16 multiple permits within that modeling effort.</p> <p>17 Q Okay.</p> <p>18 A But any individual permit that is within that</p> <p>19 TMDL watershed is evaluated using that model for</p> <p>20 oxygen-demanding constituent limits.</p> <p>21 Q Okay. But for every other TPDES permit and</p> <p>22 every other water body, TCEQ does not use the QUAL2K</p> <p>23 model when analyzing a TPDES permit application?</p> <p>24 A I'm not aware of any. I'm not certain that</p> <p>25 there aren't any, but there are not any segments -- any</p>

<p style="text-align: right;">169</p> <p>1 classified segments that I have ever had the</p> <p>2 responsibility for within the state that uses that --</p> <p>3 that model.</p> <p>4 Q Okay. Do you know -- and why is that? Why is</p> <p>5 it -- why is it not used?</p> <p>6 A I don't know specifically, but it is a very</p> <p>7 complex model that is beyond just a typical default</p> <p>8 approach that we would take for most -- most TPDES</p> <p>9 permit analyses. And then even permits that do have</p> <p>10 more complex sophisticated modeling approaches, there</p> <p>11 aren't -- there aren't a lot of those, but the majority</p> <p>12 of those are done with like WASP models, W-A-S-P models,</p> <p>13 or CE-QUAL-W2 --</p> <p>14 Q Okay.</p> <p>15 A -- but I'm not sure exactly why it's not used.</p> <p>16 Q Okay. Do you -- when you or TCEQ staff analyze</p> <p>17 a TPDES permit and you're looking at dissolved oxygen,</p> <p>18 do you ever study the effect that algae would have on</p> <p>19 the ultimate dissolved oxygen impacts?</p> <p>20 A In our normal default modeling, we do not. A</p> <p>21 few of like the WASP or CE-QUAL-W2 models that I</p> <p>22 mentioned that are more complex, they may include a</p> <p>23 component of that, but chiefly even -- even with those,</p> <p>24 we're still mostly looking at direct dissolved oxygen</p> <p>25 impacts from oxygen-demanding constituents like CBOD and</p>	<p style="text-align: right;">171</p> <p>1 Q Okay. Well, just for the -- for the QUAL-TX</p> <p>2 model, the one that you used for this permit analysis,</p> <p>3 were you looking at -- when you're looking at dissolved</p> <p>4 oxygen, were you at all looking at the impact that --</p> <p>5 the impacts -- or sorry, the changes across like a</p> <p>6 24-hour period? And the diel changes I think would be</p> <p>7 the scientific term on dissolved oxygen.</p> <p>8 A The QUAL-TX model only provides a daily average</p> <p>9 value, and it's kind of an extended -- a prolonged look</p> <p>10 at daily average values. Also, it like picks the impact</p> <p>11 that BOD, for example, will have over an extended</p> <p>12 period. And at the point where those concentrations</p> <p>13 predictions level off, the results that it provides</p> <p>14 numbers on are daily average numbers based on that, if</p> <p>15 that made any sense.</p> <p>16 MR. BEDECARRE: Okay. I think -- I think</p> <p>17 I have no further questions for the witness at this</p> <p>18 time.</p> <p>19 JUDGE SHENOY: Thanks.</p> <p>20 Mr. Tatu, do you have any redirect?</p> <p>21 MR. TATU: No redirect, Your Honor. Thank</p> <p>22 you.</p> <p>23 JUDGE SHENOY: All right. In that case,</p> <p>24 we are complete with Mr. Michalk. Thank you for your</p> <p>25 time.</p>
<p style="text-align: right;">170</p> <p>1 the ammonia nitrogen.</p> <p>2 Q Okay. And you -- the analysis you did used the</p> <p>3 QUAL-TX model. Is that right?</p> <p>4 A That is correct.</p> <p>5 Q And if I recall correctly in your prior</p> <p>6 testimony this afternoon, you explained that to</p> <p>7 calibrate the QUAL-TX model -- or let me just put it</p> <p>8 this way: Did you explain what calibrating the QUAL-TX</p> <p>9 model sort of entails in your testimony?</p> <p>10 A I think I tried to.</p> <p>11 Q Okay. Would you say that your characterization</p> <p>12 of that calibration process for the QUAL-TX, is that</p> <p>13 similar to what it would entail to calibrate the QUAL2K</p> <p>14 model?</p> <p>15 A I've never used the QUAL2K model, so I'm not</p> <p>16 sure what all that it needs. It may need different</p> <p>17 types of information. I know that QUAL2K, just from</p> <p>18 reading other people's testimony, does have a diurnal</p> <p>19 component --</p> <p>20 Q Uh-huh.</p> <p>21 A -- whereas the QUAL-TX, as far as its</p> <p>22 predictions, it's just providing daily average.</p> <p>23 Q Uh-huh.</p> <p>24 A I'm not -- I'm not sure how they compare really</p> <p>25 as far as what information is needed.</p>	<p style="text-align: right;">172</p> <p>1 THE WITNESS: Thank you.</p> <p>2 JUDGE SHENOY: Let's go off the record for</p> <p>3 a minute.</p> <p>4 (Discussion off the record)</p> <p>5 JUDGE SHENOY: Okay. Let's just go back</p> <p>6 on the record briefly to summarize the discussion that</p> <p>7 we had while we were off the record.</p> <p>8 We went over the exhibits that had been</p> <p>9 admitted today, and we were all in agreement with that,</p> <p>10 and I believe the court reporter's list also reflects</p> <p>11 that. We will go over all of them again before the end</p> <p>12 of the hearing just to make sure that we have no</p> <p>13 inconsistencies.</p> <p>14 Then we also talked about a briefing</p> <p>15 schedule. The parties are going to discuss that and</p> <p>16 propose, to the extent they can, a briefing outline, not</p> <p>17 a schedule, excuse me, and they will look at combining</p> <p>18 issues stipulating to any issues -- anything that will</p> <p>19 help streamline the process.</p> <p>20 Tomorrow we will start with Applicant's</p> <p>21 witnesses, and they -- as I think I said earlier, they</p> <p>22 will either be in panels or a combination of individual</p> <p>23 and in panels or just presented individually. The</p> <p>24 parties are going to talk about that and let us know.</p> <p>25 And I think that's it for today. So we</p>

1 will adjourn for the today, and we will convene again at
2 9:00 a.m. tomorrow. I'll open the hearing room probably
3 around 8:45 tomorrow so that everyone can start I think.
4 No one had any problems today, so we should be fine
5 starting a little later.

6 All right. Thanks everyone. We're
7 adjourned.

8 (Proceedings recessed at 3:13 p.m)
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1 CERTIFICATE
2 STATE OF TEXAS)
3 COUNTY OF TRAVIS)
4 We, LORRIE A. SCHNOOR, LuANN M. GILL AND
5 KIM PENCE, Certified Shorthand Reporters in and for
6 the State of Texas, do hereby certify that the
7 above-mentioned matter occurred as hereinbefore set out.
8 We further certify that we are neither counsel
9 for, related to, nor employed by any of the parties or
10 attorneys in the action in which this proceeding was
11 taken, and further that we are not financially or
12 otherwise interested in the outcome of the action.
13 Certified to by us this 8th day of March 2022.
14
15

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