

**IN THE UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF WISCONSIN**

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WILLIAM WHITFORD, et al.,

Plaintiffs,

v.

No. 15-cv-421-jdp

BEVERLY R. GILL, et al.,

Defendants;

and

THE WISCONSIN STATE ASSEMBLY,

Intervenor-Defendant.

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**DECLARATION OF RUTH M. GREENWOOD IN SUPPORT OF  
PLAINTIFFS' MOTION TO ADMIT IN EVIDENCE TESTIMONY BY DEPOSITION  
DESIGNATIONS OF ANY PLAINTIFF WHO DOES NOT TESTIFY LIVE AT TRIAL**

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I, Ruth M. Greenwood, declare, under penalty of perjury and pursuant to 28 U.S.C. § 1746, that the following is true and correct:

1. I am one of the attorneys representing the Plaintiffs in the above-captioned action.

I make this Affidavit on personal knowledge of the facts and circumstances set forth herein.

2. Attached as Exhibit 1 is a true and correct copy of a chain of emails starting with an email from Brian P. Keenan to counsel on the Whitford case, with the subject line "RE: Scheduling order clarification," dated June 13, 2019.

3. Attached as Exhibit 2 is a true and correct copy of a chain of emails starting with an email from Adam Mortara to counsel on the Whitford case, with the subject line "Re: Scheduling order clarification," dated June 12, 2019.

4. Attached as Exhibit 3 is a true and correct copy of Order re: Parties Partial Stipulations and Report, *League of Women Voters of Michigan v. Benson*, 2:17-cv-14148 (E.D. Mich. 2019), ECF No. 234.

5. Attached as Exhibit 4 is a true and correct copy of Final Pretrial Order, *Ohio A. Philip Randolph Institute v. Householder*, 1:18-cv-357 (S.D. Ohio 2019), ECF No. 234.

6. Attached as Exhibit 5 is a true and correct copy of Bench Trial Transcript, Vol I of IV, *League of Women Voters of North Carolina v. Rucho*, 1:16-cv-1164 (M.D.N.C. 2017), ECF No. 103.

7. Attached as Exhibit 6 is a true and correct copy of Stenographic Transcript of Telephonic Scheduling Conference Held Before Chief Judge James D. Peterson, dated February 1, 2019.

Dated this 14th day of June, 2019.

/s/ Ruth M. Greenwood  
Ruth M. Greenwood

Thursday, June 13, 2019 at 3:16:52 PM Central Daylight Time

**Subject:** RE: Scheduling order clarification

**Date:** Thursday, June 13, 2019 at 2:49:08 PM Central Daylight Time

**From:** Keenan, Brian P.

**To:** Ruth Greenwood, Joshua Ackerman, Adam Mortara, External User - Kevin St John, Taylor Meehan, Keckhaver, Karla Z., Kawski, Clayton P.

**CC:** Doug Poland, Mark Gaber, Gerry Hebert, Annabelle Harless, Nicholas Stephanopoulos, Cecilia Aguilera, Urja Mittal, Lernik Begian

Ruth,

I am getting back to you on deposition designations and stipulated facts.

On deposition designations, we can't agree to your proposal. As a legal matter, we don't see where it is allowed by the Federal Rules. We would consider any authority you have that has permitted submission of testimony by deposition designations in this manner. Even as a practical matter, though, we don't have enough information to evaluate the request. We don't know who will be called live, which depositions you'd like to submit by designation, and what testimony would be submitted. We could reconsider if you provide legal authority and specifics as to what testimony would be submitted by deposition.

On stipulated facts, we are OK with a tentative date of July 1 with flexibility for 1-2 additional days depending on when the SCOTUS decisions come down.

Brian

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**From:** Ruth Greenwood <rgreenwood@campaignlegalcenter.org>

**Sent:** Wednesday, June 12, 2019 6:37 PM

**To:** Joshua Ackerman <josh.ackerman@bartlitbeck.com>; Adam Mortara <adam.mortara@bartlitbeck.com>; External User - Kevin St John <kstjohn@bellgifto.com>; Taylor Meehan <taylor.meehan@bartlitbeck.com>; Keenan, Brian P. <keenanbp@doj.state.wi.us>; Keckhaver, Karla Z. <KeckhaverKZ@DOJ.STATE.WI.US>; Kawski, Clayton P. <kawskicp@doj.state.wi.us>

**Cc:** Doug Poland <dpoland@rathjewoodward.com>; Mark Gaber <MGaber@campaignlegalcenter.org>; Gerry Hebert <ghebert@campaignlegalcenter.org>; Annabelle Harless <aharless@campaignlegalcenter.org>; Nicholas Stephanopoulos <nicholas.stephanopoulos@gmail.com>; Cecilia Aguilera <caguilera@campaignlegalcenter.org>; Urja Mittal <umittal@campaignlegalcenter.org>; Lernik Begian <LBegian@campaignlegalcenter.org>

**Subject:** Re: Scheduling order clarification

Thank you for your response, Brian, I am looking forward to hearing your thoughts on matters outlined below.

Josh,

**1. Deposition designations**

Thank you for outlining your thoughts on the use of plaintiff designations at trial. We do not accept your offer that we cede all our trial time to you and only offer testimony through designations. We do not consider your offer to be a serious attempt to resolve the matter.

We intend to put on the stand some plaintiffs, fact witnesses, and expert witnesses so that the Court can hear live from as many witnesses as practicable during the two days of trial in which we will present our case in chief. This Friday, Plaintiffs will only be offering deposition designations for the 39 plaintiffs who have been

deposed thus far (along with fact witnesses, in case they become unavailable for trial). We note that the Court expressed a willingness to accept evidence via deposition designation at the February 1, 2019 scheduling conference:

“[F]ormats other than live testimony would be welcome. I wouldn't be keen on having us watch video because that doesn't seem to save us a whole ton of time. We can -- if we're going to have to watch the video, we might as well watch it during your four days. But if you've got deposition designations in a transcript that we can just read, I'm happy to have that. I think certainly we'll have to be efficient in the schedule. So I would expect the parties to work out a schedule for witnesses that's courteous to the witnesses, and to the Court as well, in terms of who testifies when.” 20:21-21:6

Further, the full paragraph that gives context to the sentence you extracted in your email shows that the Court's response to Mr. Mortara's suggestion that the depositions may not be in the correct form for submission as evidence was:

“Well, and I understand that a discovery deposition is not tied up in a bow for presentation to trial, but a lot of times people can make due (sic) with them. And I'm not trying to force anyone into using a deposition that we -- where they would feel disadvantaged by not having the opportunity for live cross-examination. I'm just suggesting that you work together and, if there are some witnesses who can be presented by deposition, consider whether that might work.” 22:15-23

Finally, the Court noted: “The bottom line, I think the best way to resolve this, is have the parties cooperate.” 24:18-21.

Given these statements and the clear desire for efficiency and cooperation by the Court, we will suggest that the Court only accept designations where a plaintiff or witness does not testify live, and will not ask the Court to review videos or to have deposition designations read into the record during the trial.

Please note that we reject your contention that our email “acknowledge[s] that what [we] are proposing...is not allowed by the Rules.” In fact, it is customary in redistricting cases (and in particular in partisan gerrymandering cases) for plaintiff testimony to be accepted via deposition designations.

## **2. Stipulated facts**

We suggest that the parties preliminarily agree to exchange proposed stipulated facts on July 1, but accept that any party may request an additional day or two, if required, due to the timing of the rulings in *Rucho/Lamone*.

## **3. Templates for exhibit list and deposition designations**

Thank you for the suggested templates for the exhibit list and deposition designations. We will use the exhibit list format as that is what we have used previously in this case, but will have a slightly less formal table for the deposition designations. The thing that will make it unlikely to fit all the plaintiffs' designations and responses across a landscape page is that both sets of defendants can lodge objections and counter designations, so we imagine a few sets of tables may ultimately be used. In any case, we will send you the excel version of our table after we have filed it on Friday.

## **4. Date for filing objections and counter-designations**

Plaintiffs do not agree to change the date for filing of objections and counter-designations. We intend to comply with the Court's scheduling order and file these by June 21, 2019.

Ruth

**From:** Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>  
**Date:** Wednesday, June 12, 2019 at 2:12 PM  
**To:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>, Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>, External User - Kevin St John <[kstjohn@bellgiftos.com](mailto:kstjohn@bellgiftos.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kawski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>  
**Cc:** Doug Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>  
**Subject:** Re: Scheduling order clarification

Ruth,

Thanks for your email. Addressing your points in reverse order:

First, during our call you informed me that Plaintiffs plan to submit deposition designations from *all* Plaintiffs and from *all* of Plaintiffs' experts. (Your email below suggests that you do not intend to submit depositions from your experts—have you reconsidered your position on that?) You further informed me that you believe this is appropriate because of the Plaintiff's need to put on your case during the two trial days allotted to you.

As I stated on the call, the Assembly disagrees that Plaintiffs can submit these witnesses' testimony through deposition designations. The Assembly intends to cross-examine your witnesses at trial. Rule 32(a) does not permit a party to use depositions of its own witnesses unless certain criteria are met, none of which are present here. I understand your email to acknowledge that what you are proposing—submitting all of your witnesses via designation—is not allowed by the Rules.

Moreover, during the scheduling conference on February 1, the Court made clear that it would not require the Assembly to agree to substitute depositions for live testimony: "I'm not trying to force anyone into using a deposition that we -- where they would feel disadvantaged by not having the opportunity for live cross-examination." 22:18–21. The Assembly would certainly be disadvantaged by the lopsided procedure you propose, which would violate due process.

As an alternative, the Assembly is willing to accept the following compromise. By designating testimony from *all* of its witnesses, the Plaintiffs will more than exhaust their allotted two days of trial time. Accordingly, the Assembly will agree to allow Plaintiffs to designate these witnesses' testimony if the Plaintiffs agree to cede the entirety of their two days of trial time to the Assembly, which we will use to cross-examine certain of the witnesses whose testimony you have submitted through designations. This offer is contingent on the Court agreeing that it is not necessary to read your designations into the record live during trial.

Second, on stipulated facts, we agree in concept to your proposal below, but suggest that we hold off setting a firm date for the exchange of proposals until there is a decision in *Ruchol/Lamone*. If the decision doesn't come until the end of the week of June 24th, it would make sense to give ourselves another day or two before exchanging proposals. Otherwise our clients will all incur the unnecessary expense associated with reworking the stipulations. I'm sure an extension of two days won't cause any issues on your end. Please confirm.

Third, confirming that during our call we reached agreement on the following issues. Thank you for raising these.

1. We agreed to your proposed exhibit numbering scheme. Plaintiffs should plan to use 1000-1,999 and we will split numbers greater than that with the DOJ.
2. We agreed to exchange copies of the exhibits on Friday.
3. We agreed to exchange Excel versions of exhibit lists and deposition designations. I've attached a draft template for both. Please let us know if these work for you. You will see that for the exhibit list, we are willing to exchange Excel versions of the format from ECF Nos. 102 and 103, but propose that the parties include a field for including bates numbers where applicable. (We can remove that field in the versions submitted to the Court.)

Finally, on our call I asked if Plaintiffs would agree to delaying the exchange of objections to exhibit lists until 7 days after the Supreme Court decides *Rucho* and *Lamone*. That will cut down on duplicate effort and save everyone time and expense, and it will not inconvenience the Court because the Court won't rule on exhibits until trial. Please let me know if you agree.

Thanks,

Josh

**BartlitBeck** LLP

Joshua P. Ackerman | p: 312.494.4466 | m: 312.213.1700 | [Joshua.Ackerman@BartlitBeck.com](mailto:Joshua.Ackerman@BartlitBeck.com)  
Courthouse Place, 54 West Hubbard Street, Chicago, IL 60654

This message may contain confidential and privileged information. If it has been sent to you in error, please reply to advise the sender of the error and then immediately delete this message.

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**From:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>

**Date:** Wednesday, June 12, 2019 at 1:39 PM

**To:** Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>, "Kevin St. John" <[kstjohn@bellgiftos.com](mailto:kstjohn@bellgiftos.com)>, Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kawski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>

**Cc:** Douglas Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>

**Subject:** Re: Scheduling order clarification

Counsel,

Josh and I discussed my email below on Monday June 10. My understanding from our conversation is as follows:

1. The plaintiffs will use numbers 1000-1,999 for their trial exhibits, the defendants will work out between them which numbers over 2,000 they will use for theirs.
2. All sides will exchange exhibits by online file sharing services on Friday June 14, 2019.

I understood Josh to be speaking for both sets of defendants, but Brian, I would appreciate it if you would confirm the agreement of the Elections Commission with these arrangements too.

Josh and I also agreed that though we will file our 26(a)(3) disclosures with the Court as PDFs (as required by ECF), we will share Excel versions of the tables with each other, to make it easier for us all to offer objections by June 21, in accordance with the Court's scheduling order (Dkt. 248). Again, Brian, can you confirm the agreement of the Elections Commission to this?

Josh and I did not discuss whether to exchange proposed stipulations on July 1, so please Josh and Brian, let us know your thoughts on that. As the Court noted in the updated scheduling order, the Court would like stipulations from the parties by July 8th, and as a matter of judicial economy this would obviously streamline the presentation of evidence by all of us at trial.

One issue that arose on the call was the question of whether the parties would agree to enter deposition designations into evidence for any plaintiffs who do not testify at the trial. I explained that with only 4 days, and given the discussion with the Court at the February 1, 2019 scheduling conference, we planned to have some, but not all, plaintiffs testify live, and plan to offer designations for all 39 plaintiffs that have been deposed so far – with the plan that only those witnesses who do not testify live will have their evidence submitted by designation, a practice used in other partisan gerrymandering cases. Will you agree to using that same procedure here? If not, we will plan to file a motion with the Court on Friday, asking that this practice be adopted by the Court in our case. Again, Josh and Brian, please advise me of the position of your respective clients on this issue.

Thanks  
Ruth

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**From:** Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>

**Date:** Friday, June 7, 2019 at 6:27 PM

**To:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>

**Cc:** External User - Kevin St John <[kstjohn@bellgiftos.com](mailto:kstjohn@bellgiftos.com)>, Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kawski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>, Doug Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>

**Subject:** Re: Scheduling order clarification

The more we can push into July the better! Maybe we won't have to do any of it! Like the Vos deposition!

Have a great weekend!!!

Sent from my iPhone

On Jun 7, 2019, at 18:25, Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)> wrote:

Counsel

Our 26(a)(3) disclosures are due to the Court on Friday June 14. Some aspects of that are

relatively straightforward (deposition designations, witness lists), but I had two questions for you about the exhibit list:

1. Given that we previously had plaintiffs use numbers 1-500, and defendants use 500 and up, we propose that the new exhibits start with plaintiffs using numbers 1000-1,999 and defendants use 2000-2,999 (unless you want to split numbers between the sets of defendants, then you could have the Elections Commission use 2,000-2,999, and the Assembly use 3000-3,999). Let us know what works for you.
2. The updated scheduling order (Dkt. 248) does not specify that the parties must share copies of their proposed exhibits with the other parties on June 14, but we do have to lodge objections by June 21. Given this, we propose that all parties share (via online file sharing) copies of their proposed exhibits on June 14.

Can you let us know if you agree to these suggestions? If not, we will call the clerk and ask for further direction from the Court.

Additionally, no date is listed by the Court in the updated scheduling order for when we should share with each other our proposed stipulated facts. The Court has asked for these to be filed with it by July 8, so we propose that all parties share their proposed stipulated facts by July 1, and we schedule a meet and confer that week to determine which facts, if any, we can all stipulate to. If this does not suit, please propose an alternative arrangement.

Ruth

**Ruth Greenwood**

Co-Director, Voting Rights & Redistricting  
202.560.0590 | [@ruthgreenwood](https://www.instagram.com/ruthgreenwood)

Campaign Legal Center  
73 W Monroe St, Suite 302, Chicago IL 60615  
[campaignlegalcenter.org](http://campaignlegalcenter.org)

[Facebook](#) | [Twitter](#)

Thursday, June 13, 2019 at 3:17:14 PM Central Daylight Time

**Subject:** Re: Scheduling order clarification

**Date:** Wednesday, June 12, 2019 at 6:54:12 PM Central Daylight Time

**From:** Adam Mortara

**To:** Ruth Greenwood

**CC:** Joshua Ackerman, External User - Kevin St John, Taylor Meehan, Brian Keenan, Karla Keckhaver, Clayton Kowski, Doug Poland, Mark Gaber, Gerry Hebert, Annabelle Harless, Nicholas Stephanopoulos, Cecilia Aguilera, Urja Mittal, Lernik Begian

Ah, the redistricting exception to the federal rules!

What is the authority for it? Let's find out if courts will actually affirm that the federal rules of evidence and civil procedure just don't apply to impact litigators. I tire of this. We are not going to agree to you violating the rules. We will seek relief if the court agrees with you violating the rules.

The rules exist for a reason. Those reasons apply to redistricting cases.

Sent from my iPhone

On Jun 12, 2019, at 18:36, Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)> wrote:

Thank you for your response, Brian, I am looking forward to hearing your thoughts on matters outlined below.

Josh,

#### 1. Deposition designations

Thank you for outlining your thoughts on the use of plaintiff designations at trial. We do not accept your offer that we cede all our trial time to you and only offer testimony through designations. We do not consider your offer to be a serious attempt to resolve the matter. We intend to put on the stand some plaintiffs, fact witnesses, and expert witnesses so that the Court can hear live from as many witnesses as practicable during the two days of trial in which we will present our case in chief. This Friday, Plaintiffs will only be offering deposition designations for the 39 plaintiffs who have been deposed thus far (along with fact witnesses, in case they become unavailable for trial). We note that the Court expressed a willingness to accept evidence via deposition designation at the February 1, 2019 scheduling conference:

"[F]ormats other than live testimony would be welcome. I wouldn't be keen on having us watch video because that doesn't seem to save us a whole ton of time. We can -- if we're going to have to watch the video, we might as well watch it during your four days. But if you've got deposition designations in a transcript that we can just read, I'm happy to have that. I think certainly we'll have to be efficient in the schedule. So I would expect the parties to work out a schedule for witnesses that's courteous to the witnesses, and to the Court as well, in terms of who testifies when." 20:21-21:6

Further, the full paragraph that gives context to the sentence you extracted in your email shows that the Court's response to Mr. Mortara's suggestion that the depositions may not be in the correct form for submission as evidence was:

"Well, and I understand that a discovery deposition is not tied up in a bow for presentation to trial, but a lot of times people can make due (sic) with them. And I'm not

trying to force anyone into using a deposition that we -- where they would feel disadvantaged by not having the opportunity for live cross-examination. I'm just suggesting that you work together and, if there are some witnesses who can be presented by deposition, consider whether that might work." 22:15-23

Finally, the Court noted: "The bottom line, I think the best way to resolve this, is have the parties cooperate." 24:18-21.

Given these statements and the clear desire for efficiency and cooperation by the Court, we will suggest that the Court only accept designations where a plaintiff or witness does not testify live, and will not ask the Court to review videos or to have deposition designations read into the record during the trial.

Please note that we reject your contention that our email "acknowledge[s] that what [we] are proposing...is not allowed by the Rules." In fact, it is customary in redistricting cases (and in particular in partisan gerrymandering cases) for plaintiff testimony to be accepted via deposition designations.

## 2. Stipulated facts

We suggest that the parties preliminarily agree to exchange proposed stipulated facts on July 1, but accept that any party may request an additional day or two, if required, due to the timing of the rulings in Rucho/Lamone.

## 3. Templates for exhibit list and deposition designations

Thank you for the suggested templates for the exhibit list and deposition designations. We will use the exhibit list format as that is what we have used previously in this case, but will have a slightly less formal table for the deposition designations. The thing that will make it unlikely to fit all the plaintiffs' designations and responses across a landscape page is that both sets of defendants can lodge objections and counter designations, so we imagine a few sets of tables may ultimately be used. In any case, we will send you the excel version of our table after we have filed it on Friday.

## 4. Date for filing objections and counter-designations

Plaintiffs do not agree to change the date for filing of objections and counter-designations. We intend to comply with the Court's scheduling order and file these by June 21, 2019.

Ruth

---

**From:** Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>

**Date:** Wednesday, June 12, 2019 at 2:12 PM

**To:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>, Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>, External User - Kevin St John <[kstjohn@bellgiftos.com](mailto:kstjohn@bellgiftos.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kawski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>

**Cc:** Doug Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>

**Subject:** Re: Scheduling order clarification

Ruth,

Thanks for your email. Addressing your points in reverse order:

First, during our call you informed me that Plaintiffs plan to submit deposition designations from *all* Plaintiffs and from *all* of Plaintiffs' experts. (Your email below suggests that you do not intend to submit depositions from your experts—have you reconsidered your position on that?) You further informed me that you believe this is appropriate because of the Plaintiff's need to put on your case during the two trial days allotted to you.

As I stated on the call, the Assembly disagrees that Plaintiffs can submit these witnesses' testimony through deposition designations. The Assembly intends to cross-examine your witnesses at trial. Rule 32(a) does not permit a party to use depositions of its own witnesses unless certain criteria are met, none of which are present here. I understand your email to acknowledge that what you are proposing—submitting all of your witnesses via designation—is not allowed by the Rules.

Moreover, during the scheduling conference on February 1, the Court made clear that it would not require the Assembly to agree to substitute depositions for live testimony: "I'm not trying to force anyone into using a deposition that we -- where they would feel disadvantaged by not having the opportunity for live cross-examination." 22:18–21. The Assembly would certainly be disadvantaged by the lopsided procedure you propose, which would violate due process.

As an alternative, the Assembly is willing to accept the following compromise. By designating testimony from *all* of its witnesses, the Plaintiffs will more than exhaust their allotted two days of trial time. Accordingly, the Assembly will agree to allow Plaintiffs to designate these witnesses' testimony if the Plaintiffs agree to cede the entirety of their two days of trial time to the Assembly, which we will use to cross-examine certain of the witnesses whose testimony you have submitted through designations. This offer is contingent on the Court agreeing that it is not necessary to read your designations into the record live during trial.

Second, on stipulated facts, we agree in concept to your proposal below, but suggest that we hold off setting a firm date for the exchange of proposals until there is a decision in *Rucho/Lamone*. If the decision doesn't come until the end of the week of June 24th, it would make sense to give ourselves another day or two before exchanging proposals. Otherwise our clients will all incur the unnecessary expense associated with reworking the stipulations. I'm sure an extension of two days won't cause any issues on your end. Please confirm.

Third, confirming that during our call we reached agreement on the following issues. Thank you for raising these.

1. We agreed to your proposed exhibit numbering scheme. Plaintiffs should plan to use 1000-1,999 and we will split numbers greater than that with the DOJ.
2. We agreed to exchange copies of the exhibits on Friday.
3. We agreed to exchange Excel versions of exhibit lists and deposition designations. I've attached a draft template for both. Please let us know if these work for you. You will see that for the exhibit list, we are willing to exchange Excel

versions of the format from ECF Nos. 102 and 103, but propose that the parties include a field for including bates numbers where applicable. (We can remove that field in the versions submitted to the Court.)

Finally, on our call I asked if Plaintiffs would agree to delaying the exchange of objections to exhibit lists until 7 days after the Supreme Court decides *Rucho* and *Lamone*. That will cut down on duplicate effort and save everyone time and expense, and it will not inconvenience the Court because the Court won't rule on exhibits until trial. Please let me know if you agree.

Thanks,

Josh

## BartlitBeck<sup>LLP</sup>

Joshua P. Ackerman | p: 312.494.4466 | m: 312.213.1700 | [Joshua.Ackerman@BartlitBeck.com](mailto:Joshua.Ackerman@BartlitBeck.com)  
Courthouse Place, 54 West Hubbard Street, Chicago, IL 60654

This message may contain confidential and privileged information. If it has been sent to you in error, please reply to advise the sender of the error and then immediately delete this message.

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**From:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>  
**Date:** Wednesday, June 12, 2019 at 1:39 PM  
**To:** Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>, "Kevin St. John" <[kstjohn@bellgifto.com](mailto:kstjohn@bellgifto.com)>, Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kowski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>  
**Cc:** Douglas Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>  
**Subject:** Re: Scheduling order clarification

Counsel,

Josh and I discussed my email below on Monday June 10. My understanding from our conversation is as follows:

1. The plaintiffs will use numbers 1000-1,999 for their trial exhibits, the defendants will work out between them which numbers over 2,000 they will use for theirs.
2. All sides will exchange exhibits by online file sharing services on Friday June 14, 2019.

I understood Josh to be speaking for both sets of defendants, but Brian, I would appreciate it if you would confirm the agreement of the Elections Commission with these arrangements too.

Josh and I also agreed that though we will file our 26(a)(3) disclosures with the Court as PDFs (as required by ECF), we will share Excel versions of the tables with each other, to make it easier for us all to offer objections by June 21, in accordance with the Court's scheduling order (Dkt. 248). Again, Brian, can you confirm the agreement of the Elections Commission to this?

Josh and I did not discuss whether to exchange proposed stipulations on July 1, so please Josh and Brian, let us know your thoughts on that. As the Court noted in the updated scheduling order, the Court would like stipulations from the parties by July 8th, and as a matter of judicial economy this would obviously streamline the presentation of evidence by all of us at trial.

One issue that arose on the call was the question of whether the parties would agree to enter deposition designations into evidence for any plaintiffs who do not testify at the trial. I explained that with only 4 days, and given the discussion with the Court at the February 1, 2019 scheduling conference, we planned to have some, but not all, plaintiffs testify live, and plan to offer designations for all 39 plaintiffs that have been deposed so far – with the plan that only those witnesses who do not testify live will have their evidence submitted by designation, a practice used in other partisan gerrymandering cases. Will you agree to using that same procedure here? If not, we will plan to file a motion with the Court on Friday, asking that this practice be adopted by the Court in our case. Again, Josh and Brian, please advise me of the position of your respective clients on this issue.

Thanks  
Ruth

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**From:** Adam Mortara <[adam.mortara@bartlitbeck.com](mailto:adam.mortara@bartlitbeck.com)>  
**Date:** Friday, June 7, 2019 at 6:27 PM  
**To:** Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)>  
**Cc:** External User - Kevin St John <[kstjohn@bellgiftos.com](mailto:kstjohn@bellgiftos.com)>, Joshua Ackerman <[josh.ackerman@bartlitbeck.com](mailto:josh.ackerman@bartlitbeck.com)>, Taylor Meehan <[taylor.meehan@bartlitbeck.com](mailto:taylor.meehan@bartlitbeck.com)>, Brian Keenan <[keenanbp@doj.state.wi.us](mailto:keenanbp@doj.state.wi.us)>, Karla Keckhaver <[keckhaverkz@doj.state.wi.us](mailto:keckhaverkz@doj.state.wi.us)>, Clayton Kawski <[kawskicp@doj.state.wi.us](mailto:kawskicp@doj.state.wi.us)>, Doug Poland <[dpoland@rathjewoodward.com](mailto:dpoland@rathjewoodward.com)>, Mark Gaber <[MGaber@campaignlegalcenter.org](mailto:MGaber@campaignlegalcenter.org)>, Gerry Hebert <[ghebert@campaignlegalcenter.org](mailto:ghebert@campaignlegalcenter.org)>, Annabelle Harless <[aharless@campaignlegalcenter.org](mailto:aharless@campaignlegalcenter.org)>, Nicholas Stephanopoulos <[nicholas.stephanopoulos@gmail.com](mailto:nicholas.stephanopoulos@gmail.com)>, Cecilia Aguilera <[caguilera@campaignlegalcenter.org](mailto:caguilera@campaignlegalcenter.org)>, Urja Mittal <[umittal@campaignlegalcenter.org](mailto:umittal@campaignlegalcenter.org)>, Lernik Begian <[LBegian@campaignlegalcenter.org](mailto:LBegian@campaignlegalcenter.org)>  
**Subject:** Re: Scheduling order clarification

The more we can push into July the better! Maybe we won't have to do any of it! Like the Vos deposition!

Have a great weekend!!!

Sent from my iPhone

On Jun 7, 2019, at 18:25, Ruth Greenwood <[rgreenwood@campaignlegalcenter.org](mailto:rgreenwood@campaignlegalcenter.org)> wrote:

Counsel

Our 26(a)(3) disclosures are due to the Court on Friday June 14. Some aspects of that are relatively straightforward (deposition designations, witness lists), but I had

two questions for you about the exhibit list:

1. Given that we previously had plaintiffs use numbers 1-500, and defendants use 500 and up, we propose that the new exhibits start with plaintiffs using numbers 1000-1,999 and defendants use 2000-2,999 (unless you want to split numbers between the sets of defendants, then you could have the Elections Commission use 2,000-2,999, and the Assembly use 3000-3,999). Let us know what works for you.
2. The updated scheduling order (Dkt. 248) does not specify that the parties must share copies of their proposed exhibits with the other parties on June 14, but we do have to lodge objections by June 21. Given this, we propose that all parties share (via online file sharing) copies of their proposed exhibits on June 14.

Can you let us know if you agree to these suggestions? If not, we will call the clerk and ask for further direction from the Court.

Additionally, no date is listed by the Court in the updated scheduling order for when we should share with each other our proposed stipulated facts. The Court has asked for these to be filed with it by July 8, so we propose that all parties share their proposed stipulated facts by July 1, and we schedule a meet and confer that week to determine which facts, if any, we can all stipulate to. If this does not suit, please propose an alternative arrangement.

Ruth

**Ruth Greenwood**

Co-Director, Voting Rights & Redistricting  
202.560.0590 | [@ruthgreenwood](https://twitter.com/ruthgreenwood)

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[Facebook](#) | [Twitter](#)

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION**

LEAGUE OF WOMEN VOTERS )  
OF MICHIGAN, et al., )  
 )  
Plaintiffs, )  
 )  
v. ) No. 2:17-cv-14148  
 )  
JOCELYN BENSON, in her official )  
capacity as Michigan Secretary of )  
State, et al., )  
 )  
Defendants. )  
\_\_\_\_\_ )

**ORDER RE: PARTIES' PARTIAL STIPULATIONS AND REPORT**

On January 25, 2019, the parties submitted a report to the Court that included agreed-upon solutions and separate proposals that were intended to limit the number of days required for trial. Having reviewed the report, the Court orders the following:

1. All exhibits on all exhibit lists may be offered into evidence without objection, except that the parties may raise objections to these exhibits in post-trial briefs or during cross-examination, which objections may include only those objections expressly reserved (regardless of which party reserved them) in the parties' Proposed Supplement to the Joint and Final Pretrial Order (ECF No. 172). This section does not apply to the expert reports and graphics that are addressed in section 4 below.
2. Except as set forth in section 3 below, the individual plaintiffs and the League member voters (collectively, "Voter Witnesses") who reside at the addresses set forth in Ex. 6 to the Smith deposition, will testify by evidence deposition taken on a schedule to be worked out in good faith among the parties between February 4, 2019 and February 12, 2019.

Each witness' evidence deposition will be subject to the following time constraints: 40 minutes for direct examination; 40 minutes for cross-examination; and 10 minutes for redirect examination.

The parties will work in good faith to schedule depositions in Detroit, Lansing, and in other Michigan cities if feasible. In addition, some Voter Witnesses with travel, health, or other issues may not be available during the period from February 4, 2019 through February 12, 2019. Plaintiffs will identify these Voter Witnesses at least 48 hours before the proposed deposition, supplying declaration or other documentation of their issue, and the parties will conduct these Voter Witnesses' depositions on or after January 28, 2019 when they are available. These depositions will occur in Michigan, or by telephone or videoconference if the Voter Witness is not in Michigan. If the parties cannot agree on one or more of these matters, they will submit the issue to the Court.

3. Plaintiffs, the Secretary, and Intervenors will each be allowed to identify up to 3 Voter Witnesses to testify, inter alia, about each of the challenged maps. For each witness called pursuant to this section, the parties will be allowed: 2 hours for direct examination; 1 hour and 30 minutes for cross-examination; and 20 minutes for redirect examination. Parties may not raise any new issues on redirect examination and may only respond to the previous cross-examination. Plaintiffs agree to produce any Voter Witness identified by the Secretary or Intervenors if they are available to travel during the time frame of the trial. Excuses to designations hereunder will be governed by the standards set forth in Fed.R.Civ.P.32(a)(4) and related principles.
4. Any party may offer the entire deposition transcript of a non-expert witness who does not testify live in that party's case at trial into evidence as if it were in-court testimony, without objection based on the out-of-court nature of the testimony. All parties reserve all other objections to such deposition testimony, with objections to be stated in connection with post-trial briefing, and ruled upon by the Court as necessary. The parties agree that such objections may not be stated in separate written motions and must be included within the maximum page limit that the Court establishes for the post-trial briefs.
5. Any party may call any expert witness to testify at trial. In lieu of calling an expert witness live at trial, any party may submit any expert testimony through deposition transcript and corresponding exhibits, expert report along with corresponding schedules and attachments, and any affidavit previously identified in the parties' Proposed Supplement to the Joint and Final Pretrial Order. This agreement is not intended to modify or limit the parties' rights as set forth in the Proposed

Supplement to the Joint and Final Pretrial Order, except as provided expressly in this Order.<sup>1</sup>

6. These time limits will be followed for the witnesses called at trial:

a. Voter witnesses – as set forth in sections 2 and 3 above.

b. Expert witnesses: 90 minutes for direct examination by the proponent of the witness; 15 minutes for direct examination for the Secretary; 90 minutes for cross-examination; and 25 minutes for redirect examination.

c. Former Legislators, Legislative staff and other participants in the redistricting process, including Schostak and Labrant: 30 minutes for direct examination by the proponent of the witness; 15 minutes for direct examination for the Secretary; 30 minutes for cross-examination; and 10 minutes for redirect examination.

d. Timmer: 60 minutes for direct examination by the proponent of the witness; 30 minutes for direct examination for the Secretary; 60 minutes for cross-examination; and 15 minutes for redirect examination.

e. Party representatives (e.g. Sue Smith): 60 minutes for direct examination by the proponent of the witness; 30 minutes for direct examination for the Secretary; 60 minutes for cross-examination; and 15 minutes for redirect examination.

f. Mike Vatter: 95 minutes for direct examination by the proponent of the witness; 15 minutes for direct examination for the Secretary; 95 minutes for cross-examination; and 15 minutes for redirect examination.

g. Other listed witnesses: 30 minutes for direct examination by the proponent of the witness; 15 minutes for direct examination for the Secretary; 30 minutes for cross-examination; and 10 minutes for redirect examination.

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<sup>1</sup> Plaintiffs requested that this section not apply to witness Thomas Brunell, but have not offered any reasons as to why the Court should require Brunell to testify in person. Since Plaintiffs have failed to explain their position on this matter, section 5 will be applicable to Brunell.

7. Opening statements will be limited to 20 minutes for Plaintiffs, the Secretary, and Intervenor. Closing arguments are waived in favor of the proposed findings of fact and conclusions of law submitted with the parties' accompanying briefs.
8. Each party will have until February 1, 2019 at 6:00 pm to exchange demonstrative exhibits for review by the other parties.
9. Plaintiffs will submit revised "may call/will call" witness lists to the Court and copy all parties by noon on January 26, 2019. The Secretary and Intervenor shall submit revised "will call/may call" witness lists to the Court and copy all parties by the close of business on January 31, 2019. The Secretary and Intervenor will try in good faith to limit the number and length of live witnesses with the goal of completing the trial in one week.
10. The current deadline for submitting proposed findings of fact and conclusions of law, February 22, 2019, will not be extended at this time. If the Court finds it necessary to extend that deadline at the conclusion of trial, it will do so then.
11. Unless otherwise ordered by the Court, Intervenor may rely upon and incorporate the witnesses and exhibits identified by the Secretary in the Proposed Supplement to the Joint and Final Pretrial Order. Intervenor shall be permitted to: (i) call any such witness at trial; (ii) submit any such witness's deposition transcript as part of the trial record, subject to any restrictions relating to deposition testimony agreed upon by the parties; (iii) submit any such expert witness's report and corresponding schedules, attachments, and affidavits as part of the trial record; and/or (iv) introduce any exhibits at trial or as part of the trial record.

IT IS SO ORDERED.

Dated: February 1, 2019

/s/ Denise Page Hood

Signed for and on behalf of the panel:

HONORABLE DENISE PAGE HOOD  
United States District Judge

HONORABLE ERIC L. CLAY  
United States Circuit Judge

HONORABLE GORDON J. QUIST  
United States District Judge

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF OHIO  
WESTERN DIVISION**

OHIO A. PHILIP RANDOLPH	:	Case No. 1:18-cv-357
INSTITUTE, <i>et al.</i> ,	:	
	:	
Plaintiffs,	:	Judge Timothy S. Black
	:	Judge Karen Nelson Moore
	:	Judge Michael H. Watson
vs.	:	
	:	
LARRY HOUSEHOLDER, <i>et al.</i> ,	:	
	:	
Defendants.	:	

**FINAL PRETRIAL ORDER**

This action came before the Court for a Final Pretrial Conference on February 11, 2019, at 10:00 a.m., pursuant to Fed. R. Civ. P. 16.

**I. APPEARANCES**

For Plaintiffs: Freda Levenson, Alora Thomas, Robert Fram, Theresa Lee, Emily Zhang, and Jeremy Goldstein

For Defendants: Phillip Strach and Steven Voigt

For Intervenors: Patrick Lewis, Katherine McKnight, Mark Braden, and Robert Tucker

**II. NATURE OF ACTION**

- A. This is an action for injunctive and declaratory relief, challenging the Ohio congressional map as an unconstitutional partisan gerrymander in violation of the First Amendment, the Equal Protection Clause of the Fourteenth Amendment, of the right to vote guaranteed by the First and Fourteenth Amendments, and of Article I, § 4.
- B. Plaintiffs invoke the jurisdiction of the Court under 28 U.S.C. §§ 1331, 1343, 1357, and 42 U.S.C. § 1983, and jurisdiction to grant declaratory

relief under 28 U.S.C. §§ 2201, 2202. Defendants and Intervenors deny that the Court has jurisdiction to hear the case or to grant the declaratory relief Plaintiffs seek.

- C. The jurisdiction of the Court is disputed. The parties dispute whether Plaintiffs' claims are justiciable and whether Plaintiffs have standing to bring this action.
- D. The parties have not consented to entry of final judgment by the United States Magistrate Judge.

### **III. TRIAL SCHEDULE**

Trial is set for Monday, March 4, 2019 at 9:00 a.m. Trial will begin at 9:00 a.m. each morning thereafter, and conclude for the day at 5:00 p.m. The estimated trial length is twelve days. *See* Order Establishing Time Limits for Trial. (Doc. 233). Plaintiffs and Defendants/Intervenors both have 35 hours of time to present their direct and cross examinations. The parties are bound only by their 35-hour maximum: if a party spends more time with a witness than as anticipated in its filing (Docs. 228 and 231), then that party will have to spend less time than anticipated with other witnesses.

Each day, the Court will recess for 15 minutes once at approximately 10:30 a.m. and again at approximately 2:45 p.m., with a 60-minute lunch break at approximately 12:00 p.m. The Court intends to maintain a consistent schedule, although the timing and length of lunch breaks and recesses may vary depending on the flow of the trial.

In order to allow adequate time to resolve any outstanding issues, and unless otherwise instructed, counsel shall be present in the courtroom at 8:45 a.m. every morning.

#### IV. AGREED STATEMENTS AND LISTS

##### A. General Nature of the Claims of the Parties.

###### 1. Plaintiffs' Claims:

In Claim 1, Plaintiffs allege that Ohio's congressional map violates their First Amendment rights to associate with and advocate for a political party, to vote for their candidate of choice, to express their political views, and to participate in the political process.

In Claim 2, Plaintiffs allege that Ohio's congressional map violates their right to vote under the First and Fourteenth Amendment. Partisan gerrymandering substantially burdens the right to vote. A voter is "deprive[d] . . . of the opportunity to cast a meaningful ballot" since the legislature constrains voters' ability to "vote for the candidate of their choice." *Burdick v. Takushi*, 504 U.S. 428, 447 (1992) (Kennedy, J., dissenting).

In Claim 3, Plaintiffs allege that Ohio's congressional map violates their right to Equal Protection under the Fourteenth Amendment. Each individual Plaintiff was placed in a district where their vote carries less weight or consequence than it would under a neutrally drawn map. The districts were each drawn to privilege partisan outcomes at the expense of all other criteria. Each district was constructed to disfavor Democratic voters on the basis of their political affiliation, with no legitimate, let alone compelling, reason to do so. The map and its individual districts also have the "invidiously discriminatory" effect of "minimiz[ing] or cancel[ing] out the voting strength of . . . political elements of the voting population." *Gaffney v. Cummings*, 412 U.S. 735, 751 (1973).

In Claim 4, Plaintiffs allege that since Ohio's map has both the intent and effect of a partisan gerrymander, it exceeds the state's power under Article I of the Constitution.

###### 2. Defendants' Claims:

Ohio's current congressional districting plan comports fully with the Constitution. Defendants do not assert any affirmative counterclaims in this matter but oppose all of Plaintiffs' claims and reassert the defenses asserted in their Answer to Plaintiffs' Second Amended Complaint. (Doc. 37).

### 3. Intervenor's Claims:

Intervenors reassert all defenses and denials contained in their Answer to Plaintiffs' Second Amended Complaint. Intervenor further assert that Plaintiffs are not entitled to any relief as asserted in Count I under the First Amendment for the following reasons:

- a. Plaintiffs lack standing to bring this claim
- b. Plaintiffs' claim is non-justiciable
- c. Plaintiffs cannot show a violation under First Amendment standards for the types of claims they assert
- d. The evidence does not show a violation of the First Amendment

Intervenors assert that Plaintiffs are not entitled to any relief as asserted in Count II under the Fourteenth Amendment's guarantee of the right to vote for the following reasons:

- a. Plaintiffs lack standing to bring this claim
- b. Plaintiffs' claim is non-justiciable
- c. Plaintiffs cannot show a violation under Fourteenth Amendment standards for the type of claim they assert
- d. The evidence does not show a violation of the Fourteenth Amendment

Intervenors assert that Plaintiffs are not entitled to any relief as asserted in Count III under the Fourteenth Amendment's guarantee of equal protection for the following reasons:

- a. Plaintiffs lack standing to bring this claim
- b. Plaintiffs' claim is non-justiciable
- c. Plaintiffs cannot show a violation under Fourteenth Amendment standards for the type of claim they assert
- d. The evidence does not show a violation of the Fourteenth Amendment

Intervenors assert that Plaintiffs are not entitled to any relief as asserted in Count IV under Article I, which empowers state legislatures to redistrict, for the following reasons:

- a. Plaintiffs lack standing to bring this claim
- b. Plaintiffs' claim is non-justiciable
- c. Plaintiffs cannot show a violation under Article I standards for the type of claim they assert

d. The evidence does not show a violation of Article I

Intervenors, as an affirmative defense, assert that Plaintiffs' claims are barred by the doctrine of laches because they waited inexcusably for years to bring this case, prejudicing Intervenors who reasonably relied on the districts created by the 2012 plan remaining in place for 10 years.

**B. Uncontroverted Facts.**

1. The parties' joint list of uncontroverted facts is provided in **Appendix A.**

**C. Contested Issues of Fact and Law.**

1. Plaintiffs' list of contested issues of facts is provided in **Appendix B.**

2. Plaintiffs' list of contested issues of law is provided in **Appendix C.**

3. Defendants' and Intervenors' list of contested issues of fact is provided in **Appendix D.**

4. Defendants' and Intervenors' list of contested issues of law is provided in **Appendix E.**

**D. Witnesses.**

1. Plaintiffs will call or will have available for testimony at trial those witnesses listed in **Appendix F.** The Plaintiffs' statement of Witnesses and anticipated time allotments is listed at the start of **Appendix F.**

2. Defendants will call or will have available for testimony at trial those witnesses listed in **Appendix G.** The Defendants' and Intervenors' statement of Witnesses and anticipated time allotments is listed at the start of **Appendix G.**

3. Intervenors will call or will have available for testimony at trial those witnesses listed in **Appendix H.** The Defendants' and Intervenors' statement of Witnesses and anticipated time is listed at the start of **Appendix H.**

Parties reserve the right to call at trial any witness listed by any other party in this case. The parties reserve the right to call non-listed rebuttal witnesses whose testimony

could not reasonably be anticipated without prior notice to opposing counsel. The parties reserve the right to call foundation witness testimony if stipulations regarding document authenticity cannot be reached. A brief synopsis of each individual's testimony is included in **Appendices F–H**.

**E. Expert Witnesses.**

1. Plaintiffs will call or will have available for testimony at trial those expert witnesses listed in **Appendix I**.
2. Defendants will call or will have available for testimony at trial those expert witnesses listed in **Appendix J**.
3. Intervenors will call or will have available for testimony at trial those expert witnesses listed in **Appendix K**.

**F. Exhibits.**

The parties will offer as exhibits those items listed as follows:

1. Plaintiffs Exhibits – **Appendix L**
2. Defendants Exhibits – **Appendix M**
3. Intervenors Exhibits – **Appendix N**

Except for good cause shown, the Court will not permit the introduction of any exhibits unless they have been listed in the pretrial order, with the exception of exhibits to be used solely for the purpose of impeachment.

**The parties shall state their objections to the admission of any exhibit and to any witness's testimony either on the record at trial or in post-trial filings, and the Court will note those objections and, as necessary, rule upon those objections after trial.**

**G. Depositions.**

1. Plaintiffs will offer testimony by portions of depositions of the witnesses listed in **Appendix O**.
2. Defendants and Intervenors will offer testimony by portions of depositions of the witnesses listed in **Appendix P**.

**H. Discovery.**

Discovery has been completed.

**I. Pending Motions.**

Since the date of the Final Pretrial Conference, the Court has granted Plaintiffs' Motion to Substitute Larry Householder and Frank LaRose as defendants sued in their official capacity (Doc. 218); denied Defendants and Intervenors' motion for summary judgment (Doc. 222); granted Plaintiffs' motion to Offer Trial Testimony of U.S. Congresswoman Marcia Fudge in Open Court by Live Videoconference (Doc. 232); and entered an Order Establishing Time Limits for Trial, which provided both Plaintiffs and Defendants/Intervenors with 35 hours of time to present their direct and cross examinations. (Doc. 233).

Currently pending before the Court are Plaintiffs' Motion to Seal Document (Doc. 161) and Plaintiff League of Women Voters of Ohio's Motion to Seal Membership List. (Doc. 224).

**V. MODIFICATION**

This Final Pretrial Order may be modified at the trial of this action, or prior thereto, to prevent manifest injustice. Such modification may be made by application of counsel or by the Court.

**VI. SETTLEMENT EFFORTS**

The parties have made a good faith effort to negotiate a settlement and believe no settlement can be reached.

**IT IS SO ORDERED.**

ENTERED: February 27, 2019

*s/ Timothy S. Black*  
TIMOTHY S. BLACK  
United States District Judge

*s/ Karen Nelson Moore*  
KAREN NELSON MOORE  
United States Circuit Judge

*s/ Michael H. Watson*  
MICHAEL H. WATSON  
United States District Judge

# APPENDIX A

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
WESTERN DIVISION**

OHIO A. PHILIP RANDOLPH INSTITUTE,  
*et al.*,  
Plaintiffs,

v.

LARRY HOUSEHOLDER, Speaker of the  
Ohio House of Representatives, *et al.*,  
Defendants.

No. 1:18-cv-00357-TSB-KNM-MHW

Judge Timothy S. Black

Judge Karen Nelson Moore

Judge Michael H. Watson

Magistrate Judge Karen L. Litkovitz

**JOINT UNCONTROVERTED FACTS**

**I. Proposed Uncontested Facts**

**A. Redistricting in Ohio**

1. Under the United States constitution and laws of the State of Ohio as they existed in 2011-2012, the Ohio General Assembly (the “General Assembly”) is the body responsible for enacting legislation that defines the boundaries for Ohio’s congressional districts. To become law, a congressional district plan must be approved by a majority of both the Ohio House of Representatives and the Ohio State Senate, and then signed into law by the Governor of Ohio.

2. The bipartisan Joint Legislative Task Force on Redistricting, Reapportionment, and Demographic Research (“Task Force”) is tasked with assisting the General Assembly. The Task Force is a six-person bipartisan committee, with three members appointed by the Speaker of the Ohio House of Representatives and three by the President of the Ohio State Senate, with no more than two members from each chamber from the same political party. The majority and

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

minority caucuses of the Ohio House of Representatives and the Ohio Senate were apportioned an equal amount of money to assist with their work on the Task Force.

**B. The legislative history of HB 319.**

3. On September 8, 2011, the House State Government and Elections Committee (“HSGEC”) issued a notice that indicated that the committee would hear testimony on Ohio’s congressional map. The congressional map was considered at hearings of the HSGEC on September 13 and 14. State representative Matthew Huffman introduced House Bill 319 (“HB 319”) and gave sponsor testimony at the September 13 hearing. At the September 14 hearing, the committee voted HB 319 out of committee to the full House by a vote of 14 to 8 on a straight party line vote.

4. HB 319 was debated on the floor of the House on September 15, 2011, and approved the same day by a 56-36 vote.

5. On September 19, 2011, HB 319 was introduced in the Ohio Senate.

6. On September 20, 2011, the Senate Committee on Government Oversight and Reform (“SCGOR”), chaired by Senator Keith Faber, held a hearing on HB 319.

7. On September 21, 2011, the SCGOR held a second hearing on HB 319 and added an amendment to include a \$2.75 million appropriation for local boards of elections. After adding the amendment, the Committee then voted to approve the map on a straight party line vote.

8. HB 319, as amended, passed the Senate later that same day—September 21, 2011—by a vote of 24-7. Two Democratic members of the Senate voted in favor of HB 319.

9. HB 319, as amended, returned to the House for a vote on September 21, without going to any committee. The House passed the amended bill by a 60-35 margin on September 21, 2011.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

10. HB 319 was signed into law by Governor Kasich on September 26, 2011.

**C. Referendum on HB 319.**

11. On September 28, 2011, an advocacy group called Ohioans for Fair Districts filed a mandamus action in state court seeking to compel the Ohio Secretary of State to treat Sections 1 and 2 of HB 319 as subject to the constitutional right of referendum.

12. A referendum petition on HB 319 was filed with the Ohio Secretary of State's Office on October 12, 2011.

13. On October 14, 2011, the Ohio Supreme Court ruled that a referendum could proceed if there were signatures of 6% of state electors collected by December 25, 2011.

**D. The legislative history of HB 369.**

14. On November 3, 2011, Huffman introduced HB 369, which amended the congressional district map adopted in HB 319, in the House Rules and Reference Committee.

15. On November 9, 2011, Huffman gave sponsor testimony before the House Rules and Reference Committee.

16. HB 369 also changed the primary system in Ohio by consolidating two primary election dates (one for state, local, and U.S. Senate elections and the other for the U.S. House and presidential elections) into a single primary date. This change was projected to save the State approximately \$15 million per year.

17. The Ohio House passed HB 369 on December 14, 2011, by a 77-17 margin.

18. On December 14, 2011, HB 369 was introduced in the Ohio Senate by Faber and was passed the same day by a vote of 27-6.

19. The Ohio General Assembly enacted HB 369, Ohio's current congressional redistricting plan, on December 14, 2011.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

20. HB 369 was then signed into law by Governor Kasich on the following day, December 15, 2011.

**E. The 2011 Ohio Congressional District Plan.**

21. The population of each congressional district in the congressional district plan enacted under HB 369 (the “2011 Plan”) is either 721,031 or 721,032, rendering the population deviation between districts as either plus one or minus one.

22. The 2011 Plan splits 23 of Ohio’s 88 counties. Hamilton, Lucas, Mahoning, Trumbull, Medina, Richland, Tuscarawas, Muskingum, Ross, Scioto, Erie, Athens, Marion, Huron, Ottawa, and Fayette counties are split into two different congressional districts. Franklin, Stark, Lorain, Portage, and Mercer counties are split into three different congressional districts. Cuyahoga and Summit counties are split into four congressional districts. The remaining 65 counties are maintained entirely in one congressional district.

23. The 2011 Plan created a district in northeast Ohio—Congressional District 11—with a Black Voting Age Population of 52.37%.

24. Ohio’s 11th Congressional District has been represented by an African-American woman—Marcia Fudge—since 2008. The 11th Congressional District has been represented by an African-American since 1993.

25. The 2011 Plan created a district in Franklin County—Congressional District 3—with a Black Voting Age Population of 30.87%.

26. Ohio’s 3rd Congressional District has been represented by an African-American woman—Joyce Beatty—since 2013.

27. The 2011 Plan placed Representative Turner and Representative Austria into the same congressional district.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

28. The 2011 Plan placed Representative Kaptur and Representative Kucinich into the same congressional district.

29. The 2011 Plan placed Representative Renacci and Representative Sutton into the same congressional district.

30. All other incumbent members of Congress as of 2011 were not placed into a congressional district in the 2011 Plan with another incumbent member of Congress.

31. Republican congressional candidates have won 12 (75%) of Ohio's U.S. congressional seats in the last four election cycles held under the map.

**F. Plaintiffs' Proposed Remedial Plan**

32. The Proposed Remedial Plan splits 13 counties two ways: Clark, Coshocton, Franklin, Geauga, Hamilton, Highland, Holmes, Licking, Mahoning, Mercer, Morrow, Noble, and Wood. The only county split three ways is Cuyahoga County.

33. Under the Proposed Remedial Plan, District 11 has a Black Voting Age Population of 47.48%

34. Under the Proposed Remedial Plan, District 3 has a Black Voting Age Population of 30.31%.

35. Under the Proposed Remedial Plan, District 1 has a Black Voting Age Population of 26.74%.

**G. Ohio Issue 1**

36. Ballot Issue 1 ("Issue 1"), the Congressional Redistricting Procedures Amendment, was approved by Ohio voters on May 8, 2018.

37. Issue 1 passed with nearly 75% of the statewide vote.

38. Issue 1 will put in place a process that begins after the next census, with map-drawing to start in 2021.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

39. Issue 1 was a bi-partisan effort to amend the manner in which the State of Ohio will draw its congressional districts following the 2020 Census. It will take effect on January 1, 2021.

40. Issue 1 was supported by numerous groups and organizations including the Ohio Republican Party, the Ohio Democratic Party, the League of Women Voters of Ohio, the Ohio Environmental Council, Common Cause, among other groups.

41. Under Issue 1, the Ohio legislature can adopt a 10-year congressional redistricting plan with a 60 percent vote of members in each chamber in favor, and at least 50 percent of the minority party voting in favor in each chamber.

42. If the Ohio legislature fails to meet these vote requirements, then a seven-member Ohio Redistricting Commission (which, under Ohio's constitution, is responsible for enacting district plans for the Ohio House of Representatives and Ohio Senate) may adopt a 10-year congressional redistricting plan with support from at least two members of the minority party on the commission.

43. If the Ohio Redistricting Commission fails to adopt a plan, the Ohio legislature may then either (a) adopt a 10-year plan with only one-third vote of the members from the minority party supporting the proposal; or (b) adopt a plan by a simple majority vote with the plan lasting just two general election cycles (four years), rather than 10 years.

**H. The Plaintiffs are Ohio organizations and voters.**

**1. Ohio A. Philip Randolph Institute**

44. Ohio A. Philip Randolph Institute ("APRI") is the Ohio chapter of the A. Philip Randolph Institute.

45. It has eight chapters across Ohio—in Columbus, Cleveland, Cincinnati, Toledo, Warren, Youngstown, Akron/Canton, and Dayton, seven of which are currently active.

## APPENDIX A: JOINT UNCONTROVERTED FACTS

46. Andre Washington has been the President of APRI for ten years and was the organization's Rule 30(b)(6) designee.

### 2. League of Women Voters of Ohio

47. League of Women Voters of Ohio ("LWVO" or "the League") is the Ohio chapter of the League of Women Voters of the United States, founded in May 1920.

48. LWVO Executive Director Jennifer Miller was designated as the group's Rule 30(b)(6) witness.

49. The LWVO supported Ballot Issue 1.

### 3. Northeast Ohio Young Black Democrats

50. Plaintiff Northeast Ohio Young Black Democrats ("NEOYBD") is a regional organization dedicated to "mentor, empower and recruit the next generation of young people of color who want to be involved in the political process" in Northeast Ohio.

51. NEOYBD supported Ballot Issue 1 and canvassed to get it on the ballot in 2017.

### 4. Hamilton County Young Democrats

52. Hamilton County Young Democrats is a Democratic organization that engages young people to be involved in politics and elections.

53. Nathaniel Simon has been the President of the Hamilton County Young Democrats since 2017 and was the organization's Rule 30(b)(6) designee.

### 5. The Ohio State University Democrats

54. The Ohio State University College Democrats ("OSU College Democrats") is a student organization at the Ohio State University whose aim is to "advocate, educate, and engage people on the Ohio State campus in alignment with the [Democratic] party platform."

55. The OSU College Democrats is chartered with the Ohio Democratic Party, Ohio College Democrats, and College Democrats of America.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

56. Alexis Oberdorf was the President of the OSU College Democrats from December 2017 to December 2018 and was the organization's Rule 30(b)(6) designee.

**6. Individual Plaintiffs**

57. Linda Marcy Goldenhar resides in the 1st District.

58. Dr. Goldenhar is a U.S. citizen registered to vote in Ohio and is an active voter who has voted in every congressional and presidential election since moving to and registering to vote in Ohio in 1992.

59. Under the Proposed Remedial Plan, Dr. Goldenhar would be placed in the 1st Congressional District.

60. Douglas John Burks resides in the 2nd District.

61. Dr. Burks is a U.S. citizen registered to vote in Ohio and is an active voter.

62. In the almost 40 years Dr. Burks has resided at his current address, he has been in both the 1st and 2nd Districts.

63. Steve Chabot, incumbent Representative for District 1, represented Dr. Burks in the 2000s.

64. Under the Proposed Remedial Plan, Dr. Burks is placed in the 1st Congressional District.

65. Sarah Marie Inskeep resides in the 3rd District.

66. Ms. Inskeep is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every congressional election since 2012.

67. Under the Proposed Remedial Plan, Ms. Inskeep remains in the 3rd Congressional District.

68. Cynthia Libster resides in the 4th District.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

69. Ms. Libster is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in almost every election she can recall, including elections for U.S. Congress.

70. Ms. Libster's current representative is Republican Jim Jordan.

71. Under the Proposed Remedial Plan, Ms. Libster remains in the 4th Congressional District.

72. Kathy Deitsch resides in the 5th District.

73. Ms. Deitsch is a U.S. citizen registered to vote in Ohio and is an active voter.

74. Ms. Deitsch's current representative is Republican Bob Latta.

75. Under the Proposed Remedial Plan, Ms. Deitsch would be placed in the 4th Congressional District.

76. LuAnn Boothe resides in the 6th District.

77. Ms. Boothe is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every election she can recall including elections for U.S. Congress.

78. Ms. Boothe's current representative is Republican Bill Johnson.

79. Under the Proposed Remedial Plan, Ms. Boothe is placed in the 6th Congressional District.

80. Mark John Griffiths resides in the 7th District.

81. Mr. Griffiths is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every congressional election since 2012 except for 2014 when the Republican congressional candidate Bob Gibbs was unopposed.

82. Under the Proposed Remedial Plan, Mr. Griffiths is placed in the 9th Congressional District.

83. Larry Nadler resides in the 8th District.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

84. Mr. Nadler is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every election he can recall including elections for U.S. Congress.
85. Mr. Nadler's current representative is Republican Warren Davidson.
86. Under the Proposed Remedial Plan, Mr. Nadler remains in the 8th Congressional District.
87. Chitra Muliyl Walker resides in the 9th District.
88. Ms. Walker is a U.S. citizen registered to vote in Ohio and is an active voter; she believes she has voted in every congressional election since 2008 except when she was out of the country.
89. Under the Proposed Remedial Plan, Ms. Walker is placed in the 9th Congressional District.
90. Tristan Rader resides in the 9th District.
91. Mr. Rader is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every congressional election at least since moving to his current residence in October 2013.
92. Under the Proposed Remedial Plan, Mr. Rader is placed in the 9th Congressional District.
93. Ria Megnin lives in the 10th District.
94. Ms. Megnin is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every election she can recall including elections for U.S. Congress.
95. Ms. Megnin's U.S. congressional Representative is Republican Michael Turner.
96. Under the Proposed Remedial Plan, Ms. Megnin remains assigned to the 10th Congressional District.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

97. Andrew Harris has resided, during the last 10 years, at 3 addresses in the 11th District.

98. Mr. Harris is a U.S. citizen registered to vote in Ohio and is an active voter. He registered to vote in the State of Ohio when he turned 18 in 2008. He is an active Ohio voter.

99. Under the Proposed Remedial Plan, Mr. Harris remains in the 11th Congressional District.

100. Aaron Dages resides in the 12th District; he is a U.S. citizen registered to vote in Ohio and is an active voter.

101. Mr. Dages registered to vote in the State of Ohio in 1997.

102. Under the Proposed Remedial Plan, Mr. Dages remains in the 12th Congressional District.

103. Liz Myer lives in the 13th District.

104. Dr. Myer is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every election she can recall including elections for U.S. Congress.

105. Dr. Myer's U.S. Congressional Representative is Democrat Tim Ryan.

106. Under the Proposed Remedial Plan, Dr. Myer remains in the 13th Congressional District.

107. Beth Ann Blewitt Hutton resides in the 14th District.

108. Ms. Hutton is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every single election since registering to vote around 1971. With the exception of Representative Steve LaTourette, Ms. Hutton has always voted for Democratic candidates at the federal level.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

109. Under the Proposed Remedial Plan, Ms. Hutton is placed in the 13th Congressional District.
110. Terri Thobaben lives in Clinton County in the 15th District.
111. Ms. Thobaben is a U.S. citizen registered to vote in Ohio and is an active voter, having voted in every election she can recall including elections for U.S. Congress.
112. Ms. Thobaben's Congressional Representative is Republican Steve Stivers.
113. Under the Proposed Remedial Plan, Ms. Thobaben is placed in the 2nd Congressional District.
114. Constance Rubin has resided, during the last 10 years, at two addresses in the 16th District.
115. Ms. Rubin is a U.S. citizen registered to vote in Ohio and is an active voter. She registered to vote in Ohio in 1973.
116. Under the Proposed Remedial Plan Ms. Rubin is placed in the 14th Congressional District.

**Defendants**

117. Representative Ryan Smith was the Speaker of the Ohio House of Representatives at the time Plaintiffs' Second Amended Complaint was filed and was sued in his official capacity. On January 7, 2019, the Ohio House of Representatives elected Defendant Representative Larry Householder as Speaker of the Ohio House of Representatives. In his official capacity, Speaker Householder has been automatically substituted for Mr. Smith pursuant to the operation of Fed. R. Civ. P. 25(d).
118. Defendant Larry Obhof is the President of the Ohio State Senate and is sued in his official capacity.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

119. Jon Husted was the Ohio Secretary of State at the time this action was filed and was sued in his official capacity. In the November 6, 2018 general election, Jon Husted was elected Ohio's Lieutenant Governor, and Frank LaRose was elected as the Ohio Secretary of State and currently serves in that role. In his official capacity, Mr. LaRose has been automatically substituted for Jon Husted pursuant to the operation of Fed. R. Civ. P. 25(d).

120. Mr. LaRose is the chief election officer in Ohio responsible for overseeing election administration pursuant to Ohio Rev. Code Ann. § 3501.04.

**Intervenors**

121. Intervenor Steve Chabot is a United States Congressman who has represented Ohio's First Congressional District from 1995-2009 and 2011 to the present.

122. Intervenor Brad Wenstrup is a United States Congressman who has represented Ohio's Second Congressional District since 2013.

123. Intervenor Jim Jordan is a United States Congressman who has represented Ohio's Fourth Congressional District since 2007.

124. Representative Jordan has participated in a number of bi-partisan debates during his tenure representing the 4th Congressional District.

125. Intervenor Bob Latta is a United States Congressman who has represented Ohio's Fifth Congressional District since 2007.

126. Intervenor Bill Johnson is a United States Congressman who has represented Ohio's Sixth Congressional District since 2011.

127. Intervenor Bob Gibbs is a United States Congressman who has represented Ohio's Seventh Congressional District since 2013. Representative Gibbs previously represented Ohio's Eighteenth Congressional District from 2011-2013.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

128. Intervenor Warren Davidson is a United States Congressman who has represented Ohio's Eighth Congressional District since 2016.

129. Intervenor Mike Turner is a United States Congressman who has represented Ohio's Tenth Congressional District since 2013 and previously represented Ohio's Third Congressional District from 2003-2013.

130. Intervenor David Joyce is a United States Congressman who has represented Ohio's Fourteenth Congressional District since 2013.

131. Intervenor Steve Stivers is a United States Congressman who has represented Ohio's Fifteenth Congressional District since 2011.

132. Intervenor Robert F. Bodi is a resident of Westlake, Ohio, within Ohio's 16th Congressional District.

133. Intervenor Roy Palmer III is a resident of Toledo, Ohio, within Ohio's 9th Congressional District.

134. Intervenor Charles Drake is a resident of Cleveland Heights, Ohio, within Ohio's 11th Congressional District.

135. Intervenor Nathan Aichele is a resident of Columbus, Ohio, within Ohio's 3rd Congressional District.

136. Intervenor, the Republican Party of Cuyahoga County ("RPCC"), is the local Republican Party in Cuyahoga County.

137. Intervenor, the Franklin County Republican Party ("FCRP"), is the local Republican Party in Franklin County.

**APPENDIX A: JOINT UNCONTROVERTED FACTS**

February 7, 2019

Respectfully submitted,

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## **APPENDIX B**

**APPENDIX B: Plaintiffs’ Contested Facts**

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**APPENDIX B: Plaintiffs' Contested Facts**

**I. Plaintiffs' Contested Facts**

**A. Republican congressional leadership sought a 12-4 map.**

1. John Boehner, then-Speaker of the U.S. House of Representatives, directed his political team to engage in Ohio's map drawing process.
2. In 2011, Boehner assigned Tom Whatman, the Executive Director of Boehner's political operation (called "Team Boehner"), to work on restricting in Ohio. Among other things, he was tasked with serving as a liaison between Ohio's Republican members of Congress and Republicans in Ohio.
3. Whatman spoke to Ohio's Republican members of Congress about what new districts might look like in Ohio following redistricting. He used that information to formulate proposals for the new Ohio congressional map.
4. Whatman provided instructions on the preferred shapes of districts to Kincaid, who made changes to the draft maps.
5. Under the pre-2011 congressional map, the Republicans held between 8 and 13 seats. The 1st, 6th, 15th, 16th, and 18th districts all flipped between Republican and Democrats in the previous redistricting cycle.
6. 2010 was considered a wave election for Republicans. That year, Republicans won seats in the 1st, 6th, 15th, 16th, and 18th districts that had previously been held by Democrats, making the delegation 13-5 in favor of Republicans.
7. In 2011, Republicans considered drafting a new congressional map with a 13-3 Republican advantage (a "13-3 map"), thus preserving the seats of all 13 Republican members of Congress elected in 2010.

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8. However, doing so would result in a smaller margin of victory in several Republican-held districts, which would risk those districts becoming competitive during a strong Democratic election year and falling into Democratic control.
9. Republicans settled on drawing a map that would “lock down” a solid 12-4 Republican advantage (a “12-4 map”).

10. [REDACTED]

[REDACTED]

[REDACTED]

**B. The Ohio state Republican leadership was committed to a 12-4 map.**

11. The Ohio Legislative leadership would not enact anything that was contrary to Boehner’s wishes.
12. Prior to the enactment of HB 319, Batchelder spoke with Boehner approximately once per month regarding the redistricting process.
13. Speaker Batchelder’s office sent out a memo explaining that the map would be a 12-4 map.
14. Based on various conversations, Batchelder developed “an idea” of what Boehner wanted in a map. Batchelder then relayed Boehner’s requests to Mann.
15. When negotiating HB 369, Batchelder was not in communication with Boehner, although at that point he knew what Boehner wanted in a map and so he did not need to talk to Boehner about it.
16. Batchelder does not recall enacting any congressional redistricting map that went against Boehner’s wishes.
17. Senate President Niehaus was also committed to ending up with a map approved by Boehner, and he accepted input directly from Whatman.

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18. Niehaus told Whatman on September 11, 2011, that “I am still committed to ending up with a map that Speaker Boehner fully supports.”

19. As a result, Whatman understood that “the Ohio legislature wanted to come up with a map that Speaker Boehner supported.”

**C. The national Republicans provided political data for the Ohio map drawers.**

20. The election results data used to create the maps had been initially generated by an effort orchestrated with the help of the RNC. “[A]n outside group that the RNC was working with” oversaw the conversion of precinct-level election results estimated down to the census-block level—“the Project.” This outside group generated this data set for a number of states—“including Ohio”—in 2011.

21. Hofeller was the main contact” between the RNC and those working on The Project.

22. Bensen received the block-level data from The Project for Ohio. He ran validation checks and then loaded it onto Maptitude.

23. The data Bensen provided to the map drawers included data on individual elections and “election averages” data based on two-party vote share, which could be viewed within Maptitude by labels hovering over a congressional district, at the Census Block Level. The data included elections going back to 2002.

24. Whatman, Kincaid, and Hofeller were directly involved in the drafting and approval of Ohio’s districts. Their work on Ohio’s draft districts started as early as January 2011.

25. Whatman and Kincaid were conduits between national Republicans and the local Ohio Republicans, including Mann and DiRossi.

26. Whatman collected input from Ohio’s Republican members of congress on drafts and suggested changes to the draft map. Kincaid then implement Whatman’s suggestions and then send back a draft of a map. After finishing the proposed map, Whatman sought

**APPENDIX B: Plaintiffs' Contested Facts**

Boehner's sign-off. Once Boehner signed off on the draft map, Whatman showed the proposed draft to Ohio's Republican members of Congress.

27. By July 2011, Kincaid was already using various political indices to "score" the political leanings of proposed congressional district maps to determine the best way to achieve a 12-4 map.

28. Kincaid sent Republican members of Congress analyses, in the form of Excel spreadsheets, showing how a Republican was expected to perform in their new districts, based on a series of partisan metrics. For example, [REDACTED]

[REDACTED]  
[REDACTED]

29. DiRossi and Mann emailed Whatman about changes to the map and Whatman indicated his opinion of them.

30. Whatman's proposals carried a great deal of weight with the map drawers. For example, the evening before HB 319 was introduced in the Ohio House, Whatman requested that the boundaries of 16th District be altered slightly to encompass the headquarters of a Republican donor. Kincaid responded to Whatman's eleventh hour request by changing the boundaries of 16th District late in the evening on September 12, 2011.

31. Hofeller also helped to draft districts. [REDACTED]  
[REDACTED]

**D. A key part of the national Republican work and strategy was the Franklin County Sinkhole.**

32. On September 7, 2011, Whatman sent Niehaus and Judy talking points informing him that Republicans were seeking to "lock down" 12 Republican seats. These talking points were also shared with Mann and Batchelder.

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33. Whatman came up with a key proposal to enable a 12-4 map: creating a new congressional district in the city of Columbus (what would become 3rd District). The new district packed Democrats in Democrat-leaning Franklin County into a single congressional district.
34. Absorbing so many Democrats into a single district was essential for creating a 12-4 map, because doing so bolstered Republican control of adjacent 12th and 15th Districts.
35. The strategy was referred to as the “Franklin County Sinkhole” and the impact of this strategy was well known among Republicans at the time. For example, on September 2, 2011, Kincaid sent and circulated to Mann, DiRossi, and Whatman a “Franklin County Sinkhole” spreadsheet he created that shows the political scoring effects of creating a new district in the Franklin County area.
36. Parts of Franklin County were considered undesirable to the Republicans, given the number of Democrats that lived in those parts. So for example, [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

**E. The map drawers evaluated the districts that were drawn through the use of political indices.**

37. The use of the election results data in the map drawing process enabled Republicans to execute the Franklin County Sinkhole strategy and ensure a 12-4 map.
38. Mann and DiRossi were interested in viewing election results data.

**APPENDIX B: Plaintiffs' Contested Facts**

39. Political indices were the data Mann's "principals," Batchelder and Judy, were most interested in receiving regarding the maps being drawn. Political indices blend together data from different races to more accurately predict the voting tendencies of voters in proposed congressional districts.
40. The political indices for each individual congressional district were relied on during the map drawing process and distributed at meetings, including those attended by Batchelder and Huffman.
41. Map drawers created the Unified Index to guide decision making.
42. The Unified Index was composed of results from the following five races: 2004 President, 2006 Auditor, 2006 Attorney General, 2008 President, and 2010 Governor.
43. At the legislative leadership level, choosing an index was Huffman's assignment.
44. At the operational level, DiRossi created the Unified Index, using results from the five elections, which were then averaged to reflect the two-party vote share.
45. The Unified Index scoring for a district would change any time the map drawers would make a change to the boundaries of any district.
46. The Unified Index is more Democratic than the actual vote share in the decade preceding the redistricting. Using a more Democratic index allowed the map drawers to be confident that districts would not switch to Democratic control when there was a year that favored Democratic candidates.
47. In addition to the Unified Index, some Republicans preferred to use McCain '08 election results in Ohio as an index. The McCain '08 numbers were included in indices, draft maps and other work product.

**APPENDIX B: Plaintiffs' Contested Facts**

48. Since it was based President Obama's defeat of John McCain in 2008, the McCain '08 index also reflected a strong Democratic outcome. Using this more Democratic metric allowed the map drawers and stakeholders to be confident that districts would not switch to Democratic control when there was a year that favored Democratic candidates.
49. National Republicans also used the Partisan Vote Index ("PVI"), to score districts. For example, Kincaid preferred PVI values.
50. The map drawers included PVI, the Unified Index, and the McCain '08 index in their work product, including indices rating maps and draft districts.

**F. The map drawers used Maptitude to track changes to the partisan scoring of each district.**

51. Maptitude enables a map drawer to generate color coded maps of a district, showing the specific scorings of sub-portions of the district and its relative Republican or Democratic strength, which could be viewed by map drawers.
52. Maptitude could produce an output on data sets for a particular map, including data sets of the "various indexes," including the Unified Index.
53. Maptitude would calculate the elections data in real time for each district as it was drawn. The data could be viewed on the screen in a table.
54. The election results data provided by Bensen was loaded into Maptitude and was used by the map drawers. The election results data included for statewide elections going back to 2002. (They also loaded the Unified Index, which had a code "EA 12").
55. DiRossi also created charts scoring congressional districts using various indices.

**G. Political indices were shared with Ohio legislators at the "Bunker" and digitally.**

56. The map drawers knew that the Ohio legislative leaders were interested in how changes to the map impacted the partisan makeup of the map.

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57. Beginning in July 2011, the redistricting operations were based out of a secretly-rented hotel room at the DoubleTree Hotel in Columbus, Ohio. DiRossi nicknamed the room “the Bunker” and it was generally referred to by that name. No Democratic officials or operatives were able to access the bunker, and the meetings regarding the map drawing there were limited to Republican operatives and officials. There were three computers in the Bunker. Mann and DiRossi each worked on one and Judy worked on a third. Mann, Judy, and DiRossi were the only persons with passwords to the computers. Maptitude was running on the computers. The Unified Index scorings for each district was always on the computer screen. Judy would discuss them with Mann.
58. Batchelder, Niehaus, Huffman, Mann, DiRossi, Judy, Lenzo, and Braden all attended meetings at the Bunker where draft maps and political data were shared.
59. The political index data was reviewed by legislative leaders during in-person meetings by viewing it on the computer screens and printouts. For example, Judy discussed the partisan leanings of proposed districts with Batchelder between two to five “ad hoc” meetings at the Bunker and in the Speaker’s Office prior to the introduction of HB 319. At these meetings, spreadsheets that contained the Unified Index information about the districts under consideration were handed out.
60. Niehaus also would ask for political index information. DiRossi would inform Niehaus, Faber, and Schuler of the impact of any changes to the index based on any “tweaks” to the map.
61. Republicans continued to share political data among themselves as they worked on HB 369. For example, as regards to HB 369, Judy circulated and recalled reviewing spreadsheets that included Unified Index information and having them at meetings.

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**H. Members of Congress and national Republicans also received updates of the political composition of draft maps.**

62. In addition to the updates that were provided to Republicans in the Ohio legislature, information was shared with Republican members of the U.S. Congress as draft maps were being drawn.
63. Kincaid created spreadsheets that scored districts based on index values and this information was conveyed to the members of Congress.
64. Whatman and ██████ received Excel spreadsheets from Kincaid with political information regarding the map, including PVI and unified index data.
65. The spreadsheets used PVI values to score the districts. And Kincaid had PVI scorings for the final map as enacted.
66. The spreadsheets also scored the districts based on the Unified Index's average of five elections (2004 President, 2006 Attorney General, 2006 Auditor, 2008 President, and 2010 Governor).
67. The spreadsheets were shared with the Republican members of Congress.

**I. Prior to introducing a map, Republicans knew it would be a 12-4 map based on the political index work.**

68. Kincaid created and circulated an analysis comparing HB 319 with the pre-redistricting map. The analysis, which was generated in Maptitude and then exported into an Excel spread sheet, scored the two maps using PVI scorings as well as the "Ohio GOP Average" based on the five elections in the Unified Index.
69. Kincaid's analysis demonstrates clear Republican PVI gains in specific districts: a gain of 7 points in District 1; a gain of 11 points in District 12; and a gain of 8 points in District 15.

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70. These scorings were communicated to DiRossi, who used them to create his own analyses. DiRossi's spreadsheet confirmed that Republican strength increased in Districts 12 and 15 because, among other reasons, Democrats in Franklin County were packed into newly created District 3. The PVI scorings illustrated that the Republicans obtained 11 "likely" seats that were five points in favor of Republicans (R+5) and one additional seat that would also likely elect a Republican because it was plus 3 points for Republicans (R+3).

71. The outcome of the analysis was shared with other Republicans.

72. [REDACTED]

**J. While local and national Republican lawmakers were receiving updates about the status of draft maps, the map was kept from the public and even from members of the General Assembly until September 13, 2011.**

73. There were five public hearings held by the Senate Select Committee on Redistricting and the House Committee on Redistricting, with Faber and Huffman chairing the respective committees. These hearings were held in July and August 2011.

74. No maps were considered at the public hearings regarding congressional redistricting. Nor were any maps or indices available at the hearings. Further, the committees had no responsibility beyond hearing testimony at these hearings.

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**K. Republicans provided lawmakers with little time to debate the merits of the proposed plan.**

75. The map was, according to plan, “held in the can” after it was drafted until September 13, 2011.
76. Members of the General Assembly—even Republican members—were largely kept in the dark about the content of the maps until the end of the process.
77. There were no negotiations between Democrats and Republicans regarding HB 319. The Democratic Minority Leader in the Ohio House, Armond Budish stated that “the map was drawn by Republicans in secret behind closed doors with no meaningful input whatsoever from members of the public, and now the map is being rammed through the House in just a couple of days in order to prevent any meaningful input from anyone else. . . .” Other Democrats also complained about how the map was introduced.
78. Not only did the Democratic leadership not have any input into the map, but many of Ohio’s Republican legislators had little input into the map. Faber was given, at the last minute, a map that he was asked to support.
79. The proposed map was shared with the Democratic leadership just before it was introduced.

**L. The Ohio Supreme Court’s ruling on the referendum pressured Republicans to begin negotiating, but they retained the position that the map had to be 12-4 in favor of Republicans.**

80. On October 14, 2011, the Ohio Supreme Court authorized a referendum to challenge HB 319. However, the Supreme Court declined to extend the 90-day period during which to collect signatures in support of the referendum, giving opponents of HB 319 until December 25, 2011, to collect the requisite number of signatures.

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81. Negotiations began in mid-October 2011 soon after the Ohio Supreme Court ruled that the referendum effort could proceed.
82. The threat of a public referendum on HB 319 was the primary reason why HB 319 was repealed and replaced.
83. The Republicans approached the Democrats about a replacement proposal after the process was started for a citizen's referendum on 319.
84. Democrats proposed a map that would allow for 6 competitive districts.
85. Republicans proposed a map that did not change the 12-4 partisan outcome. This map was introduced as HB 369 on November 3, 2011.
86. Huffman told Democrats that Republicans "weren't going to draw less than 12 [seats]."
87. Judy told Democrats that if they presented a map that had less Republican seats, there was nothing to discuss.
88. During the negotiations, Republicans would let Democrats massage things here or there, but they could not touch the allocation of seats.

**M. HB 369 is introduced, and negotiations continue, but Democrats are unable to change the partisan breakdown of the map.**

89. After the introduction of HB 369, negotiations between Democrats and Republicans continued.
90. McCarthy recalled that negotiations between Republicans and Democrats reached an impasse around November 18, 2011.
91. The impasse was still in effect as of November 30, 2011.
92. To put a referendum on the ballot, the Democrats needed more than 200,000 signatures.
93. The Democrats experienced difficulties in collecting the requisite number of signatures.

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94. Initially, Republicans believed that the chance of obtaining the requisite number of signatures seemed likely.
95. The Republicans, however, became aware of the problems that the Democrats were experiencing in collecting the requisite number of signatures.
96. Publicity regarding the difficulties in obtaining the requisite number of signatures affected negotiations regarding HB 369, weakening the Democrats' ability to push for a fairer map.
97. The Republicans also brought a state court lawsuit to force the enforcement of HB 319, putting further pressure on the Democrats.
98. At some point, Batchelder came to the conclusion that the referendum effort would not gather enough signatures.
99. The proposed changes by Democrats and the Black Caucus were then pushed aside.
100. Budish stated at the time, with respect to HB 369, “[w]e’ve tried to talk to [R]epublican leadership, to negotiate and to compromise, but unfortunately we’ve been refused. Leadership has refused to talk directly with democratic leadership.” Instead, he said, Republicans decided to try to cut secret backroom deals with individual democratic members.
101. [REDACTED]
102. HB 369 unified certain counties that were split in HB 319, but without changing the electoral tilt of the districts.

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**N. Contemporaneous Republican documents demonstrated that HB 369 would be a 12-4 map.**

103. Contemporaneous Republican analyses show no material change in the partisan composition of the districts included in the replacement map.
104. For instance, a contemporaneous spreadsheet created by map drawers shows: (1) Four districts not changed at all (6th, 11th, 13th, and 14th Districts); (2) Two districts experienced “negligible” changes (7th and 16th Districts); (3) Eight districts experienced small changes (between 0.24% and 1.9%), which were the 1st, 2nd, 3rd, 4th, 5th, 9th, 12th, and 15th Districts; (4) Only two districts experienced a Unified Index change of 2 percentage points or greater: 8th District (2.60%) and 10th District (3.82%). However, neither of these changes altered the partisan lean of the district in question.
105. Kincaid also circulated spreadsheets that showed that HB 369 remained a 12-4 map.
106. Kincaid helped create the content of a redistricting PowerPoint presentation celebrating Republicans’ successful efforts to move formerly competitive districts (1st, 12th and 15th Districts) “out of play.”
107. For instance, the PowerPoint presentation states that for Ohio 12th District that the “R + 8 scoring” means that “Tiberi would have been elected in a D plus 1 seat in 2010 and then in 2012 was running for re-election in an R + 8 district . . . which was 9 points more Republican than the district he was elected in in 2010.” And the reason that District 12 became more Republican was, in part, because “Tiberi had portions of Columbus in his district previously that he did not have in the district after they were redrawn in 2011 which would be why the PVI had changed, a part of why the PVI had changed.”

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108. It also states that for Ohio's 1st District the scoring meant that "Chabot ran for election in 2010 in a D + 1 seat and would be run[sic] for re-election in an R + 6 district"—and so a net gain of 7 points for the Republicans. And the reason that District 1 became more Republican was because Warren County was added to the district and portions of Hamilton County were drawn out of the district.
109. Kincaid confirmed that for the 15th District "Stivers was elected in a D plus 1 district and running for reelection in a R plus 6 district" for a net gain of 7 points. And the reason that District 15 became more Republican was also because a new district was created in Franklin County so that District 15 no longer contained Democratic portions of Columbus.
110. As a result of redistricting, Representative Johnson's district, 6th District, became an R+5 district on the PVI scale, increasing 3 points from the prior map.
- O. The contemporaneous Democratic analysis of HB 369 concluded that the Republicans achieved their 12-4 map.**
111. Immediately after the passage of HB 369, the Democrats analyzed the differences between HB 319 and HB 369. The analyses was performed by Randall Routt, a Democratic staffer with a hybrid role of policy and IT-related work, and Christopher Glassburn, a former Democratic staffer, and communicated to other Democratic staff.
112. Routt's district-by-district analysis demonstrates that with one exception (the 10th District) the differences between HB 319 and HB 369 were trivial when it came to the partisan tilt of districts.
113. Glassburn performed a contemporaneous analysis of HB 369 and concluded that the Republicans achieved their 12-4 map when HB 369 was enacted.

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114. His analysis was based on data provided by the Cleveland State University. He relied primarily on 2008 presidential and 2010 governorship races.

115. Glassburn concluded that Districts 3, 9, 11, and 13 favor Democrats and the rest favor Republicans.

116. Glassburn's district-by-district analysis confirms the basis for the contemporaneous view that HB 369 was a 12-4 map.

**P. Republicans and Democrats openly acknowledge that the Republicans secured their 12-4 objective because they had the raw political power to achieve their goal.**

117. Defendant Larry Obhof, who was in the Ohio Senate at the time has stated:

“While a lot of Democrats voted for the current map, they really didn't have a lot of negotiating power at that stage, because there was always the opportunity to say hey work with us and we'll do a slightly better map, or we'll do what we want and pass it with 51% of the vote.”

118. Batchelder has stated that “Their theory was somehow or another that they could overcome a majority of people who were in the other party, and I don't know how that would have happened.”

119. Glassburn stated that the Republican leverage was based on the fact that they “held all the cards.”

120. Senator Turner said: “To say that this map is bipartisan is laughable, no matter how many democrats in the House decided to tow the party line and vote for a map that is still 12 to 4.”

121. Senator Tavares said: “What this map does is basically cherry-pick” areas to achieve a partisan aim. She continued: “Just like the people are not 12-4, they're more

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like 50/50. We never believed we were going to get eight Democratic districts and eight Republican, but it should have been a little more even.”

**Q. The work of Dr. David Niven supports a finding that Ohio's map was drawn with an intent to advantage Republicans and disadvantage Democrats.**

122. The manner and extent to which the Republicans mapmakers split political subdivisions and communities of interest, with resulting partisan gain, demonstrates their objective to crack and pack Democratic voters to optimize Republican seats in Congress.
123. Analysis of the map shows that census tracts are split by congressional district lines 59% more times than in the previous map.
124. For over 3.3 million Ohioans—more than a quarter of the state—the closest congressional district office is in another district.
125. The map reveals patterns of splitting Democratic-leaning cities, neighborhoods, and counties and incorporating the pieces in the creation of Republican congressional districts.
126. The systematic drawing of districts that disregard political boundaries and split communities of interest—and the partisan impact of these decisions: dilution of the opposite party's vote—can only be explained by a strategic commitment to partisan gerrymandering on the part of the map makers.

**R. The work of Dr. Wendy K. Tam Cho supports a finding that Ohio's map was drawn with an intent to advantage Republicans and disadvantage Democrats.**

127. Dr. Wendy K. Tam Cho used a computer algorithm to generate simulated congressional maps that adhered to the traditional, nonpartisan districting principles described in her report. This algorithm did not take into account any voting or

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demographic data when drawing the maps. Each map was constructed by combining Ohio voting precincts into different congressional districts, and only maps that met the traditional, nonpartisan districting criteria were deemed viable.

128. With the above-described process, the algorithm generated a sample set of over three million viable simulated congressional maps, each of which was drawn without the influence of partisan intent.

129. By comparing the challenged map against the simulated maps, Dr. Cho “determine[d] whether the partisan effect of the challenged map is to be expected given the underlying geography and population settlement patterns or if it is unusual among the set of non-partisan maps.”

130. Dr. Cho’s analysis demonstrates that it is highly unlikely that a map reflecting as much extreme partisan unfairness as the challenged map could have been produced unintentionally.

**S. Voting Rights Act compliance does not explain the 12-4 map.**

131. Current 11th District is the successor district to the first majority black congressional district created in Ohio in 1968, which has consistently elected African-Americans to Congress since.

132. Dr. Lisa Handley conducted a district-specific, functional analysis of voting patterns by race to ascertain the black voting age population necessary to provide black voters with an opportunity to elect their candidates of choice in the vicinity of the 11th District.

133. Dr. Handley’s district-specific, functional analysis relies on three statistical techniques to estimate voting patterns by race: homogenous precinct analysis, ecological regression, and ecological inference.

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134. Her analysis demonstrates that a 45% black voting age population (“BVAP”) district offers black voters a realistic opportunity to elect their candidates of choice to represent the 11th District.
135. It also demonstrates that current 11th District contains far more minorities than is necessary to elect the minority preferred candidate.
- T. It was known at the enactment of the map that it was not drawn to comply with the Voting Rights Act.**
136. The Republican intent was to pack Democrats, not protect minority voters.
137. There is no indication that Republicans engaged in the kind of analysis necessary to determine how many African Americans were needed at the time to create a Voting Rights Act compliant district. There are only ungrounded discussions of various percentage cutoffs of the BVAP.
138. There is evidence in the record that Republicans were primarily concerned with partisanship and not opportunities to elect minority representatives. For example, the Republican Chair of Summit County was willing to have three Summit County wards placed into District 11 because “they were mostly black democrats [sic]” and this “helped the other districts in Summit County be more Republican.”
139. District 11 was primarily drawn to pack Democratic voters for Republican gains in neighboring districts and not to advantage Democrats in general nor at the request of Democratic incumbent, nor to advantage black voters in Ohio.
140. The packing of Democrats was the reason for the creation of District 3, not a Republican desire to create a “minority opportunity” district.
141. A minority opportunity district could have been created in Franklin County under a different configuration of the map.

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**U. Traditional redistricting criteria do not explain the map.**

142. The map drawers just eye balled compactness and did not do any analysis of districts to make sure they were compact
143. Communities of interest are not kept intact with the map.
144. Communities of interest are often fractured by county and municipal splits.
145. The map needlessly splits counties and municipalities. It is possible to create a map with far fewer splits.
146. The location of the 2011 incumbents did not require the Ohio congressional map to be structured as it was.
147. Congressional plans, which pair the same number of incumbents with the same match-up of political parties as under the Ohio congressional map, are still better than the Ohio congressional map on traditional redistricting criteria and partisan symmetry.
148. Hypothetical maps that pair two 2011 Democratic incumbents, two 2011 Republican incumbents, and one 2011 Democratic with one 2011 Republican incumbent are better the Ohio congressional map on traditional redistricting criteria.
149. Two such hypotheticals split only 14 counties; the Ohio congressional map splits 23 counties.
150. One such hypothetical splits 36 municipal civil divisions, and another splits 34 municipal civil divisions; the Ohio congressional map splits 73.
151. Both of these hypothetical maps are more compact that the Ohio congressional map.
152. Both of these hypothetical maps have a Voting Rights Act compliant district in its 11th District.

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153. Under both of these hypotheticals, District 15 has a Black Voting Age Population of 30.17%.

154. Under both of these hypotheticals, District 1 has a Black Voting Age Population of 26.74%.

155. One hypothetical has the following Democratic congressional vote percentages of the two-party vote:

	2012		2014		2016		2018	
CD	Hypothetical Plan 1A	2012 Plan						
1	48.4%	39.5%	44.2%	36.7%	48.3%	40.7%	57.2%	47.8%
2	30.2%	41.4%	28.4%	34.1%	26.8%	33.5%	31.9%	41.7%
3	37.7%	71.4%	25.5%	63.6%	27.2%	68.2%	34.0%	73.6%
4	25.9%	38.5%	24.0%	32.3%	22.0%	31.7%	26.4%	34.7%
5	39.1%	40.6%	22.4%	30.4%	28.5%	28.8%	35.0%	36.1%
6	49.4%	46.8%	42.9%	39.8%	33.6%	29.4%	34.2%	30.8%
7	37.8%	43.6%	32.7%	0.3%	33.8%	31.4%	43.0%	41.3%
8	10.0%	0.0%	26.2%	28.9%	26.7%	28.2%	32.5%	33.4%
9	62.3%	76.0%	51.2%	67.7%	52.6%	68.6%	54.9%	67.8%
10	59.4%	38.6%	44.5%	32.6%	48.9%	33.8%	55.0%	43.0%
11	95.7%	99.7%	81.5%	79.2%	81.7%	80.3%	83.5%	82.3%
12	39.3%	36.6%	32.8%	29.0%	37.9%	31.7%	53.8%	47.9%
13	59.3%	72.9%	48.6%	68.4%	51.1%	67.6%	55.8%	61.0%
14	61.0%	41.8%	52.6%	34.4%	52.6%	37.4%	50.5%	44.8%
15	67.1%	38.6%	58.6%	34.1%	63.4%	33.7%	68.9%	40.5%
16	49.2%	48.0%	27.9%	36.2%	37.7%	35.2%	44.1%	43.3%

156. Another hypothetical has the following Democratic congressional vote percentages of the two-party vote:

	2012		2014		2016		2018	
CD	Hypothetical Plan 2A	2012 Plan						
1	48.5%	39.5%	44.2%	36.7%	48.3%	40.7%	57.2%	47.8%
2	30.3%	41.4%	28.4%	34.1%	26.8%	33.5%	31.9%	41.7%
3	37.7%	71.4%	25.5%	63.6%	27.2%	68.2%	34.0%	73.6%

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4	25.9%	38.5%	24.0%	32.3%	22.0%	31.7%	26.4%	34.7%
5	39.1%	40.6%	22.4%	30.4%	28.5%	28.8%	35.0%	36.1%
6	49.4%	46.8%	42.9%	39.8%	33.6%	29.4%	34.2%	30.8%
7	37.8%	43.6%	32.7%	0.3%	33.9%	31.4%	43.0%	41.3%
8	10.0%	0.0%	26.2%	28.9%	26.7%	28.2%	32.5%	33.4%
9	62.3%	76.0%	51.2%	67.7%	52.6%	68.6%	54.9%	67.8%
10	59.7%	38.6%	45.2%	32.6%	49.6%	33.8%	55.7%	43.0%
11	92.0%	99.7%	77.6%	79.2%	78.7%	80.3%	81.5%	82.3%
12	39.3%	36.6%	32.8%	29.0%	37.9%	31.7%	53.8%	47.9%
13	61.2%	72.9%	50.3%	68.4%	51.8%	67.6%	55.5%	61.0%
14	61.0%	41.8%	52.6%	34.4%	52.6%	37.4%	50.5%	44.8%
15	67.1%	38.6%	58.6%	34.1%	63.4%	33.7%	68.9%	40.5%
16	49.2%	48.0%	27.9%	36.2%	37.7%	35.2%	44.1%	43.3%

**V. The Partisan Bias Measures Illustrate That Ohio Was Gerrymandered**

157. Election results show that Democrats were successfully packed into four districts, thus, ensuring that they won their districts by large margins.

158. The four measures commonly used by political scientists to detect and measure the effects of partisan gerrymandering (the efficiency gap, the mean-median, the Gelman-King asymmetry measure, and the declination) make clear that the Ohio map is an extreme partisan gerrymander.

159. The partisan bias measures suggest that Ohio was gerrymandered. This suggestion is consistent with political science literature which has found that when one party controls the redistricting process, the partisan bias measures shift in favor of that party.

160. This finding is also consistent with the big shift in Ohio's partisan bias measures from 2010 to 2012. In 2010, prior to the new map Ohio's partisan bias measures were less pro-Republican than they were in 2012, after Republicans enacted the new map.

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**W. The Plaintiffs have been harmed by the Republican gerrymander.**

**1. Ohio A. Philip Randolph Institute**

161. Ohio's gerrymandered congressional map impedes APRI's work and requires it to divert resources from its efforts by making it more difficult to engage voters through its education, registration, and outreach efforts, and by deterring and discouraging its members and other Ohio voters from engaging in the political process.

162. The current congressional map causes APRI to suffer diversion of resources in accomplishing its mission, causing it to "hav(e) to divert resources to work harder to convince people and educate people that their vote does count and they should exercise their right to vote."

163. The congressional map causes voter confusion and apathy, which require APRI to divert its resources from its work to register and engage voters. "Because of the way these [congressional district] lines are drawn, people get confused, they're frustrated. You could be in a county that's split down the middle or split in three different ways and they don't know where to vote or who to vote for so they get frustrated, they get confused, they get discouraged and they just don't know what to do so...(they) do nothing. So we're – you know, we have to spend time and resources to work this out"

164. But for the gerrymandered map, APRI could use its resources to register more people to vote.

165. Mr. Washington has to work to overcome voter apathy in his own home district, District 12, where "every third door I knock on people are saying my vote doesn't count in this district, it doesn't matter, the same person is going to get back in office."

166. APRI's members are personally affected by the map as well. APRI has Democratic members in cracked and packed districts who feel "the person that I'm

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voting for doesn't have to work for my vote because they know that they're going to win anyway so it doesn't matter if I vote or not, there's no competition in there.”

167. APRI member Ms. White is a Democratic voter, has supported Democratic candidates for Ohio's congressional delegation in the past, and plans to support such candidates in the future. She is active in voter outreach, education, and get out the vote (“GOTV”) efforts for APRI, the Democratic Party, and as a union organizer. Ms. White currently resides in Ohio's 5th District, where Democratic voters are cracked under the current map, and her vote is diluted.

**2. League of Women Voters of Ohio**

168. Members of the League who are Democrats are injured by the congressional map because they live in congressional districts where Democrats are cracked or packed, diluting their votes.

169. The LWVO's members believe that, especially in Ohio's congressional districts, citizens' votes are diluted because the map is manipulated to guarantee an outcome.

170. The current congressional map has impaired the League's operations and diverted its resources across the decade because of the confusion created by the map's “messy” district lines.

171. This confusion requires the League to set up robust operations to answer calls from voters, confused by the district lines, to determine their polling location. The League has “hundreds of volunteers who are volunteering on election day to answer phone banks ...and the reason why we need to have hundreds of volunteers is because people are confused about their congressional districts . . .”

172. For example in the recent special election in District 12, the League “had to stop what (they) were supposed to be doing . . . so (they) could help voters understand if they

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were in 12 or not.” Voters in Clintonville and Grandview were within a couple of blocks of District 3, 15, and 12, in any direction, and were confused as to whether they could vote.

173. The Ohio congressional map causes the LWVO to divert resources because congressional candidates across the state, secure of reelection, will not agree to participate in candidate forums hosted by the League.

174. Two examples are Congressman Stivers and Congressman Jordan, both of whom have missed League candidate forums.

175. [REDACTED]

176. This wastes a lot of the LWVO's time and energy: the League will have reserved the room, paid for the sound, and made multiple calls; then the LWVO must tell the opposing candidate that they cannot come and speak either, thus impairing the League in the performance of its work.

177. Although Congressmen Stivers and Jordan are two examples; it “happens all over the state.”

178. The voter apathy caused when people feel that their votes do not count makes it harder for the League to perform its work getting out the vote.

179. If the League did not have to divert resources to work on the problems caused by the current congressional map, it would be able to work more on voter education, outreach efforts, getting young people excited about government and registered, putting on candidate forums, and getting out the vote.

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180. If the League did not need to have hundreds of volunteers to help with district line confusion on Election Day, it could reassign these volunteers to help ease the shortages of poll workers on Election Day.

181. LWVO member Mr. Fitzpatrick is a Democratic voter, has supported Democratic candidates for Ohio's congressional delegation in the past, and plans to support such candidates in the future. He is active in voter outreach and education both with the League and as a Democrat. Mr. Fitzpatrick currently resides in Ohio's 14th District, where Democratic voters are cracked under the current map, and his vote is diluted.

**3. Northeast Ohio Young Black Democrats "NEOYBD"**

182. Ohio's gerrymandered congressional map forces NEOYBD to divert resources from its mission by making it more difficult to get out the vote and keep Democratic voters engaged.

183. The voter apathy that the map produces makes it more difficult for NEOYBD to fundraise and get members involved.

184. NEOYBD's membership itself is harmed by the voter apathy and confusion that the map creates: "why would [members] join the organization? Why would they get involved? Why would they talk to their neighbors about us? Because they feel their vote doesn't count."

185. NEOYBD President Gabrielle Jackson, the President of NEOYBD for the past two years and the organization's representative in this litigation, lives in the 9th District. She has experience working against voter apathy and confusion in the packed district where she lives: "It's also known as the Snake on the lake. My representative is Congresswoman Marcy Kaptur. I live in Lakewood, Ohio. She lives in Lucas County. And it's literally a thin line – the way this current map is drawn, it's literally a thin line

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that goes along Lake Erie. There's no adequate way for me, living on the west side of Cleveland to be represented the same as someone living in Lucas County."

186. But for the gerrymandered congressional map, NEOYBD could spend more of its resources more effectively to get out the vote, fundraise, and otherwise support Democratic candidates.

### 4. Hamilton County Young Democrats

187. The votes of the members of the Hamilton County Young Democrats have been diluted due to the construction of the 1st and 2nd Districts.

188. These members have each been deprived of their opportunity to elect candidates of choice in Districts 1 and 2.

189. The way Hamilton County, and particularly the City of Cincinnati, is split between the 1st and 2nd Districts burdens Hamilton County Young Democrats.

190. The way the lines are drawn burdens Hamilton County Young Democrats and its members by creating confusion about which district someone lives in.

191. This voter confusion causes young voters to become less engaged.

192. The way the lines are drawn causes young voters to be apathetic about voting and convinced that being engaged in the process does not matter.

193. This burdens Hamilton County Young Democrats by hampering its ability to associate with young people who could be potential members.

194. Hamilton County Young Democrats encounters young people who decline to become engaged in the political process or to donate funds to the organization or to Democratic candidates because they believe the system is rigged based on the construction of the congressional map.

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195. The congressional lines make it so that Hamilton County Young Democrats must divide their resources and focus between the 1st and 2nd Districts, instead of allowing them to focus on a district that contains the bulk of Hamilton County and the whole of Cincinnati.
196. The Congressmen that represent Districts 1 and 2 are not responsive to the Hamilton County Young Democrats.
197. Members of the Hamilton County Young Democrats have not received responses from Congressmen Chabot and Wenstrup.
198. The President and Vice President of the Hamilton County Young Democrats have attempted to seek constituent services for residents of Hamilton County through their roles in the Office of the County Commissioner and in the Office of the Mayor of the City of Cincinnati. Congressmen Chabot and Wenstrup routinely do not reply to these requests.
199. The Hamilton County Young Democrats expended resources on the campaign of Aftab Pureval in 1st District in 2018 as they felt that “he ha[d] the best chance [to win] in quite some time.”
200. Mr. Pureval did not win the 2018 election.
201. Under Plaintiffs' Proposed Remedial Plan, the percentage of the two-party vote for the Democratic candidate in District 1 was over 57% based on 2018 election results.

**5. The Ohio State University Democrats**

202. The votes of the members of the OSU College Democrats have been diluted due to the construction of the 3rd, 12th, and 15th Districts.
203. The OSU College Democrats and its members have found that the Congress people representing the 3rd, 12th, and 15th Districts are not responsive to them.

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204. By diluting the members' votes, the congressional map, and specifically the construction of the 3rd, 12th, and 15th Districts, impairs the OSU College Democrats ability to carry out its purpose.
205. Because the larger constituency of young voters is split up across these three districts, it impairs the effectiveness of the voting bloc.
206. The way the lines are drawn burdens OSU College Democrats and its members by creating confusion about which district someone lives in.
207. This voter confusion causes young voters to become frustrated and less likely to become or remain engaged with the OSU College Democrats.
208. This was illustrated in summer 2018 during the 12th District Special Election. Many individuals who engage with OSU College Democrats were confused about whether they were supposed to vote on Special Election Day, and OSU College Democrats had to expend it volunteer resources to engage with these voters, instead of on Get Out the Vote activity directed only at the 12th District.
209. The locked up nature of the congressional map causes members of the OSU community to believe that their votes do not matter and to become apathetic.
210. The apathy from young voters caused by the map impairs OSU College Democrats' associational rights.
211. In 2018, OSU College Democrats focused their resources on the Danny O'Connor campaign, both the Special Election and on the November 2018 General Election.
212. Mr. O'Connor did not win the November 2018 election despite a 31.6 percent shift for the Democratic candidate.

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213. Under Plaintiffs' Proposed Remedial Plan, the percentage of the two-party vote for the Democratic candidate in District 12 was over 54% based on 2018 election results.

**6. Individual Plaintiffs**

214. Ms. Goldenhar's vote has been diluted through cracking Democratic voters in the 1st District.

215. Ms. Goldenhar testified that the way the challenged map is drawn burdens her ability to associate and participate in the political process with other Democratic voters in the state of Ohio.

216. Ms. Goldenhar has reached out to her representative, Mr. Chabot, multiple times via email and phone, and has never received a response.

217. Dr. Burks canvassed, put out yard signs and donated money for Jill Schiller's campaign for 2nd District in the 2018 elections. In the course of canvassing, Dr. Burks encountered several individuals who said that "they were not going to vote because it wasn't worth it because they had a strong feeling of what the outcome would be." Given the way in which District 2 is drawn, Jill Schiller's campaign faced an "uphill battle."

218. Dr. Burks testified that his vote has been diluted through cracking Democratic voters in the 2nd District.

219. Dr. Burks testified that the way the challenged map is drawn burdens his ability to associate and participate in the political process with other Democratic voters in the state of Ohio.

220. Dr. Burks testified that the current congressional map made it more difficult for him to elect his candidate of choice.

**APPENDIX B: Plaintiffs' Contested Facts**

221. Ms. Inskeep testified that her vote has been diluted through packing Democratic voters into the 3rd District.
222. Through her electoral activities, Ms. Inskeep has encountered apathetic voters who feel like their vote does not matter as a result of the drawing of the current congressional map.
223. Ms. Inskeep testified that Planned Parenthood decided not to invest resources in Ohio's 3rd District because the Democratic candidate was going to win anyway due to the way the district was drawn.
224. Ms. Inskeep testified that the current congressional map has caused there to be "less political activity and investment in [her] district."
225. Ms. Libster's vote is diluted in Ohio's 4th District, where Democratic voters are cracked under the current Ohio map.
226. Through Ms. Libster's canvassing and fundraising efforts and by talking to her neighbors, she has experienced how the 4th District's design and the congressional map as a whole contribute to voter apathy in her community.
227. Ms. Libster has attempted to fundraise for Democratic candidates including 5th District congressional candidate Janet Garret, but cannot amass support because of the voter apathy caused by the map. Voters are discouraged because Garret loses by "a thirty percent whapping all the time. It's never ever – my vote – when I go in there to vote for Janet Garrett as a Democrat, it's never going to happen. Snowball's chance."
228. From her experience educating voters and talking to her neighbors, Ms. Libster is also aware of the voter confusion caused by the gerrymandered map. For instance, she

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has “friends. . . who live three miles away who are in the 12th District and didn’t even realize they were in the 12th District until we talked about it.”

229. Ms. Libster’s Congressman, Jim Jordan, does not represent her interests as a voter because his district is so safe that he does not need to: “He doesn’t care about my vote. He doesn’t care about representing me.”

230. The 2012 map makes Ms. Libster’s district so safe for Representative Jordan that she and other Democratic voters like her feel their votes have no power. She has stated: “I want my vote to matter. I don’t want to be disenfranchised as a voter. I don’t want to feel like every time I go vote for the Democrat they’re going to get pounded by thirty, forty percent.”

231. Ms. Libster’s district covers so many communities and so much geographic space that she feels her representative could not effectively represent her even if he felt compelled to: “I mean, how do I go to my representative when he’s clear down in Urbana? If I live in Oberlin, how does that happen? That’s a long drive.”

232. Ms. Deitsch lives in the 5th District, where Democratic voters are cracked under the current map, and her vote is diluted.

233. Ms. Deitsch’s experience from canvassing, being involved in politics, and talking to her neighbors is that because the gerrymandered map makes elections a foregone conclusion, voters feel their votes do not matter. “[Y]ou would go and knock on the door and somebody would say to you it doesn’t make any difference who I vote for, they’re not going to win or I’m not going to give you money because they’re not going to win.”

234. Based on the same experience, Ms. Deitsch knows that because the 2012 Map splits her “small county” between “three different [congress]people,” voters in her

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community are often confused about which congressional district they are in. This contributes to their disengagement from the political process.

235. Like other Democratic voters in her district, Ms. Deitsch's own vote does not matter. She feels that Bob Latta does not represent her interests as a voter because his district is so safe, that he does not need to. For example, despite inviting Representative Latta to events, and trying many times to contact his office personally, he has never responded to her or her neighbors.

236. Ms. Boothe lives in Ohio's 6th District where Democratic voters are cracked under the current map, and her vote is diluted.

237. Through canvassing and talking to her friends and neighbors, Ms. Boothe has heard that Democratic voters in her area "feel that their vote is monopoly money" and "said it didn't count." This kind of apathy has made it more difficult for her to successfully organize with the Democratic Party.

238. In Ms. Boothe's experience, Representative Johnson is not responsive to her or her fellow Democrats in the 6th District. For example, she has not seen or heard back from Representative Johnson despite trying to call him.

239. In Ms. Boothe's experience, "[n]obody comes to the district. It's so Republican that they don't have to. The Republicans don't have to come because they are going to win anyhow. And nobody that's Democrat wants to run in that area, because you're going to spend a lot of money and lose anyhow."

240. The geographic spread of Ms. Boothe's district exacerbates these problems.

241. Representative Johnson does not represent Ms. Boothe's interests as a voter because his district is so safe, that he does not need to. For example, in the last election,

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she did not see him campaign anywhere near her, and she believes his opponent had no chance to win.

242. As a result of the gerrymandered map, in Ms. Boothe's district, "[her] vote is like monopoly money; you can cast it, but you can't buy anything for it, because it's too week."

243. Mr. Griffiths testified that his vote in Ohio's 7th District has been diluted through the cracking of Democratic voters.

244. Mr. Griffiths testified that the current congressional map made it more difficult for him to recruit volunteers and campaign for candidates of his choice. He explained that "a number of voters told [him and his wife] when [they] were circulating the [Issue 1] petition that they don't feel like it made a difference if they voted or not voted because the system is such that it wasn't going to make a difference." Mr. Griffiths also testified that he knew "a number of people that [he and his wife] talked to said that they don't vote for that reason."

245. Mr. Griffiths testified that "it has been very difficult to identify candidates willing to take on Bob Gibbs in this case because of how heavily gerrymandered the district is."

246. For example, Mr. Griffiths noted that in 2014 Congressman Gibbs ran unopposed in the congressional election, and he heard conversations that no one was willing to run against Congressman Gibbs.

247. As another example, Mr. Griffiths noted that he spoke with Roy Rich when he ran against Congressman Gibbs in the 2016 election about "how difficult that [it] was to campaign in that district because of the size of the district and trying to get around to different people."

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248. Mr. Griffiths testified that his wife wrote to Congressman Gibbs on a specific issue but received a letter in response from Congressman Gibbs on a completely different issue. Mr. Griffiths testified that his wife shared this information with members of the Indivisible group in Wellington, and other members had experienced the same situation with Congressman Gibbs.
249. Mr. Griffiths testified that the mismatched letters situation demonstrated that Congressman Gibbs “doesn’t really care what we think or don’t think, whether we vote or not vote” because “[h]e is in a position, and still in a position, that he’s going to get re-elected” because of the way the district is drawn “whether or not he appeals to any small group of us Democrats that are scattered throughout the district.”
250. Mr. Griffiths testified that “[i]t has been difficult to connect with other volunteers just because of the geographic” distance between areas that compose the 7th District.
251. For example, Mr. Griffiths testified that the geographic distance between his home and Knox County caused him not to participate in certain canvassing activities.
252. As another example, Mr. Griffiths testified that the geographic distance between his home and Huron County caused him not to participate in phone banking for Democratic congressional candidate Ken Harbaugh.
253. Mr. Nadler lives in Ohio’s 8th District where Democratic voters are cracked under the current map and his vote is diluted.
254. Through his political engagement including canvassing, Mr. Nadler testified that “there are people that I personally have encountered, who feel that it’s not worth their time to vote . . . because it’s not going to make any difference.”

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255. Because of this voter apathy, Mr. Nadler's ability to get out the vote for Democratic candidates in his area is inhibited.
256. Congressman Warren Davidson does not have to care about Mr. Nadler's vote, because he is sure to be reelected.
257. For example, every month Mr. Nadler asks one of Representative Davidson's aides if Davidson will come to his area of the district for a town hall, but he has never seen him. Mr. Nadler identified many instances in which he and others tried to reach out to Davidson and received no response.
258. Mr. Nadler also testified that because the map makes his district so safe for a Republican, his representative is farther to the right than he would otherwise be. "[I]f [Davidson] were listening to people, providing an open forum or multiple meetings for people to be heard, that it could moderate his views a little bit . . . . To be honest with you, I think he doesn't do it because he knows he doesn't have to do it."
259. Ms. Walker's vote in the 9th District has been diluted through the packing of Democratic voters.
260. Ms. Walker testified that she knows Democratic voters who feel like their vote doesn't matter because of the way the current congressional map has been gerrymandered.
261. Ms. Walker believes the geographic distances between areas in the 9th District make it difficult for Congresswoman Marcy Kaptur to adequately represent all her constituents. For example, Ms. Walker testified that she had not seen Congresswoman Kaptur in her neighborhood.

**APPENDIX B: Plaintiffs' Contested Facts**

262. Ms. Walker also testified that the geographic distances between areas in the 9th District make it more difficult to campaign for Democratic candidates.
263. Ms. Walker testified that she thinks the current congressional map makes it harder to fundraise for her candidates of choice because people believe that the “candidate’s going to win anyway.”
264. Ms. Walker testified that she thinks the current congressional map has hurt her ability to educate voters because voters feel like their “vote is going to be manipulated in some way.”
265. Ms. Rader’s vote in the 9th District has been diluted through the packing of Democratic voters.
266. Mr. Rader testified that the geographic distances between areas in the 9th District has hampered constituent services and made it difficult for Congresswoman Marcy Kaptur to adequately represent her constituents.
267. Mr. Rader testified that the fact that the congressional races in the 9th District are not competitive has caused Congresswoman Kaptur to “not draw in good competition” and as a result, “she doesn’t have to be out there as someone running in a more competitive race.”
268. Mr. Rader testified that the geographic distance between areas in the 9th District has made it more difficult for him to organize constituents to visit Congresswoman Kaptur’s office in Toledo.
269. Mr. Rader testified that the current congressional map has hurt his ability to campaign for Democratic candidates. As an example, Mr. Rader said that it was difficult

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to campaign for Democratic congressional candidate Keith Mundy in the 16th District because voters felt that the “district is already staked or the outcome is predetermined.”

270. Mr. Rader testified that the current congressional map has hurt his ability to fundraise and recruit volunteers for Democratic candidates. As an example, Mr. Rader said that it was difficult to raise funds or recruit volunteers for Democratic congressional candidate Keith Mundy in the 16th District because voters “don’t want to give or get involved because they think the way that the districts are drawn, again, like I said, a predetermined outcome.”

271. Mr. Rader testified that the current congressional map “discourages people from voting” by creating voter apathy. Specifically, Mr. Rader said that voters have said “Why should I vote because it doesn’t matter? There’s nothing I can do about it, so I don’t care.”

272. Ms. Megnin lives in the 10th District, where Democratic voters are cracked under the current map, and her vote is diluted.

273. Ms. Megnin is “someone who does regular voter canvassing” for Democratic candidates and issues. Because of the voter apathy caused by the map, she has a difficult time gathering support for Democratic candidates in her district. “[N]o matter how many doors we knocked on, how many campaign supports we did, how much strategizing we did, our structure guarantees that the people would not be able to be competitive in being represented.”

274. Ms. Megnin herself would consider running for local office, but does not believe she “would have a chance of going beyond local because of the gerrymandering.”

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275. As a Democrat in District 10, Ms. Megnin's Representative does not engage with her or other "residents of Dayton itself or other communities that might not be fully supportive of his views." For example, "Mike Turner has not held a town hall meeting for his local constituents in his sixteen years as a congressional representative."

276. Ms. Megnin has tried to call Congressman Turner's office "around a dozen" times over the past several years without receiving a response, and has had a similar experience with email and electronic petitions.

277. The gerrymandered map had made Ms. Megnin's district so safe for Congressman Turner that "[t]here's no reason for the representative to have to listen to the citizens in order to keep their job."

278. Mr. Harris testified that District 11 is a packed district, and as a result his vote is diluted and is not as impactful as it would be otherwise.

279. Mr. Harris's congressional Representative is a Democrat, Congresswoman Marcia Fudge, but she is not the candidate of his choice. She is too far to the left, and she opposes Fast Track Authority and free trade generally. Free trade is extremely important to Mr. Harris. He is pro-business, and Congresswoman Fudge's views in these areas do not align with his. On social issues, they agree more.

280. According to Mr. Harris, Congresswoman Fudge is "from a far more liberal wing of the party that does not reflect local values, which is going to be what happens when you're in a firm, reliably blue district."

281. Mr. Harris testified that Cleveland's economy is not the same as Akron's economy; that the current congressional map forces two very different communities into the same congressional district.

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282. Mr. Harris's Democratic friends are discouraged from voting because there is no meaningful choice in the 11th District.

283. Mr. Dages testified that he is injured by the current congressional map because the way that the 12th District was drawn dilutes his vote, and his voice. His district is cracked. His vote, and the votes of other Democrats in his district, is "watered down."

284. The systematic drawing of the district lines in the current map "took chunks, large chunks of Franklin County out of the 12th District and added additional voters in Muskingum, Richland, Morrow, and (another one)."

285. Democrats are "not heard" in Mr. Dages's district. The district's previous, long-time Congressman, a Republican, "would not hold any public forums, [and] would not respond oftentimes to requests from the public to be heard."

286. Mr. Dages talks "to other voters through the community who say that why should they vote when their votes don't matter, when there's no opportunity for success."

287. Mr. Dages was the President of the Licking County Democratic Club PAC from January 1, 2018 to January 1, 2019, and he is a Central and Executive Committee member of the official party within Licking County.

288. As such, Mr. Dages has tried to recruit candidates to run for office, but due to the nature of the district, "people do not see running as a legitimate opportunity for them because they feel the race is not winnable or competitive. It makes it very difficult to recruit candidates to run," including "highly qualified individuals who would do a superb job if elected to their roles who are unwilling to come forward and put themselves out there knowing that there is no opportunity for them to win."

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289. Mr. Dagnes knows specific individuals who did not run because the race is not winnable because of the way the district is drawn.
290. It is also hard to raise funds or gain financial support for Democratic candidates in District 12 because of the perception that “it is unwinnable so why should I donate.”
291. Dr. Myer lives at in the 13th District, where Democratic voters are packed under the current map, and her vote is diluted.
292. In Dr. Myer’s experience talking to voters and prospective voters in her area, the gerrymandered map has made people less likely to engage with her efforts because they feel their votes do not matter.
293. Dr. Myer feels that since her district spans such a large geographic area including Youngstown, Akron, and the rural northeast of the state, “people in this district aren’t necessarily interested in the same things or don’t have the same concerns.”
294. Because Dr. Myer’s “district is one of the most crazy looking things you’ve ever seen crawling across the map towards the west and a little stripe to pick up Akron” where voters “don’t have the same concerns as people in my area” she feels her representative cannot respond to her concerns..
295. Because Democrats are packed into her district, in Dr. Myer’s experience, Tim Ryan is less responsive to what even Democratic voters want because he knows he will always be re-elected.
296. Dr. Myer feels that in the Thirteenth District her vote is less valuable because “to put all the Democrats, as you well know, together, you know, it dilutes any power of our influence because we’re all lumped together.”

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297. Ms. Hutton lives in the Fourteenth District which is cracked under the congressional map, and her vote is diluted.
298. Ms. Hutton contacted Representative Joyce's office within the past 5 years, likely related to a gun issue. She received a form letter in response. She has not contacted his office since because she knows "how he's going to vote."
299. Ms. Hutton testified that the way the challenged map is drawn burdens her ability to associate and participate in the political process with other Democratic voters in the state of Ohio.
300. Ms. Hutton testified that the current congressional map made it more difficult for her to elect her candidate of choice.
301. Ms. Thobaben lives in the 15th District, where Democratic voters are cracked under the current map, and her vote is diluted.
302. Ms. Thobaben testified that "a lot of people that I have talked to" say they feel like "the probability of Democrats being able to get through any of their candidates is pretty remote" and that their votes do not count. This has made it more difficult to canvass for and elect Democratic candidates.
303. Ms. Thobaben testified that "[my] vote doesn't count because the district has been drawn in such a way that it dilutes my vote . . . It doesn't matter if I vote for Democrats. They don't count."
304. Ms. Thobaben does not "feel represented by Steve Stivers . . . he rarely comes to Clinton County."

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305. Ms. Thobaben contacts her Congressman often using emails, texts, and she also “ha[s] him on speed dial.” But she has either received no response or only form responses.
306. Ms. Rubin lives in the 16th District, where Democratic voters are cracked under the current map. Due to the way her district is drawn, Ms. Ruben’s vote is diluted.
307. Ms. Rubin is injured by the current congressional map because, as a Democrat in District 16, she has “no influence whatsoever on how (her) congressman votes or even considers (her) point of view.”
308. The current congressional map divides Stark County up into three different districts. Ms. Rubin’s political advocacy activity is burdened because, due to this gerrymandered district, most voters she asks “do not know who their congressman is.” When she attempts to help them determine this, it is difficult because “the boundaries on that [congressional] map do not adhere to political boundaries.”
309. Ms. Rubin’s advocacy activities are also affected by the fact that Democrats can’t win in District 16: “Voters who continually vote for candidates who never win eventually get discouraged and stop participating.”
310. Ms. Rubin has a “difficult time finding candidates who are willing to run in districts whose outcome is preconceived. Elections cost a lot of money and a lot of time, and it’s hard to find people principled enough to run if they know their possibility of loss is a hundred percent.” And it’s hard for her party to raise money or advocate effectively.
311. Ms. Rubin has no opportunity to influence how her Congressperson votes on legislation because he “knows he does not owe his allegiance to the voters; he only owes

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it to the party who helped put him there and who drew the district lines to assure that he would win.”

312. Ms. Rubin’s Congressman will not participate in public forums. He only meets with business owners and employees of a business.

## **APPENDIX C**

## PLAINTIFFS' LIST OF CONTESTED ISSUES OF LAW

### 1. Elements:

- a. Are partisan gerrymandering claims justiciable?
- b. What are the elements of partisan gerrymandering claims under the First Amendment, the Equal Protection Clause of the Fourteenth Amendment, the right to vote guaranteed by the First and Fourteenth Amendments, and Article I, § 4?
- c. What standard applies to the parties' relative burdens of proof?

### 2. Discriminatory Intent:

- a. What if any discriminatory intent must be shown to sustain a claim that partisan gerrymandering violates the First Amendment, the Equal Protection Clause of the Fourteenth Amendment, the right to vote guaranteed by the First and Fourteenth Amendments, or Article I, § 4?

### 3. Discriminatory Effect:

- a. What if any discriminatory effect must be shown to sustain a claim that a redistricting scheme violates the First Amendment, the Equal Protection Clause of the Fourteenth Amendment, the right to vote guaranteed by the First and Fourteenth Amendments, or Article I, § 4?

### 4. Justification:

- a. What facts if any would justify a partisan gerrymander?

## **APPENDIX D**

**DEFENDANTS' AND INTERVENORS'  
LIST OF CONTESTED ISSUES OF FACT**

1. That any Plaintiff lives in a “packed” or “cracked” district.
2. That the 2012 Plan has placed a burden on any Plaintiff’s right to vote.
3. That the 2012 Plan has diluted the vote of any Plaintiff.
4. That any Plaintiff lacks an equal or fair opportunity to elect the Congressperson of their choice.
5. That any Plaintiff lacks an equal or fair opportunity to meaningfully influence congressional elections.
6. That any Plaintiff has been prohibited from meaningfully participating in the political process.
7. That any Plaintiff has been inhibited by the 2012 Plan in voting, volunteering for any candidate, fundraising, donating to a candidate, engaging others to vote, or otherwise participating in electioneering activities, etc.
8. That the 2012 Plan is unconstitutionally biased in favor of the Republican Party.
9. That the 2012 Plan was designed to create a 12 to 4 Republican advantage.
10. That there was a plan to consider drawing a map with a 13-3 Republican advantage.
11. That any version of the map had to be approved by any national Republicans.
12. That any particular district was drawn with the intent to make it a Republican District or a Democratic District.
13. That Redmap had any involvement or impact on Ohio’s congressional redistricting in 2011.
14. How any political indices impacted the drawing of the congressional lines in 2011.
15. What role politics played in the drawing of the congressional lines in 2011.
16. That Democratic Party legislators, constituents, or representatives lacked political leverage in the redistricting process.

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17. That any partisan tilt or so-called “bias” in the 2012 Plan is the result, solely or otherwise, of partisan intent.
18. That any partisan tilt or so-called “bias” in the 2012 Plan is the result of anything other than geography and legitimate redistricting factors.
19. That any measure Plaintiffs provide of measuring partisan tilt or so-called “bias” is reliable, accurate, or meaningful.
20. That the 2012 Plan is unfair as measured by any manageable standards of assessing fairness.
21. That the 2012 Plan can be considered too partisan under any manageable standard when the legislature intended to pair two sets of Democratic and two sets of Republican incumbents.
22. That the 2012 Plan can be considered too partisan under any manageable standard when a majority of Democratic members of the legislature voted for it.
23. That the 2012 Plan can be considered too partisan under any manageable standard when the legislature intended to protect Democratic incumbents along with Republican incumbents.
24. That the 2012 Plan can be considered too partisan under any manageable standard when the legislature chose not to attempt to create a 13-3 Republican advantage, which was possible.

# APPENDIX E

**DEFENDANTS' AND INTERVENORS'  
LIST OF CONTESTED ISSUES OF LAW**

1. Do Plaintiffs' claims fail to state a claim upon which relief may be granted?
2. Are Plaintiffs' claims justiciable?
3. Do the allegations by Plaintiffs in the Second Amended Complaint demonstrate only generalized grievances about legislative decisions?
4. Do Plaintiffs lack standing?
5. Should Plaintiffs' claims be dismissed on the grounds of estoppel and laches?
6. Should Plaintiffs' claims be dismissed and/or the relief sought in the Second Amended Complaint be denied under *Purcell v. Gonzalez*, 549 U.S. 1 (2006)?
7. Do Plaintiffs fail to identify a manageable standard for determining a Constitutional violation?
8. Do Plaintiffs' gerrymandering theories fail to constitute evidence of individualized injury under the First Amendment, Fourteenth Amendment, or Article I of the United States Constitution?
9. Does the 2012 Plan violate Plaintiffs' rights under the First Amendment of the United States Constitution?
10. Does the 2012 Plan violate Plaintiffs' rights under the Fourteenth Amendment of the United States Constitution?
11. Does the 2012 Plan violate Plaintiffs rights under Article I of the United States Constitution?
12. Has any Plaintiff demonstrated an injury under the 2012 Plan?
13. Is any injury demonstrated by Plaintiffs fairly traceable to the 2012 Plan?
14. Is any injury demonstrated by Plaintiffs redressable?
15. Is any injury demonstrated by Plaintiffs redressable by Plaintiffs' Proposed Remedial Plan?

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16. Have Plaintiffs submitted or defined a judicially manageable standard to assess whether the 2012 Plan violates the United States Constitution?
17. Did the overwhelming bipartisan support for the 2012 Plan violate the United States Constitution?
18. If Plaintiffs have submitted or defined a judicially manageable standard to assess whether the 2012 Plan violates the United States Constitution, then does the 2012 Plan violate any such standard in light of the overwhelming bipartisan legislative support for the Plan and the numerous nonpartisan factors that influenced individual districts in the 2012 Plan?

# APPENDIX F

**PLAINTIFFS' WITNESSES**

Plaintiffs' Opening	20 minutes
Defendants' / Intervenors' Opening	20 minutes
Plaintiffs' Direct Examinations:	1075 minutes
Douglas Burks	30 minutes
Aaron Dagnes	30 minutes
John Fitzpatrick	30 minutes
Rep. Marcia Fudge	30 minutes
Christopher Glassburn	120 minutes
Mark Griffiths	30 minutes
Jennifer Miller	40 minutes
Elizabeth Myer	30 minutes
Nathaniel Simon	30 minutes
Nina Turner	30 minutes
Andre Washington	30 minutes
Stephanie White	30 minutes
Dr. Wendy Cho	180 minutes
William S. Cooper	120 minutes
Dr. Lisa Handley	45 minutes
Dr. David Niven	90 minutes
Dr. Christopher Warshaw	180 minutes
Plaintiffs' Cross Examinations:	825 minutes
Plaintiffs' Reserved Rebuttal:	180 minutes
Defendants' / Intervenors' Time:	1480 minutes
Total Time:	3600 minutes = 60 hours

**1. Douglas J. Burks**

Plaintiffs anticipate that Mr. Burks will provide testimony as to the impact of the 2011 congressional map on himself.

**2. Aaron Dagnes**

Plaintiffs anticipate that Mr. Dagnes will provide testimony as to the impact of the 2011 congressional map on himself.

**3. John Fitzpatrick**

Plaintiffs anticipate that Mr. Fitzpatrick will provide testimony as to the impact of the 2011 congressional map on himself.

**4. U.S. Congresswoman Marcia Fudge**

Plaintiffs anticipate that Congresswoman Fudge will provide testimony about the treatment of the Eleventh Congressional District in the 2011 redistricting. On February 25, 2019, the Court granted Plaintiffs' Motion to Offer Trial Testimony of Congresswoman Fudge in Open Court by Live Videoconference. (Doc. 232).

**5. Christopher Glassburn**

Plaintiffs anticipate that Mr. Glassburn will provide testimony about the negotiations between Democrats and Republicans regarding H.B. 369.

**6. Mark John Griffiths**

Plaintiffs anticipate that Mr. Griffiths will provide testimony as to the impact of the 2011 congressional map on himself.

**7. Jen Miller**

Plaintiffs anticipate that Ms. Miller will provide testimony as to the impact of the 2011 congressional map on the League of Women Voters of Ohio and its Democratic members.

**8. Elizabeth Myer**

Plaintiffs anticipate that Dr. Myer will provide testimony as to the impact of the 2011 congressional map on herself.

**9. Nathaniel Simon**

Plaintiffs anticipate that Mr. Simon will provide testimony as to the impact of the 2011 congressional map on the Hamilton County Young Democrats and its Democratic members.

**10. Nina Turner**

Plaintiffs anticipate that Ms. Turner will provide testimony about the negotiations between Democrats and Republicans regarding H.B. 369.

**11. Andre Washington**

Plaintiffs anticipate that Mr. Washington will provide testimony as to the impact of the 2011 congressional map on the Ohio A. Phillip Randolph Institute and its Democratic members.

**12. Stephanie White**

Plaintiffs anticipate that Ms. White will provide testimony as to the impact of the 2011 congressional map on herself.

# APPENDIX G

## DEFENDANTS' WITNESSES

Witness Name	Witness Type	Estimated Minutes Direct	Def/Int'v Estimate of Plaintiffs' Minutes Cross
B. Batchelder	Defendant Fact	90	60
J. Boehner	Intervenor Fact	60	40
R. DiRossi	Defendant Fact	150	120
T. Judy	Defendant Fact	60	40
M. Hood	Defendant Expert	150	120
D. Johnson	Defendant Expert	90	60
S. Trende	Defendant Expert	90	65
J. Thornton	Defendant Expert	120	90
T. Brunell	Intervenor Expert	90	60

### 1. Honorable William Batchelder

Mr. Batchelder was Speaker of the Ohio House of Representatives from 2006 to 2015. Mr. Batchelder may be called to provide testimony regarding the 2011 Ohio congressional redistricting process and his involvement regarding the same.

### 2. Ray DiRossi

Mr. DiRossi was retained by the Ohio General Assembly as a consultant by the Republican members of the Task Force to assist in redrawing the Ohio congressional map in 2011. Mr. DiRossi may be called to provide testimony regarding the 2011 Ohio congressional redistricting process and his involvement regarding the same, as well as his prior involvement in the 2001 Ohio congressional redistricting process.

### 3. Troy Judy

Mr. Judy served as the Chief of Staff of the Ohio House of Representatives from 2009 to 2014. Mr. Judy may be called to provide testimony regarding the 2011 Ohio congressional redistricting process and his involvement regarding the same.

# APPENDIX H

**INTERVENORS' WITNESS**

<b>Witness Name</b>	<b>Witness Type</b>	<b>Estimated Minutes Direct</b>	<b>Def/Int'v Estimate of Plaintiffs' Minutes Cross</b>
B. Batchelder	Defendant Fact	90	60
J. Boehner	Intervenor Fact	60	40
R. DiRossi	Defendant Fact	150	120
T. Judy	Defendant Fact	60	40
M. Hood	Defendant Expert	150	120
D. Johnson	Defendant Expert	90	60
S. Trende	Defendant Expert	90	65
J. Thornton	Defendant Expert	120	90
T. Brunell	Intervenor Expert	90	60

**1. Honorable John Boehner**

Mr. Boehner was the U.S. representative for Ohio's 8th congressional district from 1991 to 2015 and served as the Speaker of the U.S. House of Representatives from 2011 to 2015. Mr. Boehner may be called to testify regarding the 2011 Ohio congressional redistricting process and his involvement regarding the same.

# APPENDIX I

## PLAINTIFFS' EXPERT WITNESSES

### 1. **Dr. Wendy K. Tam Cho**

Dr. Cho will testify concerning her simulated map analysis of Ohio's congressional districts.

### 2. **Mr. William S. Cooper**

Mr. Cooper will testify to the remedial and hypothetical maps for Ohio's congressional districts.

### 3. **Dr. Lisa Handley**

Dr. Handley will testify to the Voting Right Act (VRA) analysis she did for Ohio's congressional district that includes Cuyahoga County

### 4. **Dr. David Niven**

Dr. Niven will testify to the analysis he did of Ohio's congressional boundaries.

### 5. **Dr. Christopher Warshaw**

Dr. Warshaw will testify to the partisan bias and responsiveness of Ohio's congressional districts. He will further testify to the effects that gerrymandering has representation in Congress.

# APPENDIX J

**DEFENDANTS' EXPERT WITNESSES**

**1. Dr. M.V. (Trey) Hood III**

Dr. Hood will provide testimony as disclosed in his initial and supplemental reports.

**2. Dr. Douglas Johnson**

Dr. Johnson will provide expert testimony as disclosed in his report.

**3. Dr. Janet Thornton**

Dr. Thornton will provide testimony as disclosed in her report.

**4. Mr. Sean P. Trende**

Mr. Trende will provide expert testimony as disclosed in his report.

# APPENDIX K

**INTERVENORS' EXPERT WITNESS**

**1. Dr. Thomas Brunell**

Dr. Brunell will provide expert testimony as disclosed in his report.

# APPENDIX L

Plaintiffs' Ex. No.	Date	Description	Bates Range
P001	9/14/2011	Email from M. Dittoe to T. Judy, M. Lenzo, and C. Hawley, subject FW: Media Gaggle 9/14	LWVOH_00001745-49
P002	12/15/2011	Email from H. Mann to P. Halle, RE: RE:	SOS_000425-26
P003	11/3/2011	Email from H. Mann to H. Pelger, subject FW: New Congressional Districts	SOS_000071-78
P004	7/23/2016	C. Bensen Curriculum Vitae (Dkt. 59-2)	Bensen Depo Ex. 1
P005	2010	Presentation, "Election Data for Redistricting"	LENZO_0004434-40
P006	10/4/2011	Invoice for POLIDATA LLC	Bensen_0000013
P007	2/16/2012	Invoice for POLIDATA LLC	Bensen_0000014-15
P008	6/1/2011	Email from M. Braden to C. Bensen, subject FW:	BRADEN000657-58
P009	8/10/2011	Email from C. Bensen to H. Mann, M. Lenzo, and M. Thomas, subject RE:	JUDY_0001692-96
P010	8/11/2011	Email from C. Bensen to H. Mann, M. Braden, subject Re: (Case 34304) Export equivalency file (6143525819)	BRADEN000782
P011	8/15/2011	Email from H. Mann to C. Bensen, T. Horgan, Maptitude Technical Support, subject FW: TEST of Congressional districts as DBF	Bensen_0000033-38
P012	9/16/2011	Email from H. Mann to C. Bensen, (no subject)	Bensen_0000044
P013	7/10/2011	Email from C. Bensen to R. DiRossi, H. Mann, et al., subject Ohio Apportionment and Redistricting political data	Bensen Depo Ex. 10
P014	7/22/2011	Example of Calculations for Election Averages EA11 to EA16	Bensen_0000004-06
P015	7/22/2011	[Metadata] Example of Calculations for Election Averages EA11 to EA16	Bensen_0000004 Metadata
P016	10/4/2018	Screenshot of Polidata folder	BLESSING0013211 > Polidata_2018.10.04
P017	10/4/2018	Screenshot of Polidata > Clark 07-24-11 folder	BLESSING0013211 > Polidata > Clark 07-24-11_2018.10.04
P018	7/24/2011	Maptitude screenshot, Map1 - 2010 Final Census Blocks (Ohio)	BLESSING0013211 [Polidata > Clark 07-24-11 > ccBlock.cdf]

Plaintiffs' Ex. No.	Date	Description	Bates Range
P019	9/14/2011	Chart, District/Pop	BENSEN_0000084 [sep14 > dvw_aggset_ohcd_2011_enacted-sep14_ohmix_kl15a.xls]
P020		Example of Calculations for Election Averages EA11 to EA16	Bensen_0000001-03
P021	7/24/2011	Maptitude screenshot, Map1 - 2010 Final Counties (Ohio)	BLESSING0013211 [Polidata > Clark 07-24-11 > ccCounty.cdf]
P022	9/14/2011	Email from H. Mann to C. Bensen, (no subject)	Bensen_0000042
P023	9/2/2011	Email from A. Kincaid to R. DiRossi, H. Mann, and T. Whatman, subject New Idea Redraft	LWVOH_00018302-08
P024	10/26/2011	Email from H. Mann to C. Bensen, subject FW: Ohio Congressional District Shapefile	Bensen_0000047-48
P025	11/9/2011	Email from H. Mann to C. Bensen, subject test of indexes	Bensen_0000063-64
P026		Chart, District Indexes	BLESSING0012553
P027		Chart, District Indexes	BLESSING0013212
P028	12/14/2011	Chart, District Indexes	BENSEN_0000086 [dec14 > dvw_aggset_ohcd_2011_revised-hb369-dec14.xls]
P029	12/15/2011	Measures of Compactness	BENSEN_0000086 [mtr_compactness_ohcd_2011_revised-hb369-dec14]
P030	12/15/2011	Email from H. Mann to C. Bensen, subject RE:	Bensen_0000075-76
P031		Maptitude screenshot, HB 369 as passed Test 2	BENSEN_0000086 [Congressional Shape Files Test 2_HB369 as Passed Test 2.shp]
P032	7/15/2011	Email from M. Braden to M. Salling, H. Mann, C. Bensen, et al., subject RE: conference call	BRADEN000683-84
P033	12/15/2011	Email from H. Mann to C. Bensen, (no subject)	Bensen_0000077
P034	12/15/2011	Email from H. Mann to C. Bensen, (no subject)	Bensen_0000078

Plaintiffs' Ex. No.	Date	Description	Bates Range
P035	8/29/2011	Email from H. Mann to B. Hansen, subject Out of Office: Weekly Redistricting Meeting	GOV_000219
P036	8/3/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Policy Widgets, LLC	LWVOH_00018268-70
P037	7/5/2011	Email from V. Flasher to R. DiRossi and J. Licursi, subject Re: Time sensitive issue for OHROC/RSCC - Apportionment data	Blessing Depo Ex. 5
P038	7/5/2011	Email from J. Licursi to V. Flasher, R. DiRossi, et al., subject Re: Time sensitive issue for OHROC/RSCC - Apportionment data	Blessing Depo Ex. 6
P039	7/10/2011	Email from C. Bensen to R. DiRossi, H. Mann, et al., subject RE: Ohio Apportionment and Redistricting political data	Blessing Depo Ex. 7
P040		Final political index used	DIROSSI_0000014-16
P041		Chart, District Indexes	BLESSING0012553
P042		Chart, District Indexes	BLESSING0013212
P043		Screenshot of documents in BLESSING0012635 folder	BLESSING0012635
P044	10/28/2009	Subcontract between Cleveland State University and Ohio University	LENZO_0002358-73
P045		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio)	BLESSING0012635 [HB 369 Map Revised December 14th] 001
P046		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 16)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD16_001- 24
P047		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 1)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD01_001- 06
P048		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 2)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD02_001- 06

Plaintiffs' Ex. No.	Date	Description	Bates Range
P049		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 3)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD03_001-06
P050		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 4)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD04_001-06
P051		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 5)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD05_001-06
P052		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 6)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD06_001-06
P053		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 7)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD07_001-06
P054		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 8)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD08_001-06
P055		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 9)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD09_001-06
P056		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 10)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD10_001-06
P057		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 11)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD11_001-06
P058		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 12)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD12_001-06

Plaintiffs' Ex. No.	Date	Description	Bates Range
P059		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 13)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD13_001-06
P060		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 14)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD14_001-06
P061		Maptitude screenshot, HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio) (dataview District 15)	BLESSING0012635 [HB 369 Map Revised December 14th]_CD15_001-06
P062		Screenshot of documents in Polidata > Clark 07-24-11 folder	BLESSING0013211 > Polidata > Clark 07-24-11
P063		Maptitude screenshot, Map 1 - 2010 Final Census Blocks (dataview Block 4015)	BLESSING0013211 [Polidata > Clark 07-24-11 > ccBlock.cdf]_001-06
P064		Ohio House Republican Caucus, William G. Batchelder, Speaker - Map Talking Points	SOS_000073-78
P065	5/12/2011	Discussion Points for Mark Braden Meetings	LWVOH_00008711
P066	6/2/2011	Proposed Agenda for Mark Branden Visit	LWVOH_00008710
P067		Script & Agenda for Thursday, June 2 Meetings	LWVOH_00008708-09
P068	7/5/2011	Email from K. Rench to B. Hansen and H. Mann, subject RE: redistricting meetings	HANSEN_000104-05
P069	7/1/2011	Email from H. Mann to R. DiRossi, M. Lenzo, et al., subject Weekly Reidistricting Meetings	GOV_000223
P070	6/1/2011	Memorandum from H. Mann to W. Batchelder, et al., subject Proposed schedule for Congressional redistricting hearings	SENATE000001-28
P071	7/15/2011	Wyndham Cleveland at Playhouse Square, Group Rooming List	LWVOH_00005432
P072	9/14/2011	Email from H. Mann to J. Renacci, subject Numbers	LWVOH_00018321
P073		Turner-Austria Option Talking Points	LWVOH_00008616

Plaintiffs' Ex. No.	Date	Description	Bates Range
P074	11/2/2009	Memorandum from Mark Salling to Ohio Legislative Task on Redistricting Reapportionment and Demographic Research and the Ohio Legislative Services Commission, subject Status of Development of 2011 Redistricting Database	BRADEN_000084
P075	6/6/2011	Memorandum from Mark Salling to Ohio Legislative Task on Redistricting Reapportionment and Demographic Research and the Ohio Legislative Services Commission, subject Status of Development of 2011 Redistricting Database	BRADEN000713-14
P076	9/2/2011	Email from A. Kincaid to R. DiRossi, H. Mann, T. Whatman, subject New Idea Redraft	LWVOH_00018302-08
P077	3/31/2011	Chart, Ohio Changes	BRADEN001387
P078		Chart, Ohio Changes	OHCF0001438
P079		Chart, Ohio Changes	OHCF0001481
P080	11/1/2011	Email from H. Mann to R. DiRossi, M. Lenzo and T. Judy, subject I2:0901-0130-map0.pdf	LWVOH_00018250
P081		Chart/Map - District/Member	LWVOH_00018251, BRADEN000754
P082		Chart, CD 9 Ideas	BRADEN000753
P083	11/3/2011	Email from R. DiRossi to M. Braden, subject Re: Updated Fact Sheet	BRADEN000758-60
P084	11/2/2011	Email from R. DiRossi to M. Braden, subject Congressional Index comparison	BRADEN000757
P085	9/21/2011	Email from S. Chabot to S. Towns, subject Re: Update...	CHABOT_000006
P086		Cho CV	Cho Depo Ex. 1
P087	10/18/2018	Cho Initial Expert Report	Cho Depo Ex. 2
P088	11/26/2018	Cho Rebuttal Report	Cho Depo Ex. 3
P089	10/18/2018	Cho source code [confidential under protective order]	Cho Depo Ex. 4 [Confidential under protective order]
P090	10/5/2018	Cooper Declaration, Initial Report	Cooper Depo Ex. 1
P091	11/30/2018	Cooper Declaration Errata and Exhibits	Cooper Depo Ex. 6

Plaintiffs' Ex. No.	Date	Description	Bates Range
P092	11/26/2018	Cooper Supplemental Declaration and Exhibits	Cooper Depo Ex. 8
P093	11/27/2018	Cooper Second Supplemental Declaration	Cooper Depo Ex. 9
P094	10/5/2018	Subpoena to Testify (Ray DiRossi)	DiRossi Depo Ex. 1
P095	6/15/2018	Subpoena to Produce Documents (Ray DiRossi)	DiRossi Depo Ex. 2
P096	10/7/2011	Ohio Campaign for Accountable Redistricting, Letter from J. Slagle to R. DiRossi and H. Mann, subject Transparency Report; Public Records Request	LWVOH_00004033-34
P097	5/12/2011	Discussion Points for Mark Braden Meetings	LWVOH_00008711
P098	5/31/2011	R. DiRossi meeting notice REDISTRICTING: SOFTWARE DEMO - MAPTITUDE	DIROSSI_0000017
P099	6/16/2011	R. DiRossi meeting notice CONFIRMED: LEGISLATIVE TASK FORCE ON REDISTRICTING	DIROSSI_0000018
P100	7/5/2011	R. DiRossi meeting notice CONFIRMED: President Niehaus call with Congressman LaTourette	DIROSSI_0000019
P101	7/1/2011	Email from R. DiRossi to H. Mann, subject Re: HOLD for redistricting software training	LWVOH_00010555
P102	8/1/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Capital Advantage, LLC	LWVOH_00005475-77
P103	8/4/2011	Termination Agreement	DIROSSI_0000527
P104	7/7/2011	R. DiRossi meeting notice, subject 2:45 p.m. CONFIRMED: REDISTRICTING TRAINING	DIROSSI_0000020
P105	7/8/2011	R. DiRossi meeting notice, subject CONFIRMED: REDISTRICTING TRAINING	DIROSSI_0000021
P106	7/7/2011	Redistricting Meetings Agenda	LWVOH_00008706-07
P107	5/1/2010	Slide from presentation, "Drawing the Lines"	DiRossi Depo Ex. 14
P108	8/30/2011	R. DiRossi meeting notice, subject CONFIRMED: Meet with Tom Whatman - DC	DIROSSI_0000038
P109	7/12/2011	Double Tree Guest Suites Invoice	LWVOH_00018254
P110	9/15/2011	R. DiRossi meeting notice, subject CONFIRMED: Meet with Niehaus at Bunker	DIROSSI_0000051
P111	8/4/2011	Email from R. DiRossi to C. Morefield and H. Mann, subject Re: Plotter	DiRossi Depo Ex. 18

Plaintiffs' Ex. No.	Date	Description	Bates Range
P112	11/15/2011	2011 Political Indexes	DIROSSI_0000139-41
P113	11/15/2011	Chart, The State Indexes	DIROSSI_0000526
P114		Congressional map drawing contest - winning maps	DIROSSI_0000470-72
P115		Chart, HB319 Indexes	DIROSSI_0000010
P116		Chart, HB319 Indexes	DIROSSI_0000142
P117	9/26/2011	Bill Signings: HB 218 & HB 319	GOVPR_008278-80
P118	9/2/2011	R. DiRossi meeting notice, subject CONFIRMED: Meet with Leadership on Redistricting Bill	DIROSSI_0000039
P119	9/2/2011	Email from A. Kincaid to R. DiRossi, H. Mann, T. Whatman, subject New Idea Redraft	LWVOH_00018302-08
P120	9/5/2011	R. DiRossi meeting notice, subject CONFIRMED: Meet with Speaker and others re: Redistricting	DIROSSI_0000040
P121	9/6/2011	R. DiRossi meeting notice, subject CONFIRMED: Meet with President Niehaus re: Apportionment and Redistricting	DIROSSI_0000043
P122	9/8/2011	R. DiRossi meeting notice, subject CONFIRMED: Senate Leadership Meeting	DIROSSI_0000044
P123	9/9/2011	R. DiRossi meeting notice, subject CONFIRMED: Senate Leadership Meeting	DIROSSI_0000045
P124	9/10/2011	Email from R. DiRossi to K. Faber, subject (no subject)	LWVOH_00018310
P125	9/11/2011	Email from T. Niehaus to R. DiRossi, subject Redistricting "tweaks"	LWVOH_00018297
P126	9/12/2011	Emails from R. DiRossi to T. Niehaus, subject Proposed map for LSC	LWVOH_00018298-301
P127	9/12/2011	Email from R. DiRossi to T. Whatman, subject Stivers maps	LWVOH_00018320
P128	9/12/2011	Email from R. DiRossi to A. Kincaid, subject Ohio final map with possible Stivers addition	LWVOH_00018322-25
P129	9/12/2011	R. DiRossi meeting notice, subject CONFIRMED: Meeting at bunker about rollout	DIROSSI_0000046
P130	9/14/2011	Email from H. Mann to R. DiRossi, subject Numbers	LWVOH_00018321
P131	12/15/2011	Email from R. DiRossi to H. Pelger, subject Re: RE:	SOS_001010-11

Plaintiffs' Ex. No.	Date	Description	Bates Range
P132	11/2/2011	R. DiRossi meeting notice, subject CONFIRMED: Brief Leadership on Congressional Maps	DIROSSI_0000061
P133		Political Indexes - Proposed Congressional Districts	DIROSSI_0000499
P134	11/2/2011	Chart, The State Indexes	DIROSSI_0000525
P135	11/10/2011	Chart, Plan Comparison	DIROSSI_0000518
P136	7/14/2011	Email from J. McClelland to L. Obhof, subject Niehaus Names Members to Senate Select Committee on Redistricting	SENATE000035-36
P137	7/15/2011	Email from E. Bittner to L. Obhof, subject FW: Senate Select Committee on Redistricting	SENATE000037-38
P138	9/21/2011	Transcript, Ohio State Senate Session	Faber Depo Ex. 19
P139	12/14/2011	Transcript, Ohio State Senate Session	Faber Depo Ex. 21
P140	8/10/2011	2010 Ohio Common and Unified Redistricting Database, Technical Documentation Version 3, prepared for The Legislative Services Committee of the Ohio General Assembly by Dr. Mark Salling	CTRL0000012068
P141	11/2/2011	Email from K. McCarthy to C, Glassburn and A. Budish, subject Re: counter - Draft Presentation, attaching presentation, "Redistricting Discussion"	SMC-KM-000263, SMC-KM-000409-13
P142		Major Map Files from 2010-2011	CTRL0000011317
P143		Metadata and list of files produced in Memorex USB\Offers folder in Glassburn Production	Glassburn Depo Ex. 15
P144		Maptitude screenshot, 319 original.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 1)	GLASSBURN_0020 [319 Original_CD01]
P145		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 16)	GLASSBURN_0051 [OFFICIAL HB 369 ADOPTED FINAL_CD16]_01-03
P146		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 1)	GLASSBURN_0036 [OFFICIAL HB 369 ADOPTED FINAL_CD01]_01-03

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Plaintiffs' Ex. No.	Date	Description	Bates Range
P147		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 2)	GLASSBURN_0037 [OFFICIAL HB 369 ADOPTED FINAL_CD02]_01-03
P148		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 3)	GLASSBURN_0038 [OFFICIAL HB 369 ADOPTED FINAL_CD03]_01-03
P149		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 4)	GLASSBURN_0039 [OFFICIAL HB 369 ADOPTED FINAL_CD04]_01-03
P150		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 5)	GLASSBURN_0040 [OFFICIAL HB 369 ADOPTED FINAL_CD05]_01-03
P151		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 6)	GLASSBURN_0041 [OFFICIAL HB 369 ADOPTED FINAL_CD06]_01-03
P152		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 7)	GLASSBURN_0042 [OFFICIAL HB 369 ADOPTED FINAL_CD07]_01-03
P153		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 8)	GLASSBURN_0043 [OFFICIAL HB 369 ADOPTED FINAL_CD08]_01-03
P154		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 9)	GLASSBURN_0044 [OFFICIAL HB 369 ADOPTED FINAL_CD09]_01-03
P155		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 10)	GLASSBURN_0045 [OFFICIAL HB 369 ADOPTED FINAL_CD10]_01-03
P156		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 11)	GLASSBURN_0046 [OFFICIAL HB 369 ADOPTED FINAL_CD11]_01-03

Plaintiffs' Ex. No.	Date	Description	Bates Range
P157		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 12)	GLASSBURN_0047 [OFFICIAL HB 369 ADOPTED FINAL_CD12]_01-03
P158		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 13)	GLASSBURN_0048 [OFFICIAL HB 369 ADOPTED FINAL_CD13]_01-03
P159		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 14)	GLASSBURN_0049 [OFFICIAL HB 369 ADOPTED FINAL_CD14]_01-03
P160		Maptitude screenshot, OFFICIAL 369 ADOPTED FINAL.map - Block Split - Block - Block Group - Tract - BOE County (dataview District 15)	GLASSBURN_0050 [OFFICIAL HB 369 ADOPTED FINAL_CD15]_01-03
P161	2010-2011	11-4	Identified in Glassburn Depo Ex. 14
P162	2010-2011	11-4-11	Identified in Glassburn Depo Ex. 14
P163	2010-2011	11-08-11 Mod	Identified in Glassburn Depo Ex. 14
P164	2010-2011	11-08-11 retry	Identified in Glassburn Depo Ex. 14
P165	2010-2011	11-8-11 R Mod	Identified in Glassburn Depo Ex. 14
P166	2010-2011	319	Identified in Glassburn Depo Ex. 14
P167	2010-2011	319 Original	Identified in Glassburn Depo Ex. 14
P168	2010-2011	369 dec 14	Identified in Glassburn Depo Ex. 14
P169	2010-2011	CongDraft	Identified in Glassburn Depo Ex. 14
P170	2010-2011	CongressDraft	Identified in Glassburn Depo Ex. 14

Plaintiffs' Ex. No.	Date	Description	Bates Range
P171	2010-2011	My Ohio Congressional Draft	Identified in Glassburn Depo Ex. 14
P172	2010-2011	My Ohio Congressional	Identified in Glassburn Depo Ex. 14
P173	2010-2011	Dem Congress 2 (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P174	2010-2011	Dem Congress 3 (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P175	2010-2011	Dem Congress 4 (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P176	2010-2011	Dem Congress 5 (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P177	2010-2011	Dem Congress Nov (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P178	2010-2011	Dem Congress 1 (Dem Congress Proposal10182011)	Identified in Glassburn Depo Ex. 14
P179	2010-2011	DemCounterDATA_NOV1_2011	Identified in Glassburn Depo Ex. 14
P180	2010-2011	DemCounterDATA_NOV1_2011_HUFF	Identified in Glassburn Depo Ex. 14
P181	2010-2011	Congress646	Identified in Glassburn Depo Ex. 14
P182	2010-2011	Counter 2	Identified in Glassburn Depo Ex. 14
P183	2010-2011	Huffman R Cong	Identified in Glassburn Depo Ex. 14
P184	2010-2011	Huffman Sykes	Identified in Glassburn Depo Ex. 14
P185	2010-2011	Huffsykes	Identified in Glassburn Depo Ex. 14
P186	2010-2011	New District 16	Identified in Glassburn Depo Ex. 14

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Plaintiffs' Ex. No.	Date	Description	Bates Range
P187	2010-2011	Balanced Plan	Identified in Glassburn Depo Ex. 14
P188	2010-2011	Balanced Plan 1	Identified in Glassburn Depo Ex. 14
P189	2010-2011	DemBalanced	Identified in Glassburn Depo Ex. 14
P190	2010-2011	Nov 1 Counter	Identified in Glassburn Depo Ex. 14
P191	2010-2011	Nov 4 2011	Identified in Glassburn Depo Ex. 14
P192	2010-2011	Nov 18	Identified in Glassburn Depo Ex. 14
P193	2010-2011	11-5	Identified in Glassburn Depo Ex. 14
P194	2010-2011	11-6	Identified in Glassburn Depo Ex. 14
P195	2010-2011	Nov 18 D	Identified in Glassburn Depo Ex. 14
P196	2010-2011	Nov 2	Identified in Glassburn Depo Ex. 14
P197	2010-2011	Nov 3	Identified in Glassburn Depo Ex. 14
P198	2010-2011	Nov 8	Identified in Glassburn Depo Ex. 14
P199	2010-2011	OH_CD_Current	Identified in Glassburn Depo Ex. 14
P200	2010-2011	OH_CD_Empty	Identified in Glassburn Depo Ex. 14
P201	2010-2011	OH_CD_Political_EastToEast	Identified in Glassburn Depo Ex. 14
P202	2010-2011	OH_CD_Political_Empty	Identified in Glassburn Depo Ex. 14

Plaintiffs' Ex. No.	Date	Description	Bates Range
P203	2010-2011	OH_CD_Political_Training110805	Identified in Glassburn Depo Ex. 14
P204	2010-2011	OH_CD_Political_VRA2CD11	Identified in Glassburn Depo Ex. 14
P205	2010-2011	OH_CD_Training110805	Identified in Glassburn Depo Ex. 14
P206	2010-2011	R First Offer	Identified in Glassburn Depo Ex. 14
P207	2010-2011	RandallCongressa	Identified in Glassburn Depo Ex. 14
P208	2010-2011	Rep Congress Final	Identified in Glassburn Depo Ex. 14
P209	2010-2011	Rep Congress Final2	Identified in Glassburn Depo Ex. 14
P210	2010-2011	Rep Congress Final3	Identified in Glassburn Depo Ex. 14
P211	2010-2011	Republican Congress	Identified in Glassburn Depo Ex. 14
P212	2010-2011	Republican Offer_Nov1_2011	Identified in Glassburn Depo Ex. 14
P213	2010-2011	Republican New	Identified in Glassburn Depo Ex. 14
P214	2010-2011	Republican New1	Identified in Glassburn Depo Ex. 14
P215	2010-2011	RepublicanNewDATA	Identified in Glassburn Depo Ex. 14
P216	2010-2011	RepublicanNewDATA_NOV_1_2011	Identified in Glassburn Depo Ex. 14
P217	2010-2011	RepublicanNewDATA_NOV1	Identified in Glassburn Depo Ex. 14
P218	2010-2011	RepublicanNewDATA_NOV1_2011	Identified in Glassburn Depo Ex. 14

Plaintiffs' Ex. No.	Date	Description	Bates Range
P219	2010-2011	CONGRESSIONAL PLAN EQUIVALENCY FILE	Identified in Glassburn Depo Ex. 14
P220	2010-2011	OFICIAL 369 ADOPTED FINAL	Identified in Glassburn Depo Ex. 14
P221	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers	Identified in Glassburn Depo Ex. 15
P222	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response	Identified in Glassburn Depo Ex. 15
P223	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Democratic Responses	Identified in Glassburn Depo Ex. 15
P224	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Democratic Responses\Nov 18 Files (DEM)	Identified in Glassburn Depo Ex. 15
P225	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Democratic Responses\Nov 2 Files	Identified in Glassburn Depo Ex. 15
P226	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Democratic Responses\Nov 5 Files	Identified in Glassburn Depo Ex. 15
P227	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Democratic Responses\Nov 6 Files	Identified in Glassburn Depo Ex. 15
P228	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn ,production\Files\Memorex USB\Offers\Democratic Response\Nov 18	Identified in Glassburn Depo Ex. 15

Plaintiffs' Ex. No.	Date	Description	Bates Range
P229	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 18\NOV 18	Identified in Glassburn Depo Ex. 15
P230	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 18\Nov 18 D Backups	Identified in Glassburn Depo Ex. 15
P231	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 2	Identified in Glassburn Depo Ex. 15
P232	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 2\NOV1_2011REVISION (sent nov2)	Identified in Glassburn Depo Ex. 15
P233	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 2\NOV1 2011REVISION (sent nov2)\Nov 2 D Backups	Identified in Glassburn Depo Ex. 15
P234	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 5	Identified in Glassburn Depo Ex. 15
P235	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\MemorexUSB\Offers\Democratic Response\Nov 5\11-5	Identified in Glassburn Depo Ex. 15
P236	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 5\Nov 5 Backups	Identified in Glassburn Depo Ex. 15
P237	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 6	Identified in Glassburn Depo Ex. 15

Plaintiffs' Ex. No.	Date	Description	Bates Range
P238	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 6\11-6	Identified in Glassburn Depo Ex. 15
P239	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Democratic Response\Nov 6\Nov 6 Backups	Identified in Glassburn Depo Ex. 15
P240	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans	Identified in Glassburn Depo Ex. 15
P241	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 18	Identified in Glassburn Depo Ex. 15
P242	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 18\Nov 18 Backups	Identified in Glassburn Depo Ex. 15
P243	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 18\Nov Modified (minus Renacci)	Identified in Glassburn Depo Ex. 15
P244	11/29/2018	Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 3	Identified in Glassburn Depo Ex. 15
P245		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 3\Nov 3 Backups	Identified in Glassburn Depo Ex. 15
P246		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 3\NOV MODIFIED	Identified in Glassburn Depo Ex. 15
P247		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 8	Identified in Glassburn Depo Ex. 15

Plaintiffs' Ex. No.	Date	Description	Bates Range
P248		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 8\2011-11-08 REVISIONS TO MAP	Identified in Glassburn Depo Ex. 15
P249		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Nov 8\Nov 8 Backups	Identified in Glassburn Depo Ex. 15
P250		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Republican Plans	Identified in Glassburn Depo Ex. 15
P251		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Republican Plans\Nov 18 Files	Identified in Glassburn Depo Ex. 15
P252		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Republican Plans\Nov 3 Files	Identified in Glassburn Depo Ex. 15
P253		Directory of Y:\OPRI\20181129_Glassburn Production\Files\Memorex USB\Offers\Republican Plans\Republican Plans\Nov 8 Files	Identified in Glassburn Depo Ex. 15
P254	10/5/2018	Handley Initial Expert Report	Handley Depo Ex. 1
P255	7/15/2018	Email from B. Hansen to C. Sulecki, subject FWD: did you attend	HANSEN_000130-31
P256	12/17/2018	"Trying to Thread the Needle: The Effects of Redistricting in a Georgia Congressional District" by Hood and McKee	Hood Depo Ex. 9
P257	12/17/2018	Political Subdivision Split Between Districts Data	Hood Depo Ex. 10
P258	12/17/2018	"Unwelcome Constituents: Redistricting and Countervailing Partisan Tides" by Hood and McKee	Hood Depo Ex. 11
P259	12/17/2018	"Partisan Classification of Ohio's Congressional Districts, 2012" Indexes	Hood Depo Ex. 12

Plaintiffs' Ex. No.	Date	Description	Bates Range
P260	12/17/2018	"Partisan Classification of Ohio's Congressional Districts, 2012" With Races	Hood Depo Ex. 13
P261	12/17/2018	Ohio House Republican Caucus "How the Problem Started"	MCGREGOR000002-07
P262	12/17/2018	"Partisan Classification of Ohio's Congressional Districts, 2012" with Unified Index	Hood Depo Ex. 15
P263	12/17/2018	"Races Used in Hood Ohio Partisan Distribution Figures"	Hood Depo Ex. 16
P264	12/17/2018	"2014 Statewide Races" in Hood Figure 7	Hood Depo Ex. 17
P265	12/17/2018	2002 Races by County	Hood Depo Ex. 18
P266	11/12/2018	rdcy_OH_2002_2010_2x.DBF	Previously Disclosed (Hood)
P267	11/12/2018	rdst_OH_2002_2010_2x.DBF	Previously Disclosed (Hood)
P268	11/12/2018	VTD 2004-2010.xls	Previously Disclosed (Hood)
P269	11/12/2018	VTD 2012-2016.xls	Previously Disclosed (Hood)
P270	7/15/2011	Email from A. Meden to GOP_All and Dem_All, subject House Subcommittee on Redistricting Regional Hearings Announcement	HOUSE000336-37
P271	9/15/2011	Transcript, Ohio House Session	Huffman Depo Ex. 7
P272	9/8/2011	Email from A. Meden to Undisclosed recipients, subject State Government & Elections Committee Notice	GOV_000026-27
P273	9/13/2011	Announcement of Committee Meeting	Huffman Depo Ex. 10
P274	9/13/2011	Announcement of Committee Meeting	Huffman Depo Ex. 11
P275	9/21/2011	Transcript, Ohio State House Session	Huffman Depo Ex. 13
P276	11/3/2011	Transcript of Video Recorded Session, Ohio House of Representatives	Huffman Depo Ex. 17
P277	12/14/2011	Rules and Reference Committee Minutes	Huffman Depo Ex. 18
P278		H.B. 369, Rep. Matt Huffman, Sponsor Testimony	Huffman Depo Ex. 19
P279	4/8/2010	RSLC Announces Leadership Additions, Jankowski and Fehrer to Further Strengthen RSLC Team	RSLC00001614-15
P280	6/15/2010	Email from C. Jankowski to T. Reynolds and E. Gillespie, subject REDMAP Political Report Draft	RSLC00002806
P281	6/1/2010	REDMAP Political Report: June 2010	RSLC00002807-24
P282	7/1/2010	REDMAP Political Report: July 2010	RSLC00001934-36

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Plaintiffs' Ex. No.	Date	Description	Bates Range
P283	9/1/2010	REDMAP Political Report: September 2010	RSLC00001982-89
P284	9/21/2010	REDMAP September Political Report, Breakfast Briefing, Washington, DC	RSLC00002020
P285		Redistricting Majority Project REDMAP: A program of the Republican State Leadership Committee	RSLC00000373-89
P286		Draft Memorandum from C. Jankowski, subject RSLC Redistricting	RSLC00001596
P287		Draft Letter from JCJ Email Text	RSLC00002030
P288		Letter from C. Jankowski to Legislative Leaders	Jankowski Depo Ex. 13
P289	3/30/2011	Appointment Record, subject Meeting with Tom Hofeller, Dale Oldham & Mike Wild, Organizer: Scott Ward	RSLC00002515
P290	2012	Spreadsheet, 2012 Cycle Redistricting Budget	RSLC00002528
P291	2/29/2012	Letter from C. Jankowski to T. Hofeller re termination of agreement between SGLF and Geographic Strategies LLC	SGLF00000102
P292	1/27/2012	SGLF Request for Payment with Invoice attached	SGLF00000088-91
P293	1/3/2013	Memorandum from C. Jankowski to Interested Parties, subject REDMAP Impact on Today's House GOP Majority	RSLC00002581-2585
P294		Mailer from Congressman Bill Johnson, Ohio Leadership Briefing	JOHNSON_000065
P295	11/16/2010	Email from M. Weaver to B. Johnson, subject Redistricting	JOHNSON_000008-9
P296	4/25/2011	Email from M. Smullen to B. Johnson, P. Hashem, M. Weaver, M. Van Blargan, and D. Locke, subject redistricting / fundraising talking point	JOHNSON_000108
P297	8/1/2011	Memorandum from Communications Counsel, Inc., M. Weaver and M. Dole, to the Johnson For Congress Team, subject Political budget 2012	CC0118-22
P298	7/14/2011	Email from M. Smullen to B. Johnson, subject Redistricting	JOHNSON_000055
P299	7/18/2011	Email from M. Weaver to B. Johnson, subject Tom Niehaus	JOHNSON_000040

Plaintiffs' Ex. No.	Date	Description	Bates Range
P300	2012	NRCC Presentation, "Redistricting, Strengthening the Majority in 2012"	NRCC000031
P301		Excel spreadsheet from Douglas Johnson	D. Johnson Depo Ex. 16
P302	8/18/2011	Email from J. McNulty to J. Jordan, R. Yonkura, subject 8/18 AUGLAIZE FR BRIEFING	JORDAN_000001-04
P303	8/15/2011	Email from J. McNulty to J. Jordan, subject 8/15 MORROW BRIEFING	JORDAN_000005-06
P304	7/28/2011	Email from M. Smullen to B. Johnson, M. Weaver and P. Hashem, subject Dispatch article	JOHNSON_000036-37
P305	7/15/2018	Email from B. Hansen to C. Sulecki, subject Fwd: did you attend	HANSEN_000130-31
P306	8/1/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Capital Advantage, LLC	LWVOH_00005475-77
P307	8/3/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Policy Widgets, LLC	LWVOH_00005478-80
P308	7/11/2011	Email from H. Mann to T. Judy, R. DiRossi, et al., subject Congressional Redistricting Regional Hearing Schedule	GOV_000202-04
P309	7/20/2011	Congressional redistricting timeline	LWVOH_00018247
P310	2012	NRCC Presentation, "Path to Victory and National Mood"	NRCC000031
P311	5/19/2011	Chart, District 12 Indices	TIBERI_000039
P312	5/19/2011	[Metadata] Chart, District 12 Indices	TIBERI_000039 Metadata
P313	3/31/2011	Chart, Ohio Changes	NRCC000012
P314	3/31/2011	[Metadata] Chart, Ohio Changes	NRCC000012 Metadata
P315	9/2/2011	Email from A. Kincaid to R. DiRossi, H. Mann, T. Whatman, subject New Idea Redraft	LWVOH_00018302-07
P316	3/31/2011	Chart, Ohio Changes	BRADEN001387
P317	3/31/2011	[Metadata] Chart, Ohio Changes	BRADEN001387 Metadata
P318	3/31/2011	Screenshot of Excel Formula for Average from Chart, Ohio Changes	BRADEN001387 Excel Formula for Average
P319	11/19/2018	Ohio Map, District 9	BRADEN001388
P320	11/19/2018	[Metadata] Ohio Map, District 9	BRADEN001388 Metadata
P321		Ohio Map, District 11	BRADEN001389

Plaintiffs' Ex. No.	Date	Description	Bates Range
P322		[Metadata] Ohio Map, District 11	BRADEN001389 Metadata
P323		Ohio Map, Hamilton County	BRADEN001390
P324		[Metadata] Ohio Map, Hamilton County	BRADEN001390 Metadata
P325		Ohio Map, Northeast	BRADEN001391
P326		[Metadata] Ohio Map, Northeast	BRADEN001391 Metadata
P327		Ohio Map	BRADEN001392
P328		[Metadata] Ohio Map	BRADEN001392 Metadata
P329		Chart, District Indices	LWVOH_00018333
P330		Chart, Ohio Changes	LWVOH_00018480
P331	3/31/2011	Chart, Ohio Changes	LWVOH_00018481
P332	9/12/2011	Email from R. DiRossi to A. Kincaid, subject Ohio final map with possible Stivers addition	LWVOH_00018322-25
P333	3/31/2011	Chart, Ohio Changes	NRCC000013
P334	3/31/2011	[Metadata] Chart, Ohio Changes	NRCC000013 Metadata
P335	10/3/2011	Chart, HB319 Indexes	DIROSSI_0000010
P336		Maptitude screenshot, 10-27-11 Adam New Map.map - 2010 Final Census Blocks (Ohio)	BLESSING0012635 [10-27-11 Adam New Map]_001
P337	11/2/2011	Chart, The State Indexes	DIROSSI_0000525
P338	11/5/2011	Chart, HB369/HB319	BLESSING_0013212
P339	10/19/2011	Chart, HB319	NRCC000014
P340	10/19/2011	Chart, HB319 Excel Formula for Average	NRCC000014 Excel Formula for Average
P341	11/2/2011	Chart, HB319 Indexes	DIROSSI_0000142
P342		Subpoena to Produce Documents (Michael Lenzo)	Lenzo Depo Ex. 1
P343	7/29/2011	Email from M. Lenzo to M.Hardenbrook, J. Barron, H. Mann and M. Grodhaus, subject Apportionment Board Records Officer	LWVOH_00013776
P344	10/7/2011	Letter from J. Slagle to R.DiRossi and H. Mann re Transparency Report; Public Records Request	LWVOH_00004033-34
P345	11/21/2011	Letter from M. Lenzo to J. Slagle	LWVOH_00018262-63
P346		Presentation, "Drawing the Lines"	LENZO_0002549-80
P347	1/12/2011	Letter from T. Hofeller to Colleague	LENZO_0004023

Plaintiffs' Ex. No.	Date	Description	Bates Range
P348	5/12/2010	PowerPoint Presentation, GOP Redistricting Conference, Section 5 of the Federal Voting Rights Act, Presentation by Marguerite Mary Leoni	LENZO_0004575-81
P349	2011	2011 RNC Redistricting Legal and Technical Reference Materials	LENZO_0004024-26
P350		Twelve Points of Redistricting Awareness	LENZO_0004396-400
P351	9/28/2010	Presentation, "What I've Learned About Redistricting - The Hard Way!"	LENZO_0004553-65
P352	9/1/2011	Email from H. Mann to R. DiRossi , M. Lenzo, and T. Judy, subject FW: I2-0901-0130-map0.pdf	LWVOH_00018250
P353		map Bates stamped LWVOH_00018251	LWVOH_00018251
P354		Compromise Proposal to Draw Fair Congressional Districts	SMC-KM-000363-372
P355	11/3/2011	Email from S. Bender to K. McCarthy, subject RE: final release	SMC-KM-000138-40
P356	11/30/2011	Email from K. McCarthy to M. Szollosi, subject Talking Points for Blade	SMC-KM-000270-72
P357	12/22/2011	Email from R. Routt to G. Boas and A. Hoyt, subject HB 369/HB319 Statistical comparison	SMC-AH-000368
P358		Chart, HB319 and HB369 Comparison	SMC-AH-000369
P359	12/12/2011	Ohio Redistricting Transparency Report, The Elephant In the Room	LWVOH_00018400-21
P360		Presentation, "Ohio Redistricting Competition"	LWVOH_0074117-32
P361		Ohio's Gerrymandering Problem: Why Haven't We Fixed this Yet?	LWVOH_0109308-27
P362	5/4/2017	Proposal from J. Morgan to K. Barlow to provide the City of Placentia with map drawing services for redistricting new council districts, and J. Morgan Curriculum Vitae	Morgan Depo Ex. 2
P363	7/7/2011	Redistricting Meetings Agenda	LWVOH_00008706-07
P364	7/31/2011	Invoice for Applied Research Coordinates Ltd	MORGAN_000002
P365	8/31/2011	Invoice for Applied Research Coordinates Ltd	MORGAN_000018
P366	9/29/2011	Invoice for Applied Research Coordinates Ltd	MORGAN_000019

Plaintiffs' Ex. No.	Date	Description	Bates Range
P367	8/17/2018	Screenshot of Morgan document production folder	Morgan Document Production_August 17, 2018
P368	8/17/2018	Screenshot of Morgan document production ccBlock_oh_r07 folder	Morgan Document Production_File Types_ccBlock_oh_r07
P369	8/17/2018	Maptitude screenshot, Map1 - 2010 Final Census Blocks (Ohio)	MORGAN>August 17, 2018>ccBlock_oh_r07_ccBlock.cdf _1-8
P370		Presentation, "Drawing the lines"	LENZO_0002549-80
P371	12/4/2011	Email from Jenna Mann to Bob Latta, subject 12.14.11- Proposed Congressional Map	LATTA_000002
P372	6/26/2011	Email exchange between Jim Renacci and Tom Whatman, subject Ohio	RENACCI_000138
P373	12/3/2011	Email from Jim Renacci to James Slepian and Katelyn Barlage, subject I have an idea	RENACCI_000057
P374	3/17/2011	Email exchange between Jim Renacci and James Slepian, no subject	RENACCI_0000079
P375	7/8/2011	Email exchange between Thomas Queen and Jim Renacci, subject Obhof	RENACCI_000137
P376	11/13/2011	Email exchange between James Slepian and Jim Renacci, subject Google Alert - jim renacci	RENACCI_000131
P377	3/4/2011	Email exchange between Jim Renacci, James Slepian and Katelyn Barlage, no subject	RENACCI_000051-53
P378	8/11/2011	Email from Mike Turner to Peggy Lehner and Ryan Dwyer, subject Montgomery Co TPs, enclosing Montgomery County Redistricting TPs	TURNER_000121-22
P379	3/20/2011	Email exchange between Betsy Hawkings, Mike Turner, Adam Murka and Ryan Dwyer, subject redistricting meeting followup	TURNER_000314
P380	9/9/2011	Email from Mike Turner to scl@mail.house.gov, subject Redistricting	TURNER_000172

Plaintiffs' Ex. No.	Date	Description	Bates Range	
P381	2/9/2011	Email exchange between Betsy Hawkings, Nick Raines and Mike Turner, et al., subject Ohio Chiefs lunch today	TURNER_000319	
P382	4/29/2011	Email exchange between Betsy Hawkings and Mike Turner, subject Redistricting scuttlebutt	TURNER_000317	
P383	9/2/2011	Map file, "Four-Way Split 9-2-11.map"	BLESSING0013211 [Caliper > Maptitude for Redistricting 6.0 > Four-Way Split 9-2-11]	
P384	9/30/2010	Calendar entries for September 1, 2010 to September 30, 2010	BOEHNER_000001-23	
P385	9/13/2011	Email from Heather Mann to Michael Lenzo, subject Congressional Redistricting Talking Points, enclosing "Congressional Redistricting Talking Points"	LWVOH_0052437-40	
P386		Assignment letter from Mike DeWine and Michael Hall to Mark A. Johnson, Baker & Hostetler, LLP, enclosing retention agreement		
P387	8/29/2018	Affidavit of Non-Party Thomas B. Whatman in support of his Assertion of First Amendment Privilege		
P388	12/14/2011	Transcript, Ohio State House Session		
P389		House Bill # Rep. Matt Huffman, Sponsor Testimony	SENATE000002	
P390	9/22/2010	[REDACTED]	REV_00023206 [Attorney's Eyes Only]	
P391			REV_00023214 [Attorney's Eyes Only]	
P392	2010		REV_00000869 [Attorney's Eyes Only]	
P393	9/6/2011		REV_00023176-83 [Attorney's Eyes Only]	
P394	9/8/2011		REV_00023234 (Attorney's eyes only)	
P395	9/23/2010		REV_00023246 (Attorney's Eyes Only)	

Plaintiffs' Ex. No.	Date	Description	Bates Range
P396	9/29/2010	[REDACTED]	REV_00023241 (Attorney's Eyes Only)
P397	9/15/2011		REV_00023497 (Attorney's Eyes Only)
P398	12/14/2011		REV_00023479 (Attorney's Eyes Only)
P399	12/14/2011		REV_00025340 (Attorney's Eyes Only)
P400	10/27/2011		REV_00023317-18 (attorney's eyes only)
P401	10/21/2011		REV_00023321 (Attorney's Eyes only)
P402	10/31/2011		REV_00023334 (attorney's eyes only)
P403			REV_00023516-17 (attorney's eyes only)
P404			REV_00023469 (attorney's eyes only)
P405			"319" Map Files [Glassburn Volume I Production]
P406		"OFICIAL 269 ADOPTED FINAL" Map Files [Glassburn Volume I Production]	Glassburn Volume I Production
P407	9/9/2011	Email from T. Judy to H. Mann, Fwd: Talking Points	LWVOH_0052431-32
P408	4/19/2012	[REDACTED]	REV_00000016 [Attorney's Eyes Only]
P409	12/15/2011		REV_00023341 [Attorney's Eyes Only]
P410	9/16/2011		REV_00023337 [Attorney's Eyes Only]

Plaintiffs' Ex. No.	Date	Description	Bates Range
P411	9/26/2011		REV_00023339 [Attorney's Eyes Only]
P412	4/25/2012		REV_00000004 [Attorney's Eyes Only]
P413	4/19/2012		REV_00000019 [Attorney's Eyes Only]
P414	2/6/2012		REV_00000001 [Attorney's Eyes Only]
P415	2018	LWVO Agenda for Action 2017-2019	LWVOH_0092777-840
P416	2017	LWVO Agenda for Action 2016-2018	LWVOH_0089871-934
P417	10/2/2018	Chart, LWVO Active Members for State	LWVOH_0058202
P418	6/30/2018	Chart, LWVO Balance Sheet and Statement of Equity	LWVOH_0020447
P419	7/19/2011	OCAR Press Release, "Redistricting Competition Begins Today"	LWVOH_0041957-58
P420	2018	APRI Trumbull County Membership List	OAPRI_000000157
P421	8/11/2011	Email from Mark Salling to John Barron, et al., subject June (and early July) 2011 Redistricting Database progress report, enclosing July-early August progress report	BRADEN000790-98
P422	10/22/2011	Email exchange between Mark Salling and John Barron, et al., subject September 2011 Redistricting Database project progress report	SMC-RR-029494
P423	7/15/2011	Email from Mark Salling to Heather Mann, Mark Braden, Clark Bensen, Mike Lenzo, and Ray DiRossi, subject conference call, attaching census_versus_boe_MCDPlace_population_MS.xls	BRADEN000737-39
P424	8/8/2011	Email exchange between Mike Lenzo, Clark Bensen, Troy Judy, Ray DiRossi and Heather Mann, subject Redistricting database	JUDY_0001700-02

Plaintiffs' Ex. No.	Date	Description	Bates Range
P425	4/26/2018	Video, <a href="https://www.cityclub.org/forums/2018/04/26/ohio-ballot-beat-the-bipartisan-congressional-redistricting-reform-amendment-issue-1">https://www.cityclub.org/forums/2018/04/26/ohio-ballot-beat-the-bipartisan-congressional-redistricting-reform-amendment-issue-1</a>	MISCPLTS_0000001
P426	12/28/2018	Cho Supplemental Expert Report	N/A
P427	20/20/2018	Cho Errata	N/A
P428	11/11/2016	A Massively Parallel Evolutionary Markov Chain Monte Carlo Algorithm for Sampling Complicated Multimodal State Spaces. Wendy Tam Cho & Yan Y. Liu. SC18: The International Conference for High Performance Computing, Networking, Storage and Analysis	N/A
P429	9/15/2018	Sampling from Complicated and Unknown Distributions: Monte Carlo and Markov Chain Monte Carlo Methods for Redistricting. Wendy Tam Cho & Yan Y. Liu. Physica A 506:170–178.	N/A
P430	2018	Cain, Bruce E., Wendy K. Tam Cho, Yan Y. Liu and Emily Zhang. 2018. "A Reasonable Bias Method for Redistricting: A New Tool for an Old Problem." William & Mary Law Review 59(5):1521-1557.	N/A
P431	2017	Cho, Wendy K. Tam. 2017. "Measuring Partisan Fairness: How well does the Efficiency Gap Guard Against Sophisticated as well as Simple-Minded Modes of Partisan Discrimination?" University of Pennsylvania Law Review Online 166.	N/A
P432	2018	Cho, Wendy K. Tam. 2018. "Algorithms Can Foster a More Democratic Society." Nature 558:487.	N/A
P433	2001	Cho, Wendy K. Tam and Albert H. Yoon. 2001. "Strange Bedfellows: Politics, Courts, and Statistics: Statistical Expert Testimony in Voting Rights Cases." Cornell Journal of Law and Public Policy 10(2):237-264.	N/A

Plaintiffs' Ex. No.	Date	Description	Bates Range
P434	2005	Cho, Wendy K. Tam and Albert H. Yoon. 2005. "Panethnicity Revisited: Asian Indians, Asian American Politics, and the Voting Rights Act." UCLA Asian Pacific American Law Journal 10:8-30.	N/A
P435	2015	Cho, Wendy K. Tam and Yan Y. Liu. 2015. A High-Performance Approach for Solution Space Traversal in Combinatorial Optimization. SC15: The International Conference for High Performance Computing, Networking, Storage and Analysis.	N/A
P436	2016	Cho, Wendy K. Tam and Yan Y. Liu. 2016a. A Scalable Evolutionary Algorithm with Intensification and Diversification Protocols Designed for Statistical Models. SC16: The International Conference for High Performance Computing, Networking, Storage and Analysis.	N/A
P437	12/1/2016	Cho, Wendy K. Tam and Yan Y. Liu. 2016b. "Toward a Talismanic Redistricting Tool: A Fully Balanced Computational Method for Identifying Extreme Redistricting Plans." Election. Law Journal 15(4):351-366	N/A
P438	2017	Cho, Wendy K. Tam and Yan Y. Liu. 2017. Massively Parallel Evolutionary Computation for Empowering Electoral Reform: Quantifying Gerrymandering via Multi-objective Optimization and Statistical Analysis. SC17: The International Conference for High Performance Computing, Networking, Storage and Analysis.	N/A
P439	2012	King, Douglas M., Sheldon H. Jacobson, Edward C. Sewell and Wendy K. Tam Cho. 2012. "GeoGraphs: An Efficient Model for Enforcing Contiguity and Hole Constraints in Planar Graph Partitioning." Operations Research 60(5):1213-1228.	N/A

Plaintiffs' Ex. No.	Date	Description	Bates Range
P440	2018	Liu, Yan Y. and Wendy K. Tam Cho. 2018. "Spatially Explicit Evolutionary Computation for Largescale Spatial Optimization." Technical Report.	N/A
P441	7/28/2015	Liu, Yan Y., Wendy K. Tam Cho and Shaowen Wang. 2015. A Scalable Computational Approach to Political Redistricting Optimization. In Proceedings of the 2015 Annual Conference on Extreme Science and Engineering Discovery Environment. XSEDE15: Scientific Advancements Enabled by Enhanced Cyberinfrastructure St. Louis, MO: pp. 6:1--6:2.	N/A
P442	4/4/2016	Liu, Yan Y., Wendy K. Tam Cho and Shaowen Wang. 2016. "PEAR: A Massively Parallel Evolutionary Computation Approach for Political Redistricting Optimization and Analysis." Swarm and Evolutionary Computation 30:78-92.	N/A
P443	6/1/1973	Tufte, Edward R. 1973. "The Relationship between Seats and Votes in Two-Party Systems." American Political Science Review 67(2):540-554.	N/A
P444	10/18/2018	oh_presc2	CHO_000001
P445	10/18/2018	cg1216.csv	Previously Disclosed (Cho)
P446	10/18/2018	com08.r	Previously Disclosed (Cho)
P447	10/18/2018	plaintiffs.r	Previously Disclosed (Cho)
P448	10/18/2018	run0.txt - run63.txt	Previously Disclosed (Cho)
P449	11/26/2018	dat12.txt	CHO_000004
P450	11/26/2018	rebuttal.r	CHO_000005
P451	12/28/2018	com.r	Previously Disclosed (Cho)
P452	12/28/2018	dat18.txt	Previously Disclosed (Cho)
P453	12/28/2018	pdat.txt	Previously Disclosed (Cho)
P454	10/5/2018	Cooper Initial Expert Report Appendix	N/A
P455	9/28/2018	PROPOSED_REMEDIAL_PLAN.DBF	N/A
P456	10/5/2018	Cooper Report Appendix.pdf	COOPER_000001-78
P457	10/5/2018	OCURD_data(m.salling@csuohio.edu).zip	COOPER_000079

Plaintiffs' Ex. No.	Date	Description	Bates Range
P458	10/5/2018	OCURD_documentation(m.salling@csuohio.edu).zip	COOPER_000080
P459	10/5/2018	OCURD_shapes(m.salling@csuohio.edu).zip	COOPER_000081
P460	10/5/2018	OH.dbf	COOPER_000082
P461	10/5/2018	OH.prj	COOPER_000083
P462	10/5/2018	OH.shp	COOPER_000084
P463	10/5/2018	OH.shx	COOPER_000085
P464	10/5/2018	2010_VTDS_2012_2014_2016_election_data.xlsx	COOPER_000086
P465	11/27/2018	2011_Incumbent_addresses_11_27.zip	COOPER_000087
P466	11/27/2018	HYPO1A.dbf	COOPER_000088
P467	11/27/2018	HYPO2A.dbf	COOPER_000089
P468	11/30/2018	2018-11-30 Incumbent Addresses	Previously Disclosed (Cooper)
P469	11/30/2018	Nov30.DBF	Previously Disclosed (Cooper)
P470	12/28/2018	2018_DATA.DBF	Previously Disclosed (Cooper)
P471	12/28/2018	New Incumbent address.xlsx	Previously Disclosed (Cooper)
P472	10/5/2018	OH data.sav	NIVEN_000001
P473	11/12/2018	Effgaps2.csv excel	Previously Disclosed (Trende)
P474	10/5/2018	"USHouse_Data_updated.RData"	WARSHAW_000026
P475	10/5/2018	"declination_data"	WARSHAW_000012
P476	12/28/2018	Warshaw Supplemental Report ("An Evaluation of the Partisan Bias in Ohio's 2011 Congressional Plan and its Effects on Representation: Updated based on 2018 Elections")	Previously Disclosed (Warshaw)
P477	8/14/2012		REV_00000003 [Attorney's Eyes Only]
P478	9/15/2011		REV_00000015 [Attorney's Eyes Only]
P479	4/19/2012		REV_00000021 [Attorney's Eyes Only]
P480	12/20/2011		REV_00000040 [Attorney's Eyes Only]
P481	7/26/2018		REV_00000041 [Attorney's Eyes Only]

Plaintiffs' Ex. No.	Date	Description	Bates Range
P482	12/20/2011	[REDACTED]	REV_00000042 [Attorney's Eyes Only]
P483	7/26/2018		REV_00000043 [Attorney's Eyes Only]
P484	12/20/2011		REV_00000044 [Attorney's Eyes Only]
P485	7/26/2018		REV_00000045 [Attorney's Eyes Only]
P486	11/6/2011		REV_00000887 [Attorney's Eyes Only]
P487	9/9/2011		REV_00023184 [Attorney's Eyes Only]
P488	9/9/2011		REV_00023185 [Attorney's Eyes Only]
P489	9/9/2011		REV_00023186 [Attorney's Eyes Only]
P490	9/9/2011		REV_00023187 [Attorney's Eyes Only]
P491	9/9/2011		REV_00023188 [Attorney's Eyes Only]
P492	9/9/2011		REV_00023189 [Attorney's Eyes Only]
P493	9/9/2011		REV_00023190 [Attorney's Eyes Only]
P494	9/9/2011		REV_00023191 [Attorney's Eyes Only]
P495	9/9/2011		REV_00023192 [Attorney's Eyes Only]
P496	9/22/2011		REV_00023377 [Attorney's Eyes Only]

Plaintiffs' Ex. No.	Date	Description	Bates Range
P497	12/14/2011		REV_00023429 [Attorney's Eyes Only]
P498	12/14/2011		REV_00023430 [Attorney's Eyes Only]
P499	12/14/2011		REV_00023431 [Attorney's Eyes Only]
P500	9/16/2011		REV_00023335 [Attorney's Eyes Only]
P501	12/14/2011		REV_00023540 [Attorney's Eyes Only]
P502	7/13/2011	Email from C. Boor to H. Mann, S. Marangoni and R. Kapala, subject Double Tree Suites Reservation	LWVOH_00018255
P503	11/28/2011	Vouchers for payment for vendors Capital Advantage LLC and Policy Widgets LLC	LWVOH_00018279-82
P504	10/5/2018	analysis_ushouse.R	WARSHAW_0000028
P505	10/5/2018	cces_OH.R	WARSHAW_0000029
P506	10/5/2018	cces2014_trustrep.r	WARSHAW_0000030
P507	10/5/2018	dataassembly_ushouse.R	WARSHAW_0000031
P508	10/5/2018	remedial_plan_analysis.R	WARSHAW_0000032
P509	11/26/2018	PrePost2011_Ohio.R	WARSHAW_0000049
P510	11/26/2018	rebuttal_competitiveness.R	WARSHAW_0000050
P511	11/26/2018	remedial_plan_analysis_imputations.R	WARSHAW_0000051
P512	12/28/2018	analysis_ushouse_2018.R	Previously Disclosed (Warshaw)
P513	12/28/2018	dataassembly_ushouse_2018.R	Previously Disclosed (Warshaw)
P514	12/28/2018	remedial_analysis_2018.R	Previously Disclosed (Warshaw)
P515	8/1/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Capital Advantage, LLC	LWVOH_00005475-77
P516	8/3/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Policy Widgets, LLC	LWVOH_00005478-80
P517	9/11/2011	Email from C. Widener to T. Niehaus and M. Schuler, subject Fw: clark county	LWVOH_00018318

Plaintiffs' Ex. No.	Date	Description	Bates Range
P518	9/12/2011	Email from R. DiRossi to T. Niehaus, subject Proposed map for LSC	LWVOH_00018298-301
P519	9/11/2011	Email from R. DiRossi to T. Niehaus, subject Map 2 of 4	LWVOH_00018313
P520	9/12/2011	Email from M. Schuler to H. Mann and T. Judy, (no subject)	LWVOH_00018319
P521	9/20/2011	HB 318/HB 319 Senate Government Oversight & Reform Committee File	Niehaus Depo Ex. 24
P522	10/12/2011	Statement from Ohio Secretary of State Jon Husted	Niehaus Depo Ex. 26
P523	12/14/2011	Transcript, Ohio State Senate Session	Niehaus Depo Ex. 34
P524	10/5/2018	Report of David Niven, Ph.D., "Dividing Neighbors and Diminishing Voices: An Analysis of Ohio's Congressional Districts"	Niven Depo Ex. 1
P525	Oct. 2018	David Niven Curriculum Vitae	Niven Depo Ex. 2
P526	11/26/2018	Report of David Niven, Ph.D., "Response to Dr. Thornton and Dr. Brunell"	Niven Depo Ex. 3
P527	9/20/2011	HB 318/HB 319 Senate Government Oversight & Reform Committee File	Obhof Depo Ex. 4
P528	9/21/2011	Transcript, Ohio State Senate Session	Obhof Depo Ex. 5
P529	10/19/2011	Email from M. Rowe to A. Hoyt, R. Routt, et al., subject DRAFT COPY: Letter to Niehaus and Batchelder	SMC-AH-000122
P530	11/3/2011	Email from R. Routt to Senator Cafaro, et al., subject Re: Proposed Batchelder Maps and info, attaching maps	SMC-AH-000267-303
P531	11/3/2011	Email from R. Routt to Senator Cafaro, et al., subject Re: Proposed Batchelder Maps and info, attaching maps	SMC-AH-000241-66
P532	11/3/2011	Email from R. Routt to Senator Cafaro, et al., subject Re: Proposed Batchelder Maps and info, attaching maps	SMC-AH-000220-40
P533	12/15/2011	Email from R. Routt to E.Stockhausen, subject RE: 11th Congressional District	SMC-RR-016633
P534	11/3/2011	Email from S. Cherry to R. Routt, subject Re: Redistricting Plan for LSC drafting	SMC-RR-029488
P535	10/28/2011	Email from R. Routt to E. Kearney, C. Tavares, et al., subject Proposed Republican draft concept map	SMC-RR-016980

Plaintiffs' Ex. No.	Date	Description	Bates Range
P536	12/22/2011	Email from R. Routt to G. Boas and A. Hoyt, subject HB 369/HB319 Statistical comparison	SMC-AH-00368
P537	7/15/2018	Email from B. Hansen to C. Sulecki, subject Fwd: did you attend	HANSEN_000130-31
P538	5/12/2011	Discussion Points for Mark Braden Meetings	LWVOH_00008711
P539		Meeting Notice: "FW: Weekly Redistricting Meeting"	GOV_000001
P540	7/7/2011	Redistricting Meetings Agenda	LWVOH_00010568-69
P541	8/1/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Capital Advantage, LLC	LWVOH_00005475-77
P542	8/3/2011	Consulting Agreement between Republican Members of the Legislative Task Force and Policy Widgets, LLC	LWVOH_00005478-80
P543	8/16/2011	Email from Ray DiRossi to Matt Schuler, subject Tuesday at redistricting office	LWVOH_00018258
P544		Maptitude screenshot, HB 319 As Enacted - Congressional Districts.map - 2010 Final Census Blocks (Ohio)	BLESSING0012635 [HB 319 As Enacted -Congressional Districts]
P545		Maptitude screenshot, HB 319 As Enacted - Congressional Districts.map - 2010 Final Census Blocks (Ohio) (dataview District 15)	BLESSING0012635 [HB 319 As Enacted - Congressional Districts] CD15_001
P546	9/12/2011	Email from R. DiRossi to T. Niehaus, subject Proposed map for LSC	LWVOH_00018298-301
P547	2011	Ohio Redistricting Competition Rules and Scoring	SLAGLE_0022-39
P548	Feb. 2012	Ohio Redistricting Transparency Report, The Elephant In the Room (2nd edition)	SLAGLE_0058-69
P549	11/17/2010	Email from A. Kuhn to S. Stivers forwarding email from D. DiSanto, subject Ohio Republican Delegation Meeting -- Thursday, Nov. 18	STIVERS_007454
P550	1/8/2011	Email from K. Stivers to S. Stivers forwarding email exchange with J. Husted, subject line Congratulations	STIVERS_004894
P551	3/22/2011	Email from M.B. Carozza to S. Stivers and A. Kuhn, subject Checking In	STIVERS_004042

Plaintiffs' Ex. No.	Date	Description	Bates Range
P552	6/1/2011	Email from C. Whetstone to S. Stivers, M.B. Carozza and A. Kuhn, subject line redistricting	STIVERS_002589
P553	8/15/2011	Email from L. Crotty to S. Stivers, M.B. Carozza, and A. Kuhn, subject For Approval: Fin Com Agenda, attaching Stivers August 16, 2011 Finance Committee Meeting Agenda	STIVERS_000003-4
P554	9/10/2011	Email exchange between S. Stivers, M.B. Carozza and A. Kuhn, subject line Checking In	STIVERS_000766-67
P555	12/7/2011	Email from L. Crotty to S. Stivers, subject Calls Today and Ingram Tracker, attaching Ingram 2012 Tracker spreadsheet	STIVERS_000330-31
P556	3/2/2012	Email exchange between S. Stivers, C. Whetstone and A. Kuhn forwarding email from A. Blake, subject line Redistricting	STIVERS_007519-20
P557	9/11/2011	Email exchange between M.B. Carozza, S. Stivers and A. Kuhn, subject line Checking In	STIVERS_004406-07
P558	9/15/2011	Transcript, Ohio House Session	Szollosi Depo Ex. 3
P559		Compromise Proposal to Draw Fair Congressional Districts	SMC-KM-000363-72
P560	11/2/2011	Email from K. McCarthy to C. Glassburn and A. Budish, subject Re: counter - Draft Presentation, attaching presentation "Redistricting Discussions Nov. 2, 2011"	SMC-KM-000263, SMC-KM-000409-13
P561	11/23/2011	Email from K. McCarthy to A. Budish, (no subject), attaching spreadsheet LWV and GOP Index Composite Scores	SMC-KM-000184, SMC-KM-000167-68
P562		Presentation, "Summary of Compromise Efforts to Resolve Redistricting Impasse, Avoid Two Different Primary Elections and Save Taxpayers \$15 million"	SMC-KM-000155-65
P563	11/3/2011	Email from S. Bender to K. McCarthy, subject RE: final release	SMC-KM-000138-40
P564	11/3/2011	Transcript of Video Recorded Session, Ohio House of Representatives	Szollosi Depo Ex. 13

Plaintiffs' Ex. No.	Date	Description	Bates Range
P565	11/4/2011	Email from A. Budish to K. McCarthy, subject Fw: Frustration	Szollosi Depo Ex. 14
P566	11/15/2011	Email from D. Ramos to A. Budish, M. Szollosi, et al., subject Concerns about Redistricting	SMC-KM-000296, SMC-KM-000100
P567	11/30/2011	Email from K. McCarthy to T. Heard, et al., subject Talking Points fro ^_Redistricting^_ Impasse	SMC-KM-000061-63
P568	11/30/2011	Email from K. McCarthy to M. Szollos, subject Talking Points for Blade	SMC-KM-000270-72
P569	12/4/2011	The Blade Editorial, "Crossing the lines"	Szollos Depo Ex. 21
P570	12/18/2018	R-code	Trende Depo Ex. 13
P571	10/5/2018	Warshaw Report ("An Evaluation of the Partisan Bias in Ohio's 2011 Congressional Districting Plan and its Effects on Representation in Congress")	Warshaw Depo Ex. 1
P572	11/26/2018	Warshaw Rebuttal Report ("An Evaluation of the Partisan Bias in Ohio's 2011 Congressional Plan and its Effects on Representation: Rebuttal Report")	Warshaw Depo Ex. 6
P573	2018	APRI Columbus Membership List	OAPRI_0000013
P574	10/18/2014	APRI Dayton Membership List	OAPRI_0000018-20
P575		APRI Youngstown Membership List	OAPRI_0000022
P576	2018	APRI Cleveland Membership List	OAPRI_0000016-17
P577	2/21/2018	APRI Akron/Canton Membership List	OAPRI_0000014-15
P578	2018	APRI Toledo Membership List	OAPRI_0000012
P579	1/6/2011	Email from A. Washington to all APRI chapters, subject 2010 labor/minority debriefing	OAPRI_0000067-68
P580	9/2/2011	Email from A. Kincaid to R. DiRossi, H. Mann and T. Whatman, subject New Idea Redraft	LWVOH_00018302-08
P581	9/11/2011	Email from R. DiRossi to T. Whatman, subject Widener proposal update	LWVOH_00018311-12
P582	9/12/2011	Email from R. DiRossi to T. Whatman, subject Stivers Maps	LWVOH_00018320
P583	9/12/2011	Email from R. DiRossi to T. Niehaus, subject Proposed map for LSC	LWVOH_00018298-01

Plaintiffs' Ex. No.	Date	Description	Bates Range
P584	9/11/2011	Email from T. Niehaus to T. Whatman, subject Redistricting "tweaks"	LWVOH_00018297
P585	9/11/2011	Email from Chris Widener to President Niehaus and others re Clark County	LWVOH_00018318
P586		Chart, Election Results (Breakdown in the districts between Turner and Austria)	NRCC000018
P587	9/12/2011	Email from R. DiRossi to A. Kincaid, subject Ohio final map with possible Stivers addition	LWVOH_00018322-25
P588	3/31/2011	Chart, Ohio Changes	NRCC000012
P589		District 16 maps	NRCC000017
P590		Chart, Ohio Changes	NRCC000013
P591		Colored Map with sixteen districts and counties	NRCC000015
P592	10/27/2011	Maptitude screenshot, 10-27-11 Adam New Map.map - 2010 Final Census Blocks (Ohio)	BLESSING0012635 [10-27-11 Adam New Map] 001
P593		Turner-Austria Option Talking Points	LWVOH_00008616
P594		Talking Points for Speaker Boehner	NRCC000016
P595		Spreadsheet with tables and column Turner/Austria	LWVOH_0018333
P596	10/19/2011	Chart, HB319	NRCC000014
P597	11/2/2011	Table HB 319 Unified Indexes/Proposal Unified Indexes	DIROSSI_0000142
P598	12/28/2018	Cooper Third Supplemental Declaration	Previously Disclosed (Cooper)

# APPENDIX M

**Appendix M**

**IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO**

OHIO A. PHILIP RANDOLPH INSTITUTE, )  
 LEAGUE OF WOMEN VOTERS OF OHIO, )  
 THE OHIO STATE UNIVERSITY COLLEGE )  
 DEMOCRATS, NORTHEAST OHIO YOUNG )  
 BLACK DEMOCRATS, HAMILTON COUNTY )  
 YOUNG DEMOCRATS, LINDA GOLDENHAR, )  
 DOUGLAS BURKS, SARAH INSKEEP, )  
 CYNTHIA LIBSTER, KATHRYN DEITSCH, )  
 LUANN BOOTHE, MARK JOHN GRIFFITHS, )  
 LAWRENCE NADLER, CHITRA WALKER, )  
 TRISTAN RADER, RIA MEGNIN, )  
 ANDREW HARRIS, AARON DAGRES, )  
 ELIZABETH MYER, BETH HUTTON, )  
 TERESA THOBABEN, )  
 and CONSTANCE RUBIN, )

No. 1:18-cv-00357-TSB

Judge Timothy S. Black  
 Judge Karen Nelson Moore  
 Judge Michael H. Watson  
 Magistrate Judge Karen L. Litkovitz

Plaintiffs, )

v. )

RYAN SMITH, Speaker of the Ohio House )  
 of Representatives, LARRY OBHOF, )  
 President of the Ohio Senate, and )  
 JON HUSTED, Secretary of State of Ohio, )  
 in their official capacities, )

Defendants. )

**DEFENDANTS' INITIAL TRIAL EXHIBIT LIST**

<b>Trial Exhibit #</b>	<b>Description</b>	<b>Case/Deposition Reference</b>
D1	Map of H.B. 369 Plan	
D2	Map of H.B 319 Plan	
D3	Map of Enacted Congressional Plan Used in 2002 through 2012 Election Cycles	

D4	Official Secretary of State Election Return Data for 2002 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2002-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2002-elections-results/</a>
D5	Official Secretary of State Election Return Data for 2004 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2004-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2004-elections-results/</a>
D6	Official Secretary of State Election Return Data for 2006 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2006-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2006-elections-results/</a>
D7	Official Secretary of State Election Return Data for 2008 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2008-election-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2008-election-results/</a>
D8	Official Secretary of State Election Return Data for 2010 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2010-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2010-elections-results/</a>
D9	Official Secretary of State Election Return Data for 2012 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2012-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2012-elections-results/</a>
D10	Official Secretary of State Election Return Data for 2014 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2014-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2014-elections-results/</a>
D11	Official Secretary of State Election Return Data for 2016 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2016-official-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2016-official-elections-results/</a>
D12	Official Secretary of State Election Return Data for August 8, 2018 Special Election for Congressional District 12	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2018-official-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2018-official-elections-results/</a>
D13	Official Secretary of State Election Return Data for 2018 General Election (Statewide and Congressional Races)	<a href="https://www.sos.state.oh.us/elections/election-results-and-data/2018-official-elections-results/">https://www.sos.state.oh.us/elections/election-results-and-data/2018-official-elections-results/</a>
D14	9/15/2011 - Ohio House and Senate Session Transcripts (Parts 1 & 2) with Errata Sheet	
D15	9/21/2011 - Ohio House Session Transcript with Errata Sheet	
D16	9/21/2011 - Ohio Senate Session Transcript with Errata Sheet	
D17	11/3/2011 - Ohio House Session Transcript with Errata Sheet	
D18	12/14/2011 - Ohio House Session Transcript with Errata Sheet	
D19	12/14/2011 - Ohio Senate Session Transcript with Errata Sheet	

D20	Expert Report of M.V. Hood, III (11/12/2018)	Hood Exhibit 1
D21	Supplemental Expert Report of M.V. Hood III (12/28/2018)	
D22	Expert Report of Douglas Johnson, Ph.D. (11/10/2018)	Johnson Exhibit 1
D23	Resume of Douglas Johnson, Ph.D.	Johnson Exhibit 2
D24	Rebuttal Report of Janet R. Thornton, Ph.D.	Thornton Exhibit 1
D25	Chart - "District/Plaintiff's Original Districts" Dr. Cho's 3+ Million Outcome for Plaintiffs Revised Districts, Percentage from 2008-2010 Statewide Elections	Thornton Exhibit 8
D26	Expert Report of Sean Trende (11/12/2018)	Trende Exhibit 1
D27	Curriculum Vitae of Sean Trende	Trende Exhibit 5
D28	2/12/2018 - E-mail from Brad Wenstrup to Burks, Bates-Stamped INDPLTS_0015960	Burks Exhibit 2
D29	3/7/2018 - E-mail from Douglas Burks to Rapach, Smith and Others, Bates-Stamped INDPLTS_0015983	Burks Exhibit 3
D30	3/7/2018 - FCNL memo, Bates-Stamped INDPLTS_0015984-15985	Burks Exhibit 4
D31	8/23/2018 - E-mail from Douglas Burks to Wenstrup, Bates-Stamped INDPLTS_0016034	Burks Exhibit 6
D32	2/28/2018 - E-mail from Douglas Burks to Rapach, Bates-Stamped INDPLTS_0016084	Burks Exhibit 9
D33	5/23/2018 - E-mail from Douglas Burks to Paul Moke, Bates-Stamped INDPLTS_0016023-16025	Burks Exhibit 11
D34	5/23/2018 - E-mail from Douglas Burks to steve@careerfastrack.com, Bates-Stamped INDPLTS_0016093-16094	Burks Exhibit 12
D35	Address-searchable Google map of Ohio 2012 Plan	Dagres Exhibit 2
D36	Address-searchable Google map of Ohio Proposed Remedial Plan	Dagres Exhibit 4
D37	Comments from Aaron Dagres, Bates-Stamped INDPLTS_0013073	Dagres Exhibit 6
D38	7/14/2018 - E-Mail from Patrick Barnacle to Aaron Dagres, Bates-Stamped INDPLTS_0002971-2995	Dagres Exhibit 14
D39	11/17/2016 - E-mail from Kathy Deitsch to Debbie Sneddon and others, Bates-Stamped INDPLTS_0018871-18874	Deitsch Exhibit 2
D40	10/31/2017 - E-mail from Kathy Deitsch to Rep48@ohiohouse.gov and Others, Bates-Stamped INDPLTS_0024143-24144	Deitsch Exhibit 6
D41	4/29/2018 - E-mail from Kathy Deitsch to newsroom@dailystandard.com, Bates-Stamped INDPLTS_0021432	Deitsch Exhibit 7

D42	5/25/2018 - E-mail from Kathy Deitsch to Catherine Turcer and others, Bates-Stamped INDPLTS_0021536-21537	Deitsch Exhibit 8
D43	8/31/2018 - E-mail from Kathy Deitsch to mrotondorn@yahoo.com, Bates-Stamped INDPLTS_0021692	Deitsch Exhibit 10
D44	5/30/2018 - E-mail from Kathy Deitsch to adkinsandaffilies@yahoo.com, Bates-Stamped INDPLTS_0022390-22391	Deitsch Exhibit 12
D45	1/24/2018 - M. Griffiths' Statement to Government Oversight and Reform Committee, Bates-Stamped INDPLTS_0000173	Griffiths Exhibit 4
D46	1/22/2018 - E-Mail from Megan Griffiths to Mark Griffiths Re: Draft Version of M. Griffiths' 1/4/2018 Statement to Government Oversight and Reform Committee, Bates-Stamped INDPLTS_0001279-1280	Griffiths Exhibit 5
D47	11/3/2017 - Letter to the Editor - Elyria Chronicle, Bates-Stamped INDPLTS_0001114	Griffiths Exhibit 6
D48	M. Griffiths' Notes Re: Mileage to representatives, Bates-Stamped INDPLTS_0000161-162	Griffiths Exhibit 7
D49	Lorain Chronicle Letter to the Editor "Gerrymandering Must be Stopped", Bates-Stamped INDPLTS_0001116	Griffiths Exhibit 8
D50	Warbaugh Campaign - Tally Sheet- Ohio 7th County (Lorain), Bates-Stamped INDPLTS_0003100-3103	Griffiths Exhibit 10
D51	5/29/2018 - E-Mail chain from Alison Ricker to Hutton regarding the lawsuit, Bates-Stamped INDPLTS_0026808-26809	Hutton Exhibit 1
D52	Written Statement, Larry Nadler, Bates-Stamped INDPLTS_0002909	Nadler Exhibit 1
D53	Notice of 30(b)(6) deposition of League of Women Voters of Ohio	Miller Exhibit 1
D54	Ohio Redistricting Transparency Report The Elephant in the Room, Bates-Stamped LWVOH_00018400-18421	Miller Exhibit 2
D55	Plaintiffs' Privilege Log	Miller Exhibit 3
D56	Ohio redistricting reform history, Bates-Stamped LWVOH_0074306	Miller Exhibit 4
D57	11/26/2012 - Letter from Dina Schoomaker and Linda Slocum to William Batchelder and Vernon Sykes, Bates-Stamped LWVOH_0022920	Miller Exhibit 5
D58	11/25/2014 - Press Release, A. Henkener, C. Turcer, Bates-Stamped LWVOH_0086183-86184	Miller Exhibit 6
D59	Plaintiffs' responses and objections to legislative defendants' first set of interrogatories and first set of requests for production of documents	Miller Exhibit 7

D60	4/30/2015 - E-mail chain from A. Henkener to C. Turcer, R. Gunther, Bates-Stamped LWVOH_0050826-50827	Miller Exhibit 8
D61	7/23/2015 - E-mail chain from A. Henkener to C. Davis, Bates-Stamped LWVOH_0050401-50404	Miller Exhibit 9
D62	PowerPoint- Ohio Redistricting Competition, Bates-Stamped LWVOH_0074117-74132	Miller Exhibit 10
D63	Brennan Center for Justice Don't Judge a Book by Its Cover Alone document, Bates-Stamped LWVOH_0044874-44875	Miller Exhibit 11
D64	Ohio redistricting competition rules and scoring 2011, Bates-Stamped LWVOH_0044516-44533	Miller Exhibit 12
D65	Document - Membership Surge Continues Statewide, Bates-Stamped LWVOH_0099889-99890	Miller Exhibit 13
D66	Individual independent contractor agreement between Ohio Environmental Council Action Fund, Inc. and League of Women Voters of Ohio, Bates-Stamped LWVOH_0095013-95015	Miller Exhibit 17
D67	Notice of 30(b)(6) Deposition of Ohio State University College Democrats	Oberdorf Exhibit 1
D68	Notice of 30(b)(6) Deposition of Ohio A. Philip Randolph Institute	Washington Exhibit 1
D69	11/8/2011 - Election Campaign Report, Bates-Stamped OAPRI_0000047	Washington Exhibit 8
D70	APRI Columbus Chapter Monthly Report, Bates-Stamped OAPRI_0000049	Washington Exhibit 9
D71	Letter from David Morgan to the APRI State Educational Conference, Bates-Stamped OAPRI_0000059	Washington Exhibit 10
D72	12/9/2011 - E-mail from Delores Freeman to Andre Washington, Bates-Stamped OAPRI_0000066	Washington Exhibit 11
D73	Plaintiff Ohio A. Philip Randolph Institute's responses and objections to legislative defendants' first set of interrogatories and first set of requests for production of documents	Washington Exhibit 12
D74	12/9/2011 - E-mail from Kimberly Daniels to Andre Washington, Bates-Stamped OAPRI_0000031	Washington Exhibit 13
D75	Document - The Toledo Federation of Teachers Salutes the Ohio A. Philip Randolph Institute, Bates-Stamped OAPRI_0000033	Washington Exhibit 14
D76	Letter from Andre Washington to sisters and brothers, Bates-Stamped OAPRI_0000035-36	Washington Exhibit 15
D77	1/6/2011 - E-mail from Andre Washington to all APRI chapters, Bates-Stamped OAPRI_0000067-68	Washington Exhibit 16
D78	A Philip Randolph Institute - People Get Ready: 2012 Is Coming, Our One Year Plan, Bates-Stamped OAPRI_0000128	Washington Exhibit 17

D79	Document - Youngstown APRI chapter, Bates-Stamped OAPRI_0000135	Washington Exhibit 18
D80	Ohio Unity 2018 black voter empowerment campaign, Bates-Stamped OAPRI_0000145	Washington Exhibit 19

# APPENDIX N

Appendix N  
Intervenors' Trial Exhibit List  
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Exhibit Number	Document Description	Document Date	Bates Number	Deposition	Deposition Exhibit Number	Objection
	Wendy K. Tam Cho, Ph.D. Curriculum Vitae			Wendy K. Tam Cho, Ph.D.	Exhibit 1	
	Wendy K. Tam Cho, Ph.D. Expert Report (10/5/2018)	October 5, 2018		Wendy K. Tam Cho, Ph.D.	Exhibit 2	
	Wendy K. Tam Cho, Ph.D. Rebuttal Expert Report (11/26/2018)	November 26, 2018		Wendy K. Tam Cho, Ph.D.	Exhibit 3	
	Confidential Source Code			Wendy K. Tam Cho, Ph.D.	Exhibit 4	
	10/12/18 - Letter from E. Zhang to P. Lewis, et al. Re: Ohio A. Philip Randolph Institute v. Smith	October 12, 2018		Wendy K. Tam Cho, Ph.D.	Exhibit 5	
	Dr. Cho's Run Output File			Wendy K. Tam Cho, Ph.D.	Exhibit 6	
	Wendy K. Tam Cho, Ph.D. Supplemental Expert Report (12.28.18)	December 28, 2018				
	10/9/2018 - Letter from N. Subbedar to P. Lewis, et al. Re: Ohio A. Philip Randolph Institute v. Smith	October 9, 2018				
	Native of Dr. Cho's Run Output File- File Name "run1.txt"					
	Errata to Wendy K. Tam Cho, Ph.D. Expert Report (10/18/2018)	October 18, 2018				
	Declaration of William S. Cooper (10/5/2018) (also Niven Exhibit 10)	October 5, 2018		William S. Cooper	Exhibit 1	
	Brennan Center for Justice Overview: Ohio Redistricting Reform Proposal	February 2018		William S. Cooper	Exhibit 2	
	Ohio U.S. House Zero Deviation 2012 Plan			William S. Cooper	Exhibit 3	
	Ohio U.S. House Proposed Remedial Plan			William S. Cooper	Exhibit 4	
	Exhibit A - Documents Re: William S. Cooper Declaration			William S. Cooper	Exhibit 5	
	Errata to Declaration of William S. Cooper (11/30/2018)	November 30, 2018		William S. Cooper	Exhibit 6	
	Ohio U.S. House Proposed Remedial Plan 11/30/2018 Mod	November 30, 2018		William S. Cooper	Exhibit 7	
	Supplemental Declaration of William S. Cooper (11/26/2018)	November 26, 2018		William S. Cooper	Exhibit 8	
	Second Supplemental Declaration of William S. Cooper (11/27/2018)	November 27, 2018		William S. Cooper	Exhibit 9	
	Ohio U.S. House Zero Deviation Hypothetical Plan 1A			William S. Cooper	Exhibit 10	
	Ohio U.S. House Zero Deviation Hypothetical Plan 2A			William S. Cooper	Exhibit 11	
	Demonstrative Re: 2012, 2014, 2016 AVG			William S. Cooper	Exhibit 12	
	Third Supplemental Declaration of William S. Cooper (12.28.18)	December 28, 2018				
	Lisa Handley Expert Report (10/5/2018)	October 5, 2018		Lisa Handley	Exhibit 1	
	Lisa Handley Expert Report (U.S. v. City of Euclid) (2/1/2007)	February 1, 2007		Lisa Handley	Exhibit 2	
	Lisa Handley Rebuttal Expert Report (U.S. v. City of Euclid) (5/10/2007)	May 10, 2007		Lisa Handley	Exhibit 3	
	Lisa Handley Expert Report (U.S. v. Euclid City School District) (3/1/2009)	March 1, 2009		Lisa Handley	Exhibit 4	
	Lisa Handley Rebuttal Expert Report (U.S. v. Euclid City School District) (4/15/2009) "Declaration of Dr. Lisa R. Handley"	April 15, 2009		Lisa Handley	Exhibit 5	
	Analysis of 2009 Election for Euclid City School Board District Board of Education	March 5, 2010		Lisa Handley	Exhibit 6	
	Rebuttal to Engstrom Report (U.S. v. Euclid City School District) (7/22/2010) "Declaration of D. Lisa R. Handley"	July 22, 2010		Lisa Handley	Exhibit 7	
	2009 Paper - Legislative Studies Quarterly "Has the Voting Rights Act Outlived its Usefulness? In a Word, 'No'" - by Lublin, Brunell, Grofman, Handley	November 1, 2009		Lisa Handley	Exhibit 8	
	David H. Niven, Ph.D. Report (10/5/2018) - Dividing Neighbors and Diminishing Voices: An Analysis of Ohio's Congressional Districts	October 5, 2018		David Niven, Ph.D.	Exhibit 1	
	David H. Niven, Ph.D. Curriculum Vitae	October 2018		David Niven, Ph.D.	Exhibit 2	
	David H. Niven, Ph.D. Response to Thornton and Brunell (11/26/2018)	November 26, 2018		David Niven, Ph.D.	Exhibit 3	
	Rebuttal Expert Report of Janet R. Thornton, Ph.D. (11/12/2018)	November 12, 2018		David Niven, Ph.D.	Exhibit 5	
	Geographic Terms and Concepts - Census Tract (www.census.gov)	December 18, 2018		David Niven, Ph.D.	Exhibit 6	
	Niven Save File Exports			David Niven, Ph.D.	Exhibit 7	
	Ohio Congressional District Map, 2002-2012		SOS 001054	David Niven, Ph.D.	Exhibit 8	
	Ohio Congressional District Map, 2012-2022			David Niven, Ph.D.	Exhibit 9	
	davidniven.com Website Printout	December 18, 2018		David Niven, Ph.D.	Exhibit 11	
	HarperCollins Publishing Website - Printout Re: David Niven	December 19, 2018		David Niven, Ph.D.	Exhibit 12	
	Niven Tweets, 12/12/2017	December 12, 2017		David Niven, Ph.D.	Exhibit 13	
	Niven Tweets, 11/16/2017	November 16, 2017		David Niven, Ph.D.	Exhibit 14	
	Niven Tweets, 3/6/2018	March 6, 2018		David Niven, Ph.D.	Exhibit 15	
	Niven Tweets, 11/14/2018	November 14, 2018		David Niven, Ph.D.	Exhibit 16	
	Niven Tweets, 6/13/2018	June 13, 2018		David Niven, Ph.D.	Exhibit 17	
	Christopher Warshaw Expert Report (10/5/2018) "An Evaluation of the Partisan Bias in Ohio's 2011 Congressional Districting Plan and its Effects on Representation in Congress"	October 5, 2018		Christopher Warshaw	Exhibit 1	
	Figure 1 Ohio Partisan Distribution 2004 to 2010			Christopher Warshaw	Exhibit 2	
	Figure 7 Ohio Partisan Distribution 2012 to 2016			Christopher Warshaw	Exhibit 3	
	Essay by Wendy Cho "Measuring Partisan Fairness: How Well Does the Efficiency Gap Guard Against Sophisticated As Well As Simple Minded Modes of Partisan Discrimination"			Christopher Warshaw	Exhibit 4	
	Figure 5 Cleveland Area			Christopher Warshaw	Exhibit 5	
	Christopher Warshaw Rebuttal Report (11/26/2018)	November 26, 2018		Christopher Warshaw	Exhibit 6	
	Christopher Warshaw Expert Report (11/27/2017) in <i>League of Women Voters of Pennsylvania v. the Commonwealth of Pennsylvania</i> , 159 MM 2017 (Pa.)	November 27, 2017		Christopher Warshaw	Exhibit 7	
	Christopher Warshaw Expert Report (6/1/2018) Michigan case in <i>League of Women Voters of Michigan v. Johnson</i> , No. 2:2017cv14148 (E.D. Mich.)	June 1, 2018		Christopher Warshaw	Exhibit 8	
	2017 Article of Gregory Warrington "Quantifying gerrymandering using the vote distribution" (5/15/2017)	May 15, 2017		Christopher Warshaw	Exhibit 9	
	U.S. House of Representatives Roll Call Votes 114th Congress - 1st Session (2015)	November 29, 2018		Christopher Warshaw	Exhibit 10	
	VoteView.com - Lindsay Graham Entry			Christopher Warshaw	Exhibit 11	
	Pew Research Center Article "From the very start, sharp partisan divisions over Obamacare" (6/25/2015)	June 25, 2015		Christopher Warshaw	Exhibit 12	
	Christopher Warshaw Supplemental Expert Report (12.28.18)	December 28, 2018				
	Expert Report of Thomas Brunell (11/12/2018) (also Niven Exhibit 4)	November 12, 2018		Thomas Brunell	Exhibit 1	
	July 20, 2011 Columbus Regional Hearing Testimony- File Name "2011-07-20 Columbus Regional Hearing Testimony.pdf"	July 20, 2011	DIROSSI 0000151-201			
	House Bill 319 Rep. Matt Huffman Sponsor Testimony- File Name "2011-09-13 Huffman Sponsor Testimony.docx"		LENZO_000041-42			
	H.B. 369 Rep. Matt Huffman Sponsor Testimony			Matthew Huffman	Exhibit 19	
	Ohio House Republican Caucus, How the Problem Started- File Name "MCGREGOR000001-MCGREGOR000007.pdf"		MCGREGOR000002-7	Troy Judy	Exhibit 30	
	OHIO House of Representatives JOURNAL Thursday, September 15, 2011, available at <a href="http://archives.legislature.state.oh.us/JournalText129/HJ-09-15-11.pdf">http://archives.legislature.state.oh.us/JournalText129/HJ-09-15-11.pdf</a>	September 15, 2011				
	OHIO House of Representatives JOURNAL Wednesday, September 21, 2011, available at <a href="http://archives.legislature.state.oh.us/JournalText129/HJ-09-21-11.pdf">http://archives.legislature.state.oh.us/JournalText129/HJ-09-21-11.pdf</a>	September 21, 2011				
	OHIO House of Representatives JOURNAL CORRECTED VERSION Wednesday, December 14, 2011, available at <a href="http://archives.legislature.state.oh.us/JournalText129/HJ-12-14-11.pdf">http://archives.legislature.state.oh.us/JournalText129/HJ-12-14-11.pdf</a>	December 14, 2011				
	OHIO SENATE JOURNAL Wednesday, September 21, 2011, available at <a href="http://archives.legislature.state.oh.us/JournalText129/SJ-09-21-11.pdf">http://archives.legislature.state.oh.us/JournalText129/SJ-09-21-11.pdf</a>	September 21, 2011				
	OHIO SENATE JOURNAL Wednesday, December 14, 2011, available at <a href="http://archives.legislature.state.oh.us/JournalText129/SJ-12-14-11.pdf">http://archives.legislature.state.oh.us/JournalText129/SJ-12-14-11.pdf</a>	December 14, 2011				
	Screenshot of Original Map Produced in Mapitude [Original, CD01] and associated native files		GLASSBURN 0020	Christopher Glassburn	Exhibit 21	
	Mapitude screenshot - HB 369 Map Revised December 14th.map - 2010 Final Census Blocks (Ohio)(Template) [Map Revised December 14th].001 and associated native files		BLESSING0012635	Heather Blessing	Exhibit 13	
	Demonstrative Exhibit - Mapitude Comparison of 319 to 369					
	File Name "FINAL HB 319.map" and associated files		BLESSING0000003170			
	File Name "HB 319 As Enacted - Congressional Districts.map" and associated files		BLESSING00000008229			
	File Name "HB 369 as Enacted FINAL.map" and associated files		BLESSING00000002450			
	File Name "HB 369 Map Revised December 14th.map" and associated files		BLESSING00000007750			
	Christopher Glassburn Production: Memorex USB \319 Original.map					
	Christopher Glassburn Production: Memorex USB \OFFICIAL 369 ADOPTED FINAL.map					
	Compromise Proposal to Draw Fair Congressional Districts		SMC-KM-000363-372	Matthew Szollosi	Exhibit 5	
	11/2/2011 - E-Mail chain from McCarthy to Glassburn and Budish	November 2, 2011	SMC-KM-000263, 409-413	Matthew Szollosi	Exhibit 6	
	11/23/2011 - E-Mail from McCarthy to Budish	November 23, 2011	SMC-KM-000184, 167-168	Matthew Szollosi	Exhibit 8	
	PowerPoint - Summary of Compromise Efforts to Resolve Redistricting Impasse		SMC-KM-000155-165	Matthew Szollosi	Exhibit 9	
	11/18/2011 - E-mail chain from McCarthy to Judy	November 18, 2011	JUDY 0001655	Matthew Szollosi	Exhibit 18	
	12/3/2011 - E-Mail chain from Cherry to McCarthy, Hoyt and Others	December 3, 2011	SMC-AH-000067-68	Matthew Szollosi	Exhibit 22	
	7/11/2011 - E-Mail chain from Bonier to Routt, Burke, Hoyt	July 11, 2011	SMC-RR-029803	Randall Routt	Exhibit 3	
	7/15/2011 - E-Mail Routt to Hoyt	July 15, 2011	SMC-RR-031375-31378	Randall Routt	Exhibit 4	
	7/18/2011 - E-Mail chain from Smoot to Routt	July 18, 2011	SMC-RR-029783	Randall Routt	Exhibit 5	
	7/19/2011 - E-Mail chain from Routt to Hoyt	July 19, 2011	SMC-RR-031366-31368	Randall Routt	Exhibit 6	
	7/21/2011 - E-Mail chain from Peterson to Bonier, Routt, Burke and Hoyt	July 21, 2011	SMC-RR-029095-29096	Randall Routt	Exhibit 7	
	9/8/2011 - E-Mail from Routt to Pavan	September 8, 2011	SMC-RR-028740-28742	Randall Routt	Exhibit 9	
	11/17/2011 - E-Mail from Routt to McCarthy, Rowe and Cherry	November 17, 2011	SMC-KM-000204, 146-147	Randall Routt	Exhibit 12	
	10/31/2011 - E-Mail from Routt to Hoyt	October 31, 2011	SMC-AH-000137-138	Randall Routt	Exhibit 15	

Exhibit Number	Document Description	Document Date	Bates Number	Deposition	Deposition Exhibit Number	Objection
	11/1/2011 Maps, E-Mail, Spreadsheet	November 1, 2011	SMC-RR-000447, 451, 452, 10785, 28680, 28681	Randall Rott	Exhibit 16	
	11/3/2011 - Email from Rott to Hoyt and Others	November 3, 2011	SMC-AH-000267-000303	Randall Rott	Exhibit 17	
	11/3/2011 - E-Mail from Rott to Hoyt and Others	November 3, 2011	SMC-AH-000241-266	Randall Rott	Exhibit 18	
	11/3/2011 - E-Mail from Rott to Hoyt and Others	November 3, 2011	SMC-AH-000220-240	Randall Rott	Exhibit 19	
	11/17/2011 - E-Mail from Hoyt to Rott and Others	November 17, 2011	SMC-RR-028279-28280	Randall Rott	Exhibit 20	
	12/9/2011 - E-Mail from Rott to Hoyt, Rowe	December 9, 2011	SMC-AH-000437-438	Randall Rott	Exhibit 21	
	12/14/2011 - Maps, E-Mail chain	December 14, 2011	SMC-RR-016520, 16522, 16673-16675	Randall Rott	Exhibit 24	
	12/14/2011 - E-Mail chain from Rott to Peterson	December 14, 2011	SMC-RR-028384-28385	Randall Rott	Exhibit 25	
	12/22/2011 - E-Mail chain from Rott to Hoyt, Cherry, McCarthy	December 22, 2011	SMC-AH-000341-346	Randall Rott	Exhibit 27	
	OAKS Voucher Worksheet, FY 12, Voucher ID: 00004784		LENZO 0002404-2415	Keary McCarthy	Exhibit 3	
	Overview, Objectives, Project Overview		SMC-KM-000436-438	Keary McCarthy	Exhibit 5	
	7/25/2011 - E-Mail chain from Glassburn to McCarthy and Cherry	July 25, 2011	SMC-KM-000036	Keary McCarthy	Exhibit 7	
	8/9/2011 - E-Mail from McCarthy to Budish and Cherry		SMC-KM-000068	Keary McCarthy	Exhibit 8	
	8/5/2011 - E-Mail from McCarthy to Hoyt		SMC-KM-000067	Keary McCarthy	Exhibit 9	
	10/16/2011 - E-Mail from Cherry to McCarthy and Brown	October 16, 2011	SMC-KM-000226, 399	Keary McCarthy	Exhibit 13	
	Compromise Proposal to Draw Fair Congressional Districts		SMC-KM-000363-372	Keary McCarthy	Exhibit 15	
	11/2/2011 - E-Mail from McCarthy to Glassburn and Budish	November 2, 2011	SMC-KM-000263, 174-178	Keary McCarthy	Exhibit 16	
	11/10/2011 - E-Mail from McCarthy to Glassburn	November 10, 2011	SMC-KM-000195, 171-172	Keary McCarthy	Exhibit 17	
	11/14/2011 - E-Mail from Glassburn to McCarthy	November 14, 2011	SMC-KM-000291, 450, 331, 332	Keary McCarthy	Exhibit 18	
	PowerPoint - Summary of Compromise Efforts		SMC-KM-000155-165	Keary McCarthy	Exhibit 20	
	12/15/2011 - E-Mail chain from Rott to McCarthy and Hoyt	December 15, 2011	SMC-AH-000335-336	Keary McCarthy	Exhibit 24	
	7/16/2018 Letter to Ben Guess from K. McCarthy, Heather Taylor-Miesle	July 16, 2018		Keary McCarthy	Exhibit 25	
	7/5/2011 - E-Mail from Glassburn to M. Keary	July 5, 2011	SMC-KM-000029-30	Christopher Glassburn	Exhibit 5	
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	8/31/2011 - E-Mail from Glassburn to M. Keary, S. Cherry	August 31, 2011	SMC-KM-000015-16	Christopher Glassburn	Exhibit 8	
	9/6/2011 - E-Mail chain from T. Borier to R. Rott, C. Glassburn and Others	September 6, 2011	SMC-RR-002994-29995	Christopher Glassburn	Exhibit 9	
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# APPENDIX O

**PLAINTIFFS' DEPOSITION TESTIMONY**

1. William Batchelder
2. Clark Bensen
3. Heather Blessing
4. Luann Boothe
5. Mark Braden
6. Ray DiRossi
7. Keith Faber
8. Ann Henkener
9. Matthew Huffman
10. Sarah Inskeep
11. Gabrielle Jackson
12. Chris Jankowski
13. Rep. Bill Johnson
14. Rep. Jim Jordan
15. Troy Judy
16. Adam Kincaid
17. Michael Lenzo
18. Cynthia Libster
19. Keary McCarthy
20. John Morgan
21. Lawrence Nadler
22. Tom Niehaus

**APPENDIX O**

23. Alexis Oberdorf
24. Larry Obhof
25. Tristan Rader
26. Randall Routt
27. Constance Rubin
28. Matt Schuler
29. Jim Slagle
30. Rep. Steve Stivers
31. Teresa Anne Thobaben
32. Catherine Turcer
33. Chitra Walker
34. Tom Whatman

# APPENDIX P

**DEFENDANTS' AND INTERVENORS' DEPOSITION TESTIMONY**

1. Heather Blessing
2. Steve Chabot
3. Keith Faber
4. Christopher Glassburn
5. Matt Huffman
6. Bill Johnson
7. Jim Jordan
8. Mike Lenzo
9. Keary McCarthy
10. Tom Neihaus
11. Larry Obhof
12. Randall Routt
13. Matt Schuler
14. Steve Stivers
15. Matthew Szollosi
16. All Individual Plaintiffs and Rule 30(b)(6) Designees of Organizational Plaintiffs

1	IN THE UNITED STATES DISTRICT COURT	
2	MIDDLE DISTRICT OF NORTH CAROLINA	
3	COMMON CAUSE, et al.,	) Greensboro, North Carolina
4	Plaintiffs,	) October 16, 2017
5	v.	) Case No. 1:16CV1026
6	ROBERT A. RUCHO, in his	)
7	official capacity as Chairman	)
8	of the North Carolina Senate	)
9	Redistricting Committee for	)
10	the 2016 Extra Session and	)
11	Co-Chairman of the Joint Select	)
12	Committee on Congressional	)
13	Redistricting, et al.,	)
14	Defendants.	) Bench Trial
15	LEAGUE OF WOMEN VOTERS OF	) Volume I of IV
16	NORTH CAROLINA, WILLIAM	)
17	COLLINS, ELLIOTT FELDMAN,	)
18	CAROL FAULKNER FOX,	)
19	ANNETTE LOVE, MARIA PALMER,	)
20	GUNTHER PECK, ERSILA PHELPS,	)
21	JOHN QUINN, III, AARON SARVER,	)
22	JANIE SMITH SUMPSTER,	)
23	ELIZABETH TORRES EVANS, and	)
24	WILLIS WILLIAMS,	)
25	Plaintiffs,	)
	v.	) Case No. 1:16CV1164
	ROBERT A. RUCHO, in his	)
	official capacity as Chairman	)
	of the North Carolina Senate	)
	Redistricting Committee for	)
	the 2016 Extra Session and	)
	Co-Chairman of the 2016 Joint	)
	Select Committee on	)
	Congressional Redistricting,	)
	DAVID R. LEWIS, in his	)
	official capacity as Chairman	)
	of the North Carolina House of	)
	Representatives Redistricting	)
	Committee for the 2016 Extra	)
	Session and Co-Chairman of the	)

1 2016 Joint Select Committee on  
 Congressional Redistricting, )  
 2 )  
 TIMOTHY K. MOORE, in his )  
 3 official capacity as Speaker )  
 of the North Carolina House of )  
 4 Representatives, )  
 )  
 5 PHILIP E. BERGER, in his )  
 official capacity as President )  
 6 Pro Tempore of the North )  
 Carolina Senate, )  
 7 )  
 A. GRANT WHITNEY, JR., in his )  
 8 official capacity as Chairman )  
 and Acting on Behalf of the )  
 9 North Carolina State Board of )  
 Elections, )  
 10 )  
 THE NORTH CAROLINA STATE BOARD )  
 11 OF ELECTIONS, and )  
 THE STATE OF NORTH CAROLINA, )  
 12 )  
 Defendants. )  
 13 )

14 PROCEEDINGS HELD BEFORE:

15 **WILLIAM L. OSTEEEN, JR.,**  
 16 CHIEF U.S. DISTRICT JUDGE FOR THE MIDDLE DISTRICT OF N.C.

17 **W. EARL BRITT**  
 18 SENIOR U.S. DISTRICT JUDGE FOR THE EASTERN DISTRICT OF N.C.

19 **JAMES A. WYNN, JR.**  
 CIRCUIT JUDGE OF THE U.S. COURT OF APPEALS FOR THE 4TH CIRCUIT

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On Behalf of the State and State Board of Elections:

18 ALEXANDER M. PETERS  
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21

22 Court Reporter: Joseph B. Armstrong, FCRR  
23 324 W. Market, Room 101  
Greensboro, NC 27401  
24

25 Proceedings reported by stenotype reporter.  
Transcript produced by Computer-Aided Transcription.

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P R O C E E D I N G S

(At 9:05 a.m., proceedings commenced.)

JUDGE OSTEEEN: All right. Good morning, everyone. Apparently, Judge Wynn was sitting in my chair earlier this morning and lowered it down on me.

Calling now for trial cases number -- Case Numbers 16CV1026 and 16CV1164. 1026 is Common Cause, et al., versus Rucho, et al., and 1164 is League of Women Voters versus Rucho, et al.

Let's see. Why don't we start with the Common Cause Plaintiffs. Are you all ready to proceed?

MR. SPEAS: We are, Your Honor.

JUDGE OSTEEEN: And if you'll just introduce Common Cause attorneys you have seated at the table.

MR. SPEAS: Seated to my right is Emmet Bondurant, and to his right is Peter Nelson. Mr. Bondurant is with Bondurant Mixson in Atlanta, and Mr. Nelson is with Patterson Belknap in New York. Over here, I have my colleagues Steve Epstein and Caroline Mackie and Ben Thorpe, who is Mr. Bondurant's cocounsel.

JUDGE OSTEEEN: All right. Thank you, sir. And for the League of Women Voters?

MS. EARLS: Good morning, Your Honor, Anita Earls, for the League of Women Voters. With me is Allison Riggs of the Southern Coalition for Social Justice, and then Annabelle

1 Harless from the Campaign Legal Center. Also with our team is  
2 Ruth Greenwood from the Campaign Legal Center and Nick  
3 Stephanopoulos.

4 JUDGE OSTEEEN: All right. Thank you. And are the  
5 Defendants ready to proceed?

6 MR. STRACH: Yes, Your Honor, thank you, Phil Strach,  
7 Ogletree Deakins, here for the Legislative Defendants here with  
8 my colleagues Michael McKnight to my left and Brodie Erwin on  
9 the far end of the table.

10 THE COURT: All right. For the State?

11 MS. PETERS: Good morning, Your Honor, Alec Peters of  
12 the Attorney General's Office, along with James Bernier of our  
13 office on behalf of the State and the State Board of Elections  
14 Defendants.

15 JUDGE OSTEEEN: All right. A couple of things I want  
16 to talk about before we get started. First of all, the parties  
17 filed their opening statements. I can't speak for all the  
18 judges on the bench, but I thought it was very helpful to have  
19 those written opening statements filed on Friday to give us a  
20 chance to review and see where things were headed. We have  
21 also received your deposition designations and exhibit list.

22 A couple of housekeeping matters: One, in terms of  
23 the motion in limine to bifurcate the expert witnesses'  
24 testimony with respect to the -- we'll call it the additional  
25 theory presented by the League of Women Voters, with respect to

1 that expert testimony, that motion will be granted. We do ask  
2 that you deal with whatever -- address whatever you can during  
3 the initial testimony and not be repetitive when you come back.  
4 So you're reserving your right to recall the witness to explain  
5 a theory based upon certain evidence that will be presented as  
6 a foundation during the presentation of your case. So that's  
7 one housekeeping matter.

8           Number two, in reviewing the opening statements, the  
9 deposition testimony, and various other evidentiary filings in  
10 this case, it appears to me certainly, and to my colleagues as  
11 well, that this case is really more about a legal issue than it  
12 is a factual issue. In other words, certain facts and evidence  
13 will have to be presented in terms of expert testimony as well  
14 as perhaps some nonexpert testimony to address the question of  
15 whether or not political gerrymander -- well, let's say it this  
16 way: Whether or not a justiciable standard can be created to  
17 determine whether or not there exists constitutional limits to  
18 political and incumbent gerrymandering.

19           I have no doubt after reading the facts that the  
20 Plaintiffs in this -- both of these cases, actually, claim to  
21 be aggrieved by the fact generally, I'll summarize it, that  
22 based on the percentage of registered Democratic voters and  
23 based on the percentage of Republican representatives from the  
24 13 congressional districts, that those voters contend that the  
25 political gerrymandering that took place elevated -- unfairly

1 elevated control of the House races or the congressional races  
2 to the Republicans. I'm not stating that as a fact. I'm  
3 simply saying that is an issue in the case.

4           The Supreme Court has been wrestling and is currently  
5 wrestling with the question of whether or not political --  
6 whether or not a justiciable standard for political  
7 gerrymandering can be established within the context of the  
8 United States Constitution.

9           If, in fact, our analysis is correct, and, that is,  
10 this is primarily a legal issue in terms of, A, whether or not  
11 a standard can be established, and, B, what standard can be  
12 proved by a preponderance of the evidence in this case, then it  
13 seems to us that there ought to be some way to streamline this  
14 testimony such that we spend more time in final arguments with  
15 questions and answers from the Court than we do worrying  
16 about -- and I don't mean to diminish this in any way. I'm  
17 speaking solely for myself -- than we worry about voters,  
18 registered Democrat or otherwise, who are -- contend to have  
19 been injured by the election results, most recent on 10/3, if  
20 that makes any sense to anyone.

21           So I'm hoping that perhaps by making these comments  
22 here before we start, either the next few minutes this morning,  
23 we can take a short break and may take a short break to let you  
24 start talking about this, but perhaps we can find some way to  
25 really get to the heart of the issues in this case, which

1 clearly are going to be the expert witness testimony, part one;  
2 but, part two, with respect to the facts necessary to establish  
3 a foundation for that testimony, it seems to me there's a way  
4 that -- whether they're stipulated to or not, that that part  
5 can be presented and then some of the -- what we anticipate  
6 might be the testimony in the case can either be stipulated to  
7 or presented by way of deposition.

8           Mr. Speas, any questions about those comments at this  
9 point?

10           MR. SPEAS: No, Your Honor, I just --

11           JUDGE WYNN: Before you start, I want to be clear in  
12 terms of where we're going with this. This is primarily a  
13 legal case. The issues that are before this Court, rather, are  
14 not as simply stated as what is here. They are very difficult  
15 legal issues. There's a lot of dispute in terms of what the  
16 law is. There's not a lot of dispute in terms of some of the  
17 facts in this case. What we want you to do is to stipulate  
18 either by stipulation or by deposition, or whatever is there,  
19 as to that testimony that there's no dispute. We don't want to  
20 hear undisputed evidence because we can read, and so that's  
21 basically where we're going, so if we can go there.

22           And then we want to give you ample time to present  
23 the legal arguments to this Court, because that's really where  
24 it is. We don't want to hear the policy arguments and all the  
25 other stuff that goes with it in terms of what might sound good

1 because this is a legal case, and we want to get to the law of  
2 the case quicker.

3 MR. SPEAS: We agree with you, Your Honors, that this  
4 is a case in which there is not significant dispute as to the  
5 facts. We would like the opportunity to put on Senator Dan  
6 Blue to give the Court an overview of what happened in the  
7 legislature because we think that is important. We also would  
8 like to put on our two institutional Plaintiff representatives,  
9 Bob Phillips from Common Cause and Wayne Goodwin from the  
10 Department -- from the Democratic Party, but we have our two  
11 experts here today.

12 My estimate is that we can present this evidence to  
13 the Court within the day. We would be happy to confer, of  
14 course, with the other side about further stipulations, but we  
15 have tried to tailor our case to just what you're saying. This  
16 is, in essence, a legal dispute about which the facts are not  
17 much in dispute. I suppose they have an expert who has one  
18 view. We certainly have experts who have a different view, but  
19 with regard to what happened in the General Assembly, most of  
20 it is transcribed and recorded and before the Court in  
21 stipulated exhibits.

22 JUDGE WYNN: Mr. Speas, we want you to present your  
23 case. What I'm saying to you is do not present that which we  
24 are reading. If we are reading it and we see it, I don't need  
25 for a witness -- if it can be stipulated to, if the other side

1 agrees with you, this is what he's going to say, we don't have  
2 any dispute with it, streamline it, and I understand you want  
3 to get it out, but understand the Court already has read this,  
4 and we're the Court. This is not a public trial in the sense  
5 that you're trying to appeal to a jury. We have already read  
6 this. So streamline it. I know you feel like you've got to  
7 say it, but you don't have to keep repeating it to us if we  
8 read it. That's the only thing I'm saying, and I think you are  
9 going to have to have time to confer with counsel. If you  
10 can't agree, present it.

11 JUDGE OSTEEEN: Let me get Ms. Earls -- if she has  
12 anything, and then we'll come around to you.

13 MS. EARLS: Yes, Your Honors, I appreciate and  
14 understand the point you're making. I would say this  
15 immediately arises for us in the -- with the first witness  
16 because there's an exhibit that hasn't been stipulated to, the  
17 videotape of actual legislative proceedings. So that  
18 immediately comes to fore for us, but I would just add the  
19 other point, that the question of standing has been contested  
20 by the Defendants as well, and that's what some of our  
21 individual Plaintiffs were intending to address, the facts that  
22 we contend show they have standing.

23 So that's another issue that if there was a  
24 stipulation, we wouldn't have to present testimony, but if it's  
25 contested, then we have facts that relate to standing.

1 JUDGE WYNN: Well, I think the facts, to the extent  
2 that they are presented, if they're undisputed, we will make  
3 the decision on standing on law, but we don't need to hear  
4 facts that we already -- that you can stipulate to.

5 MS. EARLS: Thank you, Your Honor.

6 MR. STRACH: Your Honor, I agree with that. Many of  
7 the facts on standing, et cetera, are in the transcripts that  
8 have already been filed, and we would certainly be happy -- if  
9 the Court wanted to give the parties a brief recess, we -- from  
10 the defense side, we certainly would be willing to have this  
11 conversation right now before the Court got going, in light of  
12 the comments we're hearing.

13 JUDGE OSTEEEN: All right.

14 MS. PETERS: Nothing to add to that, Your Honor.

15 JUDGE OSTEEEN: All right. Why don't we take a little  
16 15-minute recess now and let you all talk a little bit.

17 I'm well aware of the fact -- or I'm assuming, I'm  
18 not well aware of, that you may have been swapping witness  
19 lists to prepare for each day ahead, and we'll make some  
20 allowances if things change and we need some stuff; but we'll  
21 give you 15 minutes now, and just do the best you can with it.  
22 We'll come back, we'll start hearing the evidence, and then  
23 once we've -- we'll get through to at least the lunch break,  
24 and if at various points you think about stopping and  
25 stipulating or doing whatever, we'll give you some time as we

1 go ahead.

2 I understand we're springing this on you a little  
3 bit, but we got the opening statements on Friday. We've had  
4 the benefit of the proposed findings and conclusions of law.  
5 So we have some idea of what the -- what the issues are in the  
6 case, and I agree with Judge Wynn 100 percent in terms of  
7 primary legal issues that are going to have to be resolved and  
8 complicated legal issues. I don't mean to diminish that in any  
9 way, but you all know best what evidence is necessary to decide  
10 those issues.

11 We'll stand in recess for 15 minutes.

12 (At 9:18 a.m., break taken.)

13 (At 9:42 a.m., break concluded.)

14 JUDGE OSTEEEN: Just so everybody knows, we'll do an  
15 official opening and closing at the beginning of the day and at  
16 the end of the day, and on recesses and lunches, we'll just  
17 come back in and get started. You'll hear a law clerk say  
18 remain seated, come to order, the court is again in session.

19 Judge Britt, I think you wanted to admonish the  
20 parties before we get started.

21 JUDGE BRITT: Not exactly. I just want to ask for  
22 your cooperation. When you get to my age, some artificial  
23 equipment helps you considerably, and for me, it's my hearing  
24 aids; and my hearing aids, fortunately, through Bluetooth  
25 technology, are tied in with the sound system here. We've just

1 been able to get it working right. So if you will, please try  
2 to talk into the microphone, although not too close to it; but,  
3 most importantly, please try to avoid letting a sheath of  
4 papers hit that microphone because it's painful. Thank you  
5 very much.

6 JUDGE OSTEEEN: All right. We've got the courtroom  
7 set up a little differently from last time. The witness box  
8 obviously is turned, so we, as the finders of facts, can have a  
9 better view of the witnesses. We'll see how it goes. I would  
10 like you to conduct your examinations from the podium to the  
11 extent possible because it allows the witness to look this way  
12 instead of having to look away from us.

13 We're ready to proceed. The Plaintiffs may call  
14 their first witness.

15 MR. SPEAS: Your Honor, I think that we have reached  
16 an agreement. I would like to outline that agreement and make  
17 sure that I'm stating it correctly.

18 The agreement is that all depositions and all  
19 deposition exhibits come in the record. All objections  
20 previously made to any testimony or any exhibit is withdrawn.  
21 The live testimony will be limited to the expert witnesses.

22 Mr. Strach has agreed that I can take five minutes  
23 and put the case in context, and he will tell the Court whether  
24 I have misstated it or not and that Mr. Earls will take a short  
25 time and do the same thing, and Mr. Strach will sign off or

1 not.

2 JUDGE OSTEEEN: All right. So, basically, a mini  
3 opening statement kind of thing, an outline of what's going on?

4 MR. SPEAS: I wouldn't go so far as to describe it  
5 that way, but, yes, just putting it briefly in context.

6 JUDGE OSTEEEN: All right. Everybody good with that?

7 JUDGE BRITT: Absolutely.

8 JUDGE OSTEEEN: All right. You may proceed then. I  
9 don't want to get too far out of order, but we'll recognize the  
10 stipulation, and all depositions and exhibits are admitted.

11 MR. SPEAS: And if, at this point, I may make my very  
12 brief remarks putting the case in context.

13 JUDGE OSTEEEN: You may.

14 MR. SPEAS: On February 5, 2016, the federal court  
15 declared the 2011 Congressional Redistricting Plan  
16 unconstitutional because Districts 1 and 12 were racial  
17 gerrymanders for which there was no compelling interest. The  
18 Court gave the legislature until February 19 to draw a new map.

19 On the 12th of February, a redistricting committee  
20 was appointed by the speaker and the president of the Senate.  
21 Senator Rucho and Representative Lewis were cochairs.  
22 Thirty-six persons were appointed to the committee, 24  
23 Republicans and 12 Democrats.

24 On Monday, February 15, the Joint Committee appointed  
25 on Friday convened to hold a public hearing. The transcript of

1 that public hearing is Exhibit 1004. The next day, Tuesday,  
2 February 16, the Joint Committee met to adopt the criteria to  
3 be used to draw the new map. One of those criterion was  
4 partisan advantage, which reads: "The political makeup of the  
5 Congressional Delegation is ten Republicans and three  
6 Democrats. The Committee shall make reasonable efforts to  
7 construct districts in the 2016 Plan to maintain the current  
8 partisan makeup of the North Carolina Congressional  
9 Delegation."

10 Another criterion presented to the committee on that  
11 date was -- well, let me back up just a second. Representative  
12 Lewis was asked to explain that criterion on the floor. He  
13 said, and I quote: "The explanation of this is reasonably  
14 simple, as we are allowed to use political data in the drawing  
15 of maps. I would propose that to the extent possible the map  
16 drawers create a map which is likely to elect ten Republicans  
17 and three Democrats. I acknowledge freely that this would be a  
18 political gerrymander, which is not against the law."

19 In response to a question from Senator McKissick, at  
20 that meeting, Representative Lewis said, and I quote: "I  
21 propose that we draw the maps to give a partisan advantage, ten  
22 Republicans and three Democrats, because I do not believe it is  
23 possible to draw a map with eleven Republicans and two  
24 Democrats."

25 The 2016 elections were held, and three -- ten

1 Republicans and three Democrats were elected.

2           With regard to the political data criterion,  
3 Representative Lewis said on February 16 that "We want to make  
4 clear that to the extent we are going to use political data in  
5 drawing the map, it is to gain partisan advantage, advantage on  
6 the map. I want that criterion to be clearly stated and  
7 understood."

8           MR. STRACH: Your Honor, those are certainly facts in  
9 the legislative record. Just brief additional context is that  
10 the two criteria that Mr. Speas has related to the Court were  
11 among four or five or six other criteria, all of which, the  
12 record will show, were followed and balanced and harmonized.  
13 It was not simply -- partisan advantage was not the only  
14 criterion that was followed.

15           And I will simply just note for the Court that the  
16 statements by Representative Lewis that Mr. Speas has noted  
17 have all been explained in his deposition. They'll be coming  
18 in. The Court will be able to see that the explanation for  
19 those is that Representative Lewis was making it clear that  
20 since they were -- had been -- the districts had been ruled a  
21 racial gerrymander, that the political data was in no way being  
22 used to further any race goals, but that there's different  
23 motives at play.

24           And so this is -- the Court will see when it reads  
25 the record that this was a uniquely -- a unique case in that it

1 was coming back on a draw from racially gerrymandered  
2 districts, and that largely explains the mistakes.

3 JUDGE OSTEEEN: All right.

4 MR. SPEAS: Your Honor, just to be clear, we would  
5 suggest that the deposition transcripts don't explain it.

6 JUDGE OSTEEEN: Understood.

7 MS. EARLS: Your Honor, if I may be heard briefly, I  
8 do not need to elaborate further on the factual context, but I  
9 do want to be a little more precise on the League of Women  
10 Voters' understanding of the agreement that we've reached so  
11 far, that it would be fact witness depositions, not all  
12 depositions, so not depositions of expert witnesses, and that  
13 the -- that there will likely need to be additional fact  
14 stipulations relating to standing that we have not fully ironed  
15 out with the Defendants, but we're confident that with  
16 additional time to discuss, we can likely resolve those.

17 But I just wanted to be clear it was only the fact  
18 witness depositions, and there may be -- the League of Women  
19 Voters reserve at this point the potential that there are some  
20 exhibits to some depositions or some exhibits that we still  
21 need to discuss with the Defendants in terms of whether we  
22 would totally agree to their admission.

23 So the blanket "all depositions, all exhibits" was  
24 not quite where we were with the League.

25 JUDGE OSTEEEN: All right. Anything in terms of --

1 MR. SPEAS: I had understood that the expert  
2 depositions were -- the experts will testify, and to the extent  
3 their exhibits come in, they come in.

4 JUDGE OSTEEEN: That's the way I understood it, too.  
5 Anything further in terms of the facts that you wanted to  
6 outline or just overview of the agreement?

7 MS. EARLS: I only wanted to address the agreements.

8 JUDGE OSTEEEN: All right. Mr. Strach?

9 MR. STRACH: Your Honor, I believe that's largely  
10 right, although I think we and the Common Cause Plaintiffs were  
11 probably more in agreement that everything will come in from  
12 fact witnesses regardless. I think we're prepared to waive all  
13 objections.

14 The only logistical issue that I've already raised  
15 with the Plaintiffs and I wanted to raise with the Court is we  
16 were assuming our case was going to largely be Wednesday and  
17 Thursday, and so we have -- one of our experts is currently  
18 under subpoena in a case in Arizona, and he won't be able to be  
19 here until Thursday. We could have him right up Thursday  
20 morning, but he will literally be flying during part of this  
21 trial, and we have -- our other expert is -- will probably get  
22 here late, late Tuesday night. We could probably put him up  
23 Wednesday, but it might be the afternoon. So we may ask the  
24 Courts' indulgence and the parties' indulgence, if this moves  
25 along more quickly because of our agreements, to help us with

1 the logistics with some of our experts.

2 JUDGE OSTEEEN: I'll see what the other judges want to  
3 do, but from my perspective, if we run into a problem where  
4 evidence ends early and we have some gaps in getting witnesses  
5 here, my preference would be not to piecemeal it, in other  
6 words, not two hours on Wednesday and two hours on Thursday. I  
7 would like to try to keep it all in big blocks of time. So if  
8 we run out of evidence and we need to discuss it a little bit,  
9 I'll just tell you now, I'll be looking to try to get everybody  
10 lined up in one day. So if your last witness is here Thursday,  
11 get everybody on -- we'll see where we go.

12 MR. STRACH: That's fine, Your Honor.

13 JUDGE OSTEEEN: That's from my perspective. They're  
14 the visitors, and I'll defer to them ultimately.

15 MR. STRACH: Thank you, Your Honor. That's all we  
16 have.

17 JUDGE OSTEEEN: All right. Then you may proceed.

18 MR. EPSTEIN: Your Honors, at this time the Common  
19 Cause Plaintiffs call Dr. Jonathan Mattingly.

20 (Witness sworn by the clerk.)

21 JONATHAN CHRISTOPHER MATTINGLY,

22 PLAINTIFFS' WITNESS, SWORN AT 9:54 a.m.

23 DIRECT EXAMINATION

24 BY MR. EPSTEIN:

25 Q Good morning.

1 A Good morning.

2 Q Go ahead and state your full name, please.

3 A Jonathan Christopher Mattingly.

4 Q Where did you grow up, Dr. Mattingly?

5 A Charlotte, North Carolina.

6 Q Tell us, if you would about your educational --

7 JUDGE OSTEEEN: Hold on just a second.

8 JUDGE BRITT: Mr. Court Reporter, you're using the  
9 wrong lawyer. This is Mr. Epstein instead of Mr. Bondurant.

10 MR. EPSTEIN: Thank you, Your Honor.

11 BY MR. EPSTEIN:

12 Q You may proceed to tell us, if you would, about your  
13 education from high school until you completed your education  
14 and letting us know along the way what degrees you obtained.

15 A I started high school in Charlotte, and then I moved to  
16 the North Carolina School of Science and Math in Durham; after  
17 which, I went to undergraduate at Yale, where I received a  
18 degree in applied mathematics. After that, I spent some time  
19 in France studying at the Ecole Normale school of nonlinear  
20 physics. Then I returned to Princeton University, where I  
21 completed my Ph.D in applied and computational mathematics.

22 Q Now, if you would, take us through your career in teaching  
23 from the time it commenced until today.

24 A After Princeton, I spent four years as a Szego assistant  
25 professor at Stanford University in the mathematics department.

1 Then I spent one year at the Institute for Advanced Study in  
2 Princeton, a think tank there, doing research.

3 Q Let me stop you quickly. Can you name any famous people  
4 who went to that think tank like you did?

5 A Von Neumann and Einstein.

6 Q Go ahead.

7 A And then I started my tenure-track position at Duke  
8 University, and I progressed there through different ranks, and  
9 now I'm a full professor, and, currently, I'm chair of the  
10 mathematics department, and I also have an appointment in the  
11 statistical science department.

12 Q What courses have you taught there recently?

13 A Undergraduate probability, stochastic processes,  
14 stochastic computation classes.

15 Q How many publications have you authored in peer-reviewed  
16 professional journals?

17 A Over 50.

18 Q Okay.

19 MR. EPSTEIN: And, Your Honors, at this time I would  
20 like to approach the witness, if I may, to hand him an exhibit  
21 notebook. I believe the exhibit notebook for him has been  
22 placed on the bench for each of Your Honors.

23 JUDGE OSTEN: All right. And I don't have any  
24 objection to you not asking each time you want to go up.

25 MR. EPSTEIN: Thank you, Your Honor.

1 BY MR. EPSTEIN:

2 Q If you would please turn to the tab marked No. 1, and tell  
3 us what we see there.

4 A It's my CV.

5 Q Okay. And is your CV something that at the time your  
6 expert report was submitted in March of 2017 -- is it accurate  
7 as of that date?

8 A Yes, it is.

9 Q And does it accurately describe the progression of your  
10 education and career and disclosed all of your published  
11 writings as of that day?

12 A Yes.

13 Q All right. Let's put that aside for a second, and let's  
14 talk a little bit about some of these terms that you've used  
15 that may be a little bit unfamiliar to us.

16 What is applied computational mathematics?

17 A It's the study of mathematics to solve problems of  
18 engineering and scientific and social relevance.

19 Q And what would you consider your area of specialization to  
20 be within the field of applied computational mathematics?

21 A Stochastic processes.

22 Q Spell that for the benefit of the court reporter.

23 A Okay. I'm borderline dyslexic, so you'll have to bear  
24 with me if I switch letters, S-T-O-C-H-A-S-T-I-C.

25 Q Okay. Now, that was the hard part. The easy part, what

1 does it mean?

2 A It's the Greek word for random. So it just means the  
3 study of things that evolve in time or have random influences.

4 Q Can you give us some examples of how you have used applied  
5 computational mathematics to study various phenomenon?

6 A So I've studied turbulent fluid flow like around a jet  
7 wing or in water. I've studied the computational methods that  
8 are used to simulate protein folding in, for instance, drug or  
9 molecular design. I've also studied biochemical pathways in  
10 cells and how they fluctuate, as well as doing some basic  
11 understanding of computational methods used in statistics and  
12 machine learning.

13 MR. EPSTEIN: Your Honors, at this point the Common  
14 Cause Plaintiffs tender Dr. Jonathan Mattingly as an expert  
15 witness in the field of applied computational mathematics.

16 JUDGE OSTEEEN: Voir dire?

17 MR. STRACH: No objection, Your Honor.

18 MS. PETERS: No objection, Your Honor.

19 JUDGE OSTEEEN: Mr. Strach, you'll be speaking for all  
20 the Defendants primarily? I don't want to catch anybody off  
21 guard.

22 MR. STRACH: Primary, but we'll certainly let you  
23 know, but primarily.

24 JUDGE OSTEEEN: Dr. Mattingly is accepted as an expert  
25 in the field of applied computational mathematics -- what was

1 it?

2 MR. EPSTEIN: That's it. Thank you, Your Honor.

3 JUDGE OSTEEEN: Okay. He may offer his opinion.

4 BY MR. EPSTEIN:

5 Q Dr. Mattingly, can you tell us -- we talked about  
6 schedules a second ago with witnesses from the Defendant.

7 Can you tell us if there were any difficulties  
8 getting you scheduled to testify this week?

9 A Yes.

10 Q What else do you have on your agenda this week?

11 A Tomorrow, I'm talking to a meeting at the National Academy  
12 of Science in Durham on redistricting, and then I'm flying to  
13 Toronto for a Fields Medal Symposium in Toronto at the Fields  
14 Institute.

15 Q A Fields Medal Symposium. What's the Fields Medal?

16 A The Fields Medal is the closest thing to a Noble Prize in  
17 mathematics, and a coauthor of mine received it, and I'm  
18 talking in celebration and honor of his work.

19 Q Now, in the 20 or so years that you have been teaching  
20 applied mathematics, both at Stanford and at Duke, how many  
21 times prior to 2016 have lawyers knocked on your door to ask  
22 you to help them in a court case?

23 A Never.

24 Q This is the first such case?

25 A Yes.

1 Q You've never been an expert witness who testified under  
2 oath before this case?

3 A No, I haven't.

4 Q How many political science degrees do you have?

5 A None.

6 Q Have you ever worked with or for a legislative body in the  
7 redistricting process?

8 A I have not.

9 Q Describe how you went from being a Duke professor,  
10 teaching applied computational mathematics, to sitting here  
11 today telling us about redistricting as an expert witness in a  
12 court case.

13 A I had an undergraduate student who became interested in  
14 modeling, random modeling of politics through the work of Nate  
15 Silver that we all read about in *The New York Times*, and we  
16 were reading about that; and then in the popular press, we read  
17 about the 2012 election, where just over 50 percent of the  
18 votes were cast for Democratic candidates, but, yet, the  
19 majority of -- the vast majority elected to the US House of  
20 Representatives from North Carolina were Republican, and we  
21 started -- we just posed ourselves a question to try to  
22 understand what was going on there.

23 Q Okay. And what was that question?

24 A Well, some people in the press were arguing that just  
25 because 50 percent of the votes had been cast for Democrats,

1 clearly 50 percent of the representatives should have been  
2 Democratic, but, as was already said, I grew up in North  
3 Carolina, so I have some idea of the political differences from  
4 one corner of the state to the other corner of the state, from  
5 different metropolitan areas to other metropolitan areas, and  
6 it's quite reasonable that maybe the geopolitical structure of  
7 North Carolina could account for some of that.

8 Q All right. Did you and Ms. Vaughn collaborate on a  
9 project in 2013?

10 A We did.

11 Q Can you describe that project for the Court?

12 A We created an ensemble of maps. We generated with  
13 computers some maps, and then we reran the elections using the  
14 2012 votes, and we tried this -- we saw what the outcomes were,  
15 and we used that to situate the outcomes that actually occurred  
16 using the General Assembly's maps.

17 Q Let's make this as clear as we can for the benefit of the  
18 Court.

19 From the point of time that work began in 2013 until  
20 today, has your work, or the work that you assisted students  
21 with, ever focused on how a legislative body, be it the North  
22 Carolina General Assembly or another, should draw a  
23 redistricting map?

24 A No, we always looked at maps after the fact and tried to  
25 situate them and analyze them.

1 Q And did the work that you and Ms. Vaughn did together  
2 eventual lead to looking at congressional redistricting in  
3 other states besides North Carolina, such as Maryland and Iowa?

4 A Yes, there was a second group of people who Christy helped  
5 mentor, and that group of undergraduates, again, looked at  
6 redistricting in Maryland, in Iowa, in Texas, and a few other  
7 states.

8 Q And did that particular project have a name?

9 A Yes, that was called the Quantifying Gerrymandering  
10 Project.

11 Q Now, did there come a point in time when the Terry Sanford  
12 School of Public Policy at Duke became interested in the work  
13 that you and Ms. Vaughn and you and this other group of  
14 students had been doing on redistricting?

15 A Yes. So Tom Ross was in residence as a visiting professor  
16 at Duke University in the Terry Sanford School of Public  
17 Policy, and he had approached Information Initiative, which is  
18 a group that deals with large data, to maybe provide some  
19 technical support and some analysis of his -- in his project.

20 Q And is that the Tom Ross that was the president of the UNC  
21 system before going to Duke as a visiting professor?

22 A Yes, and Davidson.

23 Q And when was that that he began talking to you about this  
24 project?

25 A That was spring of 2016.

1 Q Okay. What was the project that he envisioned at its  
2 inception?

3 A It was a simulation of a bipartisan redistricting  
4 committee where it would be made up of retired judges, and they  
5 would make up their own maps following -- House Bill 92 was  
6 what he was setting out as his procedure.

7 Q And we'll talk about that bill in a minute, but how was  
8 that -- how were the judges divided? Was there some kind of  
9 partisan divide on that -- on that pretend or fictional  
10 committee of a redistricting commission?

11 A He called it a simulation of a redistricting committee,  
12 and it was six Democrats and six Republicans.

13 Q Okay. And did that project have a name?

14 A Yes, it was Beyond Gerrymandering.

15 Q And did you and another group of students get involved in  
16 the Beyond Gerrymandering Project?

17 A Yes.

18 Q In what time frame?

19 A That was over the summer of 2016 and into the fall.

20 Q And what role did you and your students play in the Beyond  
21 Gerrymandering Project?

22 A We observed mainly the judges' deliberations, and then  
23 once they had produced their maps, they were given to us; and  
24 we then tried to situate them, much as we had done before,  
25 using an analysis of, you know, a group of other maps that we

1 generated, how typical and the characteristics of those maps,  
2 and then we gave a report on it.

3 Q All right. And you said maps in plural. I just want to  
4 make sure we're clear. Did the Beyond Gerrymandering Project  
5 produce multiple maps for the congressional redistricting or  
6 just one?

7 A A single map.

8 Q Okay. And did all of that occur before you became  
9 involved in this case?

10 A Yes.

11 Q All right. Well, let's talk about your involvement in  
12 this case. When and how were you asked to become involved in  
13 this case?

14 A Based on some of the presentations we've given, Eddie  
15 Speas approached me around Christmas of 2016.

16 Q Okay. And when he approached you, what did he ask you?

17 A He asked if we would be -- if I would be willing to write  
18 up a report which summarized the work we had done already.

19 Q How far along was the work you were doing on the project  
20 for Tom Ross, the Beyond Gerrymandering Project, at the time  
21 that Mr. Speas approached you around Christmas of 2016?

22 A The main conclusions we'd already presented in a  
23 conference at the Sanford School, and we were in the process of  
24 writing up a report.

25 Q And having never been an expert witness in a case before,

1 did you run for the hills or did you sign on?

2 A You should always try everything once, right? So, yes, we  
3 signed on.

4 Q Okay. And what specifically did Mr. Speas ask you to do?

5 A He asked just to write out a report that summarized what  
6 results we had presented in our talk and what we had found in  
7 analyzing the judges maps and how that fit into the maps that  
8 the legislature had drawn.

9 Q Did he ask you to do that work for free?

10 A No.

11 Q Did he talk with you about compensation?

12 A Yes.

13 Q And what was discussed about compensation?

14 A \$12,500.

15 Q \$12,500 a week? A month? A year?

16 A A flat fee.

17 Q Dr. Mattingly, about how many hours have you put into your  
18 efforts as an expert witness in this case?

19 A Hundreds.

20 Q Does that include preparation of your report, your  
21 deposition -- which occurred over two days, is that right?

22 A Yes.

23 Q -- your preparation for trial and your time here at trial?

24 A That is correct.

25 Q And since you began your involvement in this case, have

1 you also provided assistance in other court cases involving  
2 redistricting and alleged gerrymandering?

3 A Yes, we did some more analysis, again as an academic  
4 analysis. We did analysis of the redistrictings in Wisconsin,  
5 and then we were -- became involved with writing an amicus  
6 brief to the Supreme Court based on that analysis, and then  
7 right after the legislature released its new maps for the North  
8 Carolina legislative maps, the Senate maps, we were involved in  
9 making some preliminary analysis and filing a summary of that  
10 report for Common Cause.

11 Q Okay. Did you get paid for either of those efforts?

12 A The first one, no. The amicus brief was just a summary of  
13 a paper we had written, which is now publicly available, and  
14 the second one, a member of my team was paid; I was not.

15 Q All right.

16 A Because he did the writing.

17 Q Now, Dr. Mattingly, you've talked about Mr. Speas asking  
18 you to write a report in this case, an expert report. Did you,  
19 in fact, eventually do that?

20 A I did.

21 Q All right. If you would open your witness notebook, just  
22 so it's clear to the Court, behind Tab No. 2, labeled  
23 "Plaintiffs' Exhibit No. 3002," is that your report for this  
24 Court in this case?

25 A It is.

1 Q Entitled "Report on Redistricting, Drawing the Line,"  
2 Jonathan C. Mattingly?

3 A Yes.

4 Q And that was submitted back in March?

5 A Yes.

6 Q Was the content of that report something that you prepared  
7 solely for the lawyers that are assembled here today?

8 A No. Since we already had a draft of our actual academic  
9 paper in progress, I borrowed heavily from that.

10 Q Okay. Is there a more complete version of the information  
11 contained in your expert report in this case?

12 A Yes.

13 Q And where can that more complete version be found?

14 A On the same public ePrint server where Christy and I  
15 published our initial work.

16 Q What is an ePrint server?

17 A It's run by the National Science Foundation and Cornell  
18 University, and it's just a public repository where you place  
19 something, and then it's visible for all-time. It's what we do  
20 -- it's the main way we publish things initially.

21 Q And if you turn to Tab 4 in your notebook where we have  
22 Plaintiffs' Exhibit 3004, is that, in fact, that full published  
23 on ePrint paper that you were just discussing that you and your  
24 coauthors submitted for ePrint?

25 A Yes.

1 Q And what is the date that that was last published on that  
2 archive?

3 A It's date stamped 8th of May 2017 on the left-hand side on  
4 the margin.

5 Q Is that article that we're looking at behind Tab No. 4  
6 available for anyone in the world who has an internet  
7 connection to see?

8 A Yes, it's publicly available.

9 Q Is it your intention to publish that article in a referee  
10 professional journal?

11 A Yes.

12 Q All right. My next questions are going to zoom in on some  
13 of the big picture conclusions that you state in that article  
14 behind Tab No. 4.

15 Before we get to the specific conclusions, I would  
16 like you to very briefly describe how you and your students  
17 went about evaluating the 2012 and 2016 Redistricting Plans  
18 adopted by the General Assembly as well as the Judges Plan.  
19 What was the means or mechanism to do that?

20 A So we generated a large number, over 24,000 maps, that  
21 adhered to the bipart -- the nonpartisan redistricting criteria  
22 laid out in House Bill 92. Then we took each of those maps,  
23 and we took the actual vote count from the 2012 or the 2016  
24 elections, and we saw what outcome that map would produce, and  
25 then we tabulated all of those statistics, the outcomes of each

1 of those elections, as well as the partisan makeup of each of  
2 the districts, and then we used that to provide a background  
3 against which we could evaluate the Judges maps or the 2012  
4 maps or the 2016 maps.

5 Q Okay. On page 3, in the second full paragraph of your  
6 article, "Redistricting, Drawing the Line," you say that the  
7 2012 and 2016 Redistricting Plans produced results that are,  
8 quote, extremely atypical. What did you mean by that?

9 A What I meant was that over 99 percent of the maps we  
10 looked at produced more Democratic seats than those maps did.

11 Q In the next sentence, you say, quote, finer analysis  
12 clearly shows that the Democratic voters are clearly packed  
13 into a few districts, decreasing their power, while Republican  
14 voters are spread more evenly, thus increasing their power,  
15 unquote. What did you mean by that?

16 A So what I meant was that the maps we -- this ensemble of  
17 maps you created gave us a baseline, and when you compared the  
18 percentages in the most Democratic districts to those -- that  
19 baseline, there were clearly many, many more Democrats packed  
20 into those Democratic districts; and on the other hand, that  
21 allowed there to be many more Republicans in the next group of  
22 districts.

23 Q On page 9 of your article, just before Figure 6, you state  
24 that the 2012 and 2016 Redistricting Plans, quote, were  
25 precisely engineered and tuned to achieve a partisan goal,

1 unquote, and that, quote, the components of those plans were  
2 not randomly chosen, unquote. What did you mean?

3 A Well, we also did analysis where we moved slightly the  
4 boundaries of each of the districts to see how the makeup would  
5 change, how the partisan makeup would change, and we saw that  
6 when we shifted just as little as 10 percent of the boundary,  
7 the makeup of the districts changed dramatically. So if you  
8 were just to -- and I should say this is all nearby the actual  
9 maps. So if you were just to pick a map randomly nearby those  
10 maps, you would find a map that was very, very different.

11 Q And very different in what way?

12 A Much, much less advantageous to the Republicans.

13 Q By the time you concluded your work on this project,  
14 Dr. Mattingly, how many simulated plans or maps did you and  
15 your students come up with that would have satisfied what you  
16 would consider to be traditional redistricting criteria?

17 A Almost 120,000.

18 Q And from that, you ultimately selected how many? From  
19 that, how many were talked about in your article primarily?

20 A The main group -- because we started doing the analysis  
21 before we had -- the runs had completely finished, we used just  
22 over 24,000.

23 Q And of the 24,000 and of the 120,000, based upon your  
24 analysis, how many -- in how many of those plans, whether it  
25 was the 24,000 or the 120,000, would Democrats have scored more

1 congressional seats -- would have won more congressional seats  
2 than they did in the General Assembly's 2012 and 2016  
3 Redistricting Plans?

4 A 99 percent -- over 99 percent.

5 Q Based upon the work that you did with your students,  
6 Dr. Mattingly, are you able to address the degree of partisan  
7 gerrymandering represented by the General Assembly's 2012 and  
8 2016 Congressional Redistricting Plans?

9 A Yes.

10 Q And based upon that same work, are you able to address  
11 which of the districts in those plans are most affected by  
12 partisan gerrymandering?

13 A Yes, we can.

14 Q Dr. Mattingly, have you assisted us in preparing a  
15 PowerPoint presentation to help illustrate the work you and  
16 your students undertook that led to both your report in this  
17 case and to the article that we've been referencing?

18 A Yes, I did.

19 Q Is there anything in that PowerPoint that represents new  
20 or additional work beyond the work covered in the article,  
21 "Redistricting, Drawing the Line," that we were looking at,  
22 Exhibit 3004?

23 A There's not.

24 Q And would using that PowerPoint today assist you in both  
25 condensing and illustrating your testimony?

1 A It would greatly.

2 MR. EPSTEIN: Your Honors, at this point I would seek  
3 leave of the Court to ask Dr. Mattingly to step down to the  
4 monitor. We have the ability to show the PowerPoint on the  
5 monitor.

6 JUDGE OSTEEN: You may.

7 MR. EPSTEIN: Thank you. Okay. Can everybody see  
8 it? And if anybody needs to reposition -- I think they don't  
9 have it on their monitors.

10 JUDGE OSTEEN: We have a monitor issue?

11 MR. EPSTEIN: Let's proceed.

12 BY MR. EPSTEIN:

13 Q Dr. Mattingly, we're at the title slide, and we're going  
14 to move forward to the first full slide, and tell the Court --  
15 you mentioned House Bill 92 before. Why, first of all, did you  
16 use the criteria from House Bill 92 for the work that you and  
17 your students did?

18 A We had already been considering many of these --

19 JUDGE BRITT: Excuse me. Can you use that  
20 microphone?

21 THE WITNESS: Would it be okay to move it this way?

22 JUDGE OSTEEN: Yeah, don't turn your back on us.

23 (Off-the-record discussion.)

24 BY MR. EPSTEIN:

25 Q Why don't you leave it there for a second.

1 A Just interrupt me at any moment if it's not audible.

2 JUDGE BRITT: Thank you very much.

3 THE WITNESS: So I was saying that we were already  
4 using most of these criteria already, but since we really  
5 wanted to interface with Tom Ross's project, we adopted  
6 precisely the criteria from House Bill 92.

7 BY MR. EPSTEIN:

8 Q Was House Bill 92 something that was enacted into law?

9 A No, it wasn't. It passed one of the chambers, but did not  
10 pass the other.

11 Q And was that in 2015?

12 A I believe so, yes.

13 Q Okay. Name the criteria, if you would, from that House  
14 bill?

15 A Sure. So continuity, so that means all the districts have  
16 to be connected, so they have to be not separated by other  
17 parts of the district. They have to have equal population, so  
18 "one person, one vote" as close as possible. You want them to  
19 be relatively compact. You want them to minimize the number of  
20 split counties, so a county which is in one congressional  
21 district and another one simultaneously, and adhere so far as  
22 possible to the Voting Rights Act.

23 Q And you may have been in the courtroom earlier when  
24 Mr. Speas described criteria that was adopted in February of  
25 2016 after the original plan was held unconstitutional and had

1 to be redrawn. Are those the same criteria that were adopted  
2 by the legislature that we're looking at on the screen there?

3 A Well, except if you remove the partisan ones, yes. I  
4 mean, this is -- we didn't want to do anything -- the whole  
5 point was to do something nonpartisan.

6 Q And when you began your work, was that before or after the  
7 legislature adopted those criteria in February 2016?

8 A Well, the earliest work we did the summer before using  
9 almost the exact same criteria, that was before the  
10 legislature, but then the work with Beyond Gerrymandering was  
11 after that.

12 Q Okay. Let's go ahead to the next slide, and I'm going to  
13 ask you to explain this slide to explain how the Court used --  
14 I'm sorry -- how you used computers to create what you call an  
15 ensemble, what I might call a collection of redistrictings to  
16 use?

17 A All right. So first what we did was we took each map that  
18 one might generate, and we assigned a score to it, and that  
19 score determined how good or bad or well it adhered to the  
20 criteria that had been laid out. So a low number is a good  
21 score, and that adheres better to the criteria than a high  
22 number. Then we used an algorithm. Using this, we put a  
23 distribution on all possible redistrictings, and then we used  
24 an algorithm called Markov Chain Monte Carlo to draw new  
25 districts.

1 Q Let me stop you. That algorithm that you just described,  
2 Markov Chain Monte Carlo, is that used in anything else besides  
3 redistricting?

4 A It's a very standard algorithm used in modern statistics.  
5 It has its origins going back to The Manhattan Project, and  
6 it's used in drug development, it's used in weather  
7 forecasting, it's used in machine learning, how SIRI works, et  
8 cetera.

9 Q Okay. Go ahead.

10 A And so then we tuned the score function just so that the  
11 districts we were producing had basic criteria that looked  
12 close to the districts that had been drawn before; and then, in  
13 particular, to really -- we took these districts that we  
14 generated using this. We generated many, over 150,000, and  
15 then we cut those down to some districts that had some bare  
16 minimal reasonable criteria, and those were that they had at  
17 most 1 percent population deviation. They had a minimum  
18 isoperimetric ratio of 6. And what is isoperimetric ratio?  
19 It's just a way of measuring compactness. So it keeps it from  
20 being a long hot dog. It tends to want to make things look  
21 more like a circle.

22 We made sure there were no counties that were split  
23 across three districts, and we made sure that at least one  
24 district had at least 40 percent African-Americans and at least  
25 one district had at least 33.5 percent African-Americans.

1 Q Let me stop you there. Why?

2 A Well, you know, we were basing this largely on these  
3 typical things by looking at what had -- the districts that had  
4 been drawn by the State, by the legislature, and the  
5 legislature had 44 percent in its 2016 map, had 44 percent  
6 African-American in the most African-American district, and I  
7 believe 36 percent, 36.2 percent, something around that,  
8 African-American in its second highest. So we tried to center  
9 our distribution to be around that, be, you know, on either  
10 side of that so we would be drawing ones that looked like what  
11 had been used.

12 Q And did that criterion also correspond with something that  
13 was in House Bill 92?

14 A Yes, House Bill 92 said quite explicitly that you had to  
15 -- you were not to use race except to satisfy federal laws,  
16 particularly the Voting Rights Act.

17 Q Okay. Go ahead, please.

18 A So, I mean -- so maybe it's useful just to think about  
19 this for a second. So what we're really doing -- so this is  
20 just an absolute minimum bar to get some set of reasonable  
21 districts, but then within that group of redistrictings, some  
22 redistrictings are more likely than others because they have a  
23 better score function. So we favored redistrictings that met  
24 this criteria better than those that didn't meet the criteria  
25 as well.

1 Q Were you able to take a large segment of redistricting  
2 maps and narrow it down in that way?

3 A So we had over 150,000 maps initially produced, and after  
4 this filtering procedure, this triage, we ended up with just  
5 over 24,000.

6 Q And if you were to use sort of a common everyday example  
7 of how you might think about this process as opposed to all of  
8 this fancy stuff, what would you say you did?

9 A So you have a bag, you're at a bingo parlor, and you want  
10 to pull tiles out, and some tiles are more frequent. The tiles  
11 in there that are more frequent are the maps. Each tile is a  
12 map of North Carolina, redistricting in North Carolina, and the  
13 tiles in there more frequently are tiles that satisfy well this  
14 score function; that is to say, they satisfy the criteria on  
15 the previous slide than the previous -- than the other tiles.  
16 And so we drew a tile out. That was the map of North Carolina.  
17 We took that map, and then we evaluated the elections based on  
18 the votes that were used in the 2012 and 2016 elections.

19 Q Okay. This next slide, it says: "VTDs Used to Create 13  
20 Districts for All 24,518 Simulated Maps." Explain that.

21 A So this is the map of North Carolina voting tabulation  
22 districts, or essentially precincts in common parlance, and  
23 there's over 2,800.

24 Q And when it says it was used to create districts, 13  
25 districts, what does that mean?

1 A Well, what it means is basically what we did was we  
2 assigned each of these voting-tabulation districts to a  
3 particular one of the 13 congressional districts. So every one  
4 of these districts has a number, which it's in our fictional  
5 District 1, our fictional District 2, our fictional District 3.

6 Q And why are there some areas on this map of  
7 voting-tabulation districts that are darker than others?

8 A Those are the more populous areas where there are many,  
9 many voting-tabulation districts packed in.

10 Q Okay. The next slide says on top "Actual Votes from  
11 2012/2016 VTDs Applied to All 24,518 Simulated Maps." Explain,  
12 if you would.

13 A So once we had this collection of 24,000 maps, we took  
14 each map, which, of course, comes with it an assignment of  
15 which VTDs are in which of the 13 congressional districts, and  
16 then we took the actual map -- the actual votes, right. We  
17 have a record of what the votes are in each VTD from the Board  
18 of Election. We take that amount of votes, and we sum up all  
19 the votes in the VTDs that are labeled "District 1", and that  
20 gives us the votes in District 1. We take all the VTDs that  
21 are labeled 2, and we sum up their votes to get the votes in  
22 District 2, both Republican and Democrat to get the partisan  
23 makeup of those districts. Then we do that for every single  
24 one of those 24,000 maps, and that gives us, one, an  
25 indication -- a collection of outcomes of the election, and it

1 also gives us some detailed information about what the  
2 districts would look like.

3 Q When you're talking about the votes, you mean how many  
4 votes there were for Republican candidates and how many votes  
5 there were for Democratic candidates?

6 A Correct.

7 Q And which election cycles would you use for that purpose?

8 A The 2012 US House of Representatives elections and the  
9 2016 House of Representatives elections.

10 Q Wasn't there an election in 2014 as well?

11 A There was. The problem was is that that election had one  
12 unopposed race. So if there's an unopposed race, the people in  
13 those precincts didn't have a chance to declare which way they  
14 would have voted because they only had one candidate presented  
15 to them. We considered and we had in other work -- we  
16 considered using a surrogate, using the Senate race, using the  
17 governor's race, using something else, but we thought that it  
18 was more powerful to just stick with clean results where we  
19 just use exactly the votes that were given.

20 Q And did your ensemble maps, the 24,000, have different  
21 results using the 2012 votes versus using the 2016 votes?

22 A Yes, I mean, the elections were very different, right. In  
23 2012, there were 50 statewide. That doesn't say what happened  
24 at a local level, but there were just over 50 percent  
25 Democratic, and in the 2016, there was just over 46 percent

1 Democratic.

2 Q And in parenthesis you have listed there "seats." What is  
3 that referring to?

4 A So this is the actual outcome of the 2012 election. So in  
5 the 2012 election, using the legislature's 2012 map, four  
6 Democrats were elected from 50 percent of the vote and nine  
7 Republicans were elected from only 48.75 percent, and,  
8 likewise, three and ten. And part of the goal of this was to  
9 understand whether -- to what extent this was determined by  
10 geography of the state and the distribution of where people  
11 live or whether this was something else going on.

12 Q And did those distribution of seats wind up being  
13 different from 2012 to 2016 in your 24,000 plans in a similar  
14 fashion as we see there for the actual congressional actions?

15 A Yes, very much.

16 Q And is that because the vote was different in 2016?

17 A Yes.

18 Q All right. This slide says: "Planned, Analyzed Against  
19 Simulated Maps Ensemble." Can you explain it, please.

20 A Yes. So once we have this ensemble, which we've tabulated  
21 all these elections, 24,000 elections, using actual votes each  
22 time, that gives us a background signal, and then we go and  
23 compare the results that one would have had using the Judges  
24 map in 2012 and 2016 and the actual map used in 2012 and the  
25 actual map used in 2016. So this NC 2016, that's the actual

1 map from the legislature. NC 2012 is the actual map --

2 Q And why were you using these colors, green for judges, red  
3 for NC 2012, and blue for NC 2016?

4 A Because I needed three colors that had some contrast.

5 Q And are those colors going to be consistent throughout  
6 this PowerPoint?

7 A Yes.

8 Q All right. Now, let's go to this next slide that says:  
9 "Outcomes Among 24,518 Simulated Maps, Votes for the US House  
10 2012." Explain to the judges what we're looking at in this  
11 slide, what the significant information is that you want them  
12 to get.

13 A So as I mentioned before, we took these 24,000 -- just  
14 over 24,000 maps, and we took the actual votes from the 2012  
15 election, and we tabulated the partisan makeup of the  
16 delegation using that map; and when we did that, we kept track  
17 of the number of Democrats who were elected each time, and this  
18 histogram gives you the number of Democrats elected each time.  
19 So out of the 24,000 maps, using the actual 2012 votes, just  
20 38 percent had six Democrats. So that's four -- 9,455, I won't  
21 keep reading the numbers, and then seven were elected  
22 39.52 percent of the time, and you see here just under  
23 12 percent had five Democrats elected, just under -- just over  
24 9 percent had eight Democrats elected.

25 Q Would it be correct to say that in over 99.6 percent of

1 your simulated maps, five or more Democrats would have won  
2 congressional seats in 2012 had the votes been cast the same as  
3 they were in 2012?

4 A Yes. So that's summing up the total percentages in these  
5 quads. So this is -- five or greater would be this way.

6 Q And would over 88 percent of your simulated maps have had  
7 six or more Democrats elected?

8 A Right. So that's the same thing; you add up these numbers  
9 here. So that's all of the outcomes to this side.

10 Q And the most likely outcomes in your simulated maps with  
11 over 79 percent were what?

12 A Six and seven, slightly more, but indistinguishably.

13 Q And according to the data from all of those simulated  
14 maps, was a map resulting in nine Democratic wins just about as  
15 likely as a map resulting in four Democratic wins?

16 A I mean, first of all, both of them were very unlikely, but  
17 each -- they were about equally likely to get nine Democrats as  
18 it was to get four Democrats.

19 Q Okay. Did you then use your ensemble, as you explained to  
20 us earlier, to compare the three plans: The Judges Plan, the  
21 North Carolina 2012 Plan, and the North Carolina 2016 Plan?

22 A I lost the question. Could you --

23 Q Did you then use this ensemble data to compare what the  
24 Judges outcome was, what the North Carolina 2012 Plan, and 2016  
25 Plan outcome was?

1 A So we -- we calculated what -- how many -- there you go.  
2 We calculated it using the Judges Plan. So the Judges  
3 redistricting map, there would've been nine -- I mean, six  
4 Democrats elected, excuse me, six Democrats elected.

5 Q Okay. And what about the North Carolina 2012 Plan?

6 A There would've been four Democrats elected.

7 Q All right. And what about the North Carolina 2016 Plan?

8 A So, again, four Democrats. It's important to remember  
9 that we're still using the 2012 votes. We're just using the  
10 plan from 2016. So if we used the 2012 votes in the 2016 plan,  
11 we would have had four Democrats elected.

12 Q Okay. Let's go to this next slide, which I think is going  
13 to require some more explanation; but before you do, I'm going  
14 to read the title. It says: "Analysis of 13 Districts in  
15 Simulated Maps, Votes for US House 2012." Now, please take  
16 some time and explain to the Court what we're looking at in  
17 this slide.

18 A So the broad picture is we're trying to understand what  
19 that background signal was, what -- how -- the geopolitical  
20 makeup of North Carolina, both the shape of the state and where  
21 the people live, and the partisan makeup of where they live  
22 would give us -- would tell us what we would typically see.  
23 That's what we're trying to get at.

24 So to establish that, what we did was we took every  
25 map that we generated, every map that we had, and we ran the

1 2012 elections. So we have 13 congressional districts.  
2 There's the most Republican, the second most Republican, the  
3 third most Republican, the fourth most Republican, the most  
4 Democrat, the second most Democrat. So we ordered those  
5 numbers, in other words, what's the percent -- the fraction of  
6 Democratic vote -- the percent of Democratic vote, and we  
7 ordered the districts from the most Republican to the most  
8 Democrat. So that's these 13 numbers. These are not the  
9 numbers associated with the districts as we see them when we  
10 talk about District 12 or District 1. These are just the most  
11 Republican, the most Democrat.

12           So we take those 13 numbers for each of our maps, and  
13 then we make this plot to summarize those statistics. So what  
14 this plot shows you is that if you took the most Democratic  
15 map, most Democratic -- I misspoke -- the most Democratic  
16 district in each of the 24,000 maps, so if you took the most  
17 Democratic district in each of the 24,000 maps and you said  
18 what was the fraction of Democrats in that map, the median  
19 would be just around 67 percent, and how could that be helpful  
20 to you? You might -- somebody might come to you and say, you  
21 know, isn't it weird that this district has 67 percent  
22 Democrats in it? That seems nefarious, but if, in fact, it was  
23 the most Democratic district, that's what you would expect to  
24 see. Just typically when you draw maps of North Carolina,  
25 that's what you end up with.

1           And then we did the same for the twelfth most  
2 Democratic, the eleventh most, the tenth most, the first most  
3 Republican, the second most Republican, the third most, the  
4 fourth most Republican.

5           Now, just to unpack a little bit what this figure  
6 shows you is the central line here is the median, which in  
7 these cases is identical essentially to the mean. So it's the  
8 line that splits 50 percent above and 50 percent below.

9 Q     50 percent of the 24,000 --

10 A     Yes.

11 Q     Okay.

12 A     And then this box here, this is called a box plot, if you  
13 want to look it up later. So this box here holds 50 percent of  
14 all the maps. So all the maps had their most Democratic  
15 district with a percentage that was in between these two --  
16 these two upper levels of the box.

17 Q     You said "all." Did you mean 50 percent?

18 A     I meant, yeah, 50 percent. I misspoke. Then there are  
19 these whiskers, and these whiskers are supposed to demonstrate  
20 what are outliers, what are exceptionally far from the mean,  
21 and the reason these are chosen, these are 1.5 times this box  
22 distance, and that's for the reason that if something was  
23 Gaussian, if something was normally distributed, 98 percent --  
24 over 98 percent would be outside of these whiskers.

25 Q     Okay. Talk about the 50 percent line, that dark in the

1 line. What is that showing us with respect to each of these  
2 districts?

3 A Well, I mean, as we all know, whoever gets the most votes  
4 in a district, wins the seat. So this line is the 50 percent  
5 line. So if a map had -- each of these maps is a dot going up  
6 here, has -- the number of dots that are above this line is the  
7 number of seats the Democrats won, and the number of dots below  
8 this line is the number of seats the Republicans won. So we  
9 saw in the previous plot it was between six and seven  
10 typically, right. And you notice that it's exactly the  
11 seventh most Republican district that straddles the 50 percent  
12 line. So it's exactly typically split between 50 percent of  
13 the time favoring the Republicans and 50 percent of the time  
14 favoring the Democrats.

15 Q And in your box plot, would that be the most competitive  
16 district, the seventh most Republican district?

17 A Yes, this would be the most. I mean, it would be  
18 essentially -- depending on the map, it would be 50/50 to be  
19 more favoring the Democrats and more favoring the Republicans.

20 Q Is that always going to be true, or it depends upon the  
21 elections -- the votes that you're dropping in?

22 A It depends upon the election. So, typically, what we see  
23 is if this general structure of the box plot looks the same,  
24 but in the year when the populous vote is more Republican, then  
25 necessarily the whole box plot shifts downward, thereby putting

1 more of the boxes below the 50 percent line, and in a year when  
2 the populous vote is more Democratic, the box plot shifts  
3 upward, thereby putting more of the boxes above the 50 percent  
4 line.

5 Q In other words, the line always stay -- the 50 percent  
6 line always stays in the same place?

7 A Right.

8 Q And the box plot is up or down?

9 A Right.

10 Q Okay. Which are the least competitive districts in this  
11 box plot?

12 A Clearly, the most Republican usually goes to the  
13 Republican Party, and the most Democratic district tends to go  
14 to the Democratic. We're separated enough geographically that  
15 we're not mixed in a blender. It's spread evenly over the  
16 state.

17 Q Does this box plot also show you the variability of the  
18 outcomes within individual districts?

19 A Yes. I mean, this says that over different maps, we  
20 typically had a variation of this much in the percentage of  
21 most Democratic, and, in particular, this one it shows that  
22 about half the map favored the Democrats a little bit and about  
23 half the map favored the Republicans.

24 Q Which of these districts on this box plot shows to be the  
25 most variable in your ensemble?

1 A I mean, it's close, but I would say this one. I mean, it  
2 both has the biggest outliers and the biggest 50 percent box.

3 Q And which would be the least variable?

4 A This sixth most Republican district. It has a very tight  
5 50 percent box and a rather tight outlier box.

6 Q And just to make sure we're clear on this, the numbers at  
7 the bottom on the horizontal axle, the two, the four, the six,  
8 the eight, the ten, the twelve, they represent what?

9 A They do not represent the labeling that we used, the  
10 twelve districts. They represent how they order -- how the  
11 lines order, whether they're the most Republican, the second  
12 most Republican, the third most Republican, the most Democrat,  
13 the second most Democrat, the third most Democrat.

14 Q Okay. Let's move forward now, and you've drawn on this  
15 next one the exact same box plot with a yellow line. Tell the  
16 Court, if you would, what the yellow line is representing and  
17 what you believe the significance of that yellow line is.

18 A Well, the yellow line connects all the medians through the  
19 center. So this gives you some idea of typically what one  
20 would expect to see, given the geography of North Carolina and  
21 what -- the distribution of people in North Carolina.

22 Q Okay. And remind the Court what the inputs were that went  
23 into getting a yellow line looks like that.

24 A So we used the 24,000 maps to tabulate the actual votes  
25 from the 2012 election and see how much they varied across

1 maps.

2 Q And the 24,000 maps were created using what criteria?

3 A They were created using the nonpartisan criteria laid out  
4 in House Bill 92, just population deviation, compactness, not  
5 splitting counties and satisfying the VRA, at least at the  
6 level of the 2016 congressional maps.

7 Q And in all of the work that you've done on gerrymandering  
8 issues, in your opinion, is the shape of that yellow line  
9 significant?

10 A Yes, I mean, this -- when I started off talking, I said we  
11 wanted to understand was the 2012 typical, you know, what would  
12 one expect. This gives a much finer detailed structure of what  
13 one would typically see. This is kind of the signal in the  
14 election, as far as I'm concerned.

15 Q Of how the voting in the individual districts compare to  
16 one another?

17 A Correct.

18 Q All right. What would you expect to see if the districts  
19 had been gerrymandered to give one party an extreme partisan  
20 advantage?

21 A Well, let's say that they had been biased to the  
22 Democrats. You would expect to see a depression here where  
23 many Republicans are impacted here, and then some districts  
24 where they had been removed from, or, alternatively, if it had  
25 done the other way, if it had been given the Republicans an

1 advantage, you would have many more Democrats packed in the  
2 most Democratic districts, and then the Republican districts --  
3 the next set of districts would have many more Republicans  
4 because that would bring it down towards the 50 percent line.

5 Q And what would the line as a whole -- instead of that  
6 gradual sloping yellow line, what would that line look like?

7 A Well, I mean, it would be flatter here, and then it would  
8 jump up particularly to a flatness here, so it would have an  
9 S-shape there.

10 Q All right. Go ahead and tell the Court what you've done  
11 on this next slide that adds more information.

12 A So I've added the green dots. Green is always the Beyond  
13 Gerrymandering Project with Tom Ross. So these are the  
14 districts that the panel of six Republican and six Democrat  
15 judges produced, and we see that they're pretty good,  
16 especially right here in the middle part. They fall at least  
17 sometimes dead center, but usually typically pretty close to  
18 the 50 percent box. Definitely none of them are in the  
19 outliers.

20 Q And what criteria did the Beyond Gerrymandering Project  
21 use to create their map?

22 A They -- they just followed House Bill 92.

23 Q With respect to this issue of gerrymandering, did the  
24 green dots tell you anything as to the Judges Plan, what they  
25 produced?

1 A Well, I mean, it seems to be very typical. It follows  
2 very closely that yellow line we had before.

3 Q Okay. This is -- explain to the judge what we're looking  
4 at in this next slide with the red dots.

5 A So this is now the makeup of the districts for the 2012  
6 Legislative Plan, and you see very much what I was talking  
7 about before. You see that these most three Democratic  
8 districts have an anomalously large number of Democrats packed  
9 into them, and these four or even five districts here have many  
10 less Democrats than they would typically see.

11 Q Okay. And these were actual districts voting in the 2012  
12 election?

13 A Right. These are -- where these are -- these box plots  
14 are the signal -- from my ensemble of 24,000, these are the  
15 actual makeups of the election results.

16 Q And when we're looking at the previous slide, which I'll  
17 go back to for a second, those weren't actual votes that  
18 created those green dots. What were they?

19 A They were actual votes.

20 Q I'm sorry. They weren't actual votes in an election with  
21 the judges map?

22 A No, they were using the votes at the precinct level in the  
23 2012 election, but then assigning them to districts according  
24 to the judges maps.

25 Q Okay. As you did for your ensemble?

1 A Correct.

2 Q Okay. Let's go ahead now. What labeling have you added  
3 to the horizontal axis on this slide?

4 A So now we've actually replaced them with the numbers that  
5 one usually thinks of Congressional District 1, Congressional  
6 District 12, Congressional District 7, 4. So you can see where  
7 they fall in this ordering of districts, starting at the most  
8 Republican and the most Democratic.

9 Q The most Republican was?

10 A The most Republican was District 3.

11 Q And the most Democratic?

12 A District 12.

13 Q The box plot with the whiskers and the box in the middle,  
14 are those specific to those districts you see on the horizontal  
15 axis?

16 A No, no, these have nothing to do with these numbers.  
17 These are from our redistricting. The number here just applies  
18 to this number here, the actual outcome of the 2012 election.  
19 So this is --

20 Q I'm sorry. Are you ready to go to that slide?

21 A Yes.

22 Q Okay. All right. So let's go to this next slide in which  
23 you've added a whole bunch of additional labeling. Take your  
24 time and tell the Court what additional labeling you've added.

25 A So just to help ground this and make sure that we all

1 understand what we're talking about, I've added the percentages  
2 of -- the Democratic percentages in each of the districts. So  
3 in that election, the most Democratic, District 12, had  
4 79 percent Democrats. The next one had 76, District 1. The  
5 next one had 74, District 4.

6           And if you compare those to what we would expect from  
7 our ensemble, the medians had a difference of plus 11 here,  
8 plus 14 percent, plus 15 percent. So there were many more  
9 percentage Democrats in these districts than what we typically  
10 see, and, conversely, in the next four, there were many less  
11 Democrats. In fact, this one had 50 percent Democrats when  
12 normally one would expect to see 57 percent Democrats, the next  
13 most Republican had 49 percent when one would typically see  
14 55 percent, and then 46 percent when one would typically see  
15 52 percent, and 44 percent when one would typically see  
16 50 percent.

17 Q     Did you consider those differentials that you were just  
18 looking at as between the median vote in your ensemble and the  
19 actual vote in 2012 significant with respect to this issue of  
20 partisan gerrymandering?

21 A     Yes, I mean, this shows that these districts have been  
22 moved to become Republican, while these have been made even  
23 safer Democratic.

24 Q     What's the relationship between safer Democratic seats and  
25 districts that can become more Republican?

1 A Well, you have to take the votes out of here and move them  
2 here, and that's what this clearly shows.

3 Q Okay. This next slide has added a little bit of more  
4 information. Can you tell the Court what additional  
5 information is on this slide?

6 A Right. So what you want to understand, though, is that a  
7 typical result? Are there some of our 24,000 elections in my  
8 ensemble that have that structure? And what this gives is this  
9 tells you -- for instance, each of these numbers here gives the  
10 percentage of the maps in the 24,000 ensemble, which had a  
11 value above this whisker. So 99.99 percent had values below  
12 this whisker, and this is this map, the 2012 map.

13 None of the maps in my ensemble had values as high as  
14 this whisker here, and this is the value for the 2012 map.  
15 99.31 percent had a value below this whisker, and this is the  
16 value for the 2012 map. Conversely, you would want to know how  
17 many are below this whisker or how many are above. So only  
18 1.5 percent, just over 1 percent, had a value below this  
19 whisker, and this one is all the way down here. Similarly, at  
20 this whisker, only .43 percent had a value -- had a value or  
21 percentage below this one, .04 percent had a value below this  
22 whisker, and .07 below this. We label these as "extreme  
23 outliers" one by one.

24 Q Does this slide, in your opinion, present any evidence  
25 regarding partisan gerrymandering of individual districts?

1 A Yes, I mean, since you can look at these districts, it  
2 seems to say that this clump of districts -- for instance,  
3 let's start here. This clump of districts here, 4, 1, and 12,  
4 actual Districts 4, 1, and 12, had significantly more Democrats  
5 than one would typically see, even though they are the most  
6 Democratic, and then the next four had many, many less  
7 Democrats than what we would expect to see.

8 Q Dr. Mattingly, did you actually add up how many Democratic  
9 votes there were in the three most Democratic districts, 4, 1,  
10 and 2, in that election?

11 A I did.

12 Q Do you have your cheat sheet telling you how many?

13 A There were 765,000.

14 Q Democratic votes?

15 A Democratic votes in these three.

16 Q And then for -- well, let me ask you: In your ensemble of  
17 maps, 24,000, how many had that many Democratic votes?

18 A None.

19 Q Okay. For the next three districts, the ones that are --  
20 on your map, they are District 7, District 9, and District 8.  
21 Can you tell the Court how many Democratic votes were in those  
22 three in the actual election?

23 A So these had 665,000 --

24 Q I'm sorry. No --

25 A 765,000, and these three here had only 520,000.

1 Q How many simulated maps in your 24,000 had that few  
2 Democratic votes in those districts?

3 A None did.

4 Q And is that significant in your opinion?

5 A Yes. I mean, it shows that if one were to draw maps using  
6 these criteria, it was extremely unlikely to ever end up with a  
7 situation like this. In fact, it was essentially -- it was  
8 impossible.

9 Q In your opinion, could the legislature have created a  
10 redistricting plan that yielded those specific results  
11 unintentionally?

12 A No.

13 Q Okay. Let's go to the next slide. Tell the Court what  
14 we're looking at. It says: "Comparison of Results: Ensemble,  
15 Judges, NC 2012." What are we looking at, and what do you find  
16 significant?

17 A Well, so, as I said, this yellow line that connected the  
18 medians was my background signal. It's what I would typically  
19 expect to see, and you might ask, well, could a set of human  
20 beings sit down and draw such a map. Well, the judges did  
21 without having access to this. We did this after the fact. So  
22 the judges drew the maps that created this green line, which  
23 very closely adheres to the yellow line. On the other hand,  
24 you see the legislature's maps are very flat here and then take  
25 this huge jump and go up here. So for me, when I see anything

1 like this, a plot like this, this kind of S-shape thing, you  
2 know, this is what I mean by gerrymandering. This is the  
3 signature of gerrymandering.

4 Q All right. Now, we've just been through the 2012 Plan and  
5 looked at the 2012 votes that actually occurred under the 2012  
6 Plan. Did you perform the same exercise for the 2016 Plan and  
7 the 2016 votes?

8 A Exactly the same exercise.

9 Q All right. Let's go through it, and let's start with what  
10 you called the histogram, showing the outcomes in 2016 using  
11 the 2016 Plan?

12 A All right. So, again, we typically had five Democrats  
13 elected. So this is a year when there was more -- the vote was  
14 more Republican, so 53 percent Republican and 47 percent  
15 Democrat. So only five were elected, Democrats, and sometimes  
16 four and sometimes six typically.

17 Q Okay. And what were the percentages of those three?

18 A Just under 28 percent had four, just over 55 percent had  
19 five Democrats elected, and just shy of 16 percent had six.

20 Q So would it be correct to say that in over 99.3 percent of  
21 your 24,000 simulated maps, four or more Democrats would have  
22 won congressional races in 2016?

23 A Yes, that's just adding up the percentages in these --

24 Q And in over 71 percent of those simulated maps, five or  
25 more Democrats would have won?

1 A Yes, that's correct. That's, again, just adding up these  
2 last three.

3 Q And was there one outcome that actually had the majority  
4 in your 24,000 maps?

5 A Five Democrats elected.

6 Q Statistically speaking, was it just about as likely that  
7 Democrats could have won seven seats had only mutual  
8 redistricting criteria been used as it was for Democrats to win  
9 only three?

10 A Yes, they would have both been very unlikely, but they  
11 would have been equally likely approximately.

12 Q Okay. And did you apply three plans, the Judges Plan, the  
13 NC 2012, and NC 2016 to this histogram?

14 A Yes, we did.

15 Q And where do the Judges come out?

16 A So the Judges had four Democrats.

17 Q Assuming the 2016 votes were used?

18 A Yes, take the full sentence. So using 2016 votes, we had  
19 four for the Judges. When we looked at the NC 2012 Plan -- so,  
20 again, just to be clear, we're using the plans, and we're using  
21 the 2012 election, but we're using the votes from the 2016  
22 election. So they produced three this time.

23 Q Okay. And for the NC 2016 Plan?

24 A So this is the actual plan that was used in this election,  
25 and they produced three.

1 Q Now, going ahead to your ensemble, what do you see here in  
2 your ensemble with the yellow line?

3 A So, basically, you see a box plot that looks very similar  
4 to the previous one. It has a nice gradual progression of the  
5 median very much in the same way, but if you look a little  
6 closer, you will notice that the whole box plot has shifted  
7 downward, right. It crosses the 50 percent line now just  
8 between eight and nine, and that was because this was a more  
9 Republican electorate.

10 Q And does that show why five Democratic wins was the  
11 majority outcome, looking at your box plot?

12 A Right, yes, because typically one had eight here, and so  
13 if eight is here, that leaves five.

14 Q Five that were above the line?

15 A Five above the line, one, two, three, four, five.

16 Q Okay. Is the type of line that we see, the yellow line  
17 there, comparable, in your opinion, to the type of yellow line  
18 that we saw in 2012 -- using the 2012 Plan and 2012 votes?

19 A Right, it's a nice gradual line that doesn't have any  
20 sharp kinks, and it just -- so as the vote moves up or down,  
21 you gradually gain or loss a seat in a nice progressive way as  
22 the percentage changes.

23 Q Okay. I want to move back to one thing that I neglected  
24 to ask you. Back here with the Judges Plan that came out with  
25 four, four Democrats winning out of 13, can one say that, well,

1 that's pretty similar to the outcome of three that was actually  
2 achieved under the 2016 Plan?

3 A Well, I mean, the numbers are close, but this one is  
4 42 percent more likely than this one.

5 Q 42 percent or 42 times?

6 A I'm sorry. I misspoke. Thank you. Forty-two times more  
7 likely. So if it's 42 times more likely to get four Democrats  
8 than it was to get three Democrats in our ensemble.

9 Q And did you actually, in your analysis and in your paper,  
10 include a histogram showing whether the judges were close to  
11 getting -- the Judges Plan was close to an outcome of five?

12 A Yes, so, in fact, there's a more nuanced analysis. I  
13 think it's Figure 11. Let me double-check. While I'm getting  
14 it, I'll talk.

15 Q So in that --

16 A Yeah, it's Figure 11. It shows where -- how close they  
17 were, in other words, how close one would expect them to flip,  
18 and the Judges Plan was actually right over here. So one would  
19 expect that small changes in the distribution of votes would  
20 actually move it to five.

21 Q Okay. Let's move forward to where we were with the yellow  
22 line. Which should have been -- according to your ensemble of  
23 24,000 maps, using the 2016 votes, which should have been the  
24 most competitive districts?

25 A Well, it should have been typically the eighth most

1 Republican and the ninth most Republican.

2 Q Okay. And each of those --

3 A But that's not District 8 and District 9. That's if you  
4 order them, it's the eighth most and the ninth most.

5 Q And in each of those, would the winning share and the  
6 median have been less than 55 percent?

7 A Say that again.

8 Q For the medians on those two, would the winning share of  
9 vote, whether it was Democrat or Republican, have been less  
10 than 55?

11 A It would've been less than 55, yes, typically. The box  
12 plot here is where only 50 percent of the map is less than 55,  
13 which is about here.

14 Q Did you also plot the Judges and the 2016 results as  
15 against your ensemble?

16 A Yes, we did exactly the same analysis as before. Here  
17 they are. So, again, they have a fairly gradual uptick. This  
18 one is a little bit outside the box, but still not in the  
19 outlier band, and the rest of them are pretty where you'd.

20 Q And what, in your opinion, does that say about partisan  
21 gerrymandering of the Judges Plan?

22 A It's not gerrymandering.

23 Q Okay. Let's go ahead to the 2016 Plan with the 2016  
24 votes.

25 A Well, we again see the same structure as before. So the

1 last time we were looking at the 2012 map. Now we're looking  
2 at the 2016 map, and, again, we see this very flat region here  
3 with many, many less Democrats in these three in particular and  
4 many, many more Democrats in these three.

5 Q Would you agree that the first seven districts are roughly  
6 similar to what we saw in the Judges Plan in your ensemble?

7 A Yes, in fact, even this one is lower. So some of these  
8 other ones have pulled up, but these basically look quite  
9 similar to the rest.

10 Q So which half of this slide is the one that is dissimilar  
11 from the Judges and from your ensemble?

12 A This one, this half, the half towards the Democratic  
13 districts.

14 Q Okay. Let's go to the next slide. What are we showing on  
15 this slide?

16 A We've actually labeled now -- this is -- now we've put the  
17 actual districts -- the districts are on the map, the District  
18 1 that we know, District 4, District 12, District 13, District  
19 2, District 9, District 5.

20 Q And let's go to the next slide. Tell the Court what  
21 additional data and information you've supplied on this slide.

22 A So now we've actually labeled the partisan makeup. So  
23 first for the House -- for the 2016 map, the most Democrat had  
24 70 percent, now the next most had 68, the next most had 67, but  
25 that should be compared with 65, 62, and 57. So it's plus 10

1 percent, plus 6 percent, plus 5 percent, and then these next  
2 three districts had 44 compared to 54, so minus 10 less  
3 Democrats; 51 to 43, minus 8; and 48 to 42, minus 6.

4 Q Okay. Does this -- let me back up. Let's go to the next  
5 slide -- well, let me -- sorry, I apologize. Did you consider  
6 those differentials at the bottom of the slide to be  
7 significant on this issue of partisan gerrymandering?

8 A Yes, I mean, this is, again, the structure which makes --  
9 this kind of structure like this is the signature of something  
10 being gerrymandered.

11 Q With respect to the numbers at the bottom, the minus 10,  
12 the minus 6, what is that telling us on this topic of partisan  
13 gerrymandering?

14 A That these districts had many, many more Democrats than  
15 typically is found if one were to draw bipartisan maps.

16 JUDGE WYNN: Counsel, I'm concerned of the record  
17 that's being created here. We don't have a visual of this, and  
18 when you say these districts and don't specify where they are,  
19 we are not going to have a clear picture of what you're talking  
20 about upon review of this. So if you would direct him to be  
21 more specific so that we can have the record of this.

22 MR. EPSTEIN: Thank you, Your Honor.

23 BY MR. EPSTEIN:

24 Q Can you be more specific, when you're talking about these  
25 districts, what you're referring to?

1 A So the three most Democratic districts, the one farthest  
2 to the right, have many more Democratic votes than one would  
3 expect to see if one looked at the medians or the box plots for  
4 those three districts that are the most Democratic, and then  
5 when you compared the next three most Democratic, that is, the  
6 next three after those first three, one sees that they have  
7 many less Democratic votes than one would expect when one  
8 compares to the medians, that is, the lines in the center of  
9 the box plots.

10 JUDGE OSTEEEN: The actual district is down on the  
11 bottom, right?

12 THE WITNESS: Yeah, these are the actual numbers of  
13 the districts, so it's the very bottom of the slide.

14 JUDGE OSTEEEN: So I think when you're talking about  
15 the most Democratic district, if you'll identify that as CD1,  
16 CD4, and CD12 in addition to what else you're going to say.

17 THE WITNESS: CD?

18 JUDGE OSTEEEN: Or D. You used D.

19 THE WITNESS: D here is the actual district on the  
20 map. So that one just happens to be one. This would be the  
21 second most Democratic district, which is labeled District 4  
22 traditionally, if you use the maps. Now, that doesn't mean  
23 that it exactly corresponds to the most Democratic district in  
24 every one of the ensembles. Where that is geographically can  
25 move around, depending on the random map.

1 BY MR. EPSTEIN:

2 Q Okay. And I think this next question, Dr. Mattingly, will  
3 help orient us to the most Democratic districts. Did you add  
4 up how many Democratic votes there were in the three most  
5 Democratic districts in 2016, District 12, District 4, and  
6 District 1?

7 A So in the three most Democratic, three farthest to the  
8 right, there were just around 750,000 Democratic votes.

9 Q How many simulated maps in your 24,000 had that many  
10 Democratic votes using the 2016 votes in their three most  
11 Democratic districts?

12 A None.

13 Q Did you add up how many Democratic votes there were in the  
14 next three most Democratic districts, which were District 13,  
15 District 2, and District 9 in 2016?

16 A Yes, just shy of 600,000.

17 Q How many simulated maps in your 24,000 had that few  
18 Democratic votes using the 2016 votes in the fourth, fifth, and  
19 sixth most Democratic districts combined?

20 A None of them did.

21 Q Is that significant in your opinion?

22 A Yes.

23 Q Why?

24 A It means that it's extremely unlikely that one would have  
25 produced maps that had that level of packing here and that

1 level of depletion here unintentionally or using nonpartisan  
2 criteria.

3 Q All right. Let's go ahead and look at the next slide.  
4 We've added in the information about those whiskers, and be  
5 specific, when you're talking about individual district and the  
6 whisker, which district you're talking about.

7 A Okay. Again, now we're going through -- if we look at  
8 each of these districts, how atypical was the value of  
9 percentage in that district, as high or as low as it was.

10 So in the first most Democratic district, the one  
11 farthest to the right, which had 70 percent Democrat and is  
12 above this whisker here, that top whisker, only .61 percent of  
13 the maps had a value above that whisker. Similarly, for the  
14 next one moving to the left, none of the maps had a value above  
15 this whisker, while the maps from the legislature did. Moving  
16 to the third one in from the left, only .07 percent, or, in  
17 other words, 99.93 percent, had a value below this whisker,  
18 while the maps from the legislature had one just above it.

19 Then moving to the districts which seemed to have  
20 less Democrats in them, the fourth most Democratic district,  
21 moving from the left -- from the right, sorry, had -- below the  
22 whisker only .19 percent, or 99.81 percent, had a value -- had  
23 a value above this whisker. So this was very atypical. It was  
24 very much an outlier, and the same thing as with the last two  
25 with .53 percent being below this whisker and only .02 being

1 below this whisker. Now, this one falls just above that, but  
2 it's still well outside of this box.

3 Q And what does the information that you've just been  
4 through, the whiskers and where the plot points for the  
5 Republican Plan comes -- what does that tell you about how  
6 likely the result obtained would be if only neutral nonpartisan  
7 redistricting criteria had been used?

8 A Well, based on the ensemble that we generated, these would  
9 be essentially impossible to generate randomly. They would be  
10 so highly atypical that one would not see it.

11 Q And in your opinion, could the legislature have created a  
12 redistricting plan that yielded the results we're looking at on  
13 this slide unintentionally?

14 A No.

15 Q All right. Go ahead and tell the Court what we're looking  
16 at in this slide with reference to comparing results in the  
17 2016 -- with the 2016 votes.

18 JUDGE BRITT: Mr. Epstein, let me ask you another  
19 question that follows what Judge Wynn said. Do these slides  
20 follow some of the drawings in the paper?

21 MR. EPSTEIN: They do, Your Honor. There's a little  
22 bit more precision in them in terms of -- these lines are all  
23 there. They're just not -- the plot points aren't connected.  
24 They are the same exact graphs and charts as are in the paper  
25 with differences. Here the lines are drawn in.

1 JUDGE BRITT: Well, I was just wondering if it would  
2 be helpful for the record, Judge Wynn, for this to be -- when  
3 he's talking about a slide, to refer to a figure in his paper.

4 MR. EPSTEIN: Your Honor, actually, it might be  
5 easier. We have -- I was going to ask at the end to introduce  
6 this as an exhibit and have it admitted for illustrative  
7 purposes. We have them, and we can hand them to the Court  
8 either now or at the end of his presentation, but we do have  
9 them.

10 JUDGE BRITT: At the end would be fine.

11 JUDGE WYNN: Actually, I think it would be helpful to  
12 hand them now, and then we can point to them. Where we're  
13 going with this is that when we review this and if you just say  
14 "this" and "that," we're going to have some difficulty  
15 ascertaining what you mean, and simply all you got to do is  
16 point to the particular slide, indicate the figures that you  
17 were talking about, and it's going to be pretty easy. We're  
18 smart, but we're not that smart, I don't think.

19 MR. EPSTEIN: If Your Honor can give me a moment, I  
20 can have our paralegal sort through them and hand them out  
21 right now.

22 JUDGE OSTEEEN: Let's take about a 10-minute  
23 mid-morning recess, and then we'll come back.

24 (At 11:05 a.m., break taken.)

25 (At 11:20 a.m., break concluded.)

1 JUDGE OSTEEEN: Before we resume testimony, in terms  
2 of exhibits, my normal practice is the witness is handed an  
3 exhibit. It's -- the witness identifies the exhibit. We take  
4 a moment to see if there are any objections. If not, move the  
5 admission of the exhibit, and then we have it in front of us.

6 Even with the screens, especially with three judges  
7 on the bench, it's difficult. So going forward, to the extent  
8 we have paper copies for the Court -- I know I asked for zip  
9 drives, but if you don't have them for me, don't worry about  
10 it; but if you have paper copies, go through that process so we  
11 actually have our copy of the exhibit in front of us while you  
12 go along.

13 MR. EPSTEIN: Thank you, Your Honor. At this point,  
14 first of all, I would note that we do have zip drives for the  
15 Court, law clerks, and everyone, which we'll be happy to  
16 distribute at a break, but we would move the admission as an  
17 illustrative exhibit Plaintiffs' Exhibit No. 3040.

18 JUDGE OSTEEEN: All right. Any objection to that?

19 MR. STRACH: No, Your Honor.

20 JUDGE OSTEEEN: Plaintiffs' Exhibit 3040 is admitted.

21 MR. EPSTEIN: May I ask the witness to resume?

22 JUDGE OSTEEEN: You may.

23 BY MR. EPSTEIN:

24 Q Okay. Dr. Mattingly, before we took our break, we were  
25 looking at this slide that says "Comparison of Results" and

1 it's Ensemble, Judges, NC 2016, and it's using the 2016 votes.  
2 Using your pointer, please, can you walk you us through what  
3 you find significant about this slide.

4 A I think it's probably a good idea if I used the colors.  
5 That way it will help everyone know what I'm talking about.

6 JUDGE BRITT: I'm not getting any feedback from that  
7 microphone right now. Can anyone tell me why?

8 MR. EPSTEIN: Please speak more loudly.

9 JUDGE BRITT: It was probably my -- it's clear now.

10 THE WITNESS: Is this too loud, or is this good?

11 JUDGE BRITT: No, no, it was not your problem. It  
12 was right here.

13 THE WITNESS: All right. So the yellow line that  
14 passes through the centers, that's through the median, and  
15 that's what I would -- it's typically typical given what we see  
16 in our ensemble, and then the green line, which passes very  
17 close to the yellow line, is what the Judges map produced, and  
18 this blue line deviates quite a bit. This is the NC 2016 Plan.  
19 And so, once again, we see the same kind of S-like structure  
20 that we saw before.

21 BY MR. EPSTEIN:

22 Q And what is significant about that S-like structure to  
23 you?

24 A Well, it is a signature of gerrymandering in the sense  
25 that these have many, many more -- many, many more Democratic

1 votes, that is to say, the right most three, the three most  
2 Democratic districts have many more Democratic votes than one  
3 would typically see, and the next three have a very flat  
4 structure with many less Democratic votes than one would  
5 typically see.

6 Q And for the record, just for the Court, I'll refer to this  
7 as Slide 30. I should have been doing that from the beginning,  
8 and I apologize for not doing that so the record is little bit  
9 clearer.

10 Dr. Mattingly, did you do any work to validate the  
11 results of your work to make sure that they weren't overly  
12 influenced by one factor or another?

13 A We did.

14 Q What did you do to validate your results, among other  
15 things?

16 A Well, one thing we did was -- you might ask was this  
17 enough samples? Did we sample this distribution on  
18 redistrictings well enough? Did we have enough maps? So --

19 Q Going to Slide 31, can you answer that question?

20 A Yes. So what I've been describing to you largely is the  
21 result of using 24 -- just over 24,000 maps. We also took a  
22 longer run of just shy of 120,000 maps, and using those maps,  
23 we produced the histograms, the two we've been talking about,  
24 the histogram that shows the election results, and you see that  
25 there's essentially no deviation. The blue is the smaller

1 ensemble, and the yellow one is the much larger ensemble. So  
2 this says that the results have stabilized and adding more  
3 ensemble -- adding more samples won't change anything.

4 Q So what does that say about the size of 24,000 as your  
5 original ensemble?

6 A It was at least sufficient. It doesn't mean that less  
7 couldn't have been equally sufficient.

8 Q And this was studying the 2012 votes with the larger  
9 sample size?

10 A Correct.

11 Q Okay. Let's go to what I'll call Slide No. 32, and this  
12 is the box plot that corresponds with what we were just looking  
13 at, the histogram. I'm sorry. I need to go -- there we go.

14 A So this is the box plot again. Again, the yellow box  
15 plots are the larger sample, 120,000 or so, and the blue box  
16 plots are the ones we've been talking about, and you see that  
17 they have almost identical structure. If you look at them next  
18 to each other, they look essentially the same. So that means  
19 all the conclusions that we drew so far would be stable using  
20 the larger ensemble.

21 Q All right. And did you do the same analysis using the  
22 2016 votes?

23 A Yes.

24 Q Going to Slide No. 33, can you explain what we're looking  
25 at there?

1 A Again, exactly the same thing. The blue is the smaller  
2 ensemble we've been talking about up until now, and the yellow  
3 is the larger, just shy of 120,000, and you see essentially  
4 zero change between the two.

5 Q And what does that tell you about whether using the 24,000  
6 was enough to be looking at?

7 A Again, it shows the results are stable. 24,000 was more  
8 than enough to produce the good results.

9 Q And when we go to Slide 34 and look at the box plot  
10 structure for the 2016 votes, what does that tell you with  
11 119,000 samples?

12 A Again, the two sets of box plots line up essentially  
13 identically. The medians are in the same places, the  
14 50 percent boxes are essentially lining up actually, and even  
15 the outliers are coming in the same places.

16 Q All right. Dr. Mattingly, one of the things you talked  
17 about when you were looking at House Bill 92 and those criteria  
18 that were used, both by your students and you, on the one hand,  
19 The Beyond Gerrymandering Project, on the other, was a  
20 criterion that dealt with county splits, minimizing county  
21 splits.

22 Did you take a look at your ensemble with reference  
23 to the subject of county splits?

24 A We did.

25 Q Okay. I'm going to go to Slide 35 and ask you to explain

1 to the Court what we're looking at in that histogram.

2 A So we wanted to understand what the distribution of county  
3 splits we had in our ensemble of 24,000 maps, and this light  
4 blue histogram gives that collection. So, typically, we saw  
5 around -- the median is around 22, I would say, and it ranges  
6 from somewhere around 17 to somewhere around 27, but we were  
7 also interested -- you know, when we say a county split, that  
8 means the tiniest bit that the legislative districts might leak  
9 into a county, and we count that as a split. Those kinds of  
10 things could easily be fixed by hand, by moving a few districts  
11 across the line.

12 What we wanted to see was how many significant splits  
13 we had. So we asked ourselves, well, a significant split is  
14 where the smaller part is at least 10 percent of the county,  
15 and when we did that, we got this darker blue. So if we only  
16 count significant splits, we're down to around 17, 18, 19  
17 typically, and down as far as 13, 14.

18 Q Do you know how many counties were split in the 2012  
19 Redistricting Plan enacted by the legislature?

20 A I believe it was 40.

21 Q Were all 24,518 plans in your ensemble below that number?

22 A Yes, we did a hard threshold to ensure that we never  
23 considered a map in our 24,000 which had more than a 40-county  
24 split.

25 Q Okay. Did you also do some validation work around this

1 subject of county splits to make sure that your ensemble was  
2 fairly representative?

3 A Right, so we were interested if decreasing the number of  
4 county splits would have any qualitative effect on the results,  
5 largely because the 2016 had 13.

6 Q Let's go to Slide 36, and it says "Validating the Results:  
7 The Effect of Doubling Weight Against County Splits."

8 A So we created a brand-new ensemble. So we generated a new  
9 collection of maps where we -- in our score function, we  
10 penalized districts -- redistrictings that had more county  
11 splits. We increased the penalty, so thereby decreasing the  
12 chance of drawing a map that had a large number of county  
13 splits. This is that collection we produced, and this is the  
14 number of county splits. So now you see this one we haven't  
15 even -- this is just any split. We haven't even asked what's  
16 the 10 percent, what's the significant county split, and it's  
17 already down -- typically down 14, 16, 17, and going all the  
18 way down to around 11.

19 Q And did you then take this collection and look at the  
20 results that you would have obtained using just this sample?

21 A Right, so we wanted to compare the results we had before  
22 and the results with this new ensemble which had -- which  
23 concentrated on having less county splitting.

24 Q Okay. And let's go to Slide 37, and is that a --

25 JUDGE OSTEEEN: Hold on just a second. Let me go back

1 to 35. I'm not sure I understand the colors. So the -- on the  
2 left side of the graph, you have the darker blue. That's the  
3 splits greater than 10 percent?

4 THE WITNESS: Yes, Your Honor.

5 JUDGE OSTEEEN: All right. And then there's that  
6 purply color in the middle. What is that?

7 THE WITNESS: That's just -- they're transparent. So  
8 where the two box plots -- where the two graphs go over each  
9 other, that's so you can see the dark one in the background.  
10 So this one coming down -- this is the significant splits and  
11 then coming down, and then this one -- you can think of this  
12 one being in front, the light blue.

13 JUDGE OSTEEEN: Hold on. The light blue represents  
14 all splits?

15 THE WITNESS: Yes, Your Honor.

16 JUDGE OSTEEEN: Okay. And then the lighter purple  
17 color is where those two overlap?

18 THE WITNESS: Correct.

19 JUDGE OSTEEEN: Okay. Thank you.

20 BY MR. EPSTEIN:

21 Q All right. So we were just about to get to this histogram  
22 on Slide 37 that now is analyzing the 2012 votes using your  
23 different collection that only includes those doubly weighted  
24 county -- against county splits plans.

25 A So we've decreased the number of county splits a bit,

1 quite a bit actually, and we see that there's essentially no  
2 change in the qualitative results. The outcomes of the  
3 elections are essentially the same. The blue is what we had in  
4 our original 24,000, and now orange on this plot is what we had  
5 with our ensemble that had lower number -- a lower number of  
6 county splits typically.

7 Q And going to Slide 38, was -- in this new collection, was  
8 the box plot structure for the 13 districts similar or  
9 different than for the original 24,000 ensemble?

10 A It's very similar. You see that the median, those lines  
11 in the center of the box plots, largely line up very close, and  
12 the sizes and positions of the 50 percent boxes are also in  
13 agreement.

14 Q So the last two slides that we looked at, what does that  
15 tell you as the mathematical expert about this subject of  
16 county splits and its impact upon the redistricting plans that  
17 were in your original ensemble?

18 A It doesn't make any real qualitative difference in the  
19 conclusions we reached.

20 Q Okay. Now, it says -- I'm sorry.

21 A Pushing the county splits down didn't change the  
22 qualitative structure at all.

23 Q And what does that say about the original results with the  
24 higher number of county splits?

25 A They seem -- they're valid. They have the same

1 qualitative structure as the new ones.

2 Q On the bottom right-hand corner of this and the previous  
3 slide, it says "2012 votes." Is that the votes that were  
4 applied to do this validation work?

5 A Right, since when we compared the two different box  
6 plots -- when we did the comparison before with 2016 and 2012,  
7 we didn't see anything different for these validations. We  
8 just used 2012 votes, and that was largely --

9 Q Did you -- we're running out of your PowerPoint here, but  
10 I'm going to ask you some questions about things that aren't in  
11 the PowerPoint.

12 Did you do additional work to validate the results  
13 that you've shared with the Court that aren't in your  
14 PowerPoint but are in your paper?

15 A Yes, we -- as I --

16 Q I'm going to get to that.

17 A The answer is yes.

18 Q Is that the section of your paper entitled "Testing the  
19 Sensitivity of Results," which is at pages 24 through 30 of the  
20 paper, Exhibit 3004?

21 JUDGE OSTEEN: Is that Tab 2 or Tab 4?

22 MR. EPSTEIN: It's Tab 4.

23 JUDGE OSTEEN: What pages again?

24 MR. EPSTEIN: 24 through 30, Your Honor.

25 THE WITNESS: Yes.

1 BY MR. EPSTEIN:

2 Q Okay. And so I'm going to ask you some specific questions  
3 about the testing of sensitivity of results you did that we  
4 didn't show on the PowerPoint.

5 Did you test to make sure that reducing population  
6 deviation down from 1 percent to the desired goal of 0 percent  
7 would not qualitatively affect the outcome?

8 A Yes, we -- initially, we thresholded at 1 percent. So  
9 this is Figure 12 in the paper on page 25. We initially  
10 thresholded at 1 percent, but we also then considered  
11 thresholding at .75 percent and .5 percent, and you see that  
12 decreasing it, there's no systematic effect, there's no change,  
13 and if you compare the box plot to the picture to the right,  
14 it's a little bit more -- it's a more informative version of  
15 the box plot. It actually shows the histogram, the PDF on each  
16 of them, so it even gives more information, and, as you see,  
17 the green and the blue in the figure on the right look almost  
18 identical. So it really shows that decreasing the populations,  
19 the compliance with the population equal partition, didn't  
20 change the results.

21 Q Did you test to make sure that changing the compactness  
22 threshold, that is how compact the individual districts had to  
23 be to make it into your ensemble -- how that qualitatively  
24 affected the outcome?

25 A Yes, so if you turn to the next page, page 26 in Figure

1 13, we did the same exercise again. We said let's -- so here  
2 we're talking about the isoperimetric score, which is a smaller  
3 score, which means it's more like a circle and less elongated  
4 like a wiggly hot dog, and as it decreases from 80 to 60 to 54,  
5 and even when we had absolutely no thresholding, the results  
6 looked very similar, qualitatively the same.

7 Q Did you test to make sure that changing the compactness  
8 energy, as you call it, would not qualitatively affect the  
9 outcome?

10 A Yes.

11 Q First of all, define what you mean by compactness energy?

12 A So in our score function, there were different terms that  
13 measured how well a particular district adhered to the design  
14 that the nonpartisan design criteria laid out in House Bill 92.  
15 One of those was the compactness; that is to say, how much it  
16 looked like a circle. Initially, we use the isoperimetric  
17 constant, which is the ratio of the perimeter of the districts  
18 squared over the area, but sometimes in the bill, they also  
19 talk about other measures, and we considered a different  
20 measure, which was looking at it in a box, a rectangle, which  
21 included the district, and comparing the two areas. So that's  
22 a very different measure, but, in fact, it gave qualitatively  
23 the same results. So it was not sensitive to changing what our  
24 definition of compactness was.

25 Q Dr. Mattingly, when you began the Markov Chain Monte Carlo

1 algorithm to start producing Maps No. 1, 2, 3, and 4, in what  
2 ultimately became over 24,000, was there some kind of  
3 geographical starting point so the computer knew how to start  
4 the process?

5 A Yes. The way the algorithm works is it starts with an  
6 initial map, and then it manipulates and fidgets the boundary  
7 in a way that preserves this measure. So in the initial run of  
8 24,000, we started from the Judges map.

9 Q The Beyond Gerrymandering map?

10 A The Beyond Gerrymandering map, but we also --

11 Q Let me just ask you before you go there, how do you know  
12 that that initial starting condition didn't skew the outcome in  
13 favor of plans that looked like the Judges Plan and against  
14 plans that looked more like the General Assembly's plans?

15 A It's a legitimate question, and so we tested against that.

16 Q Where at?

17 A All right. I am searching.

18 Q Is that page 28?

19 A You are correct. It is page 28. So if you look at  
20 page 28, Figure 14, the top -- the top set of figures across  
21 the top, we considered where we started from the Judges Plan,  
22 where we started actually from the NC '12 map, and where we  
23 started from the NC '16 map, and you see they look very, very  
24 similar. There is a small amount of fluctuation, but that's  
25 attributed mainly to the fact that we used lower numbers.

1 Q Okay. And so if you had instead started with the 2012  
2 Plan or the 2016 Plan, what is this chart in the upper  
3 left-hand corner of page 28 telling us about what kind of  
4 different results would have been obtained?

5 A We would have obtained the same conclusions, especially  
6 when you look at the box plot just to the right, and the same  
7 thing, you see that they line up identically. So all the  
8 qualitative descriptions we've made about these S curves and  
9 deviations impacting, they would have all -- the same  
10 conclusions would have been made if we had started from the  
11 legislative maps as the initial condition.

12 Q Finally, did you do some validation work as it relates to  
13 the topic of weighting of the criteria?

14 A Yes, we did.

15 Q Is that the chart -- Figure 16 at the top of page 30?

16 A Thank you, yes.

17 Q Okay.

18 A So we made --

19 Q Briefly describe what it is you were doing in this chart  
20 and what you were validating.

21 A So there was some choices. We had to tune some parameters  
22 to make the maps look basically like the maps we saw already  
23 having been produced, the 2012, 2016. We wanted them to have  
24 reasonable numbers to county splits when compared with them,  
25 reasonable compactness when compared with them, reasonable

1 population deviations given what House Bill 92 said; but then  
2 we wanted to say, well, what if we had changed those  
3 weightings? So we moved up and down around -- we moved up and  
4 down each of these weightings, and we chose different weights  
5 and sought to change the result. If you look, we have this box  
6 plot. This is Figure 16, and you'll see that, again, all of  
7 the boxes line up essentially in the same position. There's  
8 some small fluctuations, but they're largely the same, the  
9 positions where they showed -- where they end up.

10 Q And what does that tell you about the weighting that was  
11 used in the actual ensemble, the 24,000?

12 A That the conclusions we're drawing are not particularly  
13 sensitive to the exact details of how we built this ensemble.

14 Q Okay. You used 2012 votes for the various validation work  
15 that we just went through, is that correct?

16 A That is correct.

17 Q Why did you use 2012 votes for those?

18 A Well, as I explained, we were doing this as part of this  
19 Beyond Gerrymandering Project. So we initially had a  
20 presentation in early -- in November, and so the validation is  
21 something we do very early on to make sure that you have things  
22 going the way they should be going. So at that time, we didn't  
23 have 2016 votes yet.

24 Q Okay. And that's why you used that in your paper?

25 A Correct.

1 Q All right. We're going to go forward to the last slide,  
2 which is Slide No. 39 in your PowerPoint. The first question I  
3 want to ask you before -- are these -- have we seen these two  
4 slides before?

5 A We have. These are just repeats.

6 Q Are they now side by side the comparison of the 2012 Plan  
7 to the ensemble of yours and to the Judges Plan and then the  
8 comparison to 2016 Plan to your ensemble and to the Judges  
9 Plan?

10 A Yes.

11 JUDGE BRITT: Does that appear in the chart -- in the  
12 exhibit?

13 MR. EPSTEIN: It appears, Your Honor, in the  
14 PowerPoint that we gave you, which is Exhibit 3040. It's the  
15 last page.

16 JUDGE BRITT: I got it.

17 MR. EPSTEIN: Thank you.

18 BY MR. EPSTEIN:

19 Q So the first question I want to ask you: In looking at  
20 this particular slide, is what it tells you about whether a  
21 need to comply with the Voting Rights Act or to have two  
22 districts that have high percentages of African-American  
23 voting-age population requires the drawing of a -- of districts  
24 in a way that provides a significant advantage to Republicans?

25 A Well, our ensemble already had that as part of its

1 construction. From all of our maps, we had these criteria so  
2 they complied with the Voting Rights Act. When you see that  
3 typically we get this yellow line, and then the judges, when  
4 they drew their maps, which also complied, produced the green  
5 line, and so there's no -- there's no -- there's nothing in  
6 that that necessitates a structure which would give this  
7 S-shape and these packing here and these depletions here, and I  
8 should be careful. When I say "here," I mean in the first  
9 three to the right on the left-hand panel and the first three  
10 to the right on the right-hand side panel, and then the next  
11 three in from those three on both panels being depleted, being  
12 below the box plots.

13 Q And let me ask that question in a slightly different way.

14 What does this slide tell you about whether the need  
15 to comply with the Voting Rights Act or to draw two highly  
16 populated African-American voting-age population districts  
17 could explain the partisan distribution of congressional seats  
18 resulting from the 2012 and 2016 Plans and elections?

19 A It doesn't explain it.

20 Q All right. Now, Dr. Mattingly, you told us earlier when  
21 we started that you began this project with Ms. Vaughn before  
22 Mr. Speas ever knocked on your door, trying to figure out if  
23 the political geography of North Carolina and the distribution  
24 of where voters lived in North Carolina, whether they be  
25 Democrat or Republican, could by itself explain the partisan

1 outcomes of our congressional elections during this decade.

2 Did you figure out the answer to that question in the  
3 work that you've been describing to the Court today?

4 A We did.

5 Q And can you use those -- that slide and those graphs in  
6 front of you to explain your answer to that question?

7 A Yes. So by using this ensemble of 24,000, we discovered  
8 what the background structure in the geopolitical makeup of  
9 North Carolina is, its geography, where its people live, where  
10 its voters in each party are distributed, and where the  
11 African-American population is, and what that necessitates  
12 relative to the Voting Rights Act. And what we see is -- this  
13 yellow line and these set of boxes shows what we typically see  
14 when we draw in a nonpartisan way, and as you can see, that's  
15 very different than this type of packing, this packing here to  
16 the most three right in each map, and then this depletion of  
17 voters in the next three. That's a very different structure  
18 than what one would see just based on the geography and the  
19 geopolitical distribution of people in North Carolina.

20 Q And, Dr. Mattingly, if it's not the political geography of  
21 North Carolina that explains the results of our congressional  
22 elections over the past decade, what, in your opinion, does  
23 explain those results?

24 A Well, we did another analysis where we looked at the  
25 boundaries of the maps, the boundaries of each of the

1 districts, and we moved the boundary around 10 percent, and we  
2 saw that drastically changed the outcomes, the makeup of these  
3 districts, and we found that it did for the 2016 and 2012 maps,  
4 and it didn't for the Judges. So that seems to say that it was  
5 not just randomly chosen from a map that looked like that. It  
6 was very specifically tuned.

7 Q And specifically tuned to do what?

8 A To develop this type of partisan advantage.

9 MR. EPSTEIN: Those are all of my questions, Your  
10 Honors.

11 JUDGE OSTEEEN: Cross-examination?

12 MR. STRACH: Yes, Your Honor, thank you.

13 CROSS-EXAMINATION

14 BY MR. STRACH:

15 Q It's still morning. Good morning, Dr. Mattingly.

16 A Good morning.

17 Q I'm Phil Strach. We met a couple of times at your  
18 depositions. This stuff is fairly complicated, so I'm going to  
19 try to keep it as simple as I can keep it, but if I  
20 oversimplify something, let me know, okay?

21 A I will.

22 Q You've already told the Court this is your first time  
23 acting as an expert witness, is that right?

24 A That is correct.

25 Q And other than the redistrictings that are generated by

1 your computer, you've never sat down with redistricting  
2 software and drawn an actual map, have you?

3 A No, I haven't.

4 Q And are you familiar with a redistricting software called  
5 Maptitude?

6 A I've never used it. I've heard of it.

7 Q Okay. The article that you have published that you've  
8 been talking about here today, has that article been  
9 peer-reviewed?

10 A It's not. It's not yet been published.

11 Q It's not been peer-reviewed or published?

12 A It's -- no, it's not been -- well, it was under review,  
13 but it's never been published, no.

14 Q So it's never -- other than being on the internet with  
15 that e-archive, I think is what you called it, it's never been  
16 reviewed or published in any academic journal?

17 A No.

18 Q Let me just focus on one particular underlying assumption  
19 that I want to make sure is clear about your work --

20 JUDGE OSTEEEN: Hold on, Mr. Strach. I may have  
21 messed up. Is there any further direct examination?

22 MS. EARLS: Thank you, Your Honor. I would have  
23 jumped up then. Thank you.

24 JUDGE OSTEEEN: All right. You may continue. Sorry  
25 about that.

1 MR. STRACH: Thank you, Your Honor.

2 BY MR. STRACH:

3 Q So let me focus in on something fairly basic, I think,  
4 that I want to make sure is clear. When you tell your computer  
5 to generate these redistricting maps, you take votes from the  
6 2012 and the 2016 elections, and then you change the districts  
7 assuming that the votes would remain the same for the political  
8 parties from those elections, correct?

9 A Correct, we tabulate the votes in each district as they  
10 were cast, Democrat or Republican.

11 Q All right. So the analysis that you've done just has a  
12 baseline assumption that voters vote for the party and not for  
13 the particular candidate, correct?

14 A Yes, and we -- yes, we validated that.

15 Q Right. Well, but you agree -- you agree, though, that in  
16 actual fact, voters don't always just vote for the party, they  
17 also vote for the candidate?

18 A Yes, they do, but we actually looked into whether that  
19 held in these maps.

20 Q And in the -- you agreed in one of your reports, though,  
21 that assuming that voters vote only for the party and not the  
22 candidate is not always a valued assumption, correct?

23 A Right, but then we went on to validate that after that,  
24 yes.

25 Q So if you assume that voters vote only for the party when

1 they go in to vote, then your analysis does not take into  
2 account the dynamics of each election, is that correct?

3 A So we did actually address that. So what we did was we  
4 looked at -- we actually collected and used other elections.  
5 So after we wrote this paper, we looked at -- because we were  
6 curious about exactly this point, and we looked at a number of  
7 different elections, including Senate races and presidential  
8 races, and it may affect the qualitative -- it doesn't affect  
9 to any extent the change in any of the results here. The  
10 qualitative structure of all the plots that I showed you stays  
11 the same, and that, therefore -- thereby controls for whether  
12 it was an incumbent or whether it wasn't an incumbent or  
13 whether it was the personality of the candidate.

14 Q All right. So you didn't, though -- you were using  
15 statewide voting data for your analysis, correct?

16 A Which analysis? The analysis here or the analysis I just  
17 talked about?

18 Q Both.

19 A I was using sometimes statewide, but also different -- I  
20 mean, we used legislature, we used President, we used Senate,  
21 yes.

22 Q You didn't do any study of, say, the dynamic of the 2016  
23 race for the 10th Congressional District, including looking at  
24 the candidates and fundraising, did you?

25 A No, we did not.

1 Q And, in fact, you didn't do any analysis like that for any  
2 of the congressional districts individually, did you?

3 A No. Since our districts moved around, it really wouldn't  
4 make sense to do that.

5 Q Now, let me try to understand and make sure the Court  
6 understands exactly how you selected and got down to the 24,000  
7 redistrictings that formed the basis of your analysis. And I  
8 assume that your analysis is based on this 24,000-plus  
9 redistrictings that you generated, correct?

10 A Correct, and then validated against the 120,000.

11 Q Right. So is the first thing that you did was you asked  
12 your computer to generate every possible redistricting --  
13 congressional redistricting that could possibly be generated,  
14 is that correct?

15 A No.

16 Q What did you do?

17 A We first put a distribution on redistrictings that  
18 weighted districts -- redistrictings according to how well they  
19 satisfied the redistricting criteria, and then we sampled from  
20 that distribution, drawing redistricts according to how well  
21 they satisfied the redistricting criteria, and then after that,  
22 we made a second thresholding just to remove any that were  
23 large deviations away.

24 Q Right, and I understand. I'm going to actually get to  
25 that part. I'm starting even further from the beginning.

1 A Right.

2 Q Okay. So I'm like in genesis. You're like into the  
3 Judges right at this point. I'm going to start with genesis,  
4 if that's all right?

5 A That's fine. So in terms of your analogy, in terms of  
6 genesis, we didn't create all bacteria and all organisms. We  
7 started off with humans. We first sampled from a certain  
8 distribution.

9 Q Right. You told me in your deposition, right, that if you  
10 tried to create -- if you told your computer to generate all  
11 possible congressional redistrictings in North Carolina, that's  
12 just some astronomical number?

13 A Yes, that's correct.

14 Q Right. And you don't know that exact number, do you?

15 A It depends. You have to tell me what your assumptions  
16 were. If you wanted to make sure they were contiguous, if you  
17 didn't --

18 Q If they're not contiguous?

19 A I think actually in the paper there was a number to that.  
20 I don't have memorized it. If you have it in front of you, I'm  
21 happy to validate it.

22 Q I just recall it was an extremely astronomical number,  
23 correct?

24 A Yes, but that would allow the 13th District to have  
25 something, you know, out at the coast and something in the

1 mountains.

2 Q That's right. And that's why it's such a big number?

3 A That's why it's such a big number.

4 Q So from that, what you did is you asked the computer to at  
5 least generate contiguous districts, is that correct?

6 A Correct. Correct.

7 Q Okay. And it's that set of districts that you called in  
8 your paper the Set R, is that right?

9 A Yes.

10 Q Now, do you know of that Set R -- this is all of the  
11 number of contiguous districts that your computer can draw for  
12 North Carolina's 13 congressional districts. Do you know how  
13 many redistrictings were in that Set R?

14 A It's hard to say exactly. It's a difficult problem.

15 Q Okay. I mean, it could be a million? It could be a  
16 billion? I mean, you just don't have any idea?

17 A I would have to sit down and try to calculate, but I would  
18 say -- I mean, it would be more than a million for sure.

19 Q All right. And I take it then, based on your testimony  
20 today, you haven't sat down to try to calculate what that  
21 number is?

22 A No, we were interested in sampling from this distribution  
23 of districts -- redistrictings that satisfied House Bill 92, so  
24 that's what we were drawing from.

25 Q Right. And I just want to make sure because I think it's

1 important that we know what you started with to begin with, all  
2 right?

3 A Right.

4 Q And so sitting here today, the set of redistrictings that  
5 you used to created the 24,000 to sample from or whatever, you  
6 don't know what that number is?

7 A Well, that's not really the way to think about it, I  
8 think, to phrase it right. I think the way to think about it  
9 is we first put a distribution on districtings that satisfied  
10 House Bill 92, and then we sampled from that distribution on  
11 redistrictings. We didn't treat all districtings likely --  
12 equally well because some redistrictings don't satisfy House  
13 Bill 92 to the same extent or even at all.

14 Q I understand that, and I'm going to get to that in just a  
15 moment, I promise.

16 So what I'm focused on right now is the Set R, which  
17 is the set of contiguous districts. And you don't know that  
18 number of redistrictings, correct?

19 A Correct.

20 Q Then from that Set R, is that the set from which you ran  
21 the Monte Carlo sampling to get 150 redistricting plans?

22 A 150,000.

23 Q I mean, 150,000?

24 A Yes, we then sampled from that Set R based on the  
25 distribution we had put on it.

1 Q All right. Now, so you got 150,000 redistricting plans  
2 out of this unknown number of R -- Set R redistrictings. So we  
3 don't know what the percentage of the Set R that 150,000  
4 equals, correct?

5 A Correct, but we do know that we sampled the distribution  
6 well and captured its characteristics.

7 Q Okay. So if you're imagining a continuum in your mind  
8 that started off with all those unconnected redistrictings,  
9 that astronomical number, and then continued down to the Set R  
10 from that, which we don't quite know how many that is, and then  
11 we carry on to the 150,000 that you got, we don't know where on  
12 that continuum that Set R is, do we?

13 A No, we don't.

14 Q All right. So then what you did is once you got --

15 A I would say that what you said so far really isn't germane  
16 to what we did, but I'm answering your questions.

17 Q Thank you. I appreciate that.

18 Once you got the 150,000, was it against the 150,000  
19 plans that you then did I think what you've called your  
20 thresholding?

21 A That's correct.

22 Q All right. And is it fair to say that when you say  
23 thresholding, what you mean is you're applying -- you're  
24 telling the computer to now apply the criteria that you've  
25 picked?

1 A No, in drawing the 150,000, we already applied the  
2 criteria. Those were based on -- so the idea is that every  
3 time we draw a redistricting, we're drawing it with more  
4 likelihood. We draw districts that satisfy -- the better a  
5 district satisfies House Bill 92, the better it has low  
6 compactness, the better it has low county splits, the better is  
7 it splits the population equally, it's more likely to be drawn.  
8 So we first drew 150,000 that was drawn from that distribution  
9 and then -- just to make sure, but there are some that don't  
10 satisfy it very well. They were very unlikely, but when you  
11 draw 150,000, you draw some unlikely things.

12 So then we removed by thresholding those ones that  
13 were outside some minimal -- some absolute minimal standards  
14 that we placed.

15 Q Okay. So your thresholding was a more specific way to  
16 apply the criteria that you wanted to apply?

17 A Well, within the ones we had drawn that were more likely  
18 or less likely based on how well they satisfied the criteria,  
19 it got rid of some that were absolutely not reasonable,  
20 absolutely not likely complete, you know.

21 Q All right. And once you applied your thresholding  
22 process, that's when you got down to your 24,000 redistrictings  
23 from the 150,000, is that correct?

24 A That's correct.

25 Q All right. Now, when you did this analysis, I believe it

1 was in 2016, the 2016 Congressional Plan had already been  
2 enacted, is that correct?

3 A I believe so, yes.

4 Q I think you said you started this around May of 2016?

5 A Yeah, that's correct. Yes, you're right.

6 Q Okay. So if you wanted to apply thresholding using  
7 criteria that could be observed in the 2016 congressional map,  
8 you could have done that, correct?

9 A Yes.

10 Q You didn't do that, correct?

11 A No, we largely used the 2012 as our thresholding because  
12 we were just looking for an extreme upper bound.

13 Q All right. And you used the criteria as it was worded in  
14 this House Bill 92, correct?

15 A That's correct.

16 Q Rather than using criteria that you could observe in the  
17 2016 map, correct?

18 A We did apply -- we did take some parts from the 2016 map.  
19 We took the level of the VRA from the 2016 map.

20 Q Okay. All right. We'll talk about that. Now, you wanted  
21 to use the House Bill 92 criteria because it was consistent  
22 with that Beyond Gerrymandering Project that you were helping,  
23 correct?

24 A Right, that was the reason we did it. We had used it --  
25 some of those results -- we'd used them similarly the year

1 before, but we locked on to it that year because we wanted to  
2 interface with the Beyond Gerrymandering Project.

3 Q So it would've been possible for you -- for purposes of  
4 this case, you could have ditched the House Bill 92 criteria  
5 and you could have just said, hey, I'm just going to look only  
6 at the criteria that were adopted and observed in the 2016  
7 Plan, and you could have limited yourself to that criteria,  
8 correct?

9 A Well, we were interested in nonpartisan criteria. So if  
10 you remove the partisan criteria from that, you essentially  
11 arrive at House Bill 92, I believe.

12 Q All right. We'll talk about that.

13 MR. STRACH: If I may approach, Your Honor?

14 JUDGE OSTEEEN: No need to ask.

15 BY MR. STRACH:

16 Q Dr. Mattingly, what I've handed you is a paper called  
17 "Toward a Talismanic Redistricting Tool, a Computational Method  
18 for Identifying Extreme Redistricting Plans." Do you see that?

19 A Yes.

20 Q And the authors are Wendy K. Tam Cho and Yan Y. Liu. Are  
21 you familiar with either of those authors?

22 A I've never met them. I've seen their work.

23 Q Do you understand that these two authors have published  
24 numerous articles in this area of using computational methods  
25 to identify gerrymandering?

1 A I think they have similar numbers to us, yes, but if  
2 they've published a few, yes, they have.

3 Q All right. And this appears to have been published in  
4 2016. Did you review this particular article when you were  
5 preparing your report?

6 A By "review," you mean did we look at it?

7 Q Yes.

8 A Yeah, we looked at it -- oh, when we prepare our report --  
9 I mean, we looked at it along the way in preparing our paper,  
10 yes.

11 Q All right. If you would turn to page --

12 A I should be careful actually. I'm not sure if we looked  
13 at this exact one or one of her previous ones. I know I've  
14 looked at her work.

15 Q Can you tell me if you've looked at this exact one prior  
16 to finalizing your work in this case?

17 A I can't be certain if it would be this exact one. What  
18 date was this published?

19 Q It just says 2016.

20 A She has another paper in machine learning or a genetic  
21 learning algorithm paper journal which I looked at. I don't  
22 remember if I exactly looked at this one.

23 Q Okay. If you would turn to page 354, you'll see the  
24 numbers at the top of the page. Do you agree that these  
25 authors study methods similar to what you've used in this case

1 in terms of using these simulated maps?

2 A They used simulated maps. The method for drawing them is  
3 very different.

4 Q Okay. All right. If you look on page 354 on the  
5 right-hand side of the page, the first full paragraph starts  
6 with "in addition to." Do you see that?

7 A Right-hand side, yes, "in addition."

8 Q It says: "In addition to creating a set of possible maps  
9 where the underlying population is constant, the maps and the  
10 baseline comparison set need to be a fully balanced comparison  
11 set of plans, meaning that they balance and consider the full  
12 set of relevant redistricting criteria." Do you see that?

13 A Yes.

14 Q Dr. Mattingly, do you agree with that statement as applied  
15 to this type of research?

16 A It seems rather vague. I don't quite know what it means.

17 Q All right. At the bottom of that paragraph, the authors  
18 state that "On the other hand, when the full set of criteria  
19 are not considered, the produced comparison set is  
20 substantively less interesting and perhaps substantively  
21 uninteresting." Do you agree with that statement?

22 A Perhaps. Perhaps it might be.

23 Q Dr. Mattingly, what I've handed you is an article  
24 entitled, "Revealing Preferences Why Gerrymanders are Hard to  
25 Prove and What to Do About It." Do you see that?

1 A Yes, I do.

2 Q And it has as authors Micah Altman, Brian Amos, Michael P.  
3 McDonald, and Daniel A. Smith. Are you familiar with any of  
4 those individuals?

5 A I'm not.

6 Q And so I take it you haven't read any of their work in  
7 this area?

8 A I don't recall. I may have. I would have to look at the  
9 bibliography.

10 Q All right. Have you read this specific article at any  
11 point?

12 A I don't recall it.

13 Q Okay. All right. If you'll look at page 25, there's a  
14 section called "3.5, Method of Post-Hoc Comparison," and in the  
15 second paragraph of that section, they say that "Here, we  
16 assess the class of gerrymandering detection methods that  
17 compare an adopted plan to plans that are generated post-hoc to  
18 the redistricting process."

19 Would you agree that the work you did is in this  
20 genre of research?

21 A I haven't read the whole thing, so it's a little hard to  
22 know exactly what they mean, but we did it after the  
23 redistricting process, if that's what you mean, yes.

24 Q All right. And so if you look at the last sentence of  
25 this paragraph, it says: "An important consideration is that

1 to make proper inference of intent, a post-hoc plan must  
2 incorporate the relevant information that led to the agent  
3 state -- the redistricting data, the observable process, and  
4 public plans -- minus the illicit intent."

5 Do you agree with that?

6 A No.

7 Q Why not?

8 A Because if I ask is it -- how likely is it for you to  
9 stumble upon a plan and without using intent, and I showed that  
10 it's extremely unlikely for you to stumble upon it, without  
11 having -- without actually looking for it, without actually  
12 designing it, then it seems that I've shown that you must have  
13 been driving there.

14 Q All right. Now, why don't you turn to page 28, and at the  
15 top of that page, the authors state: "Second, there may be a  
16 good reason why an Authority did not explore fair options:  
17 because they do not conform to all legally required criteria.  
18 Some automated approaches attempt to draw only contiguous,  
19 compact, and equal population districts," and do you see that  
20 they cite your work there?

21 A I do. Let me just -- for benefit of the Court, let me  
22 clarify that. That's a very earlier work and not nearly as  
23 nuanced as the one that came -- the two works -- the work that  
24 came two generations later, but, yes, I agree with what you  
25 said.

1 Q All right. This goes on to say that "One can only draw  
2 inferences how an adopted plan deviates from plans drawn in  
3 accordance to these criteria. In survey research this issue is  
4 described as an incongruence of the sample frame to the  
5 population of interests, a situation that can produce biased  
6 estimates." Do you agree with their statement there?

7 A Let me read it myself.

8 So what they say is that one can only draw inference  
9 from plans that deviate with those plans drawn in accordance  
10 with those criteria, which means that since we used the  
11 criteria from House Bill 92, it's exactly what we've been  
12 saying all along. We're just deviating -- deciding whether  
13 something would deviate from a plan that one would typically  
14 see in House Bill 92.

15 Q So you agree with the statement that I just read?

16 A I agree with the statement that if -- you know, it's hard  
17 to take a sentence out of context right in the middle of a  
18 paper, but if this is saying that we just -- our plans were  
19 asking if something would deviate from a plan that was drawn by  
20 nonpartisan only using the criterion in House Bill 92, yes, I  
21 agree.

22 Q All right. Well, let's look at the next sentence. It  
23 says: "Automated algorithms that do not generate districts in  
24 accordance with all legally required criteria present in the  
25 observable process, minus the alleged illicit intent, pose the

1 wrong counterfactual question and cannot be used to make  
2 inferences of intent."

3           Would you agree with that based on the work that you  
4 did?

5 A     No. I think that you -- I think you would have to be more  
6 precise about which things you think are not -- which criteria  
7 we're not satisfying for me to actually answer that. I think  
8 it would have to be a little more specific, your question.

9 Q     Okay. But you would agree that based on the scholarly  
10 materials that we've been looking at, which criteria you end up  
11 using to run through your algorithm are very important,  
12 correct?

13 A     Of course.

14 Q     And those -- the criteria that you choose should try to be  
15 as consistent as possible with the criteria that the  
16 legislature actually used in the enacted map, is that correct?

17 A     I think we've been very explicit to say we used the  
18 criteria in House Bill 92.

19 Q     All right. And you've also agreed with me that by the  
20 time you did your research, the 2016 Congressional Plan was  
21 enacted and you could have looked at the criteria in the map  
22 itself, correct?

23 A     In the map or in what the legislature said? I don't know  
24 what the criteria in the map means. That's what's confusing to  
25 me a little bit.

1 Q Okay. We'll talk a little bit more about that then.

2 Now, you mentioned earlier -- you understand that the  
3 2016 Congressional Plan as enacted only split 13 counties, is  
4 that correct?

5 A Yes, I believe that was true and the Judges split 12 and  
6 the 2012 split 40.

7 Q All right. Was there -- wasn't there an initial part of  
8 your study that you did where in your 24,000 -- set of 24,000  
9 redistrictings, none of your redistrictings split less than 14  
10 counties?

11 A Yes, in the initial one, but not in the second one.

12 Q So your initial run produced no redistrictings that had  
13 less than 14 split counties, is that correct?

14 A Yes, we looked at the 2012, and we thought that was a  
15 reasonable number in light of that.

16 Q Right. And then you tweaked your -- and then you tweaked  
17 your study, and you were able to get some of the 24,000 that  
18 did contain less than 14 splits, correct?

19 A Not of the 24,000. We created a new ensemble by changing  
20 our distribution so that it was centered more on -- it cared  
21 more about not splitting counties, and when we did that, we  
22 produced I think it was around 15,000 or 14,000, which didn't  
23 split as many counties, and the results didn't change.

24 Q All right. But suffice it to say, though, that in the  
25 first set of 24,000 that you ran, you didn't have even one set

1 of redistrictings that split less than 14 counties, correct?

2 A We didn't have very many.

3 Q And isn't it fair to say that if you're trying to make an  
4 apples-to-apples comparison here, you'd want redistrictings  
5 that were generated by your computer that at least had the same  
6 number of split counties as the enacted plan, correct?

7 A I don't think that that's necessary.

8 Q You don't think that that's necessary?

9 A It doesn't have to have the exact same number. We were  
10 following the House bill, which said that one should try to  
11 minimize that within some reasonable amount, and given what had  
12 already been put forward by the legislature itself, it seemed  
13 that since the previous plan had 40, this seemed something  
14 around the high 20s, low 20s seemed quite reasonable, and then  
15 we had a second set, which was much lower, which had a number  
16 which were 13.

17 Q Right. So let me try to ask it this way then. When you  
18 did your -- when you were running your algorithms, you knew at  
19 that time that the 2016 Plan split 13 counties, right?

20 A That's correct.

21 Q Okay. So isn't it true that you could have told your  
22 algorithm to limit itself to calling out redistricting plans  
23 that only split 13 counties?

24 A Yes, we could have.

25 Q And did you do that?

1 A No, we did not.

2 Q So you have no idea how many simulated maps that would  
3 have produced, do you?

4 A I think it's not about the number. It's about sampling  
5 the distribution and whether the qualitative structure changes.  
6 When we made a new distribution which significantly lowered the  
7 number of county splits, we saw no qualitative change in the  
8 results. So it seems a bit of a red herring. When we pushed  
9 it to lower the county splits, it didn't change the qualitative  
10 structure of our outcome at all.

11 Q Okay. But you never -- I mean, you could have -- you  
12 could have at least tried out running an algorithm that just  
13 pulled 13-county split plans, correct?

14 A We could have.

15 Q And you just didn't do that, correct?

16 A No, we did not.

17 Q So we have no idea what your conclusions would have been  
18 had you done so, do we?

19 A We have a pretty good idea. We saw that when we reduced  
20 the number of county splits down, it had no significant effect  
21 on the results, and we had a number that were in that range,  
22 and the judges produced one that had 12, and their results  
23 lined up perfectly with our statistical ensemble. So they had  
24 12. So I think we have a pretty good idea.

25 Q All right. But based on your assumption from an ensemble

1 plan that contained numerous split counties, not just 13,  
2 correct?

3 A Yes, some 14, 15, 16.

4 Q Some in the 20s, some in the 30s, right?

5 A Correct, in the first ensemble. In the second ensemble, I  
6 don't think we had anything as high as 30. I would have to  
7 check. I can if you want.

8 Q Did -- you understand, don't you, that the 2016  
9 Congressional Plan contained no population deviation between  
10 districts, correct?

11 A Correct.

12 Q And when I say "no," I mean zero, right?

13 A Correct.

14 Q And, nonetheless, however, in your set of 24,000  
15 redistrictings, none of those redistrictings have a zero  
16 population deviation, correct?

17 A That's correct.

18 Q Now, isn't it true that you could have told your algorithm  
19 to limit itself to plans that contained zero population  
20 deviation?

21 A It's not really in the spirit of the type of algorithm,  
22 but we saw from our experience in the Beyond Gerrymandering and  
23 also looking at some of the numbers, once we got down to below  
24 1 percent, and many of ours were much, much below 1 percent,  
25 they were in the, I think, .25 percent deviation -- then once

1 you were at that level, it was just very simple to do a small  
2 hand change to reduce it to zero repopulation, which is, in  
3 fact, how the judges did it. They got down to within 1 percent  
4 and then afterwards, using a finer level structure, moved  
5 boundaries around, and none of these made any of changes in the  
6 qualitative structure of their maps.

7 Q But you didn't run even one algorithm that told the  
8 computer to generate only zero population plans, correct?

9 A No, that's not true. We did look and see if we were to  
10 zero out exactly the Judges or exactly zero out the other maps,  
11 because when you look at them only at the VTD level, they have  
12 a small variation. We looked and saw whether -- if you were to  
13 zero them out in the worst-case analysis, whether it would  
14 change any of the results, and it would not. So it wouldn't  
15 change qualitatively where they were. So we didn't do that  
16 with the 24,000, but you'd expect, since they fluctuate on  
17 either side in an equal number, that the median effect would be  
18 negligible and zero.

19 Q Okay. But that's part of what you recall in your  
20 sensitivity analysis, correct?

21 A Correct.

22 Q That's not what I'm talking about.

23 A Right.

24 Q I'm talking about something different.

25 A Okay.

1 Q What I'm talking about is on the front end, isn't it true  
2 that you could have told your algorithm to only choose  
3 redistrictings that had zero population deviation? Couldn't  
4 you have done that?

5 A No.

6 Q You couldn't even have done that?

7 A No, usually -- if you're doing it at the VTD level, you  
8 first do it at the VTD level, and then you're going down to the  
9 census block level to zero it out.

10 Q But your algorithm couldn't have done that for you?

11 A Not as it was used then.

12 Q Okay. So there was no way for to you run a comparison set  
13 of redistrictings that had only zero population deviation on  
14 the front end, not in your sensitivity analysis, but on the  
15 front end?

16 A No, but we could assess after the fact whether doing so,  
17 zeroing them out, would have any effect, which is what we did.

18 Q Now, by the time the 2016 Plan had been adopted, you were  
19 aware, weren't you, that -- well, let me ask you this: Were  
20 you aware of the prior 12th Congressional District and it  
21 looked kind of like a snake? Are you aware of that?

22 A Yes.

23 Q Okay, good. And so then once the plan was enacted, you  
24 would have seen from a visual review of the plan that that  
25 district was no longer like that, correct?

1 A Correct.

2 Q And that district was completely confined to Mecklenburg  
3 County? Did you -- were you aware of that?

4 A Which, the new 12th?

5 Q Yes.

6 A Yes, I believe I was.

7 Q All right. And I believe it's true, isn't it, that you  
8 could have told your algorithm to only -- to confine itself to  
9 redistrictings which had the 12th District or at least one  
10 district wholly confined to Mecklenburg, isn't that correct?

11 A Yes, one could.

12 Q And you did not do that, right?

13 A No, we only followed the criteria in House Bill 92.

14 Q Right. That's right, but you did not follow a criteria  
15 that said, hey, keep one of the districts in Mecklenburg?

16 A That was not in House Bill 92, that's correct.

17 Q Okay. Then you were also aware, weren't you, that the  
18 legislature adopted a criterion in the 2016 Congressional Plan  
19 that made an attempt to not pair incumbents? Were you aware of  
20 that?

21 A Yes, I believe so.

22 Q And when I say "not pair incumbents," do you know what I  
23 mean?

24 A Yes, have them run head to head, if that's what you mean.

25 Q That's right. And you could have told your algorithm to

1 only pick redistrictings where each incumbent was in a separate  
2 district, correct?

3 A That's correct, we could.

4 Q And you did not do that, did you?

5 A Right, that was not in House Bill 92.

6 Q Okay. So we don't know what the results or what your  
7 conclusions would have been had you done that, do we?

8 A No, we were interested in seeing what the geopolitical  
9 structure of North Carolina would give as a background, as a  
10 default signal. So we didn't want to do partisan things like  
11 that.

12 Q Do you recall at your deposition when we were talking  
13 about a concept called a traversal?

14 A Yes, you explained it to me.

15 Q And a traversal is when a district comes into a county --  
16 crosses a county line, correct?

17 A That is correct.

18 Q And we talked about the concept of a double traversal?

19 A Correct.

20 Q And the double traversal is when a district crosses into a  
21 county twice at two different places?

22 A That's correct.

23 Q And you're aware, are you not, that the 2016 Congressional  
24 Plan, as enacted, contains no double traversals?

25 A You told me that at the deposition.

1 Q And do you believe that to be true?

2 A I took your word for it.

3 Q And I believe that you could have instructed your  
4 algorithm to ensure that there were no double traversals in the  
5 maps that it generated, correct?

6 A We could have added a square function that would have  
7 penalized double traversals, yes.

8 Q And you didn't do that, correct?

9 A We did not. It was not in House Bill 92.

10 Q And then, as it turns out, there were -- your maps did  
11 generate some double traversals, correct?

12 A Yes.

13 Q You talked about the Voting Rights Act, and I think you  
14 agree that in the actual 2016 Plan, there's one district that  
15 has a BVAP of 44.46 percent or some change, correct?

16 A That's correct.

17 Q And then there's a second district that has a BVAP around  
18 36 percent?

19 A 36.2, I think, something like that.

20 Q Now, this is an area where you did look at the 2016 Plan  
21 and take some criteria from it, correct?

22 A Yes.

23 Q Okay. But when you were setting your thresholds, you set  
24 them at -- well, remind me, where did you set your thresholds?

25 A I believe it was 44 and 33 1/2 for the first most

1 African-American and the second most African-American district.  
2 May I remind you that those are just the thresholds where we  
3 cut off. We actually tuned the thing to be centered around the  
4 same value as was in the 2016 Plan.

5 Q Is there a reason why you didn't just go ahead and pick --  
6 set your thresholds at 34 percent and 36 percent, why you chose  
7 to go slightly lower?

8 A It seemed reasonable to have some fluctuations around on  
9 either side. It was a choice.

10 Q All right. And I assume you never did the analysis using  
11 36 and 44, did you?

12 A What do you mean using 36 and 34? You mean --

13 Q You set your thresholds at 44 and 33, I think, is that  
14 correct?

15 A Say your numbers again. We set the thresholds at 40 and  
16 the lower threshold at 33 1/2, but we centered it around 44 and  
17 change and whatever -- 36 and .2, whatever was in the 2016 map.

18 Q Oh, I see. So your one threshold was actually -- the  
19 lower bound was 40 percent, correct?

20 A Correct.

21 Q And the high bound was --

22 A It may have been 39.5. I would have to double-check.

23 Q So somewhere around 40 percent, correct?

24 A Yes.

25 Q And your high bound on that one was the 44 percent,

1 correct?

2 A We didn't put a high bound. There was no high bound. We  
3 just put a lower bound. We put a lower bound on the most  
4 African-American one -- so, first of all, we centered the  
5 distribution so that the most -- if you look on Figure 9, it  
6 actually shows you the distributions. So we centered it so  
7 that it would be centered around -- typically around the two  
8 values in the 2016 Plan, but then we put a lower bound. We  
9 didn't accept anything that had less than 40 percent and  
10 nothing less than 33 1/2, I believe. It's written here, yes.

11 Q Did you have a higher bound?

12 A No, we had no higher bound.

13 Q Now, if you had required your algorithm to pull only plans  
14 with zero population deviation, isn't it true that -- well,  
15 that would have reduced the number of redistricting simulations  
16 that you could have generated?

17 A I mean, we didn't design our algorithm to produce zero  
18 percent population deviation. We're talking about a different  
19 algorithm. So it's a little apples and oranges. We could take  
20 a given district and ask what -- taking it down to zero, what  
21 change it would cause, but that's not the same as what you  
22 asked.

23 Q That's right. If you had -- if you had told the algorithm  
24 to just choose redistrictings with zero population deviation,  
25 then that certainly would have increased the number of

1 redistrictings in your simulation set that split counties,  
2 wouldn't it have?

3 A As I said, it would not really be possible in the way we  
4 designed the algorithm to go to zero in the algorithm. That  
5 would be a different algorithm. We would have to do something  
6 different. So it's a little too hypothetical, your question.

7 Q All right. If you had told the algorithm to only choose  
8 redistricting plans that had one district at 44 percent and one  
9 district at 36 percent, then that would have reduced the number  
10 of plans that your algorithm would have generated, correct?

11 A Presumably. If you tell me to select a subset of the set,  
12 then I'm always going to have less numbers.

13 Q Now, Dr. Mattingly, I want to talk about the -- what you  
14 called the Judges map. Under your analysis, as I recall from  
15 your testimony, the map produced by the judges would elect nine  
16 Republicans and four Democrats using the 2016 Data, correct?

17 A I believe so, yes. Let me double-check. 2016? Yes.

18 Q And so let's look at your Slide 20. Do you have a little  
19 set of slides up there?

20 A I don't have. Could I have a set of slides?

21 MR. STRACH: Can someone hand Dr. Mattingly the --

22 JUDGE BRITT: What page did you direct him to?

23 MR. STRACH: Your Honor, I'm looking at page 20.

24 THE WITNESS: Yes, I have them now.

25 BY MR. STRACH:

1 Q All right. So if you look at the -- I believe you said  
2 that the 2016 Plan elected three Democrats. So it would be on  
3 the far left-hand side in that column with three, correct?

4 A Yes.

5 Q And the Judges would elect four, and that's right there  
6 beside it, correct?

7 A Correct.

8 Q But the one that most often came up in your simulations  
9 was actually five Democrats elected, correct?

10 A That's correct.

11 Q So if you look at the difference between where three  
12 Democrats falls versus the Judges, I think that looks like a  
13 difference of -- you know, it's hard to tell, but it's about  
14 27 percent or so, is that fair?

15 A Yes.

16 Q Okay. And then if you look at the difference between  
17 where the Judges map fell versus where most of them fell, the  
18 column of five goes up to about .55. So you've got a  
19 difference of about .55 and about 27 percent -- it, too, is  
20 about a 27 percent difference, correct?

21 A Correct.

22 Q All right.

23 A I don't understand the point.

24 Q So the difference between the number of Democrats that the  
25 2016 Plan produced versus the Judges is about the same

1 difference between what -- the percentage of what -- the  
2 Democrats that were produced under the Judges versus your most  
3 common result, correct?

4 A And the effect of that is that it's twice as likely to get  
5 five as it is to get four, but it's 42 times more likely to get  
6 four than it is to get three.

7 Q Right. And so under your analysis, not even the Judges  
8 map produced what you would contend to be the most reasonable  
9 outcome, correct?

10 A No, it's only twice as likely to get five as it is to get  
11 four, but that's nothing to compare with three, which is 42  
12 times less likely. I mean, you can't compare two times and 42  
13 times.

14 Q And you said three times versus 42 times?

15 A I think two times. I mean, roughly speaking. I'm looking  
16 --

17 Q Right. That's what I'm interested in. Between three  
18 times and 42 times, in your mind, where does the plan go from  
19 being reasonable to unreasonable?

20 A I don't think I really want to say there's a line. I just  
21 want to say that clearly if something only happens in 99 -- in  
22 1 percent of the times, it's an outlier.

23 Q But if the Court has got to decide where that line should  
24 be between three times and 42 times, you can't tell the Court  
25 where that line ought to be?

1 A I think I can tell the Court that this is an outlier, that  
2 this is unreasonable.

3 Q Okay. Can you tell the Court where it becomes  
4 unreasonable? At what point on that line it becomes  
5 unreasonable?

6 A I mean, I think that's a question for the Courts.

7 Q Okay. Fair enough.

8 Dr. Mattingly, I believe you state in your report  
9 that -- and you agree, don't you, that it is reasonable for  
10 some amount of politics to be considered in redistricting?

11 A Very much so. That was the role of the Judges Plan in  
12 this analysis.

13 Q Okay. In fact, isn't it your opinion that it would be  
14 contrary to the idea of democracy not to allow some political  
15 considerations to be used in redistricting?

16 A Again, I think that's a question for the Court.

17 Q All right. And I believe in one of your reports, you  
18 reviewed the efficiency gap test, is that correct?

19 A People were very interested in it, so we, in passing, saw  
20 what it did in our ensemble.

21 Q And you did have a conclusion about the stability of the  
22 efficiency gap test, didn't you?

23 A Right. I think you should clarify what we mean by  
24 stability.

25 Q Whatever you meant.

1 A I can tell you what I meant, is that okay?

2 Q Yes.

3 A What we just meant was that we looked at the Judges Plan,  
4 and we had some measures in there that were very stable. They  
5 didn't change from the 2012 to the 2016 elections. The  
6 efficiency gap changed a bit, but that was just an observation.  
7 That's all. It wasn't a condemnation of the efficiency gap on  
8 that basis per se.

9 Q So -- but you concluded, didn't you, that the results of  
10 that test seemed to change when one changes the set of votes  
11 used in the test?

12 A For the Judges map, for our two votes.

13 Q All right.

14 A I don't really claim to be an expert on the efficiency  
15 gap.

16 Q I did want to follow up, Dr. Mattingly, on one thing, and  
17 I believe this is at page 28 of your report.

18 A Of the report or of the ePrint?

19 Q Do you still have the report?

20 A The original report?

21 Q Yes. Yes. I think you have the one that's got your  
22 handwriting all over it?

23 A That's the ePrint. At page 28, yes, I do have it. It's  
24 right here in front of me, please.

25 Q So I'm looking at page 28 of the report and Figure 14,

1 which I believe you were testifying about just a little while  
2 ago, is that correct?

3 A That's correct.

4 Q And I was looking at, I think, the -- you said that this  
5 represented some -- I think what you called it was validation  
6 work --

7 A Correct.

8 Q -- correct? And you used only the 2012 votes only to do  
9 the validation work, correct?

10 A In this report, yes. We later did it for 2016 also.

11 Q But in this report, which is what we're looking at, you  
12 only used 2012 votes, correct?

13 A In this report, we hadn't done it yet for 2106, but we did  
14 that later.

15 Q In this report, you don't use the 2016 votes, do you?

16 A No.

17 Q And you agree with me, though, that the 2016 was a better  
18 year for Republicans, correct?

19 A Correct, but the validation still held. Nothing changed  
20 when we used 2016 votes.

21 Q All right. But that information is not in this report, is  
22 it?

23 A No, we hadn't done it yet. We did that in preparation for  
24 publishing the paper.

25 JUDGE OSTEEEN: Mr. Strach, how much longer on cross?

1 MR. STRACH: Your Honor, maybe a minute or two. I  
2 just want to check some notes.

3 Your Honor, that's all I have.

4 JUDGE OSTEEEN: Redirect?

5 MR. EPSTEIN: Your Honor, I have about -- I know  
6 you're trying to assess the lunch hour. I have about 15 to 20  
7 minutes of redirect. I don't know if you want me to proceed or  
8 if you would rather take a lunch break.

9 JUDGE OSTEEEN: Let's take a lunch recess. Do you all  
10 want a little bit of time to talk about some more of the  
11 witness stuff, or do you feel like we've got enough evidence  
12 coming today that you can save that for the evening?

13 Ordinarily, I'd give you about an hour or a little  
14 bit more for a lunch recess in this case, but if you want a few  
15 extra minutes to talk, we can do that.

16 MR. SPEAS: I think not, Your Honor, thank you.

17 JUDGE OSTEEEN: We'll just deal with that. All right.  
18 Let's take an hour lunch break and come back at 1:45.

19 (At 12:37 p.m., break taken.)

20 (At 1:47 p.m., break concluded.)

21 JUDGE OSTEEEN: All right. Let me clarify a couple of  
22 things before Dr. Mattingly returns to the stand. In terms of  
23 the deposition stipulations, as I understood it, I may be  
24 wrong, we're not talking about filing complete depositions.  
25 We're talking about what's been filed in terms of designations

1 and counterdesignations. Or am I wrong about that at this  
2 point?

3 MR. SPEAS: I thought it was the whole deposition.

4 MR. STRACH: Just to avoid the process of having to  
5 go back and doing more counters and more designations, we  
6 thought it would be easier to file the whole thing.

7 JUDGE OSTEEEN: When do you all anticipate the full  
8 depositions will be delivered?

9 MR. STRACH: We can file it whenever the Court would  
10 like.

11 MR. SPEAS: Next week.

12 JUDGE OSTEEEN: All right. Dr. Mattingly is still in  
13 the courtroom. Come on back to the witness stand. You're  
14 still under oath.

15 JUDGE BRITT: We only swear you but once. That  
16 satisfies. You remain under oath.

17 You may proceed with redirect.

18 REDIRECT EXAMINATION

19 BY MR. EPSTEIN:

20 Q Okay. Dr. Mattingly, during the cross-examination that  
21 Mr. Strach went through with you, he asked you a number of  
22 questions about the criteria that were actually adopted by the  
23 General Assembly in February of 2016. Do you recall numerous  
24 questions of that sort?

25 A I do.

1 MR. EPSTEIN: Your Honors, if I may approach the  
2 witness with this exhibit, which is Exhibit 1007. I have  
3 enough exhibits for counsel tables and for law clerks as well.  
4 If I may pass those out?

5 JUDGE OSTEEEN: You may.

6 MR. EPSTEIN: Thank you.

7 BY MR. EPSTEIN:

8 Q Do you have Exhibit 1007 in front of you, Dr. Mattingly,  
9 which says "2016 Contingent Congressional Plan Committee  
10 Adopted Criteria"?

11 A I do.

12 Q Can you show us in those criteria Mr. Strach asked you  
13 about where the General Assembly required the redistricting  
14 plan to have only 13 county splits?

15 A It does not.

16 Q Okay. Can you go to the section on compactness on the  
17 second page?

18 A Yes.

19 Q And the first time the word "counties" appears I think is  
20 on the fourth line. It says : "...of the current districts  
21 and...." Can you read what it says after the "and" in that  
22 fourth line under "Compactness"?

23 A "...and keep more counties and VTDs whole as compared to  
24 the current...plan."

25 Q How many counties were split in the current plan that was

1 referred to in the "Compactness" section of these criteria?

2 A I believe it was 40.

3 Q And if you would, go to your article, which is Tab 4 of  
4 the notebook, the exhibit notebook, and on the top of page 22  
5 is your Figure 9 that you were referring to earlier, which  
6 actually contains two different graphs. The histogram on the  
7 right is the same as we looked at earlier in your PowerPoint,  
8 correct?

9 A That is correct.

10 Q And is that -- the histogram showing in your ensemble of  
11 24,000 the number of counties that were split?

12 A Yes.

13 Q Okay. And I think you agreed with Mr. Strach that you had  
14 some plans in your ensemble that split over 30 counties. Can  
15 you look at that histogram and confirm whether that's an  
16 accurate statement?

17 A If there's any over -- there's a tiny fraction that split  
18 30 apparently, but less than -- definitely less than 1 percent.

19 Q Okay.

20 A Not over 30.

21 Q I believe you agreed with Mr. Strach that there was no  
22 plan within your 24,000 that split less than 14 counties. Can  
23 you look at that histogram and tell whether that was accurate?

24 A It's not accurate.

25 Q So you were mistaken when you said that?

1 A Correct.

2 Q Okay. What is the accurate number of plans percentagewise  
3 that split fewer than 14 counties?

4 A It's hard to -- fewer than 14?

5 Q Yes.

6 A I mean, that split it all or significant splits?

7 Q That split it all.

8 A It's hard to read. It's very small.

9 Q Okay.

10 A The light blue is the --

11 Q And how many of the 24,000 plans complied with the  
12 compactness criteria that you just read, keeping more counties  
13 and VTDs whole, as compared to the current and active plan?

14 A All of them. We thresholded at 40.

15 Q Mr. Strach also asked you about why you didn't tell the  
16 computer when you were running your Markov Chain Monte Carlo  
17 algorithm to only accept plans that had Mecklenburg County  
18 confined to a single district. Do you recall announcing that?

19 A Yes.

20 Q Going back to Exhibit 1007, the criteria that the  
21 legislature adopted, look at the section on the 12th District  
22 on the first page at the bottom.

23 A Yes.

24 Q Is there anything in that section about the 12th District  
25 that required Mecklenburg County to be within a single district

1 in the enacted plan?

2 A Give me a moment to read it. No.

3 Q Was your 12th District in all 24,000 plans different than  
4 the 12th District in the enacted plan as it existed at the time  
5 these criteria were adopted?

6 A Yes, and it was more compact.

7 Q I was going to say how do you know, without looking at all  
8 24,000 plans, that none matched the existing 12th District?

9 A Because the 12th District was very noncompact and we  
10 thresholded the compactness level to make sure the 12th  
11 District would never have passed that thresholding.

12 Q Was there a single district in all 24,000 plans -- and if  
13 you did the math 24,000 times 13, in all of those districts --  
14 was there a single district in your entire ensemble of 24,518  
15 that approximated what the 12th District looked like in the  
16 enacted plan after the time this criteria were adopted?

17 A No.

18 Q Okay. Double traversals. As best you can, explain to the  
19 Court what Mr. Strach was referring to when he was asking you  
20 about double traversals in your simulated maps.

21 A I'm going to use my hands, but I'll try to explain for the  
22 record what my hands are doing. If you have a district,  
23 there's two places disjoint, that is to say not touching, where  
24 a district pokes into a certain county. So that's one  
25 traversal, two traversals.

1 Q And Mr. Strach asked you whether or not you told the Monte  
2 Carlo algorithm to reject plans that contained these double  
3 traversals and you said you did not. Looking back at  
4 Exhibit 1007, the Contingent Congressional Plan Committee  
5 Adopted Criteria, which of those criteria indicated that double  
6 traversals were unacceptable and could not be employed in a  
7 plan adopted by the General Assembly?

8 A I don't believe the double traversals are mentioned at all  
9 in this document.

10 Q Did the criteria adopted by the General Assembly even  
11 require that there be two districts that had a high BVAP or  
12 black voting-age population? Did their criteria even include  
13 that?

14 A I believe that the Voting Rights Act wasn't mentioned in  
15 here at all.

16 Q And there were questions about your thresholding of those  
17 two districts at 44 and 33 1/2 percent, and I believe your  
18 testimony was you chose those numbers in order to center them  
19 around a range, is that correct?

20 A That is correct.

21 Q Do you actually have a figure in your paper, Exhibit  
22 3004, Tab 4 in your notebook, that shows exactly what the  
23 different outcomes were for those percentages within your  
24 24,000?

25 A There is.

1 Q Okay. And if you look at page 22, it's actually right  
2 next to the histogram we were looking at a moment ago.

3 A Yes.

4 Q On the left-hand side of page 22.

5 A Yes.

6 Q It says: "Districts ordered by largest AA district." Can  
7 you tell the Court what we're looking at in that graph?

8 A So the bottom axis is the district, so we see the axis  
9 goes all the way up to 24,000. So it's in Figure 9, the  
10 leftmost panel. And if you -- they were ordered -- all the  
11 districts were ordered from highest -- so we looked at the most  
12 African-American district, the highest percentage, and we order  
13 it from highest to lowest and as you -- so that's the black  
14 line at the very top of the plot. Then you see it goes from  
15 slightly above -- somewhere in the 36, 37, somewhere in there,  
16 and then it drops down just -- I mean 46, 47. Then it drops  
17 down to below 45 for quite a while and then it slowly decreases  
18 down to 40 percent.

19 Q Where does 44 percent fall within that range?

20 A Right in the middle. And then for each of those values at  
21 -- for each of the values of the most African-American  
22 district, we then also plotted the range over which the second  
23 most African-American district varied and we put one standard  
24 deviation, so that captured a large chunk of them. If you look  
25 at the green, that's the second most African-American district

1 and it's centered somewhere around 36 percent.

2 Q And was that essentially the number that you were shooting  
3 for based upon what the 2016 General Assembly Enacted Plan  
4 actually produced in terms of the second highest BVAP?

5 A Yes, that was it.

6 Q You were first asked -- I believe one of the first  
7 questions you were asked by Mr. Strach was you made a baseline  
8 assumption that voters vote for parties and not the candidate.  
9 Do you recall being asked that?

10 A I do.

11 Q And do you recall telling him that, despite what you wrote  
12 in your paper about that not necessarily being an accurate  
13 assumption, you've done more work since then in order to  
14 validate whether or not the candidate or incumbency makes a  
15 difference to your ultimate results?

16 A Yes.

17 Q Tell the Court, if you would, what you did regarding that  
18 subject.

19 A We then looked at a number of different races. We looked  
20 at presidential in both years. We looked at the Senate races.  
21 We looked at a race from 2014. We looked at different races,  
22 and we compared the histograms we got and the box plots that  
23 I've been showing you, and qualitatively they had the same  
24 structure. There was always a gradual line and then this  
25 S-shaped jump.

1           The point of that -- the relevance to this question  
2 is that the incumbency changed or, rather, the candidates  
3 changed, many of the things we didn't control for changed, and  
4 the result wasn't sensitive to it. It never mattered.

5 Q     And that included the 2014 Senate election --

6 A     Yes.

7 Q     -- where different candidates then ran when the 2012 or  
8 2016 congressional elections ran?

9 A     Yes.

10 Q    It included the 2016 presidential election?

11 A    Yes.

12 Q    We had presidential candidates as opposed to congressional  
13 candidates?

14 A    Yes.

15 Q    And what other race or races? A 2016 Senate race?

16 A    Yes.

17 Q    Any others?

18 A    There may have been the Secretary of State.

19 Q    Okay. And regardless of which candidates were on the  
20 ballot, when you dropped their votes for those statewide  
21 elections into your 24,000 did the box plot structure change  
22 appreciably?

23 A    There's also a governor race, at least one. It did not  
24 change.

25 Q    And did the S-shaped curve of what the General Assembly

1 did in 2016 in its enacted plan change?

2 A No.

3 Q You were asked about Figure 14 on page 28, which included  
4 a number of validation charts, for lack of a better word.

5 A Page -- which page?

6 Q Page 28 of your paper.

7 A Yes.

8 Q And Mr. Strach asked you, you only did validation work  
9 like that for the 2012 votes. Do you recall him asking you  
10 about that?

11 A I do.

12 Q Do you recall him saying that's not really fair because  
13 2016 was a better Republican year? Do you recall him saying  
14 that?

15 A Yes.

16 Q And I think you responded that you now have done  
17 validation work using the 2016 votes to ensure that the work  
18 that you did was stable irrespective of whether you were using  
19 the 2012 votes or the 2016 votes, is that true?

20 A Yes. We redid, for instance, this plot, the plot -- redid  
21 a large number of these plots that we had done only with the  
22 2012 votes. We redid them with the 2016 votes and they were  
23 again stable.

24 Q Do you have those charts with us today?

25 A I believe so.

1 Q Okay.

2 MR. EPSTEIN: And, Your Honor, with Your Honors'  
3 permission, I have a couple of PowerPoint slides that I would  
4 like to have Dr. Mattingly testify to. I think he can do it  
5 from the witness stand.

6 JUDGE OSTEEEN: Any objection?

7 MR. STRACH: May I ask my colleague a question? Your  
8 Honor, I don't believe I've ever seen these before, so we're  
9 going to object to the use of these at trial.

10 JUDGE OSTEEEN: Sustained if they haven't been turned  
11 over. Well, let me see what my --

12 (Discussion between the judges.)

13 JUDGE OSTEEEN: All right. We'll let them in subject  
14 to the objection. We'll decide after we see the charts.

15 MR. EPSTEIN: Thank you, Your Honor.

16 If you can get the PowerPoint cued up on the screens.  
17 Thank you. Okay.

18 BY MR. EPSTEIN:

19 Q This first one, Dr. Mattingly, can you see it from where  
20 you are?

21 A I can.

22 Q What 2016 -- what were you validating with 2016 votes in  
23 this first slide?

24 A So this is a repeat of what we did for 2012 with the exact  
25 same colors, as you recall. We were looking at the low county

1 splits where we had the second ensemble. We concentrated  
2 around much lower county splits, around 14 -- around 14 splits,  
3 and that was in orange. Here's the green -- blue again, which  
4 is the ensemble with -- all evaluated with the 2012 vote, and  
5 the structure is similar. There's some small fluctuations.  
6 There's not as many samples, but in particular number three --  
7 the chance of having three is very small. Then the box plots  
8 look structurally the same, the same rise in the median. It's  
9 pretty much a straight line.

10 Q The next slide, what were you validating with 2016 votes  
11 in this second slide?

12 A Again, we're now looking at starting from different  
13 initial conditions. We're saying we start our algorithm to  
14 produce these ensembles. We start from -- the original one was  
15 the green one, which was starting from the judges, but then we  
16 also started from the legislature's map from 2012 and the  
17 legislature's map from 2016. You see qualitatively the results  
18 are pretty similar to the level that we're interested and the  
19 box plots look the same.

20 Q And finally, the last slide, what did you do with 2016  
21 votes on this last slide?

22 A In this last slide, we again did the validation of  
23 changing the parameters in our score functions slightly, about  
24 20 percent, around in that neighborhood, depending on the  
25 parameter; and we saw that ended up changing qualitatively the

1 results that we got. Again, since all the results follow from  
2 the box plots, the box plots have pretty much the same  
3 structure.

4 Q Okay. And those are the only three slides I have.  
5 Dr. Mattingly, based upon that additional validation work you  
6 did regarding 2016 votes, what is your testimony regarding the  
7 reliability and stability of the 24,000 maps that you used in  
8 your ensemble to base the work that you've testified about  
9 today on?

10 A I still state that they're just as valid. They've been  
11 validated. They don't seem sensitive to any of these factors  
12 from any of the results we've made.

13 MR. EPSTEIN: No further questions.

14 JUDGE OSTEEEN: Recross?

15 MR. STRACH: Recross, Your Honor, briefly.

16 RECCROSS-EXAMINATION

17 BY MR. STRACH:

18 Q Dr. Mattingly, while we have this PowerPoint up here, when  
19 did you do this extra validation work?

20 A Sometime this fall -- summer and fall. Some of them had  
21 been done earlier. Some of them maybe in the spring, some of  
22 -- no, no. In the summer and fall.

23 Q I'm sorry. Summer and fall of 2017?

24 A Correct.

25 Q Can you be more precise about when in the summer you did

1 it?

2 A I mean, some of them are done at different points. I  
3 can't remember exactly when we were preparing the articles and  
4 trying to produce more validations to make sure that we were  
5 happy with them before we submitted them for publication.

6 Q So this was work you were doing in connection with  
7 preparing your articles for publication?

8 A Correct.

9 Q Was it -- would this work have been done after July of  
10 this year?

11 A I believe so. Yeah. Actually, I'm pretty certain. Let  
12 me say why I hesitated. There's a lot of plots here and I  
13 can't remember if they were all done at the same time.

14 MR. STRACH: Your Honor, if I may just say for the  
15 record, I believe the first trial in this matter was scheduled  
16 in June, and this evidence would have never -- obviously  
17 wouldn't have even been available at that time. It's not been  
18 produced since then. I realize the Court is going to take it  
19 under advisement. I just wanted to note that for the record  
20 given the testimony.

21 JUDGE OSTEEEN: And the Plaintiffs state succinctly  
22 why you think it should be considered?

23 MR. EPSTEIN: Yes, Your Honor. During the  
24 cross-examination, that was an attack on Dr. Mattingly's work,  
25 which was: You can't tell us anything about whether or not the

1 results would have held true for 2016 votes, can you?

2 And he responded: Yes, I can.

3 The door was opened at that point. We didn't know  
4 Mr. Strach was going to ask him those questions and we had no  
5 intention of using any of this information if Mr. Strach hadn't  
6 asked those questions.

7 THE COURT: Isn't that part of his expert work?

8 MR. EPSTEIN: Well, his expert work will include --  
9 it was, yes, Your Honor. His expert work included validating  
10 his results, which was an ongoing process. At the time he  
11 submitted his report, this hadn't been done yet, but his work  
12 continued. His work continued between the submission of his  
13 report and his two depositions, and he handed Mr. Strach the  
14 current work as of the second deposition, which was the article  
15 that's before the Court today. That was published on May 8,  
16 2000 --

17 JUDGE OSTEEEN: I understand. Do you agree or  
18 disagree that Plaintiffs have a duty to supplement expert  
19 reports when new information comes in?

20 MR. EPSTEIN: As a general principle, yes, Your  
21 Honor, I agree with that. But we did not intend to use this at  
22 all today unless the door was opened that attacked his  
23 credibility for the fact he hadn't looked at this question,  
24 which is what occurred.

25 JUDGE OSTEEEN: So you hold it back waiting to hear

1 the cross-examination by the Defendants?

2 MR. EPSTEIN: Your Honor, unfortunately, we're  
3 dealing here with a witness who is preparing an academic work.  
4 So his work, as he just testified that he's been preparing, is  
5 for this article. It wasn't done for us. We didn't hold  
6 anything back.

7 He's done a ton more work in other cases as well. We  
8 haven't produced that because it wasn't work he did  
9 specifically as an expert witness in the case. So there would  
10 be all kinds of other things that he's done.

11 But because they attacked his credibility on that  
12 specific issue, we believe it was only fair for him to be able  
13 to say, well, that's not true, as he did, and then to be able  
14 to show what he actually did.

15 THE COURT: Let me ask something more specific. The  
16 last page of his article that's in the book at page 2 says:  
17 "The most basic critique of this work is that we have assumed  
18 that the candidate does not matter. Furthermore, as districts  
19 become more polarized and many election results become foregone  
20 conclusion, voter turnout is likely suppressed. While we could  
21 try to correct for these effects, we find the simplicity and  
22 power of using the actual votes very compelling."

23 That's a report that's been submitted to the Court.  
24 As I understood the testimony, there's been additional work  
25 done to test that factor of identity of candidate. Did I

1 understand that correctly?

2 MR. EPSTEIN: Yes, except this is not the expert  
3 report. So there's a distinction between the expert report and  
4 the --

5 JUDGE OSTEEEN: What do you consider the expert  
6 report?

7 MR. EPSTEIN: The expert report is behind Tab 2,  
8 which was the state of his work as of March of 2017.

9 JUDGE OSTEEEN: I'm looking at page 23 of Tab 2.

10 MR. EPSTEIN: Okay. Bear with me, Your Honor. Yes,  
11 I see it, Your Honor. It's in the book. So that particular  
12 discussion is in both his expert report and his article.  
13 Unfortunately, the work that he's been doing, as he described,  
14 is for this article. He did not do any additional work for us  
15 as an expert witness. And I know that's confusing. I  
16 apologize if those lines are very blurry.

17 THE COURT: If you submit an opinion from an expert  
18 that says "we haven't tested this" and then you come to court  
19 and you want to present evidence that it has been tested --  
20 which is what happened here, right?

21 MR. EPSTEIN: Your Honor, respectfully, I don't think  
22 that's exactly what happened.

23 THE COURT: How did you know to ask him the question?

24 MR. EPSTEIN: In response to the cross-examination  
25 question, yes, I know his work has continued because we've

1 prepared for him to testify.

2 JUDGE OSTEEEN: To ask him about the county maps.

3 It's information he provided to counsel, wasn't it?

4 MR. EPSTEIN: Yes, to keep us aware of his ongoing  
5 academic work, Your Honor, yes.

6 JUDGE OSTEEEN: All right. Anything further?

7 MR. EPSTEIN: Nothing further, Your Honor.

8 JUDGE OSTEEEN: Further examination?

9 MR. STRACH: Further cross, yes, Your Honor.

10 BY MR. STRACH:

11 Q Dr. Mattingly, I want to turn back to, very quickly, I  
12 think it's page 22, Figure 9, under Tab 4, and this is the  
13 county split --

14 A Yes.

15 Q -- chart -- figure. Your counsel asked you about the  
16 number of county splits on the -- near 30, I think. Does this  
17 chart report how many county -- how many of your simulated sets  
18 had contained 13 county splits?

19 A It gives the percentage.

20 Q The percentage. Do you know about what the percentage is  
21 based on looking at this chart?

22 A So you don't mean -- you mean just any split at all, not  
23 just a small -- not a sizeable split?

24 Q Any split, yes.

25 A Any split. There's a tiny bump there, but not very much.

1 Q So it would be fair to say that's a tiny fraction of your  
2 overall ensemble?

3 A In this ensemble, not the other ensemble, which is on the  
4 next page or a few pages away.

5 Q Right. And that's one thing I wanted to just make sure is  
6 clear. I may not have done a good job with this earlier. You  
7 ran one set of redistrictings, an ensemble, in which zero of  
8 those redistrictings had county splits less than 14, is that  
9 correct?

10 A A very small fraction at most, yes.

11 Q Well, I mean, wasn't there some earlier work that we  
12 looked at where you had additionally run a set of  
13 redistrictings and you had no fewer than 14 county splits?

14 A I believe so. It's hard to read here. I would say yes  
15 essentially.

16 Q And then you reran another set and that's when you got the  
17 number that's reported in Figure 9, correct?

18 A No. This is the first set. This plot here is the first  
19 set to which you just spoke and then the one that we ran again  
20 is in the validation section. Bear with me for a second. It  
21 will take me a second to find it. It's page 31, Figure 17.

22 And now in this second ensemble that we ran -- that's  
23 the upper rightmost plot on Figure 17 -- you see that there's a  
24 fair number that have 14; and when you use those to create the  
25 same plots we've been using all along, they get the same

1 qualitative results.

2 Q Right. And based on this chart, it looks like the number  
3 13 falls pretty far to the left of the chart.

4 A I thought we were talking about 14. 14 or 13?

5 Q Thirteen.

6 A Thirteen now. Yes, 13 falls to the left.

7 Q Right. And can you tell me about what percentage or  
8 fraction 13 would be?

9 A Thirteen would be about, I would say, 4 percent and there  
10 were about 14,000 maps there.

11 Q All right. So look back at page 22 of this exhibit  
12 because I want to make sure I understand something that you say  
13 here. Are you back on page 22?

14 A Yes, I am.

15 Q The very first sentence of this page says: "Finally, we  
16 display the histogram of the number of split counties over our  
17 generated redistrictings. We find a median of 21 split  
18 counties with a mean of 21.6 and a range from 14 to 31."

19 A Correct.

20 Q The way I read that is a range means 14 was the fewest  
21 number of county splits. Am I reading that correctly?

22 A I apologize. Earlier you had said 14 and maybe you  
23 misspoke or I misheard, so I thought you were talking about 14.

24 Q So the fewest number of county splits in your generated  
25 redistrictings were 14?

1 A In this first set of generated redistrictings, not the  
2 second set, which is on Figure 17.

3 Q Okay. All right. But there was one set of generated  
4 redistrictings that you did where the fewest number of county  
5 splits was 14?

6 A That's correct.

7 Q And whether it's 14 or 13, you would agree with me that  
8 the number of generated redistrictings with 13 or 14 split  
9 counties is a tiny fraction of the overall number of generated  
10 redistrictings, isn't it?

11 A Well, if it was 4 percent, yeah, it's a small fraction,  
12 but there are 14,000, almost 15,000 redistrictings.

13 Q Now, in looking at the Adopted Criteria, Exhibit 1007, you  
14 mentioned -- I think you were saying this in the context of  
15 validation work that you did. You looked at the candidacy  
16 versus incumbency. Could you explain that again, what you were  
17 looking at? You were using other election results to validate  
18 some work?

19 A Right. So we also looked at a set of other elections and  
20 reran the box plot to see what the general structure was, and  
21 the point was that those didn't have the same incumbency or the  
22 same candidacy structure as the 2016 or 2012 races. So the  
23 fact that in all cases we got qualitatively the same structure,  
24 a general slope in the box plot and this S-shaped curve for the  
25 two General Assembly Plans, thereby controls for that factor.

1 Q Okay. So you did look at incumbency to that extent, but  
2 you chose not to look at an incumbency by creating a threshold  
3 that would ensure no incumbents were paired?

4 A It's a different criteria, but no, we didn't.

5 Q And in terms of incumbency and trying to be consistent  
6 with what the legislature did, did you build anything into your  
7 algorithm that would evaluate how much of the core of each  
8 district was retained from the old plan to the new plan?

9 A No, we did not. We preserved counties.

10 Q Okay. So to the extent that you looked at the retention  
11 cores of districts, you were looking at counties but not the  
12 core itself?

13 A I'm not quite sure what you mean by "core," but no, we did  
14 not do anything like that.

15 MR. STRACH: That's all I have, Your Honor.

16 JUDGE OSTEEEN: Anything?

17 MR. EPSTEIN: Nothing further, Your Honor.

18 JUDGE WYNN: Let me just make it clear, Mr. Strach.

19 In regard to the advisability in terms of taking -- whether we  
20 will consider these exhibits, we surely will consider them. I  
21 want to look at the record more carefully to determine, at  
22 least in terms of expert disclosure, to the extent the door was  
23 not opened by your questioning.

24 But as a matter of prudence, it would be prudent for  
25 you to question him regarding those exhibits. If you need to

1 have the opportunity to recall him later in this week upon your  
2 further study of it, I, for one, would be in favor of it, and I  
3 think my colleagues would be okay with that.

4 MR. STRACH: Your Honor, I appreciate that. I will  
5 note that this question was asked at his deposition, so it's  
6 not as if this was the first time this ever came up.

7 JUDGE OSTEEEN: Do you want to reserve the right to  
8 recall him later? I'm not saying you have to, but Judge Wynn  
9 -- we want to make sure we get this right.

10 MR. STRACH: I appreciate that. I certainly won't  
11 turn that down, but I would ask that if we decide not to recall  
12 him that that not be held against us on our request for --

13 JUDGE WYNN: Oh, no. This is just to make sure that  
14 you're afforded every opportunity to cross-examine on those  
15 reports. You -- by your questions, you had a report in front  
16 of you in which the doctor based his conclusions about his own  
17 study. You then said, Wouldn't this be different essentially  
18 if you had considered further studies?

19 He said, Yes, I've looked at others. And we left it  
20 there.

21 Then on redirect, he then comes up and says, Here,  
22 yeah, I looked at it. And then the exhibits come forth.

23 Typically an expert disclosure, you're correct, you  
24 have to bring those forward; but in the manner it's being  
25 presented here, there's a serious issue here as to whether we

1 should not consider this out of fairness. This is a bench  
2 trial, first of all, and I just want to be clear on that. I  
3 don't want you to be blindsided if you -- if there's something  
4 there that you want to challenge, I want you to have every  
5 opportunity to challenge it.

6 MR. STRACH: And we certainly appreciate that.  
7 Normally, of course, we would have had a chance to test this  
8 through depositions, et cetera, but we'll certainly do the best  
9 we can. We appreciate it.

10 JUDGE OSTEEEN: Now is the time to take a look at it.  
11 You may step down.

12 MR. THORPE: At this time, Your Honor, Plaintiffs  
13 would call Jowei Chen.

14 JUDGE OSTEEEN: Just to help keep the record  
15 straight -- I don't know who is going to be standing up to  
16 conduct the examination, so when you stand to do an  
17 examination, if you would state your name.

18 Mr. Strach, in fairness to the Plaintiffs, I'm making  
19 them use the podium during their direct examination and so you  
20 need to be on a level playing field, unless we change things.  
21 So the cross-examination needs to be conducted from the podium,  
22 too.

23 MR. STRACH: Okay. Thank you.

24 MR. THORPE: Your Honor, Ben Thorpe from Bondurant  
25 Mixson & Elmore on behalf of the Common Cause Plaintiffs.

1 JUDGE OSTEEEN: All right.

2 (Witness sworn by the clerk.)

3 MR. THORPE: Your Honor, may I approach the witness  
4 with the notebook as these are handed out?

5 JUDGE OSTEEEN: You may.

6 JOWEI CHEN,

7 PLAINTIFFS' WITNESS, SWORN AT 2:22 p.m.

8 DIRECT EXAMINATION

9 BY MR. THORPE:

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

11 A Jowei Chen.

12 Q And, Dr. Chen, what is your educational background?

13 A I have a bachelor's degree in ethics, politics, and  
14 economics from Yale University in 2004. I have a master's in  
15 science in statistics from Stanford University in 2007 and I  
16 have a Ph.D. in political science, also from Stanford  
17 University, in 2009.

18 Q And how are you currently employed?

19 A I am an associate professor at the University of Michigan  
20 in Ann Arbor in the Department of Political Science.

21 Q And have you been at Michigan throughout your academic  
22 career?

23 A Yes, sir, I have.

24 Q And do you have any other academic positions or  
25 appointments at this time?

1 A Yes, sir, I do. I am a research associate professor at  
2 the Center for Political Studies at the University of Michigan.  
3 I'm also a research associate at the Stanford Spacial  
4 Laboratory at Stanford University, and I'm a research  
5 associate, principal investigator at the Center for Governance  
6 and Public Policy at Willamette University in Oregon.

7 Q And in your academic work, what is your area of speciality  
8 within the field of political science?

9 A My areas of academic specialty are redistricting,  
10 political geography, and congressional legislative elections.

11 Q And how would you define political geography as you just  
12 used it?

13 A As I study it, political geography in my area of academic  
14 specialty is the study of things such as voters -- the  
15 political geography of voters, meaning where voters reside, and  
16 what implications that voter geography has on issues such as  
17 and relating to legislative districting.

18 Q Dr. Chen, you have in the first tab of your binder Joint  
19 Plaintiff's Exhibit 2012. That should also appear on the  
20 screen.

21 You have the exhibits we're going to reference in  
22 front of you. To make sure everyone is on the same page, they  
23 will also display on the screens.

24 Can you identify this exhibit as a copy of your CV?

25 A Yes, sir, it is.

1 Q And does that CV accurately represent your academic  
2 background and history and employment?

3 A Yes, sir, it does.

4 Q And does that CV list all publications that you have  
5 authored in the last ten years?

6 A Yes, sir, it does, except for the last few publications,  
7 which on this particular CV were listed as forthcoming  
8 articles. They have since been officially published and are in  
9 print.

10 Q So that includes the two forthcoming articles listed on  
11 the second page of your CV?

12 A Yes, sir, that's correct.

13 Q And the last of those articles is entitled "Analysis of  
14 Computer-Simulated Districting Maps for the Wisconsin State  
15 Assembly." That article has since been published?

16 A Yes, sir, it has.

17 Q And it's published in a peer-review journal?

18 A Yes, sir, in *Election Law Journal*.

19 Q You have previously presented expert reports in other  
20 litigation, is that correct?

21 A Yes, sir, I have.

22 Q And you have previously testified at trial?

23 A Yes, sir, I have.

24 Q As an expert witness?

25 A Yes, sir.

1 Q At what trials have you testified?

2 A Well, I have a full list of other cases in which I have  
3 done work on the first page of my expert report in this case,  
4 but the specific cases in which I've testified at trial are the  
5 2015 Raleigh Wake Citizens Association versus Wake County Board  
6 of Elections and then in 2017 City of Greensboro versus  
7 Guilford County Board of Elections, sir.

8 Q And just for the record, the first page of your expert  
9 report is the first page of Joint Plaintiffs' Exhibit 2010, is  
10 that correct?

11 A Yes, sir, that's correct.

12 Q You have also submitted expert reports in additional  
13 cases?

14 A Yes, sir, I have and I've listed those on the first page  
15 of my report in that second paragraph.

16 Q And in each of these cases where you were asked to testify  
17 at trial, were you admitted as an expert?

18 A Yes, sir, I was.

19 MR. THORPE: At this time the Common Cause Plaintiffs  
20 tender Dr. Chen as an expert in political geography and  
21 redistricting.

22 JUDGE OSTEEEN: And redistricting, is that what you  
23 said?

24 MR. THORPE: Yes, Your Honor.

25 JUDGE OSTEEEN: Any voir dire or any objections?

1 MR. STRACH: Not on that, Your Honor.

2 JUDGE OSTEEEN: All right. Dr. Chen is accepted as an  
3 expert witness in political geography and redistricting and may  
4 offer his opinion as to those matters.

5 MR. THORPE: Thank you, Your Honor.

6 BY MR. THORPE:

7 Q Now, Dr. Chen, just to be very clear about what your task  
8 was in the expert testimony that you're going to give here,  
9 what have the Common Cause Plaintiffs asked you to evaluate in  
10 this case?

11 A The Common Cause Plaintiffs asked me to evaluate two  
12 questions. First, I was asked to evaluate whether partisan  
13 considerations were the predominant factor in the drawing of  
14 the Enacted 2016 SB2 Plan; and second, the Common Cause  
15 Plaintiffs asked me to evaluate the extent to which that SB2  
16 Plan, the 2016 Plan, complied with the nonpartisan portions of  
17 the Adopted Criteria as outlined by the Joint Select Committee.

18 Q And the research question isolated in this report is  
19 described at the bottom of page 1 and the top of page 2 of your  
20 report, is that correct?

21 A That's correct, sir.

22 Q As an overview -- and, of course, we're going to dive into  
23 greater detail on this -- how did you go about answering these  
24 two questions that you were asked?

25 A I went about answering these two questions by developing

1 and analyzing a computer-simulation algorithm which I've  
2 developed in my own academic research -- my published academic  
3 research that produces a large number of districting plans --  
4 alternative districting plans produced by computer algorithm  
5 and this algorithm follows specific nonpartisan criteria that I  
6 programmed into the algorithm.

7           So I conduct a large number of simulations of  
8 simulated plans, independent simulations; and I analyze these  
9 simulated plans; and I compare them to the Enacted SB2 Plan  
10 along a number of measures, including, of course, the  
11 nonpartisan portions of the Adopted Criteria, as well as  
12 partisan measures.

13 Q       And broadly -- again, we will deal with this in more  
14 detail -- what did you find as a result of conducting these  
15 simulations and evaluating them as against the enacted plan?

16 A       Broadly what I found was that the partisan goal laid out  
17 in the Adopted Criteria, specifically the goal of creating a  
18 districting map with ten Republican seats, I found that that  
19 partisan goal predominated in the drawing of the SB2 Plan; and  
20 I found that the pursuit of that partisan goal, that partisan  
21 goal of creating a ten Republican map, not only predominated  
22 the drawing of the map, but it subordinated the nonpartisan  
23 portions of the Adopted Criteria. Specifically, I found that  
24 it subordinated the portions of the Adopted Criteria relating  
25 to avoiding the splitting of the counties, keeping counties

1 whole when possible, as well as the geographic compactness of  
2 districts.

3 Q And for your conclusion that partisanship predominated in  
4 the drawing of those districts, what is the basis of that  
5 conclusion as a mathematical matter?

6 A Sure. The basis for that conclusion, as I started  
7 explaining earlier, was I analyzed a large number of  
8 districting maps. So what I found was the SB2 Plan, the  
9 Enacted 2016 Congressional Plan, created a partisan outcome,  
10 created a partisan distribution of seats that is an extreme  
11 statistical outlier in terms of its partisanship, in terms of  
12 its creation of ten Republican seats; and that the SB2 Plan in  
13 creating this extreme 10-3 Republican outcome was creating an  
14 outcome that was entirely outside of the range of the sorts of  
15 plans that would have emerged under a districting process that  
16 adheres strictly to the nonpartisan portions of the Adopted  
17 Criteria.

18 Q To understand how you reached that conclusion, I want to  
19 take a step back. When you refer to computer-simulation  
20 techniques or to data algorithms, specifically what is it that  
21 you are describing?

22 A I'm describing computer-simulation algorithms that I have  
23 developed in my own academic research in which I am able to  
24 program a districting process designed to follow certain  
25 criteria that I program and ignore criteria that I want the

1 program -- the computer to ignore.

2           So in this particular case, I programmed in or I had  
3 the computer strictly follow the nonpartisan portions of the  
4 Adopted Criteria. In following the Adopted Criteria, I had the  
5 simulation process or the districting process ignore, for  
6 example, race altogether. I also instructed the computer to  
7 ignore partisan considerations altogether.

8 Q       And we'll talk about the criteria that go into those maps,  
9 but does the algorithm also generate all the data necessary to  
10 visually display an actual map created by that process?

11 A       Yes, sir, it does. It creates actual maps, ones that you  
12 can compare to a map, an image, of the SB2 Enacted Plan or any  
13 other Congressional Plan that one might want to consider. So  
14 it creates actual districting maps for North Carolina, dividing  
15 North Carolina into 13 congressional districts.

16 Q       And is Figure 1 in your report, which appears on page 8 of  
17 your report, an example of such a map?

18 A       Yes, sir, it is. It is an example of a simulated map.

19           MR. THORPE: Okay. For the Court's benefit, we would  
20 like to introduce as an illustrative exhibit Plaintiffs'  
21 Exhibit 3041, which will allow Dr. Chen to explain how the  
22 simulation process actually yields something like Figure 1. We  
23 would move for admission of that exhibit.

24           JUDGE OSTEEEN: Okay. So the PowerPoint is exhibit  
25 what?

1 MR. THORPE: 3041.

2 JUDGE OSTEEEN: 3041.

3 MR. THORPE: I'm sorry.

4 PARALEGAL IN GALLERY: The PowerPoint from  
5 Dr. Mattingly was 3040. This is 3041.

6 THE COURT: So we've got the exhibit in the book at  
7 page 8 that we're looking at now. Then there's a PowerPoint  
8 exhibit that is -- what's 3040?

9 PARALEGAL IN GALLERY: That's the PowerPoint. That's  
10 the actual one that was used with Dr. Mattingly.

11 JUDGE OSTEEEN: Okay. 3041?

12 MR. THORPE: I said this is 3041.

13 JUDGE OSTEEEN: Any objection to that?

14 MR. STRACH: I haven't seen it yet. Let me take a  
15 look at it.

16 (Pause in the proceedings.)

17 MR. STRACH: No objection.

18 JUDGE OSTEEEN: All right. Then I guess it's  
19 Exhibits 3040 and 3041 are admitted.

20 MR. THORPE: My understanding, Your Honor, is that  
21 Exhibit 3040 was the PowerPoint for Dr. Mattingly.

22 JUDGE OSTEEEN: Oh, the earlier PowerPoint.

23 MR. THORPE: Yes, sir.

24 JUDGE OSTEEEN: So this is 3041.

25 MR. THORPE: Yes. And what's on the paper here will

1 also be displayed.

2 JUDGE OSTEEEN: Multiple pages?

3 MR. THORPE: Yes.

4 JUDGE OSTEEEN: Exhibit 3041 is admitted.

5 BY MR. THORPE:

6 Q So, Dr. Chen, explain what we're looking at on the first  
7 page of Exhibit 3041.

8 A This is just a map of North Carolina's VTDs, voting  
9 tabulation districts, as well as county boundaries. So I'll  
10 just call them VTDs or they're sometimes called precincts.  
11 This is all the VTDs in North Carolina.

12 The simulation algorithm starts with VTDs because  
13 this is the basis for districting as laid out by the Adopted  
14 Criteria. The Adopted Criteria tell us that VTDs in general  
15 cannot be split unless you actually need to do so for reasons  
16 of equal population, but in general, you have to start with  
17 VTDs, and so that's why I began with North Carolina's VTD  
18 boundaries in starting the drawing of any districting map by my  
19 computer.

20 JUDGE WYNN: Counsel, is that what this is supposed  
21 to be showing? This looks like a county map to me.

22 MR. THORPE: Yes, Your Honor, it is a county map  
23 which contains lighter shaded VTD breaks in between.

24 JUDGE WYNN: We have very old eyes here and I think  
25 to be able to see those districts you have really got to pierce

1 through this.

2 MR. THORPE: Hopefully, it will be more visible on  
3 the screen when it begins to be colored in.

4 JUDGE WYNN: This is worthless. This is nothing but  
5 a county map here from what I'm looking at here. I mean, if  
6 you're going to do these things, you ought to be careful and at  
7 least make sure that it represents what it is. There was one  
8 previously up that actually had it in there, had all of them,  
9 looked much like it, but this -- I'll accept that's what it's  
10 supposed to show, but I'm just telling you that's not what this  
11 is.

12 MR. THORPE: Yes, Your Honor. And I apologize for  
13 any lack of clarity on that. Hopefully, as we discuss any  
14 county line splits within this, the VTDs boundaries will become  
15 clear. But I apologize.

16 BY MR. THORPE:

17 Q How do your maps start being created based on the  
18 instructions you give the computer?

19 A The computer starts just by picking a random point on the  
20 map, somewhere in North Carolina, and that is how the  
21 construction of the first district in this plan begins. So it  
22 picks a random point and it begins building outward and, as I  
23 said, it uses VTDs as the basis for building these districts.  
24 So it constructs the first district by adding together adjacent  
25 VTDs until you construct an entire first district.

1           Now, when you do so, there are, of course, other  
2 portions of the Adopted Criteria that are followed here. Most  
3 importantly, splitting of counties is to be minimized.  
4 Counties are to be kept whole as much as possible. So that  
5 means that when the computer adds an adjacent VTD, it tries to  
6 pick a VTD from within a county it has already intruded into  
7 before moving into new counties. That is how any districting  
8 process is going to minimize the splitting of counties or  
9 trying to keep counties whole as much as possible.

10 Q       But at some point, in order to complete the district, some  
11 county split is created, is that correct?

12 A       That is correct. The Adopted Criteria tell us that  
13 districts have to be perfectly equally populated, which for  
14 North Carolina means 733,498 or 99 in population for every  
15 district, and it has to be exactly that number. So this means  
16 that when you get to the very end of completing one district  
17 you are inevitably going to end up in the middle of a county  
18 without necessarily filling out that entire county. That's how  
19 county splits are created. The Adopted Criteria tells us that  
20 counties can be split in order to equalize population.

21           So inevitably, at the end of the first district,  
22 you're going to have to split one county, but you don't have to  
23 split any more than that. You also need to split one VTD in  
24 order to get precisely to that number 733,498, but you don't  
25 want to split any more VTDs than that just to create equal

1 population. That's how the first district is created.

2 Q After that first district is created, how does the second  
3 district get created?

4 A The second district gets created by starting right where  
5 the first district left off. So it begins by picking up that  
6 county that was left unfinished by that first district, fills  
7 that one out, and again proceeds exactly like the first  
8 district does. It keeps on adding adjacent VTDs following  
9 those same rules before. You add VTDs that are within counties  
10 you've already entered into and don't move into a new county  
11 until you've completely filled out that first county. So it  
12 keeps on doing that until, once again, you get to exactly  
13 733,498.

14 And, of course, at the end of that second district  
15 you're going to need, inevitably, to split apart one more  
16 county and exactly one more VTD, but you don't split those  
17 apart for any reason other than the Adopted Criteria lays out  
18 splitting up the VTD simply for the reason of population  
19 equality. So that second district is created much the same way  
20 and the same goes for all subsequent 13 districts.

21 Q And we can advance to -- so that shows an example which  
22 appears in Figure 1 of your report of one of the simulations  
23 that you generated for the purposes of this report, is that  
24 correct?

25 A Yes, sir.

1 Q And, again, we'll talk about this in more detail, but how  
2 many total simulations did you create?

3 A Well, I created a total of 3,000. I did three sets of  
4 simulations using slightly different algorithms, slightly  
5 different rules; but for each set of simulations, I conducted  
6 1,000 simulations, so 1,000 separate maps. And this is just  
7 one example among those 1,000 or among those 3,000 total maps,  
8 but every map is completely different. It starts in a  
9 different way, but it follows that same basic algorithm that I  
10 just outlined.

11 Q And so particular geographic features of this map may not  
12 be matched in any other map or in some uncertain number of  
13 other maps, is that correct?

14 A That's correct, sir. All the maps are different.

15 Q Including which counties are split as a result of the  
16 random starting point of the map?

17 A That's correct, sir. The different maps split different  
18 counties, different combinations of counties.

19 Q So this varies slightly from Figure 1 in that Figure 1  
20 also displays a variety of information about the resulting  
21 districts, is that correct?

22 A That's correct, sir. So once I complete or once the  
23 computer has completed the construction of the entire  
24 13-district map, my computer then goes back and calculates  
25 various statistics relating to the Adopted Criteria describing

1 the districts on the map.

2           So, for example, obviously I've calculated the  
3 population here in the left column, the population of all the  
4 13 districts; and it just shows that these districts are, in  
5 fact, equally populated, that everybody has 733,498 or 99 in  
6 population. So you can calculate certainly the population, but  
7 I also calculate measures relating to geographic compactness.  
8 I also calculate measures relating to how many counties were  
9 split and how many VTDs were split.

10           So in this map, we see that I have displayed the  
11 various geographic compactness measures along the measures of  
12 Reock and Popper-Polsby, and these are just very commonly used  
13 measures of geographic compactness where higher scores denote  
14 greater geographic compactness. So I've calculated the  
15 compactness scores of all the districts here; and, of course,  
16 you can calculate the average score, the average Reock and the  
17 average Popper-Polsby, among all 13 districts.

18           Then I've also calculated which counties were split  
19 and which VTDs were split, and we can see here in this map  
20 there were exactly 12 counties split and exactly 12 VTDs split,  
21 which is a result of the districting algorithm minimizing or  
22 avoiding when possible the splitting of VTDs and counties,  
23 except to equalize population.

24 Q       And your simulation approach and the data that you have  
25 produced in connection with it reveals all of this data about

1 any one of your 3,000 simulated maps, is that correct?

2 A That is correct, sir. I turned over electronic maps of  
3 all 3,000 of the simulated maps, so 3,000 completely different  
4 districting maps.

5 Q And just to be clear, when you say turned over those maps  
6 it creates actually a shapefile of the map, as opposed to  
7 something identical to Figure 1, is that correct?

8 A Exactly, sir. A shapefile is how we store maps  
9 electronically on computers.

10 Q But this data is available as a result of the various  
11 folders that capture all of the simulations that you did?

12 A That's exactly right, sir. So in addition to those  
13 shapefiles, I also turned over data files listing out these  
14 various characteristics, as we see here, of every single one of  
15 those 3,000 maps.

16 Q Just to be clear, because the numbers don't necessarily  
17 conform to what we've come to expect of actual North Carolina  
18 districts, do the numbers that you assign to given districts  
19 mean anything in correspondence to our current District 1 or  
20 District 13?

21 A No. I made no attempt to assign any sort of meaning to  
22 which district gets numbered as number one. I found that to be  
23 not really part of my task because the Adopted Criteria don't  
24 tell us anything about the numbering system that is to be used.  
25 I number them simply for the sake of organizing the files, but

1 the numbers mean absolutely nothing substantively.

2 Q And also just for clarity, Figure 1 represents a single  
3 simulation from your third set of simulations that we will  
4 discuss, is that correct?

5 A It represents an example from the second set of  
6 simulations --

7 Q Oh.

8 A -- that I produced.

9 Q And so the additional information that we know about this  
10 map appearing in Figure 1 is that all of the 13 incumbents will  
11 be placed in separate districts, is that correct?

12 A Yes, that is one thing I found about this map. I would  
13 just add that among those files that I turned over were files  
14 that identified which incumbents were in which district in  
15 every one of those 3,000 maps. So the files that I turned over  
16 did, in fact, identify the incumbency information listed here  
17 in this map.

18 Q Understood. I want to move to discussing the various  
19 criteria that you used to create this map.

20 MR. THORPE: And, Stacy, I think we're done with that  
21 simulation or demonstration.

22 BY MR. THORPE:

23 Q You stated that you created 3,000 maps?

24 A Yes, sir.

25 Q And the first set of maps that you created, you created

1 1,000 maps, is that correct?

2 A Yes, sir, that's correct.

3 Q What criteria did you use to conduct that initial set of  
4 simulations?

5 A So I'll explain the criteria and, broadly, these are  
6 criteria taken from the nonpartisan portions of the Adopted  
7 Criteria. What I broadly wanted to do was to hold several  
8 redistricting factors constant so that I could evaluate whether  
9 or not the as-enacted SB2 map conformed to these or could be  
10 explained simply in terms of it being a partisan-motivated map.  
11 So the specific criteria that I followed here in Simulation Set  
12 No. 1 were taken directly from the Adopted Criteria.

13 Q And when you say "the Adopted Criteria," Dr. Chen, you are  
14 referring to Exhibit 1007, which should appear at the third tab  
15 of your binder?

16 A Yes, sir, that's correct, the 2016 Joint Select Committee  
17 Adopted Criteria.

18 Q And you have referred to these earlier today as the  
19 nonpartisan criteria from the Adopted Criteria. What do you  
20 mean by that?

21 A What I mean by that, sir, is that this Joint Select  
22 Committee Adopted Criteria document contains both partisan, as  
23 well as nonpartisan, factors.

24 Now, I explained my goal in this expert report; and  
25 it was to -- in part, to evaluate the extent to which the

1 Enacted SB2 Plan conforms, adheres to the nonpartisan portion  
2 of the Adopted Criteria. So in evaluating that, I, of course,  
3 had to ignore the partisan mandates of the Adopted Criteria  
4 specifically relating to its mandate of the creation of a ten  
5 Republican, three Democrat congressional map. So I certainly  
6 ignored that portion.

7 As well in Simulation Set No. 1, I ignored the  
8 Adopted Criteria's mandate of protecting incumbents; and the  
9 reason I ignored that part is that even though it's not an  
10 explicitly partisan criteria, given that the 13 incumbents as  
11 of November 2016 are coming from an existing -- the previous  
12 congressional map, there's certainly the possibility that there  
13 is some indirect partisan effect if we were to draw districts  
14 explicitly to protect those existing incumbents as of November  
15 2016 given that they arose from the plan drawn for the 2012 and  
16 2014 congressional elections.

17 So those were the portions of the Adopted Criteria I  
18 ignored in Simulation Set No. 1.

19 Q Dr. Chen, I'll direct you to page 6 and the top of page 7  
20 of your report where you list criteria that the computer  
21 algorithm followed. Are these the criteria that you're  
22 referring to when you say the nonpartisan portion of the  
23 Adopted Criteria that you used to simulate Set One?

24 A Yes, sir. So I've listed out here on page 6 the five  
25 nonpartisan criteria that I factored, that I built into

1 Simulation Set No. 1. Specifically, the Adopted Criteria tell  
2 us, obviously, that districts have to be perfectly equally  
3 populated; second, that obviously districts have to be  
4 geographically contiguous. Those are fairly standard and not  
5 very different than for, say, other states, but the Adopted  
6 Criteria also give us very specific nonpartisan instructions  
7 with respect to No. 3, avoiding county splits.

8           And so the Adopted Criteria specifically tell us  
9 that, number one, if you do split a county, you cannot split it  
10 into more than two districts. You cannot split, say,  
11 Mecklenburg County or any other county into three districts or  
12 four districts. You can only split it, at most, into two  
13 districts. More importantly, the Adopted Criteria also tell us  
14 that you should avoid splitting counties when possible, that  
15 they are to be minimized, and that you can split counties when  
16 you need to do so to create equally populated districts. So  
17 that's a third criterion.

18 Q       And where does that criterion appear within the Adopted  
19 Criteria because you just outlined several things? I want to  
20 be able to point where in the Adopted Criteria that shows up.

21 A       Yes, sir, in the Adopted Criteria, it's the paragraph  
22 that's labeled "Compactness."

23 Q       Understood. In addition, your simulation algorithm  
24 introduces or, rather, measures compactness by other measures  
25 that you previously referenced with Figure 1, correct?

1 A Yes, sir, that's correct.

2 Q And what are those measures?

3 A Sure. I just wanted to mention before I got to  
4 compactness, though, that the fourth criterion is minimizing  
5 VTD splits and the Adopted Criteria there tells us that you can  
6 only split VTDs when necessary to create equal populations, as  
7 I mentioned earlier in describing my algorithm.

8 And then the final one, in response to your question,  
9 sir, is about geographic compactness. So the algorithm  
10 prioritizes the drawing of geographically compact districts,  
11 and I measure that and operationalize that using two standard  
12 measures of geographic compactness that scholars of  
13 redistricting -- of legislative redistricting use very commonly  
14 in the scholarly literature, as well as in court case work.  
15 Those two measures are Reock and Popper-Polsby.

16 Q And those measures are described on pages 6 and 7 of your  
17 report, is that correct?

18 A Yes, sir, that's correct.

19 Q Returning to the first criterion that you referenced, I  
20 just want to be very clear about the instruction that you gave  
21 the computer in creating these simulated maps. Did you  
22 instruct the computer to conduct simulations that created  
23 districts with zero population deviation?

24 A That is correct, sir, I did and I found that that was very  
25 straightforward to do and so all of the districts in all of the

1 3,000 maps that I produced for this report all have a  
2 population deviation of -- sorry -- a population in the  
3 district of either 733,498 or 99.

4 I mean, specifically the way that North Carolina's  
5 statewide population breaks down if you divide it across 13  
6 districts is you need exactly four districts with 498 and then  
7 the remaining nine districts that have 499. So you're going to  
8 have four districts with 733,498 and the remaining are going to  
9 be 99. That's just how North Carolina's population breaks down  
10 and that is strictly adhered to in every one of my simulated --  
11 3,000 simulated plans.

12 Q And so as a result of how you designed that algorithm, it  
13 was not necessary on the back end of the simulations to zero  
14 out the population to meet this criteria?

15 A No, sir, I did not go through by hand and do any manual  
16 fidgeting with the district boundaries or the assignment of  
17 census blocks or anything like that. It was entirely automated  
18 by the computer districting process.

19 Q You have previously conducted other simulations of  
20 congressional and legislative redistricting, correct?

21 A Yes, sir, that's correct.

22 Q And in those previous either expert engagements or in your  
23 academic work, have you always been given a written set of  
24 criteria to follow?

25 A No, sir. This is quite rare.

1 Q And what does that affect about your approach to the task  
2 in this case?

3 A Well, it meant my task in this particular case was  
4 unusually narrow and very mechanical, meaning the following:  
5 The Adopted Criteria here in this case give me a very specific  
6 set of criteria and my task was to not deviate from the  
7 nonpartisan portions of that Adopted Criteria. They were  
8 obviously very specific with respect to things like population  
9 equality and contiguity, but also county splits, which was  
10 quite unusual.

11 Usually my task in -- either as an expert witness or  
12 in my academic research is to make subjective judgments or use  
13 my expert as a redistricting expert and make determinations  
14 about how traditional districting criteria should apply in this  
15 state or that state or this jurisdiction and then try and  
16 figure out how to apply them -- how to apply traditional  
17 districting criteria given the various quirks of a particular  
18 state.

19 In North Carolina, in this particular case, with the  
20 Adopted Criteria as specifically as it is written, I had no  
21 subjective judgments like that to make here. My task here was  
22 very mechanical, to very strictly follow the words that I saw  
23 on the paper of the Adopted Criteria and to follow those rules  
24 by programming them into the computer algorithm. They were  
25 even very specific with respect to the hierarchy of these

1 various criteria.

2           So that's what made this case so unusual in terms of  
3 my own normal academic work and expert witness work using  
4 redistricting simulations. Here I had no -- very little  
5 judgment call in deciding what districting criteria should be  
6 in or which ones should apply here. It was all very clearly  
7 laid out for me in the Adopted Criteria.

8 Q     Do the adopt criteria also specify which election and/or  
9 demographic data is to be used in the construction of these  
10 maps or these districts?

11 A     Yes, sir, it does.

12 Q     And where is that specified?

13 A     Well, the Adopted Criteria tells us which elections are to  
14 be used. I believe it's the section called "Political Data."  
15 But the Adopted Criteria tells us which elections to use in the  
16 consideration of the partisanship of the districts in achieving  
17 the stated political impact or partisan goal of the Adopted  
18 Criteria.

19           So specifically that "Political Data" paragraph in  
20 the 2016 Adopted Criteria tell us that the data we are to use  
21 are the following: All the statewide elections from 2000 --  
22 from 2008 to 2014, but not including the presidential contests.  
23 So that is a very specific list of exactly 20 statewide  
24 elections.

25 Q     And what you just said you have read from the first

1 sentence under "Political Data" on page 1 of the Adopted  
2 Criteria itself?

3 A That is correct, page 1, the section called "Political  
4 Data," and it tells us which elections to use.

5 Q And does that section also describe any demographic data  
6 that may be used in the construction of districts?

7 A It tells us to avoid using certain demographic data. It  
8 tells us to avoid using the racial composition of any of the  
9 census geographies or of any data about North Carolina. So  
10 that's pretty easy to follow. I just ignore racial data  
11 because the Adopted Criteria tell me to ignore racial data.

12 Q And so specifically it reads: "Data identifying the race  
13 of individuals of voters shall not be used in the construction  
14 or consideration of districts in the 2016 contingent  
15 congressional plan."

16 Did you follow that in your construction and  
17 consideration of the simulated districts in order to follow the  
18 nonpolitical portions of the Adopted Criteria?

19 A Yes, sir. I considered that to be one of the various  
20 nonpartisan portions of the Adopted Criteria. So that sentence  
21 tells me that racial data, data identifying the race of voters,  
22 is not to be used; and so I followed that by completely  
23 ignoring all racial data in constructing my computer's  
24 districting simulation algorithm.

25 Q And when I speak of whether you constructed districts

1 based on that result or considered that information, I am  
2 referring to the information contained in your expert report  
3 disclosed on March the 1st of 2017?

4 A Yes, sir, that's correct.

5 Q So the political data bullet point that you just  
6 referenced includes 20 elections. Was that the only election  
7 formula that you considered for the purposes of this task?

8 A It was one of two different formulas that I used. There  
9 was a second one as well.

10 Q What is the other formula? And I will direct your  
11 attention to the next tab, which is Joint Plaintiffs'  
12 Exhibit 2002.

13 A This document is a document that Plaintiffs' counsel gave  
14 to me and represented to me that it was the formula produced by  
15 Dr. Tom Hofeller used for evaluating partisanship of North  
16 Carolina congressional districts while he was producing the  
17 2016 Plan. Plaintiffs' counsel gave me this document, told me  
18 it was produced by Dr. Hofeller in evaluating the partisanship  
19 of North Carolina's congressional districts.

20 I looked at this formula and I found seven elections  
21 and I found it was a very straightforward formula to apply. I  
22 saw seven elections and they're really just a subset of those  
23 20 statewide elections I mentioned just a second ago that were  
24 mentioned in the Adopted Criteria.

25 So Dr. Hofeller's formula lists for me seven

1 elections and it creates a very specific formula used to  
2 evaluate the partisanship of districts. I looked at it and I  
3 saw that I had access to all of this data, all seven of these  
4 elections, and I found it to be pretty reasonable and  
5 straightforward to apply, and so I applied it as well.

6 Q And you've mentioned applying this formula at the district  
7 level. Is it your understanding that this formula could only  
8 work at the district level?

9 A No. I understand it to be a formula that was constructed  
10 by Dr. Hofeller for the consideration, for the evaluation of  
11 the partisanship of any geography. It could be the  
12 partisanship of a county or the entire state of North Carolina,  
13 of a region in North Carolina. It's just a formula that takes  
14 a couple of different elections, puts them together, aggregates  
15 the results; and all it simply does is it counts up were there  
16 more Republican votes or Democratic votes in this particular  
17 district across the seven elections. So it's a very  
18 straightforward formula that can be applied to any sort of  
19 geography within North Carolina obviously.

20 Q And this formula could easily be applied at the VTD level  
21 as well?

22 A Yes, sir. I mean, it's all data that's available at the  
23 VTD level and it's pretty clear what Dr. Hofeller was creating  
24 here.

25 Q Understanding that these elections were provided to you as

1 you've just testified, do you have an opinion about the  
2 reasonability of using either the 20 elections or  
3 Dr. Hofeller's formula to assess the underlying partisanship of  
4 an individual geographic unit in North Carolina?

5 A I do. In general, I just accepted that this was  
6 Dr. Hofeller's understanding of the partisanship or at least  
7 Dr. Hofeller's conception of the partisanship of North  
8 Carolina's congressional districts. But obviously, I'm a  
9 political scientist who studies election results and so I  
10 looked at this formula and I looked at the various elections  
11 used in this formula and it strikes me as a reasonable formula.  
12 It may not be a perfect formula, but it strikes me as a fairly  
13 reasonable way to measure across several election cycles and  
14 across several different races the general partisanship of  
15 North Carolina voters in any given district.

16 Q And principally you accepted that either the 20 elections  
17 or the 7 elections referenced in the document we were just  
18 discussing were, in fact, used for that purpose in the creation  
19 of the 2016 Plan?

20 A Yes, sir, I accepted Plaintiffs' counsel's representation  
21 of that fact, that these were the formulas that represented how  
22 Dr. Hofeller measured or understood or perceived the  
23 partisanship of North Carolina congressional districts, and I  
24 accepted that Plaintiffs' counsel told me that the Adopted  
25 Criteria was an accurate representation of the legislature's

1 instructions or intent in drawing the map.

2 Q And then used those instructions that you understood to be  
3 explicit to create your own set of simulations?

4 A Well, yeah, that's correct. So I created my own  
5 simulations, as I said, in the past using the nonpartisan  
6 portions of the Adopted Criteria, but then I went back and  
7 evaluated the partisanship of every one of those districts in  
8 every one of those 3,000 maps using both Dr. Hofeller's formula  
9 and then later on using the 20-election formula as laid out in  
10 the Adopted Criteria.

11 Q Before we dive in more specifically to the results for  
12 Simulation Set One, it also appears that you conducted two  
13 additional sets of simulations after the first run of a  
14 thousand. Why did you do that?

15 A I conducted the two additional set of simulations in order  
16 to assess the plausibility of alternative explanations for why  
17 the legislature might have drawn or needed to draw the SB2 Plan  
18 with ten Republican seats.

19 So specifically, I conducted the second set of  
20 simulations to evaluate the possibility that the legislature's  
21 stated desire in the Adopted Criteria to protect incumbents  
22 each in his or her own district might somehow account, explain  
23 or necessitate the creation of a 10-3 Republican map.

24 And then I created a third set of simulations,  
25 Simulation Set No. 3, to consider the altogether different

1 possibility that perhaps there were something specific, perhaps  
2 something specific in the unique combination of features of the  
3 Enacted SB2 Plan in terms of its unique combination of the 13  
4 county split and exactly 11 protected incumbents that might  
5 somehow explain its creation of an extreme 10-3 Republican map.

6           So I did these additional sets of simulations as  
7 robustness checks to evaluate those possible alternative  
8 explanations for why the enacted plan, the SB2 Plan, was such  
9 an extreme partisan outlier.

10 Q     And so with respect to Simulation Set One, you tested the  
11 criteria in -- the Adopted Criteria that you determined for  
12 that set you would consider nonpartisan criteria, is that  
13 correct?

14 A     Yes, sir, I considered just the nonpartisan portions of  
15 the Adopted Criteria in Set One.

16 Q     So you did not consider partisan advantage?

17 A     That is correct. In Simulation Set No. 1, I solely stuck  
18 to nonpartisan criteria, did not consider political incumbency,  
19 and did not consider partisan advantage in the construction of  
20 these simulated plans.

21 Q     Including in determining whether and when to split  
22 counties?

23 A     That's correct, sir. Those were all applied in  
24 nonpartisan fashions.

25 Q     I'm going to direct your attention to page 13 of your

1 report, which is Figure 2. What does Figure 2 show, Dr. Chen?

2 A Figure 2 describes the partisan results, the results in  
3 terms of partisanship of this first set of simulations that I  
4 just finished describing. So once again, this is the set of  
5 simulations in which the computer is strictly following the  
6 nonpartisan portions of the Adopted Criteria. It is paying no  
7 attention to any sort of political data, as well as anything  
8 about any incumbents; and that's before, of course, it's  
9 completely ignoring racial data.

10 So this figure on the left of Figure 2, this  
11 histogram, this is a diagram that tells us about the number of  
12 Republican districts in all of these 1,000 simulated plans in  
13 Simulation Set No. 1. It's also telling us about the  
14 partisanship, the number of Republican districts, of the  
15 Enacted SB2 Plan.

16 Q So explain what you mean by the two descriptions on the X  
17 and Y axis of this histogram.

18 A What I'm plotting here on the horizontal axis along the  
19 bottom of this figure is the number of districts that have over  
20 Republican -- 50 percent Republican vote share. In other  
21 words, how many Republican districts were there as measured  
22 using Dr. Hofeller's formula, that formula that we just looked  
23 at a few minutes back.

24 So I applied Dr. Hofeller's formula to every one of  
25 the 13 districts in every one of these 1,000 simulated plans.

1 For each one of these computer-simulated plans, I simply  
2 counted up how many -- out of 13 districts how many of those 13  
3 districts are Republican rather than Democrat in terms of using  
4 and applying Dr. Hofeller's formula. Dr. Hofeller's formula  
5 was a very straightforward way using those seven elections to  
6 tell us whether a district was Republican or Democrat; and so I  
7 used that, applied that across the 13 districts, and counted up  
8 how many of those 13 districts are Republican districts rather  
9 than Democrat districts.

10 Q And the frequency with which your simulations generated a  
11 particular number of districts with more Republican votes based  
12 on that formula is captured by the vertical axis?

13 A Correct, is captured vertically. So this is a chart  
14 that's just telling us how many of those 1,000 simulated plans  
15 -- and remember that these are 1,000 completely independent,  
16 completely different districting plans for North Carolina's  
17 congressional districts. So there are 1,000 different plans  
18 here; and I'm counting up how many created exactly five  
19 Republican seats, how many created exactly six Republican  
20 seats, how many created exactly seven Republican seats, and so  
21 on.

22 Q And among the range of possible outcomes you observed in  
23 this analysis, what was the most frequent result?

24 A The most frequent outcome was plans that created exactly  
25 seven Republican seats. In other words, seven Republican and

1 six Democratic seats, that was an outcome that occurred a  
2 little bit over 45 percent of the time. So almost half the  
3 time it was exactly 7 out of 13 Republican seats.

4 Q And what was the second most likely outcome?

5 A Second most likely outcome is six Republican seats. So we  
6 see that's happening 32 percent of the time, so approximately  
7 320 out of those 1,000 simulated plans. Put together --  
8 another way of seeing that is to say that the vast majority of  
9 these plans are either six or seven Republican seats, meaning  
10 that they have six Republican and seven Democratic seats or  
11 seven Republican and six Democratic seats. That's what's  
12 happening in these simulated plans most of the time, the vast  
13 majority of the time here.

14 Q And how frequently did this set of 1,000 simulations yield  
15 ten Republican and three Democratic seats?

16 A It never did so. Zero out of 1,000 times. It never  
17 created ten Republican and three Democratic seats.

18 Q And is that captured in the red text showing where the SB2  
19 Enacted Plan winds up on this chart?

20 A Yes, sir, that's right. So you see a red bar there -- a  
21 red dotted line and I've plotted out there SB2 Enacted Plan.  
22 That represents the SB2 Enacted Plan's creation -- using  
23 Dr. Hofeller's formula, the creation of ten Republican seats as  
24 measured using Dr. Hofeller's formula. So that red line is  
25 telling us that the SB2 Enacted Plan created ten Republican

1 seats. And once again, we can look at the entire distribution  
2 of those 1,000 computer-simulated plans. We can see that that  
3 range is between five to nine and most of the time, as we just  
4 mentioned earlier, it is usually six or seven.

5           So what that tells us is that the SB2 Enacted Plan's  
6 creation of ten Republican seats is an extreme statistical  
7 outlier. It's creating ten Republican seats and that is an  
8 outcome that is entirely outside of the range of plans created  
9 under Simulation Set No. 1 following the nonpartisan portions  
10 of the Adopted Criteria. So it's entirely outside of this  
11 range of simulated plans.

12 Q     And you performed the same analysis using the 20 elections  
13 specified in the Adopted Criteria as well, correct?

14 A     Yes, sir, a completely separate formula that we just  
15 described -- that I just went over a while ago of taking those  
16 20 elections that were mentioned in the "Political Data"  
17 portion of the Adopted Criteria, and I applied that formula  
18 with those 20 elections. Those election results were all  
19 available to me and so I evaluated the same 1,000 plans a  
20 second time, except this time, instead of using Dr. Hofeller's  
21 formula, I used the Adopted Criteria formula.

22           And again, just to remind -- to go over what that  
23 was, the Adopted Criteria gave us 20 elections, and I simply  
24 counted up how many Republican votes and how many Democratic  
25 votes across those 20 elections there are in each district, and

1 that allows us to determine whether each district is a  
2 Republican or a Democratic district.

3           So once again, on the figure on the right I'm  
4 plotting out or I'm displaying the number of Republican seats  
5 in each of these 1,000 plans.

6 Q       And just briefly, what do you find is the most likely  
7 result applying the Adopted Criteria elections to this  
8 simulation set?

9 A       So right now we're looking at the figure on the right side  
10 here, Figure 2. That figure on the right side tells us that  
11 the most likely outcome -- and this is an outcome that occurs  
12 over half of the time again in these 1,000 simulated plans.  
13 That most likely outcome is six Republican seats. In other  
14 words, six Republican and seven Democratic seats.

15           So what this is telling us is that when you follow a  
16 simulation process that is strictly adhering to the nonpartisan  
17 portions of the Adopted Criteria over half the time you would  
18 create a plan that has exactly six Republican and seven  
19 Democratic seats using the Adopted Criteria elections, the  
20 formula laid out in the Adopted Criteria, for evaluating the  
21 political impact of North Carolina congressional districts.

22 Q       Understood. And, again, just briefly, how likely is it  
23 that this simulation set using these elections would yield a  
24 ten Republican, three Democratic plan?

25 A       Again, zero out of 1,000 times. Never.

1 Q How many times does it occur for nine Republican districts  
2 and four Democratic districts?

3 A Zero out of 1,000 times. It never occurs.

4 Q And how often does it occur in eight Republican districts  
5 and six Democratic districts?

6 A Less than 1 percent of the time. 0.5 percent of the time.  
7 So it very rarely occurs, 5 out of 1,000 times. For creating  
8 seven Republican districts, then it occurs a sizeable number of  
9 times, a small minority, at 13 percent.

10 Q And so based on this data that's before us in Figure 2,  
11 what can you conclude about the partisan distribution of seats  
12 in the SB2 Enacted Plan relative to the partisan distribution  
13 of seats among your simulated plans in Simulation Set One?

14 A Using either one of these partisan formulas, these  
15 partisan measures that I've just gone over, Dr. Hofeller's  
16 formula as well as the Adopted Criteria formula, using either  
17 one of those alone, I'm able to conclude with extremely high  
18 statistical certainty that the SB2 Enacted Plan's creation of  
19 ten Republican seats is an extreme outlier and it is entirely  
20 outside of the range of the sorts of plans that would emerge  
21 under my simulation process, under a districting process that  
22 strictly follows the nonpartisan portions of the Adopted  
23 Criteria.

24 Q You separately -- did you separately evaluate whether the  
25 plans in Simulation Set One tell us anything about the enacted

1 plan's compliance with other portions of the Adopted Criteria?

2 A Yes, sir, I did. I evaluated the geographic compactness,  
3 as well as the number of county splits, of the Enacted SB2 Plan  
4 as compared to all of the simulated plans.

5 Q And what did you find with respect to the compactness of  
6 those districts?

7 A Well, the compactness calculations, the compactness  
8 comparisons are shown on Figure 3.

9 Q And Figure 3 appears on page 14 of your report. I believe  
10 you are referring specifically to the left side of that page.

11 A Yes, sir, I'm referring just to the left side of this  
12 figure. This figure here on the left is a comparison of those  
13 1,000 simulated plans that we've been talking about compared  
14 against the Enacted SB2 Plan along geographic compactness; and  
15 as I mentioned sometime ago, we're using two different measures  
16 of geographic compactness here, the Reock score, as well as the  
17 Popper-Polsby score. These are scores that generally tell you  
18 higher numbers mean greater geographic compactness.

19 So what this figure tells us is the geographic  
20 compactness along these two, Reock and Popper-Polsby, measures  
21 of every one of the 1,000 plans, as well as the Enacted SB2  
22 Plan. It tells us that in the SB2 Plan we have, say, a Reock  
23 score of a little bit under .34. Now, that by itself doesn't  
24 mean anything without comparison to other plans. So that's  
25 what we have the simulated plans for. We're able to see what

1 is a reasonable geographic compactness score, what is a  
2 reasonable Reock score produced by a districting process that  
3 more strictly adheres to or tries to draw compact districts;  
4 and the answer is what we see in this figure here.

5           When you try and draw compact districts when you try  
6 and adhere to the Adopted Criteria's nonpartisan portions, you  
7 end up with plans that range in Reock from .38 -- from a little  
8 bit under .38 all the way up to about .48. That's the entire  
9 range. Now, where is the Enacted SB2 Plan? It's at .34. It's  
10 entirely outside of that range and very significantly far below  
11 that range, and what that tells me -- combined with the same  
12 thing when we look at the Popper-Polsby measure along the  
13 vertical axis, what that allows me to conclude is that the  
14 Enacted SB2 Plan was not the product of a reasonable effort to  
15 draw geographically compact districts because it was very  
16 straightforward, very easy, 1,000 out of 1,000 times, to draw a  
17 much more compact districting plan while otherwise maximizing  
18 adherence to the nonpartisan portions of the Adopted Criteria.

19 Q    You just testified that the Reock score specifically of  
20 the enacted plan wouldn't necessarily be reasonable. Do you  
21 mean reasonable with respect to this entire population of  
22 simulations or reasonable as some absolute metric?

23 A    I don't really read much into it as an absolute metric.  
24 For example, if you were to ask what is a reasonable Reock  
25 score if you were drawing congressional districts or state

1 legislative districts for the islands in the state of Hawaii,  
2 you would, of course, end up with much more geographically  
3 noncompact districts than if you were drawing a districting  
4 plan for the state of Wyoming, which it's much easier in the  
5 second example to be drawing compact districts. That's why I  
6 say that you have to put Reock scores in a context by comparing  
7 them to what could have been reasonably done. That's what the  
8 simulations -- the simulated plans allow us to do.

9 Q And so the data in Figure 3 provides that context via the  
10 simulations that you conducted?

11 A Yes, sir. It's telling us what sort of geographic  
12 compactness scores, what sort of Reock scores would emerge.  
13 Specifically in North Carolina and specifically trying to draw  
14 congressional districts specifically using 2010 census data,  
15 what sort of Reock scores would have emerged if you had tried  
16 to draw reasonable compact districts.

17 Q You said that you also evaluated county splits.

18 A Yes, sir, I did.

19 Q What did you find with respect to Simulation Set One  
20 relevant to the enacted plan?

21 A What I found is that in the first set of simulations --  
22 and, again, this is the set of simulations that tries to  
23 maximize adherence to the nonpartisan portions of the Adopted  
24 Criteria, including the county split mandate, the mandate that  
25 you avoid splitting counties when feasible.

1           What I found is that it is very straightforward,  
2 again, 1,000 out of 1,000 times, to produce a congressional  
3 districting plan that splits only exactly 12 counties. You  
4 don't need to split any more than 12 counties. Counties are  
5 split when you need to equalize the population of districts in  
6 Simulation Set No. 1 and so it's very straightforward to create  
7 only 12 counties that are split into two districts.

8           Now, I also evaluated -- I also evaluated the Enacted  
9 SB2 Plan and I found that there were 13 county splits, so that  
10 allowed me to conclude that the SB2 Plan was not the product of  
11 a districting effort to minimize the number of county splits to  
12 only split counties only when necessary to equalize district  
13 populations.

14 Q       I want to direct your attention back to the Adopted  
15 Criteria and specifically the compactness criterion that you  
16 earlier referenced. What is it in this compactness criterion  
17 that caused you to minimize the number of county splits in the  
18 creation of these districts?

19 A       Right. Well, as we were discussing the simulation  
20 algorithm quite some time ago, the simulation algorithm pays  
21 great importance to the Adopted Criteria's mandate about  
22 keeping counties whole when possible.

23           And so the way it works is what the algorithm does is  
24 it doesn't go into a new county when building a district. It  
25 does not go into a new county until old counties, existing

1 counties inside of that district, have already been filled up  
2 by that district. So you don't intrude into a new county until  
3 you actually need to. That's how any districting process would  
4 minimize county splits. It builds those districts one by one  
5 and you don't go into new counties until you have to.

6 Q So there is a sentence in this criteria that reads:  
7 "Division of counties shall only be made for reasons of  
8 equalizing population, consideration of incumbency, and  
9 political impact." Is that correct?

10 A Yes, sir.

11 Q Would I be correct in describing Simulation Set One as  
12 following the rule that division of counties shall only be made  
13 for reasons of equalizing population?

14 A That's exactly what I did. I read that sentence and it  
15 lays out three reasons why one can divide counties: Equalizing  
16 population, but also to protect incumbents and political  
17 impact, which I read the Adopted Criteria to mean trying to  
18 create a ten Republican map or its political goal of creating a  
19 ten Republican map.

20 And as I said, in Simulation Set No. 1, I solely  
21 focused on the nonpartisan portions of the Adopted Criteria, so  
22 that -- when I read the sentence, that meant that division of  
23 counties can only be made in order to equalize the population  
24 of districts, not to create a 10-3 map or to protect incumbents  
25 here in Simulation Set No. 1. That's why I followed that rule

1 in Set No. 1, allowing counties to be split only when necessary  
2 to create perfectly equalized districts.

3 Q Understood. In Simulation Set No. 2, how did you vary  
4 that design?

5 A So in Simulation Set No. 2, I mostly followed the same  
6 algorithm, but I wanted to ask a slightly different question.  
7 I wanted to specifically ask whether or not the Adopted  
8 Criteria's mandate of protecting political incumbents -- of  
9 protecting the congressional incumbents might somehow explain  
10 or justify or somehow necessitate the creation of a map with as  
11 extreme of a partisan impact as the SB2 map.

12 Q So what did you do to test that proposition?

13 A What I did was I created a different algorithm, but it was  
14 exactly the same as the first algorithm in so far as it  
15 followed all of the nonpartisan portions of the Adopted  
16 Criteria and maximized compliance with the nonpartisan Adopted  
17 Criteria, but added one more feature. It explicitly intended  
18 to create districts that made sure that the entire districting  
19 plan as a whole protects all 13 incumbents specifically by  
20 avoiding the pairing of any incumbents. So it avoids putting  
21 two or more incumbents into the same district.

22 In other words, this is an algorithm that was exactly  
23 like Set No. 1, which we've been talking about up until now,  
24 except that it is mandating, it is requiring that every one of  
25 the 13 incumbents in North Carolina as of the November 2016

1 election is placed into his or her own district with no pairing  
2 or no double-bunking of incumbents.

3 Q Have you heard -- so you just referenced the  
4 double-bunking of incumbents. Do you understand that to mean  
5 placing more than one incumbent in a given district?

6 A Yes, sir, that's what I understand by that term.

7 Q And so is it correct that in Simulation Set Two all of  
8 your simulations obey the rule that no incumbents are  
9 doubled-bunked?

10 A Yes, sir, that's exactly how I designed Simulation Set No.  
11 2. I mandated that all 13 districts had to contain one and  
12 only one of the 13 incumbents each, and I found that was very  
13 straightforward to do. It was very easy for the computer 1,000  
14 out of 1,000 times to protect all 13 of the November 2016  
15 incumbents in each -- in each of their own respective  
16 districts, meaning that none were double-bunked or none were  
17 paired.

18 Q And were you able to determine whether this additional  
19 constraint imposed on your simulations significantly altered  
20 the partisan distribution of seats you would expect under those  
21 simulations?

22 A I was able to make that determination. I found that it  
23 had no impact at all.

24 Q And I would ask you to look at Figure 4, which appears on  
25 page 16 of your report.

1 A Yes, sir.

2 Q And again you were presenting results based on the  
3 Hofeller formula and the 20 elections specified in the Adopted  
4 Criteria, is that correct?

5 A Yes, sir. Just like the last figure, the left side has  
6 results using the Dr. Hofeller formula. The right side has  
7 results using the 20-elections formula laid out in the Adopted  
8 Criteria.

9 Q And because the Court is familiar with this format from  
10 the earlier figure, I just quickly want to review the results  
11 from these simulated plans. Applying the Hofeller formula,  
12 what do you find is the most likely partisan distribution of  
13 seats for Simulation Set Two?

14 A Over 50 percent of the time the Simulation Set No. 2  
15 creates seven Republican districts -- seven Republicans and six  
16 Democrats among the 13 districts. So seven Republicans is  
17 the most likely outcome.

18 Q And the SB2 Enacted Plan creates how many Republican  
19 districts using that definition?

20 A Using the Dr. Hofeller formula, the SB2 Plan creates ten  
21 Republican districts, and this is an outcome that is never seen  
22 in any of the 1,000 simulated plans here in Set No. 2.

23 Q And how likely is a nine Republican, four Democrat  
24 outcome?

25 A A nine Republican plan occurs only 1 percent of the time,

1 so it is still an extremely unlikely outcome. It occurs a very  
2 small percentage of the time.

3 Q And using the Adopted Criteria elections, what do you find  
4 is the most likely outcome in terms of partisan distribution of  
5 seats?

6 A The most likely outcome here, again, using the Adopted  
7 Criteria formula is six Republican seats, six Republicans and  
8 seven Democrats among the 13 districts.

9 Q And how likely is it to yield ten Republican and three  
10 Democratic seats?

11 A It never yields ten Republicans. Zero out of 1,000 times.

12 Q Did it ever yield nine Republicans?

13 A It never does. Zero out of 1,000 times.

14 Q And how frequently does it yield eight Republican seats?

15 A Only a very small percentage of the time, 2.7 percent. In  
16 other words, 27 out of 1,000 times.

17 Q So from these results, were you able to determine whether  
18 the protection of all 13 House incumbents made the creation of  
19 a 10-3 Republican advantage in the SB2 Enacted Plan a plausible  
20 outcome?

21 A I was able to make that determination. I was able to  
22 conclude with very strong statistical certainty that even if  
23 the map drawer had been motivated by the concern of or by the  
24 factor of trying to protect all 13 incumbents as mandated by  
25 the Adopted Criteria, even such an extreme effort would not

1 have justified or explained or necessitated the creation of an  
2 enacted districting plan with as extreme of a partisan outlier  
3 as what we see in the SB2 Plan.

4 Q And directing your attention to Figure 5 on the next page,  
5 were you also able to determine whether this additional  
6 constraint affected performance as to other features of the  
7 Adopted Criteria, such as compactness?

8 A Yes. As before, I evaluated these 1,000 simulated plans  
9 along the measures of geographic compactness, as well as the  
10 number of county splits. So here in Figure 5 on the left side,  
11 this figure is just like the one we saw a couple of minutes  
12 ago, except now for Simulation Set No. 2 I displayed here the  
13 Reock score and the Popper-Polsby geographic compactness score  
14 of all 1,000 of the simulations, and I've compared that again  
15 with the compactness scores of the SB2 plan. And once again  
16 what we're seeing here is that the SB2 plan is creating a  
17 geographic compactness score that is completely outside of and  
18 significantly far below all 1,000 of the simulated plans.

19 Q So from that are you able to determine whether the  
20 protection of all 13 House incumbents required subordinating  
21 any of the other nonpartisan portions of the Adopted Criteria,  
22 such as compactness?

23 A What I'm seeing here in Figure 5 is that the geographic  
24 compactness of these 1,000 simulations in Set Two is largely  
25 the same, substantially the same as what we saw in set one.

1           What that allows me to conclude is that it's very  
2 clear that even heeding the Adopted Criteria's mandate of  
3 protecting all 13 incumbents would not justify or explain or  
4 necessitate subordinating geographic compactness to the extent  
5 that the SB2 Plan does. In other words, the protection -- the  
6 possible desire to protect incumbents does not explain the SB2  
7 Plan's drawing of noncompact districts.

8 Q       And is that conclusion summarized at the bottom of page 18  
9 of your report?

10 A       Yes, sir, it is.

11 Q       Simulation Set Three, what was the purpose of the third  
12 set of a thousand simulations?

13           JUDGE OSTEEEN: I'll tell you what. Hold on just a  
14 second.

15           MR. THORPE: Absolutely.

16           JUDGE OSTEEEN: How much longer do you think you've  
17 got? Fifteen?

18           MR. THORPE: Ten to 15 minutes.

19           JUDGE OSTEEEN: All right. Let's take about a  
20 15-minute recess.

21           (At 3:30 p.m., break taken.)

22           (At 3:52 p.m., break concluded.)

23           JUDGE OSTEEEN: Before you resume examination, let me  
24 tell everyone that when we get to the end of today's  
25 proceedings, I know we're -- adjusted on the fly in terms of

1 the presentation of evidence, and some witnesses -- there may  
2 be some difficulties getting here.

3           Right now, it's kind of -- having heard the first two  
4 expert witnesses, it's a little bit difficult to forecast how  
5 long an expert witness may be testifying. And so contrary to  
6 what I said earlier today, I think we better take the witnesses  
7 when they come in instead of stacking up for several on  
8 Thursday; and if, as we anticipate, we should be able to get  
9 all the evidence in Wednesday or Thursday if we need to wait on  
10 the expert from Arizona, then I would hope that Thursday  
11 afternoon, at the latest two, we could at least get started  
12 with a couple of hours of closing arguments. Two hours in  
13 total is what we're kind of thinking about right now.

14           You don't need to say anything just yet or agree to  
15 it, but I want you to think about what we're thinking about in  
16 terms of scheduling, and then we'll talk about it a little more  
17 at the end of -- at the close of business today, and we'll  
18 finalize it in the morning maybe or something like that. All  
19 right.

20           JUDGE BRITT: When you're thinking about your final  
21 arguments, you might also keep in mind that we're going to want  
22 you to file posttrial briefs.

23           JUDGE OSTEEEN: All right.

24 BY MR. THORPE:

25 Q       Dr. Chen, before our break, we were just about to discuss

1 Simulation Set Three. How does the third set of a thousand  
2 simulations that you created differ from the first and second  
3 set?

4 A This third set of simulations I wanted to ask a completely  
5 different -- a very different sort of question. What I wanted  
6 to ask here is the following. We've discussed today some of  
7 the aspects of the SB2 Enacted Plan, specifically, that it  
8 split 13 counties rather than the 12 that I found was very  
9 reasonable, and I also found that it protected only 11  
10 incumbents rather than all 13. So what I wanted to ask here in  
11 Simulation Set No. 3 was whether the General Assembly's choice  
12 to draw a less than optimal plan with respect to 13 county  
13 splits rather than 12 and to only protect 11 incumbents might  
14 somehow explain the extreme partisan advantage, the 10-3  
15 partisanship, of the SB2 Enacted Plan.

16 Q Would it be correct to say that for both Simulation Set  
17 One and Simulation Set Two, understanding that there's a  
18 difference with how you treat incumbency, that you were trying  
19 to maximize adherence to the nonpartisan criteria within the  
20 Adopted Criteria?

21 A Yes, sir, that's correct. In Set One and Two, I was  
22 trying to maximize adherence to the nonpartisan portions of the  
23 Adopted Criteria that we talked at length about today.

24 Q Does Set Three attempt to maximize adherence to the  
25 Adopted Criteria?

1 A Not with respect to county splits and not with respect to  
2 incumbents. So what Set Three does instead is it intentionally  
3 splits apart 13 rather than trying to minimize the number of  
4 counties split. It intentionally splits 13 counties rather  
5 than 12, and it intentionally protects only 11 incumbents, no  
6 more and no less. So exactly the same number of incumbents as  
7 protected in the Enacted SB2 Plan.

8 But on all other nonpartisan portions of the Adopted  
9 Criteria, meaning VTD splits, geographic compactness, equal  
10 population, et cetera, I am in Simulation Set Three otherwise,  
11 aside from counting splits and incumbency protection, simply --  
12 as before, I'm otherwise trying to maximize adherence or  
13 strictly adhere to the nonpartisan portions of the Adopted  
14 Criteria.

15 Q And just to be clear, you instructed the computer to  
16 create simulated districting plans that would yield 13 county  
17 splits and 11 protected incumbents?

18 A Yes, sir, exactly, even though that is less than optimal.  
19 Even though 13 county splits is not optimal, I intentionally  
20 did that; and, again, I intentionally did that to ask this very  
21 specific hypothetical question: Could the General Assembly's  
22 choice to split 13 counties and protect only 11 incumbents --  
23 somehow could that unique combination of features justify or  
24 explain the enacted plan's creation of an extreme 10-3  
25 Republican advantage.

1 Q And if I could have you turn to page 21 of your report,  
2 which is Figure 6, what did -- what does Figure 6 show with  
3 respect to the partisan distribution of seats under the third  
4 set of simulations?

5 A Figure 6 is exactly laid out just like the other two  
6 diagrams -- similar diagrams we saw just before the break,  
7 except here I'm describing Simulation Set Three. And this,  
8 again, tells us, among those 1,000 simulations, in Set No. 3  
9 this time, how many created six Republican seats, how many  
10 created -- how many plans created seven Republican seats, how  
11 many plans created eight Republican seats. What it shows us is  
12 that the most likely outcome under this third algorithm is the  
13 creation of seven Republican seats -- seven Republican and six  
14 Democratic seats.

15 Q And you are referring here I believe to the chart on the  
16 left side which uses the Hofeller formula for those elections?

17 A Yes, sir. I was just talking about the left figure here  
18 referring to the results calculated using Dr. Hofeller's  
19 formula. I haven't gotten to the right side yet.

20 Q And using Dr. Hofeller's formula, the likeliest outcome  
21 was the election of seven Republicans based on vote share as  
22 you've been calculating it throughout your report?

23 A Yes, sir. Using Dr. Hofeller's formula for again  
24 measuring the partisanship of districts, most of the time, over  
25 50 percent of the time -- so 53 percent of the time this third

1 set of simulations creates exactly seven Republican and six  
2 Democratic districts, and we see that in the vast majority --  
3 virtually all of the simulations create either five, six, seven  
4 or eight Republican seats.

5 Q And in this set of a thousand simulations, all of which  
6 have 13 county splits and protect 11 incumbents, how frequently  
7 does a 10-3 split in favor of Republican vote share occur?

8 A Never. In zero out of 1,000 times. Never do we actually  
9 have a ten Republican map.

10 Q And, again, using the Hofeller formula, how frequently  
11 does a nine Republican seat advantage occur?

12 A Results are very similar to what we see in the previous  
13 simulation sets. It never occurs. We don't ever have a plan  
14 with nine Republican seats using the Adopted Criteria formula  
15 for measuring partisanship. That's what we see on the right  
16 figure.

17 Q On the right figure, you are referring to the use of the  
18 20 elections?

19 A Yes, sir.

20 Q Okay. And in those 20 elections, you're testifying that  
21 you never see nine and you never see ten districts with a --  
22 with more Republican than Democratic votes using those  
23 elections?

24 A Yes, sir. So let me just go back and answer a little bit  
25 more precisely. When we use -- on the right side when we use

1 the 20 Adopted Criteria elections, we see that never does a  
2 simulated plan create nine or ten Republican seats. Now, on  
3 the left figure, the one using the Dr. Hofeller formula, nine  
4 out of thirteen Republican districts is an outcome that occurs  
5 a little bit under 1 percent of the time. So less than 10 out  
6 of 1,000 times do we ever see a nine Republican seat plan using  
7 the Dr. Hofeller formula. But to go back to the right figure,  
8 using the Adopted Criteria formula, we never see even a nine,  
9 much less a ten, Republican seat plan.

10 Q Understood. Throughout these histograms, you have  
11 displayed where the SB2 Enacted Plan falls along the likely  
12 number of seats, is that correct?

13 A Yes, sir.

14 Q And I just want to be clear about what you're using to  
15 yield that result. We know now in retrospect that there are  
16 ten Republicans that have been elected to the House of  
17 Representatives, correct?

18 A That's correct. But just to answer the question, when I  
19 wrote that red line out there, that red dashed line that says  
20 "SB2 Enacted Plan," that is not based on, say, the number of  
21 Republicans that were elected to North Carolina's congressional  
22 delegation in 2016 or in any other year. That is --

23 Q So just to be clear, it is not based on your evaluation of  
24 how many elections were actually won. It was based on the  
25 application of the same data, whether the Hofeller formula or

1 the Adopted Criteria elections to the same set of data?

2 A Exactly correct, sir. What I wanted to do in these  
3 figures -- in all of these figures, like the one we see here,  
4 is an apples-to-apples comparison on the left using  
5 Dr. Hofeller's formula in evaluating all of my simulated plans,  
6 and then use Dr. Hofeller's formula in evaluating the SB2 Plan.  
7 So that's what makes it an apples-to-apples comparison here,  
8 using the same partisan metric that Dr. Hofeller gave to me.

9 Q Is there any circumstance in which Dr. Hofeller's formula  
10 yielded a Republican -- a number of districts other than ten  
11 where Republican votes exceeded Democratic votes?

12 A You're asking about the SB2 Plan?

13 Q Um-hum.

14 A No, it calculated ten Republican districts under the  
15 Dr. Hofeller formula.

16 Q And using the Adopted Criteria elections, is there any  
17 circumstance in which the elections specified by the Adopted  
18 Criteria yield anything other than ten seats in which the  
19 Republican vote share exceeds the Democratic vote share?

20 A No, sir. I had all the elections -- for the 20 elections  
21 mentioned in the Adopted Criteria, it's very straightforward to  
22 apply those and evaluate the SB2 Plan, and it was very clear  
23 that using the Adopted Criteria formula the SB2 Plan has ten  
24 Republican seats and three Democratic seats.

25 JUDGE OSTEEEN: Let me make sure I understand this.

1 So the red line on the right side of each of the charts is not  
2 the actual SB2 result.

3 THE WITNESS: Your Honor, it represents the number of  
4 districts that using Dr. Hofeller's formula or the Adopted  
5 Criteria formula are Republicans. So it does not actually  
6 reflect the actual congressional delegation elected in 2016 or  
7 in any other year. So it is not reflecting actual  
8 congressional election results. It is reflecting  
9 Dr. Hofeller's formula.

10 MR. THORPE: Would I be correct -- and, hopefully,  
11 Your Honor, this --

12 JUDGE OSTEEEN: Let me think about this just a second  
13 before we -- so are you saying it's taking Dr. Hofeller's  
14 formula and putting it in one of your plans?

15 THE WITNESS: No, Your Honor. What I did is I just  
16 evaluated the 13 districts in the Enacted SB2 Plan, the 2016  
17 SB2 Plan, and I looked at that districting plan and its 13  
18 districts, and I calculated for every one of the 13 districts  
19 how did Dr. Hofeller's formula evaluate the partisanship of  
20 that enacted SB2 district. I did that for all 13 districts,  
21 and I counted that Dr. Hofeller's formula would have classified  
22 10 of those 13 districts as being Republican districts. They  
23 are, incidentally, the same 10 districts that elected  
24 Republican candidates in 2016, but that was just my application  
25 of Dr. Hofeller's formula.

1 BY MR. THORPE:

2 Q And I'll ask sort of a different version of the question  
3 and hope to make that a little bit more clear. The SB2 Enacted  
4 Plan that is reflected on all of these charts is not something  
5 that, in hindsight, you said, well, the Republicans won ten  
6 seats, so I'm going to put them all at ten; is that correct?

7 A That's correct, sir. I didn't just put ten there simply  
8 because we know that there are ten Republicans elected. That  
9 was -- that was not what I did here.

10 Q Instead, you used the actual districts as constructed  
11 under the 2016 Plan and applied the same data that you used to  
12 evaluate your simulated districts to determine the Republican  
13 vote share for both the simulated districts and the enacted  
14 plan?

15 A Correct, sir. That's what we need for an apples-to-apples  
16 comparison here. So, again, I just took the enacted plan, the  
17 actual districts of that enacted plan, and I overlaid --  
18 because this was easily publicly available data. I overlaid  
19 the results from all of those 20 Adopted Criteria elections  
20 that we discussed some time ago. I overlaid them and  
21 calculated how did the Adopted Criteria political data evaluate  
22 the partisanship of the districts of the enacted plan, those  
23 actual 13 districts of the enacted plan. And I went through  
24 those 13 actual districts of the Enacted SB2 Plan one by one  
25 and said how does the Adopted Criteria evaluate the

1 partisanship of this district given that the Adopted Criteria  
2 already gives us a very specific set of elections to be used in  
3 evaluating the partisanship of the districts.

4 Q And it was your testimony a few moments ago that the  
5 districts in which you found Republican vote share exceeded  
6 Democratic vote share were, in fact, the same districts in  
7 which Republican candidates prevailed in 2016?

8 A Yes, sir, that's correct.

9 Q I want to turn your attention to Table 1, which appears on  
10 page 12 of your report. And we don't need to go through this  
11 in detail because we've largely discussed the information  
12 included in it, but is it accurate to say that Table 1  
13 summarizes the simulation set approaches that we have discussed  
14 and the results that you -- these simulations yielded?

15 A Yes, sir. So it's, again, a comparison of Simulation Sets  
16 One, Two, and Three, which we've now discussed, and a  
17 comparison of those three simulation sets to the Enacted SB2  
18 Plan, and I'm comparing all of these simulations to the Enacted  
19 SB2 Plan on a number of nonpartisan criteria listed in the  
20 Adopted Criteria.

21 Q And how does Table 1 display the partisan distribution of  
22 seats under both the enacted plan and the various simulation  
23 sets?

24 A So let's go to the very bottom of Table 1, that bottom  
25 row, that bottom row there where I've labeled it "number of

1 Republican districts under the Hofeller formula." And just to  
2 go back again to what we were talking about a minute ago, I, of  
3 course, calculated the SB2 Plan using Dr. Hofeller's formula;  
4 and I found that in the SB2 Plan there are ten districts out of  
5 13 that Dr. Hofeller's formula counts as Republican districts.  
6 And I did the same formula -- applied that same formula to all  
7 three sets of simulations, to all 1,000 plans, maps, in these  
8 three sets of simulations, and I counted up in, say, Simulation  
9 Set No. 1, how many plans have exactly five Republican  
10 districts, how many plans have exactly six Republican  
11 districts.

12           This is all information that we already reviewed  
13 earlier in those histograms and those figures we went through a  
14 while ago, but it's laid out here in numerical form again here  
15 in this bottom row. So it's telling us that for Simulation Set  
16 No. 1 the range of Republican districts calculated using the  
17 Hofeller formula is always between 5 out of 13 up to 9 out of  
18 13 Republican districts using the Dr. Hofeller formula; and, of  
19 course, that is compared to the ten Republican districts using  
20 Dr. Hofeller's formula as calculated in the SB2 plan.

21           Simulation Set Two, that next column over, is another  
22 comparison. It tells us that all of those simulated plans in  
23 Simulation Set No. 2 are creating between nine to five -- or  
24 five to nine Republican districts; and as we said earlier, most  
25 of them are about seven Republican districts. So over half of

1 them are creating exactly seven Republican districts under the  
2 Dr. Hofeller formula.

3           Go to the next column, Simulation Set No. 3. It  
4 tells us another distribution like that. Here we see that in  
5 this bottom row in the very right column of this Table 1 --  
6 what this Table 1 tells us there is that in Simulation Set  
7 No. 3 the entire range of the partisan seats in these 1,000  
8 simulated plans, these 1,000 districting plans in Simulation  
9 Set Three, ranged from four to nine Republican seats; and,  
10 again, most plans had six or seven Republican seats, but the  
11 entire range went out as low as four and as high as nine, never  
12 to ten.

13 Q       What then does Table 1 tell us or summarize about whether,  
14 in your 3,000 simulations, there will be conditions that could  
15 emerge that would explain a 10-3 Republican plan?

16 A       Well, we evaluated -- or I evaluated a number of different  
17 possible explanations or possible alternative explanations for  
18 what might possibly justify; and as I said before, in  
19 Simulation Set No. 3 I was asking, well, is it possible that  
20 the General Assembly's choice to create exactly 13 county  
21 splits rather than minimize that number and the General  
22 Assembly's choice to protect exactly 11 incumbents, if that  
23 unique combination of features could somehow justify or explain  
24 or necessitate the creation of a 10-3 Republican map. What  
25 these simulation results, as described here in this table,

1 allow us to see pretty clearly is that such unique combinations  
2 of features of the Enacted SB2 Plan do not somehow necessitate  
3 or justify or explain why it was necessary to create an Enacted  
4 SB2 Plan with a 10-3 Republican advantage.

5           In other words, what it's showing here is that even  
6 if you had wanted -- for whatever reason, even if you had  
7 really wanted to create a plan with 13 county splits and just  
8 protect 11 incumbents but otherwise follow strictly the  
9 nonpartisan portions of the Adopted Criteria, even then with  
10 that unique combination you still would have ended up with a  
11 plan that generally creates six or seven Republican districts  
12 under Dr. Hofeller's formula, occasionally five and  
13 occasionally up to eight, but certainly never ten.

14 Q       And so I want to be very clear about what this explains.  
15 You've referred to certain unique features of the Adopted  
16 Criteria and of the enacted plan. To be clear, does your  
17 approach account for the political geography of North Carolina  
18 voters and where they reside?

19 A       Accounting for political geography of North Carolina  
20 voters was very much at the heart of the motivations for  
21 conducting all these sets of simulations. The whole point here  
22 is that what the computer is doing is it is taking North  
23 Carolina's voter geography, as laid out across all of North  
24 Carolina's counties and VTDs and census blocks, and starting  
25 with those census geographies, given their unique distribution

1 of partisan voters, their unique distribution of Democrat and  
2 Republican voters, and saying given those sets of geographies  
3 with that particular unique geography of North Carolina, what  
4 happens when we build districting plans in North Carolina that  
5 strictly comply with the nonpartisan portions of the Adopted  
6 Criteria. And so accounting for North Carolina's voter  
7 geography is at the very heart of what this analysis is doing.

8 Q And so are you able to conclude from this analysis that  
9 the Enacted SB2 Plan creates a partisan distribution of seats  
10 that falls entirely outside the range of outcomes possible in  
11 the absence of the partisan criteria in the Adopted Criteria?

12 A Yes, sir, that's exactly right. What I'm finding here is  
13 that regardless of which of these two measures of partisanship  
14 that one uses, whether we use Dr. Hofeller's way of measuring  
15 the partisanship of districts or the Adopted Criteria of  
16 elections for measuring the partisan distribution of seats,  
17 one, we see that the SB2 Plan has created ten Republican  
18 districts using either one of these measures.

19 Second, we see that the SB2 Plan's creation of ten  
20 Republican seats is an extreme statistical outlier in terms of  
21 its partisanship, whether measured by Dr. Hofeller's formula or  
22 by the Adopted Criteria of elections. It's creating an extreme  
23 statistical outlier in terms of its partisanship, and that  
24 statistical outlier is entirely outside of the entire range of  
25 the sorts of plans that would have emerged under a districting

1 process that strictly adhered to the nonpartisan portions of  
2 the Adopted Criteria.

3 Q I will be mindful of the Court's decision to grant the  
4 motion in limine and respect that aspects of what I'm about to  
5 discuss are principally going to be introduced by the League of  
6 Women Voters Plaintiffs, but on page 23 you begin a section  
7 that leads to the end of your report that is entitled  
8 "Robustness Checks Using Alternative Measures of Partisanship."  
9 Is that correct?

10 A Yes, sir, that's correct.

11 Q And speaking generally, what was the purpose of this  
12 section of the report?

13 A Generally, I wanted to conduct some robustness checks that  
14 would test and confirm the results in the main part of my  
15 report, which is everything that we've discussed up until now,  
16 the first main part of my report.

17 So this second section, this latter section of my  
18 report, presents a number of robustness checks that use  
19 alternative measures of partisanship of districts, meaning  
20 alternative measures in addition to and separate from,  
21 completely different from, the measures that we've been talking  
22 about with Dr. Hofeller's formula and the Adopted Criteria  
23 formula.

24 The reason I wanted to present these alternative  
25 robustness check measures of partisanship is that these are

1 measures that are commonly used by scholars of redistricting,  
2 scholars who study -- study legislative districting and  
3 congressional district elections, and so I wanted to make my  
4 findings accessible and relatable to scholars that use some of  
5 these various methods that come up in the scholarly literature.  
6 So that's why I presented the robustness checks.

7           But they're not -- they're not robustness checks that  
8 are meant to serve as the foundation of what I do in the main  
9 part of the report. They're just there to make the findings  
10 more accessible and relatable to scholars that use these  
11 alternative robustness checks in the literature.

12 Q       And that's really the question I want to ask. Is there  
13 anything in the section that begins on page 23 that is  
14 necessary to explain the findings that are included in the  
15 earlier sections of the report?

16 A       No, sir. The earlier findings in the earlier section that  
17 we've discussed up until now, that earlier section speaks for  
18 itself. What I'm doing here is making those findings more  
19 relatable and to relate them to scholars that have used  
20 alternative measures of partisanship using these various  
21 robustness checks.

22           MR. THORPE: With the understanding that that will be  
23 a portion of direct testimony from the League of Women Voters  
24 Plaintiffs tomorrow, those are all the questions I have. Thank  
25 you, Doctor.

1 THE WITNESS: Thank you, sir.

2 THE COURT: Any cross at this time?

3 MS. RIGGS: Good afternoon, Your Honors. I just want  
4 to confirm that, following the granting of the motion to  
5 bifurcate, we'll be reserving our questions for Dr. Chen for  
6 tomorrow and we'll go into details --

7 JUDGE OSTEEEN: In terms of the other --

8 MS. RIGGS: The rest of the material in his expert  
9 analysis will be, I think, more -- will be better presented to  
10 the Court after Dr. Jackman --

11 JUDGE OSTEEEN: Let me phrase it this way. Have you  
12 got any questions about anything he's testified to so far?

13 MS. RIGGS: Not specifically. I think that it will  
14 be better framed in the context of the way I've -- the rest of  
15 the report. So the rest of the report uses the same  
16 simulations that he used before. So it will come up again a  
17 little bit, but I anticipate our -- when we recall him, it will  
18 be much more brief.

19 JUDGE OSTEEEN: All right. A lot more brief, very  
20 narrow.

21 Cross-examination?

22 MR. STRACH: Yes, Your Honor.

23 CROSS-EXAMINATION

24 BY MR. STRACH:

25 Q Good afternoon, Dr. Chen.

1 A Good afternoon, sir.

2 Q You and I have never met. I'm Phil Strach. You had a  
3 deposition taken with a colleague of mine, so it's good to  
4 finally meet you.

5 I just want to ask a general question before I get  
6 into too many detailed questions. My understanding is with  
7 regard to these simulation sets that you ran that you did so --  
8 your purpose of doing that was trying to assess the  
9 redistricting plans strictly on the basis of nonpartisan  
10 criteria, is that correct?

11 A Well, in Set No. 1, that was the case. As I had discussed  
12 some time ago, Set No. 2 and 3 were a little bit different and  
13 did bring in some various partisan-related considerations. But  
14 you're right in describing Set No. 1 that way, sir.

15 Q All right. And then even in the other two sets, the only  
16 partisan considerations you brought to bear were nonpairing of  
17 incumbents, correct?

18 A Specifically, the number of incumbents that were placed  
19 into districts of their own, but I think you're getting at the  
20 right idea there.

21 Q Right. And even with respect to incumbents, you did not  
22 consider whether the incumbent could win their district, just  
23 whether they had a separate district to run in, correct?

24 A I strictly followed the Adopted Criteria when it told me  
25 that incumbents are to be avoided -- are to be not

1 double-bunked, are not to be paired. So that's how I  
2 interpreted -- or that's how I read that portion of the Adopted  
3 Criteria.

4 Q Right.

5 A You're asking if I considered, say, the partisan makeup of  
6 the resulting districts, and the answer is no. I followed the  
7 Adopted Criteria and what it told me about the protection of  
8 incumbents.

9 Q Right. And so other than the pairing of the incumbents --  
10 the only point I'm trying to make is other than the actual  
11 pairing of incumbents, you were assessing or trying to assess  
12 these districts on the basis of nonpartisan criteria, correct?

13 A That's correct, sir. Aside from the incumbent issue that  
14 we were just talking about, I otherwise was just following the  
15 nonpartisan portions.

16 Q All right. So your analysis assumes that there would be a  
17 rule in place that politics could not be considered in the  
18 construction of districts. That's what your analysis helps the  
19 Court to look at, correct?

20 A Well, I don't know if I make that assumption. What I do  
21 is I ignore the partisan portions of the Adopted Criteria when  
22 the Adopted Criteria tell us you have to create ten Republican  
23 districts.

24 Q All right.

25 A So I'm dropping that part.

1 Q Okay. And so to the extent that the consideration of  
2 politics is an appropriate consideration in redistricting, your  
3 report does not assess or try to study how much politics would  
4 be too much?

5 A Sure, I don't -- I mean, I think -- I don't take any  
6 position on the extent to which politics is or is not an  
7 appropriate consideration. What I'm conducting is an empirical  
8 study here, and it's just limited to answering what are the  
9 sorts of plans that would have emerged if you had solely  
10 followed the nonpartisan portions of the Adopted Criteria or if  
11 you had followed the nonpartisan portions, plus the incumbency  
12 portion, the incumbency criteria.

13 Q Okay. And then looking back briefly at your Table 1,  
14 which is page 12 of your report?

15 A Yes, sir.

16 Q When you're looking at the bottom row, which is the number  
17 of Republican districts under the Hofeller formula?

18 A Yes, sir.

19 Q And it's -- I think you've testified and I think it's fair  
20 to say that generally the outcome that pops up the most in  
21 these is Republicans electing six or seven members out of 13,  
22 correct?

23 A Yeah, that's correct. Mostly six and seven and sometimes  
24 eight. Those are certainly the most common outcomes that we  
25 see here in the bottom row of Table 1.

1 Q And is it true that Republicans electing six or seven  
2 would be closer to their share of the number of members if we  
3 were electing members of Congress based on proportional  
4 representation?

5 A I don't know that I've ever done that calculation, so I  
6 can't give you the precise number or whether or not your math  
7 is accurate on that.

8 Q If the Republican share of the vote for Congress in 2016  
9 was about 53 percent, out of 13 districts wouldn't it stand to  
10 reason that they would elect at least seven if you were going  
11 on proportional representation?

12 A Well, see, sir, your question there represents an  
13 apples-to-oranges comparison because what I just presented here  
14 in the bottom row of Table 1 is a calculation using  
15 Dr. Hofeller's formula. So you just -- I think you just used  
16 actual congressional election results in giving me a basis for  
17 forming a proportional question. So I'm not sure that that's a  
18 valid way of evaluating a proportional representation  
19 calculation.

20 Q Okay. But when you study the use of -- when you study the  
21 outcomes based on the so-called nonpartisan criteria, you just  
22 happen to typically end up with an analysis that would result  
23 in numbers that are close to six or seven Republicans?

24 A That's correct, sir. I mean, I certainly don't pay any  
25 attention before that final calculation of the partisan results

1 to what sort of representation this would mean for the  
2 Republicans or the Democrats, and I certainly am not designing  
3 the algorithm to be at all interested in whether or not  
4 representation is proportional. That would be completely  
5 outside of what I set out to do here.

6 Q All right. And just in general, Dr. Chen, have you  
7 ever -- we asked Dr. Mattingly about this. Have you ever used  
8 Maptitude redistricting software?

9 A I've briefly used it. It's not part of my normal research  
10 practice or my normal research process. But, obviously, I'm --  
11 you know, as anybody who works in redistricting, I'm, of  
12 course, familiar with it and have used it just briefly, but  
13 it's not what I primarily use.

14 Q All right. And you've never -- you've never been engaged  
15 to draw an actual redistricting plan in real life, correct, in  
16 terms of for a legislature or for a client?

17 A Well, I would -- I think -- I mean, I just want to answer  
18 your question as accurately as I can here. I have in this  
19 expert report produced lots of districting plans, so certainly  
20 I've produced plans.

21 Q You've never been engaged to draw a plan that would  
22 actually have to win enough votes to pass an elected body, have  
23 you?

24 A No, I don't think so, no. No. I mean, I think what  
25 you're asking is if I've ever drawn one for a legislative body,

1 right? And the answer is no.

2 Q Okay. And, in fact, your analysis really doesn't consider  
3 at all whether any of the maps that your computer draws could  
4 actually ever be adopted by a political body, does it?

5 A My expertise doesn't extend to evaluate that. My  
6 expertise here is in simply taking the Adopted Criteria and  
7 saying here are plans that strictly comply with the nonpartisan  
8 portions of the Adopted Criteria. Whether or not the North  
9 Carolina State Legislature would ever willingly adopt any one  
10 of those plans that comply with the nonpartisan portions of the  
11 Adopted Criteria, that's totally beyond me.

12 Q All right. Let me take a look at -- may it please the  
13 Court?

14 JUDGE OSTEEEN: Are these all the same?

15 MR. STRACH: Yeah, they should be.

16 JUDGE OSTEEEN: Just one copy of Chen Simulation Set  
17 One Plan One? That's what we're looking at?

18 MR. STRACH: Yes, Your Honor.

19 JUDGE OSTEEEN: Okay.

20 BY MR. STRACH:

21 Q Dr. Chen, I will represent to you that using your data  
22 we've generated Plan One out of your Simulation Set One. This  
23 is -- we picked this one just because it was the first one in  
24 the first set, and this is the map that was generated, much  
25 like the map that you've generated that you talked about

1 earlier. Do you have any reason to doubt whether or not this  
2 is an accurate representation of the very first plan that your  
3 set developed?

4 A No. I accept that, sir.

5 Q All right. For instance, just talking about real-world  
6 consequences of a map like this, do you see where District 9 is  
7 on this map?

8 A Yes, sir.

9 Q And do you see who the incumbent is in District 9?

10 A It appears to be Butterfield, sir.

11 Q All right. Do you know Congressman Butterfield? Do you  
12 know of him?

13 A No, sir, I don't.

14 Q Do you have any idea whether Congressman Butterfield would  
15 be able to win the district that is drawn for him, District 9,  
16 in this map?

17 A I definitely would not have analyzed that question because  
18 the Adopted Criteria did not instruct me to analyze that  
19 question, sir.

20 Q All right. If you look up at District 10, do you see  
21 District 10?

22 A Yes, sir, I do.

23 Q And it appears to me that district stretches from Ashe  
24 County in the west all the way over to Hertford in the east.  
25 Does that look accurate to you?

1 A Yes, sir, that sounds right.

2 Q Do you have any idea whether any legislature, Democratic  
3 or Republican, would ever pass a map that had that district?

4 A I'm sorry. If I could ask you to repeat.

5 Q Well, let me ask it to you this way. Do you have any  
6 knowledge of North Carolina communities of interest in Ashe  
7 County versus North Carolina communities of interest in  
8 Hertford County?

9 A Well, sir, my only understanding of communities of  
10 interest is the way that the Adopted Criteria defines them, and  
11 it defines them in terms of VTDs and counties, and so that's my  
12 only understanding of communities of interest in North  
13 Carolina.

14 Q All right. And you have no idea whether any legislature  
15 in North Carolina would ever actually adopt a map containing a  
16 district that went from Ashe County to Hertford County, do you?

17 A That's definitely not something I would have analyzed  
18 because the Adopted Criteria didn't tell me to analyze that  
19 question.

20 Q All right. And why don't we have this map -- this is  
21 something we'll talk a little bit more about later while we're  
22 looking at this map. Do you see Onslow County on this  
23 particular map?

24 A If you could orient me and maybe point me to it.

25 Q Onslow County, if you look at southeastern North Carolina,

1 borders the ocean.

2 A Okay. I got you. I see it there.

3 Q Okay. And if you will note that District 11 juts into  
4 Onslow County two different times, is that correct?

5 A I can see that, yes, sir.

6 Q Do you have any understanding in North Carolina  
7 redistricting of what is called a "traversal"?

8 A Are you referring to "double traversal," I think, sir?

9 Q This is a double traversal, isn't it?

10 A Yes, sir. I understand what you mean by that term.

11 Q Okay. All right. We'll talk about that a little bit  
12 later. Now, also let me just make sure I understand. You  
13 studied the 2016 Congressional Plan. You did not study whether  
14 the 2011 Congressional Plan was politically gerrymandered or  
15 otherwise, did you?

16 A I did not study the 2011 Plan for this expert report, no,  
17 sir.

18 Q All right. And did you conduct the analysis in this  
19 report after the 2016 Plan had been passed?

20 A Yes, sir. I think it was entirely after it had already  
21 passed.

22 Q All right. Did you sit in on any of the legislative  
23 proceedings that caused the enactment of that map?

24 A No, sir, I didn't.

25 Q And afterwards -- well, did you look at the 2016 enacted

1 map?

2 A Oh, sure. I looked at it in my analysis.

3 Q All right. And did you actually take a physical copy out  
4 and look at the way the districts were shaped and what they  
5 looked like on a physical map?

6 A Well, I certainly looked at it on the computer screen. I  
7 think -- we don't real commonly print out everything that we --  
8 or even many of the maps we look at now, but I certainly looked  
9 at it in a hard copy form on my computer screen.

10 Q All right. Did you obtain a copy of the transcripts of  
11 the legislative proceedings that produced the 2016 map?

12 A No, I didn't.

13 Q So I take it you didn't study or otherwise review the  
14 legislative debates that produced that map?

15 A No. Doing so definitely would not have been part of what  
16 I needed to accomplish for my research process here.

17 Q All right. In looking at the 2016 map itself, did you try  
18 to identify which counties the General Assembly chose to  
19 split -- as opposed to the fact that they split 13, did you try  
20 and identify which ones were split?

21 A Well, the Adopted Criteria don't tell me to favor or  
22 disfavor any individual particular counties in deciding which  
23 ones to split. It only tells me to minimize, to not split them  
24 unless necessary. So I definitely would not have paid  
25 attention to whether we were favoring this or that county when

1 splitting up counties.

2 Q Did you happen to recognize whether all the -- whether  
3 most or all the split counties in the 2016 map were actually  
4 large counties that were split?

5 A I followed the Adopted Criteria strictly, which means that  
6 I simply counted the number of counties that were split.  
7 That's all the Adopted Criteria told me to pay attention to.

8 Q All right. And you don't know if in the legislative  
9 history on this there's any indication that the legislature  
10 wanted to split larger counties as opposed to smaller counties?

11 A That definitely would not have been relevant to my task in  
12 this report, so I did not do so.

13 Q And if a legislature decided to split big counties rather  
14 than small counties, would you agree with me that would be a  
15 political consideration they would be making?

16 A If the legislature had put in a criterion favoring the  
17 splitting of big counties rather than small counties, would  
18 that have been a political consideration? I just want to make  
19 sure I understand the question.

20 Q Would a decision, any decision, to split big counties  
21 rather than small counties be a political consideration in your  
22 estimation?

23 A It's not quite the same thing as saying create ten  
24 Republican districts. However, that is the sort of favoring or  
25 decision that may very well have some important political

1 impacts on maps that emerge, but when -- I emphasize it's not a  
2 question I specifically studied because the Adopted Criteria  
3 did not tell me to pay any attention to the population of the  
4 counties that were split.

5 Q The Adopted Criteria did say, though, that political  
6 considerations would be taken into account in splitting  
7 counties, correct?

8 A Well, just to be clear, what I did in my report was to  
9 ignore the partisanship criteria. Now, the partisanship  
10 criterion, as laid out very clearly in the Adopted Criteria, is  
11 create ten Republican districts.

12 So I think what you're referring to is the paragraph  
13 on compactness that talks specifically about the reasons that  
14 counties may be split up. And so I interpret that sentence to  
15 mean that gives three reasons why counties may be split up  
16 because it's telling us that counties may be split up to  
17 equalize population, obviously, and protect incumbents; but the  
18 third one means that if you are trying to achieve a 10-3  
19 Republican advantage, then you can split up counties. That's  
20 how I read that sentence, which is what I think you're  
21 referring to.

22 Q And the actual words are: Division of counties to be made  
23 for reasons of equalizing population, consideration of  
24 incumbency, and, quote, political impact, correct?

25 A Yes, sir. That's exactly what I was referring to and what

1 I was just trying to explain a minute ago was that my  
2 understanding of what the Adopted Criteria means by "political  
3 impact" is its explicit pursuit of a ten Republican map.

4 Q That's your assumption of what those two words mean,  
5 correct?

6 A No, I just read the words on the Adopted Criteria. The  
7 Adopted Criteria are telling us build a ten Republican map, and  
8 that is what clearly is meant by political impact.

9 Q All right. And so if legislators decided that they wanted  
10 to make a political decision to split big counties and not  
11 little counties, you're telling me the words "political impact"  
12 could not include that concept?

13 A No, I understand what that sentence to mean is that that  
14 is a clause that allows the legislature, if it's strictly  
15 following the partisan portions of the Adopted Criteria, to  
16 split counties in order to create a 10-3 Republican map. Doing  
17 so might possibly be consistent with the kind of attention paid  
18 to large counties versus small counties that you just alluded  
19 to, but that's not something that I would have analyzed for my  
20 report because because that was irrelevant for my task in my  
21 report.

22 Q Would there be any -- would there be anything wrong, in  
23 your estimation, if a legislature did decide to split only  
24 bigger counties rather than smaller counties to ensure the  
25 smaller counties' representation wasn't adversely impacted?

1 A By "wrong," you mean that I personally wouldn't have liked  
2 it?

3 Q Right.

4 A I don't take a view on that. My role in here was purely  
5 to conduct empirical analysis and I take no position on what  
6 the North Carolina legislature should or should not do.

7 Q All right. Now, remind if I get any of this wrong. In at  
8 least one of your simulations, you attempted to generate plans  
9 that minimized the number of counties split, is that right?

10 A That is correct. In Simulation Set No. 1, I was  
11 attempting to keep counties whole when possible; and also in  
12 Simulation Set No. 2, I was doing so again in the same way.

13 Q All right. So in two of your simulation sets, is it fair  
14 to say you were trying to maximize the number of whole  
15 counties?

16 A I was trying to keep counties whole and only split them  
17 when necessary to achieve population equality, which is, again,  
18 taken straight from that sentence that you and I were just  
19 talking about about two minutes ago.

20 Q All right. But you would agree with me that the actual  
21 Adopted Criteria nowhere says that the legislature would try to  
22 maximize the number of whole counties?

23 A Oh, I think it's very clear from the sentence that you and  
24 I were just talking about a minute ago that if you read that  
25 sentence of when counties can be split the Senate lays out

1 three reasons.

2           In the first simulation set, I ignored the political  
3 reasons. Now, if you take out the political reasons, what's  
4 left in that sentence, it says that counties can only be split  
5 to equalize population. Now, applying that to Simulation Set  
6 No. 1 or 2, in general the only times that you need to split a  
7 county in order to achieve equal population are as we  
8 illustrated or as I illustrated quite some time ago with  
9 Mr. Thorpe, at the beginning and the end of the building of any  
10 district. Every additional district that you add you just need  
11 to split one additional county in order to achieve equal  
12 population.

13           So that was a pretty clear part of the Adopted  
14 Criteria for me. I only split counties when necessary to  
15 achieve equal population. It's a pretty straightforward  
16 redistricting matter that if you have a certain number of  
17 districts, say 13 districts, you only need, at most, to split  
18 12 counties if your goal is to only split counties when  
19 necessary for equal population. So 13 counties means 12 split  
20 counties -- 13 districts, sorry, means 12 split counties are  
21 needed to achieve equal population, and so that's what I did in  
22 Simulation Sets One and Two.

23 Q All right. So you ran your simulations based on your  
24 reading of this criteria which lopped off the last two phrases  
25 of the sentence, correct? You took out the part about

1 incumbency and political impact, and you read it to say we can  
2 only split a county to equalize population.

3 A Absolutely. In Simulation Set No. 1, again, as I  
4 described earlier, I was trying to only pay attention to the  
5 nonpartisan portions of the Adopted Criteria. The last half of  
6 that sentence is an explicitly partisan portion of the Adopted  
7 Criteria, so I ignored that. I ignored the partisan mandates  
8 of the Adopted Criteria and just said, Let's try to comply as  
9 much as possible with the nonpartisan portions of the Adopted  
10 Criteria. That's what the simulations do.

11 Q Let me ask you this because there's another part of this  
12 criteria on compactness that I don't think we've talked much  
13 about. The first sentence says: "...the committee will make  
14 reasonable efforts to construct districts in the 2016  
15 Contingent Congressional Plan to improve the compactness of the  
16 current districts and keep more counties and VTDs whole as  
17 compared to the current enacted plan."

18 Do you recall that part of the criteria?

19 A Yes, sir.

20 Q And did the 2016 Plan in fact split fewer counties than  
21 the 2011 Congressional Plan?

22 A It's not something that I personally analyzed because it  
23 wasn't necessary for the production of my report, but I  
24 certainly accept your presentation on that one.

25 Q So you didn't analyze that part of this criteria and how

1 it might affect your analysis?

2 A No. I mean, analyzing the 2011 Plan was not part of my  
3 research task here.

4 Q Even though -- even though the criterion said that what  
5 we're going to aim to do is split less counties than what we  
6 did in 2011?

7 A Yeah. Doing so was not part of my research process  
8 because the Adopted Criteria are pretty clear on what I'm  
9 supposed to do about county splits. You only split counties  
10 when necessary to achieve equal population. It's pretty clear.

11 Q So if the 2016 Plan in fact reduced the number of split  
12 counties compared to 2011, that would comply with this  
13 criterion even if it didn't minimize the number of split  
14 counties, isn't that right?

15 A That's possible, but it just wasn't relevant for me  
16 because, once again, what I paid attention to was the portion  
17 that told us when counties can be split. Again, I followed  
18 that and said counties can only be split to equalize  
19 population.

20 Q All right. And so I take it as a given then that you did  
21 not study or look at the number of county splits in  
22 congressional plans prior to 2011, like 1998, 2001, et cetera?  
23 You didn't look at any of those, did you?

24 A That's correct, sir. That would have been not relevant to  
25 my study.

1 Q So as you've noted, the enacted plan splits 13 counties,  
2 correct?

3 A Yes, sir.

4 Q Did you study or analyze whether the General Assembly  
5 could have created more Republican-leaning districts if it had  
6 split, say, 30 counties instead of just 13?

7 A Oh, I definitely didn't study that because it was not my  
8 task in evaluating the enacted plan's compliance with the  
9 Adopted Criteria. It obviously was not part of my task to go  
10 out and set out and try and draw extreme Republican  
11 gerrymanders like what you're -- I think what you're alluding  
12 to. So definitely not.

13 Q So I take it, too, when you were looking at the partisan  
14 makeup of the districts that resulted using either the Hofeller  
15 formula or the other formula, you didn't make any assessment of  
16 how strong a Republican or Democratic district that particular  
17 district was, did you?

18 A No. My task was very narrow here. What I did was I took  
19 Dr. Hofeller's formula at face value and, of course, I took the  
20 Adopted Criteria elections formula at face value because I  
21 wanted in part to measure how partisanship was understood by  
22 the map drawer, by Dr. Hofeller and by the Joint Select  
23 Committee. So that's why I followed their formula in assessing  
24 partisanship.

25 Q So you agree with me, don't you, just as a general

1 redistricting matter, that you can have either ten really weak  
2 Republican districts even though they lean Republican or you  
3 can have ten very strong Republican districts, correct?

4 A I mean, you're describing different plans. For one plan  
5 you're saying ten weak Republican districts and another plan  
6 ten strong Republican districts. I mean, I guess I accept that  
7 that's abstractly possible. I'm not answering with respect to  
8 whether that's possible in North Carolina specifically or  
9 steering to that in '16 -- with the 2016 Plan because I  
10 definitely would not have assessed that kind of judgment  
11 because that was definitely not part of my research task here.

12 Q All right. So you didn't -- you made no assessment of the  
13 strength of any one of those ten, quote, unquote, Republican  
14 districts?

15 A Again, the Adopted Criteria did not tell me to do so, so I  
16 did not do so.

17 Q Okay. And, in fact, you've not done any study of any  
18 individual district and whether, given the current incumbent in  
19 that district, that incumbent would win or loss the next  
20 election. You've made no attempt to do anything like that,  
21 correct?

22 A With the incumbents, the Adopted Criteria only told me to  
23 analyze whether or not they are paired, whether or not they are  
24 double-bunked, so that's all I did with incumbents. I did not  
25 do that because the Adopted Criteria don't tell me to do that.

1 Q All right. So you've done no individualized  
2 district-by-district assessment with the likelihood that  
3 Republicans going forward can hold any of those districts?

4 A Again, no, because that Adopted Criteria definitely did  
5 not tell me to consider that.

6 Q And you certainly didn't look at the political dynamics in  
7 those districts as to how much money was spent, strength of  
8 incumbents to make any assessment of the likelihood of these  
9 districts remaining Republican. You didn't do any of that,  
10 correct?

11 A Correct. Once again, the Adopted Criteria did not tell me  
12 to factor things like campaign financing dynamics.

13 Q Do you know if the 2016 Enacted Plan divided fewer  
14 precincts or VTDs than the 2011 Plan?

15 A I didn't evaluate the 2011 Plan along that dimension, so I  
16 can't tell you for sure.

17 Q All right. And even though in the compactness criterion  
18 it states that one of the goals was to keep more VTDs whole as  
19 compared to the current plan?

20 A I can see that portion that I think you're quoting from  
21 under the compactness paragraph, sir, yes, sir.

22 Q You didn't include that part in your study?

23 A Oh, I absolutely did. What I did was that I split VTDs  
24 only when necessary to achieve equal population and that is --  
25 you know, that's something that comes up even more

1 fundamentally earlier on in the Adopted Criteria. The Adopted  
2 Criteria were very clear, told me VTDs can only be split --  
3 quote, should be split only when necessary to comply with the  
4 zero deviation population requirement set forth above. So  
5 that's what I followed.

6 In doing so, obviously you're going to -- you're  
7 going to split fewer VTDs than the previous plan, or I'm  
8 assuming so, even though, as I said, I definitely didn't  
9 evaluate the VTD splits in the previous plan because the  
10 Adopted Criteria are so clear about when you are actually  
11 allowed to split VTDs.

12 Q Okay. Am I correct in saying that your study uses  
13 mathematical compactness tests to score the districts on a  
14 compactness basis?

15 A Yes, sir. Specifically, Reock and Popper-Polsby I think  
16 is what you're referring to.

17 Q All right. Do you know if those measures were used by the  
18 General Assembly in actual enacting the plan?

19 A I asked Plaintiffs' counsel about that, and Plaintiffs'  
20 counsel represented to me that Popper-Polsby and Reock were  
21 used by the map drawer.

22 Q You know that based on the representation of counsel?

23 A Plaintiffs' counsel represented that information to me,  
24 yes, sir.

25 Q You don't have any other independent basis for believing

1 that?

2 A No. I asked Plaintiffs' counsel.

3 Q All right. Did you take any look at whether or not the  
4 General Assembly, if they had looked at mathematical  
5 compactness, whether they could have drawn more Republican  
6 districts that were less compact? Did you attempt to analyze  
7 that at all?

8 A I just want to ask you to repeat or clarify the question.  
9 I think I heard two different things going on.

10 Q All right. If the General Assembly had used mathematical  
11 compactness scores, the same ones that you've described --

12 A Okay.

13 Q -- did you do any study to see whether or not if the  
14 General Assembly had drawn -- intentionally drawn less compact  
15 districts that they could have drawn more Republican districts?  
16 Did you see whether that was possible?

17 A You're saying more than ten?

18 Q Yes.

19 A I didn't set out in my simulation analysis to  
20 intentionally try and draw an even more extreme Republican  
21 gerrymander. So in that sense, no, I did not directly analyze  
22 that question.

23 Q You don't know whether ten Republicans and three Democrats  
24 is -- you don't know if that's the maximum Republican map that  
25 could be drawn?

1 A So I guess you're asking me whether or not if you drew  
2 really, really serpentine-shaped districts whether it might be  
3 possible to create an 11-2 plan and I acknowledge that's  
4 hypothetically possible. It was definitely not even something  
5 that was relevant to my study. I guess I acknowledge it's  
6 hypothetically possible, but I really couldn't tell you for  
7 sure one way or the other because I definitely was not trying  
8 to draw such extreme Republican gerrymanders.

9 Q And apparently the legislature wasn't either, right,  
10 because to do that they would have had to have ignored a lot of  
11 the traditional redistricting principles, wouldn't they have?

12 A I really couldn't tell you one way or another. I suppose  
13 it's hypothetically possible.

14 Q Could you describe for the Court what the -- what you call  
15 the Popper-Polsby compactness test is and what it does?

16 A Sure. So it's a very standard measure used by scholars of  
17 districting in measuring compactness, and it's just one of  
18 these couple of very commonly-used and very widely-used  
19 measures of compactness.

20 So the basic idea of Popper-Polsby is you're looking  
21 at this perimeter of a district -- of any one of the 13  
22 districts in the North Carolina congressional map or any of my  
23 simulated maps and you look at that perimeter and you measure  
24 its length. You then ask the following kind of hypothetical  
25 geometric question: If you took that same perimeter -- and

1 let's just say -- hypothetically say that perimeter is 20. Now  
2 draw a circle that has a circumference of 20. What's the area  
3 of that circle?

4 Now, the reason I ask you that hypothetical geometric  
5 question is the Popper-Polsby measure is simply a ratio. It is  
6 a ratio of the area of the actual district that we started  
7 with -- the area of that district to the area of that circle,  
8 okay. So that comparison is a ratio that we use in  
9 constructing a Popper-Polsby measure.

10 Now, let me just explain kind of intuitively what  
11 that means because I'm not sure the geometric math side is  
12 really that important here. It's just a measure of  
13 compactness. It's just measuring how efficiently did the  
14 boundaries of this district enclose the area of this district.  
15 So if you have a district that looks more like a circle or even  
16 like a square, then you're going to have a much better, a  
17 higher Popper-Polsby score, meaning that you have a more  
18 compact district. If you have a district that you say is a  
19 really long, thin serpentine-shaped district, then that's  
20 really long, thin, narrow. Then you're going to have a worse  
21 Popper-Polsby score. So that's the basic idea.

22 Q All right. There's another compactness test called Reock,  
23 is that correct?

24 A Yes, sir.

25 Q Does it measure something different than Popper-Polsby?

1 A Yes, sir. It's a little bit different in how you  
2 calculate it geometrically and I would be happy to give you the  
3 same explanation for that, if you'd like.

4 Q Sure. But do they measure compactness in different ways?

5 A They're slightly different in how they measure  
6 compactness. Yes, sir, they are.

7 Q Is it true that sometimes these compactness tests conflict  
8 with each other?

9 A I think what you mean is that they're going to be slightly  
10 different numerically. I wouldn't say they conflict, and  
11 there's a good illustration of that all up and down my report.  
12 Every time -- if you remember from earlier today when we looked  
13 at a comparison of the SB2 Plan to 1,000 simulations in terms  
14 of compactness scores, both Reock and Popper-Polsby, we saw the  
15 following theme: The SB2 Plan is worse on Reock compactness  
16 than all 1,000 simulations and the SB2 Plan is worse on  
17 Popper-Polsby in all 1,000 simulations.

18 Why? Because they're very correlated. They're  
19 essentially telling us different aspects of compactness. But  
20 districts that -- when you look at them visually, you can tell  
21 that they're visually compact. Those kinds of districts tend  
22 to score very high on both Popper-Polsby and Reock. That's why  
23 we saw both of those measures telling us the same thing about  
24 the noncompactness of the SB2 Plan.

25 Q Is it true your algorithm used Popper-Polsby as a way of

1 drawing your simulated districts?

2 A Essentially, yes. I mean, I would be happy to clarify  
3 that in some technical detail if you'd like, but that's -- it  
4 gets at the right idea even though that's not literally what I  
5 did.

6 Q All right. Is it true that a district that is longer and  
7 more rectangular is going to score lower on the Popper-Polsby  
8 than other compactness tests?

9 A Yeah. Like I just said a minute ago, if you have a very  
10 long serpentine-shaped district you're going to have a pretty  
11 bad Popper-Polsby score in general.

12 Q All right. So if the 2016 Enacted Plan, even though it  
13 contained all whole counties, had a couple districts that were  
14 long because it included, you know, four or five counties in a  
15 row, that would score lower on Popper-Polsby because it's not  
16 more square-like, is that correct?

17 A It would score not optimally on Popper-Polsby, but let's  
18 just be clear here. It also wouldn't score that great on Reock  
19 either.

20 Q But you used Popper-Polsby or some variant of it in your  
21 algorithm, correct?

22 A Yeah, I mean -- and, again, like I said, I would be happy  
23 to explain that in some more technical detail because it's not  
24 literally what I do, but you're getting at the right idea when  
25 you say that. I think you're -- I think that's basically the

1 right idea.

2 Q Did you tell your algorithm to prioritize compactness  
3 through the Popper-Polsby measure? Is that -- were you telling  
4 it to prioritize that as the compactness measure?

5 A You're talking about -- you're asking whether I  
6 prioritized compactness over other Adopted Criteria, is that  
7 right?

8 Q Did you do that?

9 A Okay. So, yeah, let me explain. The answer is no. And  
10 the hierarchy of Adopted Criteria or of nonpartisan criteria in  
11 the districting criteria of the districting process is laid out  
12 in my reports, and I'm happy to explain that in a little bit of  
13 detail here, but you're welcome to stop me if this isn't the  
14 sort of answer you're trying to ask for.

15 So what's really clear in the Adopted Criteria is  
16 there are certain viable principles. Obviously, equal  
17 population, contiguity, those are the obvious ones, but it's  
18 also very specific about county splits and VTD splits. You can  
19 only split VTDs to create population equality and in the  
20 nonpartisan portion of the Adopted Criteria, you can only split  
21 counties to also create equal populations. So that tells me  
22 that those two principles are inviable, except to create equal  
23 populations. That means, of course, that geographic  
24 compactness falls below those two criteria.

25 So what the algorithm prioritizes is keeping counties

1 whole and keeping VTDs whole, and only after that do we pay  
2 attention to geographic compactness. So I just wanted to  
3 answer your question as accurately as I could there by  
4 explaining that level of priority.

5 Q Okay. And the actual criterion itself says that "the  
6 Committee shall make reasonable efforts to construct  
7 districts...that improve the compactness of the current  
8 districts and keep more counties and VTDs whole...."

9 So are you saying you interpreted that to mean that  
10 counties got priority and then compactness after that?

11 A Well, the reasons that I interpreted that way had to do  
12 with, like I said before, what the Adopted Criteria tell us  
13 about the reasons acceptable for splitting counties and  
14 splitting VTDs. But I think more to your question about  
15 compactness, the districts are meant to be compact or the  
16 Adopted Criteria tell us to draw compact districts and so  
17 that's what I followed in designing my algorithm.

18 Q All right. Did you pick a Popper-Polsby score that a  
19 district had to settle on before it could go into a simulated  
20 redistricting plan?

21 A No, sir. I was agnostic about that issue. I sought to  
22 find out what are the sorts of reasonable Popper-Polsby scores  
23 that would emerge under a districting plan under a districting  
24 process that is making efforts to draw geographically compact  
25 districts.

1           As I said earlier, there are several figures  
2 throughout my report that give a clear answer to that. There's  
3 a range of compactness scores, both in terms of Reock and  
4 Popper-Polsby, that are the product of a reasonable effort to  
5 draw geographically compact districts. As I said earlier, the  
6 SB2 Plan is completely below, entirely outside of that entire  
7 range of all 3,000 simulations.

8 Q     Did you review any literature in your field to determine  
9 what others had said a reasonable Popper-Polsby or Reock score  
10 would be?

11 A     Yeah, sure. I mean, I'm very familiar with that  
12 literature working in the field of redistricting and drawing  
13 legislative districts and analysis of districting plans.

14 Q     And so --

15 A     I was just going to give you a more complete answer, but  
16 I'm happy to let you cut me off if you'd like.

17 Q     Sure. So you're familiar then with an article written by  
18 two gentlemen named Pildes and Niemi about compactness?

19 A     I've seen that article before.

20 Q     Do you recall about that article that they say a low  
21 perimeter score or -- would be .05? Do you recall that?

22 A     I couldn't really cite for you that specific -- you know,  
23 that specific citation and so -- I mean, if you want to show  
24 that to me, I would be happy to kind of affirm for you what  
25 they're doing and help you understand what that article is

1 saying and, more importantly, help you understand what  
2 jurisdiction or what districting plan they're analyzing because  
3 that's a really important consideration. We want to know if  
4 their article with that specific number is actually talking  
5 about North Carolina congressional districts, North Carolina  
6 legislative districts or, say, Hawaii congressional districts.  
7 We need that information to put that in context here.

8 Q Let me just establish a couple of things. Isn't it true  
9 that a perimeter -- a measure of perimeter as a measure of  
10 compactness is similar to Popper-Polsby?

11 A I would try and explain it to you in a slightly different  
12 way. If you're comparing two different North Carolina  
13 congressional districting plans, here's what you know about  
14 those plans: The total area of all 13 districts is going to be  
15 the same in both plans because they're going to cover all of  
16 North Carolina.

17 So go back to that Popper-Polsby measure I mentioned  
18 and explained in some detail about 10 minutes ago. Now, what  
19 does that mean for that formula, for that ratio? It means that  
20 the only thing that's going to vary from one districting plan  
21 in North Carolina to another North Carolina districting plan is  
22 the perimeter of the districts. So that's why if you're  
23 comparing two North Carolina congressional districts  
24 essentially you are comparing the perimeters.

25 Of course, you're comparing the perimeters in the

1 context of that ratio formula that I told you about a while  
2 back, but the most important distinction between those plans  
3 has to do with the differences in their perimeter because,  
4 again, the areas of only North Carolina congressional  
5 districting plan, areas across all 13 districts, is going to  
6 have the same total area. It's going to be all of North  
7 Carolina.

8           So that's why I think the kind of question you're  
9 trying to get at -- you're getting at the right idea, which is  
10 that perimeter is what varies from one plan to another.

11 Q     Sure. But all I'm asking is isn't another name for -- the  
12 Popper-Polsby test, isn't it a perimeter score for compactness?

13 A     I mean, I haven't heard that kind of shorthand or, you  
14 know, nickname for it, but I get what you're getting at even  
15 though that's not really what we call it in the scholarly  
16 literature.

17 Q     All right. And do you -- are you aware of the Reock  
18 measure being called a dispersion compactness score?

19 A     I'm not sure that I've heard that commonly used. I think  
20 I know what you're trying to get at, but I'm not sure that's  
21 commonly used in the field.

22 Q     All right. Is this Pildes and Niemi article that I've  
23 referenced -- let me just make sure I establish you did read  
24 that article, correct? You have read that article?

25 A     I've heard of that article before. I mean, I would just

1 point out to you it was published a long time ago and there's  
2 much more current literature talking about district compactness  
3 and some of the issues that come up when you're comparing  
4 compactness scores from one state to another, one jurisdiction  
5 to another. I'm aware that was a paper from, I don't know,  
6 about 20, 25, maybe 30 years ago. I just can't remember. So  
7 it certainly is one that I have heard of. I couldn't -- I  
8 couldn't tell you a whole lot about it off the top of my head,  
9 though.

10 Q All right. Well, let's pull up Exhibit 5041. We'll just  
11 take a look at this table in this article and see if this  
12 doesn't help you with this.

13 MR. STRACH: And turn to page 34, Table 3.

14 BY MR. STRACH:

15 A Sir, do I get a copy of this article?

16 Q You'll see it right there on your screen.

17 A Okay.

18 Q Do you see on the screen Table 3?

19 A Yes, sir, I see the top portion of that table.

20 Q All right. And can you see what the -- tell the Court  
21 what the name of that table is.

22 A It looks like the authors have called this table "1990s  
23 Congressional Districts With Low Dispersion Or Perimeter  
24 Compactness Scores" and there's a footnote.

25 Q All right. So they use -- in that table, they use the

1 dispersion and perimeter nomenclature. Are you saying you're  
2 not familiar with that nomenclature?

3 A I don't hear it very commonly. Again, I would point out  
4 for you this is a 1993 article. The field of studying  
5 geographic compactness in districts has changed quite a bit  
6 since then. We've updated our measures and our understanding  
7 of how these various measures work when you're trying to  
8 compare districts across very different states. Scholars have  
9 pointed out lots of caveats when you're comparing scores across  
10 different states. I just want to help you understand it in  
11 that context, that this is a very old article.

12 Q All right. So I take it you didn't use the information in  
13 this article in generating your compactness measures that you  
14 would use for your simulated sets?

15 A I didn't go back and specifically look for this article in  
16 the production of my report, no, sir.

17 Q All right. Did you rely on any of the literature on  
18 compactness, even that which is more recent, in determining  
19 where to set your Popper-Polsby settings?

20 A I don't know that it was necessary for me to go and  
21 specifically find any particular article. Generally I keep up  
22 with the field in legislative districting or in redistricting  
23 as it's practiced in political science, so certainly these are  
24 things that we talk about very frequently with other scholars  
25 at conferences, at seminars. So that's how I keep up with the

1 field and understand what other people are doing.

2           But I didn't go back and need to consult any  
3 particular article simply because the calculation of a Reock  
4 score and the calculation of a Popper-Polsby score are such  
5 standard measures -- we do them all the time -- that it wasn't  
6 something that I needed to go back and refresh my memory about  
7 or to find out how to go about calculating these things.  
8 They're very commonly done.

9 Q     All right. Well, is it fair to say, as relates to the  
10 Popper-Polsby aspect of your analysis, that you were trying to  
11 have your algorithm draw districts that would maximize those  
12 scores?

13 A     I would say that the algorithm was trying to make  
14 reasonable attempts to draw geographic compactness but within  
15 some very important constraints, as I've laid out.

16           So just to be clear and because I think this is what  
17 you're asking me to literally tell you with your question, we  
18 are not maximizing in this algorithm geographic compactness  
19 above other considerations. The Adopted Criteria are very  
20 clear about this. There are other considerations in  
21 districting that are more important than that and so I just  
22 wanted to, at the risk of repetition, make sure you really  
23 understand that point because it's so important.

24 Q     Okay. When you did the compactness analysis with the  
25 Popper-Polsby, you did that based on a statewide average,

1 didn't you?

2 A I calculate the Reock or the Popper-Polsby measure across  
3 all 13 districts and then I average them. That's just the  
4 standard way of describing the compactness of an entire  
5 districting plan with 13 districts.

6 Q All right. But did you compare any of the specific  
7 districts in any of your simulation plans against any of the  
8 specific districts in the 2016 Plan as it related to  
9 compactness scores?

10 A The Adopted Criteria didn't tell me to do that and so I  
11 definitely would not have done so. And what I mean by that  
12 answer is that the Adopted Criteria do not say a sort of  
13 compact district is acceptable in western North Carolina, but  
14 you want a really compact district in eastern North Carolina.  
15 There are no regional decisions like that, so I definitely  
16 would not have done such an analysis.

17 Q So you can't identify any specific district in the 2016  
18 Plan that has a lower Popper-Polsby or Reock score than any  
19 comparable district in your simulation plans?

20 A Again, we're not doing a comparable district analysis  
21 because that is not what's laid out in the Adopted Criteria.  
22 The Adopted Criteria is not telling us that one threshold for  
23 compactness is okay here and it's okay to not draw very compact  
24 districts in the northeastern portion of North Carolina or  
25 anything like that. There are no regional distinctions when it

1 comes to compactness. You're supposed to make districts  
2 geographically compact.

3 Q Isn't it possible, though, that there are districts in the  
4 2016 Plan that have higher Popper-Polsby and Reock scores than  
5 individual districts in your simulated plans?

6 A Oh, that's very possible and that's not really relevant to  
7 the main issue here, which is that when we analyze districting  
8 plans we look at the plan as a whole and we look at the  
9 compactness of all the districts together. We don't just say  
10 was there one good compact district here and that somehow  
11 outweighs a noncompact district in another portion of the  
12 state. That's why what we do is we look at the compactness of  
13 all 13 districts and take the average, and we compare those  
14 averages across plans.

15 Q All right. Let me move to a different topic here. Do you  
16 know how many of the incumbents from 2014 in the North Carolina  
17 congressional delegation were reelected in 2016?

18 A I did not analyze that question, sir.

19 Q All right. Did you know that the only one not reelected  
20 was Congresswoman Renee Ellmers, who lost in a primary to  
21 George Holding? Were you aware of that?

22 A Again, that would not have been relevant to what I saw in  
23 the Adopted Criteria, so I definitely did not analyze that  
24 factor, that question -- or that issue.

25 Q All right. Were you aware of the -- for the 2016 Plan,

1 were you aware of the -- aware the residence of Congressman  
2 George Holding was placed in the 2016 Plan?

3 A You're asking me which district of the enacted plan --

4 Q Right.

5 A -- he was placed in?

6 Q Right.

7 A I can't tell you off the top of my head. I'm sure, as you  
8 know by now, I did, obviously, you know, have locations of the  
9 incumbents. So I clearly calculated something relating to that  
10 fact at some point. I really couldn't tell you off the top of  
11 my head.

12 Q All right. Does it -- do you have any reason to think  
13 that he wasn't placed in the 4th Congressional District?

14 A No, I accept that.

15 Q Now, when you did your -- two of your simulation sets, you  
16 interpreted the incumbency protection simply to be that each --  
17 there would be no pairing of incumbents, is that right?

18 A That is what I read from the Adopted Criteria, yes, sir,  
19 that to avoid the double-bunking or pairing of incumbents, two  
20 in one district or three in one district.

21 Q And then in a different simulation set you tried to  
22 account for the fact that there were only 11 nonpaired  
23 incumbents, correct, in the actual plan?

24 A In Simulation Set Three, which I think is what you're  
25 alluding to, sir, yes, sir. So what I did specifically was to

1 require the simulation algorithm to match precisely the Enacted  
2 SB2 Plan in terms of its 11 protected incumbents and 13 county  
3 splits.

4 Q All right. In looking at Simulation Set Three, did you do  
5 any analysis of the population from the 2014 district for each  
6 incumbent that was retained in the 2016 district?

7 A The Adopted Criteria did not instruct the map drawer to  
8 account for that sort of analysis and therefore I did not do  
9 so.

10 Q Okay. And, of course, you did no analysis of whether any  
11 of those incumbents could actually win a district that they  
12 were placed in in your simulated sets, correct?

13 A The Adopted Criteria, again, did not ask the map drawer to  
14 account for that factor and therefore I did not do so.

15 Q The criteria actually did do that, correct, because they  
16 said under "Partisan Advantage" the Committee would make  
17 reasonable efforts to construct districts to maintain the  
18 current partisan makeup of North Carolina's congressional  
19 delegation. The criteria say, but you just didn't take that  
20 into account because it was a partisan criteria, is that  
21 correct?

22 A I guess I thought your previous question was asking  
23 whether a specific incumbent would be re-elected. I read the  
24 Adopted Criteria as just saying just create ten Republican  
25 districts, so that's why I answered your previous question the

1 way that I did. I see what you're getting at and I acknowledge  
2 to you that I, in fact, ignored the political impact part of  
3 the Adopted Criteria as it relates to creating intentionally a  
4 ten Republican map.

5 Q All right. So in your study, you read the incumbent  
6 protection criteria separately from the partisan advantage  
7 criteria?

8 A If I could just ask you to repeat.

9 Q In making your analysis, you read the incumbency  
10 protection criteria of these criteria separately from the  
11 partisan advantage criteria?

12 A I accounted for them in two different ways. I ignored the  
13 partisan requirement of creating a ten Republican map, but the  
14 incumbency portion I certainly read as a different sentence and  
15 I interpreted it as meaning that efforts should be made to  
16 maximize a number of incumbents that are kept in their own  
17 respective districts. So I did read them separately and I  
18 treated them as such.

19 Q All right. And when you ran your third simulation set  
20 accounting for nonpairing of 11 incumbents, did you rerun a  
21 simulation set all over again or did you apply the 11  
22 incumbency criteria to an existing simulation set?

23 A The former, sir. This was a completely new, independent  
24 set of simulations that had no relation to Simulation Sets One  
25 and Two, except in so far as beyond intentionally keeping 11

1 counties split -- sorry -- 13 counties split and 11 incumbents  
2 protected. On top of that, I did prioritize the protection of  
3 the nonpartisan portions or maximize adherence to the  
4 nonpartisan portions of the Adopted Criteria. But to answer  
5 your question, it was a completely different set of  
6 simulations, so I started the process anew.

7 Q All right. And I think you mentioned earlier you didn't  
8 try to assess the actual political strength of each district  
9 when you were measuring the partisan impact of it, correct?

10 A The Adopted Criteria did not tell the map drawer to assess  
11 the political strength and so therefore I did not do so.

12 Q All right. So you do not know that if a strong Democratic  
13 candidate who was well-funded in any of these ten alleged  
14 Republican districts were to run, you've not studied whether  
15 such a candidate could beat a Republican in one of these  
16 districts?

17 A Again, sir, the Adopted Criteria did not tell me to take  
18 into account campaign finance dynamics. Therefore, I did not  
19 do so.

20 MR. STRACH: Could we pull up Exhibit 5043?

21 JUDGE OSTEEEN: How much longer do you anticipate,  
22 Mr. Strach?

23 MR. STRACH: It could be a bit. I think it will be  
24 more than 10 minutes.

25 JUDGE OSTEEEN: All right. All right. We'll go

1 roughly ten more minutes, and then we'll take off, unless you  
2 all want to be heard on that. I think that I said court would  
3 go until 5:30, but I can't remember.

4 MR. SPEAS: You did.

5 JUDGE OSTEEEN: Okay. Is that good, ten more minutes?

6 MR. STRACH: Thank you, Your Honor.

7 BY MR. STRACH:

8 Q Dr. Chen, I've got Exhibit 5043, which I believe is just  
9 simply a table out of your report. Does that look familiar?

10 A Yes, sir.

11 Q All right. And in this exhibit or in this --

12 A I'm sorry. If I could go back and clarify, sir.

13 Q Yes.

14 A You asked me if it came from my report, is that right?

15 Q Maybe -- is this something you created after your report  
16 was submitted?

17 A That's correct, sir, April 24th.

18 Q That's right. Okay. And this was discussed with you at  
19 your deposition, correct?

20 A I believe Mr. Farr asked me a bit about this, yes, sir.

21 Q In this exhibit, you identified the number of your  
22 simulated plans that have one district with at least 40 percent  
23 BVAP, is that correct?

24 A Yes, sir, black voting-age population.

25 Q Okay. So for your Simulated Set No. 1, you had 85 of the

1 1,000 plans had such a district, is that correct?

2 A Yes, sir.

3 Q And in Simulation Set No. 2, you had 119 out of a thousand  
4 plans had such a district, correct?

5 A Yes, sir.

6 Q And in Simulation Set No. 3, only 58 plans had such a  
7 district, is that correct?

8 A Yes, sir.

9 Q All right. So out of 3,000 simulated plans, you had a  
10 total of 262 that had at least one district with a BVAP of over  
11 40 percent, is that correct?

12 A That sounds about right, sir, if your math is correct.

13 Q All right. And that's less than 10 percent, correct?

14 A That is correct, sir.

15 Q Now, the 2016 -- are you familiar with the BVAP of the  
16 enacted -- any of the enacted districts?

17 A Of the Enacted 2016 Plan?

18 Q Yes, sir.

19 A My answer is that the Adopted Criteria told me to ignore  
20 any racial data about districts or about voters in North  
21 Carolina, and so I definitely would not have analyzed that  
22 number.

23 Q All right. But nonetheless, even though the criteria  
24 didn't address it, you did nonetheless do an analysis of it,  
25 correct?

1 A I was just clarifying that the Adopted Criteria instructed  
2 me to ignore it, so the Adopted Criteria did tell me very  
3 specifically.

4 Q Not to use race?

5 A Correct.

6 Q But notwithstanding that criteria, you, in fact, did  
7 analyze race and you looked at the 40 percent BVAP districts,  
8 correct?

9 A Correct. I did so well after the writing and the  
10 production of my expert reports.

11 Q Right. But you're aware that one of the congressional  
12 districts in the 2016 map has a BVAP of over 44 percent. Does  
13 that sound correct to you?

14 A Again, I accept that you've represented that to me, but as  
15 I said earlier, I definitely would not have analyzed that  
16 myself.

17 Q And you used in your -- in the exhibit that we're looking  
18 at, you used, it looks like, 40 percent as your threshold or  
19 your cutoff, is that correct?

20 A That's correct, sir. I went through all 1,000  
21 simulations -- simulated maps and I identified which ones  
22 contained at least one district with a 40 percent black  
23 voting-age population.

24 Q Why did you pick 40 percent rather than, say, 44 percent  
25 to reflect the actual plan?

1 A Plaintiffs' counsel asked me for that calculation, sir.

2 Q Okay. So this was something -- this was a number that you  
3 picked for your analysis based on what a lawyer asked you to  
4 do?

5 A I didn't pick the number. Plaintiffs' counsel asked me  
6 for the number of districts or simulated plans containing a  
7 district with over 40 percent black voting-age population and I  
8 answered that question for Plaintiffs' counsel.

9 Q Did you ever do an analysis of -- based on searching for  
10 districts that had over 44 percent BVAP?

11 A You're asking me if I analyzed my simulated plans with  
12 respect to that number?

13 Q Yes, sir.

14 A And the answer is Plaintiffs' counsel did not ask me to do  
15 so.

16 Q Okay. You are aware that the 2016 Enacted Plan has moved  
17 the 12th Congressional District to wholly within Mecklenburg  
18 County. Are you familiar with that?

19 A I didn't study the previous plan, but I accept your  
20 representation about that fact.

21 Q And you did not ask your algorithm to require at least one  
22 congressional district to be wholly located within Mecklenburg  
23 County, did you?

24 A The Adopted Criteria definitely did not instruct the map  
25 drawer to do so. Therefore, I did not do so.

1 Q You understand that the 2016 Enacted Plan has a second  
2 district -- that has one district with 44 percent of BVAP and  
3 it has a second district with at least 35 percent BVAP. Were  
4 you aware of that?

5 A I accept your representation of that, but again, I  
6 definitely did not analyze that in my report.

7 Q So did your counsel ask you to search for simulated plans  
8 that had both one district of at least 40 percent BVAP and at  
9 least one district of 35 percent BVAP?

10 A Plaintiffs' counsel did not ask me for that number, sir.

11 Q Do you know whether any of your simulated plans have a  
12 district of at least 44 percent BVAP?

13 A Plaintiffs' counsel did not ask me to do that calculation.  
14 I didn't do so, sir.

15 Q So the answer is you don't know?

16 A Correct, sir. I don't know because I was -- I definitely  
17 would have in my report ignored race.

18 Q What was the significance of you picking or having a  
19 thousand simulated maps in each set? What was the significance  
20 of a thousand or was there any significance?

21 A The significance is that it is a number of simulated plans  
22 that allows us to be able to draw strong statistical  
23 conclusions from the body of simulations of simulated maps as  
24 compared to an enacted map. So it is a number that goes far  
25 beyond what we actually need in order to draw conclusions about

1 the extent to which, for example, the Enacted SB2 Plan is an  
2 extreme partisan outlier compared to the simulated maps or the  
3 extent to which the SB2 Plan does as well as it reasonably  
4 could have in complying with the nonpartisan portions of the  
5 Adopted Criteria. So it is a large enough number that we are  
6 well beyond what is necessary to have strong, statistically  
7 significant conclusions regarding these questions.

8 Q And how low can you go before you lack the strong  
9 statistical significance in the results?

10 A What do you mean how low you can go, sir? You're asking  
11 how many simulated plans?

12 Q Yeah, below a thousand.

13 A Oh, how many below 1,000. Well, I certainly conducted my  
14 academic research analysis of districting plans in different  
15 states based upon as few as 25 simulated plans in my past  
16 academic research, but what we do here, especially when I  
17 produce an expert report, is I want to be extraordinarily  
18 conservative in reaching any conclusions. I'm reaching  
19 conclusions and so what I do is essentially overkill. I draw  
20 an extremely large number of plans in order to make sure that I  
21 am showing extraordinary deference to, say, an enacted plan  
22 that I'm analyzing. I want to make sure if I'm drawing any  
23 conclusions at all that I'm extremely statistically certain  
24 about them. That's why I don't stop at, say, 25, even though  
25 I've done so in my past academic research.

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JUDGE OSTEEEN: Are you ready?

MR. STRACH: I've got more, but, yeah, I'll stop whenever you're ready.

JUDGE OSTEEEN: All right. We'll stand in recess until tomorrow morning at 9:00.

(At 5:27 p.m., proceedings adjourned.)

\* \* \* \* \*

C E R T I F I C A T E

I certify that the foregoing is a correct transcript from the proceedings in the above-entitled matter.

Date: 10/23/2017

  
\_\_\_\_\_  
Joseph B. Armstrong, RMR, FCRR  
United States Court Reporter  
324 W. Market Street  
Greensboro, NC 27401

UNITED STATES DISTRICT COURT

FOR THE WESTERN DISTRICT OF WISCONSIN

\* \* \* \* \*

WILLIAM WHITFORD, et al.,

Plaintiffs,

v.

Case No. 15-CV-421-JDP

BEVERLY R. GILL, et al.,

Defendants;

and

Madison, Wisconsin  
February 1, 2019  
9:10 a.m.

THE WISCONSIN STATE ASSEMBLY,

Intervenor-Defendant.

\* \* \* \* \*

STENOGRAPHIC TRANSCRIPT OF TELEPHONIC  
SCHEDULING CONFERENCE  
HELD BEFORE CHIEF JUDGE JAMES D. PETERSON

APPEARANCES:

For the Plaintiffs:

Rathje & Woodward, LLC  
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Campaign Legal Center  
BY: RUTH M. GREENWOOD  
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1 APPEARANCES: (Continued)

2 For the Plaintiffs:

3 Also Present: Cecelia Aguilar,  
4 Campaign Legal Center

5 For Defendant Wisconsin Election Commission:

6 Wisconsin Department of Justice  
7 BY: BRIAN P. KEENAN  
8 ANTHONY D. RUSSOMANNO  
9 KARLA Z. KECKHAVER  
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13 For the Intervenor-Defendant:

14 Bartlit Beck, LLP  
15 BY: ADAM MORTARA  
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17 TAYLOR A.R. MEEHAN  
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19 Chicago, Illinois 60654

20 Bell Giftos St. John, LLC  
21 BY: KEVIN M. ST. JOHN  
22 5325 Wall Street, Suite 2200  
23 Madison, Wisconsin 53718

24 \*\*\*

25 (Called to order at 9:10 a.m.)

THE CLERK: Case No. 15-CV-421-JDP, *William Whitford, et al. v. Gerald Nichol, et al.*, called for a scheduling conference. May we have the appearances please?

MR. POLAND: On the phone for the plaintiffs are Attorney Doug Poland of Rathje Woodward, Attorneys Ruth Greenwood and Annabelle Harless of the Campaign Legal

1 Center, and also on the phone is Cecelia Aguilar with the  
2 Campaign Legal Center. Ms. Aguilar has not filed an  
3 appearance in this case, is not an attorney of record.

4 THE COURT: Good morning to all of you. Let's  
5 find out who we have for the defendants.

6 MR. KEENAN: For the Wisconsin Election  
7 Commission defendants we have Assistant Attorney General  
8 Brian Keenan. And then with me are my colleagues Anthony  
9 Russomanno and Karla Keckhaver.

10 THE COURT: Okay. Other defendants?

11 MR. MORTARA: For the Wisconsin Assembly, Your  
12 Honor, Adam Mortara along with co-counsel Joshua Ackerman,  
13 Taylor Meehan and Kevin St. John.

14 THE COURT: All right. Very good. Did we cover  
15 everybody? I don't hear anybody else, so it sounds like  
16 that's it on the phone. Last chance. Anybody else?

17 Okay. And so we are -- counsel for the parties are  
18 on the phone. I'm in the courtroom because I wanted to  
19 accommodate any request by the media. So we have got a  
20 media circus here, which, as we say, a media circus is  
21 when a reporter shows up. And so we do have one reporter,  
22 Mr. Marley, from the *Journal Sentinel*. So that's who's on  
23 the phone.

24 So as you all know, we are here because in response  
25 to the order to stay the case, we recognize the

1 difficulties I guess that the Supreme Court, taking the  
2 two redistricting cases from Maryland and North Carolina  
3 this term, would pose for us, namely that the decision in  
4 those cases are almost certainly to affect our  
5 decision-making in this case. So we thought it wise to  
6 schedule the trial for after what we predict will be the  
7 time for the decision in those two cases.

8 But in recognition of the importance of deciding the  
9 case promptly, we proposed that we set the trial for the  
10 week of the 22nd I believe in July, 22nd of July, figuring  
11 that was about as early as we possibly could do it.

12 We have kind of been assuming that the decision in  
13 the redistricting cases that the Supreme Court has are  
14 likely to come out late in the term. So I figured, well,  
15 it's going to come out, you know, kind of end of June  
16 probably is our worst-case scenario. But also, frankly,  
17 my gut tells me it's probably a likely scenario and so we  
18 wanted to accommodate that.

19 But we wanted to keep the case going as much as  
20 possible, so that's why we didn't really stay the case  
21 entirely. We wanted to keep working with your discovery.  
22 But now we need to deal with the fact that we do need to  
23 reschedule the trial.

24 So I do have the submission of Mr. Poland  
25 articulating some concerns based on the schedules of

1 attorneys on his side of the case that the 22nd is  
2 difficult. So here we are. So let's work it out.

3 I will tell you this, that the Court is able to move  
4 the trial up by a week and do it on the week of July 15th.  
5 That is acceptable to the Court. But my concern is if the  
6 Supreme Court really does release its decision in the  
7 other redistricting cases at the last possible minute,  
8 that really doesn't leave the parties very much time to  
9 shape things up for the Court.

10 And so, Mr. Poland, anything you want to add? I kind  
11 of feel like I got your take on it. But if you would, why  
12 don't you start us out and give us the plaintiff's  
13 perspective on -- assuming that we are going to have a  
14 trial as promptly as we can, which means sometime in  
15 July -- how we should proceed. So go ahead, Mr. Poland.

16 MR. POLAND: Thank you, Your Honor. My audio  
17 briefly cut out for a moment. I think I understand the  
18 gist of what Your Honor had asked us, so I will tell you  
19 the plaintiffs' position. The plaintiffs' position is  
20 that discovery, as the Court ordered, discovery is  
21 proceeding. We anticipate that we will complete all  
22 current expert discovery by sometime no later than March.

23 The plaintiffs are in the process of being deposed  
24 now. Those depositions should be completed in the month  
25 of February in a couple weeks. And any third-party

1 discovery could be taken promptly as well within the span  
2 of probably the next month or two. So we think that all  
3 of that discovery should be done, should be completed,  
4 really along the lines of the schedule that was originally  
5 in place when the trial was set during April. So we don't  
6 see any problem getting that all done.

7 As we also had alluded in the preliminary pretrial  
8 telephone conference in October, we believe that the  
9 parties can and should work together as much as possible  
10 well in advance of the trial to work on stipulations of  
11 fact. We certainly did it before the trial in 2016. We  
12 can do it again here.

13 All of the evidence that is developed up until the  
14 April or so time frame or May, even June, quite frankly,  
15 all of that should be marshaled and should be ready to go  
16 so that when the Supreme Court does rule in the other  
17 cases, that is already done and nothing more needs to be  
18 done.

19 So we think there is a tremendous amount of work.  
20 The vast majority of work will already be in the can by  
21 the time the Supreme Court rules. The plaintiffs'  
22 position is there might be some additional supplementation  
23 of expert opinions that would need to happen after the  
24 Supreme Court rules. If that does become necessary, Your  
25 Honor, the plaintiffs believe that can happen very

1 promptly.

2 Even under a worst-case scenario where the Supreme  
3 Court would rule on the last day of the term, which we  
4 believe would be June 27th, we'd note that, Your Honor,  
5 when the U.S. Supreme Court ruled in the *Whitford* case  
6 last year, it did so on June 18th. It didn't actually  
7 wait until the very last day of the term. It did rule on  
8 June 18th.

9 But we think we would only need one week to really  
10 update any expert reports. There could be a short  
11 deposition, perhaps two or three hours, for experts.  
12 There aren't that many experts in the case. We only have  
13 five. That could be done pretty quickly. We have plenty  
14 of lawyers, as Your Honor can tell from all of the counsel  
15 who are on the phone.

16 We think there will be minimal supplementation  
17 necessary after the Supreme Court rules. 90 percent of  
18 the work should already be done and the trial could happen  
19 very promptly.

20 THE COURT: Remind me of this: I don't know the  
21 answer to this, but in the first iteration of this case,  
22 when were the oral arguments before the Supreme Court?

23 MR. POLAND: They were October 3rd of 2017, Your  
24 Honor. That was the second day of the term.

25 THE COURT: Okay. In this case, maybe I'm

1 misremembering, but it seems to me that the oral  
2 argument -- do you know when the oral argument is  
3 scheduled for the Maryland and North Carolina cases?  
4 Somehow I'm thinking they're scheduled later.

5 MR. POLAND: Your Honor, I believe that when the  
6 Supreme Court took the cases and announced that the  
7 arguments would be held in March, I don't know if they  
8 have yet set an argument date. Although here I would ask  
9 Attorney Greenwood to chime in -- she is counsel of record  
10 for one of the plaintiffs in the North Carolina case -- if  
11 they've been set for a specific date. I believe Attorney  
12 Greenwood would probably know that.

13 THE COURT: Attorney Greenwood.

14 MS. GREENWOOD: The arguments have been set for  
15 March 26th.

16 THE COURT: So that was part of my worst-case and  
17 most-likely-case calculation is that the arguments have  
18 been scheduled so late that I'm expecting the decision to  
19 come late as well. So anyway, so that's -- even if it  
20 becomes June 18th, that's still relatively late for us.  
21 All right. So thank you.

22 Mr. Keenan, now give us your perspective.

23 MR. KEENAN: Well, the perspective of the  
24 defendants is that we are fine with the July 22nd date.  
25 We think moving it up more than that is likely not to give

1 us enough time to be able to adapt to whatever comes out  
2 of the U.S. Supreme Court rulings, especially if there's  
3 supplementation of expert reports.

4 Our experts are response experts to the plaintiffs',  
5 so the plaintiffs would go first and then we would respond  
6 to that. So I don't think -- two weeks, you know, which  
7 places a July 15th date is sort of like two weeks after an  
8 expected decision. We don't think that really gives us  
9 quite enough time and think the 22nd we could make work.  
10 It's aggressive, but we understand why the Court has set  
11 it at that time. So I think we would prefer to stick with  
12 the 22nd.

13 THE COURT: All right. This is going to be a  
14 painful experience for everybody, no matter what, given  
15 that we're going to have to respond so quickly from the  
16 decision of the Supreme Court. Obviously it's possible  
17 that the decision will be one that tells us that we can --  
18 that we will have to dismiss the case, so that's a  
19 possible outcome as well. But assuming that that's not  
20 the outcome and we've got to be prepared for that, it's  
21 going to be a fire drill situation no matter what.

22 And then how about for the Assembly, Mr. Mortara.

23 MR. MORTARA: Your Honor, I've got little to add  
24 to what Mr. Keenan said other than there is a possibility  
25 we will have the need to reopen certain fact depositions

1 of the plaintiffs' in light of anything that the Supreme  
2 Court says in particular about the associational claim.  
3 As you know, that's a moving target a little bit. And if  
4 the Supreme Court were to say something there, that would  
5 require us to take follow-up fact discovery. We'd need to  
6 do that as well. In all other respects, I agree with  
7 Mr. Keenan.

8 THE COURT: Let me circle back to Mr. Poland. I  
9 understand the personal issues that your colleagues have.  
10 But in a case like this, given all of the moving parts and  
11 the importance of the matter, I'm inclined to think that  
12 it's the kind of situation that you have to work around.

13 And let me say this, that I think the child -- the  
14 expected childbirth is certainly a significant aspect that  
15 I would love to accommodate, but let me raise this: I  
16 don't know that the childbirth is any more predictable  
17 than the Supreme Court decision in terms of timing. The  
18 baby could come early. And so if I accommodate the  
19 concern and move the trial up and the baby is born early,  
20 then we're right back where we started from.

21 MR. POLAND: Well, Your Honor, if I may, just a  
22 couple of points. As a father of three children myself, I  
23 have experienced the uncertainty of that timing. I  
24 haven't asked Attorney Greenwood of her specific  
25 circumstances, medical circumstances, but that certainly

1 is a possibility. One thing that we do know is we do know  
2 that the due date is July 20th. So I understand Your  
3 Honor's point.

4 If I could add one more thing and that is this, that  
5 also Professor Stephanopoulos is impacted by that as well.

6 THE COURT: I understand that.

7 MR. POLAND: Yeah, yeah. And the other point  
8 that I would like to add, Your Honor, is Attorney  
9 Greenwood and Professor Stephanopoulos, and Attorney  
10 Harless as well, have been really among the lead counsel  
11 in this case since the filing of the complaint in 2015.  
12 They have been -- they had speaking roles, Attorney  
13 Greenwood and Professor Stephanopoulos, at the first  
14 trial, anticipated we would have the same thing here. And  
15 Attorney Harless is taking expert depositions. We'd  
16 anticipate she'd have a speaking role at trial. So we are  
17 talking about some of the lead counsel for the plaintiffs  
18 who have been involved in this case for a very long time.

19 Now the trial date is pushed back, understandably.  
20 But a difference of one week could make the difference  
21 between the plaintiffs being able to have three of their  
22 lead counsel present or not present.

23 THE COURT: Well, and again my concern is that I  
24 can make the accommodation. And I gather, for Attorney  
25 Harless, the moving into the 15th would unequivocally

1 solve the issue for that lawyer, but we might not make an  
2 effective accommodation if we move the trial date for  
3 Attorney Greenwood and Professor Stephanopoulos.

4 MR. POLAND: Potentially true as to Attorney  
5 Greenwood. It might be a little different with respect to  
6 Professor Stephanopoulos, depending on the circumstance,  
7 Judge.

8 THE COURT: Yes. It's an unfortunate situation.  
9 All right. I'm willing to put the trial on the 15th. I  
10 think that that is -- the Court can do it. It's I think  
11 the only thing that we can do to accommodate the situation  
12 here. And in an ordinary case, these are circumstances  
13 that I would accommodate by rescheduling the trial.

14 But we don't have a lot of options here, so I will do  
15 the week and have the corollary benefit of giving the  
16 Court more time to get -- I shouldn't say "more time," but  
17 just advancing the decision making in our case for the  
18 work that we have to do.

19 So we have our own expectation that we would like to  
20 get the decision out as soon as possible and so earlier is  
21 better in that sense. So it's going to be a very  
22 unpleasant and compressed pretrial situation, but we will  
23 put the trial on the 15th.

24 MR. POLAND: Thank you, Your Honor.

25 THE COURT: And then we will work back from that.

1 So here's the things that we have to set up, but I think  
2 that we had perhaps already came up with a proposal for  
3 post-trial briefing. I'm going to start kind of with the  
4 easier stuff.

5 The opening briefs were to be 21 days after the close  
6 of trial, response briefs were 14 days after that. I'm  
7 going to propose that we compress that a bit since we're  
8 having the trial several months later. So can we put that  
9 on a 14-10 schedule, Mr. Poland?

10 MR. POLAND: Yes, Your Honor. That's actually  
11 what the plaintiffs were going to suggest as well.

12 THE COURT: Okay. So let's just get the consent  
13 or the input from the other parties here. Mr. Keenan.

14 MR. KEENAN: I think, per the 14 days for the  
15 first brief, I think we might want 14 days for the second  
16 one too.

17 THE COURT: All right. So 14-14 is your  
18 proposal. All right. Mr. Mortara.

19 MR. MORTARA: Whatever works for the Court, Your  
20 Honor.

21 THE COURT: Let's do 14-10. We're just going to  
22 do everything to get this done as quickly as possible. If  
23 for some reason those opening briefs are so overwhelming  
24 that ten days is inappropriate, you can raise the issue  
25 with the Court at that time. But let's start out for

1 post-trial briefing will be 14-10 after the close of  
2 trial, so we will compress that a little bit. We've  
3 gained a little bit more time there. Okay.

4 Then we've got the expert report updates was on my  
5 list, but I think that is going to get as done as they can  
6 on our current schedule, so that's fine. But then let's  
7 leave that to the side for the moment and let's talk about  
8 the other pretrial filings.

9 Now, currently we have April 12th is our date for a  
10 statement of stipulated facts and short pretrial briefs  
11 and that is currently set. That's about 11 days before  
12 the start of the trial. And so if we're starting on the  
13 15th, that would be July -- roughly about July 5th. So  
14 let's do this: Let's put July 8th as the date for the  
15 pretrial submission of stipulated facts and pretrial  
16 briefs.

17 And I reiterate that the pretrial briefs are really  
18 not a full argument on the merits of the case. I'm not  
19 really expecting you to do that pretrial. But you have to  
20 orient us to what you expect to show at the trial so that  
21 we have some sense of what -- how we should understand  
22 what we're going to hear at the trial. So again those are  
23 not full-blown arguments merits, but -- merits arguments,  
24 but they will orient us to what we need to do in the  
25 trial. So that will be July 8th.

1 MR. POLAND: Your Honor, this is Attorney Poland.  
2 May I ask a question?

3 THE COURT: Yes.

4 MR. POLAND: Would it be helpful to the Court to  
5 have submissions before that date and then just update or  
6 supplement, as might be necessary, based on how the U.S.  
7 Supreme Court rules?

8 THE COURT: You know, frankly I would rather not  
9 do this in an incremental way. There's going to be some  
10 other things that you will have to submit to us. I don't  
11 know, let's check in with other counsel and see if they're  
12 willing to do that. Like I said, I don't want to have to  
13 prepare for the trial multiple times.

14 Maybe it would be helpful to get something and then  
15 just supplement after the Supreme Court decision. I kind  
16 of would rather get it all in one go. There's other work  
17 we have to do too.

18 But anyway, Mr. Keenan, what do you think?

19 MR. KEENAN: I think we would rather have one go  
20 with what we submit to the Court. I guess there's nothing  
21 stopping the parties to work on this ahead of time, if  
22 that's helpful, but I don't think I'd like another date to  
23 get everything into the Court.

24 THE COURT: Let's go with July 8th. That gives  
25 the Court a week to digest it. So I'm not thrilled with

1 that idea, but the other option is I spend more time  
2 working on it. July 8th will be a one-time go.

3 And of course this means you'll have to work well in  
4 advance of that to come up with a statement of stipulated  
5 facts, so you may well be working on your stipulated facts  
6 before the Supreme Court issues its decision. But we'll  
7 just take it one time, one deadline, July 8th, for your  
8 pretrial stipulated facts and trial briefs.

9 We have a sequence built in now for Rule 26(a)(3)  
10 disclosures, motions in limine and responses to motions in  
11 limine. I don't know if that's feasible here.

12 So, Mr. Poland, let's hear from you about the  
13 feasibility of the sequence of Rule 26(a)(3) disclosures  
14 and so on. I guess I'll tell you that I'm inclined to  
15 just establish those dates starting, you know, a month or  
16 six weeks before trial, despite the lack of a Supreme  
17 Court decision, and just say these are the things that you  
18 have to start working on. But maybe that just is a  
19 make-work exercise that will be a waste of time, I don't  
20 know. So, Mr. Poland, let me have your input on that.

21 MR. POLAND: Your Honor, I actually agree with  
22 that. I don't think it would be a waste of time. I don't  
23 anticipate that there will be -- there are not going to be  
24 dispositive motions. I don't know if there will be  
25 *Daubert* motions -- we'll see -- from the defendants or

1 not. I suspect this will not be ruled on before trial.

2 I believe any evidentiary objections that we have to  
3 expert testimony are ones that could be raised at trial.  
4 Certainly we could file motions ahead of time and they  
5 could be argued at trial with an appropriate voir dire.

6 But I don't expect, and I think this is consistent  
7 with the position the plaintiffs took back in October  
8 during our preliminary pretrial conference, we don't  
9 anticipate substantial motions in limine.

10 THE COURT: Okay.

11 MR. POLAND: Preparing them in advance is a good  
12 idea.

13 THE COURT: Working backwards, what I will do is  
14 we'll have the responses to the motions in limine due on  
15 June 28th. We'll work back. And again I'm going to  
16 compress this a lot so we're just doing a one-week  
17 turnaround there partly on reliance of the idea that there  
18 won't be many. June 21st will be the motions in limine  
19 deadline and then -- and objections to the Rule 26(a)(3)  
20 disclosures.

21 And then moving back one more week from that, June  
22 14th will be the date in which you will have to make your  
23 Rule 26(a)(3) disclosures. So that will be the sequence  
24 there, so one week each so that all of those will be in  
25 the book by June 28th.

1           Obviously that's going to have to happen when you  
2 might not have the Supreme Court decision. So if you need  
3 to address adjustments in those positions, then you can do  
4 that in your July -- I'm sorry. Your July 8th pretrial  
5 submissions, you can kind of update us on things, anything  
6 that we need to do.

7           And of course you can, if you need to, withdraw  
8 motions in limine in light of the decision. You know  
9 that's easily done. You can do that in advance and let  
10 everybody know.

11           And as just a general rule, I think you're just going  
12 to have to cooperate with each other a lot to get this  
13 accomplished. But anyway, that's sort of the rudiments of  
14 a schedule there.

15           There's one more issue that I have here, and I'm  
16 going to add to the mix about the same time here, is that  
17 the panel has raised the concern in our own discussion  
18 about whether the associational claims are permissible  
19 within the mandate of the Supreme Court's remand in this  
20 case. And so we're not sure about that, but it has a  
21 concern that we have flagged: whether the mandate  
22 restricts the issues that we can take up on the remand.

23           And so I'm going to ask the plaintiffs, by June 14th,  
24 to brief that issue and then I'll ask the defendants and  
25 the intervening defendants to respond by June 28th on that

1 issue. Don't expect a decision on that, but we'd like you  
2 to frame that issue for us with that brief sequence: June  
3 14th and June 28th. And again the question is a narrow  
4 one, so it won't be -- does the mandate from the Supreme  
5 Court affect our ability to consider the associational  
6 claims.

7 Is there anything else that we need to build into the  
8 schedule to provide for the orderly resolution of this  
9 case?

10 Mr. Poland, I'll start with you.

11 MR. POLAND: Thank you, Your Honor. I did have  
12 just one question and that is the length of the trial.  
13 Originally we were scheduled for a four-day trial. Does  
14 the Court still intend to hold trial for four days?

15 THE COURT: Our expectation is that the trial --  
16 the length of the trial is substantially up to the  
17 parties, but I had been assuming that the trial would be  
18 the same length. So we kind of blocked out a week for the  
19 trial and the judges are available on the 15th and on the  
20 22nd. So we'll go with the 15th and we'll reserve that  
21 week for you, so we'll give you four days.

22 MR. POLAND: All right. Thank you. One related  
23 question then. Given the number of plaintiffs that we  
24 have in the case and numbers of witnesses that are  
25 expected to testify, it would seem to be an impossibility,

1 over the course of a four-day trial, to have everyone  
2 testify live before the Court. And I'm just raising this  
3 question now whether the Court or whether the panel has  
4 thought about how it would like to conduct the trial in  
5 terms of the number of witnesses, if that's something the  
6 panel would like counsel for the various parties to  
7 discuss or how the Court might want to handle that.

8 THE COURT: Well, I'll distill that down really  
9 to two questions: Question one, will everybody be  
10 testifying live? Again I would be inclined to leave that  
11 to the parties. And if there are some people that you can  
12 submit to the Court on the basis of deposition  
13 designations or some other format, if you have -- that's  
14 sort of the point of the stipulated facts. There may be  
15 some facts you can stipulate to.

16 But I would be open to the idea that if you've got  
17 some idea that you've got -- you've taken their deposition  
18 and their deposition serves as well as live testimony and  
19 you want to put it in by deposition, I would be open to  
20 that and I'm sure my colleagues would as well. So yes,  
21 formats other than live testimony would be welcome.

22 I wouldn't be keen on having us watch video because  
23 that doesn't seem to save us a whole ton of time. We  
24 can -- if we're going to have to watch the video, we might  
25 as well watch it during your four days. But if you've got

1 deposition designations in a transcript that we can just  
2 read, I'm happy to have that.

3 I think certainly we'll have to be efficient in the  
4 schedule. So I would expect the parties to work out a  
5 schedule for witnesses that's courteous to the witnesses,  
6 and to the Court as well, in terms of who testifies when.

7 And as a matter of my practice, I'm always happy to  
8 accommodate the convenience of a witness. So, you know,  
9 not calling people twice seems to be an efficiency and  
10 courtesy as well, so I would be open to that.

11 And I think it would be lovely for the Court to have  
12 kind of a schedule of who is going to testify when. This  
13 isn't that kind of trial where I expect that you'll have a  
14 lot of drama in reshuffling the order of the witnesses for  
15 effective presentation. You can kind of just get it all  
16 before us in the most efficient way possible.

17 I don't know if I've really answered your question,  
18 but I tried. Mr. Poland, is that what you asked?

19 MR. POLAND: Yes, it is, Your Honor. Thank you.  
20 That does answer my question.

21 MR. MORTARA: This Adam Mortara for the Assembly.  
22 May I make a comment on Mr. Poland's suggestions about  
23 presentation of evidence?

24 THE COURT: Yes.

25 MR. MORTARA: In previous redistricting trials

1 I've had, we've had written direct submissions and I've  
2 seen that before. However, here, particularly with the  
3 plaintiffs, we're not taking file depositions of these  
4 plaintiffs, we're taking discovery depositions, and we're  
5 figuring out for the first time the exact nature of their  
6 complaints.

7 And therefore, the depositions of course are not  
8 suitable to present the Assembly's cross-examination of  
9 these plaintiffs. And the federal rules of course,  
10 because they are parties to the case, does not permit  
11 their depositions to be played absent unavailability. And  
12 they're all testifying they were at least available in  
13 April. So we would like them to be there live for  
14 cross-examination.

15 THE COURT: Well, and I understand that a  
16 discovery deposition is not tied up in a bow for  
17 presentation to trial, but a lot of times people can make  
18 due with them. And I'm not trying to force anyone into  
19 using a deposition that we -- where they would feel  
20 disadvantaged by not having the opportunity for live  
21 cross-examination. I'm just suggesting that you work  
22 together and, if there are some witnesses who can be  
23 presented by deposition, consider whether that might work.

24 MR. MORTARA: Absolutely, Your Honor.

25 THE COURT: Like I said, I'm not trying to jam

1 this down anybody's throat. I'm just suggesting that  
2 there might be some bits of evidence that might need to be  
3 made of record that needs to be done by discovery  
4 depositions.

5 And I understand the discovery depositions aren't an  
6 ideal format for presentation at trial, but oftentimes  
7 people will make due without them if there is need for  
8 examination. That's why we're having a trial, otherwise  
9 we'd have you mail in your papers and we'd have a stack of  
10 depositions and affidavits, but we're not doing that. But  
11 there may be efficiencies that may be gained by the  
12 parties' agreement on some evidence and we would be open  
13 to receiving it that way if the parties agree to it.

14 Okay. Let's check in with Mr. Keenan. Anything else  
15 that you think we need to address here today? Anything  
16 else that we can build into the schedule that would be  
17 productive?

18 MR. KEENAN: Well, I thought perhaps if the  
19 plaintiffs are going to supplement their expert reports,  
20 to have a date by which they do that and then a date by  
21 which defendants have to respond with the supplemented  
22 report. I know Mr. Poland said maybe he could do it  
23 within a week, so maybe we could get -- just get firm  
24 deadlines for that kind of thing.

25 THE COURT: Okay. And these -- this would be a

1 schedule that really is tied to the Supreme Court  
2 decision, correct?

3 MR. KEENAN: Yeah. I think we could perhaps set  
4 a drop-dead date of a certain date, but then have an  
5 alternative of like a date set. I think we can frame it  
6 to make sure it gets done by a certain date, but it would  
7 be done earlier if the Supreme Court surprises us and  
8 rules early.

9 THE COURT: You know, we also have the 4th of  
10 July holiday in there which I think you probably are all  
11 going to have to regard as a lost cause this year.

12 MR. KEENAN: I think, Your Honor, that expert  
13 supplementation would be a good way to celebrate  
14 democracy.

15 THE COURT: I agree. In this case, whether it's  
16 a good way or not, it's how you're going to celebrate it  
17 this year.

18 I think this makes sense: The bottom line, I think  
19 the best way to resolve this, is have the parties  
20 cooperate. Everybody knows that you're going to have to  
21 work at warp speed to get this done. But I'm going to set  
22 a default date of seven days after the Supreme Court  
23 decision the plaintiffs will supplement their expert  
24 reports as needed. And then seven days after that, then  
25 the defendants can supplement their responsive reports.

1 Any other reasonable solution that the parties work  
2 out will be delightful, from the Court's perspective, but  
3 we'll put that in place as a default rule. And if you  
4 need some relief from that or you can do better than that,  
5 more power to you.

6 And if the Supreme Court decision comes out earlier  
7 than we expect, that gives you a little bit more leeway  
8 and I'm sure you can cooperate. I think that is at least  
9 a placeholder for a schedule that would work. You may be  
10 able to do better based on what the Supreme Court does,  
11 but I'll put that in as a default rule.

12 That leaves you, well, no time for depositions. So  
13 if we need to do something different, tell me. On the  
14 assumption that the decision comes out on the last day of  
15 the term, that would be July 12th is when the defendants  
16 would be supplementing their expert reports. At least you  
17 would have them in writing.

18 MR. POLAND: Your Honor, this is Attorney Poland.  
19 If a decision comes out the last day of the term, June  
20 27th, we would be almost certain the plaintiffs would need  
21 to supplement in less than seven days. We would probably  
22 supplement by the 3rd, or maybe even sooner, and so I  
23 think we could turn things around quickly.

24 I think it would be helpful for the parties to have  
25 even, if it's just very short, expert depositions on the

1 supplements, just two or three hours each. I'm assuming  
2 that counsel for all parties would work cooperatively to  
3 get those done. Everyone would be in town for the trial  
4 anyway, so I think we can do that the weekend before  
5 trial.

6 THE COURT: All right. I'll leave that to you to  
7 work that out then.

8 MR. POLAND: Very well, Your Honor. Thank you.

9 THE COURT: Okay. I think that would be great if  
10 we had supplementation by the 3rd. Prompt supplementation  
11 after you do depositions the weekend before trial, that  
12 would be fine too. There are Seventh Circuit cases that  
13 suggest the point of the expert report is to avoid the  
14 need for an expert deposition.

15 MR. POLAND: I believe that was the intent of the  
16 rule, Your Honor, when it was adopted.

17 THE COURT: As a matter of practice, I don't  
18 think that really is ever followed. It just gives you  
19 more fodder for a deposition in actual practice.

20 Okay. And, Mr. Mortara, last chance. Anything that  
21 you think we should build into the schedule?

22 MR. MORTARA: Everything is fine with us, Your  
23 Honor. One just notice for the Court. As the Court  
24 already observed, the *Rucho* and *Benisek* decision might,  
25 from our perspective, render the need for trial no longer.

1 The Supreme Court may very rule these type of claims  
2 nonjusticiable.

3       Between where we are and that result, there may be a  
4 gray area where we have a position about what *Rucho* and  
5 *Benisek* means and our friends on the other side do not  
6 share that position. And so I wanted to alert the Court  
7 to the possibility that we will be filing a post  
8 *Rucho-Benisek* dispositive motion with some alacrity,  
9 following those rulings, that may or may not be in an  
10 agreed motion to dismiss the case.

11           THE COURT: Okay. I can't stop you from filing  
12 anything that you want to file with the Court. We don't  
13 have built into our schedule here a procedure for  
14 resolving a dispositive motion before trial. I do  
15 recognize that there is a significant possibility that the  
16 Supreme Court decision in the other two redistricting  
17 cases might doom plaintiffs' case here. That's a very  
18 strong possibility.

19       I think if that appears likely that at least that's a  
20 strongly arguable position from the Supreme Court's  
21 decision, I'll probably convene at least a telephonic  
22 hearing as soon as we get that decision and have read it  
23 to decide whether the plaintiffs' case is still viable.

24       So I'm well aware that it's possible that could be  
25 the effect of the Supreme Court's ruling. But if it's not

1 plain that these claims are not justiciable, I think we'll  
2 go ahead with the trial and we'll resolve the issue in the  
3 post-trial briefing sequence.

4 But it might just be clear from the Supreme Court  
5 decision, in which case we'll cancel the trial. We'll  
6 spare the parties the effort if the effort would be wasted  
7 anyway. So we'll aware of that, but I don't really think  
8 that we have a chance to decide a dispositive motion  
9 before trial unless it's really plain that that's the  
10 consequence of the Supreme Court ruling.

11 So I'm not exactly sure, Mr. Mortara, exactly what  
12 the circumstances are that you think you would be filing  
13 such a motion. Elaborate if you want to. Go ahead.

14 MR. MORTARA: I think there's what the Court may  
15 perceive as claimed, there's what the Assembly might  
16 perceive as claimed, and then there's what the plaintiffs  
17 might perceive as claimed. Really all that matters is the  
18 first category and we don't need to file anything if  
19 there's an arguable case.

20 If the plaintiffs' case should be dismissed based on  
21 *Rucho* and *Benisek*, we will have a hearing with Your Honor  
22 and that's absolutely fine. All that matters of course is  
23 what the Court views claimed. That's what I was getting  
24 at, that there may be disagreement between the parties.

25 THE COURT: Yeah. I think we understand each

1 other. So obviously if it seems like the plaintiffs' case  
2 is not going to be viable after the Supreme Court  
3 decision, we'll get everyone on the phone and discuss it.  
4 And if everyone is in agreement with how that is the plain  
5 result, then we'll save the trial. If it's probably not  
6 so plain and the Court is not sure, we'll probably resolve  
7 it after the trial.

8 Okay. Last chance for anybody to voice anything that  
9 you think we could productively address today. But I  
10 think we've got a schedule, so I'll issue a short order  
11 giving us a new schedule and then we'll let you get back  
12 to work. And we'll reconvene either for the trial or for  
13 a teleconference about the consequences of the Supreme  
14 Court action.

15 But last chance. Anything else, Mr. Poland?

16 MR. POLAND: Nothing further, Your Honor. Thank  
17 you.

18 THE COURT: Mr. Keenan?

19 MR. KEENAN: Nothing from us, Your Honor.

20 THE COURT: And Mr. Mortara?

21 MR. MORTARA: Nothing further, Your Honor. Thank  
22 you, very much.

23 THE COURT: All right. Everyone enjoy the  
24 weekend and the heatwave that we're now experiencing.

25 (Adjourned at 9:50 a.m.)

1 I, CHERYL A. SEEMAN, Certified Realtime and Merit  
2 Reporter, in and for the State of Wisconsin, certify that  
3 the foregoing is a true and accurate record of the  
4 proceedings held on the 1st day of February, 2019, before  
5 the Honorable James D. Peterson, Chief Judge of the  
6 Western District of Wisconsin, in my presence and reduced  
7 to writing in accordance with my stenographic notes made  
8 at said time and place.

9 Dated this 23rd of April, 2019.

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/s/

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Cheryl A. Seeman, RMR, CRR  
Federal Court Reporter

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