Attachment 6

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Rough Draft Only

DAY 6 OF TRIAL

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THE JUDGE:

Does counsel need to be heard before we put Dr. Barber back on the stand?

PLAINTIFF COUNSEL:

Your Honor, understanding at the end of Friday that Your Honor was going to consider the relevance objection to Dr. Barber's testimony.

THE CLERK:

Come to podium or speak up.

PLAINTIFF COUNSEL:

Your Honor, we understood that Your Honor would be ruling on our relevance objection to Dr. Barber's simulations report.

THE JUDGE:

I'm prepared to do that. The testimony as thus far and as indicated in Dr. Barber's report, which the Court reviewed again over the weekend is of marginal relevance;

however, the predominance question is a defense, and the Defendants are entitled to

put on a defense, and the court will weigh that evidence and make a determination at the close of the evidence. You may certainly object to individual questions that you believe go beyond either to scope of his expertise or the scope of his report, but otherwise, your general relevance objection that would go as Court kind of understanding it, to exclusion of Dr. Barber is overruled. Put Dr. Barber back on the stand, please.

DEFENSE COUNSEL:

Your Honor, thank the Court for allowing me for questioning from the table. Had some issues over the weekend, and this is most helpful to me. Thanks again.

THE JUDGE:

Yes, you may stay seated in your examination of Dr. Barber.

Dr. Barber you're still under oath from Friday. Mr. Farr, you may carry on.

DEFENSE COUNSEL:

22 Thank you, Your Honor.

23 EXAMINATION BY DEFENSE COUNSEL:

24 Q. Dr. Barber, do you have your two reports

25 up there with you in a notebook?

1 A. Yes, I do.

2 Q. What I'm asking you questions, you're

3 free to use the notebook, and also will be calling

4 up sections of your report on the screen in front

5 of you. So you can use either one of those

6 things.

7 A. Okay.

8 Q. So where we stopped on Friday was you

9 talked about how you done 100,000 simulations for

10 the Senate and the house, and I wanted to ask you,

11 what was your main take away from doing those

12 simulations?

13 PLAINTIFF COUNSEL:

14 Your Honor, I just want to put the

15 relevance objection on the record, I don't

16 intend to continue objecting throughout the

17 testimony.

18 THE JUDGE:

19 Your relevance objection is deemed

20 continuing. You may continue.
21 EXAMINATION BY DEFENSE COUNSEL:
22 Q. The main takeaway or --
23 A. The main takeaway or the main conclusion
24 I take way from simulations is that when we run
25 the algorithm using the criteria outlined in the

1 joint rule that the simulations produce a set of
2 maps that look very different from the
3 illustrative map, notably on the number of
4 majority black districts that are created.
5 Q. Can we turn to Secretary of State
6 Exhibit 1, page 15. And on that page, there's a
7 figure 1, could you explain to the Court the
8 significance of figure 1?
9 A. Certainly. This figure shows the
10 distribution of majority BVAP Senate districts
11 that are created in the hundred thousand
12 simulations. Those gray bars represent the number
13 of districts created and the frequency with which
14 that occurs. On the right side of the figure, we
15 see the number of majority BVAP districts in both
16 the enacted map and the illustrative map.
17 Q. Do you know how many districts there are

in the Louisiana Senate?

A. 39.

Q. What is the ever over all black voting age population for Louisiana under the 20 census?

A. It's approximately 31 percent.

Q. Based upon the state's black voting age population, how many majority black districts would be exactly proportional?

A. It would be approximately 12.

Q. How would you calculate that?

A. By simply multiplying 31 percent times 39.

Q. How many majority black Senate districts did the 100,000 race neutral simulations draw on average?

A. On average, between 3 and 4.

Q. How many majority black Senate districts are in 2022 enacted plan?

A. There are 11.

Q. How many majority black districts are in Mr. Cooper's illustrative Senate plan?

A. There are 14.

Q. How did the number of majority black

16 senate districts in the enacted plan and Mr.
17 Cooper's plan compare to proportionality?
18 A. The enacted plan is one fewer than
19 proportionality. The illustrative map is two
20 greater than proportionality.
21 Q. On Exhibit Secretary of State 1 page 17,
22 could have turn to table 2 and explain to the
23 Court the significance of this table?
24 A. So this table is also showing the
25 results of the simulations but rather than showing

1 the number of majority BVAP districts that are
2 generated it breaks down the districts down by the
3 percent BVAP in the districts and so you can see
4 down the roads, rows those different categories or
5 brackets for the various BVAP percentages. The
6 table shows the outcome for the simulations in
7 that second column, and then the distribution of
8 districts for the 2011 map, the enacted map and
9 the illustrative map.
10 Q. Is there anything that you find
11 particularly significant about this analysis?
12 A. I think the most significant thing that
13 we see in this table is in the row labeled 50 to

14 52.99 percent. So this row is showing the number
15 and frequency of districts that fall in that
16 narrow band just above 50 percent. And when we
17 look across the row, with e can see that on
18 average or typically the simulations generated
19 about 1 of those districts. The 2011 map
20 contained one such district, the enacted map also
21 contained or contains one such district, and the
22 illustrative the map on the other hand, contains 1
23 nine districts that fall within that narrow range.
24 Q. In your opinion, would we see that
25 pattern, if adherence to nonracial criteria had

1 been the primary criteria used to Dr. Mr. Cooper's
2 maps?
3 PLAINTIFF COUNSEL: Objection, this is asking
4 for Mr. Cooper's intent. The effect of the
5 question was, what was Mr. Cooper ignoring
6 tray additional create to get to this number.
7 THE JUDGE: Mr. Far, you want to respond.
8 DEFENSE COUNSEL: There was nothing in that
9 question about Mr. Cooper's interpret. It
10 was based upon Dr. Barber's forensic
11 examination of the map and his analysis of

12 whether or not you'd have nine carefully
13 drawn majority black districts between 50 and
14 53 percent if Mr. Cooper hads prioritized
15 practice additional redistricting principles.
16 THE JUDGE: I think the objection is the
17 reference to what Mr. Cooper's intent is.
18 I'll sustain the objection. Rephrase your
19 question.
20 EXAMINATION BY DEFENSE COUNSEL:
21 Q. Automatic sorry, Your Honor, did you say
22 I could repeat the question?
23 THE JUDGE: You can rephrase your question.
24 EXAMINATION BY DEFENSE COUNSEL:
25 Q. Dr. Barber, in your opinion, would we

1 see the pattern you have explained in Mr. Cooper's
2 illustrative maps if he had prioritized
3 traditional redistricting principles?
4 PLAINTIFF COUNSEL: Your Honor T same
5 objection. If he had prioritized.
6 THE JUDGE: Sustained.
7 PLAINTIFF COUNSEL: Mr. Cooper.
8 DEFENSE COUNSEL: Let me rephrase, Your
9 Honor.

THE JUDGE: Rephrase.

EXAMINATION BY DEFENSE COUNSEL:

Q. Dr. Coop or, would you see the pattern in Mr. Cooper's maps if any maps or any other map drawer had maximized or prioritized traditional redistricting principles?

PLAINTIFF COUNSEL: Objection.

THE JUDGE: Sustained.

DEFENSE COUNSEL: I'm sorry, what did you say Your Honor.

THE JUDGE: Sustained. There's not a pattern in Mr. Cooper's maps. There's a pattern that he shows on his whatever this is, table 2, but where's the pattern in Mr. Cooper's -- you're calling for this witness to give testimony about Mr. Cooper's intentions.

DEFENSE COUNSEL: Your Honor, we gratefully accept your ruling, but I respectfully disagree that we're asking about Mr. Cooper's intent. We're asking whether or not any map drawer who prioritized adherens to traditional redistricting principles principals would end up with nine districts

in the State of Louisiana that had a Blake voting age population between 50 and 52.99 percent.

THE JUDGE: Any map drawer.

DEFENSE COUNSEL: Mr. Cooper's intent, but we accept.

THE JUDGE: Any map drawer or any computer. There is a difference map drawer and a computer.

DEFENSE COUNSEL: Okay. I'll try again.

THE JUDGE: Well, you can try.

DEFENSE COUNSEL: Your Honor, I'll just on the question. I'll move on.

THE JUDGE: All right.

DEFENSE COUNSEL: Thank you very much.

EXAMINATION BY DEFENSE COUNSEL:

Q. All right. Dr. Barber, could you pull up page 17 of Exhibit of Secretary of State

Exhibit 1.

A. Yes, I'm there.

Q. Could you tell the Court the significance of that table?

A. So this figure shows the same

distribution of majority BVAP districts that are produced by the 100 simulations in the house. Those gray bars again show the number of majority black districts and the frequency with which they occur. And then again the dashed lines show the number of majority BVAP districts in the enacted map as well as the illustrative map.

Q. How many house districts are there in Louisiana?

A. 105.

Q. How many majority black house districts would be exactly proportional?

A. Would be about 33.

Q. How did you calculate that?

A. By taking 31 percent times the number of districts.

Q. How many majority black house districts did the 100,000 race neutral simulations draw on average?

A. On average, between 13 and 14.

Q. How many majority black house districts are in the 2022 enacted plan?

A. There are 29.

4 Q. How about Mr. Cooper's illustrative
5 house plan?
6 A. There are 35.
7 Q. How do those two plans compare to the
8 proportion number of house districts?
9 A. The enacted map is approximately four
10 below. And the illustrative map is approximately
11 two above.
12 Q. Okay. Can we now turn to table 9,
13 Secretary of State 1 page 58. Are you there?
14 A. Yes, I am.
15 Q. Could you tell the Court what that table
16 represents?
17 A. So this table shows that same
18 information that we were looking at in the Senate,
19 rather than the number of majority BVAP districts
20 we're looking at the distribution according to
21 particular percentages. Again we have those
22 different ranges to split on the rows and the
23 typical outcome in the simulations, the 2011 plan
24 the enacting and the illustrative map.
25 Q. Could you again go into a little more

1 detail about the range of black voting ankle

population in Mr. Cooper's illustrative map?

A. So again I think the most important row there is the one displaying the 50 to 53 percent range, where we see that the simulations, the 2011 map, the enacted map all produce relatively few districts in that range. And we see a very different distribution when we look at the illustrative map.

Q. With minute my August of parish and municipal boundaries reduce this pattern?

A. No.

Q. Stepping back Dr. Coop, the results of these subcontract simulations and form your conclusions about the illustrative map?

A. So looking at the distribution here, we can see that something very different in the illustrative map compared to either the enacted map, the 2011 plan or the simulations, and so what we can infer from that is some other criteria were used in producing the illustrative map that generated a very different distribution compared to these other maps we've been discussing.

Q. Okay. Now let's turn to the concept of the core retention. What is core retention?

A. Core retention is a term that's used to describe the degree to which voters are retained. Held in the same district from the previous plan into whatever new plan is drawn going forward whether that's a result of the decennial redistricting or some other reason why districts are redrawn.

Q. Could a lay person calculate core retention?

A. No.

Q. What expertise and skills are need to analyze core retention?

A. Well, first you have to understand the concept and how to measure it. And beyond that, then you have to be able to acquire the data at your merging data sets together that link the old map and the new map, you have to then connect those to population data from the census. And then be able to appropriately aggregate all of that data together.

Q. How did you calculate core retention in this case?

A. So I calculate core retention as the proportion of voters who are held in the same

25 district from the previous map to the new map,

1 district by district.
2 Q. Did Mr. Cooper do a core retention
3 analysis for his illustrative maps?
4 A. He has a reference to core retention,
5 but it's in reference to the degree to which the
6 illustrative map retains the enacted map, the 2022
7 map. I calculate core retention to the degree to
8 which the enacted map and the illustrative map
9 retain the 2011 map, which I think is the more apt
10 comparison since that's the district that is the
11 voters are coming from in the previous decade. So
12 we want to know whether the enacted map is the one
13 that goes forward or the illustrative map is
14 implemented. We would want to know the degree to
15 which the voters from the previous decade is
16 retained into the districts that are going to be
17 used going forward.
18 Q. Okay. And could core retention be an
19 explanation for why Mr. Cooper's illustrative maps
20 contain more majority black voting age population
21 districts than the simulations Orion maps?
22 PLAINTIFF COUNSEL: Objection, it's asking

for Mr. Cooper's intent again.

DEFENSE COUNSEL: Your Honor on that.

THE JUDGE: Yes, you may.

DEFENSE COUNSEL: I should have said this earlier, Your Honor, but I want to make the point that Plaintiffs in this case filed a day Bert motion on Dr. Johnson's testifying about the subjective intent of Mr. Cooper. They didn't file a day Bert motion on Dr. Barber. I would suggest to you Your Honor the reason why they didn't do that is we cited to a brief in our findings of fact, which document 177 page 34 note 5, that was filed by Ms. Thomas' organization, the Harvard election law clinic with unit supreme Court in the South Carolina case. I went quote it, but we cite it to. There's a lengthy in this case, about why simulations are relevant evidence of the intent of the map drawer in a racially case where there's a claim of injury. They were aware of this brief at the time that the day Bert motion was filed. Afterwards, Your Honor, there was

21 a stipulation entered in this case, and I'll
22 try to quote it the best I can. I think it's
23 document 182. The stipulation says that the
24 expert reports of all the experts would come
25 into evidence without any objection as to the

1 authenticity or the admissibility if the
2 expert appeared to testify. That stipulation
3 did not say if the expert appears to testify
4 and he's qualified as an expert. It did not
5 say that the report comes into evidence
6 subject to subsequent motions to strike
7 testimony in the report. It says the report
8 is in evidence. So the Plaintiffs have in
9 our view waived any right to object to this
10 testimony by Dr. Barber. In any case again
11 this is not a testimony about Mr. Cooper's
12 subjective intent. He's never mentioned Mr.
13 Cooper. He's never -- unlike.
14 THE JUDGE: Your question mentions Mr.
15 Cooper.
16 DEFENSE COUNSEL: What's that.
17 THE JUDGE: Your question mentions Mr.
18 Cooper. And so you're one step removed

19 perhaps from calling for intent. Your
20 question doesn't call for intent, but your
21 question calls for what is the conclusion
22 that you draw about Mr. Cooper's maps.
23 DEFENSE COUNSEL: Your Honor.
24 THE JUDGE: That question.
25 DEFENSE COUNSEL: I'm going have to read the

1 report or the brief that was submitted by.
2 THE JUDGE: You don't need to do that.
3 DEFENSE COUNSEL: Well, I need to make a
4 record, Your Honor. It's important for you
5 to understand this. If I may have your
6 permission, because it explains better --
7 they've explained better than I have been
8 able to do why this is relevant testimony.
9 THE JUDGE: It's in the record. There is a
10 record. I'm overruling the objection. Ask
11 your question again.
12 EXAMINATION BY DEFENSE COUNSEL:
13 Q. All right Dr. Barber, did you compare
14 the core retention figures for Mr. Cooper's map
15 and for the enacted plan?
16 A. Yes.

17 Q. Which one of those plans performed
18 better?
19 A. The enacted map.
20 Q. Can you turn to page 1 of secretary
21 exhibit -- excuse me, page 26 of secretary Exhibit
22 1, table 5. Can you tell the Court what that
23 table is please?
24 A. This table shows the results of the core
25 retention analysis. You can see the rows show the

1 various ranges of core retention, the enacted map
2 and the number of districts that fall in those
3 ranges for the Senate and the illustrative maps,
4 the number of districts that fall within those
5 ranges, and then at the bottom the average core
6 retention in each of the maps.
7 Q. Let's turn to Secretary of State Exhibit
8 1, page 65, table 12. Can you tell the Court what
9 that table is?
10 A. This table shows the same analysis for
11 the house. So we have again core retention and
12 the various ranges for the enacted map and the
13 illustrative house map. At the bottom we have the
14 average core retention in each of those maps.

15 Q. What were the average for enacted map
16 and Mr. Cooper's?
17 A. Retained about 83 percent of people in
18 the compared to the 2011 map. And the
19 illustrative map retained approximately
20 72 percent.
21 Q. In your opinion, as a political
22 scientist, is core retention a valid redistricting
23 criteria for the state to consider?
24 A. It is. There's been a variety of
25 academic research on the concept. Voters tend to

1 prefer or to the end to do better with stability.
2 They tend to know their representatives better.
3 They tend to be more likely to participate in the
4 political process when there's less variation and
5 change things related to voting, including whether
6 they moved in and out of districts, that sort of
7 thing.
8 Q. Let's turn back to your report. Did you
9 perform any analysis of subsections or region of
10 the state?
11 A. Yes.
12 Q. What do you mean by regional analysis

13 and why is that significant?
14 A. So we're looking at rather than the
15 results of a statewide analysis, we're looking at
16 particular portions of the state. That's
17 important because the voters in the state aren't
18 evenly distributed across the state. So in this
19 case where we're talking about drawing majority
20 black districts, there are only certain parts of
21 the state where that's even possible. There are
22 other places where despite having substantial
23 number of black resident, it's just simply not
24 possible to draw majority black districts. The
25 regional analysis, I look at places in which it

1 actually occurs, that majority black districts are
2 drawn.
3 Q. Could you now please turn to page 23 of
4 secretary Exhibit 1. There's a map on that page
5 title parish map and black voting age population.
6 Could you tell the Court what this map represents?
7 A. Sure. This map is parish map of the
8 state. The parishes are colored by their BVAP
9 percentages. And so you can see on the right, the
10 key there shows that the colors that are more

11 yellow beige and then into red and dark red are
12 the areas or the parishes in the state where
13 there's higher BVAP percentages.
14 Q. Does the pattern of residential pattern
15 of afternoon can Americans in Louisiana have any
16 implications as far as drawing districts?
17 A. Absolutely. As I said, because in some
18 of these places while you might have say
19 20 percent of the population that are of black
20 voting age population, it's just not possible to
21 draw any majority black districts in those areas.
22 So if you're going to create a map that has
23 proportionality or even exceeds proportionality
24 statewide, given the areas where you can't draw
25 majority black districts, you have to overdraw or

1 overrepresent the BVAP population in the remaining
2 parts of the state where it is possible.
3 Q. Could a lay person perform a regional
4 analysis similar to what you've done in your
5 report?
6 A. No.
7 Q. What type of expertise or software is
8 required to perform the regional analysis that

you've performed in this report?

A. So familiarity with geographic information systems, ability to work with shape files, merging data into those shape files, and analysis that would come from that. Those would all be things that would require a great deal of expertise.

Q. Let's pull up table 3 on Secretary of State Exhibit 1, page 19. Can you tell the Court what this table represents?

A. So this table shows regions in the state where there are majority BVAP districts.

Q. This is for the Senate plan, correct?

A. Yes. This is in the Senate. The regions that are highlighted in yellow are the regions where the illustrative map contains an additional majority BVAP district compared to the

enacted map.

Q. How did you identify the regions that you used in this table?

A. So the regions are the parishes in which we see majority BVAP districts. In addition, there are various regional definitions that have

been used by the Plaintiff's experts, so my intent was to find the greater of greatest commonalities across the regions, in addition to the majority BVAP.

Q. To the regions you identified were in part based upon testimony by Plaintiff's experts on their opinions on regions?

A. That's correct.

Q. All right. To help the Court understand table 3, we don't need to go through the whole table. Could you please explain the first row that deals -- it says Caddo, does that mean Caddo Bossier?

A. Correct. So that would be the regions in the northwest of the state in and around Shreveport area.

Q. So just walk across that row and tell the Court, so the Court will understand the other regional evidence, how the top row works?

A. So in that region, we see that the enacted map contains one majority BVAP district. The next column shows the proportion of the simulations that produce the same number of

5 majority BVAP districts as the enacted map. So we
6 can see that when we set the simulations, and then
7 look at the results afterwards, it's quite common
8 for the simulations to produce an outcome similar
9 to the enacted map in this region. About
10 88 percent of the time. In the next column, we
11 see the illustrative map contains two majority
12 BVAP districts in that region. And then the final
13 column shows the outcome never occurred in the
14 simulations.
15 Q. Now let's turn to page 34 officious
16 Exhibit 1. There's a table 6 Senate district core
17 retention in Shreveport regions. Could you tell
18 the Court what this table shows?
19 A. So this table goes into more detail in
20 that particular region. We see that there are
21 three districts contained in the region. The
22 table shows the district numbers, the BVAP in each
23 of those districts and the core retention scores
24 for each of those districts. The top half of the
25 table shows this information for the enacted map,

1 and the bottom half of the table shows this
2 information for the illustrative map. And again,

the rows highlighted in yellow indicate districts that are majority BVAP.

Q. What is the collective black voting age population in these two parishes?

A. So in this region, the BVAP is approximately 39 percent.

Q. What share of the districts in the enacted map is majority black voting age population in this region?

A. In the enacted map, one of the three districts in this region are majority black.

Q. And that's what percent?

A. About 33 percent.

Q. What about Mr. Cooper's illustrative maps, what share of the districts in this region are majority black voting age population?

A. Approximately 2 of the three -- I'm sorry, two of the three districts are majority BVAP approximately 67 percent.

Q. Okay. Is the illustrative map in this region extra proportional?

A. It goes beyond proportionality by a little more than 20 percentage points.

Q. Does the enacted map reach proportionality?

A. It's under proportionality about six percentage points.

Q. Is it possible to achieve exact proportionality in this region?

A. It's not possible to get exactly there simply because we're only dealing with three districts. So you really only have options of units of, you know, units of three effectively.

Q. Okay. Can we turn to Secretary of State Exhibit 1 page 28, figure 7. That's titled Shreveport region Cooper illustrative Senate district boundaries. Do you see that?

A. Yes.

Q. Could you tell the Court what this figure shows?

A. So this figure shows a map of the three districts in the illustrative map in this particular region. So we the two districts that are majority, majority BVAP, highlighted in yellow, and the third district in gray. The red dotted lines show the parish boundaries.

Q. Does this orientation of -- does the orientation of Mr. Cooper's 38 suggest it adheres

to race neutral redistricting criteria?

A. It does not. The district spans both counties, it spans the two largest cities in the area, it has an unusual shape. Kind of has a C shape. And so in that way, it's not adhering to any of the criteria in particular.

Q. Let's turn to figure 8. On Secretary of State Exhibit 1 on page 39. Can you tell the Court what this figure shows?

A. This figure shows it's schooled on district Zoomed in district 38, illustrative district 38. It colors the precincts by their BVAP percentages, and so the darker more purple colors are precincts with higher BVAP. The lighter more yellow colors are precincts with lower BVAP. The numbers of the precinct labels, the district itself is out lined with the dark gray, the dark gray line.

Q. Is there anything significant in your opinion about the shape of Mr. Cooper's Senate district 38?

A. Yes. In having that, as I mentioned, that C shape of the district, you can see that the

24 district avoids grouping of precincts in the
25 center there near where the figure says SD36. And

1 those precincts have very few black residents and
2 are heavily white. So you can see the district
3 very carefully walks around that group of
4 precincts.
5 Q. What does this suggest to you?
6 A. It suggests to me that the district's
7 shape is because it has that C shape, it's missing
8 those precincts in the middle that are majority
9 white, and that to me suggests that that shape is
10 kind of carefully winding around those majority
11 white precincts in the center there.
12 Q. Do you do similar analysis for other
13 regions in the state where Mr. Cooper created
14 additional majority black Senate districts?
15 A. Yes.
16 Q. Did you come to similar conclusions in
17 regards --
18 PLAINTIFF COUNSEL: I'm going to object, Your
19 Honor. That question calls for Mr. Cooper's
20 objective intent and how he drew this
21 district. The answer included testimony

22 about this objective intent. I did not get
23 an objection on the record in time for that
24 answer, but I'm going to object to further
25 questions that ask for that same kind of

1 testimony.
2 DEFENSE COUNSEL: May I be heard, Your Honor?
3 THE JUDGE: The objection is overruled.
4 DEFENSE COUNSEL: Thank you, Your Honor.
5 EXAMINATION BY DEFENSE COUNSEL:
6 Q. Did you do similar analysis for the
7 other regions in the state where Mr. Cooper
8 created additional majority black Senate
9 districts?
10 A. Yes.
11 Q. Did you come to similar conclusions?
12 A. Yes.
13 Q. We won't have to go through those other
14 regions, because that testimony, Dr. Barber.
15 Thank you. Let's move to the house. Can you turn
16 to Secretary of State 1, page 59. Can you tell
17 the Court this table is marked Louisiana and
18 number of majority black Senate -- majority black
19 voting age house districts table 10. Could you

20 explain that table to the Court, please?
21 A. So this is the same table we were
22 looking at but for the house instead of the
23 Senate. So here we have regions of the state in
24 which there are majority BVAP districts. The rows
25 highlighted in yellow illustrate the regions where

1 the illustrative map contains additional majority
2 BVAP districts when compared to the enacted map.
3 Q. Was there anything particularly
4 significant in your view about the range of black
5 voting age population?
6 A. So again, as we saw on the previous
7 table, the number of majority BVAP districts in
8 the enacted map, as then we can compare that to
9 the proportion of time the simulations generate
10 the same number of majority BVAP districts
11 compared to the enacted map. And then in the last
12 column, the proportion of times that the
13 simulations generate the same number of majority
14 BVAP districts as in the illustrative map.
15 Q. Let's look at one of these regions with
16 more specificity. Can we pull up table 16 on
17 Secretary of State Exhibit 1 page 95.

18 A. I'm there.
19 Q. Is that in front of you?
20 A. Yes, it is.
21 Q. Okay. Could you explain that table to
22 the Court, please?
23 A. So this table focuses in on the regions
24 in and around Baton Rouge. And again, it shows
25 the particular districts in that region. The BVAP

1 in each of those districts on the retention scores
2 for each of those districts, again the top half is
3 for the enacted map. The bottom half is for the
4 illustrative map. And the rows highlighted in
5 yellow are again those districted where that
6 contain majority BVAP population.
7 Q. And is this the table explain how many
8 house districts are in this region?
9 A. It does, yes. There are eleven.
10 Q. What's the racial composition of these
11 two parishes?
12 A. Collectively, it's approximately
13 44 percent.
14 Q. How many of the districts in this area
15 are majority black voting age population in the

16 enacted plan?
17 A. Six of the eleven, or about 54 and a
18 half percent.
19 Q. So the enacted house plan already
20 exceeds proportionality in this region?
21 A. Yes, it does.
22 Q. All right. How many districts in this
23 region are majority black in Mr. Cooper's
24 illustrative map?
25 A. Eight of the 11 are, or about

1 73 percent.
2 Q. Does this percent exceed proportionality
3 for Mr. Cooper's plan?
4 A. Yes, it does.
5 Q. Let's now look at figure 37, Secretary
6 of State Exhibit 1 page 99. Can you tell us what
7 this figure represents?
8 A. This figure is showing the orientation
9 of these districts in this region for the
10 illustrative map. And again the districts that
11 are contained majority papulation are highlighted
12 in yellow.
13 Q. What do you find noteworthy about these

14 districts?

15 A. I think the most noteworthy is you can

16 see some of the districts contain some unusual

17 shapes, particularly direct 70, I think district

18 71 are two that I highlighted in my report.

19 Q. Let's look at figure 38 on page 100.

20 Can you explain what this represents to the Court?

21 A. So this figure looks specifically at

22 illustrative district 68 and 70. And again, as in

23 the example we looked at earlier in the Senate, it

24 shows the precincts contained in each of those

25 districts colored by the black voting age

1 population in each precinct. The boundary of the

2 precincts are shown using the dark gray lines.

3 Q. What's significant about these

4 districts?

5 A. I think what we see is district 70 has

6 this unusual U shape that's kind of horseshoe

7 shaped, in which it kind of winds around the

8 bottom of house district 68, which house district

9 68 is majority BVAP district, and house district

10 70 is not.

11 Q. Why was -- in looking at the map, was

there anything that you can deduce from the demographics of the precincts based upon the U shape?

A. Well, one thing that occurs in having that shape is that HD70 kind of goes very -- it kind of digs south to avoid that precinct at the bottom that's majority BVAP. And then comes back around on the other side and scoops up some precincts that are heavily white. And in order to -- for district 68 to remain majority BVAP, it needs those very heavy BVAP precincts at the bottom of the map there.

Q. This is suggesting to -- does this suggest anything to you in particular?

PLAINTIFF COUNSEL: Objection to the extent it calls for Mr. Cooper's.

THE JUDGE: It's just a question too far. I mean, I'm following you. It's a question too far. Sustained.

DEFENSE COUNSEL: Your Honor, could you hear the answer before you sustain the objection.

THE JUDGE: Yes, give me a response.

DEFENSE COUNSEL: He's just going to say that

10 the districts don't comply with traditional
11 redistricting.
12 THE JUDGE: That's what he's going to say.
13 You know what he's going to say.
14 DEFENSE COUNSEL: Yes.
15 THE JUDGE: I'm going to let him answer the
16 question.
17 THE WITNESS: The shape of the HD70 is not --
18 doesn't comport with other traditional
19 redistricting principles.
20 EXAMINATION BY DEFENSE COUNSEL:
21 Q. Did you do similar analysis for other
22 house regions in the state where Mr. Cooper
23 created additional majority black house districts?
24 A. I did, yes.
25 Q. Now I'm going to turn to your rebuttal

1 report. Could you call up and turn to Secretary
2 of State Exhibit 4. This is the rebuttal report
3 you prepared for this case?
4 A. Yes, it is.
5 Q. Why did you prepare this?
6 A. I prepared this in response to a report
7 filed by Dr. McCartin.

Q. Who's Dr. McCartin?
A. Yes.
Q. That's M-C-C-A-R-T-I-N, for the court reporter?
A. That's correct.
Q. Who's Dr. McCartin?
A. He's one of the co-authors of the algorithm that I used in this case in addition to other professors, Dr. Emy and others who wrote the algorithm.
Q. Did Dr. McCartin offer any objections to your original report?
A. Yes, he did.
Q. What were they?
A. He offered a number of critiques, particularly to the way in which the simulations were structured, the particular parameter values that were chosen, the number of simulations that

were conducted, the particular way in which the state I partitioned the state in order to conduct the simulations, and I believe that the end there some of the what are called convergence diagnostics.

Q. What are convergence diagnostics?
A. More or less they are statistics that you would look at to be assured that the algorithm ran correctly, that it kind of ran to completion appropriately, that sort of thing.
Q. How did you respond to Dr. McCartin's criticisms?
A. So I incorporated each of those criticisms and conducted a second set of simulations and then compared the results of that second set of simulations to the initial set that I had run in my original report.
Q. What if any changes resulted from the conclusions you reached in your original simulations?
A. The second set of simulations doesn't change my opinions in any meaningful way.
Q. Let's walk through a few specifics in your rebuttal report. Secretary of State Exhibit 4, section 3 on page 8, can we turn to that. At

the top of the page, you state something to the effect that Dr. McCartin did not run any simulations. Why is that significant?

A. I think that's significant because he certainly could have. And is certainly capable of that. And in doing so, he certainly could have provided a set of simulations using the criteria out lined by the state and shown that when introducing these criteria in the way he felt was most appropriate, that of the simulations, closely resemble the illustrative map.

Q. Let's clarify that a little bit. What information did he need to do to run simulations to test your report?

A. So we provided with my report data back up code, that sort of information to replicate the original set of simulations.

Q. The fact that he did not do any simulations, does that suggest anything to you?

A. So as I was saying, he certainly could have done that. And produced a new set of simulations that he felt were better or more appropriately reflected the countries criteria of the statement had those simulations reflected the illustrative map, that I think would have been

very strong suggestive evidence, and we don't see

that here.

Q. How long would it have taken Dr. McCartin to run simulations to test your conclusions?

A. Given the information that we provided.

PLAINTIFF COUNSEL: Objection. This is beyond the scope of the report. There's nothing in the report about what Dr. McCartin could have done beyond what's in this paragraph. There's nothing about how long it would take, there's nothing about what it would have shown.

DEFENSE COUNSEL: Your Honor, this is interesting. I'm not allowed to ask him questions about things that are in the report that they admitted into evidence and thereby waived any objections. And now I'm not allowed to ask him questions to clarify his testimony that's in the report.

THE JUDGE: Overruled.

EXAMINATION BY DEFENSE COUNSEL:

Q. How long would it have taken Dr. McCartin to run simulations to test the criticisms that he made of your report?

A. In my estimate, it would not have taken particularly long, given the information that we provided and his expertise in this area. The better part of perhaps a day's work.

Q. Let's turn to page 6 of Secretary of State -- let's turn to page 6 of Secretary of State Exhibit 4, section 3.1 titled partitioning the state. Could you explain that section?

A. Yes. This section is addressing a criticism offered by Dr. McCartin regarding the way in which I close to partition the state prior to running the simulations. In a state like Louisiana, where you have a large number of districts and even a larger number of precincts that are being grouped together to compose those districts, it's not uncommon to first divide the state into a number of sub regions, and conduct the simulations within those regions, and then stitch them back together into a statewide analysis. This has been done in the number of cases in Louisiana is similar to those. So.

Q. Could I ask you a question. How many other examples can you recall of people who -- expert, simulation experts who have done

25 simulations by dividing a state into regions?

1 A. So I know that this has been done in a
2 case in Pennsylvania in which the expert divided
3 the state into various regions. It's been done in
4 other published word including in some of
5 Dr. McCartin's own published work. It's a widely
6 used and commonly used and widely accepted
7 practice.
8 Q. So despite the fact that it's a commonly
9 accepted practice, what was your response to the
10 criticism from Dr. McCartin?
11 A. So my response was to take into account
12 his criticism and alter the way in which the state
13 was divided prior to running simulations. In the
14 first set of simulations, the state is partitioned
15 according to parish boundaries. And the second
16 set of simulations, the state has partitioned
17 according to the boundaries of the illustrative
18 map and the impact that that has is that it in
19 some ways makes it more likely for the simulations
20 to produce something that resembles the
21 illustrative map. And so it in some ways, you can
22 say almost like a leg up to the simulations in

23 producing something that resembles the
24 illustrative map.
25 Q. Could I stop you there and make sure the

1 Court understand it. We're talking about the
2 house map?
3 A. That's correct. The first set of
4 simulations, I partitioned the state into she
5 regions in the house. I do not partition the
6 state in the Senate. In the second set of
7 simulations, I partitioned both the Senate and the
8 house according to groupings of the illustrative
9 districts.
10 Q. Explain why your regions and your second
11 set of simulations were based upon Mr. Cooper's
12 illustrative districts?
13 A. So one of the criticisms was that in
14 partitioning the state by parish boundaries, it
15 would make it difficult or perhaps impossible to
16 recreate, to perfect rep will aequat, for the
17 simulations to perfectly replicate say the enacted
18 map, given the way in which the enacted map
19 crosses certain parish boundaries. Given that you
20 could think of this the hard case against the

21 simulations would be do they resemble the
22 illustrative map. So to give the best scenario or
23 the best case scenario toward allowing the
24 simulations to produce something resembling the
25 illustrative map, I partitioned the state

1 according to boundaries of the illustrative map.
2 Q. And in doing that, did it make any
3 difference in your results?
4 A. The results were not substantively
5 different after making that adjustment.
6 Q. Let's turn to Secretary of State 4 page
7 8, there's a section titled 3.2 core retention.
8 Could you explain that section to the Court?
9 A. So this section addresses the critique
10 of the way in which the core retention constraint
11 is implemented in the simulations. And in the
12 second set of simulations, I implement a much
13 stronger core retention constraint. So the
14 algorithm is instructed to give much greater
15 weight or priority to this criteria of core
16 retention.
17 Q. Where did you get that criteria for core
18 retention?

19 A. So the country criteria, the particular,
20 is implemented in this set of simulations is drawn
21 from instructions or recommendations contained
22 within the algorithm itself, from Dr. McCartin and
23 his co authors.
24 Q. How would you respond in a criticism
25 that you should have run simulations using a low

1 range for core retention versus a high range for
2 core retention?
3 A. So my response would be that that's
4 exactly what we have here, the first set of
5 simulations have a very low range of core
6 retention or no core retention constraint. The
7 second set of simulations have a very high core
8 retention constraint. And so we can see the
9 outcome of bearing the strength of that constraint
10 in comparing the two. The two set to one another.
11 Q. All right. So let's turn to Secretary
12 of State Exhibit 4, page 9, Section 3.3 titled
13 number of unique maps. Could you please explain
14 that section to the Court?
15 A. Sure. One of the additional critiques
16 was that the simulations had not perhaps generated

17 a sufficient number of maps or unique maps to
18 represent the possible -- to be a representative
19 sample of maps and so in addressing that critique,
20 increased the number of maps that were drawn by 5
21 times from 100,000 to 500,000 maps.
22 Q. In your opinion, was Dr. McCartin
23 criticism that you had not constructed a
24 sufficient number of simulations in your first
25 set. Was that a valid criticism in your view?

1 A. No, I don't think so. 100,000 maps is
2 substantial. It exceeds the number of maps in
3 many other redistricting cases in which this
4 algorithm has been used. And perhaps -- or in
5 those cases, you've seen 10,000, 5,000 maps being
6 used. And so I don't think it was necessarily a
7 valid criticism to begin with. But nevertheless,
8 just to be sure, I increased the number of maps
9 drawn by five times.
10 Q. Am I understanding you correctly, you
11 did 500,000 Senate maps and 500,000 house maps?
12 A. That's correct.
13 Q. In doing that, did it make any
14 difference in your conclusions?

15 A. Again, the substantive conclusions
16 didn't change dramatically, or didn't change at
17 all really.
18 Q. So, Dr. Barber, just to be clear, did
19 you implement these changes one at a time or all
20 at once?
21 A. Collectively. So I took all of these
22 critiques together and implemented them in a
23 second set of simulations that addressed all of
24 them simultaneously.
25 Q. Now let's turn to Secretary of State

1 Exhibit 4 page 11. There's a section titled
2 conversion diagnostics. Could you explain that
3 section to the Court?
4 A. Sure. One of the criticisms offered was
5 that I failed to check or provide diagnostic
6 convergence diagnostics regarding the first set of
7 simulations. And to address that, I include those
8 again a second time in addition to other measures
9 that were recommended again none of the -- those
10 results indicated there were problems with the
11 simulations.
12 Q. Just to be clear could you explain to

the Court the type of problems that converge and statistics might reveal?

A. Probably they would indicate that the model or the algorithm hadn't run appropriately or it hadn't correctly -- the term we would use is converged. That simply means that the algorithm basically did what we want it to do. It ran appropriately and collected a representative sample of maps.

Q. Again, what did the converge statistics show for your second set of simulations?

A. They indicated that the model had run appropriately.

Q. Now, the criticism Dr. McCartin made about converge and statewide order particulars on your first set of simulations, do you think that was a fair criticism?

A. No. Those diagnostics were include with the materials we provided. Dr. McCartin saw those and made reference to them. He indicated additional convergence diagnostics that he thought would be appropriate. Those are include in the second set of simulations.

11 Q. Okay. Let's now move on to page 12 of
12 so the Exhibit 4, section 4. Titled regional
13 analysis. And on that page, Dr. Barber, there's a
14 color-coded maps. Could you explain to the Court
15 what's reflected by that color-coded map of
16 Louisiana?
17 A. So this map indicates the way in which
18 the simulations are partitioned for the Senate.
19 So I partitioned the state into four regions. You
20 can see those regions are groupings of
21 illustrative Senate districts.
22 Q. Just to be clear, how did you identify
23 the regions that you used?
24 A. So as I said, there are groupings of
25 illustrative Senate districts that they're

1 geographically connected to one another.
2 Q. Let's turn to page 14 of Secretary of
3 State Exhibit 4. There's a chart at the bottom of
4 the page titled minority majority black voting age
5 population districts in simulation Senate region
6 1. Could you explain to the Court what that chart
7 reflects?
8 A. So this chart is showing the results of

9 the second set of simulations for the Senate
10 region 1, if you look back at the map, the area in
11 and around New Orleans. And the results here show
12 the proportion of simulations that generate a
13 particular number of majority BVAP districts on
14 the far left we can see that in that set of
15 simulations, 100 percent of the maps generate at
16 least one majority BVAP district. We can see then
17 on the next bar that approximately 70 percent of
18 the simulations generate at least two majority
19 BVAP districts. Then finally we can see that in
20 that set of simulations, approximately ten percent
21 of the simulations generate three majority BVAP
22 districts on the far right of the figure, we see
23 where the illustrative map is at 6.
24 Q. How many simulations map generated six
25 majority black districts in region 1?

1 A. There were none.
2 Q. What conclusions did you reach from this
3 analysis?
4 A. The conclusions that I reach is that
5 even after we respecify the -- if I the
6 simulations to incorporate all of these changes

7 and we rerun the algorithm, the set of simulations
8 nevertheless produce largely the same results that
9 they failed to produce the number of majority BVAP
10 districts as in the illustrative map.
11 Q. I apologize, Your Honor, I may have
12 asked this, but just to be clear: Did you do
13 similar analysis for Senate regions 2, 3 and 4, on
14 pages 15 through 18 of Secretary of State Exhibit
15 4?
16 A. Yes, I did.
17 Q. All right. Now let's turn to Secretary
18 of State Exhibit 4 page 19 secretary labeled 4.2
19 house. Could you tell the Court what is reflected
20 by the color-coded map Louisiana that appears on
21 page 19?
22 A. So this is showing the choice of regions
23 for the simulations in the house. So again, you
24 can see these are groupings of illustrative house
25 districts. There are seven in the -- you can see

1 that are color-coded on the map there.
2 Q. Okay. Again, how did you identify these
3 house regions?
4 A. So as I said, they're groupings of

5 illustrative house districts that are
6 geographically close or connected to one another.
7 Q. Like the Senate chart we looked at, did
8 you do a similar chart for all the house regions
9 to compare the number of majority black simulated
10 districts to the number found in enacted and
11 illustrative plan?
12 A. Yes.
13 Q. What did you find?
14 A. So again, the results are similar to the
15 results of the Senate for the second set of
16 simulations. And for the results of the first set
17 of simulations, the illustrative maps stands as an
18 outlier, significant outlier, when compared to the
19 results of the simulations with regards to the
20 number of majority BVAP districts that are
21 generated.
22 Q. Did you reach any conclusions from that?
23 A. The conclusions are that again even
24 after respecifying the algorithm, taking into
25 account all of these changes that we just -- we

1 simply don't see a similar number of majority BVAP
2 districts in the simulations when compared to the

3 illustrative map.
4 Q. Let's turn now to Secretary of State
5 Exhibit 4 page 9, figure 1. On that page, there's
6 two charts there. Mr. Barber, one says number of
7 majority black VAP Senate districts, 500,000 maps.
8 The other chart says number of majority black VAP
9 500 thousands house districts. Could you explain
10 to the Court what's reflected by these two
11 figures?
12 A. So these two figures take all of those
13 regional simulations and piece them back together
14 to look at this at a statewide level. Similar to
15 the figures we looked at, at the very beginning of
16 my testimony. Again we're seeing the distribution
17 of majority BVAP districts produced by the
18 simulations in the Senate on the left and the
19 house on the right, again, in comparison to the
20 dashed lines in each figure, which show the
21 enacted map and the illustrative map.
22 Q. All right. So let's start with the
23 house. What was the average number of majority
24 black house -- Senate -- I'm going to go with the
25 Senate first, because it's on the left. What was

the average number of majority black Senate districts generated by your second set of simulations?

A. In the Senate, the average was a little more than five.

Q. How many again majority black house districts are in the enacted plan?

A. In the enacted plan, in the Senate, there are 11.

Q. How about in Mr. Cooper's illustrative plan?

A. 14.

Q. Let's move slightly to the right, which is your chart for the second set of house simulations. What's the average number of majority black house districts created by your second set of simulations?

A. So in the second set of simulations in the house, the average number produced by the simulations is between 17 and 18.

Q. And how many majority black house districts are in the enacted 2022 house plan?

A. 29.

Q. How many majority black districts are in Mr. Cooper's illustrative house plan?

A. 35.

Q. Can you conclude, Dr. Barber, by briefly summarizing what you relied upon to form your opinions in this case?

A. So in kind of holistically, we have at this point a first set of simulations, a second set of simulations that are specified very differently than the first set of simulations. Nevertheless both of them produce come to a similar conclusion, which is that we just don't see something resembling the illustrative map, given the criteria that are outlined in the joint rule combine and the simulations from that. More over, when we look at the particular distribution of the districts, just whether they're majority or not, we see something very different as well. And then finally just a visual inspection of the district boundaries. We see in some cases some unusual shaped districts and odd appendages and things like that, that are not well explained by the traditional redistricting criteria.

Q. All right.

DEFENSE COUNSEL:

24 Your Honor, subject to redirect, no
25 further questions, but I also want to make a

1 proffer of proof at the time the Court tells
2 me it's proper for me to do that.
3 THE JUDGE:
4 Permitted. All right. Cross.
5 EXAMINATION BY PLAINTIFF COUNSEL:
6 Q. Good morning, Dr. Barber.
7 A. Good morning.
8 THE JUDGE:
9 Make an appearance, we have a new court
10 reporter.
11 PLAINTIFF COUNSEL:
12 Stewart Naifeh from legal defense fund
13 for the Plaintiffs.
14 EXAMINATION BY PLAINTIFF COUNSEL:
15 Q. So, Dr. Barber, you testified in a case
16 in the Northern District of Florida called
17 Jacobson versus Lee; is that correct?
18 A. Yes, I did.
19 Q. Did you recall what weight Chief Judge
20 Walker afforded your opinions?
21 A. I do not recall.

22 Q. Stephen, can we pull up Jacobson versus
23 Lee, and turn to page 18 of this PDF. For the
24 record, this is 411 F sub third at 1239 is the
25 citation for the case. And pen cite for this page

1 is 1274.
2 Dr. Barber, do you read -- can you see the
3 highlighted text there?
4 A. Yes.
5 Q. Can you read that?
6 A. "This Court further finds Dr. Barber's
7 testimony emphatically not credible and his
8 opinions offered in this case to be unreliable."
9 Q. Does that refresh your recollection of
10 that weight Chief Judge Walker afforded your
11 opinions?
12 A. Yes.
13 Q. Okay. Did you also testify in a
14 Northern district of Florida case called Jones
15 versus Desantis?
16 A. Yes.
17 Q. And do you recall if Judge Hainkel
18 accredited your testimony in this case?
19 A. I do not recall.

20 Q. Stephen, can we pull up Jones V
21 Desantis. I see it's on the screen. Turn to page
22 37 of this PDF. This is 462 F, the third, 1196.
23 The pen cite is page 1246 of the reporter.
24 Do you see the highlighted text there?
25 A. Yes.

1 Q. Can you read that text?
2 A. "The state says the focus groups and
3 pooling show that payment of LFOs, including by
4 those unable to pay, was critical to passage of
5 the amendment. They even presented expert
6 testimony to support the assertion. I do not
7 credit testimony."
8 Q. The expert testimony there, that was
9 your testimony that the Court is referring?
10 A. I believe so.
11 Q. Okay. Does that refresh your
12 recollection about the weight that Judge Hainkel
13 gave your testimony?
14 A. Yes.
15 Q. All right. And, Dr. Barber, you have
16 never drawn districting plans outside of
17 litigation, correct?

A. That's correct.
Q. And you don't have experience drawing districting plans without the use of simulations, correct?
A. I'm not sure what you mean.
Q. So you haven't used Maptitude to assemble census blocks and precincts by hand into districts?

A. I have not used Maptitude to create a districting plan.
Q. Okay. And have you used any other software other than simulation software to create districting plan?
A. I have used the program called Dave's redistricting. I'm familiar with that redistricting program.
Q. You have used that software to create an entire redistricting plans?
A. I use it in my course work. I teach students about redistricting in my legislative politics class. And I have an assignment that asks them to create redistricting plans using criteria. So I've used it in the academic and

16 pathological setting.
17 Q. Dr. Barber, a few general questions
18 about simulations analysis. When you perform a
19 simulation analysis, you use a computer to create
20 a large number of maps, correct?
21 A. Yes.
22 Q. And you impose a set of constraints on
23 how the computer uses those maps?
24 A. Yes.
25 Q. Okay. And those constraints are

1 intended to approximate various redistricting
2 principles that a human map drawer might consider,
3 correct?
4 A. They are intended to approximate the
5 criteria that whichever jurisdiction you're
6 working with, they have out lined as the criteria
7 that should guide redistricting.
8 Q. And they could also include criteria
9 that a map drawer considered whether or not
10 whether some injury discovery have out lined those
11 criteria, correct?
12 A. I'm sorry, I'm not sure I understand.
13 Q. So a human map drawer might consider

14 criteria that are not those out lined by a
15 jurisdiction, correct?
16 A. Yes, that's correct.
17 Q. And those could also be programmed into
18 a simulation?
19 A. Yes, they could.
20 Q. Okay. To do that, you have to reduce
21 the redistricting considerations as a human map
22 drawer might apply them to a formula that could be
23 captured in computer code, correct?
24 A. I'm sorry, I'm not sure I understand.
25 Q. In order to implement redistricting

1 criteria, whether specified by a jurisdiction or
2 use bid a human map drawer, you need to convert
3 those into something a computer could actually
4 calculate, correct?
5 A. Yes, that's correct.
6 Q. Okay. One use of simulations is to
7 isolate the effect of a particular redistricting
8 consideration on a configuration of districts in a
9 particular map you're interested in analyzing?
10 A. That's one of many uses.
11 Q. Okay. To do that, you produce simulated

12 maps that do not include the redistricting
13 consideration whose impact you're trying to study;
14 is that right?
15 A. I'm sorry, can you --
16 Q. So in order to isolate the effect of
17 redistricting consideration, you exclude that
18 consideration from the simulation; is that
19 correct?
20 A. That would be one approach, that's part
21 of the process. So I wouldn't say that that's the
22 only -- like, that's the final thing, but this
23 is -- like, that's one step in the process.
24 Q. Is that what you did in this case?
25 A. It's -- I think it's a description of

1 part of what I did. I wouldn't say it's
2 everything.
3 Q. And then once you produce that set of
4 simulations that exclude that criteria, you
5 compare them to the map you're studying?
6 A. Yes, that's correct.
7 Q. Okay. And for this simulations to be
8 useful in testing the impact of the excluded
9 consideration on the map you're studying, a

simulation has to include all the other redistricting criteria that went into the map you're studying, correct?

A. I don't think that that is the case. I don't think that anyone could do that. I think that's an impossible task.

Q. So you're saying it's impossible to I conclude all the criteria that the map drawer who drew the map you're studying used?

A. I'm sorry, to include all of the criteria?

Q. Yes.

A. You can do -- you can obviously do your best at trying to do as much as possible, but I think that we could sit here and articulate and possibly a number of criteria. That's not

something that could be done.

Q. Turning to the simulations you created in this case. The excluding redistricting in your consideration was race, correct?

A. Race is not included in the simulations.

Q. Right. And that's because you want to assess the impact on race on the illustrative maps

created by Mr. Cooper?

A. That's correct.

Q. Okay. You specifically want to study the number of majority black districts in Mr. Cooper's illustrative plans as compared to the simulations, correct?

A. That's one of the comparisons, among others.

Q. Your opinion in this case is that the simulations you ran show that racial considerations did have an effect on Mr. Cooper's maps, correct?

A. Yes. That's correct.

Q. And Mr. Cooper has candidly acknowledged he considered race in his map drawing process, correct?

A. Yes, I believe he has.

Q. He also has acknowledged that

consideration of race was factor in his conclusion that he could create additional majority black districts over what are in the enacted plan, correct?

A. Yes, I believe he has said that.

Q. Okay. One of the constraints that you included in your simulations that is the district's must have equal populations, correct?

A. They have to fall within a range of population. So roughly equal within, I think, the state set a five percent boundary or threshold.

Q. Okay. That's plus or minus five percent over the target district population?

A. Yes. That's correct.

Q. Okay. That's a hard constraint, correct?

A. Yes.

Q. A hard constraint is a constraint that the simulation will not produce any map that violates a hard constraint; is that right?

A. That's one way of putting it, yes.

Q. Okay. When you instruct the simulation to create districts of equal population, you're measuring that using total population, correct?

A. That's correct.

Q. It's not calculated using voting age population, correct?

A. That's correct.

Q. And you also considered contiguity, correct?
A. Yes.
Q. Is that also a hard constraint, right?
A. Yes, that's correct.
Q. Okay. You considered parish splits?
A. Yes.
Q. And municipal splits?
A. Yes.
Q. And core preservation?
A. Yes.
Q. And geographic or mathematical compactness?
A. Correct.
Q. Those are all soft constraints; is that right?
A. That's correct.
Q. A soft constraint means that the simulation will prefer maps that perform better on those constraints, but it won't require any particular threshold; is that right?
A. Yes.

Q. Okay. And it's possible using the Redus

software that you used here to assign a weight to each of the soft constraints, correct?

A. Yes.

Q. Okay. So you can give more weight to some constraints and less weight to others?

A. Yes.

Q. Okay. And you used the default weighting of those -- all of those constraints provided by the Redus software, correct?

A. No, I don't believe that's correct.

Q. Okay. In your opinion, none of the constraints you considered predominated in the maps produced by the simulations, correct?

A. That's correct.

Q. Okay. You did no simulations that removed any of those other constraints to study what impact they are having on the simulations?

A. I'm sorry, I don't --

Q. You didn't run a simulation that excluded for example, compactness as a criteria?

A. No. That was not the purpose of my inquiry.

Q. So you don't have any simulations that would tell you how much impact the compactness

constraint was having on for example, the distribution of majority black districts?

A. No. That was not my intent.

Q. Okay. Your simulations did not include protecting communities of interest as a constraint, correct?

A. So I think we talked about how in order to know what communities of interest would be included, you would have to first articulate what communities of interest you would want to be protected to begin with.

Q. So you excluded them because you were not aware of any -- of what communities of interest should be considered; is that right?

A. I think we, in my deposition, talked about how insofar as communities of interest are co term news with municipalities or with parishes, that the simulations would take into account those communities of interest.

Q. Okay. But you didn't include communities of interest separate from preserving from parish and municipal boundaries?

A. I did not include an additional set of communities of interest, because I couldn't

25 identify a list of community of interest either in

1 the joint rule or in Mr. Cooper's report that
2 would have guided that decision.
3 Q. Okay. Mr. Cooper did seek to protect
4 communities of interest in his maps?
5 A. I think he says that he tries to do
6 that. I don't know that he further articulates
7 particular communities of interest that he uses to
8 guide the particular districts that he's drawing.
9 Q. So you don't know if Mr. Cooper had a
10 definition of the communities of interest he was
11 considering?
12 A. I'm not aware of a particular list of
13 communities of interest that he provides.
14 Q. Okay. Are you aware of any other
15 experts in that that's that offered communities of
16 interest in different parts of Louisiana?
17 A. I am aware of experts who have offered
18 opinions about I would say larger communities of
19 interest that are kind of regional, you might say.
20 But those would be, you know, much larger than a
21 particular district that we're talking about. So
22 those would fall under what I was describing

23 earlier in terms of parishes and preservation of
24 parishes.
25 Q. And you didn't consider those larger

1 regions?
2 A. Insofar as the districts are assembled
3 by parishes, and the parishes make up those
4 regions, and then the particular in the second set
5 of simulations, the grouping of the states
6 according to the illustrative district would in
7 some way address that as well.
8 Q. But you didn't include as a separate
9 constraint in your simulations the regional
10 communities of interest that you're describing?
11 A. Those larger regions are not included as
12 their own independent parameter in the algorithm.
13 Q. You're not aware of expert testimony
14 concerning more local communities of interest in
15 this case?
16 A. I'm not.
17 Q. Your simulations also did not include
18 avoiding incumbent appearances, correct?
19 A. That was not included in the
20 simulations. It wasn't something that I saw in

21 the joint rule as a factor to be considered.
22 Beyond the preservation of existing district
23 boundaries, which again would also serve to
24 preserve incumbents within their districts.
25 Q. So reserving existing district

1 boundaries, could preserve incumbents in their
2 districts if the incumbent was included in the
3 part of the district that was preserved, correct?
4 A. Yes, that's correct.
5 Q. But not in the incumbent was in a part
6 of the district that was not preserved, correct?
7 A. That's correct.
8 Q. You're aware that Mr. Cooper did seek to
9 avoid inherent encumbrances in his maps?
10 A. I'm aware he sought to do that in the
11 drawing of his map. I don't think that it is
12 suggestive of why the simulations deviate from or
13 looked different from the outcome of his M. I
14 don't see that connection.
15 Q. You don't see that connection, because
16 you didn't study it?
17 A. No, because I don't think it's
18 substantively contributes to the explanation.

19 Q. Okay. And you didn't include a
20 principle or a constraint concerning the number of
21 parishes spanned by a district?
22 A. The districts have to contain equal
23 population. So it's not as though districts can
24 run across a lot of parishes. I guess I'm not
25 exactly sure what you mean by that constraint.

1 It's unclear to me how that.
2 Q. So it's true that in your regional
3 analysis, in some instances, you describe the
4 number of parishes spanned by a district and how
5 that differs from the enacted plan to Mr. Cooper's
6 plan, correct?
7 A. The number of parishes that are -- that
8 a district crosses?
9 Q. Yes.
10 A. Yes.
11 Q. You didn't include that as a separate
12 constraint from just keeping parishes whole,
13 correct?
14 A. Well, in keeping parishes whole, that's
15 going to have the markets that's going to have the
16 effect of reducing the number of parishes the

17 districts span. Because if a district is trying
18 to keep a parish -- or if the algorithm is trying
19 to keep parishes whole, then it's going to, by
20 definition, minimize the number of districts
21 present in a parish.
22 Q. But you didn't report any numbers in
23 your report anywhere about average number of
24 parishes spanned by a district?
25 A. I report just the parish splits, the

1 number of times a parish is split.
2 Q. Okay. I'd like to discuss your regional
3 analysis a little bit. For the record, Dr.
4 Barber, you reviewed Mr. Cooper's report in this
5 case from June 2023, correct?
6 A. Yes.
7 Q. And did you review some of the exhibits
8 to Mr. Cooper's report?
9 A. There are a lot of them. I did review
10 many of them.
11 Q. Okay. You reviewed the exhibits
12 containing compactness scores?
13 A. Yes.
14 Q. You reviewed the exhibits concerning

15 parish splits?
16 A. Yes.
17 Q. You would agree that on average Mr.
18 Cooper's plan splits fewer parishes over all than
19 the enacted plan?
20 A. I don't recall the particular numbers
21 off the top of my head. I believe that it is
22 fewer. I couldn't articulate to you the exact
23 number.
24 Q. Okay. Mr. Cooper's plans ever overall
25 are more compact than the own plan?

1 A. Again, off the top of my head, don't
2 have those numbers. I don't have reason to doubt
3 your representation, but I couldn't tell you off
4 the top of my head.
5 Q. Okay. Mr. Far earlier asked you about
6 proportional misty some of the tables you include
7 in your report, reporting on proportional number
8 of districts, correct?
9 A. Yes, that's correct.
10 Q. You calculated proportionality based
11 upon voting age population, correct?
12 A. Yes, that's correct.

13 Q. Your report doesn't anywhere report on
14 proportionality based on total population?
15 A. No. I used the voting age population.
16 Q. So in your regional analysis, you
17 analyze the illustrative map on the one hand to
18 the 2011 map or the 2022 enacted map on the other,
19 correct?
20 A. Yes.
21 Q. All right. And you're not making a
22 comparison to the samples produced by your
23 simulations, correct?
24 A. So there are tables where we, just in
25 the questions that Mr. Farr asked me, talked about

1 particular regions and the number of majority BVAP
2 districts produced by the simulations in those
3 regions. So I don't want to say that the
4 simulations never touch on a discussion of
5 reachings.
6 Q. Okay. But with respect to the specific
7 redistricting principles and whether or not the
8 illustrative plan complies with or doesn't comply
9 with them, that's focused on the comparison to the
10 enacted plan or to the 2011 plan?

11 A. The core retention scores in those
12 sections are a comparison to the 2011 plan.
13 They're not a comparison to the simulations.
14 Q. Okay. You find generally that the new
15 majority black districts have lower core retention
16 scores than the districts they replace, correct?
17 A. Yes. That's correct.
18 Q. You discuss other metrics with respect
19 to specific districts, as well, correct?
20 A. Yes.
21 Q. Okay. I'd like to turn to your
22 discussion of the new majority black district in
23 the Caddo Bossier region. That's at Secretary of
24 State Exhibit 1 at page 33. You discuss here that
25 compactness scores of SD38 in Mr. Cooper's

1 illustrative plan as compared to the 2022 enacted
2 plan, correct?
3 A. Yes that's correct.
4 Q. All right. You don't include the
5 compactness scores of neighboring SD39, which is
6 also majority black?
7 A. SD39, I do not report the compactness
8 scores for SD39 in this case. I was focused on

9 the new illustrative districts. I believe SD39 is
10 majority black in both of the maps.
11 Q. Okay. You don't discuss parish splits
12 in your discussion of the Caddo Bossier region in
13 the Senate map, correct?
14 A. I would have to go back through to be
15 absolutely sure. But I take your representation
16 as being accurate.
17 Q. Okay. Let's move to the Jefferson and
18 St. Charles Parish area. That's in SOS Exhibit 1
19 at page 41. Let's back up a little bit so just so
20 we can see, 40 and 41.
21 In this region, you don't report any
22 compactness scores, correct?
23 A. That's correct.
24 Q. And instead, you're comparing the
25 enacted and illustrative plans on parish splits?

1 A. I believe the section has a discussion
2 of how the districts and the enacted plan and the
3 illustrative plan treat the parishes in this area.
4 Q. Okay. And you agree that the new
5 majority black district 19 spans only two parishes
6 in Mr. Cooper's illustrative map, correct?

A. Yes, that's correct.
Q. Those are St. Charles and Jefferson?
A. Correct.
Q. In the enacted plan, it spans four district -- four parishes?
A. Correct.
Q. I just want to get something on the record here for the benefit of the Court and the report. And that is, I think in this last paragraph on page 41 we discussed at your deposition where it says SD9, it should say SD19?
A. That's correct. It should say SD19.
Q. Okay. So the four parishes that SD19 spans in the enacted plan are St. Charles, Lafourche, St. John the Baptist, and Jefferson?
A. Yes.
Q. You say here that keeping entire parishes whole within districts is a traditional redistricting criteria, correct?

A. Correct.
Q. You say that in the enacted plan St. Charles parish is kept whole, correct?
A. Yes.

Q. And the illustrative plan, it's split?
A. Yes.
Q. And St. John the baptist parish is made whole in the illustrative plan, correct?
A. Correct.
Q. And it's split in the enacted plan, correct?
A. Correct.
Q. Okay. But you don't mention that it's made whole in your report anywhere, correct?
A. I don't think it's mentioned here.
Q. Okay. Is it mentioned anywhere in your report that St. John the baptist parish is made whole in the illustrative plan?
A. I don't know that I specifically highlight that particular parish. It would obviously be included in the maps that cover the whole plan and the plan wide statistics and that sort of thing.
Q. But that's something you considered when highlighting the ways in which Mr. Cooper's plan

does or does not comport with traditional redistricting principles?

A. I think in this section, I was focused particularly on these two parishes. So that's why the focus is on those two parishes.

Q. Okay. You also explained that neighboring District 8 spans more parishes than the illustrative plan than the enacted plan, correct?

A. Correct.

Q. And that's four instead of two, so sort of the reverse of what we see with district 19?

A. Correct.

Q. Okay. And that's because you considered a number of parishes span by a district to be a traditional redistricting principles or keeping that number low?

A. I'm sorry, can you say that again?

Q. So you're talking about the number of parishes spanned by a district. And that's because that is a consideration that you consider important in assessing adherens to traditional redistricting principles?

A. I think I was referring to that in combination with the splitting of the particular

parishes.

Q. Okay. Let's move to the Baton Rouge region and the new Senate district 17 in the illustrative plan. That's on Secretary of State Exhibit 1 at page 48. Let's go back pains to see where we are. So this is Baton Rouge. So you mention here, and this is on page 48, that the new district 17 you say it connects parts of east Baton Rouge to Pointe Coupee, Iberville and west Baton Rouge, correct?

A. Correct.

Q. And that's four parishes, right?

A. Yes.

Q. So illustrative district 17 spans four parishes?

A. I believe so. I'm not certain if I'm reporting on the entirety of the district here. I can't recall off the top of my head what the particular district's orientation is.

Q. I think it's page 54, where you have your map. Can you turn to that? Can you see this map?

A. Yes.

Q. You see SD17, illustrative SD17 on this map?

A. Yes, I do.
Q. Does it look like it spans four parishes?
A. Yes, it does.
Q. Okay. Let's go back to page 48. So illustrative -- so enacted district 17, Senate district 17 spans ten parishes; is that right?
A. Again, I don't know off the top of my head. I don't have reason to doubt your representation.
Q. But you didn't mention the number of parishes spanned by enacted district 17?
A. I think I discuss more the general shape or the kind of area that the district is spanning, but I don't think I call out the particular parishes, included in the district.
Q. So when a district in Mr. Cooper's map spans more parishes than the enacted map, that was worth calling out in the New Orleans area and district 19, but it's not when it's the enacted plan that spans more parishes, you don't describe that; is that right?
A. No. I think that in this case, we're --

24 it's -- the comparison is very different. We're
25 in a different region. I think I made reference

1 to the fact that district -- the enacted district
2 17 is a more rural district, which by definition
3 would mean it's taking in fewer per square mile.
4 So it's going to span a larger area.
5 Q. Okay.
6 A. The narrative here is not intended to be
7 an encyclopedic listing of every parish. There's
8 plenty of evidence in the record which districts
9 take in which parishes and that sort of thing.
10 Q. But in this section of your report,
11 you're evaluating whether Mr. Cooper's plan does
12 or does not comply, in your view, with traditional
13 redistricting principles?
14 A. That's correct.
15 Q. You look at those where -- never mind.
16 Strike that.
17 And then on page 49, you state here that the
18 illustrative plan adds an additional split to east
19 Baton Rouge parish, correct, 6 instead of 5, I
20 believe?
21 A. I believe that I note that it extends

22 into East Baton Rouge Parish, yes.
23 Q. Well, so this illustrative Senate
24 district or Senate district 17 extends into east
25 Baton Rouge and both plans -- in both plans; isn't

1 that true?
2 A. I believe so, yes.
3 Q. Okay. And you don't -- here you don't
4 note that illustrative district 17 makes west
5 Baton Rouge parish whole, correct?
6 A. This particular paragraph does not make
7 reference to that.
8 Q. Do you make reference to that anywhere
9 in your report?
10 A. Well, I think the maps we just looked at
11 make that clear.
12 Q. But that's not a consideration when
13 you're here describing how Mr. Cooper's plan
14 departs from traditional redistricting principles,
15 you didn't think it was important that west Baton
16 Rouge parish was made whole in his plan?
17 A. Again, I'm not trying to provide an
18 encyclopedic explanation for every district and
19 every particular boundary choice.

20 Q. You also don't make any mention of any
21 compactness scores in the East Baton Rouge area,
22 correct?
23 A. Not in this particular section, no.
24 Q. Okay. Let's move to the house plan.
25 And let's start with the Lake Charles area.

1 That's Secretary of State Exhibit 1 of page 90 to
2 91. Let's start with 91. So in this Lake Charles
3 area, Mr. Cooper splits Calcasieu into five house
4 districts, correct?
5 A. Yes.
6 Q. Those are 33, 34, 35, 36 and 38; is that
7 right?
8 A. Yes.
9 Q. Okay. In the enacted plan splits
10 Calcasieu into seven districts, correct?
11 A. Yes.
12 Q. Okay. And four out of seven of those
13 districts span multiple parishes, correct?
14 A. I believe so, yes.
15 Q. Okay. And Mr. Cooper puts all five
16 districts wholly within Calcasieu parish, correct?
17 A. He does, yes.

18 Q. And other than your map, you don't
19 mention that anywhere in your report?
20 A. I mean, it's here on the map. You can
21 see it.
22 Q. But you don't cite that as one of the
23 traditional redistricting principles you
24 considered when you considered whether Mr. Cooper
25 complied with traditional redistricting

1 principles?
2 A. I did not discuss the particular choice
3 in the county as a whole. That was not the
4 intention of this section of the report.
5 Q. Okay. I think if we go back to page 88,
6 maybe one more. So this is your description -- I
7 think we can go back actually one more page, of
8 the Lake Charles region and what we've been
9 discussing the districts in that region. Here you
10 talk about compactness scores again, correct?
11 A. Yes.
12 Q. All right. Here you're talking about
13 the compactness scores for districts 34 and 36?
14 A. Yes.
15 Q. All right. 34 is a majority black

16 district in the enacted plan, correct?
17 A. Yes, that's correct.
18 Q. And when we were discussing the Senate
19 map and the Caddo Bossier region, you said you
20 didn't look at compactness scores for the
21 districts that were already majority black in the
22 enacted plan, correct?
23 A. I believe so, yes.
24 Q. And here you do?
25 A. I believe that is the case, yes.

1 Q. And you don't mention the compactness
2 score for HD38, which is the new majority black
3 district?
4 A. In this particular region, I think the
5 numbering can be a little confusing, because it
6 might be difficult to identify which is in fact
7 the new district.
8 Q. But you don't explain that anywhere in
9 this section?
10 A. Well, I note the numbering of the
11 districts in the map.
12 Q. Yes. You don't explain that it's
13 confusing or suggests that you think HD34 is

14 really a new district anywhere in this section?
15 A. It's -- I'm sorry, I don't know that I
16 followed the question you're asking.
17 Q. Strike that. Let's go back to Secretary
18 of State Exhibit 1 of page 70 to 71. This is
19 discussing the Shreveport region and the house
20 map, correct?
21 A. Yes.
22 Q. All right. And in the enacted plan, the
23 city of Shreveport is split among four districts;
24 is that right?
25 A. I believe that is the case.

1 Q. The illustrative map, the city of
2 Shreveport the split among four districts; is that
3 correct?
4 A. I think so. I would need to again look
5 to be completely certain.
6 Q. Okay. In the illustrative plan, you say
7 that city of Shreveport is divided more equally
8 mooning the four districts that it's split among?
9 A. Yes.
10 Q. Okay. You say that this more equal
11 split in Shreveport violates the traditional

12 redistricting principles of avoiding municipal
13 splits?
14 A. I'm referring the way in which the city
15 is divided can sometimes help us understand what
16 was going on, what was the objective of the map
17 maker, yes.
18 Q. Let's turn to secretary of state 1 at
19 page 78. This is about the Natchitoches area; is
20 that right?
21 A. Yes.
22 Q. In the Natchitoches area, the 2011 plan
23 included the majority black district, correct?
24 A. Yes. In the --
25 Q. In the 2011 plan, so the plan was being

1 replaced?
2 A. In the house.
3 Q. In the house?
4 A. That's correct.
5 Q. That was house district 23?
6 A. Yes.
7 Q. The illustrative plan also includes
8 house district 23 as a majority black district in
9 the Natchitoches area, correct?

A. Yes.
Q. And the enacted plan relocates house district 23 to the New Orleans area, correct?
A. Numerically, that's where the number ended up. I don't know that beyond the number it's effectively you could say the district was dissolved and absorbed into the remaining kind of shifted south ward. The number itself is not, I don't think, especially, informative in some ways, somewhat arbitrary.
Q. Okay. And in the enacted plan, unlike the 2011 plan and the illustrative plan, there is no majority black district in the Natchitoches area, correct?
A. That's correct.
Q. When you describe that the district

prior HD23, was dissolved, that was because of population loss in the northern part of the state?
A. Yes.
Q. You say it's significant I think you used word noteworthy that incumbent in HD23 was no longer eligible to run because of term limits?
A. Yes, I believe so.

8 Q. Okay. The illustrative map similar to
9 enacted plan moving to HD23, the illustrative map
10 moved HD5 to the New Orleans area, correct?
11 A. Again, the number moves down there.
12 It's not as simple as saying like it just
13 transports the district. It's completely
14 different population. I would say it again
15 dissolves district 5 and generally shifts the
16 districts in a Southeastern direction.
17 Q. Okay. HD5 was a majority white district
18 in the 2011 plan, correct?
19 A. Yes.
20 Q. Okay. It remains a majority white
21 district in the enacted plan?
22 A. I believe so, yes.
23 Q. You identify it here as one of the
24 districts that's kind of moved into the area where
25 the HD23 formerly existed?

1 A. Yes.
2 Q. Okay. And the incumbent in HD5 was also
3 term limited, correct?
4 A. I believe that is the case.
5 Q. Okay. You don't mention that anywhere

6 in your report?
7 A. No.
8 Q. Wasn't noteworthy that the incumbent in
9 HD5 was term limited?
10 A. It didn't make it into my report.
11 Q. Okay. Can we turn to Secretary of State
12 Exhibit 1 page 94. This is discussing the Baton
13 Rouge region and the house plan; is that right?
14 A. Yes.
15 Q. Okay.
16 DEFENSE COUNSEL: Your Honor, not to
17 interrupt counsel, but Mr. Bash has been
18 going for two hours. Do you think we could
19 take a 15 minute break. He's testified
20 longer than any other witness.
21 THE JUDGE: How much time you got.
22 PLAINTIFF COUNSEL: Five minutes.
23 THE JUDGE: Let's finish up.
24 EXAMINATION BY PLAINTIFF COUNSEL:
25 Q. So looking at the Baton Rouge region in

1 the house plan, you describe here that to shapes
2 of some of these districts, correct?
3 A. Yes.

4 Q. But you don't include any numeric
5 compactness scores; is that right?
6 A. Those again, there's plenty of places
7 where those are reported. I don't think that it's
8 necessarily the case that we needed to repeat
9 that.
10 Q. Okay. In your report here at the second
11 paragraph, on page 94, can you read that first
12 sentence?
13 A. First the map packs white voters in HD70
14 giving a white voting age population of
15 69 percent; however, to accomplish this --
16 Q. I didn't need the second sentence.
17 A. Oh.
18 Q. Sorry.
19 DEFENSE COUNSEL:
20 Your Honor, can he complete his answer?
21 THE JUDGE:
22 The rule of completeness, I mean, it's
23 in the record. You can certainly read the
24 second sentence if you'd like to.
25 PLAINTIFF COUNSEL:

1 I certainly have no objection to reading

the second sentence. I have no questions about it.

THE JUDGE:

If you want to read the second sentence, go ahead.

THE WITNESS:

However, to accomplish this, the Cooper illustrative HD70 takes on a U shape to avoid a concentration of heavily black precincts to have a substantially higher black population.

EXAMINATION BY PLAINTIFF COUNSEL:

Q. All right. So focusing on that first sentence, is avoiding packing voters based on race a traditional redistricting principle?

A. That is a lengthy conversation that you could ask five people and get six different answers.

Q. Okay. None of your other regional discussions do you discuss the packing of white voters, correct?

A. I think I discuss the particular racial composition of the districts. I don't use perhaps the word "pack."

Q. Okay.

A. But I think there are many places in which I refer to the racial composition of the districts as being noteworthy.

Q. You don't discuss anywhere whether the illustrative map unpacks any districts based on race as compared to the enacted plan?

A. Well, I think I discuss how the illustrative map very carefully creates districts that are about 50 to 53 percent, which I think is kind of exactly what you're asking about.

Q. Okay.

PLAINTIFF COUNSEL:

No further questions.

DEFENSE COUNSEL:

I have a couple. We can take a break if you want.

THE JUDGE:

Go ahead. I'll ask for redirect.

EXAMINATION BY DEFENSE COUNSEL:

Q. Dr. Barber, the counsel talked to you about two cases in which you were discredited. Did either of those cases involve testimony on simulated maps?

A. No, they did not.

25 Q. He didn't cite any cases where you were

1 discredited where you were giving testimony about
2 on simulations maps, correct?
3 A. That's correct.
4 DEFENSE COUNSEL:
5 I didn't write down the caption of the
6 first case, was it Walker, Counsel?
7 PLAINTIFF COUNSEL:
8 That case was Jacobson v Lee.
9 DEFENSE COUNSEL:
10 What was it?
11 THE JUDGE:
12 Jacobson v Lee.
13 DEFENSE COUNSEL:
14 I'm sorry, Your Honor. Appreciate it.
15 EXAMINATION BY DEFENSE COUNSEL:
16 Q. So the Jacobson case, he talked about
17 the district Court Judge discredited you. Do you
18 know the case history of that case, Dr. Barber?
19 A. Yes.
20 Q. Do you know what happened to that case?
21 A. It went to the 11th circuit and was
22 overturned.

23 Q. Okay.

24 DEFENSE COUNSEL:

25 Your Honor, that's all I have, except

1 for my proffer of proof.

2 THE JUDGE:

3 We'll take a 15-minute recess.

4 (RECESS 11:00-11:15 A.M.)

5 THE JUDGE:

6 We're going to have a little change of

7 order this morning necessitated by two

8 things:

9 We're having some IT problems. It

10 doesn't involve the auditory equipment or the

11 audio equipment, but it involves the

12 communication among chambers. We got some

13 problems. So IT is going to come up.

14 Also, I need to make a change of

15 personnel. I have, to be quite frank, the

16 court reporter's sick. So we're going to

17 bring in a new court reporter at 1 o'clock.

18 So in that regard, put your proffer on, and

19 then we'll see --

20 DEFENSE COUNSEL:

21 Do it now, Your Honor?
22 THE JUDGE:
23 That's what I'm saying, put your proffer
24 on, and then we'll be in recess until 1 p.m.
25 There is obviously permitted cross on the

1 proffer. Mr. Thomas is going to get
2 Mr. Chaffee now. Wait just a second until
3 he's in position, and then you can do your
4 proffer.
5 DEFENSE COUNSEL:
6 Thank you very much, Your Honor.
7 THE JUDGE:
8 Well, the Court doesn't need to be on
9 the bench for this. The Court will be back
10 at 1 p.m., but the proffer will be on the
11 record. Any questions about the process?
12 Okay.
13 THE CLERK:
14 All rise.
15 DEFENSE COUNSEL:
16 Proof of truth of Dr. Barber's
17 testimony.
18 Q. Dr. Barber, you testified about your

19 understanding of the term "predominate" as a
20 political scientist. Do you remember that?
21 A. Yes, I do.
22 Q. Do you have an opinion whether race was
23 the predominant factor for Mr. Cooper's
24 illustrative plans and the majority black
25 districts that are included in those plans?

1 A. Yes.
2 PLAINTIFF COUNSEL:
3 Objection.
4 EXAMINATION BY DEFENSE COUNSEL:
5 Q. Can you tell us what that is?
6 PLAINTIFF COUNSEL:
7 The objection is that it calls for legal
8 conclusion. It's the same record I had made
9 on the record earlier. I just want to
10 preserve it for the proffer.
11 A. Say the question again.
12 Q. I'm asking you to testify as your
13 understanding of a political scientist and not to
14 make any legal conclusions.
15 My question is: Do you have an opinion on
16 whether race was predominant factor in the

17 construction of Mr. Cooper's illustrative maps, in
18 particular majority black districts?
19 A. Yes. I think it's clear from looking at
20 the simulations and the results of both sets of
21 simulations, that race was the predominant factor
22 in the drawing of the illustrative map, in
23 particular the boundaries of those additional
24 majority BVAP districts. I don't think that
25 there's really any possible way that those

1 districts could arise using the other nonracial
2 redistricting criteria. The simulations that
3 incorporate those criteria produced maps are so
4 far distant and different from the illustrative
5 map that it is simply statistical impossibility
6 that those criteria could give rise to the
7 illustrative map without race being the
8 predominant factor.
9 DEFENSE COUNSEL:
10 No further questions. Thank you, Dr.
11 Barber.
12 PLAINTIFF COUNSEL:
13 Just want to renote the objection for
14 the record. Objection that the question

about predominance calls for legal conclusion. Also have an objection that the answer went well beyond the scope of the report.

DEFENSE COUNSEL:

Thank you, Dr. Barber.

THE CLERK:

We're in recess until 1 o'clock.

(RECESS 11:00-1:00 P.M.)

THE JUDGE:

Call your next witness and if counsel

please make appearances, we do have a new court reporter.

DEFENSE COUNSEL:

John Walsh. The defense will call Sherri Hadskey.

(WITNESS SWORN).

THE CLERK:

Please state your name and spell it.

THE WITNESS: Sherri Whartton Hadskey S-H-E-R-R-I, W-H-A-R-T-O-N, H-A-D-S-K-E-Y.

THE JUDGE: Go ahead, Mr. Walsh.

EXAMINATION BY DEFENSE COUNSEL:

13 Q. Good afternoon, Mrs. Hadskey. Where are
14 you currently employed?
15 A. For the Louisiana Secretary of State.
16 Q. And in what position do you held with
17 Secretary of State's office?
18 A. I'm the Commissioner of Elections.
19 Q. How long have you held this position?
20 A. I was appointed in 2017.
21 Q. And would you mind walking through the
22 Court through your history working with the
23 Secretary of State's office in the various
24 positions you held?
25 A. Sure. I started in 1986, and I was an

1 elections program specialist, and I moved to the
2 elections operations director. Then from the
3 director, I moved into the commissioner of
4 elections position.
5 Q. In the position of commissioner of
6 elections, what are your duties and
7 responsibilities?
8 A. As commissioner of elections, I oversee
9 the elections process, the dredge of machines, the
10 storage of the machines, the qualifying of

11 candidates, the process of building the ballots
12 and programming the ballots, the election night
13 tabulation and results and the audit process, just
14 oversight of elections.
15 Q. Commissioner Hadskey, are you registered
16 to vote?
17 A. I am.
18 Q. And when did you register?
19 A. In 1983.
20 Q. When you registered to vote, what were
21 the mechanics of registration at that time?
22 PLAINTIFF COUNSEL:
23 Objection, Your Honor; relevance.
24 THE JUDGE:
25 What is the relevance, Mr. Walsh?

1 DEFENSE COUNSEL:
2 Your Honor, I'm just trying to lay the
3 foundation talk about voting in Louisiana and
4 where voting has come since 1983 quite
5 frankly.
6 PLAINTIFF COUNSEL:
7 Excuse me Your Honor, my name is Amanda
8 Giglio, G-I-G-L-I-O, for the Plaintiffs, My

9 apologies.
10 THE JUDGE:
11 Overruled. I'll allow it.
12 A. At that time, I had to go into the
13 registrar of voters office and fill out an
14 application in person.
15 Q. Is that still how you register to vote
16 today?
17 A. It's one way, but that's not the only
18 way.
19 Q. What other ways can you register to vote
20 in Louisiana today?
21 A. Currently in Louisiana, of course you
22 can register online. You can go to OMV or DMV and
23 register. We have many private elections around
24 the state. We do school elections. We bring
25 registration cards to seniors to introduce them to

1 the elections process. It's an instructional
2 mechanism. Social service offices have voter
3 registration available. Of course, online, you
4 can register online. And yes, there's many ways,
5 various ways.
6 Q. You mentioned two acronyms, I just want

7 to be clear for the record, you said OMV?
8 A. Office of Motor Vehicles and Department
9 of Motor Vehicles.
10 Q. That was DMV?
11 A. Yes.
12 Q. Do you have to be a certain age to
13 register to vote in Louisiana?
14 A. Yes, you do.
15 Q. What age is statewide order?
16 A. 16.
17 Q. What age can you start voting?
18 A. 18.
19 Q. So you're saying you can preregister at
20 16?
21 A. That's correct.
22 Q. And then let's just say if your birthday
23 is July 1st, there's an election on July 1st,
24 you've preregistered, can you vote that day?
25 A. Yes. The day you turn 18, you're

1 eligible to vote.
2 Q. If you preregister?
3 A. If you preregister.
4 Q. Whose role is it in Louisiana -- strike

that. Whose primarily responsible for voter registration in Louisiana?

A. That's the registrar of voters.

Q. Does the Secretary of State do anything to support the registrar of voters?

A. The Secretary of State's office currently has a system, the errand system, elections registration, information network. And it houses the informations that input by the registrar of voters. It's ministerial in aspect of the voter registration process.

Q. Are there any reasons for which a voters registration could be canceled in Louisiana?

A. There's a few reasons that it could be canceled.

Q. What are those?

A. Of course if you pass away, if you die, then your voter registration is canceled. If you are inactive and you miss two federal elections, your name is published in the newspaper, and the attempt to reach you is there, but you are

canceled after missing the two federal, and you're inactive. If you move out of state, you can

contact the State of Louisiana and notify them that you are no longer wishing to be registered in our state, that you've moved, and you're in another state. And then if you're convicted of an elections crime, they can cancel your registration.

Q. Is an elections crime the only crime for which you can have your registration canceled?

A. To my knowledge, yes.

Q. If a voter is convicted of a felony that is not an elections crime, what happens to their registration?

A. They're suspended.

Q. Is there a mechanism for the suspension to be lifted?

A. Yes. By law, there's a mechanism after five years of being incarcerated to reregistering, have your registration off the suspended list and on to the active list.

Q. Let's switch gears. Do you remember the first time you voted?

A. Yes.

Q. When was that?

A. In 1983.

Q. How did you vote in 1983; what was the process?

A. I went to the precinct and voted at the precincts.

Q. At that time in 1983, was that the only way to vote in Louisiana?

A. To my knowledge.

Q. And since you cashed your first vote in Louisiana, in 1983, have the ways or -- expand the ways you can cast the vote?

A. Yes.

Q. Tell the Court the ways you can cast the vote?

PLAINTIFF COUNSEL:

Your Honor, I'm really struggling to see the relevance of this testimony to issues related to redistricting.

DEFENSE COUNSEL:

Your Honor, we had testimony earlier this week that talked about the difficulties that they had in voting. I think this is important for the Court to know the way we have expanded greatly voting in Louisiana over the years.

THE JUDGE:

The historical perspective is part of the Senate factors in totality of circumstances, so I'm going to allow the question. Overruled.

EXAMINATION BY DEFENSE COUNSEL:

Q. Can you explain to the Court the ways we now have to vote in Louisiana today?

A. Sure. In Louisiana, currently, of course, you can apply for an absentee by mail ballot F. you meet the application requirements, you can receive a mail ballot. You also have nursing home voting, where the nursing home can enroll in a program, and they're allowed to vote at the nursing homes. We also have early voting in person. And you can go for -- there's no excuse necessary, and it's seven days, Saturday to Saturday. Sunday is not a voting day in person early voting. And then military and overseas, they have the right to e request an e-mail ballot. If you are wanting to vote by fax, you can vote by fax. There's a fax process. If you're hospitalized, the registrar of voters works with

24 the hospital facilities to allow you to vote and
25 then also if you are incarcerated but you're not

1 convicted of a felony, you can also request a
2 ballot, and the registrar works with the
3 facilities, the correctional facilities for that
4 process.
5 Q. Do we have any programs that senior
6 citizens can participate in?
7 A. If you're over 65, you can enroll in the
8 mail ballot absentee by mail ballot program.
9 You're automatically mailed a ballot to your house
10 for every election. You don't have to vote that
11 ballot. You could go in person, but you're
12 automatically enrolled in that program to receive
13 a ballot. If you're disabled, you can also
14 receive a ballot in the disability program.
15 Q. Let me ask a little bit more about early
16 voting in person. And you mentioned that early
17 voting runs from Saturday to Saturday. Is that
18 the same for federal elections?
19 A. No. For federal election, it's Tuesday
20 to Tuesday; however in Louisiana, the law changed
21 not long ago for press determine elections, it's

22 ten days of early voting.
23 Q. Prior to election day, where can a
24 citizen find their ballot?
25 A. Currently, in the state, if you're

1 looking for a sample ballot, you can go to the go
2 vote app., and look at your sample ballot.
3 There's a voter portal that has the sample ballots
4 available. And then in the precincts or during
5 early voting, there are sample ballots required by
6 law to be available to all voters.
7 Q. You mentioned the go vote app. Whose
8 app is that?
9 A. It's the Secretary of State's app. It's
10 a free app. You download it, and you can review
11 everything. You can review your pooling location.
12 You can look at your sample ballot, your party,
13 all of your information, your registrar of voters
14 addresses, things like that.
15 Q. Commissioner, let me ask you another
16 question around polling locations. You previously
17 said you worked in elections operations earlier in
18 your career; is that correct?
19 A. That's correct.

20 Q. Who's responsible for selecting pooling
21 locations in Louisiana?
22 A. Pooling locations are selected by the
23 parish governing authority. Each parish governing
24 authority selects the poling location, and then
25 they have to make sure that it meets the

1 disability requirements. Once it's selected, they
2 are required to send an ordinance or a resolution
3 to the Secretary of State's office. And when
4 that's received, it's entered into the errand
5 system. And it populates the go vote app, and it
6 also populates the voter cards that are sent to
7 the voters saying that their pole pooling location
8 has changed.
9 Q. Commissioner, voting machines in
10 Louisiana, do we have new ones, do yes have old
11 ones, what's the status of?
12 A. Election day voting machines currently
13 are legacy ma shines. Thypar purchased in 1991.
14 They are old. We are in the process of trying to
15 obtain new machines.
16 Q. Are these machines web based?
17 A. No.

18 Q. So there's no internet cape 8ables with
19 these machines?
20 A. No.
21 Q. Once a voter casts their vote, is there
22 a way to change that vote with these machines?
23 A. No.
24 Q. In your experience as commissioner, have
25 you ever seen a vote be changed with these

1 machines?
2 A. No, I have not.
3 Q. You mentioned that they're old machines?
4 A. Yes.
5 Q. Do you ever have problems with them?
6 A. Yes, we do.
7 Q. Tell me what kind of problems do we
8 have?
9 A. On election day, we have problems with
10 the mechanics of the machines. We have certified
11 technicians that have procedures to repair any
12 voting machine that has a problem, any voter that
13 is in a voting machine that has a problem, exits
14 that machine and is put on to another machine
15 until the technician can repair that machine.

16 Q. Has it ever prevented an election from
17 occurring any problems with these machines, have
18 elections been held up because of them?
19 A. No.
20 DEFENSE COUNSEL:
21 Can I have one moment, Your Honor?
22 THE JUDGE:
23 Yes.
24 DEFENSE COUNSEL:
25 Commissioner Hadskey, that's all the

1 questions I have for you.
2 THE JUDGE:
3 Counsel, I'm going to give you fair
4 notice. You're probably going to object that
5 it's outside the scope of cross. I want to
6 know what the timeline is. If you don't want
7 to ask it, I'll ask it.
8 DEFENSE COUNSEL:
9 That's fine, Judge.
10 PLAINTIFF COUNSEL:
11 Excuse me, Your Honor, we would maintain
12 that Ms. Hadskey doesn't have the sufficient
13 personal knowledge to testify as to the

14 timing of redistricting. I can explain if
15 Your Honor would like.
16 At her deposition Mrs. Hadskey indicated
17 she had to speak with her administrative
18 managers and what she supervisors of business
19 and services division, to specifically the
20 timing relating to redistricting matters.
21 She has no personal knowledge of that, and
22 any testimony she gives will be hearsay.
23 THE JUDGE:
24 Mrs. Hadskey, are you able to give this
25 Court firsthand knowledge about the deadlines

1 and dates or things -- for things like
2 publishing the ballots, the last possible,
3 day you can publish a ballot; can you give
4 firsthand knowledge on that?
5 THE WITNESS:
6 My business and service division does
7 develop the timeline with that. I have
8 checked with them. I know what their
9 thoughts are, but I don't do it myself, but
10 I'm happy to provide whatever the Court needs
11 to my knowledge.

PLAINTIFF COUNSEL:

I would also offer Your Honor if I may, that Mrs. Hadskey herself has never worked in the business and services business division. She worked in elections operations which deals with ballot building.

THE JUDGE:

Y'all don't really know want to know what the timeline is? Why wouldn't y'all want to know?

PLAINTIFF COUNSEL:

We would maintain that Mrs. Hadskey can't tell us. She's not the proper witness to tell us that information.

THE JUDGE:

Can you tell us the timeline.

THE WITNESS: I can tell you what's in the.

Ballot box, the dates that are in the ballot box.

THE JUDGE:

What is that?

THE WITNESS:

The ballot box is what business and

service puts together. It has every date in there for the upcoming elections.

THE JUDGE:

Give me an example.

THE WITNESS:

For an example, upcoming is the presidential preference primary, what are the qualifying dates. what the last date to call a special, when is early voting, that type of thing.

THE JUDGE:

You don't want to know those dates?

PLAINTIFF COUNSEL:

Your Honor, we would be -- if Mrs. Hadskey could to testify to that in her personal knowledge, that is perfectly

sufficient for Plaintiffs. We would maintain that if Defendants seek to lodge any pracella objections. It's their responsibility to proffer evidence on those objections, and they haven't done that with Ms. Hadskey.

THE JUDGE:

Oh, so you think they're not laying a

8 foundation for a subsequent precella?
9 PLAINTIFF COUNSEL:
10 That's precisely our position, yes.
11 THE JUDGE:
12 Does anybody care they might need to
13 know so that I can do what the Court of
14 appeal has told me to do in the Robinson case
15 and what the U.S. Supreme Court said to do in
16 the Milligan case.
17 PLAINTIFF COUNSEL:
18 Your Honor, we would maintain that the
19 secretary's office has already made
20 representations to the fifth circuit --
21 THE JUDGE:
22 In the congressional case.
23 PLAINTIFF COUNSEL:
24 Yes, Your Honor.
25 THE JUDGE:

1 Is this timeline the same as the
2 congressional case? I hate to sound
3 ignorant, but is it?
4 PLAINTIFF COUNSEL:
5 We don't know. Mrs. Hadskey hasn't put

6 on any affirmative testimony on that issue.
7 THE JUDGE:
8 Well, do your cross-examination, I'll
9 think about it. But go ahead.
10 EXAMINATION BY PLAINTIFF COUNSEL:
11 Q. Good afternoon, Mrs. Hadskey.
12 A. Hello.
13 Q. My name is Amanda Gilio. I'm here
14 representing the Plaintiffs. I just -- you
15 started working in the Secretary of State's office
16 in 1986, correct?
17 A. That's correct.
18 Q. That was -- it was called a different
19 thing at that time, though, it was the department
20 of elections; isn't that right?
21 A. Department of elections and
22 registration, yes, under Jerry Faller.
23 Q. And the department of elections was
24 responsible for machines and tabulation; is that
25 right?

1 A. They were responsible for the voting
2 machines, and tabulation back then was lever
3 machines, so there was no transmission, there was

no audits, it was done on the parish level more so than the state.

Q. When the department of elections and the Secretary of State, they merged; isn't that right?

A. That's correct.

Q. When they merged, you started working as an elections director over balloting?

A. The balloting department is now the business and service division. The machine programming department was operations.

Q. And you worked in operations, correct?

A. And I worked in operations, that's correct.

Q. In around 2008, you became the director of operations?

A. That's correct.

Q. While you were the director of operations, you didn't have anything at all to do with redistricting, right?

A. No. Well, take that back. Whenever you redistrict, and you change districts in the state, it changes the data basis for the programming

portion of it, the ballot building portion. So

simply data entry to change that is what was done in operations.

Q. Understood. So now is the commissioner of elections, you supervise operations?

A. I do.

Q. You service the business and services division?

A. I do.

Q. The business and services business is what handled things like redistricting?

A. That's correct.

Q. But you never worked in the business and services group yourself?

A. No.

Q. And in preparing, do you recall giving a deposition in this case?

A. I do.

Q. And you served as the 30(b)(6) witness for the Secretary of State's office; isn't that right?

A. I don't know what 30(b)(6) means, I'm sorry.

Q. , that's fine so. When you salt for your deposition, you were representing both

yourself and the office of the Secretary of State; isn't that right?

A. Yes.

Q. And to prepare for your deposition, you spoke to administrative managers in the businesses and services group, correct?

A. I did.

Q. Without talking to them, you wouldn't know the timeframes involved in administering an election, correct?

A. That is correct.

Q. One of those tasks involved in redistricting is updating voter districts isn't that right?

A. Updating voter districts on a legislative level. On a local level, it's done by the locals.

Q. Understood. And at your deposition, you said that you had no way to estimate how much work your office would need to do to reconcile new maps with work you did on old instance that right?

A. Right, not without asking the business and service director.

Q. And someone in business and services is

25 also responsible for up loading the new maps into

1 errand; isn't that right?
2 A. Yes, they are.
3 Q. That's a system you mentioned earlier?
4 A. Correct.
5 Q. The secretary uses? And you don't have
6 any direct knowledge of what that process is isn't
7 that right?
8 A. I've never done it myself.
9 Q. And another step involved in
10 redistricting is to provide voters notice of their
11 district change, correct?
12 A. Correct.
13 Q. And that's communicated by voter cards?
14 A. That's correct.
15 Q. Your office prepares voter cards by up
16 loading in errand to state prints?
17 A. That's right.
18 Q. USPS delivers those voter cards to the
19 voters?
20 A. That's correct.
21 Q. But you don't know how long it takes
22 between inputting changes into errand and getting

23 voter cards right?
24 A. That's correct. The only information
25 that I have about that is when a registrar has

1 problems with USPS and a delay, they notify us,
2 because we have a regional USPS director that we
3 have to turn problems in to where people are
4 receiving cards late or not receiving ballots,
5 things like that. That's my limited knowledge of
6 that.
7 Q. Understood Commissioner Hadskey you
8 haven't worked in the operations group six years?
9 A. It's been a while.
10 Q. Because you've been the commissioner?
11 A. That's correct.
12 Q. It's been a while since you've had your
13 hands in the weeds of ballot building?
14 A. Correct. Although.
15 Q. Sorry. Go ahead.
16 A. I'm very sorry. Although, we were so
17 hope full to get new equipment and that means new
18 programming, so my knowledge would not be as vast.
19 But because we still have the legacy equipment, I
20 do have certain knowledge of the way that it's

21 programmed. They've advanced somewhat on the
22 import system. So I wouldn't have as much, but I
23 do have somewhat of knowledge of it, because it's
24 so old.
25 Q. Right. And because it's so old, you

1 spoke to the groups that are currently in your
2 operations or the administrative managers that are
3 currently in your operations do you to prepare for
4 your deposition; assistant?
5 A. I did.
6 Q. To make sure the process they use now
7 are the same or that you understood the
8 differences between the processes now and the
9 processes that were in play when you were actually
10 working in operations; isn't that right?
11 A. Correct.
12 Q. So Mrs. Hadskey, I'd just like to take a
13 minute to discuss a couple of the steps that the
14 secretary has indicated that they used to
15 implement redistricting?
16 A. Okay.
17 Q. Now, my understanding is that the first
18 step is proof reading the map; isn't that right?

19 A. That's correct.
20 Q. And that involves lining out the
21 precincts to confirm that the right voters are in
22 the right areas; is that right?
23 A. To my knowledge, that is correct. And
24 it's a three step process. It's not just proofing
25 by one individual or two individuals. They take

1 it and proof it according to my elects business
2 and service director. They proof it, and then
3 they have a different set of ice, proof it again
4 and a different set of eyes proof it again,
5 because the concern is wanting to be absolutely
6 certain that everything is accurate.
7 Q. Sure. You don't want to give a voter
8 incorrect information?
9 A. That's correct.
10 Q. But sitting here today, you don't know
11 how long it would take to proof read new maps for
12 the state house and the state Senate given that a
13 proof reading process has already been done with
14 the past maps; isn't that right?
15 A. What I do know is from my questions, is
16 that the more districts that are changed, the

17 longer it takes. So in other words, if you only
18 changed three districts or four districts, the
19 time would not be as long as if you changed 64
20 districts.
21 Q. Well, let me ask you a couple of
22 questions about that then. You mentioned that
23 it's an issue of a number of districts changed.
24 A. To my knowledge.
25 Q. Okay. But the number of districts --

1 but the proof reading process occurs voter by
2 voter isn't that right?
3 A. The proof reading process for
4 legislative, yes, voter by voter. The parish
5 level races, it's also done voter by voter, but
6 it's a combination of the local registrar of
7 voters and then also our department will assist
8 them when they can.
9 Q. And so in this instance, given that
10 we're dealing with the state house and the state
11 Senate maps, that would be a potentially voter by
12 voter question; isn't that right?
13 A. Yes, parish by parish, and then voter by
14 voter, except when you move an entire parish into

15 a new district and the lines are drawn and it is
16 the entire parish, no matter what, then it's
17 proofed not only to make sure the voters are in
18 the right districts, because redistricting in
19 other areas, you want to make sure everything is
20 correct. And also, I think you may know, or maybe
21 you don't know, recently, part of Vermillion
22 parish became part of Iberia Parish, so making
23 sure when things like that don't happen, making
24 sure it's accurate.
25 Q. Are you aware whether the legislative

1 proofing process for the state house and state
2 Senate is similar the same to the legislative
3 proofing process for the congressional maps, both
4 deal with legislative issues?
5 A. Yes. To my knowledge it is.
6 Q. So the proof reading process is the same
7 for both the state and the congressional maps?
8 A. It should be.
9 Q. And commissioner Hadskey, are you aware
10 that the Secretary of State is being sued in a
11 separate litigation dealing with the congressional
12 map?

13 A. Yes, am I.
14 Q. Are you aware that the legislature could
15 potentially cast new maps governing Louisiana's
16 congressional districts no later than
17 January 30th, 2024 as a result of that litigation?
18 A. Yes.
19 Q. Are you aware that your counsel in that
20 litigation represented that in the event that the
21 Louisiana legislature does not pass a map that is
22 compliant with the voters rights act by then, that
23 the secretary would ideally have a map in place
24 and know what map is going to be used in 2024 by
25 late May?

1 A. Yes.
2 Q. You just said the proof reading process
3 for that map and this map would be the same,
4 correct?
5 A. Yes, it should be.
6 Q. Just to be clear, certain things also in
7 this -- in the congressional litigation, every
8 voter could be impacted by the scope of the change
9 to the map isn't that right?
10 A. Yes.

11 Q. And in this litigation, that's not the
12 case; isn't that right?
13 A. I haven't been in here, but I believe
14 the discussion has been not a statewide, but only
15 certain districts. And if that's the case, then
16 it wouldn't be all voters in the state.
17 Q. Exactly. So the proof reading process
18 wouldn't necessarily have to include all voters in
19 dealing with the new maps in this case?
20 A. That would be correct. I'd also like to
21 talk to.
22 Q. I'd also like to you a little bit about
23 special elections.
24 A. Okay.
25 Q. So special elections generally involve

1 the same basic procedural deadlines as any
2 election in Louisiana right?
3 A. Yes.
4 Q. Generally?
5 A. Generally.
6 Q. So if they have a qualifying deadline?
7 A. Yes.
8 Q. And then a primary?

9 A. Yes.
10 Q. And then a general?
11 A. Depending on if three candidates
12 qualify, you have a general two candidates
13 qualify, you don't have a general.
14 Q. Got it. That's very helpful. Special
15 elections are called by the governor; isn't that
16 right special elections can be called by the
17 legislature. And the governor?
18 A. The speaker of the house, yes.
19 Q. Got it.
20 A. And the governor assigns it. But they
21 call about the dates and require that. I'm not a
22 lawyer. So forgive me if I miss something on that
23 process.
24 Q. Well, forgive me if I miss something on
25 that process. So the Secretary of State doesn't

1 set the timing for special elections; isn't that
2 right?
3 A. No, they do not.
4 Q. The legislature, this is my
5 understanding and I'd like for you to see if
6 that's right. The legislature sets the qualifying

deadline for a special election right?

A. That is correct.

Q. And then the date for the primary election is set relative to the qualifying deadline right?

A. That is correct.

Q. The date for a general election if one is required is set based on the primary date, the date of the primary election?

A. Correct.

Q. And your office sometimes tries to make recommendations to the legislature about what the qualifying date for these elections should be; isn't that right?

A. Based on trying to save the state money, if there's an election coming up, and there's a general date that could be used for both, then trying to call a primary where the general would fall into place, so you're saving the state

instead of having two separate elections and then another election.

Q. Sure. So in the event that a special election is necessary, it makes sense to schedule

them as the same time as exists elections on the calendar?

A. If you can.

Q. So you can save money?

A. Correct.

Q. Because the same administrative needs are required as are needs for any election?

A. Correct. But the legislature, they may have their own reasons for looking for the dates, such as wanting to have a seat filled so that that district is represented, which doesn't fall into our other dates. So the cost of it may not be the number one priority.

Q. Sure.

A. It just depends on what they're looking for.

Q. Got it.

A. In other words, there's been times that I was told I know you set these dates, but these are the dates we're using.

Q. Sure.

A. It's not up to me to question their reason for the dates.

Q. Yes, ma'am you guys make it work, right?
A. That's correct.
Q. In the amount of staff that you need to administer elections depends on a lot of things, right, like the number of candidates?
A. Not as much as the number of candidates. The number of races, how big the parish is, if it's a partial parish OR a full parish. If it's a statewide, et cetera. But the procedures to set up an election and to all the preliminary work and the testing, and et cetera is no different. We have to make sure that every single motion is completed to ensure the security and the accuracy of the election. In other words, we can't skip something, you know, to try and save time. There's no way. We would want it to be accurate.
Q. Got it. But there are some administrative things that might make the process for building a ballot say a little bit easier; isn't that right. If the election is uncontested, for example?
A. If the election is uncontested, then there's not a general election, if it was only two

1 candidates. You wouldn't have that.
2 Q. Commissioner had, in recent years,
3 Louisiana has had at least four elections every
4 year isn't that right?
5 A. Yes.
6 Q. So in 2019, there were six elections
7 isn't that right?
8 A. Correct.
9 Q. In 2020, there were four elections.
10 A. Yes. The max I ever remember conducting
11 in a single year was 12, 12 elections in a single
12 year. It just depends on -- and several of those
13 elections dates have been done away with. We used
14 to have a proper election date in July. It was
15 legally mandatory in in July. They've done away
16 with that one.
17 Q. Understood. In the 2023 cycle, there
18 were six elections, isn't that right, this year?
19 A. Six dates original? Well, not
20 scheduled. We had an exact tie, I believe it was,
21 that caused a January election, similar to what's
22 going on right now. We have two exact ties from
23 this past general. So now we have a December
24 election. In those two parishes. The law
25 requires that if an exact tie occurs you have to

conduct another election. So it might not have been a scheduled. It was the repercussions of having the fact tie.

Q. So ultimately there's seven elections this year; isn't that right?

A. Yes.

Q. And those elections include special elections?

A. Yes.

Q. And let me show you what's been preadmitted as Plaintiff's Exhibit 169. That's the 2023 election calendar.

A. Okay.

Q. So in 2023, if you look at the second column under February 18, you can see that there is an election for state house district; isn't that right?

A. That is correct.

Q. That's the 93rd district?

A. That is.

Q. And if you look at those dates for that election, you can see that the qualifying dates were January 11th, 2023, to January 13th 2023;

24 isn't that right?

25 A. That's correct.

1 Q. The primary date for that election is

2 right at the top, isn't that right, the

3 February 18th date?

4 A. That is correct.

5 Q. If you look to the column directly to

6 the right of Plaintiff's Exhibit 169, you'll see

7 that there is a special general election for

8 Orleans state representative, and then house

9 district 93. So the general election occurred

10 about a month later; isn't that right?

11 A. The general election that was one of the

12 circumstances where -- what I was talking about

13 earlier, the primary came so that the general

14 would fall on an already scheduled municipal

15 primary date.

16 Q. Makes sense. You also -- we can take

17 this exhibit down. Things. In 2022, there was

18 another special election for state Senate

19 district; isn't that right?

20 A. In 2022, in January, I believe.

21 Q. I think it was later in the year. So it

22 was for district 5. Do you recall that?
23 A. No, but if you show it to e many, it
24 will jar my memory.
25 Q. Sure. I don't have that calendar right

1 here for you, but I can tell you that it was after
2 senator Peterson resigned from office in April of
3 2022. Does that ring any bells?
4 A. It does.
5 Q. And senator cortices set a special
6 election for that or set the deadlines for that
7 special election isn't that right?
8 A. Yes.
9 Q. And that special election took place on
10 the same dates as the federal elections that took
11 place in 2022; isn't that right?
12 A. Yes.
13 Q. And commissioner Hadskey, get that right
14 at some point?
15 A. That's okay.
16 Q. You could not think at your deposition,
17 you couldn't think of any reason why a special
18 state election couldn't happen at the same time as
19 a federal e extremity; is that right?

20 A. That's correct. My only concerns I
21 mentioned it before, is with the legacy machines,
22 the real estate on the ballot. So in June, we
23 have the deadline to call a prop. And in July, we
24 have the legislature providing us with
25 constitutional amendments. The most I've ever

1 seen, I think, was about 17. So with the
2 presidential taking up two columns and it keeps
3 growing every year, and our state is one of the
4 only states that requires the elects toker to be
5 listed on the ballot, which takes up a lot of
6 room. And then you fall in the with the local
7 races, and then you fall in with the props and the
8 C As. So my concern would be, I can't buy any
9 more of these machines to have more machines to
10 run the ballot over to. So that would be my
11 concern. That would be one of my biggest
12 concerns.
13 Q. Understood but if the circumstances
14 called for it, if it would say, save
15 administrative time, save administrative money,
16 you could try to make it work?
17 A. We would try. If it ever flowed, I

18 would throw the problem back to somebody else
19 legislatively or legally to say, I can't --
20 there's not enough buttons on here. The other
21 concern is, we have a Senate race where 22 people
22 qualified. The more candidates that qualify, and
23 the more that everybody put on there, unlike most
24 of the rest of the nation where they have page
25 ballots where you can keep paging over to go to

1 the next ones, so yes, it would end up being
2 somebody's legal problem that -- I mean, because
3 the bottom line is, I can only do what I can do on
4 that machines. There's only so many buttons.
5 Q. Understood Commissioner Hadskey, this
6 goes without saying, I think, but given your
7 testimony today, but you would seek to fill full
8 your responsibility to ensure that all elections
9 run on schedule, that's required; isn't that
10 right?
11 A. Absolutely.
12 Q. And that includes special elections that
13 are called?
14 A. Yes, it does, absolutely.
15 Q. And other entities have imposed

16 requirements on elections before, right, outside
17 of the secretary's office?
18 A. Meaning the legislature.
19 Q. The legislature?
20 A. Yes.
21 Q. And Courts?
22 A. Yes.
23 Q. And the governor?
24 A. Yes.
25 Q. And you've complied with all of those

1 requirements; isn't that right?
2 A. We have.
3 Q. Related to election administrative?
4 A. Related to elections administration.
5 However, it is my job as commissioner to bring up
6 to the Courts or to the legislature or to the
7 secretary himself when something is not being met
8 because of a requirement that has been put on us,
9 and I make sure that that is documented and noted.
10 So if by chance somebody files something after the
11 election date, based on that, then there's
12 evidence of what occurred.
13 Q. Sure.

A. And that happens with emergency elections also, when you have emergencies that fall into place and some deadline is having to be overlooked, it's node in case somebody were to file some contest suit or say there was a problem with it.

Q. Understood. Be even if under those circumstances, you would make every effort to comply with what was required?

A. I will always what's required with me.

PLAINTIFF COUNSEL:

Let me confer with my counsel briefly,

Your Honor.

No further questions, Your Honor, I tender the witness.

THE JUDGE:

Redistrict.

DEFENSE COUNSEL:

No, Your Honor.

THE JUDGE:

Next witness.

DEFENSE COUNSEL:

This is Patrick Lewis for the

12 legislative Defendants, and we call Dr. Alan
13 Murray.
14 (WITNESS SWORN).
15 THE CLERK:
16 Would you please state your name and
17 spell it.
18 THE WITNESS: Alan Murray,
19 A-L-A-N-M-U-R-R-A-Y.
20 DEFENSE COUNSEL:
21 Your Honor, may I approach the witness
22 to provide him with a binder containing his
23 reports and report exhibits.
24 THE JUDGE:
25 You may.

1 EXAMINATION BY DEFENSE COUNSEL:
2 Q. Good afternoon, Dr. Murray. I'd like to
3 turn now to Exhibit LDTX42, which is in the
4 binder, I just handed you. Do you recognize this
5 document, Dr. Murray?
6 A. Yes, I do.
7 Q. Okay. Is this your report?
8 A. Yes, it is.
9 Q. Okay. I'd like the turn -- to turn to

the appendix beginning on page 35, which I believe is your CV. It's up on the screen. Do you recognize this, Dr. Murray reference yes, I do.

Q. Is this your current CV?

A. Yes, it is.

Q. Can you explain to the Court your educational background?

A. I have bachelor's in mathematics, a master's in probability and statistics, and a Ph.D. in geography all California, santa Barbara.

Q. What are your areas of focus in your studies.

A. Spacial analysis, spacial analytics and GIS.

Q. Okay. What is the study of spacial analytics?

A. Basically, the evaluation of distributions, spacial distributions of population, race, service, potential, things along those lines.

Q. Okay. And GIS, what is that study?

A. GIS is acronym for geographic information systems. They are database management

systems to work primarily with spacial information, specializing in data collection, data management, manipulation, analysis, and mapping.

THE CLERK: What I'm sorry.

THE WITNESS: Mapping.

EXAMINATION BY DEFENSE COUNSEL:

Q. What kind of problems or projects have you studies using spacial analytics?

A. A whole host of things, but early on, a lot of work in the area of school districting, work looking at transportation, access and accessibility, transportation service areas, emergency service, service areas, forest management areas, planning units, and things along those lines.

Q. Is the study of districting part of your work in spacial analytics?

A. Absolutely.

Q. Okay. And is statistics part of your academic work?

A. Yes, it is.

Q. Can you explain to the Court what kind of statistics you study as part of your academic

work?

A. My area is primarily in the associated with spacial statistic, geo-statistics, having to do with looking at spacial ought item correlation, clustering and things like that.

Q. On these doings including spacial analytics, GIS statistics, do you teach courses on these topics?

A. Yes, I did.

Q. Do you teach them at the graduate level?

A. I teach them at undergraduate and graduate levels, yes.

Q. Dr. Murray, do you publish peer reviewed academic literature on these topics?

A. Yes, I do.

Q. Approximately how many publications and peer reviewed publications do you have?

A. Over 305.

Q. Okay. And do you know approximately how many times your work has been cited?

A. I think near 19,000 to date.

Q. All right. Where are you currently employed?

A. I'm currently employed at the university of California Santa Barbara in the department of geography.

Q. Your title there?

A. I'm a professor of geography. I'm also an affiliate in the group center for demography as well as the associate director for the center of spacial studies and data science,.

Q. Okay. I guess this goes without saying, do you have tenure at UCSB?

A. Yes, I do.

Q. Can you explain what the broom center for demography is?

A. The broom center for demography at USCB is basically like a population center. So it's affiliate faculty across campus including people in economics, people in socially, people in geography. And outside in other disciplines of it due do work and research associated with population issues.

Q. Okay. Spacial analytics department you mentioned, what's that?

A. The center for spacial studies, and data

2 science is a center, it's focused on basically GIS
3 and GI science application and issues. And it's
4 sort of second generation from the national center
5 for geographic information and analysis that was a
6 center funded at USCB by the national science
7 foundation in the early 1990s.
8 Q. Does USCB have a prominent program in
9 GIS?
10 A. Yes, it does. It's recognized as one of
11 the top GIS, GIS science programs in the world.
12 Q. Do you use GIS software in your
13 professional work?
14 A. Yes, I do.
15 Q. What is that software called?
16 A. I predominantly use arch GIS.
17 Q. Is Maptitude, are you familiar with
18 Maptitude for redistricting?
19 A. Yes, I am.
20 Q. What is that?
21 A. It's also a geographic information
22 system that suggests it is tailored to help
23 address political redistricting problems and
24 issues.
25 Q. Okay. And I believe you may have

mentioned this already, but just for the clarity of the record, does your professional work involve the studying of demographics by race?

A. Yes, it does.

Q. Okay. Have you served as an expert in redistricting litigation in the past?

A. Yes, I have.

Q. And that was the Robinson case before this Court; is that right?

A. Yes, it was.

Q. Okay. Who retained you to serve as an expert in this case?

A. The leaders of the Louisiana legislature.

Q. You provided one report in this case; is that right?

A. Yes, I did.

Q. Okay.

DEFENSE COUNSEL: Your Honor, we move for the admission of Dr. Murray as an expert in the fields of geography, demographic analysis, spacial analytics, as it relates to race, and statistic.

PLAINTIFF COUNSEL: No objection Your Honor.

25 THE JUDGE: Admitted in the fields as

1 tendered.
2 DEFENSE COUNSEL: At this time, we would also
3 pursuant the party's stipulation, we would
4 move the admission of LDTX42, which is
5 Dr. Murray's report, and LDTX43 through 50,
6 inclusive, which comprised the exhibits to
7 the expert report.
8 PLAINTIFF COUNSEL: No objection.
9 THE JUDGE: Admitted.
10 A. So that means I'm done?
11 THE JUDGE: Don't we wish.
12 EXAMINATION BY DEFENSE COUNSEL:
13 Q. Let's return to your report, Dr. Murray,
14 and specifically I'd like to turn to page 2.
15 A. Okay.
16 Q. And I believe in the -- I'd like for you
17 to just summarize for the Court what you were
18 asked to do in this case?
19 A. In terms of this analysis, I was asked
20 to evaluate the illustrative districts generated
21 by Mr. Cooper, along with the enrolled 2022 and
22 Senate and house districts.

23 Q. Were there specific aspects of those
24 plans that you looked at in your analysis in this
25 case?

1 A. I was focused on looking at various
2 sorts of things, looking at the data, veracity,
3 and then the I suppose completeness of the
4 analysis and correctness of the analysis, and to
5 that end, I undertook data management manipulation
6 sorts of tasks, I evaluated compactness. I looked
7 at core, I look at aspects of spacial correlation,
8 and finally looked specifically at communities of
9 interest.
10 Q. Okay. And what sources did you analyze
11 in formulating the opinions in your report?
12 A. I looked at the illustrative districts
13 provided by Mr. Cooper. I also looked at the
14 enrolled Senate and house districts provided by
15 the legislature, as well as associated census
16 block data, and then from the census to block
17 boundaries. As well as I guess I should add the
18 census block groups.
19 Q. Did you also look at any socioeconomic
20 data?

21 A. Yes. That provided in the blocks as
22 well as in the block groups, associated with ACS
23 data, yes.
24 Q. Okay. So I think my first question is:
25 Did you evaluate, did you review, I should say,

1 the counts of split parishes and split voter
2 tabulation districts in the districts created in
3 Mr. Cooper's illustrative plans?
4 A. Yes, I do.
5 Q. Did you review the account counts of
6 split parishes in the DDTs in enrolled plans?
7 A. Yes, I did.
8 Q. Just to make sure we have a clean
9 record, when we're referring illustrative plans,
10 we're referring the ones in 2023; is that right?
11 A. That's correct.
12 Q. For the enrolled plans, those were in
13 2022?
14 A. 2022, yes.
15 Q. Okay. And is that analysis recorded in
16 your expert report in this case?
17 A. Yes, it is.
18 Q. So I'd like to focus today on your

19 analysis of the number of divided voter tabulation
20 district boundaries. So if we could start in the
21 Senate, I believe that's on paragraph 17 between
22 pages 11 and 12. Let me know when you get there.
23 A. Okay.
24 Q. Can you tell the Court how many voter
25 tabulation district splits that you found in the

1 enrolled 2022 Senate plan?
2 A. Splits for the voting districts in the
3 enrolled plan were six. And 18 illustrative
4 house.
5 Q. Did you mean illustrative Senate, I'm
6 sorry?
7 A. Excuse me, Senate. There's a typo.
8 You're correct.
9 Q. So just to make sure, it's six in the
10 enrolled and 18 in the illustrative; is that
11 correct?
12 A. That's correct.
13 Q. Okay. If we could then move to the
14 house, I believe that's paragraph 23, appearing at
15 the bottom of 15 and top of 16. And Dr. Murray,
16 can you tell us how many voter tabulation district

17 splits you found in the enrolled 2022 house plan?
18 A. Sorry, I'm just trying to refresh my
19 memory. ZERO for the house and eight for the
20 illustrative house, I believe, unless, yes.
21 Q. No VDT splits in the enrolled plan?
22 A. That's correct.
23 Q. There were eight, I believe you said in
24 the illustrative 2022 house plan?
25 A. That's correct.

1 Q. Okay. I'd like to turn to compactness.
2 Dr. Murray, did you review the compactness of the
3 district's created in Mr. Cooper's illustrative
4 plan?
5 A. Yes, I did. He reported three different
6 measures of compactness, Reock, Polsby Popper, and
7 he said in the report compact hole, but he didn't
8 report any empirical measures for those.
9 Q. Okay. Did you also review the
10 compactness of the districts in the enrolled
11 plans?
12 A. Yes, I did.
13 Q. Okay. So can you explain the Polsby
14 Popper compactness metric?

15 A. So I provided all three measures in my
16 report on page 2; although, it was stipulated in
17 the deposition that the Polsby Popper is missing
18 the two Exponent on the perimeter. In the
19 denominator perimeter -- which one did you want me
20 to explain.
21 Q. Just a brief overview of Polsby Popper?
22 A. Polsby Popper is looking at the
23 perimeter of a circle of the area of the district,
24 divided by -- well, the perimeter -- well, the
25 circumference of the circle of the same area, size

1 as the district squared over the perimeter squared
2 of the district being evaluated.
3 Q. When was that technique developed?
4 A. The technique is attributed to Polsby
5 Popper in 1991, but in fact it's a measure that
6 has existed since the 1800s at least.
7 Q. Okay. How about the Reock metric, what
8 does that measure?
9 A. The Reock is the area squared or area
10 over the smallest enclosing circle of that area.
11 So it's a measure that ranges between 0 and 1.
12 Q. Okay. And when was Reock developed?

13 A. It's attributed to Reock in 1961, but it
14 too was discussed as a metric for looking at shape
15 or compactness in the 1800s as well.
16 Q. Okay. Are there any differences between
17 Polsby Popper and Reock in terms of how they -- in
18 terms of what they're measuring and practice?
19 A. Yes. As I described, one focuses on
20 area relating the area to the area of the smallest
21 enclosing circle. And the other Polsby Popper,
22 looks at the perimeter of a circle over the
23 perimeter of the actual area.
24 Q. Are there particular shapes that might
25 perform poorly on one measure and per for well on

1 other?
2 A. Positive.
3 Both are attempts to characterize a
4 shape or a district as a single number.
5 In fact, they're two dimensional objects
6 Q. Condition vex mall, what is that
7 measuring?
8 A. Convex haul looks at the area over
9 the -- the area of the convex hole of the area and
10 the convex hole is a particular kind of shape that

has a proper convexity, so as defined to be the smallest polygon, essentially, that encloses -- completely encloses the district. Again what you have as a measure between 0 and 1, because the area enumerators always going to be the same size or smaller than the convex of that whole area did you can compute the measure of compactness that you report itself.

A. Yes, I did.

Q. Okay. So I'd like to now turn to figure 7 on page 9 of your report. Does this figure report your computations of the different compactness measures in the illustrative and enrolled 2023 -- illustrative and enrolled Senate plan?

A. Yes, they do. Yes, it does.

Q. Okay. And what is your -- using these three measures, what is your ever all conclusion over all conclusion about the compactness of the districts in the enacted Senate plan?

A. So they each have a value. Reock is .35. Polsby Popper is .18. And the convex hole is .66. And across all districts these measures

9 convexity -- or compactness measures are a little
10 bit higher than what they are for the majority
11 black districts in the plan.
12 Q. Okay. And then for the illustrative
13 plan, what are the numbers that you calculate for
14 that?
15 A. The numbers are in a relative sense,
16 pretty similar to those observed in the Senate
17 plan for each particular metric, and there's the
18 same relationship that among the 14 majority black
19 districts, that the associated compactness
20 measures are lower than they are across the whole
21 region.
22 Q. And if you were comparing, we'll just
23 focus on all districts in the plan, but if you
24 were comparing the compactness of the illustrative
25 plan versus the compactness of the plan, what

1 conclusions can you draw?
2 A. That the illustrative plan has slightly
3 higher compactness to the hundreds decimal place.
4 Q. Is that have substantive significance to
5 you as a social scientist?
6 A. It's different, the measure is

7 different. I'm not sure within the context of the
8 measures that there's a lot of meaning that can be
9 put into the hundreds place difference, but
10 there's a little bit.
11 Q. Okay. And I'd like to now turn to
12 figure 9, page 11 of your report. And this is up
13 on the screen. Dr. Murray, can there be -- we
14 talked earlier about some differences between
15 Polsby Popper and Reock. Do the measures always
16 correspond for districts?
17 A. No, they don't. So the same or
18 different metrics may give a different evaluation
19 of different district in a comparative sense. So
20 what you see in this figure is a plot for each
21 district, its measure by Reock against the measure
22 by Polsby Popper, and if the measures agreed, what
23 you'd see is a straight line of agreement or some
24 other trend.
25 Q. So just to orient us to this figure, can

1 you just describe what's on the X axis and Y?
2 A. The X is PP, Polsby Popper. Then on the
3 Y axis is Reock. What you see is if you picked
4 any particular point, so I'll look at this one

that has a value of .2. For Polsby Popper, it's .2. If we look at Reock, it's a little bit more than .4. With the 1 in the middle. This is done for each of the 39 districts.

Q. Okay. So each dot on here refers to a specific district?

A. Yes.

Q. And then it's plotted based on its Reock and Polsby Popper; is that right?

A. Yes, it is.

Q. Did you calculate a correlation between a district's Reock and Polsby Popper score?

A. Yes, I did. That's reported somewhere. In 15, I guess.

Q. You're referring --

A. In this particular case.

Q. You're referring to paragraph 15; is that right?

A. That's right.

Q. What is that correlation?

A. That correlation is 0.6449.

Q. Okay. What does that number tell us about the linear relationship of those two

3 measures of compactness?
4 A. Well, it says that there's some
5 correlation here, but you have to be careful in
6 terms of it in terms of linear implication, a more
7 standardized way to look at it, strictly from a
8 linear perspective would be in a regression
9 framework, which would effectively be this
10 official squared.
11 Q. So if you squared that number, what
12 would that tell you?
13 A. Roughly 0.37. What that would say from
14 a linear perspective is that the relationship
15 between the two variables are explained, are
16 37 percent of the variability with respect to
17 linear is explained by these two variables, which
18 means in terms of linear relationship, what's not
19 explained is 60.3 percent.
20 Q. Okay. So is that why the dots are
21 scattered widely on this chart?
22 A. That is exactly why, yes.
23 Q. Okay. Now, did you use another measure
24 of compactness to evaluate the districts beyond
25 the three that you reported than Mr. Obligation

Mr. Cooper?

A. Yes, I did. I moved moi.

Q. Why did you select the my?

A. The moment of inertia, more becoming more widely used now, though it has existed for many years.

Q. When was the moi developed?

A. The my, if you go back into the literature, it's something like 1963, Weaver and he is, they talk about it, although they do refer to a linear -- Leonard oiler developing it in the 1700s.

Q. This is not exactly brand new to the field?

A. No.

Q. Okay. Just very briefly, how does the moment of inertia differ from, say, Polsby Popper?

A. So the moment of inertia, one of the reasons why I included it, is that it's a measure that looks at the whole area and if I took a given district, I would be looking at all the locate locations, infinite number of low cakes within that district and looking at some sort of spacial variability with respect to a central location. So in terms of the measure itself, it does take a

given central location, often the centroid. Then it looks at this squared distance from that location to every point, infinite number of points within the district. It takes this measure, this so called moment of inertia, and it put it in a measure. The measure is basically the moment of inertia for circle of the same size, divided by the moment of inertia for the actual district. So it's a comparison sort of the most compact shape believed to be a circle, and then comparing the behavior that district with respect to that. So it's a measure that also varies between 0 and 1.

Q. Okay. Is the moment of inertia method peer reviewed?

A. Yes, it is. So like in geography, that's one of the reasons that I used it, it appeared in the 70s, as noted in my report. It probably should qualify that the literature that I noted note in the report is really the geographic literature, as opposed to what I just mentioned previously, there's obviously other literature that this comes from. Two of the things involved actually are prominent GIS faculty member that was

24 at USCB, Michael good child was involved in both
25 of the references that I mention dollars, talking

1 mostly about the integration of this measure
2 within the GIS -- within a GIS context.
3 Q. I see. And is the moment of inertia
4 commonly used in your field?
5 A. Yes, it is.
6 Q. How would you qualify that it's commonly
7 used?
8 A. The -- if you look at it in terms of
9 reference to the term, in that academic literature
10 and Google Scholar suggests something like 19,000
11 references to that as a term. If you looked in a
12 number of the publication, there's hundreds of
13 citations for example, to the root child or other
14 work that I mentioned so far.
15 Q. Dr. Murray, did you calculate
16 compactness using the moment of inertia approach?
17 A. Yes, I did.
18 Q. Okay. So if we could turn now to figure
19 10 on page 11 of your report. Does this figure on
20 the screen here, Dr. Murray, does this tell us
21 your calculations at the moment of inertia for the

22 Senate?
23 A. Yes, it does.
24 Q. Okay. Over all, what do these -- can
25 you explain what the moment of inertia is, what

1 this value is?
2 A. So, yes. As I said before T value of
3 this particular measure, like the Reock, like
4 Polsby Popper ranges between 0 and 1. What you
5 see here for the enrolled Senate district is that
6 it's .59, which suggests towards 1, but not 1.
7 And then further, providing this table as the
8 minimum and the maximum value, and that's compared
9 to the 11 majority black districts. What we see
10 is along the lines that the previous summary
11 measures have shown, that the measure of
12 compactness decreases.
13 Q. Overall, just looking at all districts
14 in the illustrative Senate and all districts in
15 the 2022 Senate, I mean, what do these values tell
16 you?
17 A. So that tells me that in terms of
18 comparison to the illustrative plan, that the
19 compactness increases overall. And in particular,

20 when we look at the black majority black
21 districts, that in the illustrative case, it's
22 increasing, that they're more compact.
23 Q. We can take that down. Like with the
24 Senate, did you also -- sorry. Ahead here. I'd
25 like to flip over to the house. We've been

1 talking about the Senate. And if we could then
2 turn to page 13 and figure 15. And what is this
3 table showing, figure showing us?
4 A. So this shows the compactness measures
5 for the Reock Polsby Popper and compact sole for
6 the house, senate house districts and the
7 illustrative house districts.
8 Q. Just comparing the especially acted and
9 house plan, along, can you draw any conclusions?
10 A. Very similar in terms of the compactness
11 for every measure pretty much.
12 Q. Okay. And like with the Senate, did you
13 look at the correlation between Reock and the
14 Polsby Popper and the house?
15 A. Yes, I did.
16 Q. Okay. You report the results of that
17 analysis in your report?

A. Yes, I do.
Q. Okay. And I believe that's on paragraph 21 on page 14. Do you report the correlation between the Reock and Polsby Popper in the illustrative house?
A. Yes, I do.
Q. What is that?
A. It's 07.5847.

Q. That number is less than it is in the Senate; is that right?
A. That's correct.
Q. What does that mean practically?
A. That there's some degree of positive correlation here. And then if we looked at this from a linear perspective, that we would square that term and see that it's less than .36, I guess, in terms of the explanatory, linear relationship.
Q. Okay. Did you also use moment of inertia to calculate compactness in the enroll versus else house plans?
A. Yes, I did.
Q. I'd like to turn to figure 18 on page

16 15. Dr. Murray, does this figure report the rules
17 of your moment of inertia compactness analysis in
18 the house?
19 A. Yes, it does.
20 Q. Okay. Can you just briefly summarize
21 for the Court the compactness numbers and the --
22 just the compactness common numbers for the two?
23 A. Comparing the enacted house and
24 illustrative house, they're almost exactly the
25 same, in terms of this measure of compactness.

1 Q. Okay. So I'd like to now move on. You
2 also performed an analysis of the percentage black
3 voting age population in the black majority
4 districts in Mr. Cooper's plan; is that right?
5 A. Yes, that's true.
6 Q. And in particular, did you look at an
7 analysis Mr. Cooper provided in his report that
8 compared the percentage BVAP black majority
9 districts to the percentage white VA P in white
10 majority districts?
11 A. Yes.
12 Q. So what I'd like to do now is, I'd like
13 to do a side by side or top or bottom or whichever

we did here, comparing figure 11 on page 12 of your report, tell LDTX42, and side by side with figure 16 on page 35 of Mr. Cooper's report which is marked PL20. Dr. Murray, you'll probably have to use your screen for this one.

A. Got it.

Q. Just to orient, I'll just represent that the top figure comes from Dr. Murray's report, and the bottom figure comes from Mr. Cooper's. So Dr. Murray, is figure 11 the result of your response to Mr. Cooper's figure 16?

A. Yes, it is.

Q. Okay. Can you explain what analysis you performed in figure 11 of your report?

A. So in figure 11, this was based upon his original figure 16. And looking at what was being reported and based upon this, what you see in the table, is my interpretation of what that should look like. So in particular, looking at the black voting age population in the majority districts, what you see is 58.98 percent in the Senate, enacted plan. That's based upon looking at the total population BVAP over the total BVAP in those

12 majority districts.
13 Q. Okay. So when we look at the change in
14 the majority BVAP in the Senate, you go from the
15 enacted to the illustrative, how does that number
16 change?
17 A. So in the illustrative Senate, it's a
18 similar thing. The total BVAP in those majority
19 districts divided by the total BVAP in those
20 majority districts.
21 Q. Okay. So how does that percentage
22 change from the enacted to the illustrative
23 Senate?
24 A. I'm sorry. So in the illustrative plan,
25 what you see in percentage terms is that there's

1 larger population across those majority black
2 districts. So as a result, that percentage of the
3 BVAP in those districts is less. So it decreases.
4 Q. Okay.
5 A. From the enacted to the illustrative.
6 Q. Okay. So when we look and we see -- we
7 look over at the next column is 2020NH white VA P
8 majority districts. What is that column
9 reporting?

10 A. Sorry, can you say again.
11 Q. Sure. So for the second column, it says
12 white majority VAP districts, what's that looking
13 at?
14 A. So in those districts, it's looking at
15 the white VAP, across the white VAP majority
16 districts. It's looking at the percentage of the
17 total population in those districts.
18 Q. Okay. So between the enacted and the
19 illustrative, how does that value change?
20 A. So in the enacted it's 68.74 percent.
21 And then in the illustrative, this increases to
22 70.15 percent.
23 Q. Okay. And then on that right hand
24 column with the word difference, what do you
25 understand -- I understand you're working off Mr.

1 Cooper's, but that difference number, what do you
2 understand that to be?
3 A. So I understand this to be the
4 difference between 578.98 percent minus
5 68.74 percent. That gives you a minus
6 9.76 percent.
7 Q. Okay. The same calculation for the

illustrative?

A. Yes.

(INTERRUPTION).

Q. Can you explain the difference between your numbers and his?

A. I believe I can. From my understanding of his rebuttal is that for the Senate, it's that BVAP total in those districts divided by BVAP across the whole state so not just the population in those majority districts.

Q. Just to make sure I understand. So in your figure 11, you're taking the percentage, the average percentage BVAP in the black majority districts; is that right?

A. That's right.

Q. So Mr. Cooper is taking the percentage BVAP and majority districts, compared with the state as a whole; is that right?

A. That's right.

Q. Okay. Is that the same analysis undertaken with the white majority districts?

A. That's.

Q. Is it problematic to compare or to draw

the comparison against statewide numbers instead of district numbers?

A. I believe that it is, yes.

Q. Why is that?

A. I'm not sure that it makes sense, because in the discussion both in the tables and the discussion in the report, it was trying to characterize that percentage of the BVAP or the white VAP in those districts and have a compared. So by dividing it by the state totals, renders it in a way an incomparable kind of comparison in my opinion.

Q. Is the idea that if you're looking at characteristics am I hearing you right that you should be looking at the districts and not pulling in numbers outside of the districts?

A. That's correct.

Q. Okay. Then if we see under your analysis, rather than the difference number, getting closer to 0 as you move from the enacted

to the illustrative Senate, as it does in Mr. Cooper's analysis, in your analysis, the difference gets larger; is that right?

A. That's right.
Q. Okay. And what is your interpretation of the difference number under your figure 11?
A. So in my figure 11, what you see is that BVAP in those black majority districts goes down a smaller percentage to 53 percent, and then as a result of that, you see a greater percentage of nonhispanic white BVAP in the other directions, that's why it goes up to 70 percent. So intuitively, this makes sense and allows for comparison. What happens is exactly what you would expect.
Q. So is this figure showing us how the changes between the enacted and illustrative are sorting the population by race?
A. It appears to, yes.
Q. How does it appear to do so?
A. In that by creating more majority black districts, you have -- you're isolating more of the BVAP in the state and then similarly, in the white nonhispanic white BVAP, districts, you're obviously creating a greater concentration of that

white VA P majority.

Q. Okay. Did you perform a similar analysis, Dr. Murray, of the house?

A. Yes, I did.

Q. Okay. I'd like you to turn quickly to we'll do one more side by side comparison figure 19 on page 16 of your report, LDTX42, junction task posed with figure 27, appearing on page 48 on PL20, which is Mr. Cooper's. Can you briefly summarize for the Court Dr. Murray, your analysis in figure 19?

A. Similar to what I just talked about for the Senate, what we see is 63 percent of BVAP in the black majority districts. And then for the white voting age population districts, we see both white VA P, BVAP at 69.3 percent, for the enacted house plan. This goes down to 57.24 percent in the illustrative house for the BVAP for the black majority districts and then 70.25 in the nonhispanic white VA P majority districts.

Q. So as you move from the enacted to the illustrative, is the difference between those percentages in the black majority districts tanned white majority districts grown?

A. It goes down.

Q. But it's getting farther from 0?
A. That's right.
Q. They're getting more different?
A. Exactly.
Q. Okay. Again, that's a different direction than Mr. Cooper's calculation of the difference using his Methodology in his figure 27, right?
A. Yes, that's right.
Q. Are your conclusions with regard to the house similar as they are with respect to the Senate?
A. Yes, they are.
Q. Okay. I'd like to now move on to you performed an analysis on, I believe you performed an analysis comparing the BVAP of the enrolled and the illustrative districts that border the location of Mr. Cooper's new illustrative majority black districts; is that right?
A. That's right.
Q. Okay. Why did you perform that analysis?
A. To look at the impacts of the creation of this new black majority district on the local,

25 on the surrounding districts.

1 Q. Okay. And so I think we can go pretty
2 quickly through this, but I'd like to pull up
3 figures 12 to 14 from pages 12 to 13 of your
4 report. So can you orient the Court to the
5 figures, maybe with figure 12 at the bottom of
6 page 12?
7 A. Yes. This looks like else Senate
8 district 17. And those neighboring districts and
9 the neighbors districts, and then looking at
10 what's happening to the BVAP percent in the
11 illustrative compared to the enrolled. What you
12 see is that in terms of the changing neighboring
13 districts to 17, you have 15, 2 and 14. And then
14 in the enrolled, it was respectively 73.9 percent
15 BVAP, 57.7 percent, and then 58 percent. And then
16 when we look at the illustrative plan, 15, 2 and
17 14, again respectively, it goes down pretty much,
18 but does stay the same for 14, but for 15 and 2,
19 it goes down to 54.4 percent, and 51.73 percent.
20 Q. And then I believe figure 13 covers the
21 Senate. Do you see a similar pattern in figure
22 13?

23 A. Yes.
24 Q. Okay. And then if we look at figure 14,
25 which covers illustrative Senate district 38, do

1 you see the same pattern?
2 A. Same pattern, yes.
3 Q. Okay. I notice you only have one
4 district listed for 38. Is there a reason why?
5 A. I think that's the only neighboring
6 district that changed. I'm not sure if it's the
7 only neighboring district, but it's the only one
8 that changed.
9 Q. That's one of the Shreveport districts
10 right?
11 A. I believe so.
12 Q. Okay. You performed the same
13 analysis -- oh, sorry. What did the
14 differences -- what is this difference between the
15 enacted and illustrative BVAPs of these
16 neighboring districts tell us?
17 A. In my opinion, it suggests that to
18 create these new majority black districts, that
19 BVAP from neighboring districts needed to be
20 allocated or borrowed, if you will, in order to

21 create the black majority district.
22 Q. Okay. And Dr. Murray, do you perform
23 this same analysis for the new illustrative house
24 districts?
25 A. Yes.

1 Q. Okay. And do you report that analysis
2 in figures 20 to 25 of your report, beginning at
3 the bottom of page 16?
4 A. Apparently, I do, yes.
5 Q. All right. And so Dr. Murray, the E6
6 figures perform a similar calculation for each of
7 the six new illustrative house districts in Mr.
8 Cooper's plan; is that right?
9 A. That's correct.
10 Q. Okay. So I'd like to just use one as an
11 example. Let's go with maybe figure 24 for
12 illustrative house district 65.
13 A. Okay.
14 Q. And so what is this particular figure
15 showing us?
16 A. Well, one it's showing an error.
17 Because I don't know about 69 and 77,000 percent.
18 So there's clearly a typo here. 69.77 percent.

19 But have to verify that. But what we see is a
20 similar sort of relationship in the neighboring
21 districts that have changed have consistently a
22 higher enrolled house percentage BVAP. Than when
23 you compare them to the illustrative house case.
24 Q. Okay. And I'd like to look at maybe one
25 more of these. If we could look at figure 25,

1 which is for illustrative house district 68. And
2 what do you see -- what does this figure tell us
3 Dr. Murray?
4 A. A similar. So the districts that
5 neighbor district 68 are (296)162-0167, 63, and
6 then you see this relationship of a decrease in
7 the BVAP in this associated districts in order to
8 create the new black majority district 68.
9 Q. Okay. And taking a look at these new
10 illustrative districts as a whole, do you see --
11 does a pattern emerge for you from this analysis?
12 A. In terms of creating this new black
13 majority district required a sort of borrowing
14 from neighboring districts in order to achieve the
15 majority district status, yes.
16 Q. Okay. So, Dr. Murray, did you also look

17 at core retention?
18 A. Yes, I did.
19 Q. What is core retention to you?
20 A. Core retention is the idea of how much
21 did a new districting plan maintain sort of the
22 original representation or boundaries from the
23 original. So in this particular case, I compared
24 the 2022 enrolled to the 2011 enrolled districts.
25 And then looked at, for example, what that

1 percentage was being maintained in the same or
2 equivalent district.
3 Q. Okay.
4 A. I did this through an analytical
5 approach that's described in the report.
6 Q. Okay. So I'd like to put up now figures
7 26 and 27 appearing on page 18 of your report,
8 LDTX122. Dr. Murray, do these two figures report
9 your core refinings, the results of your core
10 retention analysis in this case?
11 A. Yes, they do.
12 Q. So if we could start with figure 26,
13 what do you conclude?
14 A. So what ICON conclude is that looking at

15 the 2022 enrolled Senate plan, that it maintains
16 as a strict percentage, looking at the district
17 boundaries and how much they agree, 83.3 percent
18 retention from the 2011 Senate districts.
19 Q. How does that compare to the
20 illustrative Senate?
21 A. It's considerably higher when you look
22 at the 67.17 percent of the illustrative Senate.
23 Q. Okay. And so moving to the house, what
24 do you conclude about core retention in the house
25 in the 2022 enrolled plan?

1 A. Similar to what we saw for the Senate.
2 In this case, the enrolled, or enrolled house
3 plan maintains or retains 75.43 percent from the
4 2011 house districts, differing from the
5 illustrative house districts having 63.06 percent
6 retention.
7 Q. Okay. Generally, what do you find about
8 the degree to which the illustrative plans in this
9 case are retains in the cores of prior districts?
10 A. That the enrolled plans retain more from
11 the 2011 districts than the illustrative.
12 Q. Okay. Finally, Dr. Murray, I believe

13 you described a community of interest analysis
14 that you undertook in this case; is that right?
15 A. Yes, I did.
16 Q. Okay. I'd like to now turn to that. So
17 I believe you begin your discussion of this
18 analysis on paragraph 27, page 18; is that right?
19 A. Yes.
20 Q. Okay. And can you tell the Court what
21 you studied in this analysis?
22 A. So the intent here was to try and get at
23 whether the degree to which communities of
24 interest were being preserved in the Cooper
25 report. It was something that was discussed. I

1 think there was a mention of municipalities in
2 Cooper, as potentially communities of interest.
3 That certainly is a well accepted -- it may be one
4 type. But it's certainly not more of a
5 neighborhood oriented definition of a community of
6 interest. So the interpret was to -- intent was
7 to look at whether or not communities of interest
8 at a more local level were being retained or split
9 in any way. So in particular, in my analysis, I
10 looked at block groups as one form of a potential

11 neighborhood, and whether block groups that form
12 either a neighborhood in and of themselves or a
13 collection of localized block groups, that is a
14 block group and its neighbors, that any of those
15 that may form a cluster of similar socioeconomic
16 characteristics were being split in the
17 illustrative district plans.
18 Q. Just to make sure we have a clean
19 record, can you explain the difference between a
20 block and a block group?
21 A. So a block group, the definition is
22 given in the report, but a block group is a larger
23 geographic area that consists of many block groups
24 within it.
25 Q. Block groups or blocks?

1 A. Blocks, excuse me. Block group consists
2 of many blocks within it, yes.
3 Q. I see. Okay. What made you select
4 block groups for your study here?
5 A. One geography that potentially reflects
6 characteristics of a neighborhood. So that --
7 some people have in sociology and other areas,
8 certainly in the criminal control injure area,

9 relied upon tracks, but I believe that they're too
10 broad to represent some of the localized
11 characteristics. So I felt that block groups were
12 reasonable proxy for neighborhoods or communities
13 of interest to e veal value wait in the study.
14 Q. Okay. So how did you go about carrying
15 out this analysis?
16 A. So the analysis relied upon block group
17 data, as it says, obtained from the ACS census.
18 And in doing this, one of the characteristics I
19 looked at was the difference in percent white
20 voting age population minus the percent of black
21 BVAP, black voting age population, in addition to
22 characteristic of income as well as education
23 obtainment.
24 Q. Where did you get the data on income and
25 education?

1 A. This is from the ACS census information.
2 Q. Okay. So I'd like to now look at figure
3 28 on page 19 of your report. I know it comes
4 with some accompanying texts on the page, but can
5 you explain to us kind of what --
6 A. So method one of the techniques is

7 method of spacial auto correlation, which looks at
8 the block groups and associated block attributes
9 of interest, BVAP minus V BVAP percent. I looked
10 at this attribute and basically the measure of
11 spacial correlation, was looking for clusters,
12 local clusters, defined at the block group level,
13 and the degree to which a demonstration block
14 group is similar or different to it's neighboring
15 units. So this overall value, the particular
16 measure I used in this case was local my ran task.
17 So what you see on the top of this figure is this
18 measure of ran tie, which this particular measure
19 is for the whole region, and a value of 0-point --
20 in this measure, ranges between minus 1. In this
21 case, this is suggestive of a high degree and
22 significant degree of positive auto spacial
23 correlation. Through this, what we would expect
24 there are many pockets of high BVAP block groups
25 surrounded by other high BVAP block groups, and as

1 well as high W VA P block groups by percentage
2 closer to 1 surrounded by high W VA P block
3 groups. One way to look at this, so the Global
4 measure of spacial auto correlation just gives you

one number. It just says we think there is clustering in the region, doesn't say where this is. Breaking this down, the reason I used the local Miranda approach, this does tell us spacially which block groups is this occurring and to what degree is it significant. What you see here is a plot of this attribute value, the percent W VAP minus percent BVAP, that's YI, so looking at this axis, it's a standardized value. It's plotted against the neighbor values of this particular measure. So that's why you get this scatter plot. That's why you see on the Y axis that mathematical mess if you will, is actually the average of the neighbors in terms of this particular measure. So what you have is a block group measure, plotted against the neighbor values. And then you get this so called my Rand scatter plot. And the significance of this plat is that if you look at the dotted lines, it breaks these plotted points into quadrants. So the top most quadrantes considered a high value surrounded

by a high value. The other one of interest here is the lower left quadrant, which suggests low

values of this particular attribute surrounded by low values.

Q. Okay. And so just to be very clear, so each blue dot is a block group; is that right?

A. That's correct.

Q. So if I'm -- if my block group is in the top right hand corner of this figure, what's that telling me about that block group's racial -- or what's that telling us?

A. That's telling us that it has a i close to one percent, the highest most upper right part would tell you that it's basically a W VAP percent of one, which means 100 percent white population surrounded by block groups that are also basically 100 percent white population. Then in contrast, the lower left, is telling us basically 100 percent black BVAP surrounded by areas that are basically 100 percent BVAP.

Q. Okay. So --

A. But in terms of the measure, just to clarify, it comes up as a negative value, because it's W VA P percent minus BVAP percent. So it's a number, the value of WI ranges from minus 1 to 1.

Q. All right. So do you plot the results of this analysis on a map of the state?

A. Yes, I do.

Q. Okay. So if we could turn to figure 29 on page 20. Can you explain briefly what this figure showing us?

A. So basically this takes the block groups that were shown in the scatter plot, identifies the ones that were found to be significant, and then it plots them in terms of their quadrant locations, so the ones that were in that upper right, high surrounded by high are shown in red. The lower left quadrant were the high BVAP surrounded by high BVAP are shown in blue. They're just characterized a as low value surround bid low, because it's plotting W VAP percent minus BVAP percent. So the ones of particular interest in terms of clustering of like values are blue and the black here. High surrounded by high. Low surrounded by low.

Q. I see. Just to make sure we get one concept out, you reported a bunch of these as being not significant. What does that mean?

A. Statistically significant. It's a measure, but it's also a statistical measure. One

can do a test for the significance level.

Q. I see. Okay. So if the red census blocks are high white population surrounded by high white population; is that right?

A. That's correct.

Q. The dark blue, is that high black population surrounded by high black population?

A. Yes, correct.

Q. Got it. Okay. How does this -- well, does this figure allow the -- allow you to draw any conclusions about the racial distribution across the State of Louisiana?

A. I believe it does.

Q. Okay. What conclusion is that?

A. Is that there's considerable segregation or difference in the spacial distribution of the black population and white population in the state.

Q. Okay.

A. Wherein in the rural areas, it's more heavily a white population, and in the concentration of the black population is more in the urban areas, which are admittedly a little

24 difficult to see in this figure.

25 Q. All right. How does this analysis

1 inform your work in looking at communities of

2 interest?

3 A. Because it suggests that there is

4 spacial clustering. So to that end, the idea

5 would be whether some of these spacial clusters

6 are being split by the associated illustrative

7 boundaries.

8 Q. Okay. If we look at paragraph 28 on

9 page 20 of your report, how then did you go about

10 conducting this analysis then in the Senate?

11 A. So I looked at all the block groups in

12 the state, 4,291 of them as a potential community

13 of interest. And looked to see whether any of

14 them were being split by the associated

15 illustrative boundaries. So in this particular

16 case, for the Senate districts, illustrative

17 Senate districts, I found 375 blocks that were

18 being split by the district boundaries.

19 Q. Did you examine any of those 375?

20 A. I did examine a couple or more than a

21 handful of 27 total.

22 Q. Okay. Why only 27?
23 A. Because limited time to do this.
24 Q. Okay. What is the significance of
25 finding a potential neighborhood split in your

1 analysis?
2 A. So depending upon the characteristic of
3 block, if it was being split, and that block was
4 homogeneous in some way and it was relatively
5 homogeneous to its neighboring area, then that
6 would suggest that this community of interest oar
7 a neighborhood was being split by the block
8 boundaries.
9 Q. Okay. So if --
10 A. Split by the district boundaries, excuse
11 me.
12 Q. District boundaries, all right. If we
13 could turn to figure 30 on page 21. Is this your
14 list of 27 examples?
15 A. Yes, it is.
16 Q. Okay. Can you very briefly just walk us
17 through what is being shown in this?
18 A. So the table indicates the individual
19 block that was identified as being split, that

20 subsequently triggered a further evaluation of the
21 local area. It gives a name of the area
22 approximately, and then it indicates which else
23 districts created the split, and then it gives a
24 characterization of median income, total
25 population, and then educational attainment. And

1 then the last two control sums are associated with
2 this measure of being used in the evaluation, this
3 W VAP percent minus BVAP percent. So that value
4 ranges between minus 1 and 1. And then it gives
5 the local my Rand assessment of it, indicating
6 what kind of relationship, like is it a high
7 surround bid high, or low surround bid allow and
8 level after significance in parenthesis.
9 Q. Before I move on, Dr. Murray, I notice
10 some significant variability in income and
11 educational attainment across the block groups
12 that you report here; is that right?
13 A. That's true, yes.
14 Q. Okay. And is that surprising to you
15 that there would be significant variability
16 between parts, for example, the income and
17 educational attainment in different parts of New

18 Orleans?

19 A. Not at all. There's a lot of spacial

20 variability across the state.

21 Q. So I just want to very, very briefly go

22 through first of all, do you provide an analysis

23 of each one of the 27 potential splits in Exhibit

24 C to your report?

25 A. Yes, I do.

1 Q. Okay. That's LDTX47; is that right?

2 A. Yes.

3 Q. If we stay in your report, those are the

4 ones I want to go through, well the first one. Go

5 to page 25 and put up figures 33A and 33B. I'd

6 like for you to orient the Court to this figure.

7 We should probably start with the one on the top,

8 which is 33A. Can you --

9 A. Highlighted here in the yellow would be

10 the blocks that were identified in this case

11 there's multiple blocks that were identified as

12 being split. So it identifies which of those

13 blocks was triggering further analysis, based upon

14 a splitting by direction boundaries. It provides

15 some orientation of where that is.

16 Q. Okay. Where specifically are we looking
17 at here?
18 A. It's an area referred to as musicians
19 valley, I believe.
20 Q. Is that in New Orleans?
21 A. Yes.
22 Q. We're looking at the Senate; is that
23 right?
24 A. Yes.
25 Q. All right. So I'd like now to turn to

1 the lower figure 33B. Maybe we can Zoom in on
2 that so it's easier to see. There we go. All
3 right. So can you orient the Court to what --
4 some shading here.
5 A. Yes.
6 Q. Can you explain what's going on here?
7 A. The shading levels are indicated in this
8 legend. What it shows is the W VAP percent minus
9 BVAP percent. So the lighter colored would be the
10 negative, more negative values or higher BVAP
11 percent. So that's what you'd see in the lightest
12 colors, closer towards the hundred percent BVAP in
13 those particular blocks. So what's being shown

here are the blocks.

Q. Okay. So again those little yellow libraries, those are the census block groups; is that right?

A. Though those are the census block groups that are split, yes.

Q. So what does your analysis in this figure show you about this particular split?

A. So about this particular split, we see a lot of homogeneity in each of those individual blocks that are identified as being split, but also that they are part of a bigger localized area

that's very homogeneous in terms of its racial composition but also other characteristics like income and education attainment.

Q. What does the district boundary do to this area?

A. So the district boundary carves it up.

Q. Okay. Does preserving those groups as a potential community of interest, is this line consistent with such an objective?

A. It does not seem consistent with preserving a community of interest in this

12 particular case, no.

13 Q. Okay. Let's just do one more in the

14 Senate. I'd like to go into that exhibit C. So

15 if we could go into LDTX47 at pages 26 and 27.

16 Exhibit C14. This appears -- is this Warner park

17 in Shreveport?

18 A. I believe it is, yes.

19 Q. Okay. And then again if you can

20 starting with the box on the left, Exhibit C14A,

21 can you explain what this is?

22 A. So again, the highlighted in yellow

23 represent block groups that have been split by

24 district boundaries, and so there's a number of

25 them in this area.

1 Q. Okay. And then if we go to C14B. This

2 is again that chart you have with some color

3 shading. Can you explain your?

4 A. Yes.

5 Q. Your analysis of this?

6 A. So again shown here are the blocks, and

7 in particular, the racial percentage, the lighter

8 color indicates higher percentage black voting age

9 population. And there's in general this whole

10 area, it's very homogeneous with respect to racial
11 composition, and a lot of similarity in terms of
12 median income and education Callais containment.
13 Q. How does the district boundary interact
14 with this potential community of interest?
15 A. And it looks like in this case that the
16 district boundary does not preserve this as a
17 community of interest, potential community of
18 interest. It carves it up.
19 Q. Okay. Is there a racial effect to
20 dividing this area?
21 A. I mean, it appears to be in that if one
22 looks at the districts, that these are apparently
23 trying to help achieve majority black districts,
24 so getting that percentage of BVAP where it needs
25 to be where it needs to be a majority district.

1 Q. If we go -- I think you've already
2 mentioned this, but do you show similar figures
3 for each of the 27 potential splits that you
4 identify?
5 A. Yes, I do.
6 Q. Okay. You say beyond the 27, that the
7 other roughly 350 potential splits that you

8 identify total are not relevant?
9 A. Not at all. I only had time to examine
10 the ones that I reported here.
11 Q. Okay. So I'd like to turn now to
12 your -- to wrap this up. If we could turn to your
13 analysis of the house, which I believe is page 26,
14 paragraph 29. And the -- well, okay. What can
15 you tell us about your analysis in the house?
16 A. So similar sort of analysis was
17 undertaken, looking at illustrative house
18 districts, looking at the 4,291 block groups in
19 the state, and in terms of block groups splits or
20 potential neighborhood communities of interest
21 splits, 565 were identified.
22 Q. And how many of the 565 did you
23 evaluate?
24 A. I looked at 29.
25 Q. Okay. And why only 29?

1 A. Time limits.
2 Q. Okay. Are all 29 examples reproduced in
3 Exhibit D to your report, which is LDTX48?
4 A. Yes.
5 Q. Now I'd like to turn on to the figure,

6 figure 34, if we could look at that. Is this
7 figure reporting statistics for all 29?
8 A. Yes, it is.
9 Q. Look at these, you have a lot of them
10 listed in Shreveport. How many potential
11 neighborhood splits do you report here for
12 Shreveport?
13 A. Eleven.
14 Q. Of those, how many involve illustrative
15 house district 1?
16 A. Looks like seven, maybe eight -- b
17 seven.
18 Q. Seven, all right. I'd like to just go
19 through, I think in the interest of time, let's
20 just go through one. So if we could look at page
21 29. Okay. This has figures 36A and 36B. And is
22 this in the Shreveport area?
23 A. Yes. Allendale lake side area.
24 Q. Okay. What do you see in your figure
25 36B, what does it show in this?

1 A. So again, it's identifying these block
2 groups that are split by district boundary. When
3 we look in particular at 36B, what we see is this

4 racial composition that's mostly or very high in
5 BVAP percentage for all of these blocks, and that
6 they're split going through what appears to be a
7 community of interest that's very homogeneous in a
8 number of ways.
9 Q. Is there a racial effect in the
10 composition of these districts by dividing this
11 area of high BVAP?
12 PLAINTIFF COUNSEL:
13 Objection to the extent this calls for
14 testimony, seeks to find Mr. Cooper's intent.
15 THE JUDGE:
16 Respond?
17 DEFENSE COUNSEL:
18 Yes, Your Honor. I specifically asked
19 for the effect of the line on a particular.
20 I did not ask the witness to opine as to --
21 THE CLERK:
22 State your name.
23 PLAINTIFF COUNSEL:
24 Josephine Vahn, V-A-H-N. If I can
25 respond.

1 THE JUDGE:

You can go.

PLAINTIFF COUNSEL:

Mr. Lewis did ask this question similarly a few moments ago. Dr. Murray did provide Mr. Cooper's intent.

THE JUDGE:

Overrule the objection.

A. It appears to be done in order to achieve a black majority status for the associated district or districts.

EXAMINATION BY DEFENSE COUNSEL:

Q. And in Exhibit D to your report, Dr. Murray, do you show similar figures for each of the 29 splits you identify?

A. Yes, I do.

Q. Okay. So finally, I know you looked at 29, does that mean that the other roughly 535 potential splits are not relevant?

A. No. I only had time to look at a finite number.

Q. So taking a step back from this, Dr. Murray, what do the volume of these potential neighborhoods splits tell us about whether Mr. Cooper's district kept together communities

comprised of areas with similar socioeconomic status?

A. Doesn't appear to be that it was done with respect to localized communities of interest in this case.

Q. Okay. And in the roughly 60 potential neighbor splits that you examined, I only went through a few, but in those roughly 60, did you consistently observe any particular attribute around the lines and analysis?

A. Yes.

Q. What was that attribute?

A. Race.

Q. Okay. And so is it fair to say of those 06 splits those were all of communities that were homogeneous both with respect to race and the socioeconomic attributes that you examined?

A. Yes.

Q. And yet they were all being divided; is that right?

A. That's right.

Q. I believe you mentioned this, but what attribute did you consistently observe in the 60 potential neighborhood splits?

25 A. Race.

1 Q. Can you elaborate on that?
2 A. That in many of the instances that it
3 appears that the boundaries were seeking to
4 achieve some particular racial representation or
5 inclusion.
6 Q. Okay. Was there any other apparent
7 explanation for the boundaries that you were able
8 to observe?
9 A. Not that I could observe.
10 Q. Okay.
11 DEFENSE COUNSEL:
12 I have no further questions.
13 THE JUDGE:
14 Let's take a break.
15 DEFENSE COUNSEL:
16 This witness does have a 5 p.m. flight.
17 I know that the Court is -- I know we've had
18 a number of -- this witness also is a -- I
19 don't know how long cross-examination is.
20 PLAINTIFF COUNSEL:
21 I can respond Your Honor.
22 DEFENSE COUNSEL:

23 Please.

24 PLAINTIFF COUNSEL:

25 I don't think it's realistic that the

1 witness is going to make a 5 p.m. flight if

2 it's 10 after 3, and I haven't gone back.

3 DEFENSE COUNSEL:

4 Sounds like we're going to be taking a

5 break.

6 THE JUDGE:

7 Taking a 15-minute break.

8 (RECESS 3:09-3:25 P.M.)

9 PLAINTIFF COUNSEL:

10 I'm Josephine Vahn, I'm a lawyer on

11 behalf for the Plaintiffs in this case. May

12 I proceed with my examination?

13 THE JUDGE:

14 Yes.

15 EXAMINATION BY PLAINTIFF COUNSEL:

16 Q. Dr. Murray, good afternoon.

17 A. Hello.

18 Q. I'm going to ask you a couple of

19 questions. Dr. Murray, have you been retained by

20 Defendants as an expert witness in this case?

21 A. Yes.
22 Q. Has the Court ever disregarded your
23 testimony as it applies to the determination of
24 compactness?
25 A. No.

1 Q. Dr. Murray, were you retained as an
2 expert witness in the Robinson V Ardoin case?
3 A. Yes.
4 Q. Stephen, if you could pull up and turn
5 to I think it's PDF page 41.
6 Dr. Murray, if you could start reading at the
7 last sentence of the full paragraph beginning with
8 accordingly the Court. The last sentence, read
9 that, please.
10 A. "Accordingly, the Court disregards his
11 testimony as it applies to the determination of
12 compactness."
13 Q. And this is describing your expert
14 testimony in the Robinson case, correct?
15 A. Yes.
16 Q. So has a Court ever disregard your
17 testimony as it applies to the determination of
18 compactness?

19 A. Well, I guess, yes. It wasn't based
20 upon the same analysis, but yes, I guess so.
21 Q. So your answer so the record is clear,
22 is a Court has disregarded your testimony as it
23 applies to compactness?
24 A. Yes. This Judge did.
25 Q. And you submitted an expert report dated

1 July 28th, 2023, in this case, correct?
2 A. What was the date again.
3 Q. July actual 2023?
4 A. Yes.
5 Q. And that's what's been previously marked
6 and admitted as LX42, correct?
7 A. Yes.
8 Q. You have a copy of that in front of you,
9 correct?
10 A. Yes.
11 Q. Do you see on page 2 of your report the
12 section titled spacial analysis undertaken?
13 A. Yes.
14 Q. Just so the record is clear, has spacial
15 analysis -- strike that.
16 Just so the record is clear, spacial analysis

17 has never been accepted by a Court and number a
18 political redistricting case, correct?
19 A. Spacial analysis? I find that untrue.
20 Looking at a map is spacial analysis. What's
21 spacial analysis are you referring to;
22 compactness?
23 Q. Dr. Murray, did you give testimony in
24 the Robinson case as part of your expert
25 designation?

1 A. Yes.
2 Q. Stephen, can we have the Robinson
3 opinion back up.
4 And Dr. Murray, I'd like to direct your
5 attention, there's going back to page 41, I think
6 it is, of the PDF. Directing your attention to
7 the highlighted paragraphs, starting with the
8 sentence that's highlighted in fact, Dr. Murray --
9 sorry. Strike that. Hang on one second. Sorry.
10 Beginning with lastly Dr. Murray testified.
11 Can you read that into the record lastly
12 Dr. Murray?
13 A. "Dr. Murray testified that he is not
14 aware of any Court considering the type of spacial

15 analysis that he performed in the context of the
16 section 2 case."
17 Q. So are you aware of any Court that has
18 accepted spacial analysis?
19 A. Spacial analysis is a broad term that
20 applies to thousands of different methods. The
21 method applied in that case was spacial auto
22 correlation, not spacial analysis. Spacial
23 analysis is anything and everything.
24 Q. Dr. Murray my question is: Do you know
25 any Court that has accepted spacial analysis in

1 consideration of an opinion in a section 2 case of
2 the type that you employed in this case?
3 A. In which case?
4 Q. The current case, Dr. Murray?
5 A. The current case.
6 Q. That you're testifying right now?
7 A. Spacial analysis is compactness
8 measures, it's any mapping. Of course the Court
9 has accepted and used these.
10 Q. Dr. Murray, are you aware of any Court
11 that has accepted the type that you employed
12 moment of inertias you used in this case, in any

13 other redistricting case?
14 A. Moment of inertia was not applied in
15 Robinson. I don't know how you're making the
16 connection.
17 Q. I apologize for confusing you. In this
18 current case, the Naime versus Ardoin case, on the
19 sixth day of trial, are you aware of any Court
20 that has applied the spacial analysis you
21 undertook and employed in this case in a political
22 redistricting case?
23 A. Which one? I already said I applied
24 many different methods.
25 Q. The moment of inertia test.

1 A. The moment of inertia, am I aware of it
2 being used in any particular case to date?
3 Q. In political redistricting case?
4 A. I know that others testified about using
5 it, so I guess that's a yes.
6 Q. But you're unaware of any Court that's
7 accepted it, correct?
8 A. I guess. I'm not aware, no.
9 Q. Moving back to your report on page 2, it
10 says that you were retained to evaluate -- and I'm

now quoting from your report, aspects of the Cooper report that summarizes the derived illustrative districts as well as the enrolled 2022 districts, end quote.

Did I read that correctly?

A. That's what I wrote yes.

Q. Did you not perform any RPV analysis in this case, correct?

A. Any what.

Q. RPV analysis?

A. No.

Q. I'd like to talk a little bit about some of the qualification you list in your CV. Your CV is attached to your expert report at LX42, correct?

A. Yes.

Q. CV attached to your report is the most current and accurate representation of your academic work and your expert work, correct?

A. Correct.

Q. You have not published any academic articles on election law, correct?

A. No.

9 Q. You have not published any academic
10 articles on electorial redistricting, correct?
11 A. Correct.
12 Q. You have not written or published any
13 academic articles on the history of race in
14 southern American states, correct?
15 A. Correct.
16 Q. Or politics in southern states; is that
17 correct?
18 A. Correct.
19 Q. You have not written or published
20 anything about section 2 of the voting rights act
21 in an academic publication, correct?
22 A. Correct.
23 Q. You have also not published any papers
24 on racially polarized voting, correct?
25 A. Correct.

1 Q. You've never drawn a political or
2 electorial redistricting plans for electorial
3 districts, correct?
4 A. Correct.
5 Q. Has any court ever found that you have
6 no background or experience in redistricting?

A. I don't know. I only served as an expert witness in one case. I guess you're going to show me something.

Q. Stephen if you can pull up the Robinson opinion 41.

If you can begin with, "Dr. Murray has no background," read that into the record?

A. "Dr. Murray has no background or experience in redistricting. He did not review any of the Plaintiff's illustrative plans, and most notably he testified that he has no basis to disagree with any of the opinions offered by Plaintiffs, plaintiff's experts in this case."

Q. So, Dr. Murray, just to confirm Court has found you have no background or experience in redistricting, correct?

A. Correct.

Q. Dr. Murray, you didn't do your neighborhood split analysis for the enacted plan,

correct?

A. No, I did not.

Q. You don't how the enacted and illustrative differ with respect to neighborhood

splits as you've defined them, correct?

A. Correct.

Q. I'd like move on to discussing your analysis related to this case. You applied four spacial analysis tests for compactness in this case, correct?

A. Correct.

Q. They were Reock, Polsby Popper, area pooling location, and moment of inertia or MI test; do I have that right?

A. Correct.

Q. Are you aware of any Court that has accepted the moment of inertia measure of compactness in a case involving section 2 of the voting rights act?

A. No.

Q. Are you aware of any strike that. So Dr. Murray, the moment of inertia test has been around since just after Reock based on your testimony on direct. But it's never been air condition accepted by a Court, correct?

A. Did you say -- could you repeat the question?

Q. Yes. So you just testified that you're not aware of any Court that has accepted the moment of inertia as a measure of compactness, correct?

A. Correct.

Q. So even though the moment of inertia as a measure of compactness has been around since just after Reock, it's never been accepted by a Court, correct?

A. But that's not true. It's been around since potentially the 1700s, so.

Q. Fair enough. I'll rephrase my question. You testified earlier that the -- that Reock -- I'm sorry. You testified earlier that Polsby Popper was a technique first developed in the 1800s, and credited to Reock in 1961, correct?

A. I believe that's correct.

Q. And you then testified that moment of inertia is becoming more widely used but has been around Weaver and behest, in 1963 correct?

A. Correct.

Q. So moment of inertia has been around since just after Reock, or credited just after

Reock, but it's never been accepted by a Court; is that correct?

A. Well, Weaver and Hess was 1963. Oh, I see what you mean. I guess. I'm not sure.

Q. I'd like to spend some time discussing your expert report from July 2023. In your report, you say that, I'm going to quote, measures of compactness are rather simple proxy for the shape of a political district. You go on to say a little bit later, there is weak agreement between the often used Reock and Polsby Popper metrics, do I have that correct?

A. Correct.

Q. Reock and Polsby Popper --

THE CLERK:

Can you slow down a little bit.

PLAINTIFF COUNSEL:

Sorry. So eager to get through this.

EXAMINATION BY PLAINTIFF COUNSEL:

Q. Reock and Polsby Popper are two ways to test area -- to test compactness of an area, right?

A. Yes.

Q. There's no one standard test to assess the compactness of an area, correct?

A. Correct.

Q. The Court has heard testimony that Reock and Polsby Popper are two most commonly referenced scores by experts and state legislatures. Would you agree with me with that statement?

A. I would not disagree.

Q. In your report, you state that, quote, the utility of spacial auto correlation is that it enables detection of areas that are similar in terms of one or more characteristics, such as race, socioeconomic characteristics, educational statement, et set A. do I have that correct?

A. Educational attainment, yes, et cetera.

Q. Things. Looking at pages 4 to 9 of your report, am I correct that your significant findings Numbers 1 through 12 all relate to Mr. Cooper's use of the incorrect boundaries for the enacted house and Senate plans?

A. 1 through which one?

Q. 12.

A. I would say that's probably correct.

Q. Are you aware that Mr. Cooper filed a corrective report in which he analyzed the correct

24 enacted house and Senate plans?

25 A. Yes, I am.

1 Q. Did you review that report?

2 A. Yes, I did.

3 Q. You provided no reporting offered no

4 opinions concerning Mr. Cooper's corrected report,

5 correct?

6 A. Correct.

7 Q. I'd like to turn now to discussing some

8 Louisiana legislature requirements. Are you aware

9 that Louisiana strike that. Are you aware that

10 the Louisiana legislature periodically issues new

11 boundary files from voter tabulation districts?

12 A. Now I am.

13 Q. Are you aware that those are different

14 than the VDT boundaries issued by the census?

15 A. If what you're saying is true, I guess

16 now I am.

17 Q. Do you use the use updated VDT boundary

18 in your analysis of VDT splits, correct?

19 A. Correct.

20 Q. And Mr. Cooper reported splits based on

21 census VDT boundaries, correct?

22 A. I'm not sure about that.
23 Q. Direct your attention to figure 7 and
24 figure 15 of your report and if you could get
25 those on the screen. Figure 7 is on page 9. And

1 figure 15 is on page 13. Dr. Murray, these
2 figures concern Mr. Cooper's compactness scores
3 for respectively the Senate and house plans,
4 correct?
5 A. Correct.
6 Q. You analyze these figures in your 13th
7 and 20th significant point of your report; is that
8 a correct statement?
9 A. Correct.
10 Q. And in your report, you criticize Mr.
11 Cooper's report and state that there were quote
12 observed errors, end quote, that were quote,
13 somewhat significant as the Cooper report attempts
14 to make a detention of the differences at the
15 hundreds level comparing in role versus
16 illustrative districts. Is that a correct
17 restatement of your work?
18 A. Yes.
19 Q. Is it your opinion that differences in

20 Reock and Polsby Popper scores at the hundredth
21 level are not significant?
22 A. I would say that's true.
23 Q. I next want to walk through your
24 significant findings 14 and 15 with respect to the
25 Senate, and the second part of finding 20 and 21.

1 Here you state that Reock and Polsby Popper
2 measures of compactness don't necessarily agree,
3 correct?
4 A. Correct.
5 Q. By that you mean that some districts may
6 be more compact under one measure and less compact
7 under another, correct?
8 A. Correct.
9 Q. You would agree that Reock and Polsby
10 Popper measure different things, correct?
11 A. The way they measure compactness is
12 different, yes.
13 Q. Because one is based on area, and one is
14 based on perimeter, right?
15 A. Correct.
16 Q. For that reason, you would agree it
17 would be useful to look at both of them, correct?

18 A. Sure.
19 Q. Earlier in agreement with Mr. Trende
20 Reock and Polsby Popper are the two common I
21 reference referenced scorns by state lugs toker,
22 correct?
23 A. Sure. Yes.
24 Q. Turning to significant findings 16 and
25 22. Here you report the moment of inertia scores

1 for the enacted and illustrative Senate and house
2 plans, correct?
3 A. Yes.
4 Q. Like Polsby Popper and Reock's moment of
5 inertia score ranges, from 0 to 1, correct?
6 A. Correct.
7 Q. And 1 is the most compact shape,
8 correct?
9 A. Correct.
10 Q. And you report the MI scores to the
11 hundredths place; is that right?
12 A. I believe that's correct, yes, that's
13 true.
14 Q. And using the moment of inertia measure,
15 you oppugned Mr. Cooper's illustrative plan is

16 lightly more compact than the enacted plan,
17 correct?
18 A. Correct.
19 Q. You opine that Mr. Cooper had made a
20 similarly compact to the plan using the moment of
21 inertia measure, correct?
22 A. The illustrative plan?
23 Q. Yes.
24 A. The house plan?
25 Q. Yes.

1 A. Is that you mean?
2 Q. Yes.
3 A. Yes.
4 Q. You would agree wouldn't you that
5 regardless of whether you are looking at Polsby
6 Popper Reock or moment of inertia, Mr. Cooper's
7 illustrative plans are an average as compact as or
8 more compact than the corresponding enrolled
9 plans, right?
10 A. I would agree.
11 Q. I next like to discuss figures 30 and
12 34. In figures 30 and 34, you split what you
13 describe as quote potential neighborhood splits,

14 unquote. Do I have that right?
15 A. Yes.
16 Q. These are based on splits of census
17 block groups, correct?
18 A. Yes.
19 Q. And these are based on selected sample,
20 correct?
21 A. Correct.
22 Q. These you did not run all 500
23 iterations?
24 A. I did not have time to do digital
25 analysis of all.

1 Q. So yes, you did not run all 500
2 iterations, correct?
3 A. Correct. They're not iterations, but
4 correct.
5 Q. Are you familiar with Louisiana lug
6 sure's joint rule 21?
7 A. No.
8 Q. Are you aware that the lug sure's
9 redistricting create laid out in rule 21 requires
10 quote, under rule 21G, each district submitted for
11 consideration should contain whole election

12 precincts as those are represented as voting
13 districts or VDTs in the most recent census
14 redistricting. Shape files for the State of
15 Louisiana, which corresponds to the data released.
16 If a VDT must be divide, it shall be divide intoed
17 a few districts as practical, using census
18 tabulation boundary. Are you aware of that?
19 A. Now I am, yes.
20 Q. But you weren't before I asked my
21 question, right, Dr. Murrayay?
22 A. I'm not sure if I read this or not
23 before, to be honest.
24 Q. You're unsure if you've read joint rule
25 21 before?

1 A. I may have seen this in the past. I'm
2 not sure.
3 Q. We can pull up Dr. Murray's deposition.
4 Dr. Murray, did you provide a deposition as part
5 of this case?
6 A. Yes, I did.
7 Q. If we can turn to page 115, looking at
8 lines 24 and 25. Question: Are you familiar with
9 joint rule 21? Answer: That you provided, no.

10 So Dr. Murray, are you familiar with the
11 criteria as laid out in joint rule 21.
12 A. Well, in terms of the verbiage of joint
13 rule 21, I'm not necessarily sure that I haven't
14 seen that before. That's a fact. Am I familiar
15 with joint rule 21 as an entity, no. But whether
16 I've been shown some of that verbiage, I can't say
17 that I haven't seen that.
18 Q. We'll move on. You acknowledge in your
19 report that quote the illustrative district
20 generally maintain voting district boundaries and
21 recognize places of interest; is that correct?
22 A. I think that's correct.
23 Q. Similarly language appears in
24 significant finding 29 with respect to the house,
25 correct?

1 A. I believe so, yes.
2 Q. You would agree that in some instances
3 keeping a voting district whole might require
4 splitting a block group?
5 A. It could potentially, yes.
6 Q. Where a block group and a voting
7 precincts intersect, for example, would be one

8 instance where keeping a voting district whole
9 might require splitting a block group; do I have
10 that right?
11 A. Could be, yes.
12 Q. And your report includes no analysis of
13 whether the splits of block groups you identify
14 follows voting district boundaries, correct?
15 A. That's correct.
16 Q. I'd like to now discuss figure 32B. If
17 we can have that on the screen. Thank you,
18 Stephen. Clusters are correlated with the
19 political entities or municipal boundaries,
20 correct?
21 A. Could you repeat?
22 Q. Clusters are correlated with the
23 political entities or municipal boundaries, right?
24 A. In this case, the cluster in terms of a
25 block group that's being looked at is just a block

1 group.
2 Q. I think we're showing 33B. I mean to
3 talk about 32b. Give us one second. I'll ask my
4 question again, Dr. Murray. So in looking at 32B,
5 clusters are correlated with the political

6 entities or municipal boundaries, right?
7 A. I don't understand what that question
8 means.
9 Q. Let's move on to figure 33B. This
10 figure doesn't show voting district boundaries,
11 correct?
12 A. No, date us not.
13 Q. You don't know where the voting district
14 boundaries are, right?
15 A. In this case, I do not no.
16 Q. You don't know whether the district
17 boundaries follow a voting district boundary,
18 correct?
19 A. In this case, I already said I don't
20 know.
21 Q. And that's true of all the figures
22 showing the 27 block group split; is that correct?
23 A. I did not produce figures showing the
24 voting district boundaries, no.
25 Q. So just so the record is clear, it's

1 true that you're not aware of whether the district
2 boundary follows the voting district bound roarie
3 across all 27 block group splits, correct?

A. Correct.
Q. Liked to move now to discuss significant finding 29 in which you state that quote race appears to have predominated over maintaining neighborhoods in many instances. Is that a correct reading of your report?
A. Which paragraph?
Q. Significant finding 29.
A. Yes.
Q. Would you agree with me that land values drive who can live where?
A. I think that's true.
Q. Would you agree with me that income measures reflect land values?
A. That's probably true.
Q. Is it the same with education?
A. To a degree, certainly, higher education for higher income groups is known to be true.
Q. Significant finding 29, this simply reflect segregates patterns rather than race predominating over maintained neighborhoods, correct?

A. May be one explanatory factor.

Q. I'd like to move to the findings you made in your summary. Using block groups rather than municipal boundaries, changes the arrangements and therefore recasts the data, correct?

A. Using block groups is different than municipal boundaries, is that your question?

Q. Yes.

A. Of course.

Q. Changing the size shape or orientation of a polygon reassigns individual observes to new groups, correct?

A. Not sure what you mean by that.

Q. We can come back to that. A change in the size of the units across mapped region changes their numbers,correct?

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

Q. Got a couple more questions for you, Dr. Murray. Are you aware of the of race composition in section 2 cases?

A. No.

Q. Are you familiar with the case ash croft V Georgia?

A. No.
Q. Would you agree with the quote that if one is drawing a voting district, that voting district needs to be reasonably compact, a reasonably shaped that must be contiguous, unless water is involved to respect communities of interest to meet one person one vote requirements and be plus or minus 5 percent in the state legislative plans in the State of Louisiana?
A. What about it?
Q. Would you agree with me with that statement?
A. That sounds like a common redistricting type of criteria.
Q. Just so the record is clear, you would agree with that statement?
A. I don't know that I agree or disagree. It's a statement. What am I supposed to agree to?
Q. So you just said --
A. I agree that it's a statement. You.
Q. You agree it's a common redistricting principle, correct?
A. Correct.
Q. Focusing on figure 15, which is on page

25 13 of your report. Dr. Murray, did you add the

1 percentages in this table and arrive at a mean or
2 average?
3 A. Did I compute the means in this case?
4 EXAMINATION BY PLAINTIFF COUNSEL:
5 Q. No. My question is, did you add the
6 percentages in this table and arrive at a mean or
7 average?
8 A. Not sure what you mean by that question.
9 Q. Dr. Murray, would you agree that
10 measuring compactness inside of illustrative
11 district is not a requirement under the current
12 Gingles one standard?
13 DEFENSE COUNSEL:
14 Objection; calls for legal conclusion.
15 THE JUDGE:
16 You want to respond.
17 PLAINTIFF COUNSEL:
18 He's testified about measuring
19 compactness for the last three hours. I
20 think he's sufficiently able to --
21 THE JUDGE:
22 You're asking him whether or not it's a

23 standard under a United States supreme Court
24 case.
25 PLAINTIFF COUNSEL:

1 I can rephrase.
2 THE JUDGE:
3 Rephrase.
4 Q. Dr. Murray, would you agree that
5 measuring compactness inside illustrative district
6 is not a requirement under current redistricting
7 requirements?
8 A. I don't know that I agree to that at
9 all. I don't know what that means. I'm not aware
10 of such a standard.
11 Q. Dr. Murray, would you agree that Reock
12 and Polsby Popper are industry de facto?
13 A. That seems like a reasonable statement.
14 Q. In fact, you would agree that they are
15 the most broadly used tests in redistricting
16 cases, correct?
17 A. That I'm aware of, that seems to be
18 true, yes.
19 Q. Did you perform any analysis to consider
20 among other factors the history of voting

21 discrimination in the state's plans and districts
22 you examined?
23 A. No, I did not.
24 Q. With we pull up figure 28 from
25 Dr. Murray's report. There was some back and

1 forth on direct with you and Mr. Lewis about what
2 figure 28 shows. Just so I understand, figure 28
3 tells us the population of Louisiana is highly
4 segregated?
5 A. In 28?
6 Q. Yes.
7 A. This doesn't show it spacially, but it
8 suggests that there are in fact clusters of high
9 values here in this case it's white percentage
10 surrounded by similarly defined area characterized
11 areas, and then areas where high percentage of
12 black VAP is surrounded by other areas of high
13 black voting age population. This figure does
14 summarize that, yes.
15 Q. Just so the record is clear, this
16 scatter plot in figure 28 shows that the State of
17 Louisiana is highly segregated?
18 A. It shows that there are instances, yes,

19 significant clusters. It doesn't show it
20 spacially, but it suggests because of how they're
21 plotted is that it's a value of one block group in
22 relation to its neighbor.
23 Q. Just one moment, Your Honor.
24 PLAINTIFF COUNSEL: No further questions for
25 this witness.

1 THE JUDGE: Redistrict.
2 EXAMINATION BY DEFENSE COUNSEL:
3 Q. Your Honor, Patrick Lewis for
4 Defendants, very briefly. Dr. Murray, are you
5 aware of a Court that has rejected the moment of
6 inertia method?
7 A. No, I am not.
8 Q. Okay. And can Polsby Popper and Reock
9 be used to measure the compactness of a population
10 as compared to a district boundary?
11 A. No, they cannot.
12 DEFENSE COUNSEL:
13 I have no further questions, Your Honor.
14 THE JUDGE:
15 You may step down. Thank you.
16 It's 4 o'clock. By our prior schedule

that we set at the pretrial conference, we're going to close for the afternoon. We do have an issue for tomorrow. Has anything changed Suzie? We only have a court reporter from 10 to 2. We didn't make the arrangements, I mean, I'm not going to explain why. Just know that it was not intentional, and that we did everything we could. So what we'll do is we'll commence at 10 o'clock sharp, and we'll

take two 15 or 20 minutes breaks between 10 and 2. So bring a power bar or smoothie or something, we're not taking a lunch break, go straight from 10 to 2. Any chance we're going to finish tomorrow, counsel?

DEFENSE COUNSEL:

Your Honor, for Defendants, we have one more witness. And I think --

THE JUDGE:

The last expert?

DEFENSE COUNSEL:

Yes, Dr. Lewis.

THE JUDGE:

Yes.

DEFENSE COUNSEL:

I think we're resting, and I can't speak for the Plaintiffs.

THE JUDGE:

Any concept on rebuttal?

PLAINTIFF COUNSEL:

I think we are certainly hopeful that we could wrap up tomorrow. Not sure if Your Honor is open to continuing for a little longer tonight to start into their next witness, but I believe both of the parties

have represented that they're available that would be helpful to the Court in trying to wrap up tomorrow. It will depend on how long Dr. Lewis if we can finish our testimony tomorrow.

THE JUDGE:

I'm amenable. Let me poll my staff.

Okay. We can go until 5.

PLAINTIFF COUNSEL:

Thank you, Your Honor.

THE JUDGE:

Call your next witness.

13 DEFENSE COUNSEL:

14 We call Dr. Jeffrey Lewis to the stand.

15 (WITNESS SWORN).

16 THE CLERK:

17 State your name and spell it for the

18 record.

19 THE WITNESS:

20 My name is Jeffrey Lewis J-E-F-F-R-E-Y,

21 L-E-W-I-S.

22 EXAMINATION BY DEFENSE COUNSEL:

23 Q. Thank you. Your Honor, may I approach

24 with water?

25 THE JUDGE: Yes.

1 DEFENSE COUNSEL: Kate McKnight on behalf of

2 legislative intervenors.

3 EXAMINATION BY DEFENSE COUNSEL:

4 Q. Good afternoon, Dr. Lewis.

5 A. Good afternoon.

6 Q. What is your role in this matter?

7 A. I've been retained by defense counsel to

8 analyze patterns of voting in races, in Louisiana

9 related to this litigation.

10 Q. Let's pull up two exhibits, LDTX52, and

LDTX54. Dr. Lewis, what are these?

A. These appear to be the two reports that I filed in relation to this proceeding.

Q. Okay. Let's focus on LDTX52 and turn to page 8. Let's turn one page to page 9. Is this your CV?

A. Yes.

Q. Is it up to date?

A. I believe so.

Q. Okay. Let's keep this up for just a moment. What is your educational background?

A. I earned my bachelor of arts in political science and economics from Westlake university, my Ph.D. in political science from MIT.

Q. What is your academic experience?

A. I'm currently professor of political science at the university of California Los Angeles, which I joined in 2001. Prior to that I was assistant professor of politics in public policy at Princeton university.

Q. Have you served in leadership roles in the fields of political Methodology or political

9 science?
10 A. Yes, I am past president of the society
11 for political method injure, which is the learned
12 society for folks that study the application of
13 quantitative data, it's questions in political
14 science. I've also been an editor of the American
15 political science review, which is the flag ship
16 journal of political science. I'm past chair of
17 my department.
18 Q. And what are your teaching interests
19 relevant to this case?
20 A. My teaching at the moment is focused
21 largely on graduate training in quantitative
22 methods. And some part of that at least is
23 dedicated to studying ways in which administrative
24 records and other data can be used to infer data
25 intention, factors.

1 Q. Let's turn to pages to the next page,
2 page 2 of your CV through 4. Is this where your
3 publications are listed in your CV?
4 A. Yes.
5 Q. Okay. And are any of these publication
6 peer reviewed?

A. I believe them to all be peer reviewed, yes.

Q. Let's turn to page 3. Let's turn to page 4. Okay. Have you been retained as an expert in cases about the topics of political science, quantitative methods and racially polarized voting analyses?

A. I have.

Q. Let's turn back to page 2 of your report, so that the report, and look at paragraph 2. Is this where you list past cases?

A. Yes.

Q. Have you ever been disqualified by a Court from testifying as an expert?

A. I have not.

DEFENSE COUNSEL: Your Honor, at this time, weed like to move for the acceptance of Dr. Lewis as an expert in the fields of political science, quantitative methods, and

racially polarized voting analysis.

THE JUDGE:

Cross on the tender?

PLAINTIFF COUNSEL:

5 Good afternoon, Your Honor, Sarah
6 rohaney. No objections.
7 THE JUDGE:
8 Dr. Jeffrey Lewis will be admitted to
9 give opinion testimony in the fields
10 identified.
11 DEFENSE COUNSEL:
12 Your Honor, at this time as well based
13 on stipulations by the parties, we'd like to
14 move for admission of his two expert reports
15 served LDTX52 and LDTX54.
16 PLAINTIFF COUNSEL:
17 No objection Your Honor.
18 THE JUDGE:
19 Admitted.
20 EXAMINATION BY DEFENSE COUNSEL:
21 Q. Dr. Lewis, what kind of analysis did you
22 conduct in your first report in this matter?
23 A. The bulk of the analysis involved the
24 application of so called especially logical
25 inference methods to infer from precinct levels

1 voting returns and voter registration records, the
2 fraction of voters who are identified on the voter

registration roles as black, white and other, who supported candidates for office in the contests analyzed in each of the districts analyzed.

Q. Did you apply a particular method of EI to conduct this analysis?

A. Yes. I used method of EI that as goes by various different names. But it's the one which allows the estimation of the support for multiple candidates by multiple groups. So I would refer to it by its formal title, which is multi ***nomial dersway** ecological inference.

Q. Did you review reports from this Plaintiffs Dr. Lisa Handley?

A. I've seen those reports, yes.

Q. In your analysis, did you use Dr. Handley's data?

A. Yes, I believe I did. The way in which I received the data was via an intermediary, Clark Benson of poll data. It has been represented to me that the data are those data that were originally provided by Dr. Handley.

Q. The data that was provided by Dr. Handley, did it include contests other than

statewide down ballot elections involving black candidates?

A. Yes.

Q. I'd like to ask you about the analysis you conducted as compared to the analysis that Dr. Handley conducted in this matter. First, what question are you and Dr. Handley trying to answer for the Court?

A. I think the questions that are at issue here, again, are what is the level of support, whats the level of cohesion, I should perhaps say, the degree to which black voters support the same candidate in elect to really contests. Second, the degree to which white voters vote for that preferred candidate of black voters. And that's sort of the I think, you know, referred to in this area often as cross over. So what white voters, under the assumption maybe that we're speaking of a is situation in which the preferred or, different. What fraction of white voters cross over to support the candidate preferred by black voters. So try to estimate those quantities. And then using those quantities and other features of the contest, to make some inference about whether a particular district might elect a black

candidate of choice, and what might be required in terms of the composition of that district or area in the state that would be again required to elect a black cabbed at that time -- candidate of choice.

Q. Does the issue of turn outcome into play in your analysis?

A. Yes.

Q. How so?

A. Well, you know, in -- all this is of course difficult, because these are -- the facts that we're asked to talk about here can't be directly observed because of the secret ballots. So we can't know the fraction of folks of different races who score different candidates. But we could estimate that. And if we knew the composition of the folks that voted a particular election, it would be relatively straightforward to figure out what fraction you would need of that area to be black or white in order to achieve 50 percent say support for the black preferred candidate or something like that. That's a relatively easy calculation. What complicates

24 that a little bit is that what the composition of
25 the folks who vote is on a particular election,

1 and the composition of the populations that going
2 to provide that mix of black and white voters.
3 Depends on whether voters of each race turn out at
4 different levels or the same level.
5 Q. Is it fair to say that you -- both you
6 and Dr. Handley are trying to estimate future
7 voting behavior based on past election results?
8 A. Yes, that's right. And of course, as
9 they say in all the financial perspective reports,
10 the past may not be indicative of the future. But
11 that's what we have to go on, is trying to
12 extrapolate, basically, from elections, maybe for
13 different offices, held at different times and
14 different context, and used as to make some sort
15 of conclusion about what might occur; although the
16 amount of uncertainty is obviously.
17 Q. I understand you testified in past cases
18 on the issues at play in this case. The types of
19 analyses that you and Dr. Handley did in this
20 case, have you seen those conducted in past cases
21 on voting rights act cases?

22 A. Yes.
23 Q. So we've talked a little bit about the
24 common question you're trying to say. Now liked
25 to better understand where you and Dr. Handley may

1 differ in what type of an analysis you conducted
2 here. So for your part, what type of analysis did
3 you conduct to answer this question?
4 A. Well, in addition to the ecological and
5 French Quarter analysis in estimation of the
6 support among the different groups for each
7 candidate in identifying the minor any preferred
8 candidate so forth and so on, I also looked at the
9 question of whether there was, I guess what you
10 might call legally you might call the opportunity
11 to elect. I'm not going to speak to what the
12 threshold for that is. That's effectively the
13 question is, you know, what would the -- would
14 this particular district provide opportunity,
15 would the candidate of this preferred by black
16 voters in each district have annuitant elect, and
17 that opportunity, I take to be sort of increasing
18 in the -- indicated by increasing an ounce of
19 success in past elections as we can reconstruct

20 them. So there are sort of two ways to think
21 about that. One way, I think, both Dr. Handley
22 did do, which is kind of sometimes called a
23 reconstructed election analysis, where you think
24 about suppose that various other elections that
25 maybe were statewide elections or elections for

1 house of representative or whatever they might be,
2 that were held in the same precincts that are
3 employed in a particular election math that might
4 be implemented. You could ask the question, well
5 if this election had only taken place in those
6 precincts, who would have won, how much support
7 would that candidate have won have gotten. The
8 other thing that you could do is you could ask a
9 slightly different question, which is if you said,
10 well, given what we know, what we estimate, so I
11 shouldn't say know, because again we're just
12 estimating. There's a lot of uncertainty. The
13 rate of cohesion to be, what we estimated the
14 cross over voting to be, what we observed the
15 level of turn out to be, we can ask holding all of
16 that constant, what demographic composition of the
17 population would you need in order to create say

18 an equal chance of the black preferred candidate
19 running.
20 Q. This second type of analysis you just
21 described, is that referred to as a percent needed
22 to win analysis?
23 A. You could call it that, yes.
24 Q. Did Dr. Handley conduct a percent needed
25 to win analysis in this case?

1 A. I don't believe so.
2 Q. Okay. And do you know if Dr. Handley is
3 familiar with the percent needed to win analysis?
4 A. I don't know if she would use that name
5 or not, but the technique is something that she
6 and some co authors introduced in the literature.
7 Q. Okay. So what kind of analysis did
8 Dr. Handley conduct in this case?
9 A. I believe that what she did was sort of
10 similar with respect to estimating the race and
11 support for different candidates. I don't think
12 she applied that district by district, but in
13 larger aggregates, and then I think the second,
14 which is different from what I did, but again
15 broadly similar, and then the second thing that I

16 think she did is the reconstituted or
17 reconstructed, if you like, election method to
18 calculate the fraction of times in the races
19 considered the minority candidate quote unquote
20 won that election.
21 Q. What did the two types of analysis
22 provide the Court; recompiled election results on
23 the one hand and the percent needed to win on the
24 other BVAP?
25 A. So again, I think both of them speak to

1 this question of whether the black preferred
2 candidate in a particular district will have a
3 chance of winning election. So the candidates,
4 those voters had a chance to elect the candidate
5 of their choice. One of them, again sort of takes
6 as given, the district that's drainage it just
7 sort of says how this district at this level
8 performed, tries to estimate that quantity. The
9 second, I think, tries to go maybe a little bit
10 beyond that and asks the question, asks the
11 question sort of what would you need to get to get
12 performance; did you need a value that was as high
13 as the one that was built, or do you need one

that's higher or lower. But both cases you really asking a related question.

Q. Is it your understanding that you as an expert preparing an analysis in a case like this, should not conduct a percent need the to win analysis on districts that are already drawn?

A. I think in a certain sense you could only perform such analysis on districts that were already -- drawn, already set forth stipulated. Yes, so I'm not sure how you could perform an analysis on districts that hadn't been drawn.

Q. At a high level, what does the percent

needed to win analysis take into account?

A. Again, it takes into account the level of -- in this case, black voter cohesion, cross overby white voters, also, what we might refer to as crossover voters that may live in that district, as well as differences in turnout in the election.

Q. Does it also take into account demographic composition?

A. Yes. You're manipulating the demographic composition when asking the question,

you know, how would this district perform if you like at different levels of black VAP.

Q. Did you run the calculations for your percent needed to win analysis by hand?

A. No.

Q. Is it all automated?

A. Yes. It's all scripted. So queries are made of the database, and then the algorithms are plied to the subset for a particular district in combination with district contest, and then the summary statistics are generated.

Q. About how many combinations were at issue here?

A. There are I think in total, the -- I

sound say we. There's really just me and my computer. We probably estimated the support for different candidate contest, district combinations in the tens of thousands.

Q. Okay. Let's pull up what have been labeled demonstrative Defendants 1 through 4, Your Honor, these were exchanged prior to today with Plaintiff's counsel per our agreement. I have paper copies. Would you like a paper copy, Your

10 Honor?

11 THE JUDGE:

12 Yes. Are these used illustratively, or

13 are you going to introduce them evidence?

14 DEFENSE COUNSEL:

15 We'd like to introduce them into

16 evidence.

17 THE JUDGE:

18 I just wanted to know what we were

19 looking at here, that was Judge.

20 EXAMINATION BY DEFENSE COUNSEL:

21 Q. Dr. Lewis, would it be helpful to have a

22 paper copy on hand?

23 A. I think we can go from the screen. I'll

24 let you know if that changes.

25 Q. Dr. Lewis, briefly, could you tell the

1 Court what these tables are and where the

2 information comes from?

3 A. Right. So these are subset of the

4 results that are provided in my original report in

5 tables, corresponding to table Numbers that are

6 the same in that reporter. So table 1 is subset

7 here is subset of the rows of table 1 in that

original report, table 2, 3, so forth as we move threw.

Q. So if I were to look at your report, all this information is in your report, this is just select pieces of that information; is that fair?

A. Yes, I believe so.

Q. Let's look at the first column. It says district. There are two categories, state house and state that. Could you just start by explaining the nomenclature here for the Court?

A. Yes. I used this shorthand because I looked at directions both at the enacted plan and also illustrative plans that were offered in 2022 and in 2022. I used a number of system that helps me keep straight which is which. H is refers to house Senate. S Senate district. 23 refers to the 2023 illustrative districts, and then the numbers are the district numbers the numbers that

follow the dash.

Q. So did you understand that the 2023 illustrative districts were illustrative districts for those by -- proposed by Plaintiff's expert Mr. Cooper?

A. Yes, that's my understanding.
Q. Do you understand that the districts indicated in these tables in the first column are the new majority minority districts pro peed by Plaintiffs in this case?
A. That's how they've been represented to me, yes, I believe that's true.
Q. These district numbers are for the record, past district 1, 23, 38, 60, 65, 68, and 69. And Senate districts 17, 19, and 38; is that right, Dr. Lewis?
A. Yes.
Q. Okay. And I see we have four tables here. Are those the same districts in every table?
A. I believe so, yes.
Q. Now, I appreciate this is a Alexandria solve districts. If you wanted to look at the results of your analysis for any district, not listed here, that you were able to an nice, could

you just turn to your expert report in this case?
A. I could for those districts that I analyzed.

Q. Okay. Can we walk through, I'd like to understand the difference between the tables. So could we start with just the header of table 1, and explain, and then we'll move on to table 2, 3, 4. So for table 1, what does this show the Court?

A. Hero we're focusing on just elections for offices that were in the what you might call the primary election stage, which for these contests which are nonpresidential elections in Louisiana, state level elections in Louisiana, they're using a top two election system. So these are contests in which there are three or more candidates, vying to be one of the top two candidates to make it to run off or to win the primary out right by gaining the majority in that first stage.

Q. Does this table reflect the results of your percent needed to win analysis?

A. It does.

Q. Okay. Let's turn to table 2. What does this show the Court?

A. So here we're looking at contests in

which there were only two candidates. And so that

would be the run off stage elections, and also first stage or primary elections that only involved two candidates. So a winner is going to be determined in that contest.

Q. Okay. Does this table show the Court the results of your percent needed to win analysis on these districts?

A. Yes.

Q. Let's turn to table 3. What does this show the Court?

A. Table 3 is analogous to table 1, except here we focused on contest that included a black candidate.

Q. Finally, let's turn to table 4. For table 3, pardon me, Dr. Lewis, does that table show the Court the percent needed to win the analysis for those types of contests identified in table 3?

A. Yes, it does.

Q. Now least move on to table 4. What does this show the Court?

A. Table 4 is analogous to table 2. Now we're talking about run off where two primary candidate elections that included a black

candidate.

Q. Now staying on table 4, I'd like to understand what the different column headings mean. We've already gone through what the column heading district means. So let's start, move on to the next column over, percent black voting age population. What does this mean; what does this show?

A. So these are again data that were provided to me, but I believe to be based on 2020 census data, that show the fraction of the population of each district that is -- that on the census identified as black only the first number or any part black, the second number. Again, this is because the census allows folks to -- this is a difference between the census and the voter roll. For the purposes of the census, individuals could identify as many, I believe, racial categories as they want. So some folks would identify themselves as both, one race and another. So you could think about people who said, I am only checked that they were black or African-American versus folks that would have also indicated other racial background.

25 Q. Let's move on to the column number of

1 contests. What does this column show, and why do
2 these numbers vary?
3 A. Sure. So the number of contests is the
4 number of contests that were analyzed in arriving
5 at the numbers that appear to the right of that
6 column. And the reason they vary is because in
7 different districts, I had more or fewer contests
8 to use. Some of the contests that I looked at
9 were statewide races. So they were operative in
10 every effectively in every district. And then
11 there were perhaps -- there were also elections
12 that weren't statewide. So elections for U.S.
13 house or state Senate or state house that could be
14 used for the purposes of answering these questions
15 for, you know, maybe a single house or Senate
16 district, or maybe a couple of house or Senate
17 districts so. Where that was possible, I did
18 that.
19 Q. Let's turn briefly to table 1. I
20 noticed there in table 1 number of contests are
21 higher. Do you see that?
22 A. I do.

23 Q. Could you explain why that is?
24 A. Well, there are two reasons for the
25 difference in number of contests between table 1

1 and table 4. One difference is the inclusion of
2 contests that did not involve a black candidate.
3 And also, that not every primary election leads to
4 runoff e.
5 Q. Okay. Let's go back to table 4. We're
6 here on table 4. Did you only analyze elections
7 where a black candidate was running?
8 A. No. I also include like -- I also
9 provide the Court with tables that include
10 contests in which there was no black candidate,
11 but also elections in which there was a democrat.
12 Q. Did those elections have a black
13 preferred candidate identified by EI?
14 A. Yes.
15 Q. And what does that mean black preferred
16 candidate identified by EI?
17 A. That's a good question. What it means
18 is that when I applied this algorithm, that makes
19 a guess about what the rate of support was for
20 each candidate among voters of different racial

21 groups. Again, you can't it's all mixed up. But
22 the method making strong assumptions will make a
23 guess, an estimate of what that rate was. And
24 then from that, I will identify as the black
25 preferred candidate, the candidate who received

1 the majority, or in the case of more than two
2 candidates, the plurality of the black vote and
3 similarly for other ethnic groups.
4 Q. Were there instances where a white
5 candidate would be the candidate of choice for
6 black voters?
7 A. Well, every contest in which there
8 appear a white voter, could have been. But there
9 are instances in which EI estimated there to be a
10 preferred candidate for black voters that was
11 white. Of course in particular a contest that
12 didn't involve a white candidate.
13 Q. Let's move on to the column average
14 number of precincts. What does that column show?
15 A. Well, what we're doing in here is
16 inferring these races support and so forth based
17 on precinct level data. So it's useful to sort of
18 have a sense of how much information there was to

19 do that. And the average number of Precisions
20 tells you the average amount of information that
21 was available to make the inference of Blake co
22 meaning white crossover support that we'll talk
23 about in a minute.
24 Q. Okay. Let's move on to the column
25 percent black preferred candidates democratic.

1 What does that show the Court?
2 A. That's the fraction of the candidate
3 that EI identifies as the preferred candidate
4 of -- the preferred candidate of black voters for
5 which the -- the -- candidates was democrat. So
6 in some cases, the candidate there you can see,
7 you know, very high percentage, but it looks like
8 perhaps there's one candidate in one contest,
9 there's not democrat who's identified by EI in
10 these districts as black preferred.
11 Q. Let's move on to the column average
12 number of candidates. What does this show?
13 A. That's pretty straightforward. That is
14 the average number of candidates in each contest
15 under analysis. In tables 2 and 4, we're just
16 looking at two candidate runoffs in primaries.

17 The average is two. The minimum is two. The
18 maximum one is two. There's always two.
19 Q. Let's flip to table 1 to illustrate this
20 point. Could you talk about average number of
21 candidates in table 1 and why it's different?
22 A. Sure, because in this case we're looking
23 at elections that have three or more candidates.
24 So in many of these contests, there were
25 substantial number of candidates. You can see the

1 average exceeds seven in each district.
2 Q. Let's turn to the column black preferred
3 win rate. What does that show the Court?
4 A. So that is effectively the result of the
5 reconstitute or reconstructed election analysis
6 there. So it asks the question, once we've used
7 the EI to identify the black preferred candidate,
8 if you had only held the particular election that
9 we're analyzing in that particular district, would
10 that black preferred candidate have been
11 successful. And then the definition of success
12 here is a little bit different in tables 1 and 2,
13 you know, between tables 1 and 2 and between
14 tables 3 and 4. In the three or more candidate

15 elections, these primary contests, the success
16 measure is just moving on to the next stage or
17 winning out right. So you don't have to win
18 outright -- you don't have to come in first. You
19 just have to sort of live to fight another day.
20 Q. Is the black preferred candidate assumed
21 under this analysis, or is it calculated or
22 estimated in some way?
23 A. Yes. The black preferred candidate is
24 estimated from the EI analysis.
25 Q. On table 4, I see that the win rate is

1 50 or higher for every district. Does this mean
2 that black preferred candidates are winning these
3 districts at a rate of more than half the time,
4 and sometimes 100 percent of the time?
5 A. Yes, in the contest that we looked at
6 here, they did, you know, turn the vast years that
7 we analyzed -- that I analyzed.
8 Q. I'd like to draw one specific example to
9 ask you a question, Dr. Lewis. On table 4 state
10 house district 38, so this is H2338, I see that
11 the BVAP is just barely 50 percent, the black only
12 is 49 percent, and the any part black is

13 50.8 percent. Do you see that?
14 A. I do.
15 Q. Then coming over to the black preferred
16 win rate, I see 100 percent figure; is that right?
17 A. Yes.
18 Q. Can we conclude anything about whether
19 majority minority districts are required to create
20 an opportunity to elect in this district?
21 PLAINTIFF COUNSEL:
22 Objection on relevance ground. This
23 question calls for testimony about whether an
24 opportunity district could hypothetical be
25 drawn BVAP 50 percent. And the relevant

1 consideration under Gingles and the reason
2 Fifth Circuit opinion in Robinson. The only
3 relevant opinion is whether the enacted
4 district are opportunity districts as drawn.
5 THE JUDGE:
6 Can you respond.
7 DEFENSE COUNSEL:
8 Your Honor, it sounds like a legal
9 briefs. This has to do with districts,
10 illustrative districts that are drawn. And

11 Dr. Lewis is here to testify about percent
12 BVAP needed to win.
13 THE JUDGE:
14 Okay. Let me ask you this: so if
15 we're -- if the fifth Circuit has told this
16 Court that if the Court find a violation of
17 section 2, that the legislature has to have
18 an opportunity, correct? You would agree
19 with that, the legislature has to opportunity
20 to repair it? The close of this evidence, it
21 is unlikely this Court is going to enact a
22 map. We're talking about illustrative maps,
23 not remediation maps.
24 DEFENSE COUNSEL:
25 Correct. Illustrative maps. There's a

1 straight remedy phase, let me also say that
2 this information is relevant to what is
3 necessary to be drawn. It is relevant to the
4 Court whether Plaintiffs have put forward a
5 map, that is a viable remedy.
6 THE JUDGE:
7 Why? If we're going to have a remedy
8 phase, why don't you have the cart before the

9 horse here? I'm saying it's never going to
10 be relevant, but why is it relevant now.
11 DEFENSE COUNSEL:
12 There's a number of president behind the
13 fact in order to make aging showing
14 Plaintiffs have to come before the Court and
15 show they have a viable remedy. When I say
16 remedy, I understand that sounds like
17 remediation phase. It has to do with
18 Plaintiff's illustrative plan. They have to
19 come to you and show --
20 THE JUDGE:
21 In a reasonably configured plan is the
22 way I read the law, a reasonably configured
23 illustrative plan.
24 DEFENSE COUNSEL:
25 They also have to show Gingles 3, that

1 the white block is voting consistently, to
2 outvote black voters. The testimony here is
3 about what's happening in these districts and
4 in these areas.
5 THE JUDGE:
6 I understand -- I actually don't even

7 really dispute the relevance of white
8 crossover voting. I'm questioning, I guess
9 you're saying that white crossover voting
10 creates opportunity districts?
11 DEFENSE COUNSEL:
12 It is correct that white crossover
13 voting is part of the Gingles analysis, and
14 creates -- could create either cross over
15 districts or could contribute to districts
16 being able to perform.
17 THE JUDGE:
18 You want to respond?
19 PLAINTIFF COUNSEL:
20 We're discussing illustrative districts.
21 It is entirely irrelevant to Gingles 1 and 2.
22 Defendants are arguing possibility of
23 crafting these districts with white crossover
24 voting does exempt the State of Louisiana
25 from drawing opportunity district voting.

1 This is exactly the same argument that was
2 rejected in Robinson.
3 DEFENSE COUNSEL:
4 Your Honor, there are case -- there's

case after case after case about Plaintiffs needing to come in and show that they have districts that satisfy Gingles 1. They also need to satisfy Gingles 3. Plaintiffs, it is our position and it's in the briefs, they've presented no evidence that their proposed districts need to be drawn at 50 percent or above due to white block voting. They haven't done that. Dr. Handley came in and gave a general analysis. We have Dr. Lewis here doing a very specific analysis not only to illustrative districts, but to enacted districts. It's all in his report. It's relevant to Plaintiffs showing and Plaintiffs ability to come before the Court and show that Gingles 3.

THE JUDGE:

Objection overruled.

EXAMINATION BY DEFENSE COUNSEL:

Q. Would you like me to ask the question again, doctor?

A. Yes, please.

THE JUDGE:

3 I would like you to.
4 EXAMINATION BY DEFENSE COUNSEL:
5 Q. Dr. Lewis, we were looking at H2338. We
6 were looking at the BVAP level and the black
7 preferred win rate. Do you remember that?
8 A. I do.
9 Q. Okay. So I was asking for your opinion
10 about if you see a win rate of 100 percent in
11 districts drawn barely above 50 percent, is there
12 anything that you can conclude about whether
13 majority minority districts are required in order
14 for black voters to have an opportunity to elect
15 their candidates of choice?
16 PLAINTIFF COUNSEL:
17 Your Honor, just for the record, can we
18 have a continuing objection to any further
19 questions that tend to elicit Dr. Lewis of
20 the BVAP percentage needed to win?
21 THE JUDGE:
22 Yes.
23 PLAINTIFF COUNSEL:
24 Thank you.
25

DEFENSE COUNSEL:

I'll put a response on the record as well, Your Honor. There was no motion in limine. There was no Daubert motion.

THE JUDGE:

That's fine. Her objection is relevance. It's continuing objection. You can answer if you remember the question.

DEFENSE COUNSEL:

Thank you, Your Honor.

THE WITNESS:

I think I do. So I think it's again to say the conclusion that you would have to draw, you know, it does again border a little bit on a legal conclusion about what it means for something to be an opportunity and so forth. I think the idea is if again from a kind of more of a political science than legal perspective, you know, if you were at 50.8, you might think, well, if you just drop that down by a point or two would that 100 percent win rate, would that drop below 50 percent, if you just moved a few voters out of that district. And that's the sort of thing that this, what you're calling this

sort of minimum BVAP needs to win, helps us understand, is given what we've estimated, what we believe to be true about the patterns of voting, we can say something about how you might be able to adjust that black voting age population, and still maintain or create doing it -- depending on which way you want to move it, still create or maintain the opportunity for black candidates of choice to win. And again, that's the -- again, the limit kind -- the win rate in some ways is that it can only tell you in this district as it's drawn, you know, what would it produced historically.

EXAMINATION BY DEFENSE COUNSEL:

Q. Moving on to the next column, average black preferred candidate vote share. Do you see that?

A. I do.

Q. Okay. What does that show the Court?

A. Again, we're averaging across these six elections here. We're just saying what was the average rate of support among all voters for the

24 candidate that was identified as the black
25 preferred candidate in the district or in that

1 contest in the district.
2 Q. Let's briefly turn to table 1, where we
3 have more than two candidates. What does this
4 column, the column average preferred candidate
5 vote share, show the Court about contests with
6 more than seven candidates on average?
7 A. Well, as one would expect, as the number
8 of candidates increases, the sort of vote shares
9 received by each of the candidates tends to fall.
10 So two candidate election, you need a majority in
11 order to win the election. If you're trying to
12 get plurality, if they're seven candidates and the
13 votes are distributed, so you do see there that
14 the average number of votes received or shared
15 votes received by the black preferred candidate is
16 a little lower than those two candidate races as
17 you would expect. Of course, it could be due to
18 other things as well, but that's what you
19 anticipate or expect to see.
20 Q. It also seems a little higher
21 considering seven candidates. What does that

22 mean, that it is not one seventh of table 4's vote
23 share?
24 A. Well, I'm not sure. Again, I think
25 we're still seeing again in these districts that

1 have large populations, and as we'll see in the
2 next column average sum, the black cohesion is
3 pretty high. Of course, that translates into an
4 over all vote share for that black preferred
5 candidate that remains quite high, and see
6 generally high enough to win advancement to the
7 next stage or out right victory nearly 100 percent
8 of the time and nearly all the districts.
9 Q. Staying on table 1, I'm seeing in the
10 column black preferred win rate. Numbers of 100,
11 100 percent win rate in 8 out of 10 districts
12 analyzed. Is that a correct read?
13 A. Yes.
14 Q. Let's move back to table 4, please.
15 Could we move to the column average percent voters
16 black, and could you tell the Court what that
17 shows?
18 A. Well, again, the race of the voters is
19 identified in the voter rolls. And is included in

20 the data that was provided to me. So I can
21 calculate the fraction of voters in these
22 elections identified as black.
23 Q. So do you understand that voters in
24 Louisiana, do they register by race, do they
25 indicate their race when they register?

1 A. Yes, that's my understanding.
2 Q. So you didn't have to estimate that
3 figure; is that right?
4 A. No. That was a relief in this case
5 versus many of the cases that I work on, in other
6 parts of the country, where that is not done, and
7 then a whole big component of this analysis is to
8 try to estimate which voters are in which
9 category.
10 Q. Let's move on to the column average EI
11 black cohesion. What does this show the Court?
12 A. That is the EI algorithms estimate of
13 the share of the black vote that was received by
14 the candidate who estimates received the highest
15 share of black votes.
16 Q. Let's move on to average EI white
17 crossover support. What does this show the Court?

18 A. Again, that's the fraction of estimated.
19 Always estimates like we should never say, oh, we
20 know that number is 10 or 14. These are estimates
21 that are subject to bias, if their assumptions
22 aren't met, and also uncertainty that arises from
23 the fact that we're not looking at a very large
24 number of contests and don't have an enormous
25 amount of information upon which to base our

1 estimates. But what it means, is that EI
2 estimated for each contest that was considered the
3 share of the white vote that was cast for the
4 candidate that the model had previously identified
5 as the black preferred candidate, and then average
6 cross those contests to get 10 percent of the 14
7 and so forth that you see in that column that's
8 highlighted.
9 Q. So where you see in this table white
10 cross year voting and sometimes up to 29 percent,
11 what does that tell the Court?
12 A. What you see there in those cases, and I
13 think across all the cases is the estimated rate
14 of white cross over voting exceeds -- there's more
15 white voters are crossing to vote for the black

16 candidate than black candidates are crossing over
17 to vote for the white candidate. That should be
18 the first sort of indication that putting aside
19 differences in turn out that might exist, you can
20 sort of immediately see that you wouldn't
21 necessarily need 50 percent or more in order for
22 the black candidate of choice to prevail, because
23 the black population is estimated to be more
24 cohesive. So if you think that if the -- if black
25 voters sort of did all their voting the first half

1 of the game and white voters did their voting in
2 the second half, the black voters could run up the
3 score enough to win the game. So you don't
4 actually need the whole half to do that. I don't
5 know. That's maybe not the right analogy, but you
6 get the sense of the logic of it. Crossover.
7 Q. Let's move to the column percent
8 polarized. What does this tell the Court?
9 A. So again, pole risings could have a very
10 specific legal meaning. My understanding in
11 different litigation, that term is defined
12 differently. I'll be very specific about what I
13 was asked to calculate here, under that label.

That's just the fraction of instances in which the candidate that EI identifies as the preferred candidate of the black voters is not the same candidate that it identifies as the preferred candidate of the white voters. So it's just a fraction of times in which there is that disagreement between the two racial groups about which candidate should hold office.

Q. Can you tell the Court, can voting both be both polarized on the one hand but still have sufficient crossover for a black candidate of choice to be elected in a nonmajority black

district?

A. Yes, in exactly the way we just discussed, that if there is more crossover support, not over 50 percent, so you have pole rights act, in these two candidate elections in that sense, but if there's more heterogeny in the voting of white folks than black folks, then you wouldn't need 50 percent of the population to be black in order to elect a black candidate of choice, again, putting aside differences in turnout.

12 Q. Moving to the next column, average
13 percent black VAP to win. Can you tell the Court
14 what this shows?
15 A. Right. So the idea there again is to
16 think about a kind of thought experiment where you
17 could keep other features of the district under
18 analysis fixed and just alter the fraction of
19 black voter population, voting age population.
20 And again, we're going to hold fixed the level of
21 cohesion, we're going to hold fix the level of
22 crossover support. We're going to hold fix the
23 relative size of the white population and the
24 nonwhite or black, sort of other population.
25 We're going to hold those things fixed as we sort

1 of turn the dial on what the size of the black
2 population is. We're going to tune that dial
3 until given all those numbers, we reach the point
4 where we identify the fraction of the voters that
5 would have to be black in order for the black
6 preferred candidate to just barely certainly win
7 by one vote. Once we get that number, we have to
8 account the differences in number of turnout, hold
9 those fixed in what they were to be in the

10 context. And add just that to get that number you
11 see highlighted in yellow. Again, that's an
12 estimate.
13 Q. Overall, what was your conclusion about
14 what this type of analysis shows the Court about
15 Plaintiff's proposed new districts?
16 PLAINTIFF COUNSEL:
17 Objection. This is beyond the scope of
18 his report. Dr. Lewis did state in his
19 deposition he can point to no conclusions
20 other than the numbers in his report asking
21 him to draw any inferences from those numbers
22 is clearly beyond the scope.
23 DEFENSE COUNSEL:
24 Your Honor, I'm asking him about his
25 numbers that are in his report that are

1 copied here. I'm asking him about his -- the
2 numbers that are presented here and what they
3 show about Plaintiff's select new districts.
4 THE JUDGE:
5 Question is did he connect the dots in
6 his report? You're asking him about his
7 conclusions, and Ms. rohoney is saying it's

8 outside the scope of his written report.
9 DEFENSE COUNSEL:
10 A moment, Your Honor, trying to locate
11 it. I beg your pardon, Your Honor. Your
12 Honor, I can come back to this.
13 THE JUDGE:
14 I looked at his conclusion, I actually
15 looked at it before today. I would sustain
16 the objection.
17 DEFENSE COUNSEL:
18 Okay. Your Honor, am I about to move
19 into a new section of questions. And it's
20 almost 5. Is now a good time to stop?
21 THE JUDGE:
22 How long are you going to be, 30 or 40
23 more minutes.
24 DEFENSE COUNSEL:
25 Yes.

1 THE JUDGE:
2 Yes. We'll take a break for the day.
3 We'll be in recess. Again the Court
4 apologizes, we'll be in recess until 10 a.m.,
5 we'll go straight through until 2.

(COURT RECESS AT 4:56 P.M.)