

**In The Matter Of:**  
*Hays, Kansas & Russell, KS v*  
*Edwards County, Kansas & Kansas Water Transfer Act*

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*Formal Hearing*  
*Vol. 5*  
*July 25, 2023*

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2 EXHIBIT FIRST

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5 Number 2832.....1092

6 Number 2868.....920

7 Number 2872.....1075

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11 WATER PACK EXHIBITS

12 EXHIBIT FIRST

13 NUMBER REFERENCED

14 Number 102.....1005

15 Number 1863.....943

16

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25

1 **PRESIDING OFFICER:** We can probably  
2 go ahead and go back on the record and  
3 resume the hearing for today.

4 **MR. BULLER:** Thank you, Your Honor.  
5 The City of Hays calls Amy Haase.

6 **PRESIDING OFFICER:** Just so the  
7 record is clear, the parties agreed that  
8 there would be some expert witnesses who  
9 would be called before Mr. Letourneau  
10 resumes with his cross-examination  
11 testimony so those individuals can go ahead  
12 and get back on the road and not have to  
13 wait around longer than necessary. So go  
14 ahead, Mr. Buller. Well, let me get  
15 Ms. Haase sworn in.

16  
17 **AMY HAASE,**  
18 having first duly sworn or affirmed, was  
19 examined and testified as follows:

20  
21 **PRESIDING OFFICER:** All right. Now  
22 you may proceed, Mr. Buller.

23 **MR. BULLER:** Thank you, Your Honor.  
24 And thank you too counsel for Water PACK  
25 for agreeing to allow us some flexibility

1 with these experts this morning, appreciate  
2 it.

3 **MR. LEE:** Certainly.

4  
5 **DIRECT EXAMINATION**

6 **BY MR. BULLER:**  
7 Q Good morning, Ms. Haase, thank you for joining  
8 us. Please state your name and business  
9 address, spelling your last name for the court  
10 reporter.

11 A **Amy Haase, H-A-A, S as in Sam, E, 1302 Howard  
12 Street, Omaha, Nebraska 68102.**

13 Q By whom are you employed, and what is your  
14 title?

15 A **I'm employed by RGD Planning & Design and I am a  
16 principal.**

17 Q Did you author direct testimony filed in this  
18 matter on May 30, 2023 titled Direct Testimony  
19 of Amy Haase, AICP, Principal at RDG Planning &  
20 Design on behalf of the Cities of Hays and  
21 Russell, Kansas Relating to Population  
22 Projection Analysis?

23 A **Yes.**

24 **MR. BULLER:** And for the record,  
25 that is Exhibit 2825.

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1 **BY MR. BULLER:**  
 2 Q And, Ms. Haase, did you author additional  
 3 testimony filed in this matter on June 28, 2023  
 4 titled Rebuttal Testimony of Amy Haase, AICP,  
 5 Principal at RDG Planning & Design on Behalf of  
 6 the Cities of Hays and Russell, Kansas?  
 7 A Yes.  
 8 **MR. BULLER:** And, Your Honor, we  
 9 have not filed that as an exhibit, we did  
 10 file it as an expert report. We're marking  
 11 that as an exhibit this morning as  
 12 Exhibit 2868.  
 13 **PRESIDING OFFICER:** All right.  
 14 **BY MR. BULLER:**  
 15 Q Ms. Haase, have you had a chance to review those  
 16 documents prior to your appearance here today?  
 17 A Yes.  
 18 Q As you sit here, do you have any changes or  
 19 corrections to make to those documents?  
 20 A No.  
 21 Q If I asked you the same questions today as  
 22 appear in your prefiled testimony, would your  
 23 answers and opinions remain the same?  
 24 A Yes.  
 25 **MR. BULLER:** Your Honor, at this

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1 time, I move to admit the prefiled  
 2 testimony and rebuttal testimony of  
 3 Ms. Haase, including the exhibits and  
 4 attachments to those documents.  
 5 **MR. LEE:** No objection from Water  
 6 PACK, Your Honor.  
 7 **PRESIDING OFFICER:** All right.  
 8 Those will be admitted. And then with the  
 9 rebuttal testimony, 2868 there, can you  
 10 please make sure you just go ahead and get  
 11 that filed and uploaded to the E-file  
 12 system there and then -- and that was on my  
 13 list of things I was going to address with  
 14 you, Mr. Lee, as well, with your exhibits,  
 15 we have lists, but I don't believe those  
 16 actual exhibits have been uploaded there.  
 17 Can you, within the next few days here,  
 18 make sure that you have gotten those  
 19 exhibits uploaded there so a copy of those  
 20 exhibits is all in that record?  
 21 **MR. LEE:** Someone from our law firm  
 22 can.  
 23 **PRESIDING OFFICER:** Sure.  
 24 **MR. BULLER:** And, Your Honor, just  
 25 to clarify for the record, Ms. Haase's

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1 rebuttal testimony was filed, it just  
 2 wasn't marked as an exhibit.  
 3 **PRESIDING OFFICER:** Okay. All  
 4 right. So it does not need to be refiled,  
 5 then, if it's in there, but we've got it  
 6 marked now so we'll note that is  
 7 Exhibit 2868, which is admitted then.  
 8 **MR. BULLER:** Thank you. Thank you,  
 9 the witness is available for questions from  
 10 the presiding officer and for  
 11 cross-examination.  
 12 **PRESIDING OFFICER:** All right. So I  
 13 guess going down the list then, Mr. Cole?  
 14  
 15 **CROSS-EXAMINATION**  
 16 **BY MR. COLE:**  
 17 Q Yes, just briefly. Ms. Haase, I think -- I  
 18 represent the City of Russell, and I think  
 19 you've done some work for the City of Russell in  
 20 the past, have you not?  
 21 A Yes.  
 22 Q Do you recall what work that was?  
 23 A Yes, in 2012, we completed the Hays  
 24 comprehensive -- oh, I'm sorry, he was asking me  
 25 about Russell, we completed the housing study

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1 **for the City of Russell.**  
 2 Q Okay. And do you recall when that was?  
 3 A 2013, 2014.  
 4 Q Okay.  
 5 A Sorry, I didn't review that one.  
 6 Q Okay. And do you recall in that study that you  
 7 did that there were some findings or concerns  
 8 about the water supply that the City of Russell  
 9 has?  
 10 A I did not, again, review that, but, yes, if I  
 11 remember correctly, that was an issue that came  
 12 up during some of those conversations was -- was  
 13 the water issue, and we had worked in Hays  
 14 before so we were aware of the water issue  
 15 within that region.  
 16 Q And that impacted your study towards the City of  
 17 Russell as well?  
 18 A Sure, yes.  
 19 Q Okay. Nothing further, thank you.  
 20 **PRESIDING OFFICER:** All right.  
 21 Then, Mr. Lee --  
 22 **MR. LEE:** Thank you, Your Honor.  
 23 **PRESIDING OFFICER:** -- you're on  
 24 deck.  
 25 //

1 **CROSS-EXAMINATION**

2 **BY MR. LEE:**

3 Q Ms. Haase, good morning, I've been introducing  
4 myself all morning, I think -- or all week and  
5 I'm not sure you've been here, I'm Charles Lee,  
6 I'm one of the attorneys with Lee Schwalb, LLC,  
7 and we represent Water PACK and Edwards County,  
8 okay?

9 **A Uh-huh.**

10 Q Let me tell you -- or let me ask you a little  
11 bit about your -- your professional background.  
12 What -- what has been your work experience?

13 **A So for the last 24 years, I've been an urban  
14 planner at RDG Planning & Design. Most of that  
15 work has focused on community comprehensive  
16 planning and housing market studies, but I do a  
17 wide variety of different community planning  
18 type of work, but those are my two core areas of  
19 focus.**

20 Q And what does RDG do in general, same thing?

21 **A Yeah, so -- well, actually, RDG is an  
22 architectural -- landscape architecture and  
23 urban planning firm, so I'm part of the -- so I  
24 lead up our urban planning market within RDG.**

25 Q Okay. So in responding to Mr. Cole's questions

1 about this issue has been Mr. Buller's  
2 unwarranted objections where he has said,  
3 this isn't what it says, and then we go  
4 back and read it and, in fact, that is what  
5 it says. I can represent to Your Honor  
6 that is a precise quote from the report  
7 that Ms. Haase prepared, Ms. Haase can  
8 verify that, I'm confident, and I think  
9 that is really the issue, does she think  
10 that that somehow is inaccurate?

11 **PRESIDING OFFICER:** Okay.

12 **MR. BULLER:** Your Honor, if I can  
13 respond to the comment about my prior  
14 objection being unwarranted? The doc --  
15 the text that was displayed on the screen  
16 during that prior objection was  
17 misattributed to an author -- to  
18 Mr. Romero. Mr. Romero never said that, it  
19 was never stated in that text that it was a  
20 quotation from some other document, and, in  
21 fact, the witness appeared to be extremely  
22 confused about who -- who actually said the  
23 document -- or, I'm sorry, who actually  
24 made the statement. So I don't consider my  
25 objection to be unwarranted, and I don't

1 a moment ago, I think it is true that there is  
2 no current population projection that you have  
3 done for the City of Russell; is that right?

4 **A Not currently.**

5 Q Okay. So let's -- let's look at a few things  
6 here that I think may provide some clarity in  
7 the sense of population projection issues,  
8 Ms. Haase. Are you able to see this?

9 **A Yes.**

10 Q Okay.

11 **MR. BULLER:** Your Honor, I'd like to  
12 interpose an objection to the use of this  
13 text on the screen; there's been some  
14 confusion about Mr. Lee's use of PowerPoint  
15 slides, or whatever these may be, in lieu  
16 of the actual documents from which they're  
17 taken, and I would ask that the actual  
18 documents be referred to if it's displayed  
19 on the screen.

20 **PRESIDING OFFICER:** Okay. Let's  
21 start it this way. Mr. Lee, I'll let you  
22 have a chance to respond to that objection,  
23 and then I'll ...

24 **MR. LEE:** Well, Your Honor, a couple  
25 of things. I think the only confusion

1 think that's a proper characterization of  
2 it.

3 **MR. LEE:** And, of course, Your  
4 Honor, in relation to that, I -- I said to  
5 the witness, well, I'm probably being  
6 unfair here, this is actually language from  
7 Mr. Larson that Mr. Romero was commenting  
8 on, I'm sure Your Honor recalls that.

9 **PRESIDING OFFICER:** Okay. Well, I  
10 guess what happened with the prior witness  
11 is a separate issue. So what we're  
12 addressing here now, I don't want to take  
13 the time to reread testimony now. I've  
14 skimmed through the filings as they've come  
15 in, but I've not committed everything in  
16 that to memory. Since Ms. Haase has filed  
17 rebuttal testimony, I think it would be  
18 safe to presume that she has read testimony  
19 that was filed by other experts that were  
20 presented by Water PACK, but, Mr. Lee, I  
21 guess why don't you just start with some  
22 questions, ask her if she's read the  
23 testimony, and then the testimony that  
24 you're pulling this from, do we have a copy  
25 of that here?

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1           **MR. LEE:** We do. I would suggest,  
2 Your Honor, as an interim step that I ask  
3 Ms. Haase if she recognizes this and if  
4 it's accurate from her statement, and if it  
5 is, that would seem to obviate the  
6 objection.  
7           **PRESIDING OFFICER:** Why don't we do  
8 that, and then if there are -- if you can  
9 identify where in your various experts'  
10 reports each thing, such as stating to the  
11 witness that here's a -- here's a  
12 paragraph, do you agree this is something  
13 that was on page 27, or whatever it may be,  
14 and that way everybody knows what page it  
15 came from, it's clear without everybody  
16 having to take time trying to flip through  
17 and tab and ID everything, and then  
18 Mr. Buller has the ability, then, he can  
19 look at that quickly and then he can object  
20 if there is some sort of  
21 mischaracterization of -- of the quotation  
22 you've pulled, if it's been misquoted.  
23 Hopefully, that will speed things along.  
24           I think this is a better way to  
25 demonstrate to the witness than putting the

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1 actual text of that expert testimony up  
2 there and trying to read through that, but  
3 then, Mr. Buller, when you go to your  
4 redirect, if you need to go back to that,  
5 you think something was out of context,  
6 that's something you can address in your  
7 redirect?  
8           **MR. BULLER:** I can, Your Honor, and  
9 I appreciate that. I would ask for a  
10 simple concession if the witness wants to  
11 refresh her recollection about the entire  
12 document, because we're talking about many  
13 pages of testimony and documents from  
14 Mr. Harvey that nobody can reasonably be  
15 expected to have memorized, that she be  
16 allowed -- she, the witness, be allowed to  
17 see the original document if she would find  
18 that to be of assistance.  
19           **MR. LEE:** And, Your Honor, we, of  
20 course, are fine with that. We're also  
21 fine with taking a moment for Mr. Buller to  
22 confirm that on page 7 of the Harvey  
23 Economics direct testimony this says that.  
24           **PRESIDING OFFICER:** Okay. Will that  
25 work for you, Mr. Buller?

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1           **MR. BULLER:** If that works for the  
2 Court, that works for me, Your Honor.  
3           **PRESIDING OFFICER:** Okay. Again, as  
4 I've said all along, we just need to make  
5 sure we have a clear record of everything  
6 here. Our rules of evidence are relaxed,  
7 but we just need to make sure everything is  
8 clear and somehow relevant, and whatever we  
9 need to do to make sure that is clear,  
10 objections can be made, we'll note any  
11 objections that need to be there, and I'm  
12 going to give each party the ability to  
13 present their respective cases.  
14           **MR. BULLER:** Understood, and I  
15 appreciate and thank you, Your Honor.  
16           **PRESIDING OFFICER:** Thank you.  
17           **MR. LEE:** So are we taking a moment,  
18 Your Honor, or ...  
19           **PRESIDING OFFICER:** Do you need a  
20 moment to look at your exhibit there,  
21 Mr. Buller, and ...  
22           **MR. BULLER:** Thank you, Your Honor,  
23 I am reviewing now, I will do this as  
24 quickly as I can. Thank you, Your Honor.  
25           **MR. LEE:** Are we satisfied?

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1           **MR. BULLER:** You may proceed.  
2 **BY MR. LEE:**  
3 Q So, Ms. Haase, you did prepare a rebuttal  
4 report, did you not?  
5 A **Yes, correct.**  
6 Q And I presume that as part of preparing a  
7 rebuttal report that you reviewed the Harvey  
8 Economics report?  
9 A **I reviewed the population section specifically.**  
10 Q Okay. So do you recognize these two quotations  
11 that are on the screen?  
12 A **I believe those are from the Harvey report, yes.**  
13 Q So Harvey says that Over the last four decades,  
14 growth for Hays has averaged about 0.65 percent  
15 per year, with slower growth, parenthetically,  
16 0.29 percent per year, between 2010 and 2020.  
17 Is that accurate?  
18 A **I believe so.**  
19 Q And Russell has experienced a continuously  
20 declining population since 1980. Is that  
21 accurate?  
22 A **I believe so but I was not specifically  
23 reviewing Russell's material, but to my  
24 recollection that sounds correct.**  
25 Q I understand, and that's because you didn't do a

1 population projection for Russell?  
2 **A Correct.**  
3 Q The second quote is, Population projections  
4 developed by the University of Kansas suggest a  
5 0.34 percent annual growth rate for Hays and a  
6 0.06 percent annual growth rate for Russell  
7 through 2045, based on the future outlook of  
8 Ellis and Russell Counties. Did you review the  
9 University of Kansas population projection?  
10 **A I did not -- I was not able to review the**  
11 **methodology for that because this website was**  
12 **down, but I did review the number itself, found**  
13 **it in the report, yes.**  
14 Q Okay. So the numbers that are cited there are  
15 correct?  
16 **A Yes.**  
17 Q Okay. This is, I believe, an excerpt from an  
18 RDG Planning & Design study for -- for Hays for  
19 housing purposes; is that right?  
20 **A Yes, that looks correct.**  
21 Q And did you do that work --  
22 **A Yes.**  
23 Q -- or was that in conjunction with others?  
24 **A No, I did that work.**  
25 Q Okay. So if I understand what we're looking at

1 numbers for the counties?  
2 **A On the Harvey report?**  
3 Q On the Harvey report, yes.  
4 **A To the best of my recollection, yeah, that --**  
5 **that sounds correct from the Harvey report.**  
6 Q Okay. And then to the right side is taken from  
7 your report at page 3, and that states that  
8 Based on the above review of both quantitative  
9 and qualitative data, the City should be able to  
10 grow at a 1 percent annually rate, probably  
11 meant annual, I suppose. And is that an  
12 accurate quotation?  
13 **A Yes.**  
14 Q And is that an accurate figure from your  
15 perspective, to the best of your knowledge?  
16 **A Yes.**  
17 Q I might back up for one moment, Ms. Haase.  
18 There's also in your report, as you recall, a  
19 discussion about the effect of the student  
20 population in Hays. Do you recall?  
21 **A Yes.**  
22 Q And so the range in the report basically talked  
23 about 1 percent on the top end and I think  
24 .40 percent on the low end; is that right?  
25 **A Yes.**

1 here from your report -- and to back up, when  
2 was that report done, do you recall?  
3 **A The most recent one would have been 2021.**  
4 Q Okay. And this is taken from that, is it not?  
5 **A I'm not sure. I would assume since it has a**  
6 **2020 number on it that it would be.**  
7 Q Okay. So your report has years and then a  
8 column for population, which shows from 1970 a  
9 population of 15,396 at Fort Hays and in 2020,  
10 21,116. And then to the right-hand column, it  
11 shows an annual growth rate, and you show from,  
12 cumulatively, from 2000 to 2020 that the annual  
13 growth rate was, for Hays, was 0.27 percent. Is  
14 that accurate, to the best of your knowledge?  
15 **A To the best of my knowledge, yes.**  
16 Q So the -- and juxtaposed here are entries from  
17 the Harvey report and from your report, and the  
18 Harvey Economics population growth projection  
19 from the Harvey report at page ES-1 is, and I'm  
20 quoting, Population projections indicate a  
21 0.34 percent annual growth rate for Ellis County  
22 and a 0.06 percent annual growth rate for  
23 Russell County through 2045. Understanding that  
24 that is broader than Hays -- the City of Hays  
25 and the City of Russell, do you agree with those

1 Q And what was the difference?  
2 **A Can you clarify that question?**  
3 Q Sure, what was the reason for a low end and a  
4 high end estimate?  
5 **A We usually do that to kind of illustrate a trend**  
6 **model and then what we believe, based on more**  
7 **than just historic trend, what we believe can be**  
8 **achieved based on other qualitative and**  
9 **quantitative data beyond just the historic trend**  
10 **model.**  
11 Q And so is the .4 percent the historic trend  
12 model number?  
13 **A When students are removed -- when 85 percent of**  
14 **the students are removed from the base**  
15 **population between 2010 and 2020, I believe that**  
16 **was the trend, yes.**  
17 Q And is there a reason to remove 85 percent of  
18 the student population?  
19 **A Sure, the student population, so if we think of**  
20 **an annual growth rate like compounding interest,**  
21 **we cannot assume that the student population**  
22 **will remain in a community and grow and add**  
23 **babies to that population; it's more of a --**  
24 **it's traditionally a little bit more of a static**  
25 **population. Most universities want to grow**

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1 that, though, but we left it as a static  
 2 population to be a little bit more conservative  
 3 in this case. So we removed that population to  
 4 look at what is the City's kind of natural --  
 5 kind of population that will grow rather than  
 6 the portion of the population. So it's a more  
 7 conservative approach.  
 8 Q Okay. Well, some -- some percentage of student  
 9 population, whatever that percentage may be,  
 10 would be people that are not residents of Hays  
 11 and never will be; is that right?  
 12 A No, they're currently residents of Hays, but in  
 13 ten years they will likely not be residents of  
 14 Hays, they will be replaced by other students --  
 15 Q Okay.  
 16 A -- who will also be residents.  
 17 Q So the range, depending on how one looks at it,  
 18 from your analysis would be .4 percent to  
 19 1 percent?  
 20 A For an annual growth rate, yes.  
 21 Q For an annual growth rate?  
 22 A Uh-huh.  
 23 Q Okay, thank you. You in your rebuttal report,  
 24 Ms. Haase, make this statement that, I conclude  
 25 that Mr. Harvey's opinions relating to Ellis

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1 County and Hays population trends are flawed in  
 2 that he failed to account for the pervasive  
 3 undercount that occurred in the 2020 census  
 4 relating to certain Kansas population centers.  
 5 What is -- what is the data source for that  
 6 statement?  
 7 A There's -- there's several reports even  
 8 published by the U.S. Census Bureau noting the  
 9 undercounts that have taken place, and there's  
 10 also been extensive research done by others  
 11 within the region, specifically Finney County  
 12 Economic Development, that has spent significant  
 13 time researching the undercount that was  
 14 occurring within western Kansas.  
 15 Q You didn't include any sort of report that would  
 16 indicate that there was an undercount in Hays in  
 17 your rebuttal, did you?  
 18 A Can you clarify what you mean by report?  
 19 Q Yes, I mean some sort of a document that would  
 20 support the statement that there's been a  
 21 pervasive undercount in the City of Hays?  
 22 A I think I -- I believe I noted the reports by  
 23 the census and by Finney County Economic  
 24 Development of undercounts that have likely  
 25 occurred within student populations and in

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1 western Kansas related to the Hispanic  
 2 population, but specific to Hays itself, there  
 3 was not another report generated, no.  
 4 Q So there's not data aside from your opinion to  
 5 support that?  
 6 A Well, there is the data of the amount of student  
 7 population and then the percentage of Hispanic  
 8 population that we know exists within the  
 9 county.  
 10 Q Do you know what the 2020 Post-Enumeration  
 11 Survey that the U.S. Census Bureau does, do you  
 12 know what that is?  
 13 A Sure.  
 14 Q So this 2020 was the most recent  
 15 Post-Enumeration Survey, was it not?  
 16 A I believe so, I did not review to double-check  
 17 if that was the most recent.  
 18 Q Okay. This is a graphic illustration of what  
 19 the Census Bureau concluded about undercounts  
 20 and overcounts.  
 21 MR. BULLER: Objection, Your Honor,  
 22 is this marked as an exhibit on Water  
 23 PACK's exhibit list?  
 24 MR. LEE: She's rebuttal expert,  
 25 Your Honor, and the -- this is a

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1 demonstrative exhibit and we don't have a  
 2 requirement to list rebuttal exhibits.  
 3 MR. BULLER: That may be true, Your  
 4 Honor, but this isn't the document. We  
 5 have no way of knowing where this  
 6 information is from, these are excerpts and  
 7 snippets from something that we've not been  
 8 presented and have no way of knowing  
 9 whether it's accurate or not. And neither,  
 10 more importantly, does the witness.  
 11 MR. LEE: I'm happy to provide a  
 12 citation to this, Your Honor, and  
 13 Mr. Buller can take as much time as he'd  
 14 like to review it.  
 15 PRESIDING OFFICER: Well, I guess,  
 16 first of all, I see on there it says United  
 17 States Census, is this something that was  
 18 available on the Census Bureau's website?  
 19 MR. LEE: Your Honor could take  
 20 judicial notice of it, I suspect is where  
 21 you're going.  
 22 PRESIDING OFFICER: Well, I'm trying  
 23 to figure out that and then if we -- if  
 24 this is something that Mr. Buller -- if we  
 25 take a five-minute recess, if this is

1 something that Mr. Buller's able to access  
2 and review, and then we can come back  
3 and -- and just address it, just try to  
4 figure out a way to make this as fair as  
5 possible for everybody to know what's being  
6 asked, where the information's from and all  
7 that.

8 **MR. LEE:** We can -- we can provide  
9 it, Your Honor, or if -- if every affected  
10 party wants to Google 2020 Post-Enumeration  
11 Survey, they'll find this. It's a U.S.  
12 Census Bureau publication.

13 **PRESIDING OFFICER:** If we took five  
14 minutes so you could review the source of  
15 this, would that potentially satisfy you to  
16 where you might withdraw the objection,  
17 Mr. Buller?

18 **MR. BULLER:** I have no -- I'm sorry,  
19 Your Honor, I did not mean to jump all over  
20 you there.

21 **PRESIDING OFFICER:** No, that's fine.

22 **MR. BULLER:** I have no way of  
23 knowing whether five minutes is long enough  
24 to review this document, I've never seen it  
25 before, it wasn't provided to us in

1 advance, it could be a 500-page document,  
2 so it's just, it goes back to the problem  
3 with using excerpts and snips and clips  
4 from documents instead of the documents  
5 themselves. So maybe five minutes would be  
6 enough, I don't know, I can't say that  
7 without having seen the document.

8 **PRESIDING OFFICER:** Okay.

9 **MR. LEE:** I can offer assurances  
10 it's not a 500-page document.

11 **PRESIDING OFFICER:** Okay. Why don't  
12 we take five minutes and then we'll cross  
13 whatever bridges may be there at that point  
14 in time. Mr. Lee, Ms. Lee, are you able to  
15 send a link to that, or whatever, over --

16 **MR. LEE:** We are, Your Honor.

17 **PRESIDING OFFICER:** -- to Mr. Buller  
18 quickly? We'll go off the record here and  
19 take a five-minute recess and see if it  
20 kind of resolves itself there. And if so,  
21 everybody can move on and everyone is  
22 satisfied.

23 **MR. BULLER:** Thank you, Your Honor.

24 **PRESIDING OFFICER:** Thank you, we're  
25 in recess for five minutes here.

1 to -- in response to that, then?  
2 **MR. LEE:** Well, the document, which  
3 we can walk through in more detail, Your  
4 Honor, and will given -- given the posture  
5 here, the document is identified as a  
6 Census Bureau document, Ms. Haase will  
7 recognize it, I'm confident, and this is  
8 something that, well, we shouldn't be  
9 spending time on.

10 **PRESIDING OFFICER:** Okay. I'm going  
11 to overrule the objection just so we have  
12 some basis in the record to start your  
13 questioning with the witness, then, to ask  
14 her if she can identify that document so we  
15 can have that kind of as a little bit of  
16 foundation, and then is this a document  
17 that you wish to offer as an exhibit, or  
18 are you just using it for purposes of  
19 questioning?

20 **MR. LEE:** And we are on the record,  
21 I take it?

22 **PRESIDING OFFICER:** We are.

23 **MR. LEE:** Yeah, we would offer it as  
24 Water PACK 01863.

25 **PRESIDING OFFICER:** All right. So

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1 you can proceed with your questions.  
 2 **BY MR. LEE:**  
 3 Q So, Ms. Haase, after a brief interlude here,  
 4 we're back on this document that's entitled 2020  
 5 Post-Enumeration Survey. I'm sure that you  
 6 can't read this so let me move a little more  
 7 closely so I can read it. And to the left of  
 8 this document, it says, United States Census  
 9 Bureau, U.S. Department of Commerce, U.S. Census  
 10 Bureau, census.gov, shows the source of U.S.  
 11 Census Bureau, 2020 Post-Enumeration Survey,  
 12 parenthetically, the May 22nd release. The top,  
 13 perhaps, you can see. So my question would be  
 14 do you have any question in your mind that this  
 15 is anything other than a publication of the  
 16 Census Bureau?  
 17 **A Based on the logo on the bottom, I would assume**  
 18 **it's a publication of the Census Bureau.**  
 19 Q Okay. So then to sort of go back where we were,  
 20 what this shows on the right-hand side there is  
 21 it shows a heading of net coverage error, and it  
 22 shows states in green where there is overcount,  
 23 states in a purplish hue where there is  
 24 undercount, and then everything else is not  
 25 statistically different from zero. And as you

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1 will see, Kansas is not included in either an  
 2 overcount or an undercount, correct?  
 3 **A The State of Kansas is not.**  
 4 Q The State of Kansas. But you don't have  
 5 anything specific to demonstrate that the City  
 6 of Hays had an undercount of any kind?  
 7 **A We noted a specific study for western Kansas,**  
 8 **not the entire State of Kansas, but for western**  
 9 **Kansas completed by Finney County Economic**  
 10 **Development statisticians.**  
 11 Q And what is the demographic makeup in Hays in  
 12 terms of ethnicity?  
 13 **A I believe Ellis County is around 7 percent**  
 14 **Hispanic.**  
 15 Q And African American?  
 16 **A I don't remember that number off the top of my**  
 17 **head.**  
 18 Q Okay. So are you aware that in the water  
 19 transfer application the, I'm quoting from that,  
 20 The population projections for 2026 and 2036 for  
 21 the City of Hays are based on 2 percent annual  
 22 population growth as approved by the chief  
 23 engineer, and have you seen that representation  
 24 in the application?  
 25 **A I did not review the application.**

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1 Q Okay. But we know that that figure is  
 2 inaccurate?  
 3 **A That the population projection of 2 percent is**  
 4 **inaccurate?**  
 5 Q Yes.  
 6 **A I didn't review the application, so I don't -- I**  
 7 **can't speak to that.**  
 8 Q No, my question is you say at the top end that  
 9 it's a 1 percent population projection growth,  
 10 so as compared to your own opinion, this  
 11 overstates it by a significant amount, correct?  
 12 **MR. BULLER:** Objection, asked and  
 13 answered.  
 14 **PRESIDING OFFICER:** Response?  
 15 **MR. LEE:** Yeah, her response was she  
 16 didn't review the application, to the  
 17 previous question, not -- not that --  
 18 whether this is an inaccurate statement of  
 19 population growth.  
 20 **PRESIDING OFFICER:** Okay. I think  
 21 it's a slightly different issue so I'll  
 22 overrule that objection.  
 23 **MR. BULLER:** Thank you, Your Honor.  
 24 **BY MR. LEE:**  
 25 Q So your opinion would not be that Hays can

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1 expect a 2 percent population growth going  
 2 forward, correct?  
 3 **A The estimate that we used for population**  
 4 **projection was a 1 percent; we did not review**  
 5 **the application and where the 2 percent was**  
 6 **being generated from.**  
 7 Q So would you say that you're uncertain, then,  
 8 about your projection?  
 9 **A About my projection?**  
 10 Q Yes.  
 11 **A No.**  
 12 Q So you're confident in your projection?  
 13 **A Yes.**  
 14 Q So if you're confident in your projection, then  
 15 you would say that it's -- the projection at the  
 16 top end would be 1 percent and the 2 percent is  
 17 inaccurate?  
 18 **A I didn't review their methodology so I -- I**  
 19 **cannot speak to whether -- the accuracy of that**  
 20 **2 percent.**  
 21 Q So it could be that there's a better methodology  
 22 than yours, I take it you're saying?  
 23 **A No.**  
 24 Q Okay. Well, if you're not saying that, then  
 25 aren't you saying the 2 percent is inaccurate?

1 **A I'm saying we used a 1 percent.**  
 2 **Q** And does that mean this is inaccurate?  
 3 **A Again, I didn't review how they did the process.**  
 4 **Q** Well, it's not really a hard question, I don't  
 5 think, Ms. Haase, either your 1 percent is a  
 6 figure that you have confidence in, which would  
 7 mean the 2 percent is something you don't agree  
 8 with, or there's something wrong with your  
 9 methodology?  
 10 **A The one --**  
 11 **MR. BULLER:** Objection, asked and  
 12 answered.  
 13 **PRESIDING OFFICER:** Do you have a  
 14 response, Mr. Lee?  
 15 **MR. LEE:** Your Honor, we haven't  
 16 gotten an answer actually. Every time I  
 17 ask the question whether this is  
 18 inaccurate, she says she hasn't reviewed  
 19 the WTA application.  
 20 **PRESIDING OFFICER:** Okay. I'll  
 21 sustain the objection, try rephrasing your  
 22 question, see if that -- that kind of gets  
 23 us --  
 24 **BY MR. LEE:**  
 25 **Q** Well, Ms. Haase, regardless of what the source

1 conclusions, is that generally your  
 2 understanding?  
 3 **A Yes.**  
 4 **Q** When performing population projections, does  
 5 data tell the whole story?  
 6 **A No, we -- we try to spend as much time as we can**  
 7 **in the communities, understanding what**  
 8 **additionally is happening there with regards to**  
 9 **building activity, what landlords are telling us**  
 10 **with regards to their vacancy rate, what**  
 11 **employers are telling us with regards to job**  
 12 **openings and -- and need for employees.**  
 13 **Q** In conducting your research -- so that would  
 14 include taking firsthand accounts from -- from  
 15 people in Hays?  
 16 **A Yes, correct.**  
 17 **Q** Landlords?  
 18 **A Yes.**  
 19 **Q** Property owners?  
 20 **A Yes. Business owners, leaders within the**  
 21 **community, and city officials.**  
 22 **Q** You testified that -- relating to Mr. Lee's  
 23 questioning about the census undercount, do you  
 24 recall that?  
 25 **A Yes.**

1 of this is, do you believe that at the top end  
 2 that the City of Hays can expect a 1 percent  
 3 population growth figure going forward?  
 4 **A Yes, I believe they can achieve a 1 percent**  
 5 **population growth.**  
 6 **Q** Thank you for your time.  
 7 **PRESIDING OFFICER:** All right.  
 8 Anything, Ms. Langworthy?  
 9 **MS. LANGWORTHY:** No question, Your  
 10 Honor.  
 11 **PRESIDING OFFICER:** Okay. Go ahead,  
 12 Mr. Buller.  
 13 **MR. BULLER:** My apologies,  
 14 Ms. Langworthy, I didn't mean to assume.  
 15 **MS. LANGWORTHY:** No problem.  
 16  
 17 **REDIRECT EXAMINATION**  
 18 **BY MR. BULLER:**  
 19 **Q** Ms. Haase, Mr. Lee asked you a series of  
 20 questions comparing the Harvey Economic  
 21 methodology for population projection with  
 22 yours. Do you recall that?  
 23 **A Yes.**  
 24 **Q** And the Harvey Economic projection focuses on  
 25 historical data in arriving at its projection

1 **Q** And estimated -- and I understand that was an  
 2 estimate that you indicated that about 7 percent  
 3 of Ellis County is Hispanic?  
 4 **A Correct.**  
 5 **Q** And do you know approximately how many people  
 6 live in Ellis County, Kansas?  
 7 **A Yes, 27,000, yes.**  
 8 **Q** 28, 29,000 --  
 9 **A Yes, yes.**  
 10 **Q** -- does that sound about right?  
 11 **A Yes, correct.**  
 12 **Q** 7 percent of 28, 29,000 is approximately 2,000  
 13 people?  
 14 **A Sounds correct.**  
 15 **Q** Give or take?  
 16 **A Yes.**  
 17 **Q** Your methodology of removing a percentage of the  
 18 Fort Hays State student population, remember  
 19 Mr. Lee asking you about that portion of your  
 20 testimony?  
 21 **A Yeah.**  
 22 **Q** And you indicated that removal of that  
 23 population group was -- made your conclusions  
 24 more conservative; is that right?  
 25 **A Yes.**

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1 Q Can you explain that in a little more detail,  
2 please.  
3 A **Sure. By removing the student population, we're**  
4 **not -- when you apply an annual growth rate,**  
5 **it's like -- I often describe it to communities,**  
6 **it's like adding interest, like interest rates,**  
7 **and if your base loan is smaller, you're going**  
8 **to add less over time, right, what you pay at**  
9 **the end will be -- will be less, so if that base**  
10 **is bigger, we're adding more to it.**  
11 **So in this case, when you leave in those**  
12 **students, you're assuming that we're going to**  
13 **replace those students with new students in ten**  
14 **years, but those students are also going to stay**  
15 **in your community and have babies and add to the**  
16 **future population too, which is not necessarily**  
17 **the case for majority.**  
18 **Now, we -- we don't assume that all**  
19 **100 percent of the students are going to leave**  
20 **every year because we know, especially in a**  
21 **community like Hays, that there's a lot of local**  
22 **kids that go to school that are -- that are**  
23 **going to stay there. I can tell you every**  
24 **business owner in town would love to keep those**  
25 **graduates within Hays too into the future, so**

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1 **we -- we do assume that a certain percentage**  
2 **live there permanently or will stay after**  
3 **they've graduated.**  
4 Q But not all of them?  
5 A **But not all of them, yep.**  
6 Q And doing that makes your conclusions more  
7 conservative?  
8 A **Correct, yes.**  
9 Q Mr. Lee asked you about your conclusion of  
10 1 percent versus -- and then he was referring to  
11 another document that you said you had not  
12 reviewed that provided a 2 percent number. Do  
13 you recall that?  
14 A **Yes.**  
15 Q Jami, pull up Exhibit 2825.  
16 **MR. BULLER:** Thank you,  
17 Ms. Langworthy.  
18 **BY MR. BULLER:**  
19 Q And if you could, scroll to Cities' page 103 --  
20 I'm sorry, 103612. And zoom in on that  
21 population change graph. Ms. Haase, this is a  
22 page from your direct testimony and expert  
23 report, do you recognize that?  
24 A **Yes.**  
25 Q Okay. And it looks at historic trends for the

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1 City of Hays since the 1960s. Do you see that?  
2 A **Yes.**  
3 Q And so what was the population change in Hays  
4 between 1960 and 1970 in percentage?  
5 A **It looks like 2 1/2 percent.**  
6 Q And it is 2 1/2 percent for the record.  
7 A **Okay.**  
8 Q So from 1960 to 1970, Hays grew at 2 1/2  
9 percent, is that -- is that what that graph  
10 shows?  
11 A **Yes, that's correct.**  
12 Q And then from 1990 to 2000, Hays grew at  
13 1.2 percent growth, is that what that graph  
14 shows?  
15 A **Yes, correct.**  
16 Q So based on that, has Hays grown at more than  
17 2 percent in the past?  
18 A **Yes, it has.**  
19 Q And Hays has grown at more than 1 percent in the  
20 past as well, hasn't it?  
21 A **Yes, it has.**  
22 Q Is it possible that Hays could grow at those  
23 rates in the future?  
24 A **Yes, absolutely.**  
25 Q Would having access to a reliable

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1 drought-resistant water supply help with  
2 that growth opportunity?  
3 A **Yes.**  
4 Q Thank you, Ms. Haase, no further questions.  
5 **PRESIDING OFFICER:** All right.  
6 Mr. Cole?  
7  
8 **RE CROSS EXAMINATION**  
9 **BY MR. COLE:**  
10 Q One of the items, I think, that's mentioned in  
11 passing when we look at growth -- population  
12 growth trends but not dealt with specifically is  
13 what effect you might -- or would predict on  
14 population trends if existing industrial or  
15 manufacturing base were to expand, add jobs?  
16 A **Correct.**  
17 Q Generally, in your profession, if you see that  
18 going on, does that affect your prediction as  
19 far as population growth?  
20 A **Does the job growth affect the population**  
21 **growth --**  
22 Q Yes.  
23 A **-- piece of it? Absolutely. We know today that**  
24 **in many areas in western Kansas that we have an**  
25 **aging population, we have a lot of Baby Boomers**

1 who are retiring. Most of those communities are  
2 working pretty hard to make sure those retirees  
3 don't leave, that they stay and retire within  
4 their community, which majority do, but they  
5 leave a job open that has to be filled.

6 So -- and right now we also know that in  
7 Kansas we're running at about a 2 percent, or  
8 maybe even less, I didn't look at the most  
9 recent release in the last month, but about a  
10 2 percent unemployment rate, which basically  
11 means we've got to go from outside the region or  
12 the area or even the state to bring those  
13 individuals in to fill those jobs and those job  
14 openings as not only businesses expand, which we  
15 often take into consideration, we look at the  
16 number of jobs that they're trying to fill.

17 And -- and when we look at if a community  
18 comes and says, we have 200 job openings, a lot  
19 of times we just -- we don't always assume, oh,  
20 you're -- you know, all of that is going to be  
21 new residents. We know that some of that might  
22 be filled with people shuffling around or within  
23 the region. We also know that a lot of times  
24 when an individual comes to fill a job, they  
25 bring their trailing spouse with them, all of

1 those things that can help fill other jobs,  
2 which helps with the -- that population --  
3 population growth.

4 Q So if I'm understanding you, it's possible that  
5 if there are new jobs created and if that does  
6 bring somebody from another community to -- to  
7 the local community, that may not just be one  
8 addition, it could be two, three, or four?

9 A Correct, yeah, we -- we would hope they would  
10 bring a family.

11 Q All right. And testimony earlier in this case  
12 indicated that -- that there is the opportunity  
13 for a significant employment advancement in  
14 Russell if we can find a dependable, reliable  
15 water source. The testimony indicated that that  
16 employment situation may go from 100 full-time  
17 employees to 160 full-time employees. Would  
18 that be significant in your calculation of the  
19 population trend for Russell going into the  
20 future?

21 A My understanding would be that to fill those  
22 jobs they would likely have to find individuals  
23 from outside of the region to fill those, to  
24 fill those positions, so it would result in an  
25 increase in population and could potentially be

23 //  
24 //  
25 //

1 more than just a one for one if they're bringing  
2 a trailing spouse with them. You know, you  
3 could probably assume that some will and some  
4 won't, a portion of those, but yeah.

5 Q Thank you.

6 PRESIDING OFFICER: All right.

7 MR. LEE: Thank you, Your Honor.

8 PRESIDING OFFICER: Mr. Lee.

9  
10 RE CROSS EXAMINATION

11 BY MR. LEE:

12 Q Ms. Haase, in the housing study that your firm  
13 did for the City of Hays fairly recently, among  
14 your observations was the identification of  
15 really what I think you characterize as two  
16 problems for Hays, and one was that there was an  
17 insufficient workforce even for available job  
18 opportunities, right?

19 A Yes, there's a labor shortage if that's the  
20 question you're asking.

21 Q That is, that is -- more artfully stated, that's  
22 my question. And that's compounded, is it not,  
23 in relation to the question that Mr. Cole asked  
24 that elicited a reply that one would have to  
25 bring in workers from outside the community,

1 that's compounded by the fact that Hays also has  
2 insufficient housing stock, correct?

3 A Much like all of Kansas, yes, Hays has a  
4 shortage of new units.

5 Q So it would be difficult at present for people  
6 to move in the community and find someplace to  
7 live?

8 A It depends on what they're looking -- what  
9 specific product type they're looking for and  
10 what time of the year due to the student  
11 population, but, yes, it can be challenging.

12 Q Thank you.

13 PRESIDING OFFICER: All right.

14 MS. LANGWORTHY: No questions, Your  
15 Honor.

16 PRESIDING OFFICER: All right.

17 Thank you, Ms. Langworthy. Anything  
18 further, Mr. Buller?

19 MR. BULLER: Just a few questions,  
20 Your Honor.

21 PRESIDING OFFICER: All right. Go  
22 ahead.

23 //  
24 //  
25 //

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1                   **REDIRECT EXAMINATION**  
2 **BY MR. BULLER:**  
3 Q Relating to the housing supply issues that  
4 Mr. Lee asked you about, does lack of water  
5 restrict construction of new homes?  
6 A **Yes, it can.**  
7 Q Okay. Can you explain that a little bit?  
8 A **Well, I mean, you know, the -- it can affect it**  
9 **in potentially a couple different ways. But**  
10 **the -- from the development community's point of**  
11 **view, they look for the lowest risk**  
12 **opportunities. So to go in and develop lots and**  
13 **try to sell lots, they want to know that they're**  
14 **going to be able to have all of the**  
15 **infrastructure that they need to sell those**  
16 **lots, because we're talking about millions of**  
17 **dollars that they could -- that they're putting**  
18 **at risk.**  
19       **So it can -- if they feel like the risk is**  
20 **too high, that is -- that's not an area**  
21 **they're -- they're going to go in and**  
22 **potentially develop. They're potentially**  
23 **choosing other locations, even, you know, out of**  
24 **state, you know, a place like Kearney because of**  
25 **where they fit in the competitive shed for Hays.**

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1 hearing to go and the parties will be able  
2 to file their post-hearing briefs and  
3 everything, so I know statistics and data  
4 can always be interpreted various ways.  
5 Mr. Buller, if you believe that data  
6 should be interpreted a certain way, that  
7 is something you can address here with your  
8 further witnesses or on cross-examining --  
9 cross-examination of Mr. Lee's witness or  
10 even something that you address in your  
11 closing brief if you believe that warrants  
12 it.  
13 **MR. BULLER:** Thank you, Your Honor,  
14 I appreciate that explanation.  
15 **PRESIDING OFFICER:** All right.  
16 **MR. LEE:** Thank you, Your Honor.  
17 **PRESIDING OFFICER:** The parties have  
18 another expert that they wanted to call so  
19 that expert can be on their way?  
20 **MR. TRASTER:** Yes, Your Honor, call  
21 Kevin Waddell.  
22 **PRESIDING OFFICER:** Mr. Waddell,  
23 would you please raise your right hand.  
24 //  
25 //

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1 Q Thank you, no further questions.  
2 **MR. COLE:** No questions.  
3 **MR. LEE:** Nothing further, Your  
4 Honor.  
5 **PRESIDING OFFICER:** Ms. Langworthy,  
6 anything else?  
7 **MS. LANGWORTHY:** Nothing, Your  
8 Honor.  
9 **PRESIDING OFFICER:** All right. All  
10 right. I think, then, everybody's done  
11 with questions for Ms. Haase, so she can  
12 step down and get on her way down to  
13 Oklahoma, then.  
14 **THE WITNESS:** All right.  
15 **PRESIDING OFFICER:** Thank you for  
16 appearing.  
17 **THE WITNESS:** Thank you, yes.  
18 **PRESIDING OFFICER:** And I will just  
19 note, then, Mr. Lee's exhibit, we marked  
20 that as an exhibit number, I don't think I  
21 officially said if it was admitted, so I  
22 will admit that. I think census data is  
23 one of those things also that I could take  
24 judicial notice of, but I'll admit that  
25 exhibit. And then we still have a lot of

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1                   KEVIN DALE WADDELL, P.E.,  
2 having first duly sworn or affirmed, was  
3 examined and testified as follows:  
4  
5 **PRESIDING OFFICER:** All right.  
6 Mr. Traster, you may proceed.  
7 **MR. TRASTER:** Thank you, Your Honor.  
8  
9                   **DIRECT EXAMINATION**  
10 **BY MR. TRASTER:**  
11 Q Mr. Waddell, would you please state your full  
12 name and spell it for the court reporter.  
13 A **Yes, Kevin Dale Waddell, W-A-D-D-E-L-L.**  
14 Q And who -- who -- where do you work and what's  
15 your title?  
16 A **Work for Burns & McDonnell, I'm currently the**  
17 **estimating and pre-construction manager for**  
18 **water infrastructure.**  
19 Q And did you author the direct testimony filed in  
20 this matter, I'm going to tell you it was filed  
21 on May 30th, entitled the Direct Testimony of  
22 Kevin D. Waddell, P.E., on behalf of Cities of  
23 Hays and Russell, Kansas Relating to Your  
24 Opinion of Probable Construction Costs for the  
25 R9 Ranch Water Transfer Project?

1 A Yes.  
 2 Q Have you had a chance to review those  
 3 documents -- that document prior to your  
 4 testimony here today?  
 5 A Yes.  
 6 Q Have you -- are there any corrections that you  
 7 want to make to that -- that submittal?  
 8 A Yes, one correction.  
 9 Q What would that be?  
 10 A In the paragraph where it discusses the estimate  
 11 and how the City of Hays will pay for the  
 12 project, there is a statement that discusses  
 13 ratepayers, and that's an inaccurate wording,  
 14 that should have been stricken from that  
 15 paragraph.

16 Q So --  
 17 PRESIDING OFFICER: Mr. Traster,  
 18 just so we're clear for the record with all  
 19 this, can you identify the page and line  
 20 number --  
 21 MR. TRASTER: I can.  
 22 PRESIDING OFFICER: -- of his  
 23 testimony where he is making that  
 24 correction?  
 25 MR. TRASTER: I can.

1 MR. LEE: No objection, Your Honor.  
 2 PRESIDING OFFICER: All right.  
 3 Those exhibits were all provisionally  
 4 admitted at the start and so with that  
 5 correction there now to that exhibit, that  
 6 will be admitted.  
 7 MR. TRASTER: We -- they were all  
 8 admitted, we got our form --  
 9 PRESIDING OFFICER: No, no, I  
 10 understand. And at some point here in the  
 11 next few days, I'll -- we might just do  
 12 this off the record in kind of a  
 13 preliminary prehearing type thing just to  
 14 make sure we go through with the parties  
 15 and verify that all the exhibits that you  
 16 think are admitted, that those are all  
 17 checked off so we can make sure that we  
 18 address all that correctly.  
 19 MR. TRASTER: Sure.  
 20 PRESIDING OFFICER: I don't want to  
 21 have this be one of those things that as we  
 22 talked about, you know, with everything  
 23 involved, this being the first case, I  
 24 anticipate some sort of appeal 'cause I  
 25 assume somebody's going to want some case

1 PRESIDING OFFICER: Thank you.  
 2 MR. TRASTER: First let me identify  
 3 the document as Exhibit 2829.  
 4 BY MR. TRASTER:  
 5 Q And, Mr. Waddell, I'm going to read lines -- at  
 6 the end of line -- page 3, at the end of  
 7 line 14 -- 14 and to the end of that paragraph,  
 8 which is 14 through 17, but that sentence says,  
 9 based on my professional knowledge and  
 10 experience, I estimate with an 80 percent  
 11 confidence level that by 2025, the project will  
 12 cost ratepayers in Hays \$134.9 million, a  
 13 26.53 percent increase from the current estimate  
 14 and an 85.1 percent increase from 2015. And  
 15 I -- I -- as I understand it, what the -- the  
 16 words you intend to delete would be cost  
 17 ratepayers so that it will read project will  
 18 cost Hays 134.9 million; is that correct?  
 19 A That's correct.  
 20 Q Are there any other corrections that you want to  
 21 make to this?  
 22 A No, none other than are already stated.  
 23 MR. TRASTER: Your Honor, we move to  
 24 admit Exhibit 2829.  
 25 PRESIDING OFFICER: All right.

1 law out of this at some point, I don't want  
 2 to go through all this and have it get sent  
 3 back down because there was some exhibit  
 4 that we failed to get admitted to the  
 5 record and everybody has to go through all  
 6 this again. So let's just try to do all  
 7 that correctly.  
 8 MR. TRASTER: We're -- we're  
 9 prepared to do that, to go through those  
 10 exhibits. They're all in the record, I  
 11 mean, they're all being -- they're posted  
 12 so -- from a agency record perspective.  
 13 PRESIDING OFFICER: Right. And  
 14 there's the difference between what's in  
 15 the file and what's been admitted to the  
 16 record because just because somebody sends  
 17 in, you know, ten different file documents  
 18 full of files doesn't mean all of those are  
 19 admitted to the record because there could  
 20 be reasons that they're -- they're not part  
 21 of the record that's considered in making a  
 22 decision even though they're part of that  
 23 whole file, but we will get as correct as  
 24 we can.  
 25 MR. TRASTER: We'll need to discuss

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1 that because I mis -- I understood  
2 differently. I thought we agreed that they  
3 would be admitted, that everything was  
4 admitted subject to --  
5 **PRESIDING OFFICER:** Right.  
6 **MR. TRASTER:** -- examination and  
7 cross-examination.  
8 **PRESIDING OFFICER:** Yeah, but  
9 there's been some additional exhibits  
10 that --  
11 **MR. TRASTER:** Oh, yes.  
12 **PRESIDING OFFICER:** -- each party  
13 has as well, so we'll just make sure that  
14 all the numbers line up with everything,  
15 everything matches, and that way  
16 everybody's clear so when you submit any  
17 kind of post-hearing closing brief, you  
18 reference some exhibit --  
19 **MR. TRASTER:** Yep.  
20 **PRESIDING OFFICER:** -- we don't find  
21 out later that, well, you referenced an  
22 exhibit that wasn't actually admitted.  
23 **MR. TRASTER:** Very good, I  
24 understand that.  
25 **PRESIDING OFFICER:** Hopefully,

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1 there's no problems.  
2 **MR. LEE:** Yeah, Your Honor, and  
3 Mr. Traster and I have not spoken about  
4 this, but in relation to expert reports, I  
5 wonder if it would be expeditious to simply  
6 include them in that protocol, to say  
7 essentially they are exhibits and  
8 contingently admitted unless -- unless  
9 somebody objects to that?  
10 **PRESIDING OFFICER:** Yeah, yeah, they  
11 are, but then he made the correction to  
12 it --  
13 **MR. LEE:** Right.  
14 **PRESIDING OFFICER:** -- so that's why  
15 we went through those steps here. Just  
16 trying to make sure we've dotted all the  
17 I's, crossed all the T's and ...  
18 **MR. LEE:** Okay.  
19 **MR. TRASTER:** I think we're on the  
20 same page, we just prepared this form  
21 before all this and it said, you know -- so  
22 maybe we'll just amend the form. But thank  
23 you, Your Honor.  
24 **PRESIDING OFFICER:** No, no problem,  
25 Mr. Traster, that's what I would have done

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1 too, you know, what I would have done, you  
2 know, appearing in court somewhere, you  
3 have your checklist so you go through and  
4 verify and make sure everything's admitted.  
5 But we'll just kind of collectively make  
6 sure we do that with everybody at some  
7 point here to make sure that there's not  
8 something that's been missed somewhere.  
9 **MR. TRASTER:** Very good, thank you,  
10 Your Honor. He's available for  
11 cross-examination.  
12 **PRESIDING OFFICER:** All right. So,  
13 Mr. Cole, any cross?  
14 **MR. COLE:** No, Your Honor, thank  
15 you.  
16 **PRESIDING OFFICER:** All right.  
17 **MR. LEE:** Your Honor, if the Court  
18 could indulge us for about five minutes, we  
19 need to print a document?  
20 **PRESIDING OFFICER:** Okay. Well,  
21 it's 10:10, let's just go ahead and take a  
22 ten-minute recess, so we'll resume at  
23 10:20. So, Mr. Waddell, I'm sorry you got  
24 up here for such a short time --  
25 **THE WITNESS:** It's okay.

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1 **PRESIDING OFFICER:** -- you get a  
2 little bit of a breather.  
3 **MR. LEE:** Oh, just sit there.  
4 **PRESIDING OFFICER:** We'll go off the  
5 record and take a little recess.  
6 (Thereupon, a recess was taken;  
7 whereupon, the following was had.)  
8 **PRESIDING OFFICER:** Okay. I think  
9 we have everybody back so we can go ahead  
10 and go back on the record, then. And,  
11 Mr. Lee, I believe it's your turn.  
12 **MR. LEE:** Okay, thank you, Your  
13 Honor.  
14  
15 **CROSS-EXAMINATION**  
16 **BY MR. LEE:**  
17 Q Mr. Waddell, good morning.  
18 A **Good morning.**  
19 Q I'm Charles Lee, I'm one of the lawyers for  
20 Water PACK and Edwards County, I have a few  
21 questions for you. In your direct testimony you  
22 make this statement, and can you see that?  
23 A **Yes.**  
24 Q Based on my professional knowledge and  
25 experience, I estimate with an 80 percent

1 confidence level that by 2025 the project will  
2 cost ratepayers, I understand that you have  
3 corrected that, in Hays 134.9 million, a 26.53  
4 percent increase from the current estimate and  
5 an 85.1 percent increase from 2015. So as of  
6 today, does that still remain your cost  
7 estimate?  
8 **A Yes.**  
9 **Q** And when you say an 80 percent confidence level,  
10 where is that derived?  
11 **A You know, we can't be 100 percent confident in**  
12 **any estimate, especially at this level being a**  
13 **classified ROM, but the 80 percent's derived**  
14 **on -- on the fact that it could fluctuate so ...**  
15 **Q** Okay. So you mentioned -- if we could look at  
16 the next slide, that's what you're talking  
17 about, is it not, the AACE?  
18 **A Correct.**  
19 **Q** Okay. If you then click again. This is what we  
20 have in terms of estimate class and primary  
21 characteristics and secondary characteristics,  
22 and take a minute to look at that, does that  
23 seem accurate to you?  
24 **A Yes, I'm familiar with the table.**  
25 **Q** And so you indicated that this is what

1 individually?  
2 **A No, not individually, I work for Burns &**  
3 **McDonnell, Burns & McDonnell is supporting this**  
4 **effort.**  
5 **Q** Okay. So Burns & McDonnell was paid but you  
6 were not directly?  
7 **A I don't know if we've been paid or not.**  
8 **Q** Okay. So let's go through a few issues. If  
9 what I ask you, Mr. Waddell, is outside your  
10 scope, you can tell me, okay?  
11 **A Yes.**  
12 **Q** There is, I understand, a proposed plan for  
13 annual withdrawals from the wellfield, is that  
14 something that you are knowledgeable about?  
15 **A No.**  
16 **Q** The -- do you know whether the wells have been  
17 tested for water quality?  
18 **A I do not.**  
19 **Q** Do you know whether a new water treatment plant  
20 is contemplated at some point down the line?  
21 **A I do not.**  
22 **Q** Have you ever heard that?  
23 **A No.**  
24 **Q** Have you ever had a discussion with the city  
25 manager about anything of that ilk?

1 classification of estimate?  
2 **A Class 5.**  
3 **Q** Okay. So that is the one, if you go over to the  
4 expected accuracy range, ranges from potential  
5 variations on the low end from 20 percent to  
6 50 percent and on the high end from 30 percent  
7 to 100 percent?  
8 **A That's correct.**  
9 **Q** Okay. So in preparing your estimate, I'm  
10 assuming, and I guess you could correct me if  
11 I'm wrong, but I'm assuming that you would be  
12 conversant with the details of the construction  
13 project?  
14 **A There are no details at this point.**  
15 **Q** Okay.  
16 **A It's conceptual.**  
17 **Q** Okay. Let me rephrase that, then, in terms of  
18 the conceptual design issues and construction  
19 issues, you would be conversant with that?  
20 **A Yes.**  
21 **Q** Okay. So as a preliminary question,  
22 Mr. Waddell, were you individually compensated  
23 for preparation of your testimony and report?  
24 **A Yes.**  
25 **Q** And so that was something that was paid to you

1 **A No.**  
2 **Q** Have you ever had a discussion with the city  
3 manager?  
4 **A No.**  
5 **Q** Has there been a -- has there been a specific  
6 pipeline route selected for the project?  
7 **A Not that I'm aware of.**  
8 **Q** And so that would affect cost, I presume,  
9 depending on what that route is?  
10 **A I'm sorry?**  
11 **Q** That would affect cost depending on what that  
12 route is?  
13 **A Yes.**  
14 **Q** The -- you then would not know, I'm presuming,  
15 what the length of the pipeline is?  
16 **A No, not exactly.**  
17 **Q** Okay. So you must have made some assumptions  
18 about what the length would be in preparing your  
19 estimate?  
20 **A I believe the concept called for around**  
21 **60 miles --**  
22 **Q** Okay.  
23 **A -- give or take.**  
24 **Q** What's it cost per mile?  
25 **A I can give you some quick math. We usually do**

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1 **things in terms of per linear foot, but on this**  
2 **particular, I don't remember what the exact cost**  
3 **was.**  
4 Q Okay.  
5 A **We can derive that from the estimate, I'm sure.**  
6 Q Do you recall what the per linear foot cost was?  
7 A **That's what I said, I don't recall the exact**  
8 **cost we put in the estimate.**  
9 Q What's an estimate of that?  
10 A **Well, I believe the overall pipeline estimate is**  
11 **around 85 million.**  
12 Q Okay. And that's based on 60 miles?  
13 A **I believe so.**  
14 Q Okay. And would the -- if you can enlighten me,  
15 but would each of the miles cost the same?  
16 A **No, not necessarily.**  
17 Q Okay. And so what would be factors that would  
18 influence a -- the cost for a particular mile?  
19 A **Whether or not you're crossing roads, the type**  
20 **of terrain you're crossing, the type of**  
21 **geotechnical conditions, pipe size could vary**  
22 **along the route, whether or not you have other**  
23 **pipes tying into that pipeline could affect the**  
24 **cost, how you need to restore the surrounding**  
25 **ground, I mean, there are -- I could go on for**

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1 **days on things that could ...**  
2 Q So a variety?  
3 A **Yes.**  
4 Q Okay. So what's the elevation change from the  
5 R9 Ranch to Hays?  
6 A **I have absolutely no idea.**  
7 Q Does that not go into a cost configuration?  
8 A **No.**  
9 Q To your knowledge?  
10 A **No. No, we don't consider elevation changes.**  
11 Q So if it's going straight up a mountain, to give  
12 you an extreme example, would that affect cost?  
13 A **Certainly.**  
14 Q And so at what point does it not affect cost if  
15 there's an elevation change?  
16 A **If it's maybe flat.**  
17 Q And if it's not flat?  
18 A **I don't know, you tell me, depends on the**  
19 **situation that we're talking about.**  
20 Q So are you saying that there is some line of  
21 demarcation beyond which it costs more and below  
22 that it's all the same?  
23 A **What I'm saying is every situation is different,**  
24 **every project is different, depending on the**  
25 **proposed route.**

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1 Q Well, isn't that what I'm asking you is that if  
2 there is elevation gain, does that affect cost?  
3 A **It depends.**  
4 Q And --  
5 A **If you're going up a mountain, yes; if you're**  
6 **not going up a mountain, maybe not. If you're**  
7 **going down through a creek, maybe, it just -- it**  
8 **just depends.**  
9 Q And those are the only two factors, whether  
10 you're going up a mountain or you're not?  
11 A **No, there are a lot of factors that could go**  
12 **into it, but without knowing the exact route and**  
13 **having had surveys and looking at it and driving**  
14 **the route, I have no way of knowing at this**  
15 **point in time if elevation change would affect**  
16 **the cost.**  
17 Q Well, my -- my own question, Mr. Waddell, is  
18 does elevation change affect the cost of a  
19 pipeline depending on what that elevation gain  
20 is?  
21 A **Not necessarily. No, not necessarily.**  
22 Q Tell me -- tell me why it does or why it  
23 doesn't.  
24 A **I mean, if it only rises a foot of elevation**  
25 **change over 10,000 feet, it's not going to**

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1 **affect the cost. If you're going to go up and**  
2 **over a mountain, it probably would. It depends**  
3 **on the situation and the exact routing of the**  
4 **pipe.**  
5 Q And everything in between?  
6 A **Sure.**  
7 Q What's the pipeline material?  
8 A **It's yet to be determined.**  
9 Q Doesn't that affect cost?  
10 A **It would once it's -- once it's identified.**  
11 Q Is steel more expensive than HDPE?  
12 A **I couldn't tell you right now. There was a**  
13 **point in time where that was debatable. But**  
14 **right now, I don't know, I haven't compared the**  
15 **HDPE to steel pipe lately.**  
16 Q So you don't know if there's going to be  
17 additional cost by virtue of elevation gain,  
18 right?  
19 A **Uh-huh.**  
20 Q And you don't know what the pipe construction is  
21 going -- what the pipe material is going to be,  
22 right?  
23 A **Correct.**  
24 Q Is there pumping required to move the water from  
25 R9 to Russell or Hays?

1 **A I would assume so, but I don't know for sure.**  
 2 Q So you haven't done that as part of your  
 3 estimate?  
 4 **A We -- I'm not an engineer, I'm a contractor, so**  
 5 **I don't get into hydraulics and things like**  
 6 **that, we -- we estimate cost.**  
 7 Q Did -- if you were estimating cost, would a  
 8 requirement of pumping be a component of what  
 9 that cost would be?  
 10 **A Sure.**  
 11 Q But you don't know whether there's going to be  
 12 pumping?  
 13 **A I don't know for sure, no.**  
 14 Q In terms of your estimate, Mr. Waddell, is it  
 15 simply holistic, this is what the entire project  
 16 is going to cost if it is completed as it is  
 17 contemplated now, or is it broken down by this  
 18 is what phase 1 or phase 2 or phase 3 would  
 19 cost?  
 20 **A We did not look at phases.**  
 21 Q Okay. So it's just the overall cost?  
 22 **A Correct.**  
 23 Q Does part of your estimate, which I guess it  
 24 does, take into account the expected completion  
 25 date for the project?

1 Q Now if you'd switch it over. I'm going to show  
 2 you what's been marked as Exhibit 2829, which is  
 3 your direct testimony and the attached estimate  
 4 of probable cause. And you indicated that you  
 5 were not aware of some of the elements of the --  
 6 of the project that -- that are -- whether they  
 7 were included in the project when Mr. Lee asked  
 8 you the question. So I direct you, then, to the  
 9 portion of your -- I'd like for you to look at  
 10 paragraph 7 of your -- of your report.  
 11 The actual report, I think it's a page or  
 12 two down, Jami. That's the direct testimony.  
 13 And actually the attachment is what I want to  
 14 see. Keep going down. There you go. Now,  
 15 can -- can you expand -- there you go. Thank  
 16 you, Jami.  
 17 So can you read that?  
 18 **A Uh-huh, yes.**  
 19 Q Okay. And this -- this paragraph 7 indicates,  
 20 and I'm going to summarize, but I want you to  
 21 make sure I don't misstate what it is, but based  
 22 on paragraph 7, it's my understanding that your  
 23 estimate was an update of an estimate prepared  
 24 earlier by someone else, not you, and that's  
 25 what -- so the fact that you are not sure what

1 **A I don't recall. I don't recall.**  
 2 Q I don't have anything else, Mr. Waddell, thank  
 3 you.  
 4 **PRESIDING OFFICER:** Ms. Langworthy?  
 5 **MS. LANGWORTHY:** No questions, Your  
 6 Honor.  
 7 **PRESIDING OFFICER:** Okay.  
 8 Mr. Traster?  
 9 **MR. TRASTER:** Thank you, Your Honor.  
 10 Can you put that back up? Can you put that  
 11 back up?  
 12  
 13 **REDIRECT EXAMINATION**  
 14 **BY MR. TRASTER:**  
 15 Q Mr. Waddell, what -- Mr. Lee showed you this  
 16 table that you're familiar with, and as I --  
 17 based on the table, this is a class 5 estimate  
 18 based on -- yours is a class 5 estimate based on  
 19 a maturity level of zero to 2 percent, I mean,  
 20 it's very early in the project, correct?  
 21 **A Correct.**  
 22 Q As when you get down to class 1, you're  
 23 asking -- you're looking at a much narrower  
 24 range of estimates, correct?  
 25 **A Correct.**

1 was in the project, is -- is that a function of  
 2 the fact that you're updating somebody else's  
 3 estimate?  
 4 **A When you say we're not sure what's in the**  
 5 **project, maybe I misunderstood his original**  
 6 **question.**  
 7 Q Okay.  
 8 **A I mean, our estimate includes wellfield, pump**  
 9 **station, pipeline.**  
 10 Q Right. And he asked you whether -- I can't -- I  
 11 know he asked you whether there was a treatment  
 12 in there, and you said you didn't know or --  
 13 **A Correct.**  
 14 Q So is treatment --  
 15 **A Not that I'm aware of.**  
 16 Q I'm not sure we're missing each other here, I  
 17 want to make sure we're on the same page.  
 18 **A Correct.**  
 19 Q So you don't know whether -- well, you said --  
 20 what are the elements?  
 21 **A We did not estimate any waste -- or water**  
 22 **treatment, sorry, water treatment, we did not**  
 23 **estimate any water treatment.**  
 24 Q Okay. He asked you about testing for water  
 25 quality, that's not in the estimate, that's not

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1 part of the construction, right?  
2 **A It's not part of what I'm asked to do, correct.**  
3 **Q** Right. Then he asked you about the treatment  
4 plant and whether that is included, and I  
5 thought you said you didn't know but ...  
6 **A I don't know if there's plans for a water**  
7 **treatment plant; there aren't -- there is not**  
8 **costs for a water treatment plant in the**  
9 **estimate.**  
10 **Q** That's exactly -- that's exactly what happened.  
11 He asked you ultimately, he didn't place a time  
12 frame on it, and so you didn't -- okay, good.  
13 There is no treatment plant included in the --  
14 in your estimate; is that --  
15 **A That's correct.**  
16 **Q** All right. So do you need to know -- I mean,  
17 you're generally familiar with the topography of  
18 Kansas?  
19 **A Generally speaking.**  
20 **Q** Right. And you know that there aren't any  
21 mountains in Kansas?  
22 **A Correct.**  
23 **Q** And so when we were talking about elevation  
24 changes, you indicated that it could, it might  
25 affect the cost, but it -- I got the impression

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1 that you didn't think it was a major factor at  
2 this zero to 2 percent stage of the -- of the  
3 project. Is that fair?  
4 **A That's fair.**  
5 **Q** I don't have any further questions, thank you  
6 for your testimony.  
7 **PRESIDING OFFICER:** Mr. Cole?  
8 **MR. COLE:** No questions.  
9 **PRESIDING OFFICER:** Mr. Lee?  
10 **MR. LEE:** Just a few, Your Honor,  
11 thank you.  
12  
13 **REXCROSS EXAMINATION**  
14 **BY MR. LEE:**  
15 **Q** Mr. Waddell, I just want to be sure in light of  
16 Mr. Traster's questions that we are on the same  
17 page here.  
18 **A Sure.**  
19 **Q** You don't -- you don't have an estimate for a  
20 water treatment plant because you don't know  
21 whether there's going to be one required,  
22 correct?  
23 **A That's correct.**  
24 **Q** Okay. And you don't have any knowledge of the  
25 pipeline materials at this point?

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1 **A Correct.**  
2 **Q** You can't estimate the cost per mile or the cost  
3 of additional miles of the pipeline at the  
4 moment?  
5 **A Not without having more information in front of**  
6 **me, I don't recall what the actual estimate**  
7 **says.**  
8 **Q** And in response to Mr. Traster's question where  
9 he essentially said that elevation gain may  
10 affect the rest of the project but you don't  
11 know that, right?  
12 **A Right.**  
13 **Q** Okay. Thank you.  
14 **MR. LEE:** Thank you, Your Honor.  
15 **PRESIDING OFFICER:** Ms. Langworthy?  
16 **MS. LANGWORTHY:** No questions, Your  
17 Honor.  
18 **PRESIDING OFFICER:** Okay.  
19  
20 **REDIRECT EXAMINATION**  
21 **BY MR. TRASTER:**  
22 **Q** Back to that table, this is a -- this is a  
23 high-level estimate based on zero to 2 percent  
24 understanding of the -- of where we are in the  
25 process. Is that fair?

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1 **A That's fair.**  
2 **Q** So do you need to know the pipeline material at  
3 this stage?  
4 **A No.**  
5 **Q** And is your estimate in accord with the standard  
6 that was set by the agency, and I'm -- the  
7 table's not on the screen, so is your estimate  
8 in accord with the standards that are set by  
9 that agency and in accord with reasonable  
10 engineering and construction cost estimating  
11 practices?  
12 **A Yes.**  
13 **Q** So --  
14 **MR. TRASTER:** Thank you, Your Honor,  
15 no -- thank you, Mr. Waddell, no further  
16 questions.  
17 **PRESIDING OFFICER:** Mr. Cole?  
18 **MR. COLE:** No, thank you, Your  
19 Honor.  
20 **PRESIDING OFFICER:** Mr. Lee?  
21 **MR. LEE:** Nothing more, Your Honor.  
22 **PRESIDING OFFICER:** Ms. Langworthy?  
23 **MS. LANGWORTHY:** Nothing, Your  
24 Honor.  
25 **MR. TRASTER:** Thank you, thank

1 you, Kevin.  
 2 **PRESIDING OFFICER:** Thank you,  
 3 Mr. Waddell.  
 4 **THE WITNESS:** Thank you.  
 5 **MR. BULLER:** The City of Hays calls  
 6 Dr. Anthony Layzell.  
 7 **PRESIDING OFFICER:** Dr. Layzell,  
 8 would you please raise your right hand.  
 9  
 10 ANTHONY LAYZELL, PH.D.,  
 11 having first duly sworn or affirmed, was  
 12 examined and testified as follows:  
 13  
 14 **PRESIDING OFFICER:** All right.  
 15 Mr. Buller, you may proceed.  
 16  
 17 **DIRECT EXAMINATION**  
 18 **BY MR. BULLER:**  
 19 Q Thank you for joining us this morning,  
 20 Dr. Layzell. Please state your name and  
 21 business address, spelling your last name for  
 22 the court reporter.  
 23 A **Anthony Layzell, L-A-Y-Z-E-L-L, business address**  
 24 **is 1930 Constant Avenue, Lawrence, Kansas.**  
 25 Q By whom are you employed, and what is your

1 that is Exhibit Number 2826.  
 2 **PRESIDING OFFICER:** Okay. And  
 3 trying to verify with your exhibit list,  
 4 are all those exhibits all included  
 5 under the same -- or the attached exhibits  
 6 to the testimony, are they all included  
 7 under that same exhibit number or are  
 8 those ...  
 9 **MR. BULLER:** They are, Your Honor,  
 10 and they're all incorporated therein.  
 11 **PRESIDING OFFICER:** Okay. All  
 12 right. All right.  
 13 **MR. LEE:** No objection, Your Honor.  
 14 **PRESIDING OFFICER:** Okay. That  
 15 testimony will be admitted to the record,  
 16 then, and we can -- are you ready to make  
 17 him available for cross-examination,  
 18 Mr. Buller?  
 19 **MR. BULLER:** Thank you, yes, the  
 20 witness is available for questions from the  
 21 presiding officer and for  
 22 cross-examination.  
 23 **PRESIDING OFFICER:** All right.  
 24 Mr. Cole?  
 25 **MR. COLE:** No questions from the

1 title?  
 2 A **I'm employed by the University of Kansas, and**  
 3 **I'm an assistant scientist.**  
 4 Q Did you author direct testimony filed in this  
 5 matter on May 30, 2023 titled Direct Testimony  
 6 of Anthony Layzell, Ph.D. on Behalf of the  
 7 Cities of Hays and Russell, Kansas Relating to  
 8 Kansas Droughts: Climatic Trends over the Past  
 9 1,000 Years?  
 10 A **Yes.**  
 11 Q Have you had a chance to review that document  
 12 prior to your appearance here today?  
 13 A **Yes.**  
 14 Q As you sit here, do you have any changes or  
 15 corrections to make to that document?  
 16 A **I do not.**  
 17 Q If I asked you the same questions today as  
 18 appear in your prefiled testimony, would your  
 19 answers and opinions remain the same?  
 20 A **Yes.**  
 21 **MR. BULLER:** Your Honor, at this  
 22 time, I move to admit the prefiled  
 23 testimony of Dr. Layzell, including the  
 24 exhibits and attachments to those  
 25 documents. And for the record, Your Honor,

1 City of Russell, thank you.  
 2 **PRESIDING OFFICER:** Okay. Mr. Lee,  
 3 then?  
 4 **MR. LEE:** Thank you, Your Honor.  
 5  
 6 **CROSS-EXAMINATION**  
 7 **BY MR. LEE:**  
 8 Q Dr. Layzell, good morning.  
 9 A **Good morning.**  
 10 Q How are you?  
 11 A **Good, thank you.**  
 12 Q Good. Dr. Layzell, the report that you prepared  
 13 in relation to this matter, and your direct  
 14 testimony we, of course, have reviewed, what you  
 15 have here is direct testimony at page 4, and you  
 16 talk about Exhibit ALL-02, is that something  
 17 you're familiar with?  
 18 A **I'm not sure which way around 2 and 3 are, but I**  
 19 **am familiar with the two exhibits that were**  
 20 **submitted on my behalf.**  
 21 Q Well, there is -- Exhibit ALL-02 is entitled "A  
 22 Thousand Years of Drought and Climatic  
 23 Variability in Kansas: Implications for Water  
 24 Resources Management," and that's a Kansas  
 25 Geographic Survey document, correct?

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1 **A Yes, I believe that's the open file report.**  
2 Q Okay. And the -- you state that though they  
3 were published, ALL-02 and ALL-03, were  
4 published in 2012 or 2013, respectively, the  
5 content and conclusions of those documents  
6 remain valid. Is that still your opinion?  
7 **A Yes.**  
8 **MR. BULLER:** Your Honor, could I ask  
9 Dr. Layzell to lean into the microphone  
10 just a touch more?  
11 **PRESIDING OFFICER:** Thank you,  
12 Dr. Layzell. Go ahead, Mr. Lee.  
13 **MR. LEE:** Thank you, Your Honor.  
14 **BY MR. LEE:**  
15 Q So, Doctor, you state -- or the exhibit at  
16 ALL-02, page 2 states that The droughts of the  
17 1930s and 1950s remain the benchmarks in terms  
18 of duration, severity, and spatial extent for  
19 Kansas in the 20th century. What in your view  
20 does that mean when it says the benchmarks?  
21 **A So based upon the instrumental record alone, the**  
22 **benchmarks, the duration would be the length of**  
23 **the drought and severity would be how intense**  
24 **the drought was and the spatial extent is how**  
25 **much of Kansas was covered by drought conditions**

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1 **based upon the instrumental record.**  
2 Q And so in the 20th century, as I understand  
3 that, those were the worst droughts that were  
4 experienced; is that right?  
5 **A That is correct.**  
6 Q So at the same exhibit, it goes on to talk about  
7 the PDSI, I have put the bracketed information  
8 in there, Palmer Drought Severity Index, that's  
9 what that denotes, is it not?  
10 **A Correct.**  
11 Q It says, Values calculated from instrumental  
12 data provide a valuable means to assess drought  
13 variability over the instrumental record, i.e.,  
14 the past 100 years. Recently, the Kansas  
15 Geological Survey has published historic climate  
16 and PDSI data from 1895 to 2011 online in the  
17 form of the Kansas High Plains Aquifer Atlas.  
18 Based on these data alone, the droughts of the  
19 1930s and 1950s appear to be anomalous in terms  
20 of their severity and duration. So what's  
21 the -- what's the last sentence mean?  
22 **A So it means that there have been -- so duration,**  
23 **you could argue there have been more frequent**  
24 **droughts, but they were not as severe, for**  
25 **example, throughout the instrumental record**

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1 **would be one example. So they're anomalous in**  
2 **terms of the rest of the instrumental record,**  
3 **they stand out in other words.**  
4 Q In a comparative sense?  
5 **A Yes.**  
6 Q So let me just read these two statements for  
7 you, and I'm just asking for your -- your either  
8 agreement or disagreement with them. The first  
9 statement is from the University of Nebraska,  
10 which has that citation, and says, The PDSI is  
11 most effective in measuring impacts sensitive to  
12 soil moisture conditions, such as in agriculture  
13 production. Do you agree with that statement?  
14 **A Yes, I believe I would.**  
15 Q Okay. And then from the same source, it goes on  
16 to say, PDSI is designed for agriculture but  
17 does not accurately represent the hydrological  
18 impacts resulting from longer droughts. Is that  
19 something you agree with?  
20 **A It depends on what you mean by hydrological**  
21 **impacts.**  
22 Q Okay. How would you interpret that? If you  
23 can?  
24 **A So the PDSI is based upon -- you need**  
25 **temperature and precipitation data. That then**

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1 **is put into a water balance model to give you**  
2 **relative wetness and relative dryness of the**  
3 **soil, hence the first statement there, sensitive**  
4 **to soil moisture, makes sense to me relating to**  
5 **the PDSI. But does not actually represent**  
6 **hydrological impacts, I don't know if that's**  
7 **talking about water supplies, water demands, I**  
8 **think that statement would need to be put into a**  
9 **broader context for me to understand it.**  
10 Q Okay, that's -- that's fair enough. Is it, in  
11 fact, is the PDSI designed for agriculture, at  
12 least originally?  
13 **A You know, I'm not entirely sure whether**  
14 **Palmer -- whether it was developed for**  
15 **agriculture or not.**  
16 Q Okay. The -- again, this is a -- a quotation  
17 which I'm simply going to ask you your opinion  
18 of that's taken from the civil engineering --  
19 civil and environmental engineering department  
20 at Princeton, and it says, However, the  
21 uncertainty in projections of drought and its  
22 impacts on agriculture is high due to emission  
23 scenarios, climate model differences,  
24 uncertainty in initial/boundary conditions, and  
25 translation to regional scales. Climate models

1 are unanimous in projecting future warming but  
2 differ in the magnitude and even sign of  
3 regional precipitation changes. So is that a  
4 statement that you agree with?

5 **MR. BULLER:** Your Honor --

6 **A Give me a second to read it again, please.**

7 **MR. BULLER:** Your Honor, I would  
8 request that counsel for Water PACK provide  
9 this -- this link to us so we can refer to  
10 it and -- and evaluate later on today and  
11 include it in our post-trial briefings as  
12 you indicated earlier.

13 **MR. LEE:** We're happy to do that,  
14 Your Honor.

15 **PRESIDING OFFICER:** Okay, thank you.

16 **BY MR. LEE:**

17 **Q** So I apologize, Doctor, for the interruption,  
18 you were saying?

19 **A Oh, I was just asking for a second to read it  
20 again.**

21 **Q** Sure, sure, take your time.

22 **A So I should offer the caveat that I am not a  
23 climatic modeler, per se. I will say there is  
24 uncertainty in all scientific data. Just to use  
25 an example, the Census Bureau map, for example,**

1 **you showed earlier has uncertainty associated  
2 with it. So uncertainty in scientific data upon  
3 which the models are based will result in  
4 uncertainty in model projections, that I would  
5 agree with. And part of that data that goes  
6 into the models would be some of the things that  
7 are listed there, so the different scenarios and  
8 the, yeah, the actual model parameters  
9 themselves and boundary conditions.**

10 **Q** Okay. So what I hear you saying, and I don't  
11 mean to misstate that, that in a general sense  
12 that's something you agree with?

13 **A I'm not sure whether I would agree with the last  
14 sentence there, the climate models are unanimous  
15 in projecting future warming but differ in the  
16 magnitude and even sign of regional  
17 precipitation changes. My understanding is the  
18 vast majority of the -- and, again, I'm not a  
19 climate modeler just as a caveat, but the vast  
20 majority of climate models are sort of global in  
21 scope so -- sorry, all that to say I'm  
22 uncomfortable agreeing with that one.**

23 **Q** Okay.

24 **A I don't know if that helps.**

25 **Q** And you've anticipated a question, I believe it

1 would be true that it is more scientifically  
2 reliable to estimate future drought on a global  
3 or a larger area than it is to take a microlevel  
4 view of that. Is that a fair statement?

5 **MR. BULLER:** Objection, Your Honor,  
6 we have proffered Dr. Layzell as a  
7 paleo-scientist, that is what his area of  
8 expertise is. His direct testimony opines  
9 on the duration, frequency, and extent of  
10 historical drought and the historical  
11 record based on his analysis of the  
12 fossilized tree ring and other proxy  
13 evidence. He is not a climatologist, he  
14 stated he's not a climatologist, he's a  
15 paleo-scientist, so this is outside the  
16 scope of his direct testimony and expert  
17 report.

18 **PRESIDING OFFICER:** Do you have a  
19 response, Mr. Lee?  
20 **MR. LEE:** Your Honor, if Dr. Layzell  
21 can't answer my question, then I think that  
22 addresses the objection.  
23 **PRESIDING OFFICER:** All right.  
24 There -- I think there could be some way  
25 where that could be -- I don't want to

1 speculate as to what the witness may say.  
2 Ask the witness the question again, if it's  
3 something that he knows within the scope of  
4 what he has the ability to answer, he can  
5 answer it. Once you've asked that again,  
6 if you need to address something else,  
7 Mr. Buller, then raise it, but I'll  
8 overrule the objection right now, let  
9 Mr. Lee just kind of restate that, because  
10 I think there is a way that could tie into  
11 that but I don't want to state your  
12 question for you or assume what the witness  
13 may say.  
14 **MR. BULLER:** Thank you, Your Honor.  
15 **MR. LEE:** Thank you, Your Honor.  
16 **BY MR. LEE:**

17 **Q** Dr. Layzell, my -- my question, if not verbatim,  
18 was generally is it in most respects more  
19 scientifically reliable to predict drought in  
20 the future on a global or macrolevel as opposed  
21 to trying to pinpoint it to a particular, for  
22 example, part of the state?

23 **A I would say that climate models are outside --  
24 and predictions are outside of my -- future  
25 predictions are outside of my area of expertise**

23 **A**

24 **I would say that climate models are outside --**

25 **and predictions are outside of my -- future  
predictions are outside of my area of expertise**

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1 and not related to the testimony that I'm here  
2 to give.  
3 Q Okay. Fair enough.  
4 MR. LEE: I don't have any other  
5 questions, Your Honor. Thank you.  
6 MR. BULLER: No questions, Your  
7 Honor, thank you.  
8 PRESIDING OFFICER: All right. And  
9 I guess we did skip over Ms. Langworthy,  
10 Ms. Langworthy, did you have anything? I  
11 assume -- I don't want to assume you --  
12 MS. LANGWORTHY: No questions, Your  
13 Honor.  
14 MS. LEE: Hey, she's the most  
15 valuable person here, I can guarantee you.  
16 PRESIDING OFFICER: All right.  
17 Dr. Layzell, thank you, I think that  
18 concludes your testimony, you can step  
19 down.  
20 THE WITNESS: Thank you.  
21 PRESIDING OFFICER: Mr. Buller,  
22 Mr. Traster, do you have any other expert  
23 that you wanted to call today before we  
24 went back to Mr. Letourneau?  
25 MR. BULLER: We do not, Your Honor,

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1 we will resume our expert testimony after  
2 Mr. Letourneau's testified.  
3 MR. TRASTER: We have some other  
4 witnesses that are prepared, but we're  
5 flexible, we could -- we anticipated  
6 finishing -- we wanted to get these three  
7 in.  
8 PRESIDING OFFICER: Sure, so they  
9 can get on the road and -- yeah, that's  
10 completely understandable.  
11 MR. BULLER: So we will have  
12 additional -- two additional experts and  
13 one additional witness following  
14 Mr. Letourneau today, hopefully, but, yeah,  
15 we wanted to get those on the road.  
16 PRESIDING OFFICER: Okay. All  
17 right. That's fine, I guess we can get  
18 Mr. Letourneau back up on the witness  
19 stand. And, Mr. Lee, do you need any kind  
20 of a break or anything before you start  
21 with your cross-examination of  
22 Mr. Letourneau, or are you ready to roll  
23 right into that?  
24 MR. LEE: Well, Your Honor, if we  
25 want to take a few minutes, that would be

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1 great.  
2 PRESIDING OFFICER: I didn't know  
3 how quick it was for you to switch gears  
4 with that, so let's take five minutes.  
5 (Thereupon, a recess was taken;  
6 whereupon, the following was had.)  
7 PRESIDING OFFICER: Mr. Lee,  
8 whenever you're ready, we can go ahead and  
9 go back on the record --  
10 MR. LEE: Okay, thank you, Your  
11 Honor.  
12 PRESIDING OFFICER: -- and get  
13 started with your cross-examination of  
14 Mr. Letourneau.  
15  
16 LANE LETOURNEAU,  
17 having previously sworn or affirmed, was  
18 examined and testified as follows:  
19  
20 CROSS-EXAMINATION  
21 BY MR. LEE:  
22 Q Mr. Letourneau, good morning.  
23 A Good morning.  
24 Q Good to see you again.  
25 A Well, it's been good to meet you.

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1 Q I want to spend sometime, of course, talking  
2 about your testimony yesterday, and I think  
3 there is some order to it, but excuse me if I  
4 jump around a little bit. But I think your --  
5 your title at -- at DWR is water appropriation  
6 program manager; is that right?  
7 A That's correct.  
8 Q Okay. And as you said yesterday, you're not a  
9 hydrologist?  
10 A That's correct.  
11 Q And you're not a groundwater modeler?  
12 A Correct.  
13 Q And, you know, lucky you, you're also not a  
14 lawyer, correct?  
15 A Correct.  
16 Q So you do, I think, spend lots of time working  
17 with the legislature on water issues, do you  
18 not?  
19 A I do.  
20 Q Okay. And done that over a number of years?  
21 A That's correct.  
22 Q Okay. You're not ultimately directly involved  
23 in the decision about whether to grant the WTA  
24 application, are you?  
25 A Water conservation areas?

1 Q This water transfer application?  
2 A **Oh, WT -- that's correct.**  
3 Q Okay.  
4 A **You are correct.**  
5 Q Okay. So I want to talk a little bit about the  
6 history of the R9 Ranch which you're familiar  
7 with, are you not?  
8 A **Yeah.**  
9 Q Are you, I think you are, are you familiar with  
10 this Kansas Field Guide?  
11 A **I don't -- I don't think I've seen it before; I**  
12 **know the authors on it, but I --**  
13 Q Well, if you can scroll back up to the top.  
14 This is the Kansas Field Conference Field Guide,  
15 this actually is from 2005, and DWR is one of  
16 the -- one of the sponsoring agencies for this.  
17 A **That's correct.**  
18 Q Okay.  
19 A **Well, we are -- I call this the KGS legislative**  
20 **tour, and we are a sponsor to that.**  
21 Q That's exactly what it is.  
22 A **Uh-huh.**  
23 Q So we're both talking about the same thing.  
24 A **Right.**  
25 Q Would you recall, not that I can recall what I

1 ranch is located in the Middle Arkansas  
2 subbasin, an area in which water is  
3 over-appropriated and usage needs to be reduced  
4 for long-term stability. So stopping there, is  
5 that a true statement?  
6 A **That's true.**  
7 Q Okay. And then going on, The ranch has 8,039  
8 acre-feet of water rights appropriated for  
9 irrigation, with an average annual use of  
10 6600 acre-feet. Retiring water rights would  
11 significantly help stabilize the groundwater  
12 levels and reduce the regional shortages. What  
13 I'm interested in is that last sentence about  
14 retiring water rights, would you agree with  
15 that?  
16 A **Retiring or reducing water rights.**  
17 Q So that would help stabilize the groundwater  
18 levels and reduce the regional shortages?  
19 A **That's correct.**  
20 Q Okay. And then on the other side, there was,  
21 and I think you recall this, The proposal for  
22 the State to purchase -- to pursue purchase of  
23 the property to retire most of the water rights  
24 by 2015 and manage the property was approved by  
25 the Kansas Water Authority in August 2004 and

1 did in 2005, but would you have attended that in  
2 2005, do you suppose?  
3 A **I don't recall in 2005. That might have gone as**  
4 **far back as when David Pope attended; I can't**  
5 **remember the first time I attended.**  
6 Q Okay. Fair enough, fair enough. Let's look at  
7 the first bookmark, if we could. And that's  
8 hard to see, I don't know if we can make that --  
9 make that bigger.  
10 **PRESIDING OFFICER:** I'm sorry to  
11 interrupt you, Mr. Lee, is this one of your  
12 exhibits --  
13 **MR. LEE:** Yeah, that's --  
14 **PRESIDING OFFICER:** -- and can we  
15 identify the number for the record here?  
16 **MR. LEE:** Yeah, that's my fault,  
17 Your Honor, it's Exhibit 102.  
18 **PRESIDING OFFICER:** Thank you.  
19 **MR. BULLER:** 102?  
20 **MR. LEE:** 102.  
21 **BY MR. LEE:**  
22 Q So there's two parts there, Mr. Letourneau, that  
23 are -- that are highlighted, which essentially I  
24 just want your view about whether that's your  
25 understanding. And the first part says, The

1 adopted into the Kansas Water Plan. So the  
2 notion of the City selling that property or  
3 those water rights to the State developed a bit  
4 over that process -- over that time period; is  
5 that right.  
6 A **Well, according to that statement, but I don't**  
7 **remember that, I wasn't in -- I was not**  
8 **attending the water authority meetings at those**  
9 **times.**  
10 Q Okay, okay, that's fine. If we could look at  
11 the next bookmark. The -- this, again, is from  
12 the same document, Mr. Letourneau, and it says,  
13 as you can -- hopefully can read, it says, A  
14 Middle Arkansas River Subbasin Management  
15 Strategies report, 2004, was prepared by the  
16 Division of Water Resources Subbasin Management  
17 Program. Are you familiar with the subbasin  
18 management -- subbasin management program?  
19 A **Yes.**  
20 Q What is that?  
21 A **That -- that used to be in our water management**  
22 **services, and we had a basin team, for short, in**  
23 **the Middle Ark, we had it in the Rattlesnake**  
24 **Creek, had it down in Parsons, and I'm trying to**  
25 **think -- yeah, I think we had one out at the Ark**

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1 **River in Garden City. Well, as time evolved and**  
2 **those basin teams just became part of our**  
3 **mission critical work.**  
4 **But that's when the water authority at the**  
5 **time saw that these areas were important enough**  
6 **to study; and the water authority wanted to be**  
7 **part of that, so they funded through the State**  
8 **Water Plan our basin management teams. And so**  
9 **each one of them focused in on these areas and**  
10 **then drilled down to this type of level for --**  
11 **for folks, for the water authority and the**  
12 **Division of Water Resources to have this type of**  
13 **information.**  
14 Q And it sounds as if, then, they went through,  
15 based on your information and experience, a  
16 pretty careful analysis?  
17 A **Oh, yes, yes, uh-huh.**  
18 Q So -- so going on from where -- where we  
19 stopped, it identifies voluntary strategies to  
20 achieve a water-use reduction goal of  
21 13,980 acre-feet by 2015. The report identifies  
22 three priority areas, with the highest including  
23 the Circle K Ranch. If the voluntary reduction  
24 goal is met and water rights at Circle K Ranch  
25 are retired, the subbasin would reduce water use

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1 by 20,500 acre-feet. Do you believe that to be  
2 accurate?  
3 A **That can be accurate. And I know that**  
4 **absolutely no one out there has done a voluntary**  
5 **reduction in any type of water use.**  
6 Q Okay. So you were asked yesterday about Steve  
7 Larson, who I think you know?  
8 A **I know of him, yeah. I've never met him in**  
9 **person, but I've been on telephone calls with**  
10 **him.**  
11 Q Well, and I think the note that I made was, I  
12 think this is close, that you responded to the  
13 effect that everyone knows Steve Larson?  
14 A **Yes.**  
15 Q Okay. And is that because he is a nationally  
16 recognized expert in groundwater modeling?  
17 A **Absolutely.**  
18 Q Okay. And as I think you would be aware, pardon  
19 me, Mr. Larson has been retained by the State of  
20 Kansas at various times, including with U.S.  
21 Supreme Court litigation as a groundwater  
22 modeler, has he not?  
23 A **Yes, he has.**  
24 Q Okay. So one of the things I thought it was  
25 important we talk about today, Mr. Letourneau,

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1 is what I was concerned with sort of a blurring  
2 of the distinction between change of use  
3 applications and processes and the Water  
4 Transfer Act, so I just want to -- want to chat  
5 with you a little bit about that, that we  
6 understand that there is a difference. And if  
7 we could go to the Division of Water Resources  
8 page. And that's really -- that's really hard  
9 to see, I know. But -- and if you could scroll  
10 up to the top just so we can see what we're  
11 talking about. The -- are you familiar with  
12 this -- this publication, Mr. Letourneau,  
13 Division of Water Resources Updates?  
14 A **Yes.**  
15 Q Okay. So if we could go back down to where we  
16 were, this says, and let me help read this, it's  
17 talking about this process that we're dealing  
18 with, and it uses the phrase, The next step is  
19 to initiate water transfer proceedings under the  
20 Water Transfer Act, and it goes on to talk about  
21 sort of the protocols for that. So it is the  
22 case, Mr. Letourneau, that there is a change of  
23 use application but there's an entirely separate  
24 Water Transfer Act process, correct?  
25 A **Correct.**

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1 Q Okay. And just as a -- just as an example,  
2 which we periodically talk about, if the -- if  
3 the Cities -- if Kinsley, as an example, had  
4 purchased this water, that's less than the  
5 mileage metric that triggers the Water Transfer  
6 Act and so that city would not have had to go  
7 through this process, correct?  
8 A **They would have had to do the change**  
9 **application, but they would not have to do the**  
10 **transfer.**  
11 Q Right, exactly.  
12 **MR. TRASTER:** Your Honor, I need  
13 that question read back, I couldn't hear or  
14 understand the question.  
15 **MR. LEE:** I can say it again.  
16 **MR. TRASTER:** That's all right, she  
17 can read it back.  
18 **PRESIDING OFFICER:** Can we have the  
19 court reporter read that question back?  
20 And then I guess to the extent you're able  
21 to, Mr. Lee, if you can move the microphone  
22 higher to pick up everything there so we  
23 can make sure everybody hears. I know it's  
24 hard when those microphones are low like  
25 that but ...

1           **MR. LEE:** I'm always embarrassed to  
2 have the court reporter read anything I  
3 said back so ...  
4           **PRESIDING OFFICER:** I don't think  
5 it's anything embarrassing.  
6           (At this time, the reporter read  
7 the designated portion.)  
8           **MR. TRASTER:** Okay, I think I  
9 understand it now. I didn't even hear the  
10 word Kinsley, so I couldn't figure out what  
11 mileage meant.  
12 **BY MR. LEE:**  
13 Q The -- and it would be the case, and tell me if  
14 this is out of your lane, Mr. Letourneau, but  
15 the -- the Water Transfer Act is part of the  
16 water law regime because the legislature  
17 believes there's something different about  
18 transfers of a significant amount of money over  
19 a significant number of miles. Is that fair?  
20 A **Significant amount of water --**  
21 Q Right.  
22 A **-- over a significant amount of miles --**  
23 Q Right.  
24 A **-- correct.**  
25 Q And so the legislature has concluded there's

1 Q Okay. We're -- we're quoting from K.S.A.  
2 82a-1502, and it says the -- that No water, the  
3 part that's highlighted, No water transfer shall  
4 be approved which would reduce the amount of  
5 water required to meet the present or any  
6 reasonably foreseeable future beneficial use of  
7 water by present or future users in the area in  
8 which the transfer is taken -- which the water  
9 is to be taken for transfer unless, paragraph 2,  
10 the chief engineer recommends to the panel and  
11 the panel concurs.  
12           **MR. TRASTER:** Objection, Your Honor,  
13 this isn't about -- this isn't about  
14 number 2 nor is it about number 3, this is  
15 about -- this is not about number 2 or --  
16 this is not about K.S.A. 82a-1502(a)(2) or  
17 (a)(3), this is not an emergency  
18 application nor has the governor declared  
19 an emergency.  
20           **PRESIDING OFFICER:** Okay. You want  
21 to repeat your question?  
22           **MR. LEE:** Yeah, I perhaps could add  
23 a little to what Mr. Traster said.  
24 Mr. Letourneau was specifically asked  
25 yesterday of what happens if less water

1 something different about that?  
2 A **Correct.**  
3 Q Okay. Just as an example of a part of that  
4 distinction, you would have heard this -- this  
5 discussion that I had with Ms. Haase this  
6 morning about the 2 percent figure that's in the  
7 Water Transfer Act application and her opinion  
8 about projected population growth for -- for the  
9 City of Hays being between 4 (sic) percent and  
10 1 percent, I think you heard that?  
11 A **Yes.**  
12 Q And you were asked yesterday about the -- that  
13 figure of 2 percent in the water transfer  
14 application -- or, I'm sorry, in the change of  
15 use application and basically said that that's a  
16 figure, 1 percent or 2 percent is something  
17 that -- that the chief engineer would -- would  
18 approve as a matter of course?  
19 A **Yes, that's -- to us it's reasonable.**  
20 Q But that is different -- let me -- let me go to  
21 the Water Transfer Act. The part of this -- and  
22 one of the beauties about the Water Transfer Act  
23 is it's not the KWAA, it's easier -- easier to  
24 digest in some ways. Are you able to see this?  
25 A **Yes.**

1 than is requested is approved, and his  
2 answer was it's simply -- it's sort of out  
3 there, and so this question of what happens  
4 if there is less water approved than is  
5 requested is directly addressed by section  
6 (2) here.  
7           **MR. TRASTER:** That's very  
8 interesting, I'll be interested in seeing  
9 how that happens.  
10           **PRESIDING OFFICER:** Proceed.  
11           **MR. LEE:** Thank you.  
12 **BY MR. LEE:**  
13 Q So, Mr. Letourneau, it goes on to say that the  
14 chief engineer can in an emergency approve a  
15 transfer even if it doesn't meet that first part  
16 of the statute, in other words there won't be  
17 any water transfer approved if it adversely  
18 affects future users or present users in the  
19 area. But there's an exception to that if the  
20 chief engineer recommends that there's an  
21 emergency, correct?  
22 A **That's what it says, yes.**  
23 Q Okay. So the process that's contemplated by an  
24 emergency is significantly more abbreviated, is  
25 it not, than the entire Water Transfer Act --

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1           **MR. TRASTER:** Objection, Your Honor,  
2 if he can't use the microphone, then he  
3 needs to move where I can hear him.  
4           **MR. LEE:** I'll do better.  
5           **PRESIDING OFFICER:** Okay. I don't  
6 think that's an objection to the question,  
7 more as a request that --  
8           **MR. TRASTER:** I can't hear it, I  
9 don't know what he asked.  
10          **MR. LEE:** I can restate it.  
11 **BY MR. LEE:**  
12 Q The -- that subsection (2) of 82a-1502 provides  
13 that the chief engineer can, even if there's  
14 some adverse effect or potential adverse effect  
15 on present or future users, approve an emergency  
16 use, and the idea behind that, is it not, is to  
17 expedite the -- the process without having to go  
18 through what has occurred in this proceeding?  
19 A **I believe so because it's an emergency and we**  
20 **need to take care of it.**  
21 Q Sure, okay, thank you. So -- if we can look,  
22 Myndee, at the next ...  
23           This is a -- following along the same  
24 lines, Mr. Letourneau, this is K.S.A. 82a-1504,  
25 and it states that The presiding officer may

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1 order approval of a transfer of a smaller amount  
2 of water than requested upon such terms,  
3 conditions, and limitations as the presiding  
4 officer deems necessary for the protection of  
5 the public interest of the state as a whole. So  
6 that's your understanding of the statute,  
7 correct?  
8 A **That's correct.**  
9 Q Okay. So you talked yesterday really at the  
10 beginning of your -- of your testimony about the  
11 process of when your office receives a water --  
12 a new water rights application. Do you recall  
13 that testimony?  
14 A **Yes.**  
15 Q And I'm paraphrasing here, of course, but  
16 basically I think you said that there were  
17 certain elements that needed to be in that  
18 application to assign a priority to it, but it  
19 didn't necessarily need to have every "T"  
20 crossed and every "I" dotted and that you would  
21 work with the applicant to remedy that, those  
22 issues, right?  
23 A **That's correct.**  
24 Q So let's look at Kansas Administrative  
25 Regulation 5-3-1(b).

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1           **MR. TRASTER:** What's the regulation,  
2 I couldn't hear you?  
3           **MR. LEE:** 5-3-1(b).  
4           **MR. TRASTER:** Thank you.  
5 **BY MR. LEE:**  
6 Q The -- this is, and we'll go down through this,  
7 but the -- it states that A new application to  
8 appropriate water for beneficial use shall be  
9 considered to be, in quotes, a complete  
10 application for the purposes of K.S.A. 82a-708a,  
11 and amendments thereto, if the application  
12 completely and accurately meets all the  
13 requirements specified in this regulation and  
14 the following criteria, which it goes through  
15 various criteria which I know you are familiar  
16 with. So I believe what you are saying in your  
17 testimony is that the initial application may be  
18 incomplete or -- or defective in some sense and  
19 that you'll work with the applicant to correct  
20 that, but at the end of the day, pursuant to  
21 this regulation, there has to be a complete and  
22 nondefective application before you'll approve  
23 it, correct?  
24 A **Before we even start processing it. And so you**  
25 **know, in the statute, we've got a 150-day clock**

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1 **and a 180-day clock on us, and that's why we**  
2 **promulgated this rule to define what a complete**  
3 **application is when that clock starts.**  
4 Q Okay. And thank you for that. And so what  
5 you're saying is you can help folks with this,  
6 but unless there is ultimately a complete and  
7 accurate application, it won't be approved?  
8 A **Correct.**  
9 Q Okay. And I think you said, I mean, I think I  
10 made an accurate note about this, that you  
11 actually of your own knowledge know that the  
12 Cities were adamant that no regulatory  
13 requirement be waived for their benefit?  
14 A **That's correct.**  
15 Q Okay. So you talked some yesterday about the  
16 concept of -- of beneficial use, which, of  
17 course, permeates Kansas water law?  
18 A **Correct.**  
19 Q The -- and you spoke at some length about that.  
20 Let's -- let's look at some relevant regulations  
21 about that which are beneficial use. So what  
22 we're looking at here, Mr. Letourneau, and Lord  
23 knows you know this chapter and verse, but  
24 K.A.R. 5-1-1 defines beneficial use of the water  
25 to include the following, one of which is

1 municipal use, correct?  
 2 **A Correct.**  
 3 **Q** So if we scroll down, it is also the case in  
 4 Kansas, and this is Kansas Administrative  
 5 Regulation 5-23-2, that No water user shall  
 6 allow waste of water, correct?  
 7 **A That's correct.**  
 8 **MR. TRASTER:** Objection, Your Honor,  
 9 this is a citation to a -- objection, Your  
 10 Honor, this is a citation to an  
 11 administrative regulation that's effective  
 12 in Groundwater Management District  
 13 Number 3, it is not effective in  
 14 Groundwater Management District -- in  
 15 District Number 5 nor is it effective  
 16 statewide. Nevertheless, no waste of  
 17 water -- we will concede that no waste of  
 18 water -- that the statute permits waste of  
 19 water.  
 20 **PRESIDING OFFICER:** All right.  
 21 **MR. LEE:** Which is correct, Your  
 22 Honor.  
 23 **MR. TRASTER:** If you're going to  
 24 speak to the judge, please speak into the  
 25 microphone so I can hear.

1 **A That's correct.**  
 2 **Q** Okay. Thank you. We also talked, or you, and I  
 3 listened, we talked about this concept that  
 4 we're all familiar with of first in time, first  
 5 in right?  
 6 **A Correct.**  
 7 **Q** The -- that's a -- that's a doctrine, is it not,  
 8 Mr. Letourneau, that is common throughout the  
 9 western water states?  
 10 **A That's correct.**  
 11 **Q** Okay. And, in fact, that and other doctrines  
 12 that are common in western water states are  
 13 shared commonly with Kansas, correct?  
 14 **A Yes.**  
 15 **Q** So if we then move to the -- the issue of the  
 16 Anti-Speculation Doctrine which -- which, again,  
 17 we talked about yesterday to some extent.  
 18 **MR. TRASTER:** Which doctrine, I  
 19 didn't --  
 20 **MR. LEE:** Anti-Speculation Doctrine.  
 21 **MR. TRASTER:** The what?  
 22 **MR. LEE:** Anti-Speculation.  
 23 **MR. TRASTER:** Oh, okay.  
 24 **BY MR. LEE:**  
 25 **Q** You testified, you were asked by Mr. Traster

1 **PRESIDING OFFICER:** It sounds like  
 2 the objection you're making is on relevance  
 3 grounds, Mr. Traster, is that --  
 4 **MR. TRASTER:** I'm saying that that  
 5 statute is not applicable, that regulation  
 6 just doesn't apply.  
 7 **BY MR. LEE:**  
 8 **Q** Well, I think we can address this by simply the  
 9 question that fundamental to Kansas water law is  
 10 the concept that waste of water is not allowed?  
 11 **A That's correct.**  
 12 **PRESIDING OFFICER:** All right. I'm  
 13 going to overrule the objection, I'll note  
 14 the relevance issue, and -- and the context  
 15 is noted in the record there, Mr. Traster.  
 16 Go ahead and proceed, then, Mr. Lee.  
 17 **MR. LEE:** Thank you, Your Honor.  
 18 **BY MR. LEE:**  
 19 **Q** And if we could scroll down a bit more, the --  
 20 in K.A.R. 5-1-1, waste of water is defined to be  
 21 any act or omission that causes any of the  
 22 following, including the application of water to  
 23 an un -- to an authorized beneficial use in  
 24 excess of the needs for this use. So that's the  
 25 current definition of waste of water?

1 whether you're acquainted with Burke Griggs,  
 2 correct?  
 3 **A Correct.**  
 4 **Q** And you are, in fact?  
 5 **A Yes.**  
 6 **Q** And, in fact, you worked with him on some level,  
 7 right?  
 8 **A Yes, and lucky enough to keep in contact with  
 9 him.**  
 10 **Q** Okay. And he is a noted water law expert, is he  
 11 not?  
 12 **A Yes.**  
 13 **Q** Okay. So he has written that Kansas has adopted  
 14 the Anti-Speculation Doctrine, and I think you  
 15 agree with that from yesterday's testimony?  
 16 **A Yes.**  
 17 **Q** Okay. So let's look at a statement of that  
 18 doctrine taken from the Pagosa Area Water  
 19 Sanitation District versus Trout, which is a  
 20 Colorado case.  
 21 **MR. TRASTER:** I'm going to just  
 22 interpose an objection, this is a statement  
 23 of Colorado's interpretation of the -- of  
 24 the Anti-Speculation Doctrine, which may or  
 25 may not comport with the Kansas version.

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1           **MR. LEE:** That's actually a question  
2           I'm going to ask him, Your Honor.  
3           **PRESIDING OFFICER:** Okay. And then  
4           I guess before I make that ruling as well,  
5           is this -- is this something that is --  
6           you've listed as an exhibit, or is this  
7           just something you are using as a  
8           demonstration?  
9           **MR. LEE:** The latter.  
10          **PRESIDING OFFICER:** Okay. Okay. So  
11          it's not an exhibit that's been admitted --  
12          let's just pause here just one moment, it  
13          looks like the camera that's on  
14          Mr. Letourneau there has lost connection so  
15          let's see if we can get that reestablished  
16          here.  
17 **A I broke the camera.**  
18          **MS. LEE:** Do we need to go off the  
19          record, Judge?  
20          **PRESIDING OFFICER:** Yeah, go off the  
21          record just a moment.  
22          (Thereupon, a recess was taken;  
23          whereupon, the following was had.)  
24          **PRESIDING OFFICER:** The technical  
25          issues are now taken care of, we can go

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1           back on the record now. All right. So,  
2           Mr. Traster, you were objecting on the  
3           basis that this is a Colorado case that  
4           he's asking the witness about?  
5           **MR. TRASTER:** I'll admit, actually I  
6           think -- I believe that this is an excerpt,  
7           and probably an accurate one, I assume it  
8           is, from a -- I believe this to be a quote  
9           from this Colorado case, and I guess I  
10          don't really object, I just probably should  
11          have just -- I'm just pointing out that  
12          it's -- it's a Colorado -- it's a statement  
13          of the Colorado version of this doctrine,  
14          and I'll withdraw my objection.  
15          **PRESIDING OFFICER:** Okay. So since  
16          it's withdrawn, we'll go ahead and proceed.  
17          It is noted for the record, though, that  
18          that is a Colorado case, and the parties  
19          can address whatever arguments they want in  
20          their post-hearing matters as to whether  
21          that same interpretation should be applied  
22          in Kansas based upon Kansas case law and  
23          the relevant precedent that would apply  
24          here.  
25          And then, Mr. Lee, you can go ahead and

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1           ask the witness the question, he can  
2           respond to the extent he's able to, but  
3           we -- as you pointed out already that  
4           Mr. Letourneau is not an attorney. So you  
5           can go ahead and ask him to -- whatever he  
6           would understand of that based upon his  
7           capacity and what he has knowledge of.  
8           **MR. LEE:** Thank you, Your Honor.  
9          **BY MR. LEE:**  
10 **Q** So, Mr. Letourneau, past the technical issue  
11          that we had here, this is a case, it's a  
12          Colorado Supreme Court case, which I'm not  
13          asking for a legal interpretation of it, I  
14          simply want to get your view about how the  
15          statement here aligns with your understanding of  
16          the Anti-Speculation Doctrine as applied in  
17          Kansas.  
18 **A Okay.**  
19 **Q** So it says that We hold that a governmental  
20          water supply agency has the burden of  
21          demonstrating three elements in regard to its  
22          intent to make a nonspeculative, conditional  
23          appropriation of unappropriated water: One,  
24          what is a reasonable water supply planning  
25          period; two, what are the substantiated

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1           population projections based on a normal rate of  
2           growth for that period; and, three, what amount  
3           of available unappropriated water is reasonably  
4           necessary to serve the reasonably anticipated  
5           needs of the governmental agency for the  
6           planning period above its current supply.  
7           As you can tell, what I'm primarily  
8           interested in are items 2 and 3. Do those  
9           statements comport with your understanding of --  
10          of the Kansas application of the  
11          Anti-Speculation Doctrine?  
12 **A Yeah, if this came into us, if we got this**  
13          **question, as a group we would look at this, and**  
14          **the key word that pops out at me right there is**  
15          **unappropriated water. And so if somebody was to**  
16          **file a new application for unappropriated water,**  
17          **if they could justify it, like in those cases**  
18          **that I talked about yesterday, the individual**  
19          **that wanted to sell to McPherson and the**  
20          **individual that wanted to sell to Salina, those**  
21          **were -- that was a new application of**  
22          **unappropriated water. And when they couldn't**  
23          **get the contract, then, for that, then those**  
24          **were dismissed for failure to complete. So I**  
25          **see a difference in Hays where they purchased an**

1 **appropriated water right.**  
2 Q Yeah, I understand your view about that, and  
3 that's exactly what you talked about yesterday.  
4 My -- my interest really is in terms of the  
5 question of substantiated population projections  
6 and water need, so the -- you may be familiar  
7 that the water transfer application has a  
8 specific question that says, Provide us with the  
9 population projections for the -- for the  
10 applicant. And we have talked and we talked a  
11 little bit more this morning about this -- this  
12 doctrine that water users in Kansas are not  
13 entitled to more water than they reasonably  
14 need. So as to those two issues, would you  
15 agree that those are held in common with the  
16 Anti-Speculation Doctrine?  
17 A **I don't know.**  
18 Q Okay. That's fair enough.  
19 A **I can't ...**  
20 Q You were asked about the Cities' Exhibit 899  
21 which I want to just take a minute. That is the  
22 municipal water use in Kansas, and I know that  
23 you are familiar with it. And if we go to the  
24 first bookmark, this talks about -- this is sort  
25 of introductory, and I know, Mr. Letourneau, you

1 mean, this is obviously for the City of Hays,  
2 and it has a DWR ID number, which I assume is  
3 simply the assigned ID for that city; is that  
4 right?  
5 A **Yeah, that's correct, I'm -- source water, I**  
6 **don't know what RPA stands for, but I can ...**  
7 Q Okay. So if we scroll over to the right, that  
8 shows, I think, what the -- what the gallons  
9 per capita per day were for the years 2013  
10 through 2017. Is that your understanding?  
11 A **Yes.**  
12 Q It is?  
13 A **That's correct.**  
14 Q And then it has an average, which that would be  
15 95 gallons per capita per day over that period  
16 of time; is that right?  
17 A **That's correct.**  
18 Q And so what does a regional average with a Y  
19 mean?  
20 A **Well, you know, I didn't do this table, but that**  
21 **would tell me that that was included with the**  
22 **regional average.**  
23 Q Okay. And so do you know what the regional  
24 average is, what that denotes?  
25 A **Can you bounce -- can you bounce that table**

1 are familiar with it, but I think it's  
2 explanatory where it's under the heading of  
3 Regional Per Capita Water Use, it says, Water  
4 use in gallons per capita per day, otherwise  
5 known as GPCD, is calculated for each water  
6 system from reported data on water use and  
7 population served. So that's your understanding  
8 of the protocol, is it not?  
9 A **Yes.**  
10 Q Okay. And then right below that in the  
11 highlighted section, it says, The GPCD use  
12 increases from eastern to western Kansas,  
13 primarily due to increased outdoor use in the  
14 more arid regions, and that's also your  
15 understanding?  
16 A **That's my understanding.**  
17 Q Okay. So if we could go to the next bookmark.  
18 And this will be harder, perhaps we can make  
19 that a little larger; I suppose it'll run off  
20 the page.  
21 **MS. LEE:** It will.  
22 **BY MR. LEE:**  
23 Q Well, we can just do it a part at a time.  
24 I'm -- I'm interested, to the extent that you  
25 know, Mr. Letourneau, what these columns are. I

1 **around a little bit? If it's not in the table,**  
2 **I'd have to calculate it.**  
3 Q Okay.  
4 A **So ...**  
5 Q But as to the -- my question is a little more  
6 generic about what's the meaning of the "in the  
7 regional average"?  
8 A **Okay. So what I know what Dr. Eklund did --**  
9 **now, this -- this particular report was done**  
10 **after Joan Kenny had retired, I recall that now,**  
11 **so the format is a little bit different than,**  
12 **like, the '16 or the '15 report or the -- or the**  
13 **future reports. What they -- what the Water**  
14 **Office and USGS did, they wanted to compare**  
15 **cities to their peers of same size and same**  
16 **region and then would compare the gallons per**  
17 **capita per day in their unaccounted for water.**  
18 **There was some water plan money available**  
19 **through the Kansas Rural Water Association where**  
20 **they could do technical assistance, then, to**  
21 **help folks with unaccounted for water.**  
22 Q So --  
23 A **And I think that's even still available. I**  
24 **think they -- that goes to --**  
25 Q So would it be your understanding that the "in

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1 the regional average" with the letter Y, which I  
2 assume stands for yes, is that it does not --  
3 that Hays is not outside its peer group in terms  
4 of water usage?  
5 **A That's correct.**  
6 **Q** Okay. So you also talked about this concept of  
7 redundancy, and you were asked about that by  
8 Mr. -- both Mr. Traster and Mr. Cole, and your  
9 testimony was to the effect, well, that it's  
10 important to have some redundancy in the,  
11 essentially in the event of a systems failure;  
12 is that -- is that right?  
13 **A Yes.**  
14 **Q** Okay. So that strikes me, and you can tell me  
15 if I'm going down the wrong path, but that would  
16 seem to me to be a need for redundancy in  
17 delivery systems and infrastructure rather than  
18 simply -- rather than the amount of water. Is  
19 that fair?  
20 **MR. TRASTER:** Objection, misstates  
21 his testimony.  
22 **MR. LEE:** And that's the reason I  
23 asked if it's fair?  
24 **PRESIDING OFFICER:** All right. I'm  
25 going to overrule the objection 'cause I

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1 think the way he's asked the question, I  
2 think Mr. Letourneau can answer that and  
3 then state one way or another.  
4 **A Well, I think it could be additional water from**  
5 **another source, I mean, but -- so I think it**  
6 **should -- redundancy should be within the**  
7 **system, but I think that it's reasonable to have**  
8 **additional water available as well.**  
9 **BY MR. LEE:**  
10 **Q** And the amount of additional water to establish  
11 redundancy would be essentially a question of  
12 fact and based on individualized circumstances?  
13 **A Yes.**  
14 **Q** Okay. So you talked and I sort of put this  
15 under the rubric of technical issues so let me  
16 walk through a few things with you. You talked  
17 about a couple -- a couple times site specific  
18 issues or site specific surveys, do you recall?  
19 **A You mean on the pump test or ...**  
20 **Q** I think that it was on the pump test.  
21 **A Yes. Yes.**  
22 **Q** So -- so what is a site specific survey?  
23 **A Well, if you're referring to a pump test, it's**  
24 **when John Munson and our staff and our field**  
25 **offices, they will go out and set up or find**

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1 **wells that we can observe that are pumping in**  
2 **their water levels and then also the well that**  
3 **could potentially be impacted, and then we will**  
4 **operate, have the owners operate those wells**  
5 **then so we can see if there's an individual**  
6 **impact and if there's impact and the amount of**  
7 **each one impacting each other.**  
8 **Q** Okay. So is the site specific part of that,  
9 Mr. Letourneau, simply the difference between  
10 hands-on work and observation as compared to  
11 simply looking at documents?  
12 **A Yes.**  
13 **Q** You were asked in various -- at various times  
14 about the procedures applicable to change of use  
15 applications, let's look at K.S.A. 82a-708b.  
16 This is a quotation, again, I'm sure you are  
17 familiar with it, but K.S.A. 82a-708b(a)(2)  
18 says, The chief engineer shall approve or reject  
19 the application for change in accordance with  
20 the provisions and procedures prescribed for  
21 processing the original applications for  
22 permission to appropriate water. So that's  
23 saying that the change applications mimic the  
24 procedures for original applications, correct?  
25 **A Correct.**

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1 **Q** Okay. And you were asked, and we talked about  
2 this a little while ago, about the -- the  
3 possibility of a -- a change where the applicant  
4 has -- has requested X amount of water and then  
5 is actually granted Y amount of water. Do you  
6 recall?  
7 **A What amount of water?**  
8 **Q** I said Y, that's -- that's -- of my various  
9 unanswered questions, that's sort of at the top  
10 of the list. My question really is we have  
11 talked about this idea of the potential to grant  
12 an applicant less water than they've requested,  
13 right?  
14 **A Well, if -- on a new application or a change?**  
15 **Q** Well, I'm talking more broadly. That's  
16 obviously an issue that we're talking about in  
17 the Water Transfer Act but also in terms of --  
18 in terms of a new application?  
19 **A The -- what happens in that case, though, we**  
20 **have to return the application and the applicant**  
21 **has to agree to modify the application for a**  
22 **lesser amount of water.**  
23 **Q** Okay. So what about -- what about a change  
24 application?  
25 **A Same thing, yes.**

1 Q Okay. Let me -- let me show you this Kansas  
2 case citation. You may be familiar with this  
3 case, it's fairly notorious, it's Wheatland  
4 Electric Cooperative versus Polansky, and I'm  
5 quoting from the case where it says, So once a  
6 change application is made, as Wheatland did  
7 here, the statute provides that the chief  
8 engineer shall act upon it using the same  
9 provisions applied to new applications. And, of  
10 course, that's the statute we just looked at,  
11 right?

12 A **Correct.**

13 Q Okay. And those provisions clearly give the  
14 chief engineer the authority to approve an  
15 application for a smaller amount of water than  
16 requested and to otherwise act in the public  
17 interest. So the Court's saying that the chief  
18 engineer can approve a smaller amount of water,  
19 and do you agree with that?

20 A **We can but the applicant has to agree to it.  
21 We -- we can't -- somebody can't file an  
22 application for 500 acre-feet and we approve it  
23 for 100 without those folks agreeing to modify  
24 the application to 100.**

25 Q So your options are to -- to solicit the

1 find the word impair to be unclear or ambiguous.  
2 The common definition of the word impair is to  
3 cause to diminish, as in strength, value, or  
4 quality. And then it has some authority for  
5 that. And then scrolling down from there,  
6 Thus -- Thus, using the ordinary definition of  
7 impair, we conclude that the legislature  
8 intended that the holder of a senior water right  
9 may seek injunctive relief to protect against a  
10 diversion of water by a holder of a junior water  
11 right when that diversion diminishes, weakens,  
12 or injures a prior right.

13 What I'm really interested in in terms of  
14 your thoughts is what this idea of impairment  
15 equating to something that diminishes, weakens,  
16 or injures the prior right. Is that consistent  
17 with your understanding?

18 A **Yes.**

19 Q Okay. There's various ways to -- for someone to  
20 suffer impairment, are there not?

21 A **Yes.**

22 Q And is -- are actions that result in the  
23 unreasonable lowering of the regional water  
24 table one of those?

25 A **Well, yes, by diversion. So -- but -- yes, I**

1 agreement of the applicant or deny the  
2 application?

3 A **Correct.**

4 Q Okay. So --

5 A **And can I real quick, Mr. Lee, I don't -- I  
6 don't want to --**

7 Q Of course.

8 A **Just to help, I believe this was the same case  
9 to where we could not do partial abandonment as  
10 well. Judge Theis -- 'cause it -- it was a --  
11 they couldn't justify the full amount, if I  
12 recall, we looked at a partial abandonment, and  
13 Judge Theis said they couldn't do it.**

14 Q Okay, okay, appreciate that. You were walked  
15 through some questions by Mr. Traster yesterday,  
16 Mr. Letourneau, about impairment issues. Do you  
17 recall?

18 A **Correct.**

19 Q And I just want to get -- I just want to get  
20 oriented in terms of -- in terms of impairment.  
21 The -- let's put Garretson up for me. And we'll  
22 go back up -- we'll go back up to the top,  
23 Mr. Letourneau, but this is a quotation from  
24 Garretson Brothers versus American Warrior from  
25 2015, and the Court says there that We do not

1 **can say yes.**

2 Q Okay. So impairment, obviously, both from  
3 looking at Garretson and I think from your vast  
4 experience and knowledge, impairment is at the  
5 basic level a factual question, is it not?

6 A **Yes.**

7 **MR. TRASTER:** Is basically what?

8 **MR. LEE:** A factual question.

9 **MR. TRASTER:** Okay.

10 **BY MR. LEE:**

11 Q You know, we talked about Steve Larson's  
12 reputation, which you recognize, you understand  
13 that -- that Mr. Larson is critical of the  
14 Burns & McDonnell work, are you not?

15 A **Well, just one part of it, I believe.**

16 Q Okay. So --

17 A **I don't know --**

18 Q We can debate that, I guess, but at least as to  
19 one part of it, you understand that he's  
20 critical of Burns & McDonnell's work?

21 A **Right, yes.**

22 Q Do you know who Andy Keller is?

23 A **I've seen a presentation from Andy Keller.**

24 **MR. TRASTER:** From who?

25 **MR. LEE:** Andy Keller.

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1 **BY MR. LEE:**  
2 Q Have you worked with him?  
3 A **Not that I'm aware of. I know it's**  
4 **Keller-Bliesner, he had done a model for Water**  
5 **PACK when we had the public hearing in**  
6 **Greensburg, that's how I'm familiar with him.**  
7 Q Okay. I think your memory is correct. Do you  
8 know anything about his reputation?  
9 A **It's good, absolutely. I mean, I know at the**  
10 **time Chief Engineer Barfield, he felt that his**  
11 **reputation was good --**  
12 Q Okay.  
13 A **-- definitely.**  
14 Q So we agree, I think just to kind of tie this  
15 up, because I think we talked about it, but that  
16 a Kansas water user is by law and practice  
17 limited to his or its reasonable needs, right?  
18 A **It's -- a Kansas water user's limited by the**  
19 **terms, conditions, and limitations of their**  
20 **water right. And the water right should have**  
21 **been established on reasonable need.**  
22 Q Right. That's -- you got to where I wanted to  
23 be so ...  
24 You had talked about the -- not in great  
25 depth but you had talked about the idea or

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1 concept of saturated thickness, do you recall?  
2 A **Yes.**  
3 Q And how is that calculated, if you know?  
4 A **Using well logs, yes.**  
5 Q Okay. Is the -- is the depth of the wells that  
6 provide -- do the depth of the wells provide  
7 data about saturated thickness?  
8 A **A well may not fully penetrate all of its**  
9 **saturated thickness, I mean, so we just have to**  
10 **go with the best data that we have based on the**  
11 **well logs.**  
12 Q Okay. So if you've got a well to barrier, then  
13 you know how deep the saturated thickness is,  
14 correct?  
15 A **Correct.**  
16 Q And if you have something less than that, then  
17 you're -- you're estimating saturated thickness?  
18 A **What's the -- what's the estimate based on?**  
19 Q The -- I'm sorry, the depth -- the depth of the  
20 wells that are not at barrier?  
21 A **Correct, yeah. If we -- we wouldn't -- we would**  
22 **know the producing zones in the well, but we**  
23 **wouldn't know the total depth of the saturated**  
24 **thickness.**  
25 Q Okay. Mr. Letourneau, thank you for your time.

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1 **MR. LEE:** Thank you, Your Honor.  
2 **PRESIDING OFFICER:** All right.  
3 Thank you, Mr. Lee. Ms. Langworthy?  
4 **MS. LANGWORTHY:** No questions at  
5 this time, Your Honor.  
6 **PRESIDING OFFICER:** All right. I  
7 guess, Mr. Buller --  
8 **MR. TRASTER:** It's my witness.  
9 **PRESIDING OFFICER:** Sorry,  
10 Mr. Traster, how much do you think you have  
11 for Mr. Letourneau, do we want to break for  
12 lunch now, or do you want to go ahead and  
13 proceed?  
14 **MR. TRASTER:** I would prefer to  
15 break for lunch.  
16 **PRESIDING OFFICER:** Okay. Okay. So  
17 I guess given what you have for other  
18 witnesses today, should we break for an  
19 hour, for an hour and a half? What would  
20 the --  
21 **MR. TRASTER:** I think an hour is --  
22 I don't -- yeah, let's do an hour.  
23 **PRESIDING OFFICER:** Okay. Does that  
24 sound okay to you, Mr. Cole --  
25 **MR. COLE:** Yes.

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1 **PRESIDING OFFICER:** -- Mr. Lee,  
2 Ms. Lee, Ms. Langworthy?  
3 **MS. LANGWORTHY:** Yes.  
4 **PRESIDING OFFICER:** All right.  
5 We'll take a break, we'll resume at  
6 1:00 p.m. then.  
7 (Thereupon, a lunch recess was  
8 taken; whereupon the following was  
9 had.)  
10 **PRESIDING OFFICER:** I think we can  
11 go ahead and go back on the record here. I  
12 know Mr. Letourneau is not back yet, but  
13 I've been approached by the parties and  
14 they've indicated that they were, before  
15 continuing with redirect of Mr. Letourneau,  
16 they were going to move on to some experts  
17 for some scheduling matters there, so is  
18 that -- is that correct, you wanted to do  
19 that before finishing with Mr. Letourneau,  
20 or do you want to finish Mr. Letourneau?  
21 **MR. TRASTER:** Well, I'm fine if  
22 Myndee's -- I'm fine with going ahead this  
23 way and finishing Lane later, if that's  
24 okay with --  
25 **MR. BULLER:** Right, we want to make

1 sure it's okay on their end. I thought  
 2 that we would finish Letourneau, then go  
 3 to --  
 4 **MS. LEE:** That's what he thought  
 5 too.  
 6 **MR. LEE:** That was my impression  
 7 also.  
 8 **PRESIDING OFFICER:** Okay.  
 9 **MR. BULLER:** We just need Lane.  
 10 **PRESIDING OFFICER:** We'll wait just  
 11 a moment, then, for Mr. Letourneau to come  
 12 back in the room, so we'll go ahead and go  
 13 off the record for a moment.  
 14 (Thereupon, a recess was taken;  
 15 whereupon, the following was had.)  
 16 **PRESIDING OFFICER:** All right. So  
 17 we'll go ahead and go back on the record  
 18 now and we will continue with  
 19 Mr. Letourneau then, and, Mr. Traster, you  
 20 may proceed with your redirect questioning.

**REDIRECT EXAMINATION**

**BY MR. TRASTER:**

23 **Q** Mr. Letourneau, thank you for getting back.  
 24 Jami, would you put up the -- 2207, please.  
 25

1 **Q** But at that time, there was some discussion  
 2 about the Cities of Hays and Russell selling the  
 3 ranch to the State. Were you aware of those  
 4 discussions at all?  
 5 **A** **No.**  
 6 **Q** Okay.  
 7 **A** **I was not.**  
 8 **Q** But nevertheless, at that time, the discussion  
 9 included the idea that the ranch is located in  
 10 the Middle Ark -- Middle Arkansas River basin,  
 11 that's true, right?  
 12 **A** **That's true, yes.**  
 13 **Q** And it's -- and the area is over-appropriated,  
 14 that's true?  
 15 **A** **That's true.**  
 16 **Q** And usage needs to be reduced for long-term  
 17 stability. Now, that is a debatable  
 18 proposition, but some people would believe that  
 19 to be true, correct?  
 20 **A** **That's correct.**  
 21 **Q** Then this highlighted portion states, Retiring  
 22 water rights would significantly help stabilize  
 23 the groundwater levels and reduce regional  
 24 shortages, so it -- it is true that retiring  
 25 groundwater rights in that area would, in fact,

1 So let's scroll up to the top of the document so  
 2 that we --  
 3 This is Cities' Exhibit 2207, which I think  
 4 is the -- is the counterpart to the Water PACK  
 5 Exhibit 102 that you were looking at this  
 6 morning, I think they're the same document?  
 7 **A** **It looks like it.**  
 8 **Q** What's that?  
 9 **A** **It sure looks like it.**  
 10 **Q** Okay. Now, let's skip down to that page where  
 11 we had the highlighted text that was quoted this  
 12 morning. And zoom in.  
 13 So Mr. Lee asked you some questions about  
 14 making some -- the document talks about the  
 15 Cities -- the Circle K Ranch, and you understand  
 16 that to be the same -- a different name for the  
 17 R9 Ranch, correct?  
 18 **A** **That's correct.**  
 19 **Q** And at the -- that narrative says that the  
 20 Cities are exploring other options and which you  
 21 knew that -- and testified to about yesterday,  
 22 and you were here when Mr. Dougherty and  
 23 Mr. Quinday discussed many of those options,  
 24 were you not?  
 25 **A** **That's correct.**

1 be of benefit, fair?  
 2 **A** **Yes.**  
 3 **Q** Okay. So, Jami, let's take a look at Exhibit  
 4 Number 300, please.  
 5 Mr. Letourneau, I would represent to you  
 6 that this is a map showing the outline -- it's  
 7 an aerial photo, excuse me, showing the outline  
 8 of the R9 Ranch and then the competing  
 9 irrigation rights or the other irrigation rights  
 10 in -- in the area. Is -- assuming that there is  
 11 an issue, an over-appropriation issue as the  
 12 previous exhibit suggests and that that's a  
 13 problem --  
 14 **MR. BULLER:** Your Honor, I  
 15 understand that the Zoom might still be  
 16 muted.  
 17 **PRESIDING OFFICER:** All right.  
 18 Let's see what we can do here. All right.  
 19 That should take care of it.  
 20 **MR. TRASTER:** I thought you were  
 21 going to object. I thought, okay, wait a  
 22 minute.  
 23 **BY MR. TRASTER:**  
 24 **Q** Okay. On the screen, Mr. Letourneau, is a -- is  
 25 Exhibit 300, which I will represent to you is,

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1 you know, an outline of the ranch and showing  
2 the competing water rights in the area. Is  
3 the -- is the R9 Ranch the sole problem with --  
4 well, I'll put that in quotes because I'm  
5 questioning there's an issue about whether  
6 there's a problem, but is the R9 -- the water  
7 rights on the R9 Ranch the sole cause of any  
8 groundwater declines or over-appropriation in  
9 this area?  
10 **A No, it's everything on the aerial photo.**  
11 **Q** Okay. So, Ms. Buck, would you please put up  
12 that spreadsheet that we have.  
13 Now, I showed this a little earlier in the  
14 hearing, Mr. Letourneau, and it -- I'll  
15 represent to you that it is -- this is a list of  
16 all the water rights on the ranch and those  
17 within 3 miles of the border of the ranch that  
18 are junior to the water rights on the ranch.  
19 There are a number of water rights on the  
20 list -- that are not on the list that are senior  
21 to the water rights on the ranch, but -- but  
22 these are the ones that are junior or -- in  
23 priority order. So my question to you is if  
24 there is a reduction of -- a regional impairment  
25 problem, is -- are the R9 Ranch rights the first

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1 ones to go?  
2 **A No, no, it would be the ones that are more**  
3 **junior, I'll call them --**  
4 **Q** Okay.  
5 **A -- would be the first ones in reverse order of**  
6 **priority.**  
7 **Q** Okay. Reverse order of priority --  
8 **A Correct.**  
9 **Q** -- is that what you said? Okay. I think you  
10 said, there was a little bit of a volume problem  
11 this morning, but I think you said that after  
12 that 2005 conference that there were no  
13 voluntary reductions by -- of any -- of water  
14 quantities in the area?  
15 **A That's correct.**  
16 **Q** Except that the testimony has been that the  
17 Cities have voluntarily reduced the quantity?  
18 **A That's true, in this -- in the change**  
19 **applications, they -- when -- and I'll use round**  
20 **numbers. That said 86 -- or 8,000 acre-feet, I**  
21 **kind of remember 7700 acre-feet is the total**  
22 **quantity. When we used -- when we calculated**  
23 **the consumptive use, the consumptive use of**  
24 **those irrigation water rights was**  
25 **6,700 acre-feet. But then the Cities agreed to**

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1 **sustainable yield, which was 48 -- 4,800**  
2 **acre-feet over ten years.**  
3 **Q** A rolling average?  
4 **A A rolling average. So, yes, they -- they've**  
5 **agreed to reduce from the 6700 down to 4800.**  
6 **Q** And yesterday you testified about K.S.A.  
7 82a-744, and you testified that if the chief  
8 engineer is going to make reductions, he has to  
9 give -- take voluntary reductions into account,  
10 right?  
11 **A Due consideration for past conservation.**  
12 **Q** And given the fact that the Cities have made a  
13 voluntary reduction and no one else has, if  
14 there were a regional impairment issue, would  
15 the Cities get credit for the fact that they  
16 have made a voluntary reduction?  
17 **A We would have to just based on the law.**  
18 **MR. TRASTER:** One moment.  
19 **BY MR. TRASTER:**  
20 **Q** Mr. Letourneau, you have your book with you?  
21 Can you look at K.A.R. 5-1-1 and subparagraph, I  
22 call it mmmm, it's M-M-M-M, four M's.  
23 **A This is why we never change this regulation**  
24 **because we'd have to reorder --**  
25 **Q** Yeah.

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1 **A -- all of that. Okay, I'm there.**  
2 **Q** Okay. I need you to hold your finger there and  
3 look at one other statute. Well, I don't need  
4 you to, that's okay. The waste of water -- we  
5 know waste of water is illegal, right?  
6 **A Correct.**  
7 **Q** And if I said to you that -- if you look at  
8 K.S.A. 82a-737(b)(3)F and said it was unlawful  
9 to waste water, you know that?  
10 **A Correct.**  
11 **Q** All right. So Mr. Lee asked you about  
12 subparagraph 4 of K.A.R. 5-1-1(mmmm). Would you  
13 read that subsection 4?  
14 **A The application of water to the authorized**  
15 **beneficial use in excess of the needs for this**  
16 **use.**  
17 **Q** So does that prohibit -- does that prohibit DWR  
18 from approving a new water right that -- it's  
19 all -- it's the application, it's -- you might  
20 have a water right -- if you have a water right,  
21 you still have to not waste water, right?  
22 **A That's correct, that's --**  
23 **Q** And -- and it's the application of water in  
24 excess of reasonable needs that is defined as  
25 waste, correct?

1 **A The application of water to me means the actual**  
2 **diversion and the use of the water.**

3 Q But that doesn't have anything to do with  
4 whether or not DWR grants the permit in the  
5 beginning or issues a change application, does  
6 it?

7 **A That's correct.**

8 Q Very good. I have no further questions, Your  
9 Honor.

10 **PRESIDING OFFICER:** Mr. Cole?

11 **MR. COLE:** Yes, thank you.

12  
13 **RE CROSS EXAMINATION**

14 **BY MR. COLE:**

15 Q Yesterday and on cross today, there was a little  
16 bit of testimony with respect to the importance  
17 of having a redundancy within your water supply.  
18 Do you recall that?

19 **A Yes.**

20 Q And testimony today -- well, strike that a  
21 second. I want -- I want you to take a look  
22 here at Cities' Exhibit 2619, can you see that?

23 **A Yes.**

24 Q And I don't know if you've had a chance to look  
25 at that before or not, but are you familiar with

1 **A Yes.**

2 Q Okay. Now, that form of redundancy won't in all  
3 cases -- that form of redundancy, infrastructure  
4 redundancy, won't in all cases assure a supply  
5 of water?

6 **A Well, not if it's not enough supply. I guess I**  
7 **don't --**

8 Q Okay. All right. 'Cause if you had that  
9 redundancy and two pipelines and one failed, you  
10 had the other pipeline, correct?

11 **A That's correct.**

12 Q So that serves a valid purpose, right?

13 **A Right.**

14 Q But what if the source failed?

15 **A Correct, if the source is not there, then it**  
16 **would not -- there would not be redundancy.**

17 Q So -- and I don't know if you were here earlier,  
18 but there was testimony that, in fact, the Big  
19 Creek source did fail to Russell about six  
20 months ago?

21 **A Right.**

22 Q Are you familiar with that?

23 **A Yeah, we're working on a term permit for the**  
24 **City of Russell so they can use the Smoky Hill**  
25 **to -- as an offset for that.**

1 this exhibit?

2 **A Yes.**

3 Q Okay. And so what it depicts, and you correct  
4 me if I'm wrong, but what it depicts is the City  
5 of Russell's two water sources, one from the  
6 Schoenchen area, which would be the Smoky River?

7 **A Correct.**

8 Q And then one from the Big Creek pumping station,  
9 which would be in Big Creek?

10 **A That's correct.**

11 Q And then what the exhibit also shows is the  
12 pipelines from those water sources to the City  
13 of Russell?

14 **A That's correct.**

15 Q Okay. And this morning when we -- when you were  
16 questioned about redundancy, it had to do with  
17 infrastructure redundancy. Do you recall that?

18 **A Yes.**

19 Q Okay. And that's one form of redundancy,  
20 correct?

21 **A That's correct.**

22 Q Is it generally a good business policy of a  
23 governmental agency in providing a water source  
24 to have some redundancy in the infrastructure by  
25 which it provides that source of supply?

1 Q Okay. So by chance or luckily we did have  
2 another source of supply from which we could  
3 take?

4 **A Correct.**

5 Q So long as that source has water to produce?

6 **A That's correct.**

7 Q And you understand that source to be of limited  
8 supply?

9 **A Yes.**

10 Q Being somewhat familiar with the City of  
11 Russell's water sources, do you have knowledge  
12 as to what its primary source of supply is  
13 during the winter and spring months?

14 **A Big Creek, I believe.**

15 Q Big Creek. And this incident that occurred,  
16 which was an algae outbreak, right?

17 **A Oh, I didn't know -- I didn't -- I didn't know**  
18 **what failed when the water commission called me,**  
19 **I just knew that it failed.**

20 Q Okay, all right. So if it failed and it failed  
21 in the winter or spring months so we could not  
22 use that as a source, that would be taking away  
23 our primary source at that time, right?

24 **A That's correct.**

25 Q And the fact that -- and any type of

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1 infrastructure redundancy within the Big Creek  
2 system would not have resolved that issue?  
3 **A That's correct.**  
4 **Q** Thank you.  
5 **PRESIDING OFFICER:** Mr. Lee?  
6 **MR. LEE:** Thank you, Your Honor.  
7  
8 **RE CROSS EXAMINATION**  
9 **BY MR. LEE:**  
10 **Q** Mr. Letourneau, just a couple questions. As to  
11 the issue of redundancy, how much redundancy an  
12 entity needs is an individualized question of  
13 fact, isn't it?  
14 **A That's correct.**  
15 **Q** Okay. And the one sort of polestar here is that  
16 a user can't exceed reasonable needs?  
17 **A They can't exceed their water right.**  
18 **Q** Which is based calculated on reasonable needs?  
19 **A Yes.**  
20 **Q** Okay. Thank you.  
21 **PRESIDING OFFICER:** Ms. Langworthy?  
22 **MS. LANGWORTHY:** No questions, Your  
23 Honor.  
24 **MR. TRASTER:** Yeah, no questions.  
25 **MR. COLE:** Nothing further, thanks.

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1 **PRESIDING OFFICER:** All right.  
2 Sounds like that's everything for you,  
3 Mr. Letourneau, so --  
4 **THE WITNESS:** Thank you.  
5 **PRESIDING OFFICER:** -- you may go  
6 ahead and step back now.  
7 All right. Mr. Buller.  
8 **MR. BULLER:** The City of Hays calls  
9 Dr. Keith Harmony.  
10 **PRESIDING OFFICER:** Will you please  
11 raise your right hand.  
12  
13 **KEITH HARMONEY, Ph.D.,**  
14 **having first duly sworn or affirmed, was**  
15 **examined and testified as follows:**  
16  
17 **PRESIDING OFFICER:** All right.  
18 Mr. Buller, you may proceed.  
19  
20 **DIRECT EXAMINATION**  
21 **BY MR. BULLER:**  
22 **Q** Thank you for joining us this afternoon,  
23 Dr. Harmony. Please state your name and  
24 business address, spelling your last name for  
25 the court reporter.

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1 **A My name is Keith Harmony, H-A-R-M-O-N-E-Y, and**  
2 **my business address for -- for these purposes**  
3 **are -- is 2524 Haney Drive, Hays, Kansas.**  
4 **Q** By whom are you employed, and what is your  
5 title?  
6 **A I am currently employed by Kansas State**  
7 **University at the Ag Research Center in Hays,**  
8 **and I'm a professor of range science, but I also**  
9 **contract independently with the City of Hays as**  
10 **a consultant.**  
11 **Q** Did you author direct testimony filed in this  
12 matter on May 30, 2023 titled Direct Testimony  
13 of Keith Harmony, Ph.D. on Behalf of the Cities  
14 of Hays and Russell, Kansas Relating to  
15 Returning Grasslands to the R9 Ranch?  
16 **A I did.**  
17 **Q** Have you had a chance to review that document  
18 prior to your appearance here today?  
19 **A I have.**  
20 **Q** As you sit here, do you have any changes or  
21 corrections to make to those documents?  
22 **A No, I don't.**  
23 **Q** If I asked you the same questions today as  
24 appear in your prefiled testimony, would your  
25 answers and opinions remain the same?

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1 **A They would.**  
2 **MR. BULLER:** Your Honor, at this  
3 time, I move to admit the prefiled  
4 testimony of Dr. Harmony, including the  
5 exhibits and attachments to those documents  
6 which were incorporated therein.  
7 **MR. LEE:** No objection, Your Honor.  
8 **PRESIDING OFFICER:** And do you have  
9 right there what exhibit number that is?  
10 **MR. BULLER:** Yes, Your Honor, that  
11 is Exhibit 2824.  
12 **PRESIDING OFFICER:** All right. Will  
13 be admitted, then.  
14 **MR. BULLER:** Thank you, the witness  
15 is available for questions from the  
16 presiding officer and for  
17 cross-examination.  
18 **MR. COLE:** No questions, Your Honor.  
19 **PRESIDING OFFICER:** Mr. Lee, then?  
20 **MR. LEE:** Thank you, Your Honor.  
21  
22 **CROSS-EXAMINATION**  
23 **BY MR. LEE:**  
24 **Q** Mr. Harmony, good afternoon.  
25 **A Howdy.**

1 Q The -- can you see -- can you see the screen  
 2 from there?  
 3 A **Yeah, I can kind of -- I can read that if I take**  
 4 **a little bit of time to ...**  
 5 Q Okay. Well, I can -- I can help with that.  
 6 What you're looking at is from the Cities'  
 7 Exhibit 184 at page 3, and it's an excerpt from  
 8 a document published by the Kansas Geological  
 9 Survey entitled "Groundwater Recharge in the  
 10 Upper Arkansas River Corridor in Southwest  
 11 Kansas," it's authored by Dr. Whittemore. And  
 12 what it says is that Areal recharge from  
 13 precipitation over nonirrigated land is the  
 14 smallest of the recharge rates. Recharge over  
 15 irrigated land is substantially greater than  
 16 from precipitation over nonirrigated area. Do  
 17 you agree with that?  
 18 A **I -- I don't know that I would necessarily agree**  
 19 **with that. I am not -- not familiar with the**  
 20 **greatest rates of recharge.**  
 21 Q So it is just beyond your expertise?  
 22 A **Yeah.**  
 23 Q Okay. Well, and let me ask you, which may  
 24 elicit the same answer, with the next quotation,  
 25 which is -- again, this is a Kansas Geological

1 Survey article authored by Hecox, Whittemore,  
 2 Buddemeier, and Wilson. Do you know any of  
 3 those individuals?  
 4 A **Can you say their names again?**  
 5 Q Yeah, it's G.R. Hecox, D.O. Whittemore, R.W.  
 6 Buddemeier, and B.B. Wilson?  
 7 A **Not familiar with them, no.**  
 8 Q Okay. Well, the reference, the hyperlink to  
 9 that article appears below, but what it states  
 10 is that Irrigation return flows, the  
 11 infiltration of irrigation water to the water  
 12 table has been determined to be a significant  
 13 recharge component in several studies. Is that  
 14 something you agree with?  
 15 A **That's something that I wouldn't necessarily be**  
 16 **familiar with.**  
 17 Q Okay. So it's beyond your expertise?  
 18 A **Yeah, I wouldn't even necessarily be able to**  
 19 **comment on that specific item.**  
 20 Q Okay. Thank you.  
 21 **MR. LEE:** Nothing else, Your Honor.  
 22 **PRESIDING OFFICER:** All right.  
 23 Ms. Langworthy?  
 24 **MS. LANGWORTHY:** No questions, Your  
 25 Honor.

1 **PRESIDING OFFICER:** Mr. Buller?  
 2  
 3 **REDIRECT EXAMINATION**  
 4 **BY MR. BULLER:**  
 5 Q Dr. Harmony, your responses to the questions  
 6 from Mr. Lee just then, were you referring to  
 7 those specific documents when you said you were  
 8 not familiar?  
 9 A **Yeah, I wasn't familiar with those specific**  
 10 **documents or the actual recharge rate amounts**  
 11 **that would be described in those documents, yes.**  
 12 Q Are you familiar with the, in general terms,  
 13 with the R9 Ranch?  
 14 A **Am I familiar with -- with recharge?**  
 15 Q No, with the R9 Ranch?  
 16 A **With the R9 Ranch, yes, I'm familiar with the**  
 17 **R9 Ranch, yes.**  
 18 Q You've been on the ranch personally?  
 19 A **I've been on the ranch several times doing**  
 20 **evaluation of the -- of the establishment of the**  
 21 **grasses.**  
 22 Q Have you evaluated the soils on the R9 Ranch?  
 23 A **Yes, the soils on the R9 Ranch are very sandy.**  
 24 Q And are you familiar with the various  
 25 water-holding capacities in -- in soils on the

1 ranch as compared to other -- other types of  
 2 soils?  
 3 A **Sandy soils have much lower water-holding**  
 4 **capacity than other soils that have fine, more**  
 5 **fine-textured soils that have silt and clays**  
 6 **mixed with them.**  
 7 Q And how does the -- how does the texture of the  
 8 soil, the sandiness of the soil, I'm going to  
 9 use words that I'm familiar with because I'm not  
 10 a range scientist like you are, but how do those  
 11 different features of the soil affect  
 12 percolation, recharge, and water-holding  
 13 capacity of those soils?  
 14 A **Sandy soils would have less water-holding**  
 15 **capacity, and they would allow more water to**  
 16 **pass through them than -- than fine-textured**  
 17 **soils.**  
 18 Q And those soils referenced by the articles that  
 19 Mr. Lee discussed, of which you are not  
 20 familiar, didn't reference any particular type  
 21 of soils, at least the quotations that Mr. Lee  
 22 referenced; is that correct?  
 23 A **I didn't see any.**  
 24 Q And you haven't studied those articles and  
 25 wouldn't have an opinion on them. Is that fair?

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1 **A That would be fair.**  
2 Q But the types of soils, as you just said, do  
3 affect the recharge rates over various area of  
4 property?  
5 **A Sandy soil should allow more infiltration,**  
6 **quicker infiltration to occur.**  
7 Q And does the sandiness of the soil, for lack of  
8 a better term, and feel free to correct my  
9 terminology, Dr. Harmoney, but does the  
10 sandiness or the porosity of the soils also  
11 affect runoff?  
12 **A The porosity or texture would affect runoff.**  
13 **The more sandy the soil, the less potential**  
14 **there is for water runoff from the soil.**  
15 Q And for the record, can you explain in general  
16 terms what you understand runoff to be?  
17 **A Runoff would be water that's not infiltrating**  
18 **directly into the soil, it's flowing across the**  
19 **surface of the soil.**  
20 Q Jami, if you would pull up Dr. Harmoney's  
21 report, Exhibit 2824, Cities' page 103570. And,  
22 Jami, let's zoom into that paragraph there, if  
23 you would.  
24 Dr. Harmoney, I'm going to read this  
25 sentence for you since it's a bit far away?

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1 **A Okay.**  
2 Q Quote, Water runoff and water erosion potential  
3 of sandy soils is often lessened because of its  
4 soil porosity, but the percentage of bare soil  
5 and the level of vegetation and soil cover still  
6 affect erosion. Is that a sentence you recall  
7 from your expert report, Dr. Harmoney?  
8 **A Yes, that is a correct sentence that I wrote.**  
9 Q And do you agree that water runoff and water  
10 erosion potential of sandy soils is often  
11 lessened because of its soil porosity?  
12 **A Yes, I would.**  
13 Q And you're familiar with the ranch?  
14 **A I am familiar with the ranch.**  
15 Q Is there runoff on the ranch?  
16 **A None that I'm aware of flowing off -- off the**  
17 **ranch. With steeper slopes, there are some**  
18 **steep slopes in the chalky sands ecological**  
19 **sites of the ranch, where with heavy water**  
20 **deluges there may be small scale movement of**  
21 **some water, but by and large there should be**  
22 **very little erosion, water erosion that would**  
23 **take place in flowing off the ranch.**  
24 Q So that's consistent with your -- do you see any  
25 runoff channels on the ranch, have you observed

Page 1066

1 any runoff channels on the ranch?  
2 **A I have not observed any, no.**  
3 Q And you've been to the ranch -- how often do you  
4 go to the ranch each year, Dr. Harmoney?  
5 **A I'm on the ranch maybe about ten days a year.**  
6 Q Okay. Going back to this issue of the recharge  
7 rates of native grasses, Jami, go to, same  
8 exhibit, page 103567. Okay. And zoom in and --  
9 And right there on this page, this --  
10 there's discussion on this page relating to the  
11 photosynthetic mechanism of the various plants  
12 that have grown and are growing on the R9 Ranch.  
13 Do you recall that from your expert report,  
14 Dr. Harmoney?  
15 **A Yes, I do.**  
16 Q Okay. And so the native grasses on the ranch  
17 are -- are -- explain briefly, if you would, the  
18 difference between a C4 photosynthetic mechanism  
19 and a C3 photosynthetic mechanism.  
20 **MR. LEE:** Your Honor, I would  
21 interpose an objection, the issue of grass  
22 is beyond the scope of cross-examination,  
23 that was simply about the difference  
24 between recharge for irrigated and  
25 nonirrigated land without reference to a

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1 particular ground cover.  
2 **PRESIDING OFFICER:** Mr. Buller,  
3 respond?  
4 **MR. BULLER:** Sure. The ranch has  
5 been seeded to native grasses, which  
6 Dr. Harmoney in his report concludes is  
7 related to and his testimony has just  
8 affirmed is related directly to recharge.  
9 **PRESIDING OFFICER:** I'm going to  
10 sustain the objection because I don't think  
11 that Mr. Lee asked questions about that.  
12 If you want to rephrase things and get to  
13 that through other means based upon what  
14 Mr. Lee asked on his cross-examination, you  
15 can go about it that way.  
16 **MR. BULLER:** Understood, I  
17 appreciate it. We won't get into the  
18 photosynthetic mechanism of the native  
19 grasses, we'll stand on his report and I'll  
20 move on.  
21 **PRESIDING OFFICER:** Okay.  
22 **BY MR. BULLER:**  
23 Q Dr. Harmoney, so there are -- your report  
24 addresses the impacts of converting the ranch  
25 from irrigated farmland to -- to native grasses,

1 and Mr. Lee asked you about recharge rates  
2 relating to, in essence, comparing, and he'll  
3 correct me if I mess this up, but comparing  
4 irrigated farmland to nonirrigated farmland. Do  
5 you recall that?

6 **A Yes, I recall that.**

7 **Q** Okay. You relied on an article as a reference  
8 in your expert report called "Groundwater  
9 Impacts Due to Conservation," do you recall that  
10 article?

11 **A Yes, I do, that was an article that was written  
12 by some folks from Oklahoma State University at  
13 the time, I believe.**

14 **MR. BULLER:** Okay. This article was  
15 not marked as an exhibit, it is, however,  
16 referenced as a source relied upon by  
17 Dr. Harmony, and we have a copy of it and  
18 I would like to introduce as an exhibit  
19 here today. Unless there's an objection, I  
20 will display that on the screen, Jami, if  
21 you could.

22 **BY MR. BULLER:**

23 **Q** Okay. If you go to page 324. And scroll down  
24 just a bit, Jami, if you would.

25 Okay. Stopping there, there's a section

1 Irrigated Area and CRP Areas. And down on the  
2 bottom row of that table, it lists change  
3 percentage, and if you scroll over to the  
4 right-hand side of that, it says groundwater  
5 recharge, 79.19. Did I read that correctly?

6 **A 79.19, yes, that's what it says.**

7 **Q** And so according to this article in this  
8 section, at least, conversion of irrigated  
9 farmland to CRP results in 79.19 percent more  
10 recharge?

11 **A That -- that was their conclusion. So based on  
12 that, I may not have known the exact rates of  
13 recharge, but this document is evidence that  
14 recharge is possible through grassland acres.**

15 **Q** And as we've discussed, a lot of that depends on  
16 slopes and soil types and things of that nature,  
17 not every -- not every piece of property is just  
18 the same, is it?

19 **A No, that would be correct.**

20 **Q** Jami, if you could pull up Exhibit 2 -- sorry,  
21 Exhibit 2462. Actually, scratch that, Jami.

22 Dr. Harmony, the Cities have introduced  
23 Exhibit 2681.

24 And, Jami, if you could pull up 2681 for  
25 us, soil samples on the ranch.

1 here, Dr. Harmony, and the title of the section  
2 is Relationship Between Changes in Groundwater  
3 Level and CRP Percentage. Do you see that?

4 **A I can't see it necessarily, it's too small, but  
5 I think I'm familiar with the wording of it.**

6 **Q** Okay. In general, can you describe what's being  
7 addressed in this section of this article or  
8 report?

9 **A Yeah, the article is talking about the  
10 relationship of the acreage of CRP land in a  
11 county in Texas, and they found a spatial  
12 positive relationship between the amount of  
13 acreage of land in grassland CRP and higher  
14 aquifer levels in those areas.**

15 **Q** Jami, if you could scroll down to the next page  
16 for us. All the way down at the bottom of the  
17 page. Keep going. Keep going. Right -- let's  
18 see, I'm looking for table 4, you're at table 6,  
19 and that's my fault for telling you to keep  
20 going. There it is.

21 Table 4 on the bottom of -- and this is the  
22 article page number 325, PDF -- I can't tell  
23 where the pagination is on the PDF, but it's  
24 article page number 325, and figure 4 is titled  
25 Change in Groundwater Use Precipitation

1 Mr. Crispin, the Cities' water utilities  
2 director, I hope I didn't mess his title up,  
3 testified about traveling to the ranch and  
4 gathering certain soil samples from the ranch.  
5 Were you present on that day when Mr. Crispin  
6 gathered those soil samples? The ones from the  
7 ranch?

8 **A From the ranch, I was there the day when the  
9 ones on the -- when ones on the ranch were  
10 collected, yes. I wasn't involved with the  
11 actual collection or labeling of them, but I  
12 was --**

13 **Q** Sure.

14 **A -- on the property at the time.**

15 **Q** That's fine, and that's all I'm asking is you  
16 were there?

17 **A I was there, yes.**

18 **Q** And so have you had a chance to observe those  
19 various soil samples?

20 **A I did see some of them in jars, yes.**

21 **Q** And, Jami, if you could pull up Exhibit 1705.

22 And, Dr. Harmony, this is a map that  
23 indicates the various locations from which the  
24 soil samples on the ranch were gathered. And  
25 circle number 3 is up in this area near the

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1 river on the ranch. Do you recall gathering a  
2 soil sample from that area on the day that we  
3 were there on -- with Mr. Crispin?  
4 **A Yeah, I remember being at that location.**  
5 **Q** And -- and, Jami, if you could pull up  
6 Exhibit 2866. Is that 2866, Jami?  
7 **MR. BULLER:** I apologize, Your  
8 Honor, I mislabeled the exhibit on my  
9 outline, if you'd just indulge me for a  
10 minute.  
11 **PRESIDING OFFICER:** That's fine.  
12 **BY MR. BULLER:**  
13 **Q** Correcting the record, Exhibit 1718. Okay.  
14 Zoom into the area of the ranch --  
15 Sorry, before you go there, Dr. Harmony,  
16 this is -- this is a map of the GMD5 model area,  
17 and it has the outline of the ranch, the borders  
18 of the ranch outlined there. Do you see that,  
19 sir?  
20 **A In red?**  
21 **Q** Uh-huh.  
22 **A Yes.**  
23 **Q** And then it has two other spots identified,  
24 number 16 and number 17. Do you see that?  
25 **A Yes, I see them now.**

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1 **Q** And then Exhibit 1738. Okay. And then if you  
2 could zoom in, Jami, to those red dots.  
3 Those are the respective locations of  
4 sample numbers 16 and 17, and number 16 is from  
5 within the blue shaded area and number 17 is  
6 just on the other side within a darker shade of  
7 blue. Do you see that?  
8 **A Yep, I see that, uh-huh.**  
9 **Q** Did you have an opportunity to inspect the soil  
10 from circle number 3 from sample number 16 and  
11 from sample 17?  
12 **A I did.**  
13 **Q** Okay. And did you have a chance to perform a,  
14 what you call a water retention test, can you  
15 please tell us about that.  
16 **A Well, I called it a ribboning, ribboning test.**  
17 **Q** R-I-B-B-O-N-I-N-G?  
18 **A Yes.**  
19 **Q** Okay.  
20 **A It's a test that's used for getting an estimate**  
21 **of what soil texture might be.**  
22 **Q** And is that a test that you've had an  
23 opportunity to do over the course of your  
24 career?  
25 **A Yes, I actually did it quite a lot when I was a**

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1 **assistant agronomist early on in my career as a**  
2 **crop consultant and also use it some for doing**  
3 **evaluations of ecological sites.**  
4 **Q** What in general terms does a soil ribboning test  
5 tell you?  
6 **A Basically it allows you to get an estimate of**  
7 **what the soil texture might be, how much sand,**  
8 **silt, and clay might be in a sample.**  
9 **Q** Did you perform a soil ribboning test on the  
10 surface samples from surface -- circle number 3,  
11 sample 17 and sample 16?  
12 **A I did.**  
13 **Q** And what were the results of your soil ribboning  
14 test?  
15 **A The ribboning test that I did, the sample**  
16 **number 3, the one that came off the ranch was**  
17 **more sandy than the samples that came off the**  
18 **ranch.**  
19 **Q** And what was that -- the result of that test  
20 tell you in relation to the water-holding  
21 capacity of the soil that was taken from the  
22 ranch versus the other two samples?  
23 **A The other two samples had more silt and clay**  
24 **in -- in the ribboning test, and so the addition**  
25 **of more fine particles in the soil increases**

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1 **water-holding capacity.**  
2 **Q** So in summary, the soil taken -- that you tested  
3 from circle number 3 has lower water-holding  
4 capacity than the samples taken from the -- 16  
5 and 17 from the surface?  
6 **A I would have estimated it would have less**  
7 **water-holding capacity.**  
8 **Q** No further questions, thank you.  
9 **PRESIDING OFFICER:** All right.  
10 Mr. Buller --  
11 **MR. BULLER:** Yes.  
12 **PRESIDING OFFICER:** -- just so we  
13 have it clear, you indicated there was an  
14 additional article that you're going to  
15 offer as an exhibit. From the prior  
16 exhibit numbers that we have, will that be  
17 2869 then?  
18 **MR. BULLER:** One second, I'll ask  
19 Jami.  
20 **PRESIDING OFFICER:** Okay.  
21 **MR. BULLER:** That would be  
22 Exhibit -- Cities marked that as  
23 Exhibit 2872.  
24 **PRESIDING OFFICER:** Okay. All  
25 right. And, Mr. Lee, is there any

1 objection to that?  
 2 **MR. LEE:** No, Your Honor, there's no  
 3 objection, we would like to have a copy of  
 4 it.  
 5 **MR. BULLER:** Sure, absolutely.  
 6 **PRESIDING OFFICER:** Mr. Cole, any  
 7 objection?  
 8 **MR. COLE:** No objection.  
 9 **PRESIDING OFFICER:** Ms. Langworthy?  
 10 **MS. LANGWORTHY:** No objection, Your  
 11 Honor.  
 12 **PRESIDING OFFICER:** Okay. So we'll  
 13 note 2872 also admitted. All right.  
 14 **MR. COLE:** No questions.  
 15 **PRESIDING OFFICER:** Mr. Cole? And  
 16 Mr. Lee?  
 17 **MR. LEE:** Thank you, Your Honor.

RE CROSS EXAMINATION

**BY MR. LEE:**

21 Q Dr. Harmony, I just want to clarify with you  
 22 given the line of questions that Mr. Buller  
 23 asked you that in respect to this statement,  
 24 Recharge over irrigated land is substantially  
 25 greater than from precipitation over

1 **MS. LANGWORTHY:** Nothing, Your  
 2 Honor.  
 3 **PRESIDING OFFICER:** All right.  
 4 Anything further?  
 5 **MR. BULLER:** No further questions,  
 6 thank you.  
 7 **PRESIDING OFFICER:** All right.  
 8 Doctor, I believe we're done with your  
 9 questions so thank you, Dr. Harmony, you  
 10 may step down.  
 11 And, Mr. Buller, you can move to your  
 12 next witness.  
 13 **MR. BULLER:** Thank you,  
 14 Dr. Harmony. The Cities -- the City of  
 15 Hays calls Dr. Jeff Basara.  
 16 **PRESIDING OFFICER:** Okay. And would  
 17 you please raise your right hand.

19 JEFFREY FRANK BASARA, Ph.D.,  
 20 having first duly sworn or affirmed, was  
 21 examined and testified as follows:

23 **PRESIDING OFFICER:** All right.  
 24 Mr. Buller, you may proceed.  
 25 **MR. BULLER:** Thank you, Your Honor.

1 nonirrigated area, that's something you don't  
 2 have an opinion about; is that correct?  
 3 A **I don't necessarily know which one would be  
 4 greater.**  
 5 Q Okay.  
 6 A **I am just stating that I think there would be  
 7 potential recharge possible with land area in  
 8 grassland.**  
 9 Q But as I -- the way I understand your testimony  
 10 is that you're not in a position to offer a  
 11 professional opinion about the accuracy of that  
 12 statement?  
 13 A **I wouldn't be able to comment on -- between the  
 14 two, no.**  
 15 Q Okay. And if we look at the next slide,  
 16 Irrigation return flows, the infiltration of  
 17 irrigation water to the water table has been  
 18 determined to be a significant recharge  
 19 component in several studies, just want to  
 20 confirm again that you don't have a professional  
 21 opinion about whether that's accurate or not?  
 22 A **I wouldn't be able to comment on the portion  
 23 about the irrigation return flow, no.**  
 24 Q Okay. Thank you for your time.  
 25 **PRESIDING OFFICER:** Ms. Langworthy?

**DIRECT EXAMINATION**

**BY MR. BULLER:**

3 Q And thank you, Dr. Basara, for joining us today.  
 4 Please state your name and business address,  
 5 spelling your last name for the court reporter.  
 6 A **My name is Jeffrey Frank Basara, last name B as  
 7 a in boy, A-S-A-R-A. My address is 17305  
 8 Serrano Drive, Oklahoma City, Oklahoma.**  
 9 Q By whom are you employed, and what is your  
 10 title?  
 11 A **I am an associate professor at the University of  
 12 Oklahoma, I have a joint appointment in the  
 13 School of Meteorology but also in the School of  
 14 Civil Engineering and Environmental Science, I  
 15 also can serve as a independent consultant.**  
 16 Q Did you author direct testimony filed in this  
 17 matter on May 30, 2023 titled Direct Testimony  
 18 of Jeff Basara, Ph.D. on Behalf of the Cities of  
 19 Hays and Russell, Kansas Relating to Drought  
 20 Impacts and Risk to Water Resources in the Smoky  
 21 Hill Watershed?  
 22 A **I did.**  
 23 **MR. BULLER:** For the record,  
 24 Dr. Basara's prefiled testimony with  
 25 incorporated expert report and attachments

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1 is Exhibit 2822.

2 **BY MR. BULLER:**

3 Q Dr. Basara, have you had a chance to review that

4 document prior to your appearance here today?

5 A **I have.**

6 Q As you sit here, do you have any changes or

7 corrections to make to those documents?

8 A **The -- the only change I would is that my**

9 **address will be changing on September 1st.**

10 Q Okay. And where are you moving?

11 A **I'm moving to Massachusetts.**

12 Q If I ask you the same questions today as appear

13 in your prefiled testimony, would your answers

14 and opinions remain the same?

15 A **Absolutely, yes.**

16 **MR. BULLER:** Your Honor, at this

17 time, I move to admit the prefiled

18 testimony of Dr. Basara including the

19 exhibits and attachments to those

20 documents.

21 **PRESIDING OFFICER:** Is there any

22 objection?

23 **MR. LEE:** None from Water PACK, Your

24 Honor.

25 **MR. COLE:** No.

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1 **MS. LANGWORTHY:** No.

2 **PRESIDING OFFICER:** All right. That

3 testimony will be admitted.

4 **MR. BULLER:** Thank you, the witness

5 is available for questions from the

6 presiding officer and for

7 cross-examination.

8 **PRESIDING OFFICER:** All right.

9 Mr. Cole?

10 **MR. COLE:** No questions, Your Honor.

11 **PRESIDING OFFICER:** Mr. Lee?

12 **MR. LEE:** Thank you, Your Honor.

13

14 **CROSS-EXAMINATION**

15 **BY MR. LEE:**

16 Q Good afternoon, Dr. Basara.

17 A **Good afternoon.**

18 Q I want to show you a few things just, I think,

19 as a matter of perspective in relation to your

20 report. The first of which is is that an

21 accurate depiction of the Smoky Hill watershed?

22 A **From my recollection, that is an accurate ...**

23 Q Okay. And I suspect you're aware of this, this

24 is actually a quote from the Cities' application

25 for their water transfer and they state, The

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1 ranch will serve as a long-term and primary

2 source of water. For that reason, the Cities

3 cannot afford to withdraw more water from the

4 ranch than is recharged from precipitation and

5 aquifer underflow. Cities have requested a

6 combined annual total of 7,625.5 acre-feet of

7 water from the 30 water rights on the ranch.

8 Have you seen that before?

9 A **I have not seen that before.**

10 Q Okay. Is that an accurate conversion of

11 1 acre-feet to gallons?

12 A **I typically, to be honest, don't deal with**

13 **acre-feet. As -- as a meteorologist,**

14 **climatologist, we deal with inches of**

15 **precipitation. But if you are using Google,**

16 **that seems to be an accurate representation.**

17 Q I'll represent to you that you can see that in

18 many different sources.

19 A **Sure.**

20 Q So the -- this shows 1 acre-feet as equal to

21 325,851 U.S. liquid gallons. That's oftentimes

22 in the literature rounded to 326,000, but that,

23 I think, is precisely accurate.

24 In your testimony at page 4, which I think

25 you recall, you talk about increased

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1 precipitation deficits from drought that will

2 yield an additional water loss of approximately

3 6.8 to 13.6 billion gallons per month across

4 the, that's my bracketed word of entire, Smoky

5 Hill watershed during drought events. Do you

6 recall that as part of your testimony?

7 A **I recall that -- that bullet, the context of**

8 **which is not illuminated at this particular**

9 **point in time, but I do recall the bullet.**

10 Q Okay. Let me then simply go as a matter of

11 perspective, if we are talking about -- which I

12 guess you'll have to take my word for, the

13 conversion from acre-feet to gallons, but

14 assuming the accuracy of that, which I can

15 represent to you it is, in fact, accurate, the

16 annual withdrawal at the rate requested by the

17 Cities would be about 2.5 billion gallons per

18 year, over 20 years it would be roughly

19 50 billion gallons, and over 51 years, it would

20 be about 127 billion. Anything wrong with those

21 figures as far as you can determine?

22 A **I haven't done them by hand myself, but I do not**

23 **see anything to believe -- that would lead me to**

24 **believe that those are incorrect.**

25 Q Okay. Thank you for your time.

1 **A Uh-huh.**  
2 **PRESIDING OFFICER:** Ms. Langworthy?  
3 **MS. LANGWORTHY:** No questions, Your  
4 Honor.  
5 **PRESIDING OFFICER:** Mr. Buller?  
6 **MR. BULLER:** No questions, Your  
7 Honor, thank you.

8  
9 **CROSS-EXAMINATION**

10 **BY MR. COLE:**

11 **Q** I just -- just if I could note for a second,  
12 make sure I followed the testimony, just the  
13 calculation of -- under the application, that's  
14 taking it times the full ride before any  
15 consumptive reduction, is that correct, or do  
16 you know?

17 **A I do not know.**

18 **Q** Okay.

19 **A That's beyond my area of expertise.**

20 **Q** All right, thank you.

21 **PRESIDING OFFICER:** Anything further  
22 from anybody?

23 **MR. LEE:** No, Your Honor, thank you.

24 **PRESIDING OFFICER:** All right.

25 Thank you, Dr. Basara, and you are

1 last witness of the day, then, Mr. Traster?  
2 **MR. TRASTER:** It is, yes, I think  
3 that's all we have. We did take --  
4 anticipate taking longer than it has, but  
5 yes.

6 **PRESIDING OFFICER:** We can go ahead  
7 and go off the record here.

8 (Thereupon, a recess was taken;  
9 whereupon, the following was had.)

10 **PRESIDING OFFICER:** All right. I  
11 think we can go ahead and go back on the  
12 record, it's 2:31 now on July 25th. Let's  
13 go ahead and go back on the record and get  
14 started with the next witness, then.

15 **MR. TRASTER:** Call Jeff Heidrick,  
16 please.

17 **PRESIDING OFFICER:** Would you please  
18 raise your right hand.

19  
20 **JEFFREY WARREN HEIDRICK,**  
21 having first duly sworn or affirmed, was  
22 examined and testified as follows:

23  
24 **PRESIDING OFFICER:** You may proceed,  
25 Mr. Traster.

1 concluded now.  
2 **THE WITNESS:** Okay. Well, thank you  
3 very much.

4 **PRESIDING OFFICER:** Thank you.

5 **MR. TRASTER:** You want me to call a  
6 witness or you want to take a break?

7 **PRESIDING OFFICER:** I guess depends  
8 exactly where you are with everything,  
9 would anybody like to take a break?

10 **MR. LEE:** From our perspective, it  
11 would be a perfect time, Your Honor.

12 **PRESIDING OFFICER:** Okay. Given  
13 what we have left to go today, what's an  
14 appropriate amount of break to go ahead and  
15 take at this time?

16 **MR. TRASTER:** I don't think this  
17 witness is going to take very long for me.  
18 It's Jeff Heidrick and he's going to  
19 testify about the -- the design contract  
20 and the plan for the design on the ranch.

21 And so I would imagine that Mr. Lee might  
22 have some questions for him, but I don't --  
23 I mean, I'm just going to get the documents  
24 in and turn him over to Mr. Lee for his ...

25 **PRESIDING OFFICER:** And is that your

1 **MR. TRASTER:** Thank you, Your Honor.

2  
3 **DIRECT EXAMINATION**

4 **BY MR. TRASTER:**

5 **Q** Mr. Heidrick, will you state your name, and am I  
6 pronouncing it right?

7 **A Heidrick.**

8 **Q** Heidrick, sorry. Will you state your name and  
9 spell it for the court reporter?

10 **A Yes, Jeffrey Warren Heidrick, it's**  
11 **H-E-I-D-R-I-C-K.**

12 **Q** And, Mr. Heidrick, how -- where are you  
13 employed?

14 **A Burns & McDonnell Engineering.**

15 **Q** In Kansas City?

16 **A In Kansas City, yes.**

17 **Q** What's the business address for that?

18 **A 9400 Ward Parkway, Kansas City, Missouri.**

19 **Q** How long have you been employed at Burns & Mac?

20 **A In October it'll be 15 years.**

21 **Q** And what are your duties there?

22 **A I'm a senior project manager, I work in our**  
23 **water global practice, water projects.**

24 **Q** And is that the same practice area as  
25 Mr. McCormick who testified earlier?

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1 A Yes.  
2 Q So -- and what are your duties in that area?  
3 A **I manage projects is essentially what I do.**  
4 Q Okay. And tell me about your education, your  
5 training.  
6 A **Sure, I have a degree in chemical engineering, I**  
7 **have a master's in business administration, I'm**  
8 **a licensed professional engineer in four states,**  
9 **Kansas, Missouri, Arkansas, and Maryland**  
10 **currently.**  
11 Q I see. Do you have -- before Burns & Mac, were  
12 you employed as an engineer someplace?  
13 A **Yes, I was with a different firm, Larkin**  
14 **Consultants.**  
15 Q How long -- how long have you been -- when'd you  
16 graduate from college?  
17 A **1996.**  
18 Q 1986?  
19 A **'96.**  
20 Q '96. Jami, can we see Exhibit 1766, please.  
21 Mr. Heidrick, can you identify that  
22 document for me?  
23 A **Yes, that appears to be our agreement with the**  
24 **City of Hays for the pipeline project, for the**  
25 **design.**

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1 Q Can you scroll down to the scope of -- scope of  
2 services section? So I'm going to show you  
3 then -- and what page is it? Page 72750?  
4 What's the page number? 72750 is the first page  
5 of the scope of service, what's the -- tell us  
6 just briefly what this contract requires or  
7 is -- covers.  
8 A **So this would be for the pipeline portion, which**  
9 **would -- we would consider this everything off**  
10 **the wellfield site so from the wellfield to**  
11 **Schoenchen.**  
12 Q Okay. Let's go to the next exhibit, 1767.  
13 Mr. Heidrick, can you identify this document?  
14 A **Yeah, I believe that is the wellfield agreement.**  
15 Q And, Jami, let's go down to the scope of  
16 services again.  
17 And this is page 72775, 72775. And is  
18 this -- does this page, Mr. Heidrick, describe  
19 in general terms what -- what this contract  
20 covers?  
21 A **Yes, so this would be for everything on the**  
22 **wellfield site for the infrastructure work.**  
23 Q Ms. Buck, I'm going to ask you to show us  
24 Exhibit 2686, please.  
25 Can you identify this document, sir?

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1 A **Yes, that's kind of a general memo to --**  
2 **regarding the design and construction, kind**  
3 **of the plan.**  
4 Q And this is dated June 20th of 2023, so it's  
5 very recent, correct?  
6 A **Yes, correct.**  
7 Q And attached to -- well, it says that you --  
8 that you reviewed Exhibits 1, 37, 38, 39, and  
9 40, and those are actually in this instance  
10 Exhibit 1-1, 1-37, 1-38, 1-39, and 1-40 as  
11 attachments to the transfer application, but you  
12 reviewed those documents --  
13 A **Yes, that's correct.**  
14 Q -- in the course of preparing the June 20th,  
15 2023 Exhibit 2686, correct?  
16 A **Correct.**  
17 Q Jami, let's look at the second page of that  
18 document, please.  
19 What is -- can you tell us about this  
20 document, what it's showing?  
21 A **This was our preliminary estimate of a**  
22 **construction schedule, so once the project is**  
23 **out for bid approximately how long it would take**  
24 **to construct the different pieces.**  
25 Q What's the time frame for completing the scope

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1 of services for the two aspects of this project,  
2 how long is that going to take?  
3 A **For the design portion?**  
4 Q Yes.  
5 A **Approximately two years.**  
6 Q So it's two years from now, and then if the  
7 transfer is approved at that point, it would go  
8 out for bid and this would be the schedule, the  
9 construction schedule?  
10 A **That is our estimate of construction schedule.**  
11 **The actual contractor that gets the project**  
12 **would put together their own schedule.**  
13 Q I see. Jami, can we take a look at 2687,  
14 please.  
15 Can you identify this document?  
16 A **Yes, that's from our environmental permitting**  
17 **group, it's a permit matrix, preliminary permit**  
18 **matrix that we generally put together and**  
19 **include in projects to identify any permits we**  
20 **might need.**  
21 Q Okay. Is that a part of the planning process or  
22 more construction, when does this all take  
23 place?  
24 A **It's more during the planning design portions of**  
25 **it.**

1 Q So will you be actually -- will you and your  
2 group be applying for these permits or preparing  
3 to apply for them?

4 A **Yes, most of them.**

5 Q Okay. Jami, can we take a look at Exhibit 1-12  
6 and in particular page 1000 -- 1011?

7 Mr. Heidrick, this is a well location map  
8 from file number 27 -- 21,734, I think, and  
9 it -- there was some testimony by one of your  
10 colleagues, Daniel Clement, were you here for  
11 that testimony?

12 A **No, but I saw most of it online.**

13 Q Okay. So you're familiar with these -- the  
14 series of maps that were attached to the  
15 applications, and you understand that the wells  
16 must be within the limitations set out in -- in  
17 those applications?

18 A **Yes.**

19 Q The memo -- we'll get to that. Let's look at  
20 Exhibit 2832, please.

21 Can -- this -- can you identify this  
22 document?

23 A **Yes, it's a conceptual operation plan that was  
24 sent to Jeff Crispin, City of Hays.**

25 Q And it's dated June 22nd, 2023, correct?

1 A **Correct.**

2 Q And it -- it indicates that the -- well, let's  
3 scroll down to the -- another couple paragraphs.  
4 It's the third paragraph, the third paragraph  
5 starts with The design production rate for each  
6 well is expected to be 350 gallons per minute.  
7 You understand that the rates are approved for a  
8 higher rate, but you don't expect to pump them  
9 at -- at the permitted rates, as I understand  
10 it?

11 A **Correct, yes.**

12 Q And do you intend to rotate the -- the wells --  
13 you're going to do this in phases, as I  
14 understand?

15 A **Yes, we're looking at two phases.**

16 Q Okay. And how many wells in the first phase?

17 A **Seven.**

18 Q And will that allow you to rotate the operation  
19 of those wells throughout the year?

20 A **Yes.**

21 Q Were you here for the -- the testimony of  
22 Mr. Letourneau related to impairment, direct  
23 impairment?

24 A **Yes.**

25 Q And did you understand -- or hear him testify

1 that in some cases you can rotate the operation  
2 of those -- of a well and avoid direct  
3 impairment?

4 A **Yes.**

5 Q Is that going to be something that would be  
6 possible in -- if, in fact, there was a  
7 demonstration of direct impairment by any of  
8 these wells, will you be able to rest a well for  
9 a while --

10 A **Yes.**

11 Q -- without any trouble?

12 A **Yeah, as part of the rotation, yes.**

13 Q What's the design life -- once you get it in  
14 place and operating, how long does this -- is  
15 this -- do you expect this -- the pipeline and  
16 the -- and the wells, the infrastructure on the  
17 ranch and the pipeline, if properly maintained,  
18 repair, replace, retain, maintained, to last?

19 A **I would say for the wellfield, as long as it's  
20 maintained, probably 50 years. For the  
21 pipeline, it could be 75, 100 years. I've  
22 worked on projects where we've replaced pipe  
23 that's been in service for 115 years.**

24 Q Thank you, Mr. Heidrick, I have no further  
25 questions for you.

1 A **Correct.**

2 Q And it -- it indicates that the -- well, let's  
3 scroll down to the -- another couple paragraphs.  
4 It's the third paragraph, the third paragraph  
5 starts with The design production rate for each  
6 well is expected to be 350 gallons per minute.  
7 You understand that the rates are approved for a  
8 higher rate, but you don't expect to pump them  
9 at -- at the permitted rates, as I understand  
10 it?

11 A **Correct, yes.**

12 Q And do you intend to rotate the -- the wells --  
13 you're going to do this in phases, as I  
14 understand?

15 A **Yes, we're looking at two phases.**

16 Q Okay. And how many wells in the first phase?

17 A **Seven.**

18 Q And will that allow you to rotate the operation  
19 of those wells throughout the year?

20 A **Yes.**

21 Q Were you here for the -- the testimony of  
22 Mr. Letourneau related to impairment, direct  
23 impairment?

24 A **Yes.**

25 Q And did you understand -- or hear him testify

1 **PRESIDING OFFICER:** All right.  
2 **MR. COLE:** No questions, thank you.  
3 **PRESIDING OFFICER:** Mr. Lee, do you  
4 have questions for Mr. Heidrick?  
5 **MR. LEE:** No.  
6 **PRESIDING OFFICER:** Ms. Langworthy?  
7 **MS. LANGWORTHY:** No questions, Your  
8 Honor.  
9 **PRESIDING OFFICER:** All right. If  
10 no additional questions for Mr. Heidrick,  
11 then --  
12 **MR. TRASTER:** So all my redirect is  
13 just out the window?  
14 **MR. LEE:** Well, you know, you've got  
15 Buller objecting to your questions.  
16 **MR. TRASTER:** What, I didn't hear  
17 you?  
18 **MR. LEE:** You don't need to.  
19 **MR. TRASTER:** We don't have any  
20 further witnesses ready, Your Honor.  
21 **PRESIDING OFFICER:** All right.  
22 Well, I guess before we go any further, to  
23 wrap up anything, address anything further,  
24 it looks like -- I thought KDHE's attorney  
25 had been online here, I don't see her on

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1 there now. Go ahead and just kind of  
2 address a few things off the record here  
3 and -- we'll stay on the record right now  
4 just to figure out what time we're going to  
5 come back to wrap everything up. Or I  
6 guess not completely wrap everything up but  
7 to come back and resume things tomorrow.  
8 And my camera has gone out. Get the camera  
9 back going here so nobody gets confused.  
10 All right. Do you have witnesses that  
11 will be appearing tomorrow, or is that the  
12 end of your witnesses, then, Mr. Traster,  
13 Mr. Buller?  
14 **MR. TRASTER:** We have additional  
15 witnesses, and it's my understanding that  
16 Mr. Larson will be here to testify and  
17 so -- you know, we have a few -- a few more  
18 witnesses, but we think we can wrap this up  
19 Thursday or maybe Friday morning.  
20 **PRESIDING OFFICER:** Okay. And I  
21 think yesterday at some point, then,  
22 Mr. Lee, you indicated that Mr. Larson was  
23 supposed to be flying in tonight, so  
24 assuming that happens, there's no delays  
25 and everything, I think you said that he'd

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1 be here for the -- the remainder of the  
2 week, but whatever we need to do to work  
3 around that, I'll let you and Mr. Traster,  
4 Mr. Buller, Mr. Cole kind of all address  
5 with each other what order you want to go  
6 about, if we want to just continue letting  
7 Mr. Traster, Mr. Buller go with their  
8 witnesses tomorrow and finish out before  
9 you move on to Mr. Larson and your case or  
10 if we need to make other accommodations for  
11 scheduling issues.  
12 **MR. LEE:** Thank you, Your Honor.  
13 Actually, Mr. Larson is able to be here the  
14 rest of the week, so we can just -- after  
15 Mr. Traster and Buller finish their case,  
16 he will be available.  
17 **MR. BULLER:** We had planned on  
18 Mr. Larson testifying tomorrow,  
19 Mr. Barfield is a pure rebuttal witness to  
20 Mr. Larson. We had been under the  
21 impression that Mr. Barfield's turn would  
22 be following Mr. Larson's, which is why I  
23 thought we'd agreed to go ahead and put  
24 Mr. Larson on on Wednesday and Ms. Walker  
25 would be later.

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1 **MR. LEE:** No, I agree with that,  
2 Daniel, it's just I'm -- as I understood  
3 from David, there are some other witnesses  
4 besides Barfield and so ...  
5 **MR. BULLER:** Sure, let me clarify  
6 the schedule as far as we're --  
7 **MR. TRASTER:** Let Daniel correct me.  
8 **MR. BULLER:** Yeah.  
9 **PRESIDING OFFICER:** Okay. Well, I  
10 guess we can continue with those  
11 discussions, we'll go ahead and just end  
12 for the day, we'll go off the record, we'll  
13 plan on picking up at 9:00 a.m. tomorrow  
14 with whatever witnesses. So we'll let our  
15 court reporter have a break here from  
16 typing, we'll adjourn for the day here now,  
17 and we'll pick back up tomorrow, but  
18 we'll -- we'll continue here with some kind  
19 of off-the-record prehearing type  
20 discussions for scheduling purposes.  
21 (Discussion held off the record.)  
22 **PRESIDING OFFICER:** So back on the  
23 record now. Due to some scheduling  
24 concerns here, we will look at picking up  
25 Wednesday morning, July 26th, we'll start

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1 up at 10:00 a.m. with Mr. Larson as the  
2 witness at that time, then.  
3 **MR. LEE:** That works fine for us.  
4 **PRESIDING OFFICER:** All right. So  
5 we can go ahead back off the record and  
6 adjourn for the day.  
7 (Whereupon, the proceedings were  
8 adjourned at 2:50 p.m.)  
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<p style="text-align: center;"><b>5</b></p>	<p><b>8,000 (1)</b> 1049:20 <b>8,039 (1)</b> 1006:7</p>			
<p><b>5 (4)</b> 973:2;981:17,18; 1020:15 <b>50 (3)</b> 973:6;1083:19; 1094:20 <b>500 (1)</b> 1036:22 <b>500-page (2)</b> 941:1,10 <b>51 (1)</b> 1083:19 <b>5-1-1 (3)</b> 1019:24;1021:20; 1050:21 <b>5-1-1mmmm (1)</b> 1051:12 <b>5-23-2 (1)</b> 1020:5 <b>5-3-1b (2)</b> 1017:25;1018:3</p>	<p><b>80 (4)</b> 965:10;971:25; 972:9,13 <b>82a-1502 (2)</b> 1014:2;1016:12 <b>82a-1502a2 (1)</b> 1014:16 <b>82a-1504 (1)</b> 1016:24 <b>82a-708a (1)</b> 1018:10 <b>82a-708b (1)</b> 1034:15 <b>82a-708ba2 (1)</b> 1034:17 <b>82a-737b3F (1)</b> 1051:8 <b>82a-744 (1)</b> 1050:7 <b>85 (3)</b> 935:13,17;976:11 <b>85.1 (2)</b> 965:14;972:5</p>			
<p style="text-align: center;"><b>6</b></p>	<p><b>86 (1)</b> 1049:20 <b>899 (1)</b> 1028:20</p>			
<p><b>6 (1)</b> 1069:18 <b>6,700 (1)</b> 1049:25 <b>6.8 (1)</b> 1083:3</p>	<p style="text-align: center;"><b>9</b></p>			
<p><b>60 (2)</b> 975:21;976:12 <b>6600 (1)</b> 1006:10 <b>6700 (1)</b> 1050:5 <b>68102 (1)</b> 919:12</p>	<p><b>9:00 (1)</b> 1098:13 <b>9400 (1)</b> 1087:18 <b>95 (1)</b> 1030:15 <b>96 (2)</b> 1088:19,20</p>			
<p style="text-align: center;"><b>7</b></p>				
<p><b>7 (7)</b> 929:22;945:13; 951:2,12;982:10,19,22 <b>7,625.5 (1)</b> 1082:6 <b>72750 (2)</b> 1089:3,4 <b>72775 (2)</b> 1089:17,17 <b>75 (1)</b> 1094:21 <b>7700 (1)</b> 1049:21 <b>79.19 (3)</b> 1070:5,6,9</p>				