Exhibit G

February 21, 2014

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF WASHINGTON

```
ROGELIO MONTES and
``` MATEO ARTEAGA,

Plaintiffs,

VS.

CITY OF YAKIMA, MICAH
CAWLEY, in his official capacity as Mayor of Yakima, and MAUREEN ADKISON, SARA BRISTOL, KATHY COFFEY, RICK ENSEY, DAVE ETTL, and BILL LOVER,
In their official capacity as members of the Yakima City Council,

Defendants,

NO. 2:12-CV-3108 TOR

DEPOSITION UPON ORAL EXAMINATION OF
MATEO ARTEAGA

2:00 P.M.
FEBRUARY 21, 2014
6 SOUTH SECOND STREET
YAKIMA, WASHINGTON

REPORTED BY: JORI L. MOORE, CCR NO. 1993, RPR
program?
A. Less than a year.
Q. What did you do next?
A. I went to work for Central Washington

University.
Q. What year did you start at Central?
A. February 1st of '99.
Q. Are you still there?
A. Yes.
Q. When you were hired in '99 what was your
position you were hired as?
A. The director of the EOC program, Educational

\section*{Opportunities Center.}
Q. EOC?
A. Yes.
Q. Not EEOC?
A. No. A lot of people confuse that but no.
Q. So what is the purpose of the EOC?
A. To serve 1,000 adults and get them to apply and also secure financial aid for them to go to college.
Q. The EOC would work with the community to try to get 1,00 adults to what?
A. To either go to to school and in some cases if they were limited English I would have them take ESL

February 21, 2014
classes. Of course if they didn't have a GED I'd assist them to get into the GED program and then after they got that then we'd put them into college or a trade school, whatever their needs were.
Q. As the director of the EOC were you actually interacting with these adults or you were supervising other employees?
A. I was the supervisor but my personal philosophy \(I\) wanted to see two individuals every day. I was in close contact with people who were serving.
Q. How long were you director for?
A. I still am.
Q. Have you held any other positions within Central Washington?
A. I think in '01 I was assigned two different programs, high school equivalency program, HEP for short, and then college assisted migrant program, CAMP.
Q. So let's talk about the high school equivalency program, is that something you're still part of?
A. No.
Q. So you first became involved in that in 2001?
A. Yes.
Q. And was that an initiative that Central

Washington started or what was the story behind that?

\title{
IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF WASHINGTON
}

ROGELIO MONTES and MATEO ARTEAGA,
PLAINTIFFS
v.

CIVIL ACTION NO. 12-cv-3108-TOR

CITY OF YAKIMA, WASHINGTON, et al.
DEFENDANTS

\section*{SUPPLEMENTAL DECLARATION OF WILLIAM S. COOPER}

WILLIAM S. COOPER, acting in accordance with 28 U.S.C. §1746, the Federal Rules of Civil Procedure 26(a)(2)(B), and Rules 702 and 703 of the Federal Rules of Evidence, does hereby declare and say:
1. My name is Williams S. Cooper. I serve as a demographic and redistricting expert for the Plaintiffs. I filed a declaration in this case on February 1, 2013. I submit this supplemental declaration in response to the March 22, 2013 report of Dr. Peter Morrison (the "Morrison Report") and to his supplemental April 6, 2013 report (the "Morrison Supplemental Report").
2. In this supplemental declaration, I address Dr. Morrison's claim that the Latino citizen voting age (LCVAP) majority districts in Illustrative Plans 1 and 2 do not satisfy the Gingles 1 precondition that the minority population must be "sufficiently large and geographically compact to constitute a majority in a singlemember district." I also address Dr. Morrison's opinion that the creation of a

\section*{Figure 15 Yakima City Council Hypothetical Plan D Summary}
\begin{tabular}{lrrrrrrrrrr} 
District & Population & Citizens & Deviation & \% Deviation & 18+_Pop & 18+ Hisp. & \% & 18+ Hisp. & \begin{tabular}{c} 
\% Latino \\
CVAP
\end{tabular} & \begin{tabular}{c} 
Legistered \\
(of all \\
registered)
\end{tabular} \\
1 & & & & & & & & & & \\
\hline 2 & 16622 & 10866 & -303 & \(-2.71 \%\) & 10262 & 7435 & \(72.45 \%\) & \(55.25 \%\) & \(55.65 \%\) \\
3 & 14403 & 11155 & -14 & \(-0.13 \%\) & 9837 & 4778 & \(48.57 \%\) & \(30.13 \%\) & \(32.54 \%\) \\
4 & 11601 & 11142 & -27 & \(-0.24 \%\) & 8947 & 1652 & \(18.46 \%\) & \(14.45 \%\) & \(12.49 \%\) \\
5 & 11783 & 10779 & -390 & \(-3.49 \%\) & 8676 & 2866 & \(33.03 \%\) & \(28.38 \%\) & \(21.38 \%\) \\
6 & 12372 & 11087 & -82 & \(-0.73 \%\) & 8811 & 3005 & \(34.11 \%\) & \(20.35 \%\) & \(20.31 \%\) \\
7 & 11821 & 11412 & 243 & \(2.17 \%\) & 9568 & 937 & \(9.79 \%\) & \(5.89 \%\) & \(6.91 \%\) \\
\hline & 12465 & 11580 & 411 & \(3.68 \%\) & 9186 & 1164 & \(12.67 \%\) & \(12.13 \%\) & \(7.94 \%\)
\end{tabular}

Figure 16
Yakima City Council Hypothetical Plan D


Figure 17 Yakima City Council Hypothetical Plan E Summary
\% Latino

Figure 18 Yakima City Council Hypothetical Plan E


IN THE UNITED STATES DISTRICT COURT IN AND FOR THE EASTERN DISTRICT OF WASHINGTON
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ROGELIO MONTES and MATEO )
ARTEAGA,
Plaintiffs,
vs.
CITY OF YAKIMA, MICAH
f)
CAWLEY, in his official
capacity as Mayor of
Yakima, and MAUREEN
ADKISON, SARA BRISTOL,
KATHY COFFEY, RICK ENSEY,
DAVE ETTL, and BILL
LOVER, in their official )
capacity as members of
the Yakima City Council,
Defendants.

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DEPOSITION UPON ORAL EXAMINATION OF WILLIAM S. COOPER

Taken at Floyd, Pflueger \& Ringer
200 W. Thomas Street
Seattle, Washington

DATE TAKEN: May 8, 2013
REPORTED BY: Mary A. Whitney, CCR - WCRL \#2728

1 instruct the witness to answer the question that's moving along here.

\section*{Exhibit J}

\title{
UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF WASHINGTON
}

\section*{ROGELIO MONTES and MATEO ARTEAGA,}

Plaintiffs,
vs.
CITY OF YAKIMA, MICAH
CAWLEY, in his official capacity as Mayor of Yakima, and MAUREEN ADKISON, SARA BRISTOL, KATHY COFFEY, RICK ENSEY, DAVE ETTL, and BILL LOVER, in their official capacity as members of the Yakima City Council,

\section*{Defendants.}
1. I have been retained as an expert by the city of Yakima, Washington. I am an applied demographer and am retired from The RAND Corporation, where I was Senior Demographer and the founding director of RAND's Population Research Center. I have provided testimony in litigation pertaining to the Voting Rights Act and districting plans and have constructed and/or evaluated numerous proposed local redistricting plans. I have made invited presentations on demographic aspects of redistricting to members and/or staff of the U. S. House of Representatives Subcommittee on the Census, the County Counsels' Association of California, the League of California Cities, the National League of Cities, and the Population Association of America. I have served on the U.S. Census Bureau Advisory Committee on Population Statistics, 1989-1995; and as an invited participant on the Bureau's Working Group on 2010 Race and Ethnicity. I have been elected as President of the Southern Demographic Association and to the Board of Directors of the Population Association of America, which are the two leading associations of professional demographers; and have taught students at the RAND Graduate School.
36. The Census Bureau publishes detailed caveats pertaining to its published ACS estimates. \({ }^{14}\) The Bureau openly acknowledges that there are mistakes in how the ACS data are reported or coded. When critical decisions hinge on ACS data, analysts are obliged to heed the Bureau's advice: "Item nonresponse measures allow data users to judge the completeness of the data on which the survey estimates are based." (See footnote 7 above.)
37. In order to find that Cooper's demonstration District 1 has a Latino majority among the district's CVAP, one would have to ignore that advice and overlook the following sources of bias and other flaws whereby (in the Census Bureau's words): "Final [ACS] estimates can be adversely impacted":
A. The uncertain odds ( 56 to 44 by my preliminary calculations) that the district actually is majority Hispanic, given the margin of error associated with " \(50.25 \%\) ".
B. There fact that 182 Latinos did not answer the citizenship question, thereby requiring the Census Bureau to impute a response. If any 22 to 24 of those 182 voting age Latinos were assigned citizenship status erroneously, this incremental error would threaten to invalidate the conclusion of majority found in (i).
C. The possibility that demonstration District 1 may not be the "usual place of residence" for every single one of the 2,217.91 Latino voting-age citizens whom the ACS counts as "current residents" of demonstration District 1, based on the ACS "current residence" rule.

\section*{UNEQUALLY WEIGHTED VOTES IN DIFFERENT DISTRICTS}
38. Plaintiffs' expert Cooper has crafted two illustrative plans, each with a majority-Latino CVAP demonstration District 1 (Cooper Exhibits C-1 and D-1). \({ }^{15}\) Mr. Cooper's single-minded purpose in devising each demonstration District 1 was to aggregate the most heavily Latino contiguous areas of the City so as to boost Latinos’ share among whatever number of voting-age citizens that district happened to encompass. The result was a large Latino share (50.25\%) at the expense of a small number (just 4,414 of the City's 54,234 voting-age citizens).

\footnotetext{
\({ }^{14}\) See US. Census Bureau, A Compass for Understanding and Using American Community Survey Data: What Researchers Need to Know (Washington, DC: U.S. Government Printing Office, 2009), op. cit.
\({ }^{15}\) Declaration of William S. Cooper dated February 1, 2013, with accompanying Exhibits, in Montes et al. v. City of Yakima, et al.
}
39. In the City of Yakima, a district drawn for the sole purpose of making Latinos the majority of CVAP would invariably cause the votes of eligible voters in that one district to carry far more weight than a vote in another district. That is because any Latino majority-CVAP district encompassing \(1 / 7^{\text {th }}\) (14.3\%) of the City's total population can encompass at most \(8.4 \%\) of the City's voting-age citizen population. That \(8.4 \%\) of eligible voters would necessarily exercise \(14.3 \%\) of the power in electing City Council members-in effect, "one person, 1.7 votes." Conversely, the remaining \(91.6 \%\) of the eligible voters across the City would exercise only \(85.7 \%\) of the power in electing City Council members-i.e., " 1 person, 0.94 votes."
40. Mr. Cooper's two demonstration districts exemplify this dilemma. As seen in Table 2, either plan would have the effect of conferring \(14.3 \%\) of the power to elect City Council members on a mere \(8.1 \%\) to \(8.4 \%\) of the City's eligible voters-those residing in demonstration District 1, which he devised solely to maximize Latino eligible voters. In effect, District 1 bestows a political premium: a vote that counts for at least \(170 \%\) (i.e., 14.3 divided by 8.4 ) of what a vote should count. By contrast, a vote cast by each individual eligible voter in proposed Districts 6 or 7 would necessarily be underweighted. In each of those districts, either plan would have the effect of conferring \(14.3 \%\) of the power to elect City Council members on about 17.4 \% of the City's eligible voters in proposed District 7. That is a political penalty: a vote that counts for just \(82 \%\) (i.e., 14.3 divided by 17.4 ) of what a vote should count.
41. Dividing the above political penalty (82\%) by the above political premium (170\%) reveals that either illustrative plan would severely penalize the voters in several districts. Under Cooper's Illustrative Plan 1, the voters in Districts 6 and 7 would exercise only \(48 \%\) of the political power that the voters in demonstration District 1 exercise (i.e., 82 divided by 170). Under Illustrative Plan 2, the voters in Districts 3, 6, and 7 would exercise only \(49 \%\) of the political power that the voters in demonstration District 1 exercise ( 85 divided by 172).
42. It is unnecessary to tolerate this degree of imbalance. However, Mr. Cooper does so by giving exclusive emphasis to Latino ethnicity in drawing each District 1.

Table 2

43. The effects of this imbalance would fall unequally on Latinos in one district and non-Latinos in all other districts. Furthermore, Mr. Cooper's data make it clear that those eligible voters who would be most severely disadvantaged include the majority of the City's American Indian, Asian, and African American eligible voters.
44. In summary, Plaintiffs' attempt to meet the first Gingles precondition relies on potentially flawed data of unknown confidence. Even if these technical issues with underlying data could be resolved, the unavoidable electoral imbalance that would result poses two questions: (1) Is it constitutional to undersize the citizen population in one (Latino) district while oversizing the citizen population in another district? In other words, should only 4,414 or 4,547 citizens in demonstration District 1 get to elect a member to the Yakima City Council member, while 9,461 or 9,511 citizens in a neighboring district get to elect another city council member? (2) Would this electoral imbalance cause the unlawful dilution of votes cast by one or more protected groups (e.g., American Indians or Asians) whose numbers are disproportionately concentrated outside demonstration District 1?

Deposition of John Alford, 2/19/2014

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF WASHINGTON

ROGELIO MONTES and MATEO ARTEAGA,

Plaintiffs, vs.

CITY OF YAKIMA, MICAH CAWLEY, in his official capacity as Mayor of Yakima, and MAUREEN ADKINSON, SARA BRISTOL, KATHY COFFEY, RICK ENSEY, DAVE ETTL, and BILL LOVER, in their official capacity as members of the Yakima City Council,

Defendants.

No. 12-CV-3108 TOR

DEPOSITION UPON ORAL EXAMINATION
OF

JOHN RICHARD ALFORD, PH.D.

> 9:00 a.m.
> February 19, 2014

1201 Third Avenue 4800
Seattle, Washington 98101-3099

JACQUELINE L. BELLOWS
CCR 2297

Deposition of John Alford, 2/19/2014

\begin{tabular}{|c|c|c|c|}
\hline & Page 6 & & Page 8 \\
\hline 1 & Q I believe that's been premarked Exhibit 5 . & 1 & beginning to know more about the sort of brain physiology \\
\hline 2 & A Yes. & 2 & that underlies ideology. \\
\hline 3 & Q Your resume is attached to your supplemental report; is that & 3 & Q Interesting. So you've testified before as an expert \\
\hline 4 & right? & 4 & witness in redistricting cases; is that right? \\
\hline 5 & A Yes, it is. & 5 & A I have. \\
\hline 6 & Q Is that accurate and up-to-date as far as you know? & 6 & Q And have you specifically testified in Section 2 challenges \\
\hline 7 & A Let me see. We all check publications first. That's near & 7 & brought against an at-large election system? \\
\hline 8 & and dear to our hearts. Yes. This is -- sorry. It is & 8 & A Yes. I'd say that's -- I've testified in some other things \\
\hline 9 & up-to-date on what matters to me, the publications. Let's & 9 & related to statistics and once in a Section 5 case. But the \\
\hline 10 & see about -- I think this is correct. I am working for the & 10 & lk of what I do is related to Section 2 cases and \\
\hline 11 & Houston Independent School District, helping them & 11 & specifically to Gingles 2 and 3. \\
\hline 12 & redistrict. They have been -- they've added some territory, & 12 & Q So in approximately what percentage of those cases have yo \\
\hline 13 & d so they're redistricting. But there's not a lawsuit & 13 & testified on behalf of government entities opposing a \\
\hline 14 & involved. & 14 & challenge to their at-large system? \\
\hline 15 & Q Anything else? & 15 & A I don't know about the percentage. But certainly the bulk \\
\hline 16 & A I've been retained in a lawsuit related to San Jacinto & 16 & of my work is for government entities. I have testified \\
\hline 17 & College in Houston. But there's been no depositions or & 17 & against government entities. But I primarily work for \\
\hline 18 & reports. & 18 & hool districts, cities, states. So I work for the -- I've \\
\hline 19 & Q Okay. Any other updates? & 19 & orked for the democratic -- a group of democratic \\
\hline 20 & A I think that's it. & 20 & congressmen in Florida and Texas and some other state. But \\
\hline 21 & Q Can you briefly describe your educational background & 21 & the majority of the work I do, I do for government entities. \\
\hline 22 & starting with your bachelor's degree. & 22 & Q Have you ever testified on behalf of parties opposing an \\
\hline 23 & A My bachelor's degree is a bachelor of science in political & 23 & at-large system? \\
\hline 24 & science. I have a master's of public administration. Both & 24 & A I don't recall a specific case. Like Dr. Engstrom, I go \\
\hline 25 & of those degrees are from the University of Houston. I have & 25 & back a ways. I'm not entirely sure. But I don't recall a \\
\hline & Page 7 & & Page 9 \\
\hline 1 & a master's and Ph.D. in political science from the & 1 & specific case. \\
\hline 2 & University of Iowa. & 2 & Q Approximately what percentage of your annual income resuls \\
\hline 3 & Q You're currently an associate professor at Rice; is that & 3 & from your work as an expert witness? \\
\hline 4 & right? & 4 & A It varies substantially depending on where we are in the \\
\hline 5 & A I am. & 5 & census cycle. So currently it's probably half of my income. \\
\hline 6 & Q What do you teach? & 6 & at, you know, averaged over a decade, it's, you know, \\
\hline 7 & A I teach voting behavior, general behavior, introductory & 7 & probably a third to a half, something in that range. \\
\hline 8 & American politics. And I teach the -- a course on the & 8 & Q When were you first contacted by defendants in this case? \\
\hline 9 & biology of political behavior. & 9 & A I'm not certain. But I think it would -- if I had to guess \\
\hline 10 & Q What do you mean by the "biology of political behavior"? & 10 & or place it in a time period, I would think probably \\
\hline 11 & A It focuses mainly on the brain physiology as it's related to & 11 & something like late summer of 2012. \\
\hline 12 & both ideology and sort of voter interest, turnout, things & 12 & Q Who contacted you? \\
\hline 13 & like that, and also focuses on genetics of political & 13 & A I believe it was John Safarli. \\
\hline 14 & ideology and political participation. & 14 & Q Did you understand there you were to examine and testify \\
\hline 15 & Q So does your research suggest that there's a genetic reason & 15 & about certain subjects? \\
\hline 16 & why people vote the way they do? & 16 & A The initial contact was to just to have a discussion about \\
\hline 17 & A There's a very strong genetic inheritance of ideology, not & 17 & the kinds of -- particularly the kinds of data analysis \\
\hline 18 & of party ID but of ideology, related to well understood & 18 & volved in a Section 2 case. And there was some -- also \\
\hline 19 & brain physiology. The size of your amygdala as well as & 19 & me discussion about other people who might be people that \\
\hline 20 & amygdal activity predicts conservatism. Activity in the & 20 & ould be experts that could work in the case. It evolved \\
\hline 21 & insula can predict liberalism or conservatism depending on & 21 & into a discussion about my doing this work. So that was \\
\hline 22 & the activity. & 22 & sort of the initial contact, though I think it was really \\
\hline 23 & We don't have any idea what the actual genomic pattern & 23 & just kind of to get some information. \\
\hline 24 & is. But we do know that most of the politics you get from & 24 & Q Were you eventually made aware of the subjects that you we \\
\hline 25 & your parents you get from genetic inheritance. We're & 25 & about to testify or that you are -- \\
\hline
\end{tabular}

A Yes --
Q -- expected testify?
A Yes.
Q And what were those subjects?
A Essentially the Gingles 2 and 3 as well as, you know, there's -- you can't completely divorce that from some parts of the Gingles 1. And of course it all ends up being kind of totality of the circumstances. But not -- I was not hired to be a senate factors expert and not to be a demographer. So those are kind of the things that I was, in the early contacts, saying I'm fine with doing 2 and 3 . But you really should get somebody else to do senate and somebody else to do the demography for Gingles 1.
Q So did counsel provide certain facts about this case?
A My recollection of the early discussion was the location, that it was Yakima. I think they may, obviously at some time early on, probably sent the filings in the case. I always go online and see what I can read in the papers and online. So I've looked at that. That's my recollection that's -- those are the things that I was provided with or looked at.
Q Do you recall what you read in the papers?
A I think my recollection is -- and I'm not sure if it was actually in a paper or in, you know, kind of a website something. But it was basically just a description of the
the attorneys. Those are the things that I recall.
Q What expert reports did you receive or did you review?
A Oh, so I had mine. I received Dr. Engstrom's initial report, supplemental report. And then I guess in-between the reply report, I received -- those are the reports I paid the most attention to. I also received, I believe, the initial report from the plaintiffs' demographer who's --
Q Is that Bill Cooper?
A Bill Cooper. In the report -- I guess -- yeah, the report from Dr. Morrison, so the section or the -- sorry the Gingles 1 reports. I got a copy of Dr. Thernstrom's report.
Q How about Dr. Fraga's report?
A He'd probably be mad at me. But I don't recall specifically. I think I probably did because it would be -make sense that I would see all the reports. But I don't specifically recall seeing that.
Q You know Dr. Fraga, I take it?
A Yes.
Q How do you know him?
A Well, I know him through conventions and so forth. We're not close personal friends. But we've seen each other off and on for many years. I know his students. So I mean that's, you know -- I don't think he's ever bought me a drink. But he's a good guy.
Q Do you recall seeing a supplemental report from Bill Cooper
Page 13
or just the initial report?
A I don't recall. If there was a supplemental report, I would think that I would have seen it or it would have been sent to me. But I don't recall specifically.
Q You mentioned that you've received certain data provided by Peter Morrison. Have you ever had any direct conversations with Dr. Morrison about this case?
A Yes. In the, in the sort of early on, prior to actually doing data analysis, I think not long after he was retained, maybe, somewhere in that time period, we chatted. And I sort of outlined the basically what it is that I'm looking for and how my analysis works, sort what I need for independent and dependent variables and that I prefer the data in Excel spreadsheets, things like that.
Q Any other conversations that you're aware of, that you remember?
A We may have talked again sometime after that. I'm sort of trying to work backwards. Most of the -- so the data I'm actually getting comes through the attorneys. I don't believe I've spoken to him in some time. Certainly I don't think I've spoken to him in the last year.
Q Have you ever had any contact or communications with any of the defendants in this case? Just so you know, the defendants are the named members of the city council.
A Oh, yes. So sometime not too long after I was contacted by
the attorneys, they asked if I could come up to Seattle, talk to them about kind of a methodology class on ecological regression and ecological inference. And at that time we drove to Yakima and met with the city attorney and I think some -- I think a couple of the council members. But I don't -- this was in -- this would have been early fall of 2012.

Q You don't recall which council members you might have met with?
A I believe Mr. Ettl was there. I don't recall specifically the city attorney. I think a couple of other council members. But I don't, I don't remember names.
Q Do you remember if they were men or women?
A One was, one was a woman. The other, I'm just not sure.
Q Any other city employees that you communicated with in this case?
A Not that I've communicated with. While we're there, there may have been somebody in, maybe like a planning kind of person or something, 'cause there were maps of the -- here's the city boundary kind of thing. That's -- I don't have any specific recollection.
Q The maps were provided by this person?
A Well, that I don't know. I mean there was a big map of the city that showed, you know, what the city boundaries were and so forth. And sometimes, when you're talking about map
things, sometimes the city planner or somebody, maybe somebody would be there to talk about what they had in term of map data. But I'm saying that generically 'cause I do this a lot. So I don't want to tell you I didn't meet with that -- that person wasn't there. But I can't say specifically they were.
Q No. I understand.
A Not anybody I had any follow-up contact with that I recall.
Q Was Dr. Morrison at that meeting?
A No.
Q Did anyone assist you in your work in this case?
A Yes.
Q Who was that?
A A colleague of mine at Rice University, Dr. Randy Stevenson.
Q What did Dr. Stevenson do?
A He actually performs the EI analysis and the ER analysis. So I tell him: Here's the data set. Here are the -- this is the independent, this is the dependent variable. Then he does the actual -- he's a -- one of our two methodologists. And so he programs in R. And that was the language that is used for running this analysis. And so he does the actual programming, basically sets it up so that it brings in the data set, does the analysis, and puts the results into a table. Then he provides me with the table.
Q So you see results of his analysis?

A Yes.
Q Do you oversee his analysis?
A I'm -- so I'm telling him what to do; and I'm looking at the, the results. I don't necessarily stand over his shoulder as he types into the computer. But . . .
Q Was there any written communications between you and Dr. Stevenson with respect to this case? Emails?
A He's -- his office is next door to mine. I don't -- I don't recall any specific written communications. It's possible that I've -- that I may have forwarded, you know, an email that contained data sets. But like that's -- I've spoken to him on the phone whenever something isn't ready on time of something. And so I don't recall specifically a written communication.
Q How does he provide you with the results of the ER and E. analysis?
A Just produced in a table. So I can -- he can give me a printed copy of the table, or he can give me the actual data set.
Q Did he ever send this via email if you know?
A That's possible, although we use a shared Dropbox. So, as I get data, I can put the data in the Dropbox and, as he gets results, they come back into to Dropbox. But it's -- I mean it's possible. I would be happy to go back and check and see 'cause there could have been something where he just

\section*{Page 15}
emailed me something rather than putting in the Dropbox. But our normal procedure is just to use the shared Dropbox.
Q Have you handed to your attorneys the backup documents for those analyses that Dr. Stevenson performed?
A Yes.
Q All of them?
A Yes.
Q How are you being compensated in this case?
A I'm paid \(\$ 400\) an hour.
Q Is \$400 an hour your usual rate for cases like this?
A If I'm testifying in a case, it's usually -- it actually varies. Sometimes it's 250. Sometimes three. Sometimes four. It depends on how busy I am, how -- if a case is local, where it really doesn't -- I don't have to worry about travel and so forth, I often have a lower rate. If I'm really feeling pressed for time and it's my way of seeing if maybe I could convince myself not to do something -- it's sort of, unless it's worth my time, I don't do it. So I'd say it varies.

In the state of Texas I was paid -- I'm being paid \(\$ 400\) an hour by the State of Texas. I think I'm paid maybe \$250 in the Grand Prairie ISD case. That's the range.
Q So is \(\$ 400\) the maximum of the range?
A I don't think I've ever -- I don't think I've ever charged more than \(\$ 400\) an hour.

Q And you mentioned that you're charging that rate in the State of Texas. That's in the Texas redistricting case?
A Yes. So there were at least three -- this is sort of bundled up broadly as Perez v. Perry. So there's a Section 5 case and two Section 2 cases, a 2011 case and a two thousand and -- I say 2011 case. A 2011 redistricting plan was challenged under section 2 and the court in San Antonio. And I worked for the state. And that case is still going on.

The 2013 adopted by the legislature is challenged. And it's been rolled into that proceeding in San Antonio. And then the 2011 plan was also the subject of the three-judge panel hearing for preclearance in Washington, D.C.
Q You are representing the entire state of Texas in that case or the state government?
A I'm working for the -- I was hired by the attorney general. So to the extent that he represents the whole state . . .
Q Right. So other than the Texas redistricting case in which you're representing the State of Texas or testifying on behalf of the State of Texas -- sorry -- are there any other cases recently in which you've charged \(\$ 400\) a hour?
A Yes. But I'm, I'm not sure I would get the -- I'm thinking I did some work that did not involve testimony for Lone Star College, I think. I was paid \(\$ 400\) an hour. And something else. The Harris County case I was paid \(\$ 400\) an hour.

Page 19
Q When was that?
A That's the -- it was filed in 2011. It was tried not so long ago. Last year sometime.

Then, moving back from there, San Antonio, that might have been. I just don't recall. Like I say, it's -- I don't know exactly what the mixture is. But I've certainly -- more than one case, that's been my rate. And then other cases, it's 250,300 , somewhere in there.
Q Is there a reason why for this case you're charging the kind of maximum end of your scale?
A It clearly is not in my neighborhood. It's a stunningly nice place to come to. But it's, you know, my teaching schedule and things, so it's not particularly convenient. And it came at a time when I had a very large time commitment to the State of Texas. The State of Texas was paying me \(\$ 400\) an hour. And I was not going to take time away from \(\$ 400\) an hour to make \(\$ 200\) an hour.
Q Sure. Is payment of your fees in any way contingent upor the outcome of this case?
A I have never worked on a case where my payment was contingent on anything other than sending a bill.
Q Who do you submit your bills to?
A To the law firms. So to . . .
Q How often do you submit an invoice?
A I sent in an invoice April, May, something like that, of
last year. So when, maybe eight or nine, the first eight or nine months of work. I haven't sent an invoice in since. But I kind of try not to go more than a year without sending an invoice. In theory, I should do this every month. But I never do it. It just is not -- I'm busy doing other things, and that always gets pushed to the back. But I do try to use -- so the deposition is always a good marker. So, you know, I have every intention of going to back to Houston and submitting an invoice, you know, the end, the end of February.
Q Have you been paid for your work in this case, for the invoices that you did submit?
A Yes.
Q What entity cuts the check for that?
A I have no idea.
Q Do you know who's ultimately responsible for paying your bills?
A I assume that the, that the city is ultimately paying the bills. But I'd say in about, maybe in three quarters of the cases I work in, I bill the attorneys; and then I'm paid out of -- the attorneys bill the city, county, state, whatever. The state pays them. When the state pays them, they pay me. So there's normally -- more often than not, it's that sort of a pass -- what I think of as a pass-through billing.

But occasionally, in the case of Harris County, for
Page 21
example, the county wanted to be -- I don't know actually if the county wanted to be billed directly or if the attorneys just didn't want the newspaper story to show my fees bundled up with their fees. When you are working for public entities, they just like not to have it all bundled together. So I've -- I have worked in cases where I was paid directly by the entity. But I'd say, more often than not, I'm paid -- the check actually comes from the law firm.
Q But you're not familiar with which one in this case?
A I'm not certain here.
Q How much time have you spent performing your work in this case, approximately?
A I honestly don't know. I really don't. So I'm keep -- you know, I'm working, as we see, on a number of -- on a number of cases. And I just -- I don't know what that total would be.
Q Do you have a -- how much have you invoiced counsel for to date? Do you know?
A I don't know.
Q Have you completed your work in this case?
A No.
Q What other work do you intend to perform?
A I intend to be deposed; certainly testify at trial; and, just based on the discussions, attending Dr. Engstrom's deposition, there's certainly analytical things that I would
do, just to be more -- just to try to run down exactly where differences in our sort of supplemental analysis are coming from.
Q So you expect to do additional analysis?
A Not -- I'm not thinking -- I'm not saying new -- I'm not -at this stage I wouldn't necessarily do something new unless, you know, elections took place or something. But I do typically, once it's -- it's never -- it's not -- I don't actually communicate directly with Dr. Engstrom. It would be great if I could.

So truly at the deposition stage, where I can get a sense of what might underlie, I always like to try to resolve those differences before you go into court because don't think it serves anybody to have confusion about what the empirical differences are. So that's the kind thing that I would intend to follow up on and see if I can figure out just what piece -- 'cause his deposition eliminates some of the possibilities. I didn't know for sure if his analysis used -- so you can run EI, kind of a candidate against the field and then do that as three or four separate runs; or you can do that as a run with everybody in at once. And those produce often very different results. So I have a better idea now of what is not likely to be the cause of the difference. So I'm going to try to track that down.
Q And the differences that you're referring to are the
Page 23
differences in the supplemental reports; is that right?
A Yes. I don't -- there was nothing in the initial reports that -- where there were numbers that I thought were any different than what you would normally see in the variation from one EI to another. I actually -- I hadn't really focused that much on the size of the differences in the, in the supplemental reports. And he mentioned that he still was -- you know, thought that those were larger than you'd expect.

And so -- but looking back at standard errors, they certainly are further out than -- I mean there are unstable estimates. But they are further out than we saw in the earlier analysis. I just would like to have a better feel for where that comes from. I still don't think they're substantively different.

I think in the -- I think we both have a preference for talking about what the whole analysis shows us rather than a particular individual piece. If I took his results and substituted them for mine, it wouldn't change my substantive conclusion. But I still, I would be more comfortable if I had a better idea of where those variations are coming from.
Q Did you expect to write another report in this case?
A Unless I'm -- if I was asked to write another report, I certainly would. But I haven't been asked to.
Q All right. What did you do to prepare for today's
deposition?
A I read my report, my supplemental report; and I reread
Dr. Engstrom's report and supplement and reply.
Q And so your first report was dated March 22, 2013; is that right?
A That's correct.
Q You also prepared a supplemental report that's January of this year; is that right?
A Correct.
Q Do you believe that you devoted all the time necessary to ensure the accuracy and trustworthiness of your reports?
A Yes.
Q Do you have confidence in the reports you've written?
A Yes, I do.
Q Do you believe that they comport with your professional standards?
A Yes.
Q Is there anything you'd want to do, as you sit here today, to change anything in those reports?
A Again, having -- I don't know, having not done any of the digging around to figure out where the differences come from, I couldn't say. But that would be -- part of the motivation of doing that is to try to understand, you know, is there something in the -- is there a difference in the two data sets that accounts for this? Is there different
analytical assumption? And certainly if the result of my digging around is to find that there are those kinds of differences, then I would want to correct that.
Q Again, those differences that you're mentioned that you may have or may not correct, depending upon the further analysis, is in the supplemental report?
A That's correct.
Q You've addressed various criticisms of Dr. Engstrom's conclusions. Are all of your criticisms of Dr. Engstrom's conclusions contained in your two reports in this case?
A I'm not certain.
Q You think there are -- is there something else that you believe is worth mentioning with respect to Dr. Engstrom's reports that would constitute a criticism or a critique?
A I think less as a criticism or critique and more in the sense of -- I'm not sure that in the context of the report that anywhere there's a complete discussion of our, our differences about the value of both ecological regression and also importantly extreme or homogeneous precinct analysis. So I mean, if I put those in my report, it's because I think they're important. I'm not sure that the sort of -- I wasn't --

I guess I wasn't sure exactly why he was not, although I certainly know that over time he's moved away, as others have, from sort of relying on old methods and then relying
on both methods and then just saying, Look, this is the most efficient analysis; so let's just present it. I don't believe that's the ideal way to do this. And so I think it's clear to me, after hearing his deposition, sort of what his feeling is about that.

And certainly my, my different feeling about that is not completely described in the report. And certainly that's the kind of thing that I think is -- you know, would be important in trial.
Q Okay. Let's explore some of that in a minute.
Other than your feelings about the value of the ecological regression analysis and the homogeneous precinct analysis, are there any other criticisms or critiques of Dr. Engstrom's analysis that were not included in your reports?
A Not that I can think of.
Q Let's talk a little bit about the current election system in Yakima. How are peopled elected to the Yakima City Council?
A They are elected in -- through a -- I mean there's an initial election that's usually labeled as the primary. It's -- I think it's sometimes called the two and -- the two or more or something. And in that system, if you have -basically there, if there more than two candidates, then you have the primary to narrow the field to two. Then those two candidates are the candidates that face each other in the
representation but is close to it. If you limit -- what's called the limited-vote system, is that same system without the full seven votes. So in a limited vote system, you can, by vary what the limit is you can varying how semi-proportional the system is.

So that's -- that is in contrast to a numbered post system in which you, whether separated by staggered terms or by simply place on the ballot, you essentially hold elections that are independent, freestanding elections for each of the numbered posts or places on the city council. So there, each is a standard-alone election rather than pulling the vote together.
Q Do city council elections in Yakima entail a residency requirement?
A I know that there are both. So in that primary phase, there are, there are districts, geographical districts. Then there are posts that are truly at large. But I'm not actually aware of whether that -- whether there's a residential -- there's often not. In some places there are; in some places there aren't -- residential requirements when you have geographical nomination processes. So I'm not actually -- at the moment I don't recall. I'm sure I knew at some time. But I don't recall whether there is in this case or not.
Q But there are districts as far as you know?

Page 29
A Yes.
Q You mentioned that some positions on the city council are elected from those districts, or at least from the primary in those districts?
A My recollection is it's four of the seven. But I -- again, I could be thinking of another mixed system. But I believe that it's four of the seven.
Q Do you know whether those four -- the candidates from thos four positions need to reside in one of those four districts?
A I'm not certain.
Q Do city council elections in Yakima have a majority vote requirement?
A They do not.
Q What does that term mean to you?
A A majority vote would mean that there was a -- that, if someone failed to achieve 50 percent plus one, there would be a runoff election until someone got 50 percent plus one. I mean, effectively, the sort of -- this kind of hybrid system in which you bring two candidates out of the primary produces the, I would say, sort of the rough functional equivalent of that.

So virtually all of the time the winning member has received a majority of the vote. So it isn't, strictly speaking, a majority vote requirement. But it is a system
that strongly favors majority vote results.
Q That's because there are only two candidates for each position in the general election?
A Two candidates whose names would be printed on the ballot.
Q Are you familiar with the term "single-shot voting"?
A Yes.
Q What does that mean?
A "Single-shot voting" would be a situation in which you utilize less than your full set of votes or, as you are allowed to do in another semi proportional system, the cumulative vote system, you would plump for a candidate. This means concentrating votes on a preferred candidate so as not to effectively undercut your vote by distributing votes across other candidates.
Q Are Yakima city council elections characterized by -- or does it allow for single-shot voting?
A If you have only one vote to cast, I guess it depends on how you think about that. In some sense it requires single-shot voting. But it doesn't -- but it provides no benefits since there is just -- so it is not a system that provides a value to casting a single vote. It's just simply the norm.
Q Are city council members elected to staggered terms?
A That's my understanding, the terms are staggered.
Q And city council elections in Yakima are nonpartisan; is that right?

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A That's my understanding, yes.
Q If you turn to page 9 of your CV, which is, I think, attached to your supplemental report, Exhibit 5, do you see the second entry on page 9 is a publication entitled "The 2000 Census and the New Redistricting"?
A Yes.
Q And that's for the Texas State Bar Association, School Law Section Newsletter?
A Yes.
Q Is that right? I'm going to hand you what will be marked Exhibit 6.
[Deposition Exhibit No 6 marked.]
Q (By Ms. Khanna) Is this the document referred to in that entry of your CV?
A I believe it is. I haven't seen it in 14 years. But I'd be happy to look over it.
Q Sure.
A [Complies.]
Q You're welcome to look at the whole thing if you think that's necessary right now. I'm not going to ask you questions about it.
A Enough of it to -- this is what I recall being the -- this looks like what I remember as this publication, yes.
Q What was this publication generally about? Do you recallp
A It was -- I've been asked by the person who was the head of
the School of Law Section to write something up that would provide kind of a background, a broad background, on the kind of challenges that would be -- districts would be facing. Because this comes up -- for most -- in most jurisdictions, this comes up once every 10 years. It's both often largely forgotten, in the sense that it's a decade ago. And also new things crop up in between.

If you are following this in on a year-by-year basis, there's not really any surprises. But the idea was basically kind of highlight what had come up since the 1990 process that would be of interest to lawyers representing school districts.
Q So I'm going to ask you to turn to page 5 of this document.
A [Complies.]
Q You see a section there with the heading "At-Large Elections"?
A Yes.
Q If you wouldn't mind taking a minute just to review that section. It goes onto the next page. And I'll ask you some questions about it.
A [Complies.]
Q Do you see on page 5 in the first paragraph, under "At-Large Elections," the third sentence says: "At-large election system has been under attack for more than 30 years due to their ability to reduce minority representation when the
majority routinely votes as a block to defeat minority candidates." Do you see that?
A Yes.
Q So you would agree that at-large systems "reduce minority representation when the majority routinely votes as a block to defeat minority candidates"?
A They have the ability to do that.
Q In your work as an expert witness, have you ever testified in a case where you've concluded that the majority routinel votes as a block to defeat minority candidates in an at-large election system?
A I don't recall specifically. But I think that would -given that I mostly work for entities, that would be an unusual situation.
Q So you don't recall any instance where you've testified as much?
A Not -- I'm not saying I haven't. But I don't -- it's hard to imagine why -- if, I mean, I'm hired to do this analysis. I do the analysis, and that's the conclusion, it's hard to imagine why we'd be going to trial and I would be testifying. But I guess, you know, if they're just suicidal, I suppose it would be possible to do that kind of thing.

You know, that's, to me, that's the purpose -- that's why I'm sort of advising: Get ahead of this, hire an
expert, have them look at it. You know, if what they find out is either that you're liable under Gingles 1,2 , and 3 , get busy and fix it.
Q Later, on page 5, in the second paragraph under at-large elections, I'm looking at the last sentence in that second paragraph. It says: "Any school district in which the ethnic and racial minority population constitutes 10 percent or more of the adult population needs to make a very careful consideration of the impact of census information on the legal viability of its at-large election system."

Do you see that?
A Yes.
Q So how did you determine that number, "10 percent or more.
A So at this point I'm assuming that basically all you know is what you'll get from that first -- so the first census broadside with the P.L. 171 data will give you an overview number for the whole school district. So school districts are one of the things that are -- reports are cumulated by. So if you want to know whether you need to look further, if you're at 10 percent -- and I'm assuming that in Texas, most of the school districts are seven member.

But even in a five-member district, in a five-member district if 10 percent of the adult population is minority and they happen to be sufficiently concentrated that they would be in a single one-in-five district, that's -- you're

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technically at 50 percent of a one-in-five district. So the idea of that is that that's -- if -- in just the raw data, if you're at that stage, then you need to look. Find out if it's concentrated. Find out if it's not. Look further into the population data.

The intention there was basically to -- so if your adult population is below 10 percent, then no matter how concentrated, assuming that you're dealing with a five-member-or-more school board, then you can't -- but Gingles 1 can't be met. It's physically impossible. This is really kind of a don't stop looking at it unless what it tells you is you couldn't possibly be liable. Then you know it's not liable.

I still wouldn't say that that means you ought not to think about -- you know, I think everybody should -- every 10 years should think about how they do their business and do they want to change it. But if you want to know, if you want to get ahead of an issue where you might face an expensive lawsuit, then I'd say that's your first -- that's a free piece of information. That's your first threshold. Then you need to -- from there you need to move on and look more carefully.
Q And when you're referring to the "adult population" in that sentence, what's that refer to?
A That's 18 and over. So vote-eligible population.

Q That's not the citizen-voting-age population?
A It's -- well, of course it's certainly this -- that is now the citizen-eligible population and that would be -- but again I would -- even -- I mean this is a little bit early in that sequence but not so early that, at least in Texas where you're in the Fifth Circuit, that was the -- you know, by the end that was the rule in the Fifth Circuit. But that census number, that citizen number, is not available when the census is available.

So it wouldn't do any good to tell the district that, when the census report comes out, take a look at your CVAF number 'cause you won't have a CVAP number until a specidl report's produced. And even then, that -- you're going to have to hire a demographer to get that CVAP number. It's not a simple matter.

So that would be one of the things that you would look at down the road. But again, even today where the CVAP is clear -- is the clear standard, I would say this is still what a school district should do: They should look at that adult number. And if it's there, then you better find out where you're -- it can go further, including things like finding out where the citizen number is.
Q Would you advise differently for a city than a school district?
A I wouldn't -- in just thinking about this, I wouldn't think
that this would be any different for a city than a school district. I mean there may be some -- there is certainly more variation in size of council. So if you're the City of Houston, you have, you know, 12, 14, 15 council members. \$o the number of single-member districts obviously, that number is related, as we talked about, to the size of council, you know, taking into account the -- take the percentage of your population in an ideal district, divide it in half, and that's your threshold number.
Q Do you know whether the Latino population in the city of Yakima constitutes 10 percent or more of the adult population?
A I think it's -- is it about 40 percent of the total population? So I would think that it must be somewhere in the, in the 30's for adults. So yes. I mean this is -- the Yakima School District would be squarely in the sort of district that I would recommend look seriously at this.
Q You said "Yakima School District." Do you mean the City of Yakima?
A I'm sorry. Both the City of Yakima and the school district would be in the range of entities that would want to pay attention to their census data and in that -- in falling into this category, yes.
Q Do you know if the Latino citizen voting-age population in the City of Yakima is above 10 percent?

A My recollection is it's just a little bit over 20. So again, that would clearly put it in the range where you'd want to look beyond that figure as well.
Q Do you have any information, do you know whether or not the City of Yakima looked into the situation of whether it 5 should create single-member districts after the census came out?
A I don't recall. They -- I wasn't contacted about that issue. There's no reason why I would be. I don't do that kind of work in Washington state. So I don't recall. They may have; they may not have. I just don't recall.
Q But any analysis that you provided came only after the lawsuit was filed in this case; is that right?
A Yeah, that's my recollection. I don't recall being contacted by them. Again, I can't imagine why they would contact me.
Q That meeting that you mentioned where there were several city council members present, that was after the case had been filed; is that right?
A That's my recollection, yes.
Q In the section of the -- of Exhibit 6, you also note, "alternative courses of action to be considered if it appears that a majority-minority district can be created;" is that right?
A Yes.
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Q One of those alternatives is simply to shift from an at-large to a single-member districting system?
A Correct.
Q And the second alternative, I believe is -- you say on page 6: "The district might consider moving to cumulative election system. This allows the retention of the at-large system but also provides an increased opportunity for minorities to elect candidates of choice by cumulating their votes for those candidates."
A Correct.
Q Can you describe a cumulative election system. I know you mentioned the phrase earlier.
A So again, this was one of a series of elections that are often referred to as semi-proportional systems. So you think about proportional election systems, a true proportional system, the kind that would elect a parliament in Europe, for example, where you actually have a list, a party list; and you vote and then allocate -- according to the proportion of the votes for the party list, you allocate candidates. It's called truly proportional.

In theory, I suppose you could have truly proportional elections. But because the language of the Voting Rights Act says this is not contemplated to require proportional election systems, the Court's not going to order a proportional election system. But there is this kind of
in-between category of what are sometimes called semi-proportional systems.

The most widely discussed are limited-vote systems and cumulative-vote systems. In a cumulative-vote system, you -- whether you stagger terms or elect everyone at once, you have a certain number of seats up. People have a number of votes equal to the number of seats.

So if there were four seats up, each person would have four votes to cast. They can cast those votes in a traditional form of -- you know, for the four candidates they most prefer. But they also can cast -- they could chose two candidates and cast two votes each for them. The could cast all four votes for one candidate.

So the mechanism for expressing in sort intensity of preference, it effectively deals with the issue of single-shot voting. That's basically -- it's kind of single shots on steroids or something 'cause it lets you actually plump for a candidate. It produces an election threshold that's substantially below majority. Again it's -- and that's the sense that it's semi-proportional is the threshold of exclusion is substantially below 50 percent.

It's -- this is -- I'm not sure that this would be my advice outside of Texas, 'cause I don't know if it's legal outside of Texas. So it's -- it is an option for school boards of certain sizes in Texas. And it was a new --
something that would not have been an option coming after the 1990 census but would be an option after 2000. So the reason for highlighting it was there was a large school district with experience with it, at least at this point very early experience, which is Amarillo, and it was now available as an option for school districts.
Q So the features that you just described about the cumulative election system, how do those provide an increased opportunity for minorities to elect candidates of choice?
A If minorities are sufficiently cohesive, politically cohesive, and -- so the two things that will need to happen, one is that you'll need political cohesion, not voter cohesion but political cohesion. So you'll to need make a strategic decision to restrict the range of candidates.

So if there are four seats up on the school board and you have four strong Latino candidates, four strong African-American candidates, you're going to have to reduce that number. If all four candidates run and people plump their vote across all four, you're not going to change the threshold of exclusion.

So you need some political cohesion in which people get together and say, Look, we've gotta -- we can win a seat; w \(\notin\) can't win all the seats. If we're together, we can win a seat. So let's make a decision here maybe to choose who runs this time versus next time or whatever. But you need
\begin{tabular}{|c|c|c|c|}
\hline & Page 42 & & Page 44 \\
\hline 1 & some political agregation at the level of candidates. If & 1 & the data doesn't show the -- a particular solid Gingles 1 \\
\hline 2 & you don't achieve that at the level of candidates, then & 2 & pattern of population size or concentratio \\
\hline 3 & you've got to have some mechanism of communication amorg & 3 & Q What is the Gingles 1 precondition? What's your \\
\hline 4 & voters. & 4 & understanding of it? \\
\hline 5 & So voters can't just independently effect this. & 5 & A That you -- plaintiffs need to demonstrate that they can \\
\hline 6 & They're going to have to actually communicate in that & 6 & draw at last a single district in which minority population \\
\hline 7 & regard. Voters are going to have to agree on a candidate. & 7 & would constitute 50 percent plus one of the citizen \\
\hline 8 & Then they need to cumulate their votes. So this has to be a & 8 & voting-age population. \\
\hline 9 & choice of foregoing having an influence on selecting the & 9 & Q You mentioned "in this case the data doesn't show a solid \\
\hline 10 & other members of the school board. Often it means foregoins & 10 & Gingles 1 pattern of population size or concentration." \\
\hline 11 & selecting, you know, six of the seven members of the school & 11 & What are you referring to? \\
\hline 12 & board in order to focus on selecting a single member of the & 12 & A For example, you can meet that sort of minimal threshold \\
\hline 13 & school board. & 13 & test and still not have the -- when you think about sort of \\
\hline 14 & If the minority population is sufficient in size and & 14 & what it takes to get over the first Gingles threshold and \\
\hline 15 & they vote cohesively for the minority candidate and & 15 & then you think about how that connects to Gingles 2, 3, and \\
\hline 16 & intensely -- so cohesively, meaning that everybody -- the & 16 & totality of the circumstances, it's simply meeting that \\
\hline 17 & majority, you know -- again, this will depend on the actual & 17 & minimum number. Well, first of all, you're -- because of \\
\hline 18 & numbers here. But if you're at the edge of a threshold of & 18 & the vagaries of the census data, you're never really \\
\hline 19 & exclusion, you're going to need substantial cohesion, maybe & 19 & entirely sure where you are in terms of meeting that citizen \\
\hline 20 & 90 percent cohesion. And beyond the 90 percent cohesion, & 20 & threshold. \\
\hline 21 & you're going to also have to have substantial cumulation. & 21 & But the idea behind the Gingles 1 threshold is to \\
\hline 22 & So the fact that 90 percent of minorities vote for the & 22 & establish that the harm in terms of minority representation \\
\hline 23 & minority candidate is not going to ensure election. They're & 23 & is being produced by the at-large system relative to the \\
\hline 24 & also going to have to cumulate substantially. & 24 & benchmark of a single-member district system. So what \\
\hline 25 & So at the threshold of exclusion your assumption is & 25 & you're really trying to do in all of this is demonstrate \\
\hline & Page 43 & & Page 45 \\
\hline 1 & that all minorities vote for the minority candidate and & 1 & that in a -- in an actual single-member district, you would \\
\hline 2 & cumulate all their votes for the minority candidate. If & 2 & have a situation where minority voters would be able to \\
\hline 3 & they do that, then the threshold of exclusion says -- tells & 3 & routinely elect candidates of choice, using that as kind of \\
\hline 4 & you basically, at this point, if that takes place, then -- & 4 & the baseline to show that the same is not true in the \\
\hline 5 & nothing that the rest of the voters do, no pattern of & 5 & at-large system. And that establishes that the at-large \\
\hline 6 & cumulation, no pattern of strategy, can cause your candidate & 6 & system is the -- is a potential cause of that because this \\
\hline 7 & to fail to be elected. & 7 & would have occurred had elections taken place in a \\
\hline 8 & It provides -- without drawing districts, within the & 8 & single-member district system and not did not occur or would \\
\hline 9 & context of at-large elections, it provides a threshold at & 9 & not occur in an at-large system. \\
\hline 10 & which you can guarantee minority representation. And & 10 & Q So is it your understanding that, in order to satisfy the \\
\hline 11 & mathematically that threshold is below 50 percent. & 11 & Gingles 1 threshold, plaintiffs need to demonstrate that \\
\hline 12 & Q And as far as you know, Yakima does not use a cumulative & 12 & minorities would routinely elect candidates of choice in the \\
\hline 13 & election system in its city council elections? & 13 & single-member district? \\
\hline 14 & A They do not use cumulative. Very few places use cumulative & 14 & A No. That's the -- that's sort of the -- as a threshold \\
\hline 15 & elections. & 15 & matter, the Court has a specific test for the threshold \\
\hline 16 & Q So you mentioned earlier that you expected to testify about & 16 & matter. That's the CVAP number. And then sort of the \\
\hline 17 & the Gingles factors with emphasis on Prongs 2 and 3; is that & 17 & broader issue of whether or not you have in fact established \\
\hline 18 & right? & 18 & that, you know, but for the at-large system, \\
\hline 19 & A That's correct. & 19 & minority-preferred candidates would be elected, that's the \\
\hline 20 & Q Do you provide any analysis of the Gingles 1 prong? & 20 & broader totality-of-the circumstances question. That's what \\
\hline 21 & A Unless I'm mistaken, I think there's -- in the initial & 21 & the -- what all this cumulates into. \\
\hline 22 & report -- I'm not sure about the supplemental report. But & 22 & And so you have both the threshold test, which is \\
\hline 23 & in the initial report there's some discussion of the fact & 23 & simply when the case doesn't proceed. And then you have \\
\hline 24 & that we're in a less than ideal situation here for Gingles, & 24 & what the judge actually is forced to decide, which is in \\
\hline 25 & particularly for Prong 2 analysis, because the -- basically & 25 & this broader picture, essentially, you know, is there a \\
\hline
\end{tabular}
remedy. If there's no remedy, there's no tort. So at-large systems are not on their face illegal. And absent an appropriate application of the Gingles test, you would -you could just essentially -- I think you could make the argument that at-large systems relative to single-member systems are virtually always less easy to elect candidates in if your interest -- whether party, ethnic, whatever -constitutes less than a majority of the votes. You could argue that at-large systems will always be more difficult to elect in than single-member system or in a baseline certainly, you know, no easier to elect than single member

So if that were your only test, would -- is -- would minorities have an easier time electing candidates in a single-member district system, then I would just say at-large elections would be on their face illegal. And we wouldn't have to go through, go through all of that.

So that's -- it's a test designed by the courts to both include a threshold level. So I think of this sort of as similar to what I was writing in this report: Let's look at this and see if there's any possibility that it could be the -- that there could be a remedy here and that the first threshold for that is, if you can't get to a CVAP majority, then by definition you can't -- you haven't -- you can't solve that problem because you'll create a submajority single-member district and the submajority single-member
available at the block level. They're only available at the block group level. So it's a nontrivial task.

I don't know whether it was done accurate or not. But my recollection is shows that you can create either one or two majority CVAP districts.
Q Do you have any -- so did you review those demonstration districts that Mr. Cooper drew?
A Just in the sense of looking at them on a map and seeing what those numbers were, not in the sense of actually, you know, going to them on a GIS program and seeing whether I could do the same thing. So . . .
Q Do you agree with Mr. Cooper's assessment of the Latino citizen voting-age population in Yakima?
A Again, I'm aware of it. But I have no reason to agree or disagree with that assessment in terms of the, you know, drawing of a CVAP majority. I haven't tried to do it. And I haven't tried to verify what he did.
Q So you've not performed any analysis that would cause you to disagree with any of Mr. Cooper's conclusions about the Latino citizen voting-age population in Yakima?
A I'm not sure I would go quite that far. But I mean I haven't done anything that looks specifically at citizen voting-age population. You would assume, if you'd met the citizen voting-age population test, that you would also have concentrated areas of Hispanic vote. In the elections, you

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Page 49
district is a much more hospitable but nonetheless ultimately similar situation in that a unified majority vote can block you as routinely in that single-member district as they could in the at large.

So it's -- the first question is, do you have, just as a threshold matter, can you proceed with a case. But that certainly doesn't answer the question of whether in fact you're -- and don't think it means -- I mean at the threshold test, it doesn't mean that that's no longer an issue in the broader case. The broader case is the -- is bringing together Gingles \(1,2,3\), and the Senate factors. So ...
[Mr. Hamilton joins the deposition.]
Q (By Ms. Khanna) So when it comes to that threshold test, that Gingles 1 test, have you reviewed Mr. Cooper's reports in this case?
A Not in the sense of -- that I can say whether, you know, that's accurate -- again, the -- ideally the application of CVAP would be transparent. It's -- congress can make it transparent, but they've chosen not to. So the CVAP numbers are less reliable than they were in 2000 when they were part of the large form of the census. They're now not a part of the long form, and they're part of an ongoing survey.

The task of moving that number down to a potential district is complicated because those figures are not
don't.
There are a number of things that might explain that. One of the things that might explain it is that in fact the citizen voting-age population is not concentrated at the levels -- this is a -- this is a measure that has substantial error in it. It's not a full-count census number. So we can't give it the same confidence we could give to the adult population, for example, which is a full-count number.

So there are -- the fact that we don't have that voting concentration, there are other things, you know, differences in turnout levels and interest and so forth that might account for those differences. So I don't know that it's the citizen number. But I question whether there -- whether we actually have a, in the broadest sense, a Gingles 1 district that sets up a clean comparison to the at-large system. I don't know if that origin is in the -- is in that citizen population number or in something else.
Q So you say you question whether we actually have a Gingles 1 district. But you've not done any analysis to determine whether there is a Gingles 1 district demonstrated in Mr. Cooper's report?
A In terms of just the -- in the sense, in the sense that there's a -- one of the simplest ways to think about the Gingles analysis is that, I mean, it ultimately suggests
\begin{tabular}{|c|c|c|c|}
\hline & Page 50 & & Page 52 \\
\hline 1 & that you could sort of draw a circle around some voters and & 1 & have -- right? It's putatively accurate. By legal \\
\hline 2 & get a different election outcome. There's no circle you can & 2 & assertion it's accurate. This number isn't by legal \\
\hline 3 & draw in Yakima and get a different election outcome. & 3 & assertion accurate. So we're left with a number we know ha \\
\hline 4 & Q Does Gingles 1 require that, that you draw a circle and get & 4 & a lot of error in it. And the test that would let us set \\
\hline 5 & a different outcome? & 5 & that aside as essentially not -- as a given, it would have \\
\hline 6 & A Not as a threshold, no. & 6 & to be true if we had the vote district we don't have. So \\
\hline 7 & Q So the threshold matter is just whether or not there's a & 7 & that leaves open the possibility that it is not actually a \\
\hline 8 & majority of Latino citizen voting-age population? & 8 & CVAP majority. \\
\hline 9 & A It's in the fact that you can't actually draw a district. & 9 & Q You mentioned just now, without a CVAP majority, you \\
\hline 10 & Again, I'm not saying that demonstrates there's something & 10 & couldn't have a registered voter majority; is that right? \\
\hline 11 & wrong with the threshold test. But we know that in the case & 11 & A Yes. \\
\hline 12 & of the current census data as opposed to the data that the & 12 & Q If there is a district drawn with a registered voter \\
\hline 13 & courts relied on in 2000, that there is more question about & 13 & majority, would you think that therefore there's a CVAP \\
\hline 14 & those CVAP numbers. There are a sequence of other thing; & 14 & majority? \\
\hline 15 & that could be responsible for that. & 15 & A It's -- again it is possible that you could, in some \\
\hline 16 & But I don't have -- I don't have the information to & 16 & convoluted district sense, you could get away with that. \\
\hline 17 & rule out the possibility that there is a problem with that & 17 & But I think in general, if you have a registered vote \\
\hline 18 & CVAP number. I don't have any specific analysis nor do I & 18 & majority, that you should -- I would think -- I'll say this: \\
\hline 19 & expect to do any analysis on the actual demographics. I & 19 & I think a registered vote majority is probably a better \\
\hline 20 & draw districts, but I was not hired to do that here. And I & 20 & indicator of having a majority district than is the CVAP \\
\hline 21 & did -- I specifically asked not to be hired to do that here. & 21 & number. And I understand that the court has not delineated \\
\hline 22 & So that's -- again, I don't know what the -- there's & 22 & that as a bright-line test. And I have certainly -- I can't \\
\hline 23 & nothing in my analysis that would buttress the claim that & 23 & remember if it's in this case \\
\hline 24 & there is a CVAP majority district. And there is at least & 24 & But you certainly do see cases where, when you move to \\
\hline 25 & the potential that that might be a part or -- some -- may & 25 & drawing the district on the registered vote, the CVAP drops \\
\hline & Page 51 & & Page 53 \\
\hline 1 & play some role in the fact that there is not an actual -- & 1 & So that the districts that have the highest registered vote \\
\hline 2 & any geography in which these candidates would be elected. & 2 & are not the districts that have the highest CVAP, which \\
\hline 3 & But that's -- I can't make that causal connection. & 3 & tells you that there is not -- it is not as a matter of fact \\
\hline 4 & Q Just to clarify, your questioning of the reason why there & 4 & that, if you have that voter majority, you're going to have \\
\hline 5 & may not be a CVAP-majority district is based on the fact & 5 & a CVAP majority. Otherwise the CVAP numbers would rise \\
\hline 6 & that you've not seen the Latino voter turnout that would & 6 & we drew increasing -- it is, I'd say, more often than not \\
\hline 7 & convince you that there are sufficient amount of actual & 7 & the case that, if you first draw a district on CVAP majority \\
\hline 8 & Latino voters; is that right? & 8 & and then draw a district on registered vote majority, at \\
\hline 9 & A I think we're kind of talking about type 2, type 1 error & 9 & least as often as not the CVAP number will move down rathe \\
\hline 10 & kind of thing. Right? If I could take the -- if I could do & 10 & than up. And that's counter intuitive. \\
\hline 11 & kind of reconstituted elections so I can just really quickly & 11 & So the reason I don't just focus on that registered \\
\hline 12 & circle the three most Latino precincts -- they account for & 12 & vote but go through to an actual district that would elect, \\
\hline 13 & roughly enough to draw a district. Again, you could do & 13 & at that point you've run straight through to the end of \\
\hline 14 & better; you could do worse -- and Latino candidates are & 14 & what totality of circumstances is about. And at that point \\
\hline 15 & winning, then you've settled the issue. & 15 & it doesn't matter what. There's -- again, affirming a CVAP \\
\hline 16 & Then I could confirm that in fact you must have a CVAP & 16 & majority is a threshold matter. And that's not what I'm -- \\
\hline 17 & majority because, if you don't have a CVAP majority, you & 17 & I'm not talking about the threshold matter. I'm talking \\
\hline 18 & couldn't have a registered vote majority; you couldn't have & 18 & about where does it get us when the judge has to actually \\
\hline 19 & it turned out. It potentially could settle that issue. So & 19 & decide what to do here. \\
\hline 20 & this evidence could say, absolutely, you can do that. & 20 & Q So I'm talking about just Gingles 1 as a threshold matter \\
\hline 21 & In this case it doesn't say that. And so we're left & 21 & for right now. \\
\hline 22 & without the ability to say -- based on what comes after & 22 & A All right. \\
\hline 23 & that, we're left with the inability to say that that's the & 23 & Q Is it your understanding that a Gingles 1 determination is \\
\hline 24 & case. If the CVAP number was a solid, full-count census, & 24 & contingent in any way upon voter turnout, just the Gingles 1 \\
\hline 25 & there wouldn't be anything to decide anyway because it would & 25 & determination? \\
\hline
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\begin{tabular}{|c|c|c|c|}
\hline & Page 54 & & Page 56 \\
\hline 1 & A The threshold determination is not contingent on voter & 1 & where you're drawing a school district out of units that are \\
\hline 2 & turnout & 2 & not even reported, then you're not talking about what's \\
\hline 3 & Q You mentioned that the CVAP numbers are less reliable these & 3 & accurate about the ACS. You're talking about what's \\
\hline 4 & days than they were in 2000; is that right? & 4 & inaccurate about you recomputing the ACS number on a \\
\hline 5 & A Yes. & 5 & geography. Right? You're not using the ACS number. You're \\
\hline 6 & Q And the way of determining CVAP right now is the use of the & 6 & using your own calculation about how you might redistribute \\
\hline 7 & ACS data? & 7 & the ACS number. At that level, I don't think there's -- \\
\hline 8 & A That's correct? & 8 & there is a lower limit at which the ACS, by the very nature \\
\hline 9 & Q Are you familiar & P 9 & of its collection, is simply not at all useful in estimating \\
\hline 10 & population? & 10 & a precise number. \\
\hline 11 & A There are -- so demographers have other techniques for doin\% & 11 & I think we're -- where you're very close to 50 percent \\
\hline 12 & that so they can look at -- they can look at parts of the & 12 & and the population is low and you're splitting what are \\
\hline 13 & census that deal with things like national origen. You can & 13 & already highly unreliable block groups, I think you could be \\
\hline 14 & then look at things like naturalization numbers. Right? So & 14 & in a situation where it is not possible to know with any \\
\hline 15 & there are -- demographers do all kinds of things to build & 15 & certainty what the ACS threshold is. \\
\hline 16 & models. There are other ways of doing it. & 16 & Q What's your definition of "very close to 50 percent"? \\
\hline 17 & I can't think of -- I'm not aware of a clear & 17 & A Well, certainly if you're -- if that -- if the confidence \\
\hline 18 & alternative currently to basically working with the ACS & 18 & interval around the 50 percent includes numbers that are \\
\hline 19 & numbers and trying to make some sense out of them. Being & 19 & below 50 percent, then by definition you haven't met the \\
\hline 20 & appropriately cautious, I'm not aware of a clear and better & 20 & ocial-science standard for demonstrating that there is not \\
\hline 21 & alternative presently. & 21 & in fact a submajority population. So \\
\hline 22 & Q Have you used ACS data in & 22 & Q You mentioned "social-science standard." Do you know abo \\
\hline 23 & A Yes. & 23 & the legal standard? \\
\hline 24 & Q So you rely & 24 & A I have no idea what the legal standard is for a \\
\hline 25 & A To the extent that -- I rely on it to the extent that it has & 25 & demonstration with ACS. \\
\hline & Page 55 & & Page 57 \\
\hline 1 & reliability. So again I would not present an ACS number & 1 & Q Is there -- you've mention that there's a percentage at \\
\hline 2 & without a confidence interval, just like we do confidence & 2 & wich the ACS -- the kind of estimates of the ACS data \\
\hline 3 & intervals for other things. Those are often quite wide. & 3 & doesn't even matter because you're high enough when it comes \\
\hline 4 & That's important to know. But & 4 & to Gingles 1. Is there a percentage at which you would feel \\
\hline 5 & Q Is it your understanding that we can never know whether o: & 5 & comfortable saying that, even if there are flaws in the ACS \\
\hline 6 & not plaintiffs have met the Gingles 1 threshold based on ACS & 6 & data, there's most likely a CVAP majority in this district? \\
\hline 7 & data as it exists? & 7 & A I think that would depend upon, again, the size of the \\
\hline 8 & A Well, I think that depends on -- so you're getting -- I & 8 & jurisdiction, the size of the district. That may be \\
\hline 9 & assume there's some -- you're beginning to get some evolving & 9 & relatively -- a number relatively close to 50 percent in a \\
\hline 10 & court standard. I assume that probably, by the time we're & 10 & large district in which the ACS numbers are quite stable. \\
\hline 11 & done with the decade and it no longer matters, some appeals & 11 & may be -- there may not be any number that is possible in \\
\hline 12 & court somewhere will say, Look, we're just going to give & 12 & other situations. So it's going to be -- it's going to be \\
\hline 13 & presumptive validity to some -- to something. Or maybe no. & 13 & locally fact intensive. \\
\hline 14 & I don't -- I would assume there are -- there are & 14 & Q Just to clarify, have you offered any opinion in this case \\
\hline 15 & certainly -- I'll say this: There are probably lots of & 15 & to whether plaintiffs have met -- established that \\
\hline 16 & cases where you are so far out of the range of what might be & 16 & threshold Gingles 1 factor? \\
\hline 17 & possible in the ACS data that it's not just an issue of & 17 & A I'm just checking to make sure that I haven't said something \\
\hline 18 & contention. In relatively small -- remember that the ACS & 18 & in the language that would suggest something different. But \\
\hline 19 & data is not terrible for what it's intended to do. Right? & 19 & as I read this quickly, I think my language is consistent \\
\hline 20 & So it's not even released for small jurisdictions. But in & 20 & ith my notion that -- my issue there is with the broader \\
\hline 21 & large jurisdictions, in a county with two million people, & 21 & issue not with the threshold test, 'cause I really \\
\hline 22 & you know, it's a reasonably accurate number. When you're & 22 & haven't -- other than knowing what's -- what it's like to \\
\hline 23 & talking about a school district, it's a less accurate & 23 & deal with ACS data at this level, I haven't specifically \\
\hline 24 & number. & 24 & looked again or tried to redo this. \\
\hline 25 & When you're talking about 1/7 of a school district, & 25 & So I guess I have an opinion about how reliable any \\
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\begin{tabular}{|rcc|r}
\hline & & Page 58 & \\
1 & point estimate is in this situation with ACS data. But I've & 1 \\
2 & not reached an expert conclusion that would be -- it's just & 2 \\
3 & a hard thing to phrase. I guess I'm no more certain that it & 3 \\
4 & hasn't been met than I am that it has been met. I guess & 4 \\
5 & that's what I would say. & 5 \\
6 & Q \(\quad\) So you've offered no expert conclusion in your report about & 6 \\
7 & whether or not plaintiffs have established the Gingles 1 & 7 \\
8 & threshold in this case? & 8 \\
9 & A & That, I think, is a fair statement. & 9 \\
10 & Q \(\quad\) Do you intend to offer an opinion in this case about whether & 10 \\
11 & or not plaintiffs have established the Gingles 1 threshold & 11 \\
12 & precondition in this case? & 12 \\
13 & A & Again, beyond the kind of discussion we've had, no. & 13 \\
14 & MS. KHANNA: We've been going almost an hour and & 14 \\
15 & half. May we take a quick break? & 15 \\
16 & THE WITNESS: Sure. & 16 \\
17 & MS. KHANNA: Five minutes or so. & 17 \\
18 & MR. FRANCIS: Perfect timing. & 18 \\
19 & \(\quad\) [A brief recess was taken.] & 19 \\
20 & Q & (By Ms. Khanna) Dr. Alford, you have not done a & 20 \\
21 & reconstituted election analysis in this case, have you? & 21 \\
22 & A \(\quad\) I discussed in my initial report that you basically can take & 22 \\
23 & the sort of the top-performing precincts, and they don't & 23 \\
24 & produce majority votes. I mean in essence that obviates the & 24 \\
25 & need to do a reconstituted election analysis. This is a -- & 25 \\
\hline
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page 4.
Q Uh-huh. So in the bottom of page 3, you're talking about: "In both versions of District 1 in Mr. Cooper's report, precincts 101 and 104 are mostly contained in District 1;" is that right?
A Right.
Q Then you assess those precincts?
A Right.
Q Did you assess District 1 in Mr. Cooper's illustrative District 1? Do you know?
A So what I am doing here is looking at the geography of his District 1 and the geography of his two district 2s and just talking about where -- roughly where that would be in regard to precincts and then just looking at the Hispanic turnout in the elections for those approximate areas of geography.
Q So you've -- the approximate areas of geography of the precincts that are located in -- well, you called it both versions of Mr. Cooper's District 1?
A Yes.
Q Are you familiar with whether Mr. Cooper in fact drew mo e than two versions of District 1?
A I don't recall.
Q And you certainly didn't provide any analysis of any other District 1 demonstration districts that Mr. Cooper provided other than the two that you referred to here?

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this isn't the sense in which reconstituted election
analysis is normally used in these cases. And it inn't a
formal reconstituted election analysis. But it answers the question what you would see in a reconstituted election analysis.

You don't need to do that to know what the result would be. It couldn't be any -- it couldn't be any different than what you see by looking at the most Hispanic precincts.
Q But you've not done reconstituted election analysis in this case?
A I mean I would call that -- that is a reconstituted election analysis, not in the formal sense that you usually see presented. But it's -- that's what a reconstituted election analysis does. That's the conclusion it lets you reach.
Q Have you done a reconstituted election analysis based on ary of Mr. Cooper's demonstration districts?
A I think that's what this analysis in the report is based on. That's my recollection.
Q So you used Mr. Cooper's demonstration districts in your report?
A I think so, yes. I could be wrong. I could be thinking about a completely different case. But I thought I was thinking about this.
Q Let me know where you see if you have.
A Yes, I will. So this would be the bottom of page 3, top of

Page 61
A Right. So this is -- again, this is all what was -- what is indicated here is all that I've done. And it's not a classic reconstituted election analysis. But -- and I didn't want to mislead you as to what -- this is what I'm referring to when I say I've looked at where those districts would be. It's looking at -- it is reconstituting the elections in the sense that it's looking at turnout in actual elections as opposed to looking at something like just voter registration. And that's the extent of what I've done.
Q All right. I'm going to talk a little bit about the methodologies now. In his analysis, Dr. Engstrom utilized a method called ecological inference or EI; is that correct?
A That's correct.
Q And in your initial report, you also performed an EI analysis?
A That's correct.
Q You also used two other techniques, right? The homogeneous precinct analysis and the ecological regression analysis?
A That's correct.
Q Can you describe the homogeneous precinct analysis for me pr define it, rather.
A Okay. Homogeneous precinct analysis is a method of bound. And it takes information about -- basically segments the results of an election into precincts that, because of their
\begin{tabular}{|c|c|c|c|}
\hline & Page 62 & & Page 64 \\
\hline 1 & location -- it's sometimes called extreme precinct analysis & 1 & It is a method of -- it's a method of probabilistic \\
\hline 2 & because the point of the precinct being homogeneous is that & 2 & simulated estimation. But it does efficiently use bounds \\
\hline 3 & that, by definition, makes it extreme. It is toward the & 3 & information. And by its nature, it doesn't preclude the \\
\hline 4 & lowest level in terms of proportion of minority or toward & 4 & possibility that -- it's agnostic about the linearity of the \\
\hline 5 & the highest level in proportion of minority. So at the & 5 & relationship. \\
\hline 6 & extremes of the population distribution, the precincts & 6 & Q So I think you just walked me through the three various \\
\hline 7 & become increasingly homogeneous. The normal standard is & 7 & methods. I was asking about the homogeneous precinct \\
\hline 8 & 90 percent nonminority at the nonminority end for a & 8 & analysis. And I think you moved on to ER and EI and \\
\hline 9 & homogeneous precinct and 90 percent minority for a & 9 & describing that as well. And that's certainly something I \\
\hline 10 & homogeneous minority precinct. & 10 & will want to come back to. \\
\hline 11 & There are two reasons for looking at those precincts. & 11 & But focusing on the homogeneous precinct analysis, this \\
\hline 12 & The first and probably the most obvious is that it is simply & 12 & method is not appropriate for analyzing Hispanic voting \\
\hline 13 & a bounds analysis on voting. So it is the first of the & 13 & behavior in the city of Yakima; is that right? \\
\hline 14 & bounds analysis methods to be utilized. It was utilized & 14 & A It is completely appropriate for analyzing Hispanic voting \\
\hline 15 & before ecological regression. And it is -- in that sense it & 15 & behavior. There's nothing wrong with the method. The fact \\
\hline 16 & is a pure bounds analysis. & 16 & that there -- that Hispanic voters are insufficiently \\
\hline 17 & It obviously leaves out information that falls between & 17 & concentrated in Yakima to allow a homogeneous precinct \\
\hline 18 & 90 percent and 10 percent. And so it is -- it lacks & 18 & analysis for Hispanics. \\
\hline 19 & efficiency in the sense that it ignores that information. & 19 & Q So you could not perform a homogeneous precinct analysis \\
\hline 20 & And so the initial attempt to provide a sort of a full data & 20 & measure Hispanic voting behavior in Yakima? \\
\hline 21 & picture is the move to ecological or Goodman's regression. & 21 & A You cannot -- there are no precincts that are -- in no one's \\
\hline 22 & In that process, the bounds logic that was -- underlies & 22 & definition -- if you -- basically, if you're willing to \\
\hline 23 & homogeneous precinct analysis was dropped. And so you then & 23 & expand the line, as some people do, to 80, maybe even to 70, \\
\hline 24 & got, you know, here's all -- here's the full information & 24 & in Yakima at that point all of the precincts would be \\
\hline 25 & deterministic model but it throws away the bounds & 25 & extreme Anglo precincts and you wouldn't have accomplished \\
\hline & Page 63 & & Page 65 \\
\hline 1 & information. & 1 & anything in trying to get concentrated Hispanic population. \\
\hline 2 & That's why you typically saw both homogeneous precinct & 2 & So there is no concentrated Hispanic voter population in \\
\hline 3 & analysis and ecological regression presented together & 3 & Yakima. So you can't do a homogeneous precinct analysis. \\
\hline 4 & because then you've got the advantage of the bounds & 4 & Q So you didn't do a homogeneous precinct analysis of the \\
\hline 5 & analysis, you've got the advantage of the full. And in & 5 & Latino population's voter cohesion in Yakima; is that right? \\
\hline 6 & theory, you like to see them all mixed together. & 6 & I think you've already said that. \\
\hline 7 & So with EI, what you do is recognize that the bounds & 7 & A I did say there were zero cases. So there was nothing to \\
\hline 8 & analysis is not limited simply to the extremes of the & 8 & report. \\
\hline 9 & distribution, that there's bounds information throughout the & 9 & Q So if you look at page 3 of your report, which I believe is \\
\hline 10 & distribution, typically less bounds information in the & 10 & marked Exhibit 2, in the last paragraph on page 3, about \\
\hline 11 & middle of the distribution. But, depending on the actual & 11 & four lines up, you noticed that: "This is unusual and \\
\hline 12 & election parameters, there often is -- so the EI attempts to & 12 & problematic." And I believe what you're referring to here \\
\hline 13 & harvest all the bounds information, not just the part that's & 13 & the lack of homogeneous Hispanic precincts in Yakima; is \\
\hline 14 & obvious to the eye, and combine that with a full informatior & 14 & that right? \\
\hline 15 & model. & 15 & A Correct. \\
\hline 16 & In the process, it gives up being a deterministic & 16 & Q In what way is it unusual to not have a homogeneous Hispani \\
\hline 17 & model. It's not a closed-form solution. It's a -- it is & 17 & precincts? \\
\hline 18 & a -- it's what is sometimes called a brute-force method in & 18 & A It's, I would say certainly less unusual than is the case \\
\hline 19 & which you simply stimulate over and over again a, a series & 19 & for African-American precincts. So it's more common as you \\
\hline 20 & of parameters and try by kind of process of -- basically of & 20 & move into focusing on Hispanic voters rather than \\
\hline 21 & cumulating so many trials that you have -- you begin to & 21 & African-American voters. It's more common as you move ou \\
\hline 22 & converge on something that is more likely than not to be the & 22 & of areas where there's -- where the Hispanic population's \\
\hline 23 & region in which the result might be. But it is nothing more & 23 & very large. And when you look at the state of Texas, it's \\
\hline 24 & than that. & 24 & chock full of extreme Hispanic precincts. But when you mov \\
\hline 25 & So it does not provide a single deterministic answer. & 25 & into an area where the Hispanic population is less dense, \\
\hline
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it's less common. And certainly the sort of issues of citizenship we're talked about also figure into that concentration. So that -- the citizenship issues tend to increase the proportion of African-American homogeneous precincts and decrease the proportion of Hispanic homogeneous precincts.

So I would say it's not completely unexpected. But it's -- in a, in a lawsuit of this sort it remains unusual in the sense that the logic of Gingles 1 should yield an area of sufficient concentration of Hispanic eligible population that it would produce something that would allow at least one precinct, maybe, where you could do homogeneous.

The logic of the entire Gingles test is essentially predicated on, on the presence of concentrated, concentrated minority voters. And the fact that you don't have any concentrated, you actually have nothing but concentrated Anglo voters, even when you go down to the precinct level, suggests that -- both suggests, as I said earlier, that you're -- that there really isn't a Gingles 1 district in the totality sense but also, importantly, creates real limits for accurately estimating Hispanic cohesion.

Gingles 2 here is compromised by the failure to meet anything but the bare -- possibly the bare threshold test for Gingles 1.

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Q In your work as an expert witness, have you encountered other cities in where there are no homogeneous Hispanic precincts?
A Yes.
Q And you've been retained as an expert witness in cases involving such cities in which the Court found that the plaintiffs had prevailed on all three Gingles factors; is that right?
A Yes.
Q For instance, in Farmers Branch case in 2011, there were no homogeneous Hispanic precincts in that city, were there?
A I'll have to say that there were a series of cases in roughly the same geography: Farmers Branch, Irving ISD, the City of Irving -- I don't remember if there was a Farmers Branch ISD -- which took place roughly around the same time and similar sets of factors.

I can no longer honestly distinguish. I mean it's in the trial record. I'm not disputing any of that. But I couldn't honestly tell you if that was Farmers Branch or Irving or Irving ISD at this stage.
Q Would it surprise you if I told you that in the Farmers Branch case that you found that there were no Hispanic homogeneous precincts?
A That wouldn't surprise me.
Q And the Court in that case, in Fabela v. Farmers Branch
case, found that plaintiffs had prevailed on all three Gingles factors. Do you recall that?
A Again, I don't -- I know the Court found for the plaintiffs in one case and for the defendants in the other. I don't recall what the -- I think, if I had to hazard a guess, I would guess that it was for the plaintiffs in Farmers Branch and the defendants in one of the Irving cases. But I don't know for certain.
Q Do you remember testifying in other cases in which there have been no homogeneous Hispanic precincts and the plaintiffs have still prevailed on the Gingles test? Is that right?
A Yes, yes.
Q So on page 3, you also note that: "It is problematic" -and by "it," I think you're referring to the lack of homogeneous Hispanic precincts. "It is problematic because it reduces our ability to accurately assess the cohesion of Hispanic voters." Do you see that?
A Yes.
Q Is Hispanic -- sorry -- homogeneous precinct analysis necessary in order to accurately assess the cohesion of Hispanic voters?
A Not necessary but it basically drives most of the accuracy of all of the other methods, particularly of EI because EI is also a bounds analysis. So it is -- its importance for

ER is driven by the fact that regression lines respond to, to extreme values, basically on the square rather than in response simply to their location. So it tends to drive ER more than an interior precinct.

And then it's -- it does -- it has a similar effect in EI analysis, not because EI is particularly responsive to the extremes but because EI pays particular attention to meaningful bounds information. And so the lack of that -in the ER, the fact that the line is being anchored at one end and is unanchored in the other, this is a missing -it's basically an out-of-sample projection issue.

With EI, the problem is that the most probative bounds analysis is missing.
Q Do you believe that, with no homogeneously Hispanic precincts, we cannot know which if any candidate in a giver election was the one whom Latinos favored?
A I think we can -- we can derive estimates, statistically reliable estimates, of preferred candidates without having extreme precincts. You can't know -- no, we cannot know. But we can, we provide statistical estimates.
Q So there are other ways other than a homogeneous precinct analysis to assess Hispanic cohesion?
A Are there ways to estimate Hispanic cohesion? There's only one way to know Hispanic cohesion. And that's by, by a bounds analysis that takes advantage of extreme precincts.

So the point that is we're engaged in a process in which we both try to know things and to estimate things. We certainly can estimate those.

And if we estimate with sufficient reliability, then, as social scientists, we can say that's our -- this is our best guess. It's reliable within the range, the -- for example, candidate of choice, if we estimate 90 percent and our lower bound is 70 percent, then we can -- at 95 percent, we can reject the hypothesis that the -- some other candidate is the candidate of choice.

So that's our social science method for what we do when we are estimating something but we don't actually know. But again, 5 percent of the time, we could be wrong. But that's our standard for doing that. And so yes, we can continue to estimate things. I have no -- I do that. I have no issue with that.

But I think it's important to note that that is not the same thing as knowing that, which is the advantage of a pure bounds analysis in which we're in an area in which -- in which the bounds information makes it impossible for any other conclusion to be reached.
[Mr. Hamilton departs the deposition.]
Q (By Ms. Khanna) Is it your opinion that a homogeneous precinct analysis is critical to an analysis of racially polarized voting?
part of it is built into these specific facts which are ones in which an already restricted analysis, because it's ecological and the data is cumulated to geographic areas when we want to know about individuals. And part of it is imposed by the lack of concentration here which ought to be reduced by the Gingles 1 threshold and which is both an analytical issue because we always would like to have a better range of data.

It's also, for the Gingles test, it's more than a analytical issue because it is the very heart of what the Gingles test seeks to answer. So the single most important answer we can derive from Gingles is here in a range of data that is, that is nonexistent.
Q You mentioned the words "extremely important," I believe, that explanation just now in characterizing the homogeneous precinct analysis. Is it extremely important to perform a homogeneous precinct analysis of the homogeneous non-Latifo precincts in any racially polarized voting analysis?
A It can be useful in the sense that it provides -- I'll say because I have not been involved in a case in which they were not multiple extreme, in cases like this, more than half the precincts are extreme precincts.

In that case there is, there is little additional leverage added by the extreme precinct analysis. So it is heavily reflected in the both the ER and the EI. Your

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Let me clarify here: "Homogeneous precinct analysis," I mean that whether it comes to Latino homogeneous precincts or non-Latino homogeneous precincts. Is it critical in any analysis of racially polarized voting?
A I guess it would depend on what you mean by "critical." I think it's extremely important. I think as a threshold matter, we, we ought not to be in this. We ought not to be trying to do something if we basically don't even have any majority-Hispanic precincts to work with because I think that's sort of part of the analytical idea here of stair-stepping the methods.

I mean I think it's -- I think it is a -- it raises important, very important analytical issues. But I think ultimately the question of what the -- I mean it's the judge who has to make a decision about what is sufficient under the, under the Gingles scaffolding. And so I think -- I have no problem with doing the best we can do. But I think it's very important not to suggest that we can do better -there are no statistical methods that can do better than the information your data provides. There are techniques that can do a lot worse. But there are none that do any better.

And the limitation here is not a technical limitation. The limitation here is a data limitation. Part of that limitation is automatically built into ecological data sets. And that's what all this is an attempt to deal with. And

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bound's estimates there. Your confidence intervals are tight. It doesn't tell you anything that the others wouldn't tell you. I can't -- I suppose in theory there might be some situation where it would differ slightly but not substantively. So I don't think that's a particularly important issue.

It's important to remember that there are two ends to the homogeneous precinct analysis and only the, only the upper end is, is pivotal in these cases. The lower end is not pivotal. It really doesn't matter what Anglos in extreme precincts do. It's really not the issue here. It's what Anglos in the entire jurisdiction do. It is what Hispanics in the concentrated area do that's pivotal. So they're not on the same footing.
Q So you also mentioned the ecological regression analysis or ER; is that right?
A Yes.
Q I believe you've already defined the ER, at least as far as I understand it. Look at page 5 of your initial report.
A [Complies.]
Q You have a section describing the ecological regression analysis. And you state at the first sentence in the second paragraph. You say: "Applied to voting-rights cases, the logic of regression analysis is to determine to what degree if any the vote for a candidate increases in a linear
fashion as the concentration of voters of a given ethnicity in the precinct increases." Do you see that there?
A Yes.
Q So is it fair to say that ER is based on a linear assumption or a linearity assumption?
A It -- in the form it's typically used, it is based on a linearity assumption. There's nothing -- you know, there's nothing magical about that assumption. You can do ER without a linearity assumption. You just, you know -- I mean regression in its simplest bivariate form, regression makes a linear assumption. But people do nonlinear regressions all the time. There's no -- there's nothing that stops you from doing that. If you think there's substantial nonlinearity, you can estimate the model with a nonlinear assumption. So add a square term, and you'll get an inflection point. Add a cube, and you get two inflection points.
Q But you did not perform a nonlinear regression analysis in this case?
A No.
Q Is it your understanding that a linear relationship between the concentration of minority voters and votes for their minority candidate is required to establish racially polarized voting under the Gingles test?
A No.
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Q Has there been any criticism of the linearity assumption of ER that you're aware of?
A There -- so there are two broad reasons for preferring an \(E\) analysis. One is that you don't need to go through a linearity assumptions because it's agnostic. It's -- I would say I've never seen an analysis of voting results in which the EI analysis has been demonstrated to be substantively affected by the linearity assumption 'cause it just isn't -- when we have a scatter plot, we know if we meet the linearity assumption by looking at the scatter plot. So there are no nonlinear patterns in the scatter plot. So it's certainly -- having a technique that's agnostic means that's one less thing you have to worry about. That's not to say that any particular ER result is suffering from that.

And here you've got -- because we produced both results side by side, if there was a substantial linearity issue, you would know that because the ER result would be substantially different and substantially less stable than the EI result. So the gain for the EI result would be a grain in efficiency and therefore in smaller confidence intervals. And we don't see that here, nor do we see it in the scatter plot.

So it's a theoretical issue. EI deals with that by being agnostic. But that's not to say that these EI models
aren't linear. In this case the EI models are very close to being linear and without any cost in doing so.

So there's nothing -- the linear assumption is not in itself limiting if the basic underlying data pattern is not nonlinear. And here it's not nonlinear. It's a theoretical gain. And I've certainly -- I've got no problem with that. I like EI. But it's not magic. As we see here, it doesn't do any magic. Right? Cover up all the EI results, we've got exactly the same case.
Q Are you aware that some experts in the field have called for the total abandonment of ER?
A I'm aware that some experts will not use EI. I'm aware that some experts don't like ER. I'm aware that, you know, experts disagree about things. I can say this: I find -- I think methodology badly explained has no place in a court. That's true of good methods and bad.

Properly explained, it is -- if you think about the logic of EI, which is to be efficient by not throwing away information, that logic would suggest that, if you have three techniques that do slightly different things and produce results when you'd explain what the differences are you know -- if you want to understand what linear relationship might have looked like and there are reasons for that, when you are making big out-of-sample projection , as long as you understand what the limitations are, I can't

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see what the disutility is of having additional information, particularly if the most easily understood and therefore the most properly utilized to make decisions is the oldest technique. Homogeneous precinct analysis, everyone is capable of understanding homogeneous precinct analysis and therefore using it correctly.

Ecological regression is a little harder to understand but is certain easier -- and I say this, I guess because it seems to me -- maybe I'm wrong. But it seems to me that it is easier to intuit what ecological regression is doing, given a little bit of time spent with scatter plots. I think -- I have not had the experience of a judge intuitively understanding EI. I think it can still be done. Dr. Engstrom, I think, does a splendid job of it.

You can explain what is going on so that the judge is not openly misusing EI. But I still think the intuitive understanding is lower and there's a tendency to believe it does things that it doesn't. I'm in the camp of people who believe that you just put all the information out there and then be very careful about saying what it does and doesn't say.

I think particularly where the result is the same across all those methods, then everybody gets to pick what they want to intuitively understand and we don't have a substantive difference.

Q Isn't it true that the ER methodology can yield estimates below zero and above 100 ?
A It's -- it can yield estimates below zero and above 100, but it can't make you use them. It can't make you do anything other than just say, Well, if that estimate if the best point given the linear assumption is at 114 , what could that mean? And the answer means, well, 100 must be --100 must be like all of the people voting must be what it's trying to tell me. Right? It's just getting a little over enthusiastic up there.

As a substantive matter, it doesn't yield -- if the actual estimate was 100 and it yielded 114, who's getting deceived by that? If the actual estimate is 100 and it's yielding 20, that's a problem. These under- and overestimates that are caused at the tilt of the line are -openly suggest to you that you might want to look more closely at the possibility that you have a kind of S-shaped curve. Not inappropriate.

They exaggerate the degree to which you have polarized voting. What's wrong with that? Honestly, if you think the best estimate is zero and 100 and the real estimates are negative 12 and 114 , you're just that much less likely to make the mistake of thinking there's no polarization.

So I don't think that -- it's brought up all the time. It's not harmful. I don't think it's -- explained properly,

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I don't think there's anything particularly misleading about it. It's not mysterious. It's not subject to -- it's
likely to be on the other end, one or the other. If you look at the scatter plot, it's no longer even an issue. Right? Because the scatter plot -- here's a good example of having extreme precinct analysis.

Homogeneous precinct analysis will never suggest 114 percent, never suggest negative 12 percent. It's a technical issue that in application is simply not -- is not problematic. It is, for people who have a strong aesthetic taste for elegance, it is inelegant. And people, statisticians, mathematicians, do not like inelegant solutions. But as an expert who's testified in court, I've become accustomed to inelegant solutions. So I don't find them -- properly explained, I don't find them aesthetically distasteful.
Q On page 8 of his reply report, Exhibit 3, Dr. Engstrom has footnote where he mentions that the backup documents for your regression analysis in the 2011 vote on Proposition 1 revealed an estimate of 115.6. You can go to Exhibit 3, page 8 . I'm not sure if you're on the right -- we're on the same page as I am. Exhibit 3, his reply report.

MR. FRANCIS: Reply report? I don't think we have a reply report.

THE WITNESS: I do.

MR. FRANCIS: Oh, you do? Okay.
A Exhibit 3, the reply report. Did you say page 3? If I was on the right page, we'd be on the same page.
Q (By Ms. Khanna) If you could, review that footnote.
A Okay. The footnote?
Q Yes. Here Dr. Engstrom points out that the backup documents for your regression analysis in the 2011 vote on Proposition 1 reveal an estimate of 115.6 ; is that right?
A That's correct.
Q And on the -- and is he correct? Is he correct that your backup documents did in fact reveal --
A I'm not looking at my backup documents, but I have no reason to dispute that.
Q On Table 1 of your initial report, which is Exhibit 2 -that's on page 10. Here you've indicated that: "The ER estimate for the 2011 vote on Proposition 1 is 100 percent."
A Yes.
Q So the number reflected in your report is not the number reflected in your backup documents?
A That's correct.
Q You mentioned earlier that, explained properly, the fact that an ER estimate exceeds 100 is actually not problematic for you.
A That's correct.
Q Did you explain it properly in your report, why you would --
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the number from your backup documents would be changed wh n reported in your report?
A It's not at all uncommon to simply, to simply report the -and all that reflects is that sort of physically all that can mean is that the estimate -- the highest possible estimate for cohesion's 100 percent. So to limit that report at zero over 100 percent is not unusual.

It doesn't -- I mean if anything, it reduces the likelihood that they'll be misinterpreted because that's -really all that is telling you is that your estimate there is -- that the highest possible value that could be within that estimate is the 100 percent estimate. So I don't think it's -- I don't see how that could be -- reporting, in this particular case, reporting for this election that the estimate of Hispanic cohesion is its highest possible value and higher than the estimates for any of the other techniques could only suggest that you have high Hispanic cohesion.

Again maybe that's -- I don't know. That's what, that's what Professor Engstrom's reporting of 98.2 is supposed to indicate. I don't see that that's -- is any way -- can be misinterpreted in any way.
Q In your opinion, is an ER analysis critical to the racial polarized voting analysis?
A No.
\begin{tabular}{|c|c|c|c|}
\hline & Page 82 & & Page 84 \\
\hline 1 & Q Is it important to include an ER analysis in a proper & 1 & So I think it is extremely useful. But I don't think \\
\hline 2 & racially polarized voting analysis? & 2 & critical because, once I've seen the EI numbers, I \\
\hline 3 & A Again, I think where there -- where you have information, I & 3 & personally don't have to see the ER numbers. But I still \\
\hline 4 & think it's useful to include it. Where it can be done in a & 4 & think that they can be useful to the Court. \\
\hline 5 & way that's not deceptive, it's important to include it. I & 5 & Q So you also report the R-squared for the various election \\
\hline 6 & don't think it's appropriate to use it selectively. & 6 & analyzed in your initial report here; is that right? \\
\hline 7 & So I think, if you sort of go through your analysis and & 7 & A Yes. \\
\hline 8 & you kind of like your ER results better than your EI and you & 8 & Q And that R-squared number is itself a product of the ER \\
\hline 9 & sort of report one or other, I think if you're going to do & 9 & analysis; is that right? \\
\hline 10 & the analysis, report it. They can be viewed -- in the same & 10 & A It's -- it is one of the things that's reported in the ER \\
\hline 11 & sense that you can view the pattern across elections, you & 11 & analysis. You don't have to do -- I mean it is just the \\
\hline 12 & can view the pattern across the techniques. That's a nice & 12 & square -- because these are bivariate references, it's just \\
\hline 13 & thing to be able to do. It tells you -- gives you some & 13 & the square of the correlation. So it's -- it could be a \\
\hline 14 & additional information about stability. & 14 & product of a correlation analysis. It's -- it doesn't tell \\
\hline 15 & I don't think it is critical because I don't think -- & 15 & you anything more than a bivariate correlation tells you. \\
\hline 16 & well, it gives you what I think can be -- the reason that -- & 16 & Q What does the R-squared measure? \\
\hline 17 & if it's possible to calculate an extreme precinct analysis & 17 & A The R-squared is the coefficient of determination. So it \\
\hline 18 & for a minority population, I think it would be -- I think it & 18 & measures essentially the proportion of error in guessing \\
\hline 19 & would be important to include it, maybe even critical to & 19 & that the dependent variable based on its mean. So the \\
\hline 20 & include it. It's -- ER and EI don't tell you, for the most & 20 & proportion by which you reduce that error by using \\
\hline 21 & part, things that are really different. If they tell you & 21 & conditional means rather than the grand mean, that's all it \\
\hline 22 & something really different, the EI is probably the more & 22 & tells you. \\
\hline 23 & reliable. It's the more efficient estimate. & 23 & It tells us the square of the correlation coefficient. \\
\hline 24 & So, you know, you could drop the ER; and, as long & 24 & It also tells you about the tendency of the two measures to \\
\hline 25 & people understood the EI, you would be all right. The risk & 25 & move together. So again, correlation, a very widely used \\
\hline & Page 83 & & Page 85 \\
\hline 1 & is that you may have a judge that just simply doesn't buy & 1 & social science measure, it has it's own issues. The \\
\hline 2 & the -- I mean some people don't like simulations. They & 2 & R -squared is actual a better measure. \\
\hline 3 & don't like the fact that when you redo this, you get a & 3 & Although they're functionally connected to each other, \\
\hline 4 & different answer. They just -- or they say, Wait a minute, & 4 & the R -squared measure is less deceptive than the correlation \\
\hline 5 & this is all just -- you know, I don't understand it; and it & 5 & measure because the R -squared measure is linear and the \\
\hline 6 & sounds to me like these are kind of made up. & 6 & correlation measure is not. And I don't mean -- they're \\
\hline 7 & I've had an experience with hypotheticals. You give a & 7 & both linear in their estimation. But one is linear in its \\
\hline 8 & hypothetical. And then someone says, Well, that's just made & 8 & variation across values. And so the R-squared is a linear \\
\hline 9 & up. I think that's a misunderstanding of the value of EI. & 9 & measure, a linearly distributed measure of correlation; that \\
\hline 10 & So having ER there, I think, backstops that because if you & 10 & is, the degree to which variation in the two variables go \\
\hline 11 & want to say, you know, I'm going to make all that go away & 11 & together. \\
\hline 12 & because it wasn't -- so I can imagine a judge saying, This & 12 & It strikes me to be at the very heart of what these \\
\hline 13 & was not relied on in, you know, Thornburg v. Gingles. This & 13 & cases are about. It does voting behavior varying as we move \\
\hline 14 & is a made-up technique. It produces different results every & 14 & across different kinds of constituency compositions. That's \\
\hline 15 & time even when the plaintiff's expert uses it. & 15 & what we're -- if that's going on, then we can -- we'll try \\
\hline 16 & Well, if the ER result's in there, you're -- all you're & 16 & to make the inference about what that means about individua \\
\hline 17 & doing is backing into the -- in this case, exactly as it & 17 & voters. But if there's no correlation between the \\
\hline 18 & should be, you're buying yourself, you know, 1 percent point & 18 & proportion Hispanic in a precinct and the proportion that \\
\hline 19 & better here and 3 worse down here. And so it backstops & 19 & vote for the Hispanic candidate, I think everybody agrees \\
\hline 20 & that. I think it's a very useful way of suggesting that the & 20 & that that's an indication of a lack of Hispanic cohesion. \\
\hline 21 & added efficiency of EI does not come at the cost of giving & 21 & Q Is it fair to say that the R-squared is not a measure of \\
\hline 22 & up a lot of what's really -- of the intuitive value of ER. & 22 & polarization? \\
\hline 23 & I think having the actual estimate there is better than just & 23 & A It's fair to say that, although I think you have to be a \\
\hline 24 & saying, well, of course we would get similar results if we & 24 & little bit careful because you can say that about everything \\
\hline 25 & do ER, because that's a hypothetical and here it's factual. & 25 & else here. So the EI estimate for -- the EI produces two \\
\hline
\end{tabular}

22 (Pages 82 to 85)
estimates; right? Those two, neither of those estimates is a measure of polarization. The confidence spans are not measures of polarization. We don't have a -- there isn't any single statistic we can point to here that's a measure of polarization.
Q Would you agree that the R -squared is not a measure of the slope of the line reflecting the relationship between Latino concentration and votes for the Latino candidate?
A If it was a measure of the slope of the line, there would be no reason to report it. Okay? So the point is the R-squared does add information. But it's not a substitute for the other things in the analysis any more than any of those other single numbers are. But it does tell us something that none of those other single numbers does. So it's a useful addition.

It is bounded by the slope. The line of the slope of zero by definition, a flat line by definition, no matter how concentrated the points, by definition has an R-squared of zero. So when you have no relationship between two variables, whether that relationship is linear or nonlinear, by definition it has an R-squared of zero. So it does -- as we approach zero, there is no ambiguity about what it is telling us. You can't have a slope of anything but zero if your R -squared is zero.

It's true you can also, very quickly, move into --
the confidence intervals. The weaker the R-squared, the -so you can look at the confidence intervals. They won't tell you anything that you're not picking up also in the R-squared. But the R-squared has an intuitive interpretation that people who are not statistical professionals can understand.

It's a quick, single-number indicator for tightly clustered the points that are around either -- in this case, because of the linear assumption, around linear. If it was a nonlinear regression, we can easily modify that. And the R -squared will then not be the square of the correlation but will in fact reflect the accuracy of the S-shaped curve or whatever. No need in this case to do that.

So it's -- it is not in itself a measure of polarization. But it is not irrelevant to a measure of polarization. And again, if -- the more pieces of information we put out there, the less chance that we'll deceive ourselves by looking at one or the other.

I will admit that that -- that opens the possibility that, you know, a judge will become fixated on a single figure. But I think if you start down the path of saying, as a colleague of mine once said, That's something we just don't want to know, I think that's not really ideal. I think you should put as much out there as you can and hope that the abundance of evidence keeps you from being too

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think about that. All right? So if R-squared is zero, what does that mean? There is no explanatory power, and the slope is zero. If the R -squared is bigger than zero or, say, the R-squared is \(0.5-\) right? -- or the R-squared is 0.01 , is the slope bound once the R-squared gets to 0.01 ? And the answer is the slope isn't bound. At that point the R -squared is telling us something really important: That these points are all over the map. And the slope is now telling us something very deceptive: That there is a very strong linear relationship.

So that's the way of saying, when you report one thing and not the other, you're not going to know what the whole picture is. You report them both, you know what the whole picture is. And there certainly R-squared values that tell us something -- again, here, are two slubs. They're exactly the same. If you interpret them to be the same thing when they have wildly different R -squareds -- all right. An R -squared of 1 on a slope 0.5 tells you that the points are falling very tight. They're a very powerful prediction between the independent and dependent variable. If the R-squared is 0.01 on a slope of 0.5 , you had better not rely on that slope 'cause the fact is you don't know much about it.

Now, you don't need that R-squared. Just go to the confidence intervals. The biggest R-squared, the tighter
focused on a single element.
But that may also be an aesthetic judgment. I don't know.
Q Would you agree that it's entirely possible to have very high R-squared in a regression in which there is no indication of polarization at all?
A No.
Q You would not agree with that?
A No. It's definitional that, if the slope is zero, the R -squared is zero. That's the definition. Let me think. It's the improvement over the grand mean. And when the slope is zero, the grand mean is what the point of the -the regression line is forced to go through the grand mean by mathematical definition. If the slope is zero and it goes through the grand mean, then the line is the grand mean, and there's zero improvement.

So at that level -- that's not -- that's just -- that's definitional. It can't be the case that you could have absolutely no polarization and a big R-squared. Now, you can have very little polarization and a big R-squared, whic is why you should not report R-squareds without reporting the regressions that they're based on. That just seems to me no -- I don't think I've ever seen anybody actually do that. But that would be a bad idea.

There certainly are, as we discussed -- it's conveying
information about the tightness of the cluster. And that, in and of itself doesn't tell you anything about the slope except that, when the slope is zero, the R-squared will be zero. So the complete absence of polarization is defined by a slope of zero and an R-squared of zero.

Then, R-squareds very close to zero and slopes that can be virtually anywhere also define, basically, the complete absence of polarization. So the number that can get you in trouble is the slope that looks like polarization accompanied by an extremely low R-squared. It makes you think you've got something there that you don't have.
Q I asked a question of whether you agreed or disagreed with a certain statement.

MS. KHANNA: I'm going to ask you to read back the question or the statement that I asked that you agreed with.
[Requested material read.]
Q (By Ms. Khanna) And your response is you disagree with that statement?
A No.
Q I'm sorry. You do disagree? Or you don't disagree with the statement?
A Oh, sorry. That was really not helpful at all. So there
are -- there -- again, we're sort of, which side are we coming at? So there are a wide of range of situations in

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which as a -- in which the data would indicate the lack of polarization, over which you might have a wide range of R -squareds. R -squared in and of itself is not a sufficient indication of either polarization or the lack of polarization, although, at its extremes, it does tell you the lack of polarization.

So certainly there are cases -- there are lots of cases in which there is nothing that I would consider to be polarization but in which the R-squared may take on high values without that being in any way incompatible with the fact that there's no legally significant polarization.
Q So just to clarify, you don't disagree with the statement that it is possible to have a high R -squared in a regression in which there is no indication of polarization at all?
A Yes. So right. A large R-squared could be misinterpreted in a way that would benefit the plaintiffs. It could not be misinterpreted in a way that would benefit the defense. So I'm comfortable with that.
Q But you could get a much lower R-squared even where there is clear and strong polarization. Would you agree with that?
A No.
Q You disagree with that statement?
A Yes.
Q I'm going to show what's going to marked Exhibit 7.
[Deposition Exhibit No. 7.]

Q (By Ms. Khanna) Let's look at the cover page of Exhibit 7. Do you see the case caption?
A Yeah. For some reason I was jumping over here: Dallas. was thinking Reyes v. Dallas. I don't remember Reyes v -so this is Reyes v. Farmers Branch.
Q Do you recall that you were an expert witness in this case?
A I'm a little puzzled. I thought earlier you were talking about -- you referred to this as Fabela?
Q It's my understanding that there were two Farmers Branch cases. My understanding is also that you were an expert witness in both Farmers Branch cases.

We can move ahead to the next page. And I think maybe that will clarify some things.
A My name appears here. So I must have been an expert.
Q Is there a chance that you appeared in this case in any other capacity, other than as an expert?
A No.
Q This is the trial transcript or a portion of the trial transcript from that Farmers Branch case that's on the caption. If you could, turn to page 20 of the transcript. I think it's page 6 of the document. And I'm going to ask you to read the paragraph on page 20, beginning with line 16. Can you read that out loud.
A "And in bivariate regression, the R-Squared is simply the R-Squared. It is not a measure of the slope of the line.
result in which the completely Anglo precinct is voting 90 percent for the Hispanic candidate, then the most Hispanic candidate is voting" -- that doesn't make any sense. It should be the Hispanic precinct "is voting 100 percent for the candidate, you have essentially the absence of polarization. But you could easily get an R-squared of one.
"You could also have a result in which you move from the least Hispanic precinct, where there were no Hispanic voters, you got no vote for the Anglo candidate, in the most Hispanic precinct you got perfect Hispanic vote for the candidate, and just because in between there is some variation across those points, you could easily get a much lower R-squared for that result, even though that result indicates a clear and strong polarization.
"Again, the slope tells you about polarization. The goodness of fit tells you something about how confident yo might be in that estimation of polarization, but it does not independently tell you anything about polarization."
Q Keep reading.
A Oh, sorry.
"You could also have a result in which you move from i the least Hispanic precinct, where there were no Hispanic voters and you got no vote for the Anglo candidate; in the most Hispanic precinct, you got perfect Hispanic vote for the candidate. And just because in-between there is some
said here is almost exactly what we've discussed. It is not an independent indicator of polarization. It is a valuable addition to what we know about polarization precisely because, as I indicated here, it tells us about that variability. So it tells us something that we -- that goes along with what we learned in the confidence intervals.

And I think in all the discussions that we've had, what you've indicated is that there are situations in which a naive interpretation of the R-squared might lead you to believe that the plaintiffs have a stronger case than they really have. Since I'm not presenting data for the plaintiffs, I don't -- I'm not concerned about that.

I think I can explain how it adds information. And if there's a mistake that benefits the plaintiffs, then I've failed to do it accurately. I wouldn't want to be in a situation where that worked the other direction and it wasn't adequately explained.

It's not -- it's not a complicated correlation, not complicated or unusual methodology. It's explained clearly in courts all the time. I think it was explained clearly here. I would hope so.

I have no -- again I see no reason to suppress that information unless you just don't like what it tells you. If you don't like what it tells you, maybe you don't want to have it there.

Page 97
Q So you mentioned that a naive interpretation could ben -could indicate that plaintiffs have a stronger case than they actually have; is that right?
A Certainly.
Q A naive interpretation could also indicate that plaintiffs have a weaker case then they actually have; is that right?
A Again, so far here and in your questions, you've given me a series of examples that all go the same direction in which the naive interpretation could suggest that the plaintiffs have a stronger case than they really have. You haven't given me any example that suggests the opposite.
Q So you did not say on the top of page 22 that "you could easily get a much lower R-squared for that result, even though that result indicates clear and strong polarization"?
A Again, so that's much lower in -- that's in comparison to the -- to basically a perfect R-squared. So the fact that the R-squared is lower and that you still have polarization doesn't indicate that that's going to mislead you about what's going on in the case. You're not going to get an R -squared that says there is no polarization. You're not getting an R-squared of zero. That's not physically possible.
Q So in a case where plaintiffs have shown or the case happers to be the case where there indicate a clear and strong polarization, a low R-squared is possible; is that right?
\begin{tabular}{|c|c|c|c|c|}
\hline \multicolumn{2}{|r|}{Page 98} & & & ge 100 \\
\hline & \multirow[t]{2}{*}{A I would have to -- what do you mean by "a low R-squared is possible?"} & & & 've reported the same, substantive information. So yeat \\
\hline & & 2 & & you can leave them out. They're -- I think they back up \\
\hline & \multirow[t]{3}{*}{Q My question exactly. What do you mean by "a much lower R-squared" when you talk about it in your testimony in this exhibit?} & & & other information. But yeah, you could leave them out for \\
\hline & & & & efficiency reasons. You can leave them out because you \\
\hline & & 5 & & think you've already said that in another way. \\
\hline & \multirow[t]{4}{*}{I mean that you could have an R -squared of one. Or you might have an R-squared of 0.8 or R-squared of 0.5 -right? -- things that people would look at and say, That's a substantively lower R-squared. And they would tell you} & 6 & & We've certainly done it here. I'm perfectly happy to \\
\hline & & & & op them completely. You can't mistake the scatter plots \\
\hline 8 & & 8 & & as anything other than they are. We've got confidence \\
\hline 9 & & 9 & & tervals that tell us basically the same thing: They're \\
\hline 10 & \multirow[t]{2}{*}{something about the scatter of points around the line. They would tell you that you were less confident in that} & 10 & & ery wide. Every time the R-squared is low, the confidence \\
\hline 11 & & 11 & & terval is very big. Every time the R-squared is tight, \\
\hline 12 & \multirow[t]{2}{*}{estimate. They wouldn't necessarily say you shouldn't look at the estimate at all.} & 12 & & the confidence intervals are tighter. I'm -- \\
\hline 13 & & 13 & & There could be lots of reason for not reporting the \\
\hline 14 & \multirow[t]{2}{*}{R -squared of 0.5 is much lower than an R -squared of 1 .} & 14 & & R-squared. \\
\hline 15 & & 15 & & Let's talk a little bit about ecological inference or EI. \\
\hline 16 & \multirow[t]{2}{*}{You're explaining half the variance. And at that point, the variation in the proportion of minorities is explaining half} & 16 & & Would you agree that EI is an improvement on standard \\
\hline 17 & & 17 & & cological regression? \\
\hline 18 & the variation in the outcome of the election. That seems to & 18 & & It improves on standard ecological regression \\
\hline 19 & \multirow[t]{2}{*}{me to be an indicator that it's an important explanation, potential explanation for that variation.} & 19 & & instances: It improves in the instance that you have bounds \\
\hline 20 & & 20 & & formation that is discarded in ER and that is sufficiently \\
\hline 21 & So I don't think -- again, that doesn't -- all of this & 21 & & terminative that it helps shapes your estimation. \\
\hline 22 & discussion is a discussion of using the R-squared in & 22 & & proves in that -- because it's agnostic about functional \\
\hline 23 & conjunction with the slope estimates. I just don't think & 23 & & rm, you don't have the -- without looking at s \\
\hline 24 & that this is -- I don't think we've discussed a single & 24 & & ots, you could, in theory, mistakenly underestimat \\
\hline 25 & instance in which having those two figures available would & 25 & & relationship or overestimate a relationship so -- because \\
\hline & 99 & & & e 101 \\
\hline 1 & lead you to a conclusion that was inappropriate or & 1 & & you're using the wrong functional form. \\
\hline 2 & conclusion in which you were -- & 2 & & So functional form is a standard assumption. And in \\
\hline 3 & I don't think the R-squared subtracts information. I & 3 & & the fact it's agnostic, this makes it's a -- it's a newer \\
\hline 4 & think it adds information. I think it's valuable. It's & 4 & & technology. It's developed to address shortcomings, \\
\hline 5 & historically relied on. I see no reason not to report it & 5 & & potential shortcomings in ER. So I've got -- I have no \\
\hline 6 & unless you just don't like those values. I'll stand by the & 6 & & problem with it. I have only -- if someone just showed me \\
\hline 7 & fact that in this case the R-squareds that you would like & 7 & & two numbers, one from ER and one from EI and I had -- \\
\hline 8 & not to talk about are R-squareds that undermine your case & 8 & & couldn't look at the underlying data but just had to pick a \\
\hline 9 & for polarization. & 9 & & number, I would pick the EI. \\
\hline 10 & I'm not relying on R-squareds to make my case in the & 10 & Q & So you would agree that EI does a better job of estimating \\
\hline 11 & sense of something that isn't in the data. I'm not leaving & 11 & & particular properties that we're interested in in a racially \\
\hline 12 & out the EI results or the extreme precinct results or & 12 & & polarization voting analysis? \\
\hline 13 & anything else. It's all in there. I talk about all of it. & 13 & A & It potentially does better a job. In fact, as we can see \\
\hline 14 & But the fact is those lower R-squareds tell you something & 14 & & ere, it doesn't actually -- for the most part, it doesn't \\
\hline 15 & about the scatter, and the scatter is part of the data set. & 15 & & actually do a better job in the sense that it would have to \\
\hline 16 & Q You mentioned that you see no reason not to report it & 16 & & produce estimates that were different from ER to do a bettel \\
\hline 17 & you don't like those values; is that right? & 17 & & job. So we're -- despite its being used now for a \\
\hline 18 & A I will withdraw that. There could -- obviously there could & 18 & & considerable part of time, a certain amount of time in the \\
\hline 19 & be lots of other reasons that you might not report a & 19 & & social sciences, there remain only a few, rather unusual \\
\hline 20 & particular figure. You might not think that the, that the & 20 & & examples in which you can clearly demonstrate that EI is \\
\hline 21 & nature of the estimation, that it was appropriate. I just & 21 & & doing a better job. I don't recall, in a voting rights \\
\hline 22 & think that R-squareds are useful to report. & 22 & & case, an example where the EI estimates give you a differen \\
\hline 23 & So reporting R-squareds, I think where you have & 23 & & substantive conclusion than the ER. But certainly there, \\
\hline 24 & confidence intervals or scatter plots, I don't think -- if & 24 & & the potential is there. \\
\hline 25 & you've got a confidence interval, you've got a scatter plot, & 25 & Q & So in your initial report you decided to employ EI and \\
\hline
\end{tabular}

\begin{tabular}{|c|c|c|c|}
\hline & Page 106 & & age 108 \\
\hline 1 & Right? It throws the precincts together, and it draws a & 1 & that is more probable than a point between that maxima \\
\hline 2 & single best estimate. That is both its grace and its error. & 2 & and -- it's unusual. And I hesitate 'cause I don't want to \\
\hline 3 & EI doesn't. EI makes a separate estimate for every & 3 & suggest that I think this is a -- some substantive \\
\hline 4 & precinct. So it makes a bounds analysis and makes a & 4 & mischaracterization. It's not \\
\hline 5 & separate estimate for every precinct. So the fact that you & 5 & It's just that the distribution is mathematically more \\
\hline 6 & come out with a single number when in fact it's not & 6 & complicated here. And so we can't say -- because it doesn't \\
\hline 7 & stimating a single number, it's estimating as many numbers & 7 & make assumptions like that, there are some things we -- some \\
\hline 8 & as there are precincts, tells you that it isn't exactly what & 8 & nontrivial things that we can't be absolutely certain of. \\
\hline 9 & is in ER. & 9 & But as a general matter -- again bearing in mind what it's \\
\hline 10 & So it is -- I think it's best understood as being a & 10 & the estimate of; right? Remember, it's an estimate of the \\
\hline 11 & kind of functional equivalent of maybe the mean proportion & 11 & central tendency of the estimates across the precincts. \\
\hline 12 & vote among that group, whether it's Hispanic -- in this case & 12 & So it's important to remember that it's not actually \\
\hline 13 & Hispanic voters or non-Hispanic voters, a kind of & 13 & estimating, not attempting to estimate exactly the same \\
\hline 14 & across-the-precinct a kind of roughly -- it isn't actually a & 14 & thing that regression is attempting to estimate. That they \\
\hline 15 & mean. So I should say a measure of central tendency of the & 15 & usually hit it the same is quite nice. But bearing in mind \\
\hline 16 & proportion of voters in that category casting their vote for & 16 & what it is that it's estimating and bearing in mind that the \\
\hline 17 & the -- for their preferred candidate. & 17 & probability distribution potentially is more, is more \\
\hline 18 & Q In Exhibit 1, Dr. Engstrom's report, & 18 & irregular, I would say that this remains -- as a substantive \\
\hline 19 & page 7 -- are you at page 7 ? & 19 & matter, remains correct. \\
\hline 20 & A Yeah. & 20 & It's the way I would explain the confidence interval \\
\hline 21 & Q The last sentence before the "Results" heading, "The point & 21 & and the point estimate in EI analysis. And I don't think \\
\hline 22 & estimate is the best estimate in that it is the value most & 22 & there's anything deceptive about it. But it doesn't mean \\
\hline 23 & likely to be the true value and estimates within the range & 23 & there isn't sort of potentially something else going on in \\
\hline 24 & of the confidence interval are likely to be the true value & 24 & there. \\
\hline 25 & the further they are from the point estimate." & 25 & Certainly, when we talk about estimates outside the \\
\hline & Page 107 & & Page 109 \\
\hline 1 & Would you agree with Dr. Engstrom's characterization of & 1 & range of the confidence interval, they are much less likely \\
\hline 2 & the point estimate here? & 2 & to be true than the estimates inside the confidence \\
\hline 3 & A I mean there's nothing -- I think the implication of this is & 3 & interval. And, as a general matter, across a series of \\
\hline 4 & correct that the -- that the -- that that point estimate is & 4 & analyses, we would expect the values further away from \\
\hline 5 & the estimate around which the confidence interval centers & 5 & central tendency to be the less likes. It's just that it's \\
\hline 6 & and therefore it occurs at the peak of the density & 6 & not mandated in a maximum likelihood estimation. \\
\hline 7 & distribution. There are two sorts of technical issues. & 7 & Q You certainly didn't provide any disagreement or critique \\
\hline 8 & While this is sort of substantively true, it is possible & 8 & this definition provided by Dr. Engstrom in either of your \\
\hline 9 & that there are flat, flat areas in the probability & 9 & reports; is that right? \\
\hline 10 & distribution as you move away from the point. There may & 10 & A Yes. And again, if I thought this was, you know, misstatir \\
\hline 11 & even be flat areas at the point. & 11 & or misleading or something, I would have said something \\
\hline 12 & It's not -- in a technical sense, it -- there certainly & 12 & about it. I just don't want to suggest that this -- if you \\
\hline 13 & is not likely to be a point. It is a probability & 13 & are asking me is it absolutely the case that there couldn't \\
\hline 14 & distribution that's downward sloping in general. So you're & 14 & e any other variation across that estimation interval, \\
\hline 15 & certainly not going to find a point that's more likely to be & 15 & there possibly could be. But I -- \\
\hline 16 & the point. But it's just a little more -- by definition the & 16 & But you don't see it here because we're not relying on \\
\hline 17 & confidence interval in ER is approximately normal & 17 & a single election or a single estimate. We have a whole \\
\hline 18 & distribution. So you don't have any problems characterizin\$ & 18 & series of estimates, and we have a whole series of \\
\hline 19 & either its central tendency or its downward slope or the & 19 & elections. So whether there's a technical possibility is \\
\hline 20 & nature of its extremes because they're just -- right? It's & 20 & not substantively important. You wouldn't go wrong if you \\
\hline 21 & just that classic curve we all form in our head. & 21 & just relied on that as the way to think about both the point \\
\hline 22 & In maximum likelihood estimate models, you're -- I mean & 22 & estimate and the confidence interval. \\
\hline 23 & there are local minima and local maxima. We're assuming & 23 & MS. KHANNA: So it is approaching the noon hour. \\
\hline 24 & we're at a local maximum. But it doesn't prohibit the & 24 & I think we should go off for a lunch break. \\
\hline 25 & possibility that there are -- that there is another point & 25 & MR. FRANCIS: That would be great. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline & Page 110 & & Page 112 \\
\hline 1 & [LaRond Baker leaves the deposition.] & 1 & a distinct difference between these terms? \\
\hline 2 & [Lunch recess.] & 2 & A We're talking about the same number. There are no -- ther \\
\hline 3 & [William Stafford joins the deposition.] & 3 & is no bright-line test here. So I just think it's -- it's \\
\hline 4 & Q (By Ms. Khanna) All right. So we had talked about, before & 4 & certainly notable. There are certainly lots of cases where \\
\hline 5 & the lunch break, the differences between ER and EI and the & 5 & we don't see crossover at these levels. But I don't know \\
\hline 6 & various methods of calculating racially polarized voting & 6 & exactly how, in terms of just sort of an adjective sense, \\
\hline 7 & analysis. Even though you use methods other than EI in your & 7 & what's appropriate level other than just noting, I think, \\
\hline 8 & analysis, your initial report concludes that the results & 8 & that it is what it is. It is -- at zero, you have complete \\
\hline 9 & from each of the three analytical methods are substantively & 9 & polarization. At 50 percent, you have no -- complete lack \\
\hline 10 & very similar; is that right? & 10 & of polarization, lack of cohesion. So this is, you know, \\
\hline 11 & A That's correct. & 11 & somewhere in that mix. It's closer to 50 than zero. \\
\hline 12 & Q And the analysis results, in terms of the actual estimates, & 12 & Q But there's no cutoff points between a moderate crossover \\
\hline 13 & are substantively very similar between your estimates and & 13 & vote and a substantial crossover vote or any kind of \\
\hline 14 & Dr. Engstrom's estimates; is that right? & 14 & categories like that? \\
\hline 15 & A Yes. & 15 & A Not -- I mean I think all those could be applied to votes at \\
\hline 16 & Q If you turn to page 7 of your initial report, which is & 16 & that level, depending on whether you're going to think -- \\
\hline 17 & Exhibit 2 & 17 & say, if you're coming from one side, it might look one way. \\
\hline 18 & A [Complies.] & 18 & And coming up from zero, it might look the other. It's in \\
\hline 19 & Q And if you look at the first paragraph under Section D, you & 19 & the middle of somewhere between no polarization and \\
\hline 20 & note that, for the seven election contests analyzed in your & 20 & polarization. And I think that's -- again I think usually \\
\hline 21 & initial report, the average estimate of non-Hispanic support & 21 & e look at that in the broader context. So I don't think \\
\hline 22 & for the Hispanic candidate or for Proposition 1 ranges from & 22 & the adjectives matter a whole lot. \\
\hline 23 & 32.5 to 34.8 depending on which method you used. Is that & 23 & Q You further note on page 7 that "The measure of Hispanic \\
\hline 24 & right? & 24 & cohesion in the seven election contests in your initial \\
\hline 25 & A Correct. & 25 & report are substantively very similar to Dr. Engstrom's \\
\hline & Page 111 & & Page 113 \\
\hline 1 & Q Your EI estimate is 33.3? & 1 & estimates for Hispanic cohesion;" is that right? \\
\hline 2 & A Yes. & 2 & A That's correct. \\
\hline 3 & Q And Dr. Engstrom's is 32.9? & 3 & Q And you note that the average estimate of Hispanic support \\
\hline 4 & A Correct. & 4 & for the Hispanic candidates or for Proposition 1 ranges from \\
\hline 5 & Q And there's no cause for alarm that your EI estimate does & 5 & 70.9 percent to 75 percent depending on which method you \\
\hline 6 & not exactly match Dr. Engstrom's EI estimate in the context & 6 & use; is that right? \\
\hline 7 & of EI, is there? & 7 & A That's correct. \\
\hline 8 & A There might be a cause for alarm if they did exactly match. & 8 & Q And how would you characterize this level of cohesion? \\
\hline 9 & That's less likely than that they will be slightly & 9 & A Moderate. I don't know how -- again, it's less than \\
\hline 10 & different. It's, yeah, exactly what you'd expect. & 10 & 100 percent and more than the, you know, 50-50 split. So \\
\hline 11 & Q You'd expect to find these non substantive differences in -- & 11 & there's -- as for Anglos, there's crossover here. So we're \\
\hline 12 & between EI estimates? & 12 & seeing slightly more Anglo crossover than Hispanic \\
\hline 13 & A Absolutely. & 13 & crossover. But we're not in different ranges. These are \\
\hline 14 & Q So how would you characterize this level of crossover votes? & 14 & two groups, both of which can be characterized as having \\
\hline 15 & A I would say that is -- it's moderate, substantial. It & 15 & whatever all those words were -- modest, moderate, \\
\hline 16 & certainly is not -- it's not majority support for Hispanic & 16 & substantial -- crossover. So I think they're in similar \\
\hline 17 & candidates. But it's a very substantial level of support. & 17 & ranges and probably could be characterized about the same \\
\hline 18 & It indicates that the Anglo community is divided in & 18 & way. \\
\hline 19 & elections in which there are Hispanic candidates. Well, a & 19 & Q If you turn to page 10 of the same document, I'm looking at \\
\hline 20 & third of the -- on average a third -- and we know that it & 20 & your Table 1. \\
\hline 21 & varies from contest to contest -- are crossing over to & 21 & A Yes. \\
\hline 22 & support the Latino candidate. So it's substantial but & 22 & Q Would you agree that in each of the seven elections analyzed \\
\hline 23 & certainly submajority support for the minority candidate. & 23 & here the estimate of the Latino vote for the Latino \\
\hline 24 & Q So in your description just now I think you used the terms & 24 & candidate is above a majority? \\
\hline 25 & "moderate," "substantial," and "very substantial." Is there & 25 & A Let's see. Yes, the point estimate is above majority in \\
\hline
\end{tabular}
every case.
Q No matter what method is used?
A Yes. No matter what method is used.
Q And three of these elections were decisive elections in the City of Yakima; is that right?
A By "decisive" you mean the generals as opposed to the primaries, yes.
Q Well, I'm specifically referring to the Place 5 general, the Place 7 general, and Proposition 1, which was a primary bu wasn't that decisive for that proposition; is that right?
A Yes.
Q Would you agree that in each of these decisive elections, the estimate of the Latino vote for the Latino candidates exceeds 80 percent?
A In each of these three elections, the estimate does exceed 80 percent regardless of method, I believe. Yes.
Q And among the seven elections analyzed here, not a single estimate of the non-Latino crossover vote exceeds 50 percent; is that right?
A That's correct.
Q And using the EI method, none of the confidence intervals around the non-Latino crossover vote exceeds 50 percent; is that correct?
A Could you -- I'm sorry. Could you repeat that one. Did w switch back to the -- are we still on the -- are we still on

\section*{Page 115}
the Anglo crossover? Or are we back to the . . .
Q I'm still talking about the Anglo -- or the non-Latino crossover vote. Using the EI method, none of the confidence intervals around the non-Latino crossover vote exceeds 50 percent; is that right?
A Where do we have the confidence intervals?
Q I think the -- yeah. I don't believe the confidence intervals are reported in Table 1 but rather in the back of the documents for your analysis. But actually, if I could turn you to Dr. Engstrom's table in his initial report . . .
A That's on page?
Q It's on page 15 .
A That looks to be correct, yes.
Q Would you agree that Ms. Rodriguez was the Latino candidate of choice?

A That's more clearly in the general than in the primary. In terms of these estimates, yes, you're looking there for majority support. And that's what we see here. So I would say this analysis suggests that Ms. Rodriguez is the Latino candidate of choice.
Q And a majority of non-Latino voters voted against her; is that right?
A That's correct.
Q And she was defeated?
A Yes.

Q Would you agree that Mr. Soria was the Latino candidate of choice?
A Again more clearly in the general but yes. The Latino candidate of choice would be where I would -- what I would say based on that analysis.
Q And the majority of non-Latino voters voted against him?
A Yes.
Q And he was defeated; right?
A Yes.
Q You said in both those instances, you said "more clearly in the general." Are both of these candidates, were they the Latino candidate of choice in the primary as well?
A Based on these estimates, they are. And again, the estimates don't tell us for sure that they were the candidate of choice. This -- we don't have anything that tells us that for sure because we don't have any homogeneous precinct analysis.

So we can say something for sure about the Anglo candidate of choice but not, particularly in those -- in the -- where that is closer to 50 percent in the primaries. We can say what our best estimate is. But we can't say with certainty. But based on these estimates, the estimates show that the candidate of choice is -- in 2009 is Rodriguez and in two thousand -- I'm sorry. In Place 5, Rodriguez, in Place 7, Soria.
\begin{tabular}{|c|c|}
\hline & \\
\hline & \\
\hline \multicolumn{2}{|l|}{Q In the District 2, 2011, primary, Mr. Montes was the Latino candidate of choice, was he not?} \\
\hline \multicolumn{2}{|l|}{A Yes.} \\
\hline \multicolumn{2}{|l|}{Q} \\
\hline \multicolumn{2}{|l|}{A Yes.} \\
\hline \multicolumn{2}{|l|}{Q In fact, an overwhelming majority?} \\
\hline \multicolumn{2}{|l|}{A Yes.} \\
\hline \multicolumn{2}{|l|}{Q And he was defeated?} \\
\hline \multirow[t]{5}{*}{A} & \\
\hline & at the confidence intervals, I'd say the confidence interval \\
\hline & before we talked about -- we talked about the confidence \\
\hline & intervals when they didn't cross the line. Now we're not talking about them because they all cross the line. \\
\hline & So here there's -- we are in -- those primary contests \\
\hline \multicolumn{2}{|r|}{where we are talking about the point estimate, they're
accompanied by extremely large confidence intervals} \\
\hline \multicolumn{2}{|r|}{include not just a few places but large swaths of territory in which they are not the candidate of choice. So that's -} \\
\hline \multicolumn{2}{|r|}{\multirow[t]{2}{*}{\begin{tabular}{l}
I mean that's an appropriate caution. We really -- \\
And again, if you look at the confidence intervals, you can see that, for example, Rodriguez, in the primary, the
\end{tabular}}} \\
\hline & \\
\hline
\end{tabular}

A Yes.
Q In the District 2, 2011, primary, Mr. Montes was the Latino candidate of choice, was he not?
A Yes.
Q And a majority of non-Hispanic voters voted against him?
A Yes.
Q In fact, an overwhelming majority?
Yes.

A And he was defeated. I would just say, again, if you look at the confidence intervals, I'd say the confidence interval around Montes is between -- we're confident Montes got something between 17 and 83 percent of the vote. So whereap before we talked about -- we talked about the confidence intervals when they didn't cross the line. Now we're not king about them because they all cross the line
ere's -- we are in -- those primary contests accompanied by extremely large confidence intervals that include not just a few places but large swaths of territory in which they are not the candidate of choice. So that's -I mean that's an appropriate caution. We really -can see that, for example, Rodriguez, in the primary, the
confidence intervals are 18 to 82 . In the general it's 72 to 99 . So there are -- we're not 95 percent confident that we're above 50 percent. That's candidate of choice. That's not true in the primary. We're just not that confident. So...
Q But would you agree that your best estimates, based on you analysis and Dr. Engstrom's analysis, is that Mr. Montes was the Latino candidate of choice?
A But it's all our best estimate. Our point estimate would put him as candidate of choice. I would say that in the case of both Ms. Rodriguez, Soria, and Montes, our best estimate is not a good estimate at all. This is important. It is the best estimate, but it is not a good estimate. And it's not something we are confident of.
Q In the vote on Proposition 1, would you agree that Latinos were cohesively in favor of this proposition?
A Yes.
Q And a majority of non-Latinos voted against the propositior?
A Yes.
Q And the proposition was defeated?
A Yes.
Q Are you familiar with what Proposition 1 was about?
A I don't recall the exact text of Proposition 1. My recollection is it was about moving away from the at-large election system.

Q Even though Justice Gonzalez won statewide, he received \({ }^{\text {a }}\) minority of the votes cast in the city of Yakima; is that right?
A That's my recollection, yes.
Q If you turn back to page 8 of your initial report...
A [Complies.]
Q You mentioned in the first full paragraph that, "In general terms the results in Table 1 suggest a mixed pattern." Do you see that?
A Yes.
Q Then the paragraph following that sentence proceeds to talk about the R-squared figure; is that right?
A Yes.
Q So you're basing your conclusion that there is a mixed pattern on the R-squared figures?
A I'm illustrating it with R-squared figures. But I think it's -- the mixed pattern is more than the R -squared. The mixed pattern is illustrated by the actual -- the coefficients in the table. It's illustrated by the scatter plots. It is a mixed pattern. That's -- we just talked about the pattern. It was mixed.

So I mean R squareds illustrate that. But you could illustrate it exactly the same way with the discussion we just had about both the level of the point estimates and the confidence intervals. It's mixed. It looks different in

Page 121
the general and the primary. So it's a mixed pattern.
Q So earlier you testified that you wouldn't want anyone or any court to fixate on R-squared figures; is that right?
A Yes.
Q So you don't intend for anyone to fixate on the R-squared figures here as the basis for the what you're calling mixed pattern; is that right?
A That's right.
Q So your initial report also provides scatter plots of the seven elections analyzed; is that right?
A That's correct.
Q Do these scatter plots provide visual depictions of your ER analysis?
A No.
Q They don't? Can you describe to me what they are.
A They are scatter plots. Okay? There's no ER analysis in the plots at all. They can be used to illustrate ER analysis because you could -- another thing you could plot here is the recession line. There's not regression line plot in here. It's not a byproduct of ER. It's not a part of the ER package. It's just a scatter plot. It's just --

I've actually done these. In my dissertation I did my scatter plots on an IBM Selectric typewriter by just typing asterisks where the data points are supposed to be after outlining in pencil. So it's not a technique that requires
a computer. It makes no -- there are no -- there's no analysis of the data involved at all. It is simply -- my daughters we're doing this in fifth grade.

It's just a plot in two space of the raw data. We just -- each point is a vote result. And its location simply indicates what percentage of the individuals who received ballots had Hispanic surnames and what percentage of the votes actually cast at that polling event were cast for, in the case of the first plot, for Rodriguez.

There's -- it's no more a technique of analysis than presenting a printout of the data set would be a technique of analysis. It simply reports the data points for the analysis.
Q So there's no new analysis provided by the scatter plots?
A Scatter plot does not provide -- it provides a visual representation of the data. It doesn't provide analysis.
Q On page 11 of your report -- and again this is Exhibit 2, your initial report. In the second paragraph, you start that paragraph by saying that, "The only scatter plot that comes anywhere close to a classic pattern of polarization is Figure 6 for the 2011 District 2 primary." Do you see that?
A Yes.
Q Okay. I'm going to flip us to page 15. Here is Figure 5 for the 2011 District 2 primary and then Figure 6 for the 2011 Proposition 1.

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A Correct.
Q Which figure did you intend to refer to on page 11 when you were talking about "the classic pattern of polarization"? Do you see the discrepancy?
A Oh, I see. Yeah, 'cause of the -- I assumed that I was discussing -- sorry -- the Figure 5. So I think that should be Figure 5.
Q So Figure 5 is the classic pattern of polarization that you describe on page 11?
A Yes.
Q What does that mean, "a classic pattern of polarization"?
A It's a pattern in which you basically have points at one end of the data spectrum that are low. They move up as you move across the spectrum. They are, at any given level of Hispanic proportion of vote, the resulting Hispanic shares of vote for a candidate are confined to a range that's similar to the range that the vote percentages are in.
Q Anything else?
A I think that's probably it.
Q The 2011 District 2 primary, that was the Montes election; is that right?
A Yes.
Q Or rather the election that included Mr. Montes?
A Yes.
Q That is -- that is the election where your EI estimate for

Hispanic cohesion was 52.8 percent; is that right?
A That's correct.
Q And Dr. Engstrom's was 53.5?
A That sounds right.
Q Is it your understanding that plaintiffs must establish that race is the cause of any differences in voting preference?

MR. FRANCIS: Objection to the form of the question. Calls for a legal conclusion.

Go ahead and answer.
A There's certain case law. You certainly see judges either in -- I think maybe the most explicit statement may actually not be in a majority opinion. It may be in a concurring or -- but so there's language in cases that suggest that for many judges the issue here is basically what the pattern, is, independent of cause. So I think that's -- and again I don't know that's a legal matter. I don't know if that's -if that's actually a controlling decision at some point in time. But, you know, I don't think that's -- I mean that's --

In my view, that's not what the Voting Rights Act is about. In my view, I think it's an area in which there could be evolution in legal thinking, you know. That's for judges to -- that's for judges to decide.
Q (By Ms. Khanna) You said that in your view that's not what the Voting Rights Act is about. What are you referring to?

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A The -- in my view, the Voting Rights Act is a very important piece of legislation, established to basically override local decisions where, where voting -- initially things like voting qualification but ultimately in these kinds of cases where voters are divided by race or ethnicity, they express that strongly enough in candidate preference that minorities no longer have the choice of their preferred candidate being a member of the minority.

So I think where some people would argue that you -you know, as long as the candidate of choice is being elected, there's no problem. I don't think that's -- the Voting Rights Act was not intended to make it safe for blacks to elect whites in the South. It was intended to allow blacks to be elected if that was the candidate of choice for back voters.

Where that, where that is not a function of either the race of the candidate or the race of the voter, I just don't think that's -- I mean the Voting Rights Act is intended to address an issue. It's been extremely successful. And we know that because of the number of minority candidates elected. So I think it's not unrelated to the race and ethnicity of the candidates and elected officials.

But I think it's also predicated on, on the presumption that the -- what lies behind it is a racial animus. And that's something that requires extraordinary remedy. Where,
where that is not the case, I just think it's a tenuous -- I think -- it's difficult for me to imagine that the Voting Rights Act would have been as -- written as strongly or as successful had the situation not been one of -- where there was substantial racial animus involved. I think it's --

And I think there's legitimate questions about what happens -- if there is nothing left but partisanship and that partisan breakdown is different by race, I think it raises real questions and not just about the application of the Voting Right Act but about the viability of that act, given that it then becomes a partisan plaything, basically. That's always been -- that's always an issue in American politics. But I think it's --

So I mean that's -- my view is that the -- in my view, the policy grounding of the Voting Rights Act owes a great deal to the fact that it's intended to deal with actual racial or ethnic voting as opposed to simply something that courts would admit -- would admit had been demonstrated tp not be related to race or ethnicity. But simply to coincidentally have racial or ethnic implications that, to me, is not what the Voting Rights Act was written for. And I personally don't believe that that's -- that that really is -- leaves you much future for the Voting Rights Act if you start applying it that way.
Q So your understanding of the Voting Rights Act is that it is
understanded the benefit of the doubt should go in these cases?
A I don't know as I'm not really sure that -- at least my reading of this is that this has not been addressed in any kind of clear decision. There's nothing like a kind of Gingles test that says We've solved this or decided who's got the burden of proof. Or I assume that's kind of up in the air. That seems to me to be precisely the sort of thing that the legal system over time does a pretty good job of working out in its kind of competitive --

So I don't, myself, have a strong preference about that. I think however you work that out, I don't -- to me that seems to be an area where you could make a lot of different decisions none of which would threaten people's underlying support for the Voting Rights Act. And then, the most important to me is preserving the Voting Rights Act.

So I'd be happy whenever that ends up. And I don't have a -- I haven't thought a great deal about it. So I don't really know where that might be.
Q How you would establish certainty about what the underlyins cause of differences in voter preferences are?
A You wouldn't. We haven't established certainty about anything here. It wouldn't be something you could establish with certainty. But I mean I've seen data analysis that that's overwhelmingly -- and it's virtually impossible to
about the extent to which race is the cause for differences in voter preference?
A And I guess there's a middle ground in there; right? I think if you -- you know, if you're uncertain as to what the cause is, you can argue about where the -- where should the benefit of the doubt go. I think if you know with some certainty that that is not what's driving the voting behavior, then, in my view, that ought not to be -- that's a -- I think you entered there into -- you know, you're deep in the political thicket. And I think those are, those are choices that voters may or may not remedy.

But I'm personally uncomfortable with that becoming the purview, essentially the main or the only purview of the Voting Rights Act. It seems to me that undermines the availability of the act for situations where it's -- where you have genuine racial sentiment being expressed in voting. And that's, you know -- if you want to protect the Voting Rights Act; apply it where it's meant to be applied. If you make it so broad that it becomes the primary mechanism by which partisan gerrymanders are adjudicated, I think you're undercutting the Voting Rights Act.
Q So you mentioned that where there's some uncertainty about the cause for voter -- for differences in voter preference, there's some argument about where should the benefit of the doubt go. What do you understand -- where do you
explain any other way.
I mean when I -- when you switch the ethnicity of the candidates and it doesn't change the voting behavior at all, not at all, not at a 10th of a percentage point, it's really hard to say that the reason this candidate's getting 90 percent of the vote and this candidate's getting 10 percent is motivated in any degree, much less that that explains the 90 as opposed to the 10 .

I'd say, when it's 90-10 in favor of the Anglo candidate when they're running against a Hispanic and it's 90 percent in favor of the Hispanic candidate when they're running against an Anglo, I just don't see -- but again you can't say with certainty what's going on there. But certainly there's -- that to me is a very strong -- I don't know what the logic would be in which that represents a vole that's primarily driven by voting on the basis of race or ethnicity. It's just --

And I think it also demonstrates something which is in the early, in the early Voting Rights Act legislation or -sorry -- in the application of the Voting Rights Act, we had clear metrics for the success of the Voting Rights Act. So there are several landmark books about the success of the Voting Rights Act. And the metric there is to just look at the increase in the presence of blacks, Hispanics, Asians, whatever the group is, in -- elected to city council,
elected to state office, elected to the U.S. Congress, elected to the president, whatever.

I'd say you can judge whether this made a difference by looking at whether it created the possibility for minorities to be elected. And it did. This is a huge -- it's a huge success.

If, if you've got elections in which you get this 90-10 pattern regardless of the ethnicity of the candidate, then it becomes really difficult to say how you would -- in what sense is it successful? I mean I just think -- I just think it's just not clear to me. So again, I don't that -- I don't -- in-between that, I don't know what to tell you.

But I know there are a lot of elections taking place the United States in which partisanship is driving the election to exclusion of race and ethnicity. And I think that's -- my personal view, although I have no evidence of it, is that that's to a large degree attributable to the success of the Voting Rights Act. So I think you have to think seriously about whether that ought to be a pattern that the Voting Rights Act acknowledges as success or progress or something as opposed to enshrining it as certain evidence of illegal, racially polarized voting.

I think that's -- maybe it's just a poor choice of terminology. But I think when you have partisan polarized voting that's used to prove liability for a jurisdiction

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and, by implication, its voters as voting in a racially polarized fashion when you have no evidence that it's racially polarized at all other than in its effect, I think that's just -- I can't think of why people put in that position would not feel that there was some -- that we had moved somehow beyond the appropriate focus of the application of the Voting Rights Act.
Q Do you have any certainty in this case about what is drivins any differences in voting behavior?
A I have no certainty about what's actually driving behavior in this case. It -- the fact that it varies to the degree it does when you hold candidates constant or when you holc elections constant, that level of variability suggests to me that there must be other factors because they're producing -- we're not change -- the one thing we're not changing here is the ethnicity of the candidates.

And so the voters are responding to that very strongly, it seems, in some contexts and not very strongly in other contexts, strongly for some candidates, not for others. So that variability would indicate that there are other things going on. So beyond that, I don't think we know with any certainty what those things are.
Q You mentioned that the Voting Rights Act was primarily targeted to address substantial racial animus. Is it your understanding that the Gingles test involves a question of
racial animus? I'm just talking about the Gingles test, the three Gingles preconditions.
A My recollection of the origins of the Gingles test, which are shrouded in distant memory, I would say that the Gingles test was, was developed in that context. I'm not sure that the test itself, having not envisioned -- it's hard to envision that it would be applied in the way that it's being applied. So I don't think it necessarily has built into it something that would necessarily make that distinction. But I think it's certainly not -- it's also not incompatible with that distinction.

One of the things that's happened is that the meaning of -- or the importance candidate of choice has shifted from the time of the Gingles decision to today. So we have a -candidate of choice was a small subcategory, and it's now become a central part of the whole Gingles analysis, which it wasn't initially. So -- to the extent that, that at the time of Gingles people didn't envision the current context of candidate of choice.

At the time of the writing of Gingles, I don't think any of the judges envisioned a situation in which the candidate of choice of 90 percent of blacks would be the Anglo and 90 percent of Anglos would be the black and tha would be racial polarized voting and we got to do somethins about it. All right? Just -- they correctly apprised [sic]

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the situation in the South. That was not going to happen. They even note right there: There are cases where white voters actually vote against the Democratic candidate wher the Democratic candidate is black. They actually lay out that of one of the tests is that race actually overpowered partisanship.

So I think with our sort of more modern application of candidate of choice in which we pretend to be completely agnostic about the race and ethnicity of candidates, we now have this out-of-context Gingles test. Then, if there was something in the Gingles test to prohibit that, as you're suggesting, it wouldn't be -- we wouldn't be where we are. So I think as a technical matter, there's nothing in those three threshold prongs that would distinguish this once you accept that it is appropriate to use candidate of choice and not use the ethnicity of candidates.
Q So just to clarify, the Gingles test itself, as far as you understand it, does not require any proof of racial animus?
A That's correct.
Q On page 17 of your initial report, you provide your conclusions about whether Gingles 2 has been satisfied; is that right?
A Yes.
Q You say on page 17 that: "Hispanic voters are not consistently cohesive as evident in both the highly variable
\begin{tabular}{|c|c|c|c|}
\hline & Page 134 & & age 136 \\
\hline 1 & levels of cohesion among Hispanics and the low level of & 1 & The more directly -- the more directly ethnic prompt is \\
\hline 2 & participation among registered Hispanic voters." Do you see & 2 & the candidate running in the primary. And it produces what \\
\hline 3 & that? & 3 & looks essentially like complete indifference among Hispani¢ \\
\hline & A Yes. & 4 & voters to the ethnicity of the candidate. Half the voters, \\
\hline 5 & Q Now, you and Dr. Engstrom, again, agree on the actual & 5 & essentially half the voters are casting votes for a \\
\hline 6 & estimates of Latinos voting for a Latino candidate or & 6 & non-Hispanic candidate when there's a Hispanic candidate o \\
\hline 7 & Proposition 1; is that right? & 7 & the ballot. That -- if there was -- if there was political \\
\hline 8 & A That's correct. & 8 & cohesion, that's just not a result you'd expect to see. \\
\hline 9 & Q So there's no substantial difference between your two & 9 & I mean there may be some other differences that explain \\
\hline 10 & estimates? & 10 & how you get that as you move from one election to another. \\
\hline 11 & A That's correct. & 11 & But it's up and down. But the fact that it is down as often \\
\hline 12 & Q So where you disagree is on the legal significance of those & 12 & as it is I think raises a real question about -- again both \\
\hline 13 & estimates; is that right? & 13 & about what might be motivating this and about whether that's \\
\hline 14 & A It may be broader. I'm not sure. I think we may disagree & 14 & really cohesive voting. I just don't think it's very \\
\hline 15 & about sort of what the underlying behavior indicates. I may & 15 & cohesive voting. \\
\hline 16 & be -- I think Dr. Engstrom is more persuaded by the general & 16 & And the very variability of it, I think, is -- right. \\
\hline 17 & fact that these estimates for Hispanic voting are all about & 17 & It's a second moment of distribution. It's an important \\
\hline 18 & 50 percent. So they all indicate the same candidate of & 18 & one. There's -- across a whole series of dimensions here, \\
\hline 19 & choice. He's less, I think, less disturbed by very large & 19 & ere's a lot more variability in the scatter plots. \\
\hline 20 & confidence intervals than I am. So I think we may both & 20 & There's variability going across election types. There's \\
\hline 21 & disagree about what it really means on the ground. And then & 21 & just more variability than I would expect to see if voters \\
\hline 22 & certainly we disagree about its legal significance. & 22 & were behaving in a cohesive way across what is really a \\
\hline 23 & Q But the differences in your conclusions don't depend on any & 23 & fairly small time span. \\
\hline 24 & differences in your analysis; is that right? & 24 & Q Based on your analysis in your initial report, are Latinos \\
\hline 25 & A That's correct 'cause we both have similar points and we & 25 & cohesive in some elections? \\
\hline & Page 135 & & Page 137 \\
\hline 1 & also both had -- it would be different if I felt this way & 1 & A There, there is evidence of cohesive behavior in some \\
\hline 2 & because I had big confidence intervals and he didn't feel & 2 & elections and noncohesive behavior in others. So if we're \\
\hline 3 & this way because he had really narrow confidence intervals & 3 & sort of backing away and saying, Do we have cohesion here? \\
\hline 4 & That would be an analytical difference. & 4 & My conclusion is we're -- we haven't established cohesion, \\
\hline 5 & But that's not -- here we are -- again I would write & 5 & because I don't think a pattern in which you basically swing \\
\hline 6 & this conclusion if I had only seen his analysis. I think he & 6 & back and forth between cohesion and lack of cohesion is \\
\hline 7 & would write his conclusion if he'd only seen my analysis. & 7 & cohesion. \\
\hline 8 & And that to me is the real test, that we're talking about & 8 & Q So which elections would you say demonstrate some cohesio \\
\hline 9 & how to interpret this and not about the mechanics of how to & 9 & A I think, again looking simply at the point estimates, you \\
\hline 10 & produce it. & 10 & certainly have point estimates that are consistent with \\
\hline 11 & Q So in that sentence that I just read at page 17, what do you & 11 & cohesion in the Place 5, 2009, general election, Rodriguez. \\
\hline 12 & mean by "not consistently cohesive"? & 12 & we then look -- if you want to look over to the side of \\
\hline 13 & A I think -- so there are elections in there where you see a & 13 & the R-squared -- but I won't ask you to, but it's there -- \\
\hline 14 & pattern that looks like cohesive voting. Then you see the & 14 & and then we look at the plot so we don't have to look at the \\
\hline 15 & estimates you point out for the proposition, that Hispanics & 15 & analysis at all, and as soon as you look at the plot, you -- \\
\hline 16 & seem to be politically united on that proposition, at least & 16 & I mean this, this is just not very cohesive voting. These \\
\hline 17 & with regard to cohesion. So you see indications that & 17 & are -- these points are all over the place. \\
\hline 18 & cohesion is there. & 18 & In a, in a district that's 10 percent Hispanic, you've \\
\hline 19 & And I think that's difficult to square with, you know, & 19 & got Rodriguez getting in the mid 20s. You've got Rodriguez \\
\hline 20 & with a contemporaneous election in which, you know, \(47-\) & 20 & getting, you know, 50 percent of the vote. So that's -- and \\
\hline 21 & our estimate is 47 percent of Hispanics are voting for & 21 & again, these are just different precincts within the city. \\
\hline 22 & non-Hispanic candidates. I think that's -- in one of those & 22 & Q I'm sorry. I'm sorry. What plot were you looking at when \\
\hline 23 & cases there, the prompt is explicitly racial. In the other & 23 & you were just describing? \\
\hline 24 & the prompt is a policy choice that may have implications for & 24 & A I'm looking at the -- oh, sorry. I'm looking at the \\
\hline 25 & the ethnic representation. & 25 & Rodriguez primary. I'm sorry. \\
\hline
\end{tabular}

So we go to obviously it's bigger scatter in the primary. But when we go to figure 2, which is the general election, again you can see -- I mean if I gave you that plot and asked you is the proportion of Hispanics driving the support for Rodriguez, it's -- I don't see how you could conclude that from looking at that plot. That the voters are behaving cohesively? Unless they're -- so now it's in some elections they're cohesive, and in some precincts they are -- may be a little more cohesive than others.

It's not even consistent within the election that show point estimates that might be consistent with cohesion. This is not what cohesion looks like. That's what I would say.
Q So your testimony is that the Rodriguez general election ir 2009 is not an example of Hispanic cohesion?
A Based on the point estimate, that's a point estimate that you would expect to see as an indication of Hispanic cohesion. I think if we look at the actual data points, you can see that that's -- that there is substantial variability in the precinct-level results that suggests that that may not be -- that may not indicate as much cohesion as that single number indicates.

So I would -- again, going back to this table, if you looked only at the R-squared, you'd suggest there wasn't much cohesion. If you look at the slope estimate, it looks
characterize as low levels of Hispanic participation; is that right?
A Yes.
Q In other words, that's low turnout?
A Low turnout, yes.
Q Is it your understanding that the level of turnout among minority population is relevant to a Gingles 2 analysis?
A Yes.
Q What is that understanding based on?
A It's based on my understanding of what political cohesion means.
Q So in your understanding, political cohesion means turnin \(\$\) out to the polls in a certain number?
A Not in a certain number. But political cohesion means -But political cohesion as opposed to just a measure of voteı cohesion. Voter cohesion is the voters that show up at the polls. But political cohesion is a broader consideration that, again, in the context of the Gingles decision -right? -- we're trying to decide if, absent the challenged system, Hispanics would be electing candidates of choice.

And at these levels of variable cohesion and low level of turnout, absent the challenged system, Hispanics would not be electing candidates of choice. So it's important in understanding what's leading -- what's leading to the result, the ultimate result we get, which is the tendency of

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like there might be some more cohesion. If you look at the plot, it sort provides, you know, more information again about sort of what that pattern looks like.

And so I think you take that as a whole. And while certainly there's more evidence -- in at least one of the multiple indicators there's what's look like sort of traditional cohesion -- there are a substantial number of indicators here that even in that election are not consistent with what we would expect to see in a -- in demonstrating, in clearly demonstrating, a cohesive vote.
Q So is it your testimony that, when analyzing an EI point estimate to assess cohesion, you must always look at a scatter plot or R-squared or some other measure in order to determine whether in fact there is cohesion?
A No.
Q What do you mean, on page 17 when you refer to "the high y variable levels of cohesion among Hispanics"?
A We just discussed that the estimates here vary between things in the low 50s and things in the, you know, 90s, that the confidence intervals vary between relatively tight and all-over-the-map confidence intervals. That's sort of what the highly variable, as near as I can remember, what I would have been referring to. That's what I would think that refers to.
Q You base your Gingles 2 conclusion in part on what you

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Hispanic candidates not to be elected. It's important to understand if that's a feature of the challenged election system or if that's -- but if Hispanics run multiple candidates and split their votes, that's a lack of political cohesion. There may still be cohesive voting but you've got multiple candidates; votes split. If you lose because the vote splits, that's not an aspect of the challenged system.

So this is -- you know, we're not talking about barriers to registration here. These are registered voters. These are elections that are open to people to participate in. And so, you know, again my -- the -- my part of the analysis to, you know, work through all of this. But it's --

What it seems to me is that at least, at least a substantial part of what's going on here is that you have a combination of a lot of variability in the response of Hispanic voters to Hispanic candidates. And you have low levels of turnout given the level of voter registration and that, when you put those two together, it's hard to see how you win elections. I mean there are elections here where the Hispanic candidate would have won, that Rodriguez woul have been elected if you had a higher level of Hispanic turnout. And the certainly -- even the level of cohesion that you had.

So it's not that, that this couldn't happen. This
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    could happen. And I think it's -- I just think it's relevant to looking to political as opposed to voter cohesion.
    Q So is it your testimony that a low Hispanic voter turnout can be fatal to the Gingles 2 and 3 -- establishing the Gingles 2 and 3 preconditions?
A Yeah. I would say it's certainly not always fatal because that -- you know, if you can tie that low voter turnout to the challenged system, then, you know, that would be probably there's a circular argument there. Because that's the point; right? Is it a function of the challenged system?
If the low turnout's a function of the challenged system, then it's, you know, you're -- it's right back in play. But if it's not a function of the challenged system, than, yes, certainly. If the failure of Hispanic candidates to succeed under the challenged system is the result of very low turnout, then that's the answer to the question the Gingles test seeks to find. And the answer is it's not the challenged system and therefore the challenged system is nct on its face illegal.
Q We talked earlier about extent to which there are certain degrees of cohesion, such as moderate or weak or substantial. Is that right?
A Yes.

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Q And I believe you testified that there no formal models or categories that fall -- that these adjectives fall within.
A Yeah. I don't think -- I don't know. I guess at the opposite ends where everybody would agree that this is, like, total lack of or the total presence of. In between, it's something in between. I think that's where -- I mean, you know, I'm conflicted, I guess, about this process, in part because I think -- I mean I think in this kind of case, I think judges are in an unusual position because I think, if you think about sort of --

One of the problems with a threshold test is that, with a threshold test, you stop. All right? And so I could see where you would argue that you may not -- you may not necessarily have demonstrated that you certainly pass the threshold. But there's enough question about it that you would want to go ahead.

And given that you have totality of the circumstances, which ensures you against making fatal flaws, I just think it's -- you know, I can see where there is a difference. The Gingles 1 threshold seems to me to be much more clear y a threshold test, in part, of course, because there's a bright-line test. Right? If there were -- if Gingles 2 and 3 were truly threshold tests that everybody would be comfortable applying as a threshold test, you'd have to have bright-line tests.

And quite frankly, I don't know what those bright -- it doesn't make sense to me in the way that, if you're not a majority of it, you can't meet the majority of the district, you just can't solve the problem by districting. Maybe you can do it by alternative election systems or something. But you can't by districting. So it's in the logic of Gingles 1 that it would be a threshold test. It's, not to me, in the logic of 2 and 3. To me, that's -- I mean I can see where you could so badly fail Gingles 2 that it could have threshold application because it would be a waste of time to go any further.

But, you know, I certainly wouldn't argue with the court that basically kind of wanted to take a pass and just say, Well, you know, I don't know; but let's go ahead.
Q So there is no bright-line rule on how much Latino support a Latino candidate must have in order to demonstrate cohesion under Gingles 2?
A To the extent that's the kind of thing courts talk about, it seems to me that they inherently bundle it up with a bunch of other things which suggests that it couldn't be a bright-line test in the sense that it interacts with the other things in a way that sort of suggests totality of circumstances.
Q So just to clarify, it's your understanding that the Gingles test is applied in a way that incorporates the totality of

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circumstances?
A It incorporates some of the logic of the totality of circumstances in a way that 2 or 3 are applied and then -and in combination with the fact that there is no bright-line test, I think that makes them, as a matter of application, substantially different than the Gingles 1 threshold test.
Q Back to page 17 of your initial report, you also state your conclusion about whether Gingles 3 has been satisfied; is that right?
A Yes.
Q And you say: "Anglo crossover in support of Hispanic candidates in the low 30 to low 40 percent range is substantial, much less variable, and is not consistent with polarized Anglo block voting.'
A Yes.
Q And again you and Dr. Engstrom agree on the actual numbels of non-Hispanic crossover vote; is that right? The actual estimates?
A Yes.
Q There's no substantial difference between your estimates?
A No.
Q Where you disagree is on the significance or the interpretation of those estimates?
A Yes. And here we also disagree on the numbers less than we
disagree on Hispanic cohesion because there isn't anything to disagree -- there isn't anything to alter what weight we might give to confidence intervals because the confidence intervals are narrow. So it really doesn't -- you know, he could give them no credence at all and I could bet my life on 'em and we'd still end up in the same position. So there's just less there to be --

We also have a method of bounds analysis here that just simply -- right? We know some things. We know some factual 9 things about Anglo crossover voting. We're not guessing 10 that 30 or 40 percent of Anglos cross over. We know. We know for a fact that something more than third of Anglos are routinely, in every election, crossing over and supporting Hispanic candidates. That's the only thing we know with any certainty in this polarization analysis.

That's isn't a method -- that isn't about analysis. That is factually has to be true. And so that's an important fact. It's not something where we're estimating. It's something we're calculating on the basis of actual vote returns.

So I think it's both that that level is high. And it is that it is pretty much, pretty much unresponsive to these different election conditions that are causing substantial variability in how -- in our estimates of how Hispanics cast votes. Here there's very little variability. And that
percent range and the Court found that the Gingles 3 test had been satisfied?
A Yes.
Q And those are cases in which you've been personally involved?
A Yes.
Q Which cases? Do you remember the names?
A I'm guessing that that's true in the -- that galaxy of north Dallas county kinds of cases. So Irving, Irving ISD, Farmers Branch, although I don't, neither collectively or individually, recall exactly where all the numbers were. That it wouldn't surprise me if you were in that range in those cases.

You had some crossover at this level in the Texas case. And, of course -- and you tell me that there's a judicial decision in the Texas case. I quit trying to understand what all that means. But I mean I would say that I've seen that in cases I've been involved in. It certainly wouldn't surprise me to see it in other cases. I mean that's . . .
Q So on what do you base your opinion that the level of non-Hispanic crossover voting seen here is not sufficient to satisfy Gingles 3? Or is it your opinion that the level of crossover voting seen here is not sufficient to satisfy Gingles 3?
A In my view, the level of crossover voting here is -- I gues
suggests that a substantial proportion of the electorate in Yakima routinely casts votes for Hispanic candidates.
Q So I believe you just said that, in every election, the range is in the low 30 to low 40 percent. But in fact, in one of the elections analyzed, the non-Hispanic crossover vote was around 13 percent; isn't that right?
A So we have 13 percent crossover for an Hispanic candidate?
I don't recall that. So Montes in the primary?
Q So is that right, that in one of the elections, the non-Hispanic crossover vote was at 13 percent?
A That's correct.
Q Not in the low 30 to 40 percent range that you mentioned?
A Correct.
Q Are you aware of any bright-line rule regarding the level o non-Hispanic crossover voting that is sufficient to satisfy Gingles 3?
A Again, if the majority of Anglos always casts their vote for the Hispanic candidate -- I'm sorry. That's not true. I would hope that if the result always showed exactly a 50-50 distribution, that somebody wold recognize that was a lack of cohesion. But I'm not -- I don't think anybody's ever enunciated that. And I'm not aware that there is any other bright-line test.
Q Are you aware of any cases in which the level of the non-Hispanic crossover vote was in the low 30 to low 40

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it depends on what you mean by "satisfy Gingles 3." I meap I don't think it demonstrates absolutely that you don't meet Gingles 3 as a threshold matter. I don't think it demonstrates that you necessarily do meet Gingles 3 as a threshold matter.

I mean I think it just -- it's a piece of a series of things here that, that suggest that you've got an awful lot of explanations for what happens in Yakima that aren't -that don't depend on the kind of scenario that is envisioned in a demonstration of Gingles and totality of the circumstances.

Certainly, in my view, this is not Anglo block voting. I mean I know that there are people who would argue. And I've heard people argue persuasively to some judges and to some other people that, if 51 percent of Anglos cast their vote for the Anglo candidate and 49 percent cast their vote for the Latino candidate, that's completely consistent and evident evidence of polarized Anglo block voting. I just think that's sophistry. I don't think how that can possibly be polarized. I don't see how you could describe that as block voting.

It's -- again it may, in a very narrow set of circumstances, if you're going to balance in such a way as to produce a very narrow loss for an Hispanic candidate, bu it just -- if that's all we mean by polarized block voting,

'cause I wasn't doing -- I wasn't building the election data sets, he was. And that's my recollection is that, that he produced the school board election history and data set. That's my recollection.
Q You note also that "The Yakima School Board Elections ale 5 nonpartisan elections and cover a very similar geography." Do you see that?
A Yes.
Q Can you explain how the boundaries of the Yakima School Board district relate to the boundaries of the City of Yakima?
A I don't recall the specifics. I remember looking at a map in the sort of the -- it struck me that the central part of both districts overlap. But I don't remember what the, either the proportion connection is or what the exact -- I just don't remember what the exact differences are.
Q Did you analyze the differences in the respective electorate between city council elections and school board elections?
A I don't recall doing anything that looked specifically at the kind of in-and-out difference. I don't recall doing that.
Q Did you perform a racially polarized voting analysis of the school board elections?
A I mean there certainly isn't one recorded here. This discussion seems to be a discussion about the general

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pattern in the elections. But certainly there's -- I mean I've looked. At least at the precinct level, there's at least a visual examination of precinct-level results. So I've seen at least a spreadsheet of the precinct-level results at this point because I also look at precincts, you know, the location of precincts related to where they're located in the city election 'cause otherwise I wouldn't know, you know, whether there was -- it says "without much apparent support from Hispanic or non-Hispanic voters."

You could have come to that conclusion by just noting that there's almost no variation across, across precincts knowing that precincts vary to some degree. But I would have had to have at least seen precinct-level election results, I think, to conclude that. So I don't know if there was anything beyond that. I wouldn't, I wouldn't think there was a full analysis because there's not any analysis report here.
Q You don't recall doing racially polarized voting analysis of the school board elections?
A I want to -- I mean so we do this but in a supplement where we're explicitly analyzing school board elections. I just don't know. I mean there may be. I just don't recall.
Q Is it possible that you performed a racially polarized voting analysis of these school board elections in your initial report and didn't report the results?

A I don't think so. I think if we had results, we'd report the results. I guess my recollection is that we don't have actual results here. I distinctly remember analyzing school board elections. But I don't know if that's because we analyzed school board elections for the supplement or not.
Q You say that you assume that you conducted a visual examination of precinct vote totals. Is that right?
A Yes.
Q Do you recall that you did that?
A No, I don't.
Q Would you have known, in such an examination, which precincts are more Latino or what the percentage of Latinos in each precinct was?
A There are the precincts that are -- that fall at the center of the demonstration districts. But it -- I mean it could also be just looking at our precinct list and not seeing much variation across precincts. Either one of those would be -- would lead you to the same conclusion.
Q I'd to hand you what will be marked as Exhibit 8.
[Deposition Exhibit No. 8 marked.]
Q (By Ms. Khanna) If you turn to page 23 of 8, Exhibit 8 -actually, let me backtrack. Exhibit 8 is the expert report of Dr. Peter Morrison; is that right?
A That's correct.
Q And if you turn to page 23, Dr. Morrison provides a table of
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Yakima School Board elections. Have you seen this table before?
A I don't know. I wouldn't be surprised. It looks like a table in Yakima School Board elections. I think this may have been something that was provided to me that Dr. Morrison produced. I can't be certain. But I've certainly -- I've been looking at it. I don't immediately believe I've never seen it before. So . . .
Q And you testified earlier that you have reviewed Dr. Morrison's report; is that right?
A Yes, I did see Dr. Morrison's report.
Q This table, of course, is included in Dr. Morrison's report.
A So if I looked at all the pages, I would have seen it. But I actually, again, don't recall sort of what level I actually looked through Dr. Morrison's report. Large parts of what he's doing are not my part of the case.
Q But your recollection is that Dr. Morrison is the one who provided you the data about the Yakima School Board election history and both totals; is that right?
A That's my recollection. It's not impossible that I, you know, went to -- you know, just -- 'cause I'm on county websites all the time, pulling down election returns. If there is such a thing in Yakima county, I might have looked at that. I just don't recall. But if I had to guess, I would guess it would have come from Dr. Morrison since he
\begin{tabular}{|c|c|c|c|c|}
\hline \multicolumn{2}{|r|}{Page 158} & & & Page 160 \\
\hline 1 & was more involved in this -- in that aspect of it for the & 1 & & What is that opinion based on? \\
\hline 2 & \multirow[t]{2}{*}{city elections as well, putting together the database itself. That would be my best guess at the time.} & 2 & & Again I would think it's based on looking at precinct-level \\
\hline 3 & & 3 & & returns. But I don't recall. \\
\hline 4 & \multirow[t]{5}{*}{} & 4 & & You do not state in your report what that opinion is based \\
\hline 5 & & 5 & & on? \\
\hline 6 & & 6 & & No. \\
\hline 7 & & 7 & & What would you have read in precinct-level reports that \\
\hline 8 & & 8 & & would cause you to make a statement like that? \\
\hline 9 & & 9 & & Either that that's -- basically that Saenz was not carrying \\
\hline 10 & \multirow[t]{2}{*}{Q What is date range for determining those three elections?} & 10 & & large -- showing strong performance in the Hispanic \\
\hline 11 & & 11 & & recincts in the area, the districts referenced in the \\
\hline 12 & \multirow[t]{2}{*}{Q Is the date range the same as the date range in the chart on page 23 of Dr. Morrison's report?} & 12 & & arlier report or that there simply wasn't much variability \\
\hline 13 & & 13 & & nd Saenz is basically not, not showing any strong \\
\hline 14 & \multirow[t]{4}{*}{A If they're in that date range, that would -- then it would be. But again, I don't -- this -- what I reference here is something about over the last decade or most of the last decade. So it's suggesting that you're looking at something} & 14 & & precincts. \\
\hline 15 & & 15 & & Q You certainly don't mention that you analyzed the extent to \\
\hline 16 & & 16 & & which Saenz was receiving support in the Hispanic precincts? \\
\hline 17 & & 17 & & Again this -- there isn't any indication here of exactly \\
\hline 18 & like a decade, which would seem to be compatible with this. & 18 & & what I was looking at. So I don't -- just -- I couldn't say \\
\hline 19 & \multirow[t]{2}{*}{But I really don't know exactly what the -- I don't specify the dates here. So I don't know.} & 19 & & eecifically what that was. But based on the sentence and I \\
\hline 20 & & 20 & & just -- I don't have a specific recollection of what exactly \\
\hline 21 & \multirow[t]{3}{*}{Q} & 21 & & was looking at there. \\
\hline 22 & & 22 & & Q Are you aware of any evidence to back up this statement th \\
\hline 23 & & 23 & & "The Hispanic candidate loses without much apparent suppo \\
\hline 24 & A That's what I said. & 24 & & from either Hispanics or non-Hispanics"? \\
\hline 25 & Q That was Vickie Ybarra? & 25 & & Well, I looked at something. And what I looked at didn't \\
\hline & Page 159 & & & Page 161 \\
\hline 1 & A It's -- I said Ybarra. So I know that's the right la & 1 & & how apparent support. The fact that it says "apparent \\
\hline 2 & n & 2 & & support" makes it seem like I was looking at something like \\
\hline 3 & Q That was 2003; is that right? & 3 & & a set of precinct totals. But I don't remember \\
\hline 4 & A I don't know. & 4 & & specifically. That was my conclusion from, from looking at \\
\hline 5 & Q If you look at Dr. Morrison's chart, does it reflect that & 5 & & something. I just don't recall what it was. \\
\hline 6 & Ybarra won in 2003? & 6 & & Would you have made that determination based on Mr. Saend \\
\hline 7 & A It shows Ybarra in Position 4, No. 7, Position 4, Ybarra and & 7 & & vote totals received? \\
\hline 8 & opponent Camerer and Ybarra winning. & 8 & & You could conclude that from, from vote totals. But I mean \\
\hline 9 & Q Was that in 2003? & 9 & & would have to be very -- I mean when somebody gets 100 \\
\hline 10 & A That's 2003. & 10 & & otes out of 10,000, they couldn't be getting much vote \\
\hline 11 & Q Are you aware of whether any Hispanic candidate has won a & 11 & & pport from anybody. So I don't think it was simply the \\
\hline 12 & contested election to the Yakima School Board since then? & 12 & & e total \\
\hline 13 & A No, I'm not. & 13 & & Did you perform any analysis to determine whether Saenz wa \\
\hline 14 & Q Are you aware of whether any Hispanic candidate had won a & 14 & & the candidate of choice among Latinos? \\
\hline 15 & contested election to the Yakima School Board prior to & 15 & & I don't believe so. I think I'm referring to Saenz here as \\
\hline 16 & Ms. Ybarra? & 16 & & an Hispanic candidate, not as a candidate of choice. \\
\hline 17 & A No. I mean I think Dr. Engstrom said something about that & 17 & & Do you know whether Saenz received a majority of Latino \\
\hline 18 & there hadn't been a contested victory in the last 10 years. & 18 & & tes? \\
\hline 19 & So I guess maybe I know something about that. I think I've & 19 & & No idea. \\
\hline 20 & heard something of that, but I haven't looked specifically & 20 & & Do you know whether a majority of non-Latinos voted againgt \\
\hline 21 & at that. & 21 & & him? \\
\hline 22 & Q You go on to say that "In another election Saenz, the & 22 & & No idea. \\
\hline 23 & Hispanic candidate, loses without much apparent support from & 23 & & Q But you have -- \\
\hline 24 & either Hispanics or non-Hispanics; is that right? & 24 & & A I'm sorry. I've been looking at his vote totals. I can't \\
\hline 25 & A Yes. & 25 & & see how he would have gotten those vote totals if he had \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|c|}
\hline \multicolumn{2}{|r|}{Page 162} & \multicolumn{3}{|r|}{Page 164} \\
\hline 1 & gotten a majority of the non-Hispanic vote. So I don't & 1 & & standard errors. So it's, it's an election in which the \\
\hline 2 & think he got a majority of the non-Hispanic vote just based & 2 & & point estimates are not inconsistent with Hispanic cohesion \\
\hline 3 & on the vote totals. But I don't know whether he was -- I & 3 & & The scatter plots and the standard error suggest some \\
\hline 4 & mean, he may have been even less preferred by Hispanics than & 4 & & caution. So \\
\hline 5 & he was by non-Hispanics. I don't know. & 5 & & So the question is, does your EI estimate of the Soria 2008 \\
\hline 6 & Q But you assume, by looking at the vote totals, that a & 6 & & general election demonstrate Hispanic cohesion? \\
\hline 7 & majority of non-Latinos voted against him; is that right? & 7 & & The point estimate? \\
\hline 8 & A That's what it looks like to me. & 8 & & Yes. \\
\hline 9 & Q You do know that he has been identified as having a Latino & 9 & & Taken alone, the point estimate would suggest Hispanic \\
\hline 10 & surname; is that right? & 10 & & cohesion. \\
\hline 11 & A That's correct. & 11 & & In Soria general -- 2009 general election, the non-Hispani \\
\hline 12 & Q And he was defeated; is that right? & 12 & & crossover vote was in the low 30 percent range; is that \\
\hline 13 & A That's correct. & 13 & & right? \\
\hline 14 & Q You say in your report that "In the third contest, the & 14 & & That is correct. \\
\hline 15 & results appear to me more similar to the Soria 2009 general & 15 & & And in that election, Mr. Soria was the Latino candidate o \\
\hline 16 & election." & 16 & & choice? \\
\hline 17 & A Yes. & 17 & & Our -- again we can't say that. By the social science \\
\hline 18 & Q What is that opinion based on? & 18 & & standard, we can't reject the possibility that he was not. \\
\hline 19 & A Again, it would have been looking at something similar. But & 19 & & But the point estimate suggests that he was the Hispanic \\
\hline 20 & I don't know exactly what that was. & 20 & & candidate of choice, yes. \\
\hline 21 & Q Are you aware of any evidence that would back up that & 21 & & And in the school board election to which you compare th \\
\hline 22 & statement or what that evidence would be & 22 & & Soria 2009 general election, Mr. Navarro was the Latino \\
\hline 23 & A I don't know. I'd have to look back at the election & 23 & & candidate; is that right? \\
\hline 24 & results. I think that's -- you know, something in the & 24 & & Correct. \\
\hline 25 & election results suggests that. But I don't know. & 25 & & And Mr. Navarro was defeated? \\
\hline & Page 163 & & & Page 165 \\
\hline 1 & Q When you talk about "election results," are you referring & 1 & A & Yes. \\
\hline 2 & to -- what are you referring to? & 2 & & In the last sentence on page 16, you concluded that "The \\
\hline 3 & A Again just the vote by precinct. & 3 & & school board contests do not demonstrate consistent \\
\hline 4 & Q What do you mean when you say "It is similar to the Soria & 4 & & polarized voting in Yakima." It's on page 16. \\
\hline 5 & 2009 general election"? & 5 & & Oh, I'm sorry. \\
\hline 6 & A I assume it's similar to the -- I don't know what that means & 6 & & MR. FRANCIS: Which exhibit? \\
\hline 7 & other than just that. But it's -- I think what I'm & 7 & & MS. KHANNA: The initial report. \\
\hline 8 & identifying here is that you've got, you know, sort of a & 8 & & MR. FRANCIS: Thank you. \\
\hline 9 & mixed election pattern and something I saw there looked to & 9 & A & Yes. \\
\hline 10 & me like the Soria contest. But I don't know specifically & 10 & & (By Ms. Khanna) But you do not actually perform a raciall \\
\hline 11 & what that was. & 11 & & polarized voting analysis? \\
\hline 12 & Q So I'm sorry. Just to clarify your previous statement, are & 12 & A & No. \\
\hline 13 & you saying that the Soria 2009 general election reflects a & 13 & Q & Is it your practice to opine on the level of polarization \\
\hline 14 & mixed election pattern? & 14 & & without actually conducting a racially polarized voting \\
\hline 15 & A No. That the -- that Ybarra winning the election; Saenz you & 15 & & analysis? \\
\hline 16 & know, losing the election without a lot of variation; and & 16 & A & I am just looking at the issue of consistent polarized \\
\hline 17 & then that the -- that Soria maybe is somewhere in between, & 17 & & oting. And my impression was that these school board \\
\hline 18 & losing. All right? So it's not the Ybarra election. But & 18 & & elections are highly variable and so are consistent with the \\
\hline 19 & apparently something in there looked to me like it might & 19 & & city elections which are highly variable. So that's -- I \\
\hline 20 & indicate there was a little more variation across precincts. & 20 & & have no problem doing that without doing an entire polarize \\
\hline 21 & Just that's, that's what I -- that's all I see here. & 21 & & voting analysis. \\
\hline 22 & Q Did your EI estimate of the Soria 2009 general election & 22 & Q & So you're -- it is your practice to draw a conclusion on the \\
\hline 23 & demonstrate Hispanic cohesion? & 23 & & extent to which elections are polarized without doing a \\
\hline 24 & A Again subject to all the things we've talked about, that a & 24 & & racially polarized voting analysis? \\
\hline 25 & point estimate is -- looks like cohesion. You have huge & 25 & A & I'm not drawing conclusions about the extent to which the \\
\hline
\end{tabular}
school board elections are polarized, just whether they're consistently polarized. So I'm talking about -- I'm addressing here the issue of the lack of consistency in the city elections. And the look at the -- this look at the school board elections suggested that they may similarly be -- not show a consistent pattern of polarized elections.
Q They "may" show a pattern? Is that what you just said?
A That they do not show a consistent pattern of polarized elections. That is, their -- the city elections are consistent with the lack of consistency in polarized elections in the city.

Did I get that right? The school board elections? I probably got that wrong.

The lack of consistency in polarization in this brief look at the school board elections is not inconsistent with the same pattern in the city election.
Q So you're saying that the school board elections demonstrate a lack of consistency in polarization; is that right?
A That's based on the three things I mentioned here. That's my impression of those elections is that they don't look like elections taking place in a consistently polarized -with a set of consistently polarized voters, yes.
Q So are you saying that there are some school board elections that are polarized and some school board elections that are not polarized?

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A My impression is that there's a lot of variability in the results. Ybarra wins. So it's hard to see how that's the result of racial polarization. So we have one election at least of the three I looked at that -- that is not -- could not be racially polarized voting. And there's inconsist -if that pattern was -- sort of if the voting pattern was consistent, we should see something -- we should see more similarity across these elections.

They look like these elections are being decided on different kinds of issues than just the ethnicity of the candidate, 'cause we held that constant here and we got very different results. Consistent polarized elections produce consistent election results.
Q So is it your understanding that the Ybarra election could not have been racially polarized?
A Maybe it's a failure of imagination on my part. And I apologize if it is. But \(I\) have a hard time thinking of a scenario in which a group that's 10 percent of the voters, so 10 percent minority, 90 percent majority, if the majority is voting in a racially polarized fashion, I don't -- I can't see how you could win that election.

I mean this is right there. Ybarra's getting 5500 votes. I don't think they can possibly have come from -- it can't possibly have come from Hispanics, given the turn -unless the turnout pattern was just something very, very
unusual. So assuming we're looking at roughly the same turnout patterns, that looks to me like an election in which Ybarra is getting -- and again, completely consistent with the other results we've seen here, Ybarra's getting a lot of crossover voting.

And like there -- I don't know that Ybarra got the majority of Anglo votes, although it seems likely that that's true. But even if that's not true, again, I don't prescribe [sic] to the theory that, that somebody who gets 48 percent of the Anglo votes is the victim of Anglo polarized block voting or polarized block voting.

So I think that's -- the Ybarra election is inconsistent with polarized voting. And the inconsistency in the pattern between the Ybarra, the Saenz, and then Navarro elections are -- that's also inconsistent with consistent polarized voting.
Q Do you know that the Ybarra election was not racially polarized?
A I guess I don't know that. But I can't see how any pattern of results -- any pattern of vote distribution -- again, if you're willing to define racially polarized voting as voting in which the majority -- if the candidate of choice of Hispanics is not Ybarra and the candidate of choice of Anglos is Ybarra and you're willing to call that racially polarized voting. Even then I don't see how you could get

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to the point of polarization given those vote totals. I just don't.

Again, I don't -- I can't say for certain that that's -- that that is not a racially polarized election. But I'm going on basis of the -- of these numbers. And based on these numbers, I don't -- I can't see how that's consistent with a racially polarized vote.
Q You can't say for certain because you didn't perform any analysis of the -- a racially polarized voting analysis of the Ybarra election?
A I'm not suggesting that because I have a racially -- I'm not relying on a racially polarized voting analysis to make that argument. I'm relying on the inconsistency of the outcome pattern with what I think of as a racially polarized vote.
Q You did not perform an EI analysis of the Ybarra election?
A Yeah. I'm not -- that's not what I'm referring to here. I'm just referring to the pattern that's evident in the election result.
Q You did not perform an ER analysis or a homogeneous precinat analysis or any other kind of racially polarized --
A I don't recall that any of that analysis was done for these cases. But I know there was school board analysis. So I can't say for certain that there wasn't, that that wasn't in with the school board analysis. But I don't recall looking at it. And it's not the basis for what I'm saying.

Q Do you have an opinion on whether the Saenz and Navarro elections were racially polarized?
A Well, my impression was that the Saenz election involved Saenz's loss without much apparent support from either Hispanics or non-Hispanics. So I seem to see something that's fairly flat there. Again that would suggest that the voting was not racially polarized. So again, that's -- I'm just -- all I can say is what I said. That's my, that's my impression.
Q Do you know that the Saenz election was or was not racially polarized?
A I don't know.
Q Do you know if the Navarro election was or was not racially polarized?
A I don't know.
Q You didn't perform any ER, EI, or homogeneous precinct analysis to determine whether or not any of those elections was racially polarized?
A Again I don't -- that's not the basis for what I'm saying here. But I don't know whether that was performed or not.
Q So you analyzed the most recent school board election in your supplemental report; is that right?
A I think that's correct.
Q So you can turn now to Exhibit 5, which is your supplemental report.

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A [Complies.] All right.
Q And the first heading in Exhibit 5, your supplemental report, is "The Yakima School Board 2013 General Election;" is that right?
A That's correct.
Q In fact here you did perform a racially polarized voting analysis of this particular school board election; is that right?
A That's correct.
Q Who was the Latino candidate of choice in that election according to your analysis?
A It looks like the candidate of choice is Villanueva or Villanueva. I'm not sure how that's pronounced.
Q You report that she received over 70.1 percent of Latino votes; is that right?
A I think it's exactly 70.1 percent.
Q And you characterize this -- on page 1 of your report, you characterize this as "real if modest Hispanic cohesion." Do you see that?
A Yes.
Q What percentage of Latino voters has to vote for the Latino candidate for you to consider it real Hispanic cohesion?
A I think what we're looking at here is the -- what I'm referencing by "real" is the fact that the confidence interval is relatively narrow. This is by far the narrowest
confidence interval we've seen for the support for a Hispanic candidate.
Q How did you make that determination to characterize this as a "modest Hispanic cohesion"?
A It's, it's below 90 percent. So, you know, we're sort of back in that same category again: Something more than a quarter, maybe closer to a third, of voters are crossing over. I think sort of what's -- that's kind of what I would characterize as "moderate," something along those lines in terms of cohesion.
Q So you just said "moderate." And your report says "modest. Is there a difference between "modest" and "moderate" cohesion?
A I don't think so.
Q Ms. Villanueva received just over 35 percent of non-Latino votes; is that right?
A That's correct.
Q And she was defeated?
A Yes, I believe so.
Q You note on page 1 that "The pattern of support for Villanueva is also scattered with the Hispanic proportion of the actual voters being well below 10 percent in three of the four precincts that Villanueva carried."
A Yes.
Q By this you mean that the Latino turnout was not very high
Page 173
in three of the four precincts that Villanueva carried?
A Yes.
Q Is there anything else you mean by that?
A It's -- again, it's -- but it's a bounds analysis. So if she is carrying precincts in which the proportion of Hispanic voters is below 10 percent, then she's getting a lot of support in those precincts from Anglo candidates. So in those precincts her victory is attributable to the Anglo vote, not to the Hispanic vote.

Again, in -- if we were following along a kind of pattern of where, as we move across types of districts, like if the proportion of voters is below 10 percent, these are extreme Anglo precincts; and she's carrying them. And when you have racially polarized voting, minority candidates don't usually carry extreme Anglo precincts. That's a bounds analysis; right? That's -- if the voting is polarized you -- in extreme Anglo precincts, minority candidates don't get very much vote. They certainly don't carry the precinct.
Q The majority of non-Latinos voted against Ms. Villanueva
A That's what our estimate shows.
Q In fact 65 percent --
A Again, remember that's a -- it's a rough measure of central tendency across precincts. And our analysis allows us to have different things happening in different precincts.

This tells us that, that there are precincts in which that average characterization can't be true as a matter of bounds. But there were precincts where substantially larger proportion of Anglos are voting for her because otherwise she couldn't have gotten those election results.

Again, the same variability we see in the scatter plots we see here. And it tells us that that's -- again whatever those -- whatever you think about the numbers being moderate, modest, whatever they are, the important thing is that they -- that there is variations around that from precinct to precinct that just isn't consistent with an electorate that's racially polarized.
Q But among all the voters who cast votes in this election, a majority of non-Latinos voted against Ms. Villanueva; is that right?
A That's what the average would suggest, yes.
Q Are you familiar with the circumstances surrounding this election?
A I heard about them in Professor Engstrom's report and heard about them in Professor Engstrom's deposition. And I think we saw a newspaper article about them. So I'm familiar with -- to that extent, I'm familiar, yes.
Q What is your understanding of the circumstances surroundin§ that election?
A My understanding is that Professor Engstrom's understandin§
doesn't give me great confidence in, in that particular candidate, I guess. But I'm not sure exactly how that -- it obviously didn't affect what I did in this analysis. And I stand by what this, what this it says. So I guess it's not changing my world view completely. But, again, I know on y very little about that. And if I knew more about it, maybe it would change my view.
Q Would the voters have to have known about whether a candidate had determined she was no longer running for the office in order to determine -- or in order to understand which of these candidates has a Latino surname?
A No.
Q Does the -- your understanding about the circumstances surrounding this election affect in any way your perspective on the totality of the circumstances in this case?
A What I know at this point probably not, just because I'm just more -- I don't know how widely -- when did this happen, how widely known was it among actual voters. That would be important whether this -- whether there was a pattern -- I mean one of the things that voters might infer from a pattern of actions like that is that the person was not a serious candidate.

I don't know whether this was part of a pattern. I mean it would just -- the circumstances under which someone does that, there are situations in which saying, you know,

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is that the Anglo that won that contest actually decided at some point that they didn't want to be -- or announced something to the effect that they didn't want to be -didn't want to be on the school board, that they weren't formally withdrawn and that they subsequently won the election. That's -- in a nutshell, that's what I recall.
Q Does that understanding affect in any way your conclusion about racially polarized voting as it pertains to this particular election?
A It doesn't change anything in the analysis. Variability's variability. It certainly -- I mean if I was doing a sort of serious candidate analysis, it's not something that I think is, you know -- particularly -- highlights particularly the seriousness of a candidacy. So it isn't -I mean that's -- a person who withdraws is -- risks -- of course, I know there's some dispute about this.

I'll just say, if, as represented, that's the facts of the case and if that was known, so people knew that this person didn't want to be on the school board, you know, I don't know. Maybe the voters are punishing somebody for not wanting to be on the school board, putting them on the school board.

But I don't think it changes -- it doesn't change what the analysis is. It doesn't change how we talk about the variability. But it certainly is not -- it certainly

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if nominated, I will not run; if elected, I will not serve is actually a call to action. So I just don't know enough about it.

It's -- it doesn't strike me as particularly, if I was running a campaign and I heard this as a rumor, I don't think I'd be a particularly happy person. But I just, I just don't know enough to say for sure. And with regard to my impression on totality of circumstances, it's -- in my view, I'm really talking about totality of the circumstances as they apply to, you know, to polarization and cohesion and the viability of a remedy district.

I mean there's other -- the senate factor stuff, I'm not doing. So if it has to do with that, I really don't know how that might apply under those circumstances.
Q On page 3 of your supplemental report, you state that the result from your "EI analysis for the 2013 city council primaries are substantively very similar to those reported by Dr. Engstrom;" is that right?
A Yes.
Q What is the basis for that conclusion?
A We -- there's certainly more variation here than we saw before. And I guess, you know, absent a sort of chance to dig through that, there are sort of different ways you could characterize that. And so I thought really hard about, you know, if I was just looking at this, what would I -- you
know, what would I really see here?
So I see Reynaga is above 50 percent. So if we accept the point estimate, he's candidate of choice. The confidence interval is -- includes things outside the choice. So this is not unlike something that we -something that we saw before in regard to that election.

Jevons, I have as a not the candidate of choice. He's not getting a majority vote. And professor Engstrom has Jevons not getting the majority vote. We obviously will differ about the support for Folsom-Hill. But again, these are all three-way contests; and they're all somewhat unstable. And I just -- I ask myself whether this was substantively different. And I'd still think, in those basic parameters, it's not more or less unstable than what we saw in elections before.

They -- I think there is more -- I'm fairly confident that our differences here reflect more than just the normal difference in EI estimation. But three-way EI estimation i much more sensitive to -- this is -- you're operating in additional dimensions. And the likelihood of finding a local minima is much higher in multiple dimensions. So it doesn't -- it wouldn't surprise me that the results would be more -- slightly more different across our two analyses.

I'm not confident yet that there isn't a sort of functional explanation for this. That's why I would like to

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go back and see if we figure it out. But even if we can't figure that out, I still don't think they're -- that they're substantively different. And I just don't want to suggest that there's something there that really undermines where we are already with this, which I think is where we want to be.

Because these are not -- neither of these patterns is particularly unexpected, I -- I mean the other thing I say I always look at these things. And I guess I probably should apologize for this. I probably shouldn't do this. But, you know, Jevons is much closer to being the candidate of choice in my analysis than in Dr. Engstrom's analysis.

So I guess, if it was the other way around, if he had an Hispanic candidate close to being the candidate of choice and I had it way down in third place or something, then that's why it looks like maybe we're kind of going in opposite directions there. So I think it's -- again, I don't think he would come to a different conclusion based on these had he gotten these numbers and I had gotten his numbers. I think we'd both still be where we are and rightly so.
Q So based on your conclusion that the results from your and Dr. Engstrom's EI analysis are substantively very similar, would you be amenable to testify based on Dr. Engstrom's results?
A Sure.

But I'm also going to check and find out who's right. I'll say, again, there -- it's very possible that we don't -- that no one's right here. These are precisely the kinds of areas where -- I mean you're doing maximum likelihood estimates. It's not unusual for people to run a simulation a million times. These are -- these can get in local minima and be very difficult to dislodge without substantially expanding the range of possible starting points.

And so it's not at all uncommon in the literature to see these tested very hard by lots of repetition. And so I think probably one of the first things I would do is basically take this and run it 100,000 times and find out what the -- 'cause just I'm not sure exactly what the real variation. It's much larger here than it would be for the others; right? So if we run this -- if we run this 50 times with 100 cases, we're going to get much bigger variation than we would for the other kinds of estimates.

But I'm just not confident that this is within -- these differences are within that range. If they are, then I don't think we have anything -- because there is no right answer. There is, there is no wrong answer; right? If we're within that range of variation, then we're just talking about basically being at different points that represent reasonably stable probabilistic estimates of

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what's going on.
I think this -- the difference here in this somewhat more difficult estimation area highlights again that we're dealing with behavior that is not sharp, crisply defined. And the data does not give us much leverage over that not-crisply-defined behavior.

That's, I think, exactly why we have such different estimates. I don't think those differences -- if we're doing this right -- and I think we probably are -- we couldn't get differences that big. If we had a \(90-10\) split in the voters and you had even a reasonable distribution across the range of precincts, it just wouldn't be possible to come up with, with bounds estimates that could be this far, this far off, even with a probabilistic technique.

So I think it's just another example of the fact that we don't know for certain which of those estimates is correct at this point. And at least I think there's a good chance that it's simply because we don't have enough information to know.
Q I'm going to ask you to look at Dr. Engstrom's S1 in Exhibit 4, which is his supplemental report.
A [Complies.]
Q So while Dr. Engstrom reports a point estimate of 67.4 fo the Latino vote for Reynaga, you report a point estimate of 53.3 percent; is that right?

A That's correct.
Q Would you classify those as -- those levels of cohesion differently?
A Well, I mean my estimate is inside his confidence interval. His estimate is just slightly above my confidence interval. And again, given that we're doing probabilistic estimation and both of us are using relatively small numbers of simulation runs, you know, we can't be confident that those are -- these are not statistically significantly different numbers. They seem like they're substantively the same.

Like they might be really different, but the most important thing to remember is that statistically we're not confident there's any difference at all. We're not confident that either of these is the right estimate. And we have no confidence at a normal 95 percent confidence level that we're actually talking about two different numbers. So they should be treated the same. So I treated them the same.
Q So sitting here today, you cannot account for the differences between your estimates and Dr. Engstrom's estimate; is that right?
A Again, I think I have some ideas about what might. I know more about what doesn't account for them. As I indicated earlier, I thought we actually -- one of us might be doing sequential candidate-against-the-field estimates and the

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other doing true all-the-candidates-at-once estimates. And my understanding now from Professor Engstrom's deposition is that he was doing all at once, not sequential against the field, not that there's anything wrong with either of those techniques.

But just, if we're in the same techniques, we would probably expect to be fairly close. On the other hand, we're not -- we don't have any numbers that are significantly different. So again, I, more than anything else, just out of curiosity, would like to know if we're looking at things that reflect just the instability of the technique or that somewhere we're operating out of different data assumptions.

But I don't know -- at this point I don't know what the differences come from. But there's no -- there's nothing in the statistical information that suggests they need to come from estimating different true parameters. So there's a -there are a range of true parameters that would produce exactly these two estimates and not be different from each other with regard to the true parameter. And so I'm fine with it. But I will be curious to know what else might be generating that instability.
Q Is it your understanding that Dr. Engstrom performed a three-way EI estimation for both the Reynaga election and the Jevons election?

A You know, I may be mistaken. I thought what he said wa that he first performed a candidate against the field and then followed that up by performing a true three way. And maybe I misunderstood. But he only followed up in the Jevons because of the fact that he didn't get a clear indication of who was the candidate of choice.

If that's -- if -- okay. Now suppose I'm wrong about that. So suppose that the Reynaga, I'm doing the full three candidates and he's doing Reynaga against the field, then there's nothing inconsistent with these results at all; and the results are certainly much more consistent for the Position 7. So if Position 7 -- if his result from --

It's difficult to say 'cause it says, you know, his primary versus two candidates, which is -- could be a statement of fact that there was a primary with two other candidates. Or it could be a statements of the analytical technique that this is just a single bivariate EI, Jevons against the field. But if it is in fact not just -- that is actually a full three way, it's very close to the estimate that I get for Jevons. And the Reynaga could be further away.

So his -- if he ran -- essentially ran a consistent -if these two results reflected the same analytical approach, they might be closer to these results.
Q Did you perform a three-way estimate for either of these
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elections?
A Both of them are three way.
Q Both of them are three way?
A Just 'cause we're using a lot of terminology here, I'm not sure exactly how to -- the way I usually think of this is to do a sort of sequential analyses in which you -- in which you turn this into bivariate. So we're usually interested in -- in this case where we have two Anglo candidates and we have one Hispanic candidate. So putting the two Anglo candidates together and saying, Okay, here's the total votes for the Anglos candidates, here's the total vote for the Hispanic candidate, we do that all the time. There's not a problem with doing that. It just generates a different estimate because you're not trying to simultaneously model very specifically what's happening in the three individual candidacies.

Other -- you can do that -- you could do that and still produce an individual estimate for each of the candidates. And your first estimate would be Hispanic candidate agains the Anglo field. Then your second would be, say, Ettl against the challenger field and so forth. So that would be sequential bivariate EI.

You also can, in an RxC analysis, you can just -- you can expand the matrix so that it's not just a matrix of values for the candidate but it is a, you know, is a race by
candidate. So you now have multidimensional matrix. And you can now estimate independently the ideal position of splits for all the candidates in a single simultaneous estimation. That's what -- that's what this reflects.

There's no bivariate estimation here at all. In both cases, it's a complete single RxC three-way analysis. And I thought from the -- I thought initially that these both reflected bivariates. Then I thought, after the deposition, they both reflected full information, three at once. If they're actually two different things, then I'm in another position. So hopefully we can -- I don't know. Hopefully we can work that out in some way that we all understand.
Q Just so I understand, the analysis that you performed was not -- for instance in the Reynaga election, it was not the Latino candidate against the non-Latino candidates?
A No. This -- you can -- Dr. Engstrom, Professor Engstrom i always rightly telling us not to throw away information if we don't have to throw away information. We gain modest, very modestly, we gain bounds information by doing all thes at once rather than artificially treating the Ettl, Noel support simultaneously.

If we have substantive reasons for doing that, we gain a little bit more. For example, if Reynaga was the incumbent and Noel and Ettle were a couple of minor challengers, you gain very little independent information.
than one way to do that. And some of the programming, at least one of the methods doesn't produce very -- produces good results only under a narrow set of circumstances. So there's --

I don't know, given how much earlier the initial report is from the supplemental report, that may reflect the two-way rather than the three-way analysis. These are -- in the supplement are both three-way analyses.
Q Is there a reason you would do a two-way analysis for your initial report and a three-way analysis for your supplemental reports?
A Again, if the initial report came after we'd resolved the estimation issues, it would have been -- we would have use \(d\) whatever -- if it was -- obviously in primary election, you would be -- so you potentially could use three way in some of the primaries, but you certainly wouldn't need to use it in the generals.

So if we had the -- if we'd resolved those issues, we might have used three way in the primary, two way in the generals. I can see -- I haven't thought really carefully about it. And I'd probably want to look at both sets of results. But I can imagine an argument in which, in order to have consistency across all of them, you might run all of them.

I think particularly when you have -- you know, when

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But when you put together Noel and Ettle, who are essentially running against each other -- right? Noel is someone else who is challenging the incumbent -- then you do sacrifice some bounds information.

So while there's a lot more computational horsepower required here, particularly -- if we're going to do a large set of runs, this may take 10 or 12 hours. But it produces an answer that is somewhat more efficient than the candidate against the field.
Q For the ease of reference, I'm going to call the situation in which you would analyze the Latino candidate against the non-Latino candidates as a two-way analysis.
A That would be correct.
Q And a situation in which you'd analyze each candidate individually as a three-way analysis.
A Very good.
Q Is that fair?
A Yes.
Q In your initial report, in your analyses of the primary elections in your initial report, do you recall whether you performed a two-way analysis or a three-way analysis?
A If I -- I would -- I can find out for sure. But my impression is that those are two-way analyses. We've had some issues. There are some methodological issues with getting the RxC analysis to run correctly. There's more
you have the same candidate in the primary that emerges into the general, there's an argument for consistency to estimate them both as two way rather than having the methodology shift between. But, I just think, given the timing of this, I think this was in the period in which we had not worked out a consistent method for getting RxC estimates that we thought were as solid as a more traditional two-way.
Q If Dr. Engstrom had performed a two-way analysis in all of the elections in the initial report and you had performed a three-way analysis in the primary elections in the initial report, would the results have been as similar as they were?
A I would, I would think not. I would think, given that the characteristics of those weren't all that different than these, I would think that that could have produced more difference. But it wouldn't necessarily produce more difference. So, again, I think that similarity is consistent with us both using the same analytical technique.

I would love to be able to get to the bottoms of what's here, because, again, I think it may explain part of the difference here. But again, that's intellectual curiosity. I stand by the fact that, as much as that illustrates that there are assumptions being made here that alter these numbers in substantial ways as numbers, they don't alter in substantial ways in terms of how they affect the conclusions.
\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{2}{|r|}{Page 190} & & Page 192 \\
\hline 1 & Q But it's your impression that in the initial report you & 1 & you. So it doesn't produce an answer unless it's \\
\hline 2 & would have used a two-way analysis for all the elections? & 2 & verging. You've set the standard for what convergence \\
\hline 3 & A Again, I don't want to tell you more than I actually & 3 & and how tightly it has to be to cross the threshold. But \\
\hline 4 & remember. But that's my impression from -- given the period & 4 & there's a default threshold. And these estimates were not \\
\hline 5 & of time, is that those probably would all have been -- would & 5 & converging. They were just blowing up and producing no \\
\hline 6 & all have been Hispanic candidate against the field would & 6 & results. \\
\hline 7 & have been two bivariate estimates rather than true & 7 & Implemented slightly differently, they were converging. \\
\hline 8 & multivariate EI. & 8 & Then that makes you wonder what's the -- is there a \\
\hline 9 & Q You mentioned certain estimation issues in the RxC & 9 & programming error? You know, what's the issue? That my \\
\hline 10 & calculations; is that right? & 10 & collection is that that analysis was then repeated by a \\
\hline 11 & A Yes. & 11 & completely different set of statistical programmers. And \\
\hline 12 & Q And the RxC is basically another term for the three way? & 12 & there were similar issues. And so then there's a lot of -- \\
\hline 13 & A The three way. Sorry. Yes, it is. & 13 & there's lot of back and forth that fairly recently has been \\
\hline 14 & Q So what were those estimation issues? & 14 & resolved. \\
\hline 15 & A In the literature there are several different techniques & 15 & And again, thankfully, I don't think we have anything \\
\hline 16 & proposed for doing the -- doing that estimation. And I've & 16 & here that really depends on -- but, you know, statistical \\
\hline 17 & read that. But I confess to not being completely in command & 17 & programmers don't like stuff to do things it's not supposed \\
\hline 18 & of what the mathematical algorithmic differences are. But & 18 & to do. Estimates should be consistent. And, you know, for \\
\hline 19 & there's more than one proposed method for doing analysis & 19 & hatever reason, they weren't. And so my understanding is \\
\hline 20 & that expands beyond this kind of analysis. And there -- in & 20 & that's been resolved. But we'll see. \\
\hline 21 & the -- and across that range of techniques, there are issues & 21 & Q How did you perform your three-way analysis in this \\
\hline 22 & about whether you get, you know, consistent results or & 22 & supplemental report? \\
\hline 23 & results that converge in the same, in the same way. & 23 & A This three-way analysis is based on the -- this new and \\
\hline 24 & And so I don't know the technical details of that. I & 24 & improved implementation that everybody agrees is actually \\
\hline 25 & just know that there was -- and, again, this is why I have, & 25 & working. It's a variant of one of the earlier techniques in \\
\hline & Page 191 & & Page 193 \\
\hline 1 & you know, a professional statistician programmer deal with & 1 & terms of the programming. But that's pretty much the leve \\
\hline 2 & these issues because he was very unsatisfied with those -- & 2 & of detail at which I understand what's actually going on \\
\hline 3 & with our very early implementation of RxC. And there was a & 3 & here, other than that there's agreement that it is a more \\
\hline 4 & lot of -- a great deal of work that's been put into coming & 4 & consistent estimation technique. \\
\hline 5 & up with a program that will consistently implement RxC NR, & 5 & Q So does somebody else run the analysis for you? \\
\hline 6 & which is a different R than the RxC , and produce stable & 6 & A Yes. \\
\hline 7 & estimates that everybody's happy with. & 7 & Q And that's Dr. Stevenson? \\
\hline 8 & Q How did you determine those estimation issues with the & 8 & A Yes. \\
\hline 9 & three-way analysis to be issues enough to not use the & 9 & Q And it was his analysis from which you derived the point \\
\hline 10 & three-way analysis? & 10 & estimate? \\
\hline 11 & A The first time it just blew up. Okay. So that's -- social & 11 & A Yes. \\
\hline 12 & scientists, you know we just love drama. So that's probably & 12 & Q Are there backup documents to reflect Dr. Stevenson's \\
\hline 13 & a little more dramatic. The computer did not actually & 13 & analysis in any of these elections? \\
\hline 14 & explode. But the estimates, when the estimates blow up, & 14 & A What, what he has at this stage is he has an R program thd \\
\hline 15 & they, rather than getting closer and closer to something, & 15 & goes out. So you point it to a data set, and you tell it \\
\hline 16 & they -- as you continue to run them in larger and larger -- & 16 & what the variable columns the data is represented by. Ther \\
\hline 17 & So you're running a 100 or you're running 1,000. As you & 17 & brings it in, does the analysis, converges, and then \\
\hline 18 & increase the number of repetitions, the estimates stop & 18 & produces the table. So the table is the result of the \\
\hline 19 & converging and start actually diverging, which means & 19 & analysis. You can query for, you know, for lots of other \\
\hline 20 & they'll -- what it means by "blowing up" is that once they & 20 & formation. But what was done for this for this report \\
\hline 21 & start diverging, if that turns out to be not a local minima, & 21 & ast simply to point it at the data and have it produce a \\
\hline 22 & then they never converge again. & 22 & ble. \\
\hline 23 & So you never resolve the estimation problem. So you & 23 & Q Are there backup documents reflecting the script that was \\
\hline 24 & come to the end of a thousand runs, and it tells you that & 24 & used in order to - \\
\hline 25 & the -- it is not converging and won't produce an answer for & 25 & A The R? \\
\hline
\end{tabular}
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    Q -- get these results?
    A To the R program?
    Q Yeah.
    A Yes.
    Q Have you turned over those document to your counsel?
    A I thought that was in the -- there was the most recent
    request was for -- I thought that was part of that. If it
    wasn't, I mean we can certainly produce it. There's nothing
    magic -- well, there's a lot of magic about it. But there's
    nothing that wouldn't, you know -- would prevent turning a
    that over. It's just an R script.
    Q Okay. You mentioned earlier that you're curious to find
        what accounts for this difference. Is that right?
    A Yeah.
    Q Were you curious at the time that you wrote this report, the
        supplemental report?
    A I certainly thought about -- I thought I knew what the
        difference was. I just thought that, you know, 'cause I
        knew that this was true three way, that that had been
        resolved. And so I thought, Well, that's probably the
        difference. I didn't think that the -- that there was a
        substantive difference. I still don't think that these are
        outside the range of what could actually be true estimates,
        given potential true values.
            So, you know, I guess I was curious. But I thought I
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                    Page 195
knew -- I thought I knew that it was a difference in the two way/three way. And that was enough that, given the other things I have to do, that satisfied my curiosity.

MR. FRANCIS: When you have a chance for a break, I have to make a phone call

MS. KHANNA: We can take a quick break right now.
[A brief recess was taken.]
Q (By Ms. Khanna) How many simulations did you use in performing your EI analysis in your supplemental report?
A My recollection is that this is 1,000 simulations. I think that was true in the original report as well. And so the first thing I'll do in going back over this is run that up. So we'll run it down and repeat it. Right? So we'll do 100 simulations 100 times or 100 simulations 1,000 times. Then we'll go up to do 1,000 100 times and then, you know, a million 10 times.

MR. FRANCIS: What do you have? A supercomputer?
A We have until May.
Q (By Ms. Khanna) Well. I'm going to point you to your conclusion on page 3 of your supplemental report. You note on page 3 that your EI analysis in the supplemental report "continues the pattern of weak to nonexistent minority cohesion that was evident in the initial reports." Do you see that?
A Yes.

Q Can you tell me where in your initial report you conclude that "there is weak or nonexistent minority cohesion"?
A In the sense it follows. It says specifically: "The vote in the primaries was," et cetera, et cetera, et cetera.
Q So when you're discussing the pattern of "weak to nonexistent minority cohesion," you're discussing those three primaries that you list right afterwards?
A So certainly the -- I mean there are several things being summarized in the "weak to nonexistent." The nonexistent, I think, most clearly refers to -- in terms of specifics to other primaries where we see results like these. And then it also generally refers to the fact that there is instability -- enough instability in the results across different kinds of elections that cohesion is not just a pattern in a single election. Cohesion produces stability across elections.

This continues to show instability across elections. And the broader conclusion, I think, from that instability is that, if this is being -- if this pattern is being produced by ethnic voting, then the power of ethnic voting is weak in the sense that it appears and vanishes depending on the election we look at. I wouldn't say that that means that in every election we looked at, that number that we see as a point estimate would be weak but just that the very fact that it then disappears and then reappears suggests

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that whatever's driving it must not be a very consistent force in voter's minds, otherwise we wouldn't see the inconsistency we see across all these elections.
Q So there's no number which you would determine in a give election shows weak minority cohesion?
A Again, you know, there certainly -- well, there are certainly numbers like -- these two elections certainly show something you could call weak or nonexistent or any of thos kinds of things. But again, there's not a bright line for that. And I'm just trying to characterize generally what we're seeing in these elections that strikes me as broadly inconsistent with cohesive vote
Q Is there a difference between weak cohesion and nonexistert cohesion?
A I guess technically, nonexistent -- again, we're sort of back in this sort of random -- voting patterns that are indistinguishable from random -- and many of these are -collectively would probably suggest nonexistent. Patterns that sometimes are distinguishable from random, maybe collect that up and you get to weak.
Q Is there a point in your initial report that you recall using the term "weak cohesion"?
A I don't think I recall using that term.
Q Is there any point in your initial report you recall using the term "nonexistent minority cohesion"?
\begin{tabular}{|c|c|c|c|}
\hline & Page 198 & & Page 200 \\
\hline 1 & A I think my conclusion was that we didn't demonstrate & 1 & stable pattern of cohesion here or that we -- the other \\
\hline 2 & minority cohesion. So I guess that would mean in that sense & 2 & possibility we discussed earlier which is we just don't have \\
\hline 3 & that it's cohesion in the -- as a reflection of the broad & 3 & enough information to be able to say for certain whether \\
\hline 4 & pattern, you could say it doesn't exist. It said it doesn't & 4 & there is or isn't a stable, a stable pattern, which is \\
\hline 5 & show it. & 5 & another way of saying we don't have any evidence of a stable \\
\hline 6 & So language here is different. But I don't mean it to & 6 & pattern of cohesion. \\
\hline 7 & indicate that we know anything different than what we knew & 7 & Q We talked earlier about the extent to which you had reviewe \\
\hline 8 & before. I don't think it's inconsistent with what I said & 8 & Mr. Cooper's illustrative districts. Do you recall that? \\
\hline 9 & before. So I'm not using the exact, same adjectives. But I & 9 & A Yes. \\
\hline 10 & don't intend them to mean anything other than what I & 10 & Q And I believe you told me that you had reviewed Mr. Coope \\
\hline 11 & concluded in my initial report, which is that we just don't & 11 & initial report in this case. \\
\hline 12 & have evidence here of cohesion. & 12 & A I hope I'm correct on that. So I saw, I saw a set of \\
\hline 13 & Q And earlier you stated that there's no evidence that there & 13 & districts, a set of maps and the sort of the usual \\
\hline 14 & is a lack of cohesion as well? & 14 & discussion about the demographic characteristics of the \\
\hline 15 & A I'm not intending -- this doesn't change my feeling of what & 15 & aps. My impression is that was the initial report. It \\
\hline 16 & I think the pattern is here. But it is expressed & 16 & ems like that would be the sort of starting point for what \\
\hline 17 & differently. And I stand by both of those expressions. & 17 & ent on here. The timing for that seems sensible since I \\
\hline 18 & However you want to say this, I don't think we have a set of & 18 & talk about his putative districts in my report. So that's \\
\hline 19 & elections here that are consistent with vote cohesion, & 19 & my best recollection. \\
\hline 20 & specifically with regard to Gingles 2. & 20 & Q And your initial report talks about two demonstration \\
\hline 21 & Q So you list -- after this statement in your supplement & 21 & districts in Mr. Cooper's report; is that right? \\
\hline 22 & report, you list those three primaries: The Rodriguez & 22 & A It talks about two, two versions in -- of two districts; \\
\hline 23 & primary, the Soria primary, and the Montes primary. Are & 23 & right. \\
\hline 24 & these elections on which you're basing your conclusion that & 24 & Q Do you recall at any time seeing another report by \\
\hline 25 & there is a pattern of "weak to nonexistent minority & 25 & Mr. Cooper in which he presents additional versions of \\
\hline & Page 199 & & Page 201 \\
\hline 1 & cohesion"? & 1 & demonstration districts? \\
\hline 2 & A I mean I go on to discuss all this other. So what I'm & 2 & A I just don't recall specifically. I may well have seen \\
\hline 3 & saying here is specifically these two election results & 3 & that. But I don't recall it specifically. \\
\hline 4 & are -- that I get are completely consistent with all the & 4 & Q We also talked earlier about the extent to which you \\
\hline 5 & primary results. There's nothing really surprising about & 5 & performed a reconstituted election analysis. And I believe \\
\hline 6 & them. They don't surprise me. They look like the other & 6 & that you testified that you did not perform a formal \\
\hline 7 & primaries. They're within the standard deviations for the & 7 & reconstituted elections analysis but the functional \\
\hline 8 & other primaries. So we really don't see -- there's nothing & 8 & equivalent based on looking at the heaviest Latino \\
\hline 9 & new here. & 9 & precincts. Is that right? \\
\hline 10 & And so, you know, I talked about that fact. I talk & 10 & A If I said "the functional equivalent," it's not the \\
\hline 11 & about the proportion of voters. I talk about the precinct & 11 & functional equivalent. It's, by basically making very \\
\hline 12 & distribution. & 12 & conservative assumptions, not trying to cover the entire \\
\hline 13 & Q There were four other elections analyzed in the initial & 13 & geography but just cover the contained precincts that are \\
\hline 14 & reports -- is that right? -- other than the three that you & 14 & most Hispanic, you basically just give away a lot. Right? \\
\hline 15 & list on page 3 of your supplemental report? & 15 & So the kind of reconstructed district I'm composing is far \\
\hline 16 & A Yes. There were three other candidate elections and the & 16 & too small to be a legal district. So I'm making some very \\
\hline 17 & ballot -- the proposition ballot, yes. & 17 & conservative assumptions that led me not -- let me avoid \\
\hline 18 & Q Do those elections fit with the pattern of & 18 & having to make a lot of complicated decisions about how to \\
\hline 19 & weak-to-nonexistent minority cohesion? & 19 & allocate election returns across a geography that is not \\
\hline 20 & A The fact that they don't look like these is the larger & 20 & made of whole precincts. These are not whole-precinct \\
\hline 21 & evidence of weak-to-nonexistent cohesion, yes. The fact & 21 & districts. \\
\hline 22 & that they're so different, although again not different in & 22 & But again, they're very conservative assumptions. And \\
\hline 23 & the sense that they're statistically significant but just & 23 & if those very conservative assumptions don't produce \\
\hline 24 & different in the sense of where their point estimates are, & 24 & districts that are controlled by minority voters, the \\
\hline 25 & is, I think, the clearest indication that we don't have a & 25 & expanding, making the district larger is not going to -- I \\
\hline
\end{tabular}

51 (Pages 198 to 201)
don't think is necessarily going to make things better. I think it tends to make things weaker.

So again, it's a quick way of looking and seeing whether the general pattern that we see across the election results strongly suggests that there is not an effective Gingles 1 district, whether that holds up when we focus in a little bit more on the specific regions of Yakima that, that the districts are being drawn in.
Q When you said "an effective Gingles 1 district," do you mean a district in which the Latino candidate of choice would win the election?
A That's -- again, since we have a lot of elections here that don't show polarization, it's really a little unclear about what that would mean across a range of elections. But -- so I'm looking for a demonstration that you could create a district in which Anglos could not vote as a block to usually defeat the candidate of choice. I'm not seeing that district.

MS. KHANNA: Could you read back the question to me.
[Requested material read.]
A So again, we have to make some kind of assumption about how that pattern would be generated. We would have to be able to be certain about the Latino candidate of choice which in many of these elections we can't be. But if we assume that
elections, if we equalize turnout, Anglos can't -- won't veto the choice under the current circumstance, anyway, which is just another way of saying they're polar -- not polarized. So -- but if they were --

The idea of the remedy is you create a district in which in the face of the polarization you've in theory proved in the case, that would not take place, that the polarization was effective in suppressing minority vote only because the at-large system created an election-totaling dynamic that would have been different in one or more single-member districts.
Q When you say the term "effective Gingles 1 district," you do not mean a Gingles 1 threshold district; is that correct?
A Definitely not. A Gingles 1 threshold district, could -all kinds of things might happen in a Gingles 1 threshold district. So I think, yes. The threshold matter is a very minimal test. It doesn't presume any of the other things that happen after it.

And so as a remedy district, what you ultimately would want to see in, again, this kind of totality of the circumstances is Here's a district we can point to and say this -- you know, you know, do your damndest, but Anglos are not going to stop Hispanics from electing a candidate unless Hispanics just choose not to support the Hispanic candidate. Again, there's no requirement that they do that. But if it
we were going to -- we drew a district. We assumed that within that district, that subgeography of the city would be composed of Latinos that were voting cohesively for a Latino candidate, then the question would be whether in that district the Anglo voters could block that choice if they voted cohesively.

And that's really -- that seems to me to be something you don't -- the pattern of election results doesn't suggest that you clearly are doing that, even at the level of a subset of precincts.
Q When you say the term "effective Gingles 1 district," you mean a Gingles -- or mean a district which incorporates the Gingles 2 and 3 factors as well?
A Yes. Then, others -- you know, some people use "effective" and "performing" and all those other kinds of things. All I'm trying to suggest here is that the -- that if we assumed that we had cohesion and polarization and then we created a district in the area that we're talking about drawing districts, it's not clear to me that that will in fact basically in that circumstance allow Hispanic voters to elect candidates of choice in a way that would not be subject to a veto by Anglo voters.

I'm not sure the Anglo voters would veto it because I'm not sure -- you know, when 40 percent of the Anglos are crossing over, they -- if -- right. In some of these
happens that their preferred candidate is also someone who is Hispanic and has a Hispanic surname, it's not going to guarantee their defeat.
Q I just want to determine, when you speak of an "effective Gingles 1 district," you're saying something entirely different than a Gingles threshold district; is that correct?
A That is correct. And so one of the things that might be true is that, because we don't see that effective district, it might be the case that we don't actually have a genuine CVAP threshold district -- but that's not what I'm suggesting here -- but simply that in the broader sense the remedy, as opposed to the threshold, is not clear from the election pattern.
Q So in a reconstituted election analysis or in the analysis that you performed which was not a formal reconstituted election analysis you're using vote totals from at-large elections to infer a result in a reconstituted district; is that right?
A That's correct.
Q And you can think of reasons why the voter turnout might be different in an at-large election system than it would be in a districting system or in a district in which the minority represents a majority of the citizen voting-age population, can you not?

A Yes.
Q What could some of those differences be -- some of those reasons be, rather?
A Sometimes single-member elections are not as high profile a; at large. So you often see in cities with mixed systems that the, you know, in a two-and-five system, for example, that the two districts generate a lot more interest than the individual districts. You see that even with candidates where you often see strong candidacies emerging in the at-large seat and no opposition or weak opposition in the single-member seats. So you can think of things like that that might alter the turnout.

You could -- you might suppose that, for example, minority turnout would go up if you built a minority district. The fact that you -- the district was constructed to be a majority minority district might encourage minority turnout.

You could suppose that different kinds of candidates -you know, we talked about it a little bit. But it may be that the candidates that emerged in this case and in, you know, at large, although we already have in at least partially in this, a kind of regional primary or demographically restricted primary. But you could imagine it might attract different kinds of candidates.

The type of campaigns you're capable of running might

So I mean you already have a substantial context of -that does -- it sets much of the context for political participation as already set by a series of contexts that aren't amenable to the lawsuit. They're already preset. So you're making a change only at one level in an entire pyramid in which voters are embedded. And for whatever reason, empirically it doesn't typically make a big difference in registration or in turnout.
Q Are you basing that -- your studies of empirical evidence, is that based on your analysis of Yakima?
A No. I'm just saying based -- the Hispanic turnout is substantially below Anglo turnout across the United States. It is substantially below African-American turnout across the United States. It's -- and that is true in areas where there are -- in which the entire election contest is single-member districts and in which there are successful Hispanic representatives at all those levels. So it --

I mean the academic solution that actually looks at this change doesn't have -- doesn't show a clear conclusion in terms of increased turnout. So that's my impression of everything I've seen and the people I've talked to who are trying very hard to increase Hispanic turnout is a recognition that this is not -- you know, whatever, whateve success there's been in increasing African-American turnout
is -- the same pattern is not clear with regard to increased

Page 207
Page 209
vary. It's probably cheaper to run, maybe, in a
single-member district than at large. Maybe people have different expectations about the nature of representation. There's -- I can think about all kinds of things.

It's -- I don't happen to actually -- there's no evidence that any of that happens. I guess that's the important thing. There's, there is simply no evidence that, that Hispanic turnout increases when you draw single-membe districts. That's just an empirical matter that lots of people have looked for, and there is just not any convincing evidence.

It doesn't -- quite frankly, it doesn't really surprise me very much because we're almost always talking about drawing those districts at levels that voters really -- it's not really what motivates -- people don't really register to vote to vote in school board and city elections for the most part. They mostly register to vote in presidential, governor, senator, big kinds of elections. People get excited about -- you know, become voters more often because of larger campaign settings.

So if you're going in a minority House of Representatives district, for example, you're already in a -- or you're motivated to register and to vote because you're already in a single-member district. Our entire House of Representatives is single-member districts.

Hispanic turnout.
Q Have you testified in cases in which a challenge to an at-large election system succeeded and the election system changed to a districting election?
A Yes.
Q Have you testified in cases with that situation in which the minority group at issue were Latinos?
A Yes.
Q And the remedy imposed was to create at least one Latino citizen voting-age majority district?
A I'm not sure that's true. It's not at all uncommon for the remedy district not to be the demonstration district.
Usually demonstration districts are really not the district you want to draw as a remedy district. And so it's -- again I don't know any specific cases. But it wouldn't surprise me if the remedy districts were not CVAP-majority districts.
Q Have you testified in any cases where the remedy district in fact produced a win for the Latino candidate of choice?
A I don't know specifically. But I think that's true. I think in at least some -- in at least some of those areas, there were wins in single-member districts. There are other cases where there are not wins in single-member districts. So...
Q But in at least some cases, there were wins in single-member districts where there was no win for the Latino candidate in
\begin{tabular}{|c|c|c|c|}
\hline & Page 210 & & Page 212 \\
\hline 1 & the at-large election system? & 1 & lot of notes. You're welcome to look at 'em. You'll see \\
\hline 2 & A Yes. & 2 & why I don't really take notes: 'cause I can't make any \\
\hline 3 & Q Is it true that one effect of an at-large system can be to & 3 & sense out of them later. So I'm not a big note taker. So I \\
\hline 4 & depress minority turnout? & 4 & don't have a set of notes that accompany the work in the \\
\hline 5 & A I -- if that were -- there's certainly discussion of that. & 5 & se \\
\hline 6 & But as a -- I mean that's a dynamic hypothesis. If it were & 6 & Q Do you have a case file on this case? \\
\hline 7 & e that at-large systems depressed turnout, then there & 7 & A I have, I have the, you know, computer folder where I kee \\
\hline 8 & uld be clear evidence that the move to single-member & 8 & all the stuff that you guys provide and the things that were \\
\hline 9 & stems would produce increases in turnout. I've not seen & 9 & sent to me and the stuff that I send on to the attorneys. \\
\hline 10 & analysis that demonstrates that for Latino districts. & 10 & That's it. \\
\hline 11 & Q So is it your testimony that it's not true that one effect & 11 & Q As far as you know, the substance or the contents of that \\
\hline 12 & of an at-large system can be to depress minority turnout? & 12 & computer folder has been turned over by you to counsel; is \\
\hline 13 & A I mean it can be. I'm just saying but -- that's in the & 13 & that right? \\
\hline 14 & realm of all the things that can be. I haven't seen a & 14 & A Yes. Everything in there would be something that either \\
\hline 15 & demonstration that -- in which you actually -- this is not & 15 & me from them to me or that went from me to them. So \\
\hline 16 & a -- this is a dynamic, not a cross-sectional hypothesis. & 16 & at's -- there's nothing in there that isn't a part of that \\
\hline 17 & The cross-sectional analysis is not going to answer that & 17 & back and forth. \\
\hline 18 & question. It's just going to give you, you know, a kind of & 18 & Q Is there anything else you've been asked to do in this case \\
\hline 19 & correlational picture. It's a dynamic question. & 19 & t I've not covered today? \\
\hline 20 & So you'd need to see a series of districts in which & 20 & A I can't think of anything. Most of what we've talked about \\
\hline 21 & without regard to the characteristics of the districts, you & 21 & ing is -- you know, it's not something we haven't talked \\
\hline 22 & switch them from single member to at large or, more likely, & 22 & bout. It's because of what we talked about. So it mostly \\
\hline 23 & a series of districts where, without regard to the & 23 & as to do with, you know, working through the details on \\
\hline 24 & characteristics of the district, you switch them from & 24 & that EI analysis. \\
\hline 25 & large to single member. That's the really the only way you & 25 & Q In the supplemental report? \\
\hline & Page 211 & & Page 213 \\
\hline 1 & can answer the dynamic question. & 1 & A In the -- I mean I guess, you know, what you indicated make \\
\hline 2 & And, to my knowledge, there's not an analysis that sort & 2 & want to make sure that it doesn't in fact extend back to \\
\hline 3 & of meets the basic -- those basic requirements and shows an & 3 & e earlier report, although I don't think it does. But I \\
\hline 4 & increase in turnout with the move to single member or a & 4 & ean at least it potentially could, I suppose. I've been \\
\hline 5 & decrease in turnout with a move to at large for Hisp & 5 & ked to testify at time of trial but not any -- no other \\
\hline 6 & voters. & 6 & specific, additional analysis. I can't think of anything. \\
\hline 7 & Q Have you seen the notice of deposition and subpoena & 7 & Q There's nothing else that you intend to testify about that \\
\hline 8 & requiring your testimony in this case? & 8 & we've not covered today? \\
\hline 9 & A & 9 & R. FRANCIS: Object to the form of the question; \\
\hline 10 & Q You've not been provided that by your counsel? & 10 & overly broad. \\
\hline 11 & A If it was sent me, it was sent to me after -- it may be & 11 & A I will say -- I will answer any question a judge asks me. \\
\hline 12 & sitting at my house. I don't know. But it's after I came & 12 & nd I won't try to play games because, you know, a federal \\
\hline 13 & to Seattle if it was. & 13 & judge wants to hear something, you've got to let them hear \\
\hline 14 & Q Did you provide any documents to counsel in response to the & 14 & it. So I don't intend, you know, to develop a line of \\
\hline 15 & subpoena? & 15 & testimony that's independent of what we've talked about. \\
\hline 16 & A I don't think there was anything that they didn't already & 16 & I think this is -- for me, this is the heart of the \\
\hline 17 & have. So obviously, they have all the emails back and & 17 & se. And I think we talked about it as well as the two of \\
\hline 18 & forth. They have the data I relied on. There was that one & 18 & have talked about it. I think a judge could make a fair \\
\hline 19 & issue that came up about the supplemental. They forwarded & 19 & cision. So I'm not anticipating anything else. But \\
\hline 20 & that to me. And I sent back the supplemental. That's all & 20 & gain, if a federal judge asks me a question, I'll answer \\
\hline 21 & I'm aware of. & 21 & it, unless you want to object and try to get between us. \\
\hline 22 & Q Do you have any notes of any kind in this case? & 22 & Q I actually hope you would answer the judge's questions. \\
\hline 23 & A I think I doodled on a pad while we were sitting here. & 23 & MS. KHANNA: I have no further questions for you \\
\hline 24 & That's been -- I write my reports into, into the word & 24 & today. \\
\hline 25 & processor. I don't typically -- I don't typically take a & 25 & MR. FRANCIS: Thank you. \\
\hline
\end{tabular}

\section*{[Signature reserved.]}
[Deposition concludes at 4:33 p.m.]
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\section*{CERTIFICATE \\ STATE OF WASHINGTON ) \\ ) SS \\ COUNTY OF YAKIMA ) \\ I, Jacqueline L. Bellows, Washington Certified Court Reporter, pursuant to RCW 5.28.010 authorized to administer oaths and affirmations in and for the State of Washington, do} hereby certify:

That the foregoing deposition was taken before me at the time and place therein set forth and thereafter transcribed under my direction, the transcript prepared pursuant to the guidelines set out in Washington Administrative Code 308-14-13 5 .

That the witness was by me first duly sworn to testify to the truth, the whole truth, and nothing but the truth.

That the deposition as transcribed is a full, true, and correct record to the best of my ability of the testimony of the witness and of all questions, objections, motions, stipulations, and exceptions of counsel made at the time of examination.

That I am in no way related to any party to this matter nor to any of counsel nor do I have any interest in the matter.

Witness my hand and CCR seal this 28th day of March 2014.

Jacqueline L. Bellows, CCR No. 2297 in and for the State of Washington, residing at Arlington. My certification expires April 26, 2014.
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IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF WASHINGTON

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\begin{tabular}{|c|c|}
\hline & \multirow[b]{5}{*}{No. 2:12-cv-03108-TOR} \\
\hline \multirow[t]{2}{*}{ROGELIO MONTES, et al.,} & \\
\hline & \\
\hline Plaintiffs, & \\
\hline & \\
\hline \multirow[t]{2}{*}{vs.} & \\
\hline & \\
\hline \multirow[t]{2}{*}{CITY OF YAKIMA, et al.,} & \\
\hline & \\
\hline Defendants. & \\
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\end{tabular}

Deposition Upon Oral Examination of RICHARD L. ENGSTROM, Ph.D.

Taken at Floyd, Pflueger \& Ringer 200 W. Thomas Street Seattle, Washington

DATE TAKEN: February 18, 2014
REPORTED BY: Mary A. Whitney, CCR - WCRL \#2728

Richard L. Engstrom, Ph.D.
February 18, 2014


2 (Pages 2 to 5)
\begin{tabular}{|c|c|c|c|}
\hline & Page 6 & & Page 8 \\
\hline 1 & A. No, not off the top of my head. & 1 & A. February 1, 2013. \\
\hline 2 & Q. Have you produced all of your materials that & 2 & Q. And do you have a CV that is attached to your \\
\hline 3 & you had in your file? & 3 & initial report? \\
\hline 4 & A. I have brought my files and presented them to & 4 & A. Yes. \\
\hline 5 & the attorneys. & 5 & Q. And is that CV current? \\
\hline 6 & Q. To the plaintiffs' attorneys? & 6 & A. As of January 2013. \\
\hline 7 & A. Yes. & 7 & Q. Is there anything you would like to add or \\
\hline 8 & Q. And have you brought all of your materials? & 8 & delete from your CV that is page 18 of Exhibit-1? \\
\hline 9 & A. Yes. & 9 & A. I'm an academic. We never delete anything. \\
\hline 10 & Q. All right. & 10 & Q. All right. Sometimes they change things, \\
\hline 11 & A. Well, some have been submitted ahead of time, & 11 & though. \\
\hline 12 & files and things, I think, backup documents. & 12 & A. Right. \\
\hline 13 & Q. Was there anything that you are aware of that & 13 & Q. Is there anything you need to change or add? \\
\hline 14 & was withheld from your file that has not been & 14 & A. I'm sorry, let me look at this. \\
\hline 15 & produced? & 15 & Q. All right. \\
\hline 16 & A. I don't know what is being produced and & 16 & A. (Reviewing documentation.) The last two \\
\hline 17 & what is not. & 17 & entries under "Titled Book Reviews" have now appeared \\
\hline 18 & Q. All right. Then let's go through what is in & 18 & They're listed here as forthcoming. \\
\hline 19 & your file, generally. & 19 & Q. And that is on what page? \\
\hline 20 & A. Yes. & 20 & A. Page 38. \\
\hline 21 & Q. You have prepared three reports; is that & 21 & Q. Is there a list of the cases that you've been \\
\hline 22 & correct? & 22 & involved in in your CV? \\
\hline 23 & A. Correct. & 23 & A. No. \\
\hline 24 & MR. FLOYD: Let's go ahead and mark these & 24 & Q. Have you prepared a list of the cases that \\
\hline 25 & in order. & 25 & you've been involved in? \\
\hline & Page 7 & & Page 9 \\
\hline 1 & (Exhibit Nos. 1-3 marked & 1 & A. There is a list of the cases I've been \\
\hline 2 & for identification.) & 2 & involved with since a certain date and time -- \\
\hline 3 & A. Maybe I should clarify. When I said "files," & 3 & "involved with" meaning testified by deposition and/or \\
\hline 4 & I meant documents and physical files. & 4 & trial? \\
\hline 5 & Q. (By Mr. Floyd) All right. & 5 & Q. Right. \\
\hline 6 & A. The computer stuff was electronic files, & 6 & A. -- and that's in my first report, I believe. \\
\hline 7 & which I understand you have been presented with & 7 & And I can check on that, as well. \\
\hline 8 & before. & 8 & Q. Can you find that for me, please. \\
\hline 9 & Q. Let's talk about that in just a second. & 9 & A. And let me note there is -- well, let's see. \\
\hline 10 & We talked about your reports, correct? & 10 & In the summer of 2014, there is another -- there is a \\
\hline 11 & A. You asked me if I did three. & 11 & conference paper that was not listed on here. \\
\hline 12 & Q. Right. & 12 & Q. All right. \\
\hline 13 & A. Yes. & 13 & A. Or 2013. \\
\hline 14 & Q. And Exhibit-1 would be your first, initial & 14 & Q. So you're finishing up the updating of your \\
\hline 15 & report, correct? & 15 & CV, correct? \\
\hline 16 & A. That appears to be the case. & 16 & A. Yes. \\
\hline 17 & MS. KHANNA: Do you have a copy of the & 17 & Q. Have you finished your updated CV, then? \\
\hline 18 & exhibits? & 18 & A. Yes. \\
\hline 19 & MR. FLOYD: I do. & 19 & Q. All right. If you would look at page 19, \\
\hline 20 & (Discussion off the record.) & 20 & please, the section of your CV titled "Formal \\
\hline 21 & Q. (By Mr. Floyd) Exhibit-1 is your initial & 21 & Education." \\
\hline 22 & report, correct? & 22 & A. Yes. \\
\hline 23 & A. It says, "Report of Richard L. Engstrom," & 23 & Q. You received an A.B. from Hope College; \\
\hline 24 & yes. & 24 & is that correct? \\
\hline 25 & Q. And what is the date of your initial report? & 25 & A. Yes. \\
\hline
\end{tabular}
Q. Was that in political science?
A. It was.
Q. And what was your master's in?
A. Political science.
Q. And how about your Ph.D.?
A. Political science.
Q. And you indicated that somewhere in Exhibit-1 there is a list of the cases that you've worked on; is that correct?
A. I believe so.
Q. Can you find that for me, please.
A. Yes. Paragraph 3.
Q. And these are the cases that you've worked on since 2008?
A. Yes, and let me --.

On my supplemental report, footnote 1 , there is a statement about a deposition I gave that I don't believe is on --.
Q. All right.
A. I think that's since that first report, so that could be added to paragraph 3.
Q. So, paragraph 3 of Exhibit-1, in footnote 1 of Exhibit-3 would be a complete list of all of cases that you either have given a deposition in or testified in since 2008; is that correct?

Page 11
A. I don't know about a footnote. We're on the initial report?
Q. I'm talking about the supplemental report you just referenced.
A. Oh, the supplemental report. Footnote 1 is after paragraph 1 , and, yes, it is a case that I was deposed in since I prepared the first report.
Q. And how many cases, current active cases, are you involved in, with the exception of this one?
A. Well, let's see how many. You'll have to give me a second to try and remember.
Q. Okay.
A. Well, these are the ones that come to mind, and I'm not sure at the moment whether this is exhaustive, but I have five.
Q. And what are those cases?
A. The Texas redistricting on remand to the court in San Antonio, congressional and legislative district in Texas. I am not sure what the title is at this point, but it's the statewide redistricting case that's been remanded since the Supreme Court decision this summer. It's the Section 2 case. It's not the Section 5 case.
Q. All right.
A. Grand Prairie, Texas, Irving Independent

School District. A case involving Fayette County, Georgia. A recently filed case involving Terrebonne Parish, Louisiana.
Q. Have you -- go ahead, I'm sorry.
A. Now, there is -- let's see. There is an active case, as far as I know, that I have worked with that I assume is still active, and that is -- that concerns Baton Rouge City Court in Baton Rouge, Louisiana.
Q. Have you ever worked on a case in the state of Washington other than this case?
A. No.
Q. Have you ever worked on any case in Oregon?
A. No.
Q. Have you ever worked on any case in Idaho?
A. I don't believe so, no.
Q. Have you ever worked on any case in Alaska?
A. Yes. There was a case involving Alaska natives that either did not go -- I don't think it went to trial.
Q. And when was that case?
A. It was a state -- redistricting legislative districts, and there was not the last go-around, so it was the previous one or -- maybe even after 1990. I'm not sure.

Page 13
Q. All right.
A. It was certainly soon after the census, I believe, but I don't remember which census.
Q. Have you ever worked with any of the attorneys representing the plaintiffs in this particular case?
A. Not to my knowledge, no.
Q. Okay.
A. Well -- these two?
Q. No.
A. No.
Q. Any of the lawyers that are involved in this case.
A. Well, I saw Laughlin McDonald's name on one of the filings.
Q. Right.
A. I have worked with Laughlin McDonald.
Q. On how many cases?
A. Oh, only a few. I don't know, two or three, maybe. And I don't know -- I'd have to see the other names on the filings. I'm not sure -- I remember Laughlin's name and I have worked with him.
Q. Who initially contacted you?
A. My best guess, I think, is Noah Purcell. At least I worked with him early. I'm not sure he was

\section*{Page 16}
the first person I had contact with, but he was the attorney earlier on in the case.
Q. All right.

> (Exhibit No. 4 marked for identification.)
Q. (By Mr. Floyd) I'm handing you what have been marked as Exhibit No. 4. Are these redacted invoices?
A. (Reviewing documentation.)
Q. I'm sorry. Hold on.

MR. FLOYD: I think there are three copies.
A. Three copies of each one?
Q. Yes.
A. Okay.

MS. KHANNA: So, Exhibit-4, which one is that?

MR. FLOYD: The initial one, I think. Let's take a look and see what we have here. John got me kind of confused, so let's see what we have.
(Discussion off the record.)
Q. (By Mr. Floyd) Exhibit-4 is ACLU 42272, and that appears to be --
A. I'm sorry?
Q. It's Exhibit-4.

Page 15
A. Okay.
Q. If you look in the lower right-hand corner, there is an ACLU number down there.
A. Okay.
Q. Do you see that?
A. 42272.
Q. Right.
A. Okay.
Q. Is Exhibit No. 4 your first invoice, as far as you know?
A. I don't know for sure.
Q. It states in Exhibit-4 that this is your
billing from August of 2012 through March 15, 2013.
Is that what it indicates in the first sentence?
A. That's what it says, yes.
Q. Would this invoice indicate, then, that you probably started work on this case sometime in August of 2012?
A. It would be perhaps the first time I worked any billable hours, yes.
Q. And do you know if you worked on the case in any nonbillable sense prior to August of 2012?
A. Only to discuss availability, that sort of thing.
Q. All right.
A. Not anything --.

If I may, for the record, this does say it was for work performed on Fayette County, Georgia, which I mentioned earlier. I suspect that's
my mistake. I believe the bill was paid anyway.
Q. Yes, I was going to ask you about that.
A. But I do believe this was actually a bill for this case.
Q. And this shows 52.6 hours; is that correct?
A. Yes, it does.
Q. And what was your hourly rate?
A. \(\$ 300\).
Q. And it's been \(\$ 300\) for all of your invoices, then?
A. Everything in preparation, yes, the preparation of reports, that's correct.
Q. Did anyone else assist you in doing any of the work in this case?
A. Only Bill Cooper providing me with Spanish surname matching in the elections. I don't believe anybody else played any role at all.
Q. And have you worked with Bill Cooper on other cases?
A. I must have.
Q. Why do you say that?

Page 17
A. I remember having lunch with him during a case once.

\section*{Q. All right.}
A. I can't recall which one it was and -- but, you know, it's possible that that lunch occurred under -- in some other context.

Oh, yes. I believe Bill Cooper worked on the Fayette County, Georgia case, and I forget exactly what he -- let's see. I forget exactly what he did, but --.
Q. How many voting rights cases have you worked on?
A. I don't know.
Q. Ballpark, how many?
A. Well, I used to say I had been deposed or testified in over 70 cases.
Q. Okay.
A. It would be a higher number now. I began doing this in the early 1970s, so I have no idea.
Q. All right. And how many times have you testified in court regarding a voting rights matter?
A. It's the same answer. I mean, I testified in the early '70s and -- you know, and I have a list of those since 2008, I believe it was.
Q. Right.
A. Beyond that, I don't know how many

I testified in. In court, you mean or --
Q. Yes, in court.
A. I don't remember.
Q. What did you do to prepare for your deposition today?
A. Reread the reports in the case.
Q. Which reports did you read?
A. All five.
Q. "All five" would be your three reports?
A. Yes, and Dr. Alford's two reports.
Q. And you never prepared a reply to

Dr. Alford's supplemental report; is that correct?
A. No.
Q. Is that correct?
A. A reply to the supplemental report?
Q. Yes.
A. No.
Q. Did you read any other reports of any experts in this case?
A. In preparation for this deposition?
Q. Yes.
A. No.
Q. Did you ever read any depositions in this case prior to preparation for the deposition?

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pages as discussed in your reports? Regarding Dr. Morrison.
A. No.
Q. Did you review any other expert reports, other than what you've referenced, in this particular case?
A. No.
Q. Did you talk to any other experts in this case?
A. About the case?
Q. Yes, about the case.
A. I don't believe so, no.
Q. Did you ever talk to Bill Cooper about the case?
A. No. Not directly.
Q. What about indirectly?
A. No, I don't -- well, I mean, there might have been a question about what was Bill doing for me and things, but it would have gone through the attorney if there was.
Q. What was your understanding of Bill Cooper's role in this case?
A. I believe he was handling prong 1 , and he was doing Spanish surname matching for election sign-in or turnout data. I think that was it.

Page 21
A. Well --.
Q. Did you ever read any depositions at any time? Maybe that's --
A. Well, let me clarify. I think there were a couple pages from Morrison's report that -I certainly didn't review the whole report. I may have looked at the portion briefly on racially polarized voting, and possibly -- I know I did look at the table involving school board elections.
Q. Did you read anything from Dr. Morrison's deposition?
A. No.
Q. You read portions of Dr. Morrison's report, correct?
A. A very limited number of pages, yes.
Q. Did you have the entire report to read?
A. I did not have it available to me in hard copy in my files. I'm sure there's an electronic document somewhere.
Q. And why did you read portions of Dr. Morrison's report?
A. Because he had some portions on racially polarized voting and school board elections, and I discuss both of those in my reports.
Q. Did you consider anything other than those
Q. And what did you understand your role to be?
A. To do a racially polarized voting analysis, to discuss the enhancing factors of the type of at-large system in Yakima and -- I forget if there was a third subject in the first report. There might have been a third subject. I don't recall at the moment.
Q. Were you asked --
A. The first report.
Q. I'm sorry, were you finished?
A. I was dealing with the first report.
Q. Were you asked to identify or discuss any of the Senate factors?
A. Yes, the enhancing factors are Senate factors.
Q. Which Senate factors?
A. I don't remember the number.
Q. And what is your understanding of "enhancing factors"? What do you mean by that?
A. Enhancing factors are features of a system, an at-large election system, that eliminate or minimize the ability of a minority group to cast single-shot votes.
Q. And in this particular case, did you find that there were enhancing factors?
A. Yes.
Q. And what were they?
A. The place system, which separates all of the seven elections into separate elections rather than electing all seven at one time. In other words, voters do not have seven votes to cast for seven candidates in the top seven when they're divided up by place.
Q. You called that the "place system"?
A. "Place" or "post."
Q. Place, p-l-a-c-e system.
A. Yes.
Q. Okay.
A. Sometimes called the "post system."
Q. And that is because the elections are not all held at the same time you're saying?
A. No, no, that's "staggering." A place system, they can all be held at the same time, but there are still seven individual elections. It's the staggering that moves them to different dates on the calendar.
Q. All right.
A. I also noted the role of the top two primaries and the general election as, in effect, creating a majority vote rule. I say "in effect" because write-in votes are counted, so, as I understand it, it's theoretically possible for enough
write-ins to be cast and counted that a candidate might win with a plurality as opposed to a majority, or, you know, a write-in presumably could cast a majority. But nothing like that happened in these elections, so, in effect, they operate as majority vote rules.

The two-party -- the two-candidate primary -- I may be expressing it wrong, but when there is more than three candidates, there is a primary election, and then the top two go to the general election and they are the only ones whose names are on the ballot.

In the general election, if there are only two candidates for a position, then they wait until the general election, and again, their names are the only two names on the ballot.
Q. And how is that an enhancing factor?
A. Well, that means that voters basically are going to vote -- empirically, voters are likely to vote for candidates with names on the ballot, and what that means is a two-person contest, so you have to get a majority -- not just a simple plurality but a majority of the votes -- in order to win the seat.
Q. And my question is, how is that an enhancing factor?
A. Well, that means that in every one of those individual elections, the majority in the community has the opportunity to control the outcome of those elections.
Q. And is the electoral system in Yakima unique to Yakima?
A. No.
Q. How many other jurisdictions would you estimate have similar types of electoral systems?
A. I don't --

MS. KHANNA: Objection; calls for speculation.
Q. Do you know?
A. Do I know the number?
Q. Yes.
A. No.
Q. Do you have any idea if this is a minority type of position -- or a minority system?

MS. KHANNA: Object to the form of the question.

MR. FLOYD: That was a bad question.
MS. KHANNA: Could you --
MR. FLOYD: I'll rephrase.
Q. Have you done any analysis of how Yakima's system compares to other systems in the United States?

Page 25
A. Across the United States at every level of local government, I do not.
Q. Are you going to render any opinion at trial with respect to how Yakima's system compares to any other systems in the United States?
A. Any other systems in the United States?
Q. Yes.
A. There are other systems. I mean, I can -I haven't been asked to compare beyond what my report contains.
Q. And your report doesn't address this issue, correct?
A. No, it -- well, it addresses pure at large, as opposed to at large with enhancing factors, so -I mean, that's a comparison there.
Q. All right. Where in --
A. I do not intend to talk about numbers of how many, where, in what states or anything like that.
Q. Where in your report do you talk about enhancing factors?
A. I would say in the section that indicates the Yakima city Council election system.
Q. What page are you reading from?
A. \(3,4,5\).
Q. And do you specifically use the words
\begin{tabular}{|c|c|c|c|}
\hline & Page 26 & & Page 28 \\
\hline 1 & "enhancing factors" there? & 1 & Q. More than one? \\
\hline 2 & A. Yes. & 2 & A. Well, there would have been a penultimate \\
\hline 3 & Q. Where is that? & 3 & draft that was submitted to the attorneys, and \\
\hline 4 & A. (Reviewing document.) & 4 & my recollection is that Ms. -- Ms. Khanna is an \\
\hline 5 & Q. If I might help, if you look at paragraph 10 & 5 & excellent editor, but I believe that's all that \\
\hline 6 & on page 5 , it talks about "enhancing the potential & 6 & happened between the penultimate and the ultimate, the \\
\hline 7 & dilutive effect" -- & 7 & final draft. \\
\hline 8 & A. Okay. & 8 & Q. What type of editing did she do? \\
\hline 9 & Q. -- but it doesn't talk about enhancing & 9 & A. Grammar. Maybe some spelling. I mean, \\
\hline 10 & factors, correct? & 10 & I would have hoped I would have used spell check at \\
\hline 11 & A. Well, let me read it. & 11 & that stage, but she's a former English teacher and \\
\hline 12 & Q. Okay. & 12 & she's very good at editing. \\
\hline 13 & A. "... a system widely recognized as & 13 & Q. All right. If you look at your conclusion on \\
\hline 14 & enhancing." That's correct --. & 14 & page 13 of Exhibit-1, you have your conclusions \\
\hline 15 & MS. KHANNA: I'm going to object & 15 & referenced in paragraphs 32 and 33, correct? \\
\hline 16 & the document speaks for itself. & 16 & A. Yes. \\
\hline 17 & A. Well, not on -- I don't see it again in that & 17 & Q. And in the first sentence it says \\
\hline 18 & section, but I believe it's in my introduction. & 18 & "... indicate that voting in these elections has been \\
\hline 19 & MS. KHANNA: Is there a question on his & 19 & polarized between Latinos and non-Latinos," correct?" \\
\hline 20 & report? & 20 & MS. KHANNA: Can you tell me where you \\
\hline 21 & MR. FLOYD: I think he's still looking & 21 & are. \\
\hline 22 & through his report, his initial report, to see if & 22 & MR. FLOYD: I'm at the first sentence of \\
\hline 23 & there is any reference to "enhancing factors." & 23 & paragraph 32 on page 13 of Exhibit No. 1. \\
\hline 24 & MS. KHANNA: And again, the objection is & 24 & A. "The results of the analyses of voting in the \\
\hline 25 & that the document speaks for itself. & 25 & city council elections in Yakima indicate that voting \\
\hline & Page 27 & & Page 29 \\
\hline 1 & MR. FLOYD: And I'm asking him to look for & 1 & in those elections has been polarized between Latinos \\
\hline 2 & it. & 2 & and non-Latinos." \\
\hline 3 & Q. Then we'll look at Exhibit-2. & 3 & Q. Yes. \\
\hline 4 & A. (Reviewing documentation.) & 4 & A. Correct. \\
\hline 5 & Q. Looking at Exhibit-1 -- & 5 & Q. And nowhere in your conclusion do you utilize \\
\hline 6 & A. Okay. & 6 & the words "racially polarized voting"; is that \\
\hline 7 & Q. -- it's true that you don't discuss the term & 7 & correct? \\
\hline 8 & "enhancing factors" in your initial report, correct? & 8 & A. Well, I would have to read the rest of it. \\
\hline 9 & A. Well, I wouldn't say that, because I talk & 9 & Q. Yes. Read the rest, please, if you would. \\
\hline 10 & about this being an enhancing feature. & 10 & MS. KHANNA: And I object again that the \\
\hline 11 & Q. All right. & 11 & document speaks for itself. \\
\hline 12 & A. I mean, I'm just scanning, basically, and I & 12 & MR. FLOYD: Well, the document can't \\
\hline 13 & don't see -- let's see, in 3 there is also -- in & 13 & speak. That's why I'm asking him to read it. \\
\hline 14 & footnote 3, I use the expression enhancing factors, & 14 & A. (Reviewing document.) I don't see myself \\
\hline 15 & which is the title of an article I wrote. It's & 15 & using it, but when I talk about "polarization between \\
\hline 16 & footnote 3 in paragraph 10. & 16 & Latinos and non-Latinos," that means racial. \\
\hline 17 & Q. All right. & 17 & Q. So let's look at Exhibit-2, right here. \\
\hline 18 & A. There was -- I believe in the Fabela case it & 18 & A. Okay. \\
\hline 19 & also refers to "enhancing factors." I would have to & 19 & Q. Exhibit-2 is your reply, correct? \\
\hline 20 & look at that again, though, to be certain. & 20 & A. Yes. \\
\hline 21 & Q. I can review the document later, but let's & 21 & Q. And in Exhibit-2, in paragraph 2 on the first \\
\hline 22 & talk about -- & 22 & page, you talk about racially polarized voting \\
\hline 23 & A. Okay. & 23 & at least four times in the first and second \\
\hline 24 & Q. How many drafts of Exhibit-1 did you prepare? & 24 & paragraphs, correct? \\
\hline 25 & A. I don't know. & 25 & A. (Reviewing document.) \\
\hline
\end{tabular}

MS. KHANNA: And again, objection, the document speaks for itself.
A. Well, I can pick out three, but let me --.
Q. I've got four --
A. Four.
Q. Okay.
A. You're right.
Q. Did any attorney, after you prepared your first report, your initial report, and your supplemental report ask you to add the adjective "racial" before the word "polarized"?

MS. KHANNA: I'm going to object and instruct the witness not to answer to the extent it reveals any communications between counsel and you and the witness -- with respect to -- other than communications regarding compensation or facts, data and assumptions that you considered or relied upon with respect to your report.

MR. FLOYD: So you're instructing him not to answer this question?

MS. KHANNA: I'm instructing the witness not to answer to the extent it goes beyond the topics I just mentioned.
Q. So are you going to answer the question or not?

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A. I'm not sure what the legal --
Q. Right. I'm not either.
A. I mean --.
Q. My question is, were you advised by any attorney --
A. I know your question.
Q. -- to add the word "racial" --
A. Uh-huh.
Q. -- as an adjective for "polarization" after you had written your first report and prior to finalization of your reply report?

MS. KHANNA: I'm going to instruct you not to answer.

MR. FLOYD: All right. That's fine.
We'll bring it up with the judge later.
Q. Now, let's go back to Exhibit-1.
A. Yes.
Q. You were talking about what you were asked to do, correct?
A. Yes.
Q. And you said that you were asked to "analyze enhancing factors," correct? Have we finished the discussion of "enhancing factors"?

MS. KHANNA: I'm going to object to the form of the question as overly broad and ambiguous.
Q. Well, do you have anything more to add on enhancing factors other than what's referenced in your report?
A. More to add?
Q. Yes.
A. Beyond the report?
Q. Yes.
A. No.
Q. All right. What is "polarized voting"? How would you define "polarized voting"?
A. It's a consistent relationship between the race of the voter and the way in which the voter votes, or, expressed differently, the minority group of voters and the other voters vote differently.
Q. You've inserted the word "race" in your definition of "polarized voting," correct?
A. I insert the word "race" --

MS. KHANNA: Object to the form of the question as vague and ambiguous.
A. In my definition --

THE WITNESS: I'm sorry.
MS. KHANNA: I'm going to object to the form of the question as vague and ambiguous. I'm not sure what he's referring to when referring to the word "race."

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MR. FLOYD: All right.
Q. Let's do this. I'm going to have the court reporter read back your answer -- okay -- -
A. Uh-huh.
Q. -- and you tell me if you inserted the word "race's" in your definition of "polarized voting." Okay?
A. (Nods affirmatively.)

MR. FLOYD: Let's go ahead and read it back.

> (The question was read back as requested.)
Q. So you did insert the word "race," correct, in your definition of "polarized voting"?
A. Actually, that's what the Supreme Court has for a definition.
Q. In what case?
A. Thornburg vs. Gingles.
Q. And is your definition of "polarized voting" synonymous with "racially polarized voting"?
A. It depends on the groups at issue.
Q. And how could it differ?
A. Well, you could talk about polarized voting between gays and straights, between men and women, between Catholics and Protestants, but we are dealing
\begin{tabular}{|c|c|c|c|}
\hline & Page 34 & \multicolumn{2}{|r|}{Page 36} \\
\hline 1 & with a context in which it's minorities and other & 1 & Q. Okay. \\
\hline 2 & voters, and those are protected minorities and that is & 2 & A. It's a descriptive question. \\
\hline 3 & typically considered racially polarized voting. & 3 & Q. Have you finished your analysis in this case? \\
\hline 4 & Q. And in this particular case, is there any & 4 & A. Yes. \\
\hline 5 & difference between "racially polarized voting" and & 5 & Q. And do your reports contain all of your \\
\hline 6 & merely "polarized voting"? & 6 & opinions, Exhibit Nos. 1, 2 and 3? \\
\hline 7 & A. Well, racially polarized voting would refer & 7 & A. All of my opinions, yes. \\
\hline 8 & to minority groups protected by the Voting Rights Act. & 8 & Q. Is there anything you would like to change, \\
\hline 9 & There are other minority groups that aren't protected & 9 & add or delete from Exhibit Nos. 1, 2 and 3? \\
\hline 10 & by the Voting Rights Act. & 10 & A. No. \\
\hline 11 & Q. Can voting be polarized for reasons other & 11 & Q. Do you know Dr. Fraga? \\
\hline 12 & than race? & 12 & A. Luis Fraga? \\
\hline 13 & MS. KHANNA: Object to the form of the & 13 & Q. Yes. \\
\hline 14 & question; lack of foundation, assumes facts not in & 14 & A. Yes, I do. \\
\hline 15 & evidence. & 15 & Q. And how long have you known Dr. Fraga? \\
\hline 16 & A. Well, "racially polarized voting" as defined & 16 & A. I don't remember the first time we may have \\
\hline 17 & by the Supreme Court is a descriptive issue, not a & 17 & met. It would go back a ways. We're both political \\
\hline 18 & causal issue. & 18 & scientists. We go to the same conventions. We do \\
\hline 19 & Q. And you did no causal analysis in this & 19 & some work in the same field. So I know him. It's not \\
\hline 20 & particular case, correct? & 20 & a recent acquaintance. \\
\hline 21 & A. Correct. & 21 & Q. Have you ever talked with Dr. Fraga about \\
\hline 22 & Q. Now, let's talk about potential causal & 22 & this particular case? \\
\hline 23 & factors. All right? Would you agree that ideology & 23 & A. Only the fact that we were both working it. \\
\hline 24 & could be a polarizing factor in an election? & 24 & We did not talk in any way about the substance of the \\
\hline 25 & MS. KHANNA: Object to the form of the & 25 & case. \\
\hline & Page 35 & & Page 37 \\
\hline 1 & question. Also calls for speculation. & 1 & Q. Have you ever reviewed Dr. Fraga's reports \\
\hline 2 & MR. FLOYD: Calls for what? & 2 & in this particular case? \\
\hline 3 & MS. KHANNA: Speculation. & 3 & A. No. \\
\hline 4 & Q. Are you saying that you don't know if -- & 4 & Q. Are you familiar with Dr. Contreras? \\
\hline 5 & well, I'll back up. I want to lay a foundation. & 5 & A. Maybe if you add a first name. I'm not sure \\
\hline 6 & Are you saying that you don't know if & 6 & I -- \\
\hline 7 & ideology could be a polarizing factor in election & 7 & Q. Oh, of course. How could I forget that? \\
\hline 8 & results? & 8 & Dr. Frances -- Frances with an E -- Contreras. \\
\hline 9 & A. I didn't say a word in response to your & 9 & A. I'm not aware that I am. You'd have to \\
\hline 10 & question. & 10 & provide more background and maybe I could -- but given \\
\hline 11 & Q. All right. Well, let me ask you this as a & 11 & the name, I can't say that I am. \\
\hline 12 & foundation question, because apparently counsel wants & 12 & Q. Are you familiar with Dr. Thernstrom? \\
\hline 13 & me to lay this foundation. & 13 & A. Mr. or Mrs.? \\
\hline 14 & Do you believe that ideology could be & 14 & Q. Mr. \\
\hline 15 & a causal factor for polarization in an election? & 15 & A. Yes. \\
\hline 16 & A. Ideology could cause differences in candidate & 16 & Q. And have you worked either with him or \\
\hline 17 & preferences, yes. & 17 & against him in other cases? \\
\hline 18 & Q. Could partisan issues cause polarization in & 18 & A. Well, Mr. or -- \\
\hline 19 & election results? & 19 & Q. Mr. -- \\
\hline 20 & A. It could create differences, sure. & 20 & A. Have I worked with her or against her? \\
\hline 21 & Q. Did you do anything to eliminate ideology or & 21 & Q. With him or against him, in any cases. \\
\hline 22 & partisanship from potential causes of the polarization & 22 & A. Okay. Are you talking about Abigail or \\
\hline 23 & that you found in the elections in Yakima? & 23 & are you talking about -- I forget the first name of \\
\hline 24 & A. I didn't do any causal analysis. It's not & 24 & her husband. You said it's a her and then you keep \\
\hline 25 & required under the law. & 25 & saying him. \\
\hline
\end{tabular}
Q. Dr. Stephan Thernstrom.
A. All right. Have I worked with or against?
Q. Dr. Stephan Thernstrom.
A. Yes.
Q. On how many cases?
A. I can only recall one.
Q. Was it with or against him?
A. No, it would have been against him.
Q. And the Dr. Stephan Thernstrom that you know where does he live? Does he live near Washington, D.C.?
A. I do not know.
Q. Have you reviewed any of Dr. Thernstrom's reports in this particular case?
A. No.
Q. Can you tell me generally what you did in this case.
A. Well, I wrote three reports. The first deals with racially polarized voting and enhancing factors and at-large election systems.
Q. All right.
A. The second one was a response or reply to Dr. Alford's report, first report. It dealt with a number of things in response to his first report. And then my third report deals with the

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2013 elections, the most recent elections, as far as I know, in Yakima.
Q. And how did you analyze the issue of polarized or racially polarized voting in Yakima? Did you use any procedures to analyze that?
A. Yes. I used ecological inference.
Q. And what is "ecological inference"?
A. Ecological inference is a statistical routine often simply referred to as "EI." It's a statistical routine for taking what is called aggregate-level data, meaning data about groups, in this application about precincts, and assessing the extent to which different groups supported different candidates or ballot positions.
Q. And did you utilize some type of EI software?
A. Gary King's.
Q. And was there a particular version of

Gary King's EI software that you utilized?
A. Version (aR), and that is a capital R.
Q. And is that a free software that is available in the public domain?
A. Yes.
Q. And how long have you used that particular version of Gary King's EI software?
A. Pretty soon after it came out, I believe.
Q. Tell me generally what you did. Did you put data into the software?
A. No --
Q. Did you enter data in the software?
A. No, I didn't enter data into the software. I told the software where to go to get the data.
Q. And the software then obtained the data?
A. Correct.
Q. And then what did the software do?
A. It performs this EI analysis.
Q. And does that then result in some sort of conclusion?
A. It results in estimates of group support for candidates or propositions, or whatever you're analyzing, and provides confidence intervals -- or will provide confidence intervals.
Q. Does it yield a point estimate?
A. Yes.
Q. And what is a "point estimate"?
A. A point estimate is what is considered the best estimate of that behavior, of that level of support.
Q. And does the EI software also yield a confidence interval for each point estimate?
A. Yes.
Q. And what is the confidence interval?
A. It is a 95 percent -- well, I rely on a

95 percent confidence interval, and the confidence interval is an interval that says that we can be 95 percent confident, statistically, that the true value, meaning the real world true value, falls within that range.

The confidence interval -- it's still --
the point estimate is what the statistical analysis considers the best estimate, and the range can go -it goes up above it and goes below it, but the further you go from the point estimate the less likely that value is to be -- is the true value.
Q. And how do you quantify the diminished value for -- well, let's back up.

The confidence interval is, you said,
95 percent confidence that the true point is somewhere within the parameters of the high and low of the confidence interval, correct?
A. Very good. Yes.
Q. Okay.
A. You said it better than me.
Q. All right. And you said that the point estimate is the most likely?
A. The statistical routine says that is most --
out of this -- within this range, that is most likely to be the true value in the real world.
Q. And you said that as you move away from the point estimate it becomes less likely? Is that what you're saying?
A. That's correct.
Q. All right.
A. Every value within that point estimate is not equally likely to be the true value.
Q. But any point within the confidence interval will be at least 95 percent, correct?
A. No. I didn't say that something would be 95 percent. I believe what I said is that the statistical routine provides the 95 percent confidence interval, and that we can be confident, statistically, that the true value is somewhere within that interval -- we can be 95 percent confident that the true value is inside that interval.
Q. All right.
A. It doesn't mean any value in the interval is equal to -- or is equally likely to all other values in the interval.
Q. All right. I think I understand what you're saying.
A. Okay.

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Q. Not totally, but I understand it enough to move on to another question.
A. You may do it better than me.
Q. I'm going to save that for trial.
A. Oh, okay.
Q. I'm going to show off at trial. I don't want to do it now.

MR. ALFORD: It will be on the final exam. MR. FLOYD: Right.
Q. Did you do any other type of analysis, other than ecological inference?
A. Well, in my report -- I believe in the reply report -- I did an examination of school board elections. When I say "examination," I'm not -I don't mean to say that that entailed an EI analysis. This was simply in response to the defendants' experts comments on school board elections.

They also did not provide in their response to me any ecological -- any estimates of what the point estimates would be. In other words, there was no EI analysis of the school board elections. It was just the outcome of the elections.
Q. Have you ever done an ecological regression analysis?
A. Yes.
Q. And what is an "ecological regression analysis"?
A. Ecological regression analysis is a standard procedure in the social sciences, certainly, and maybe other disciplines. It was for a while a standard used -- used in a standard way in racially polarized voting analysis.

It is also a different routine than EI.
It is a routine that is based on, statistically, a straight line that is drawn through the data points, in effect, and before King's procedure was developed, it was the procedure widely relied upon. It was a procedure that was relied upon in Thornburg vs. Gingles. It was the source of the estimates there, and the court relied on those estimates.

King's routine is designed to be, and is, an improvement. King himself developed a routine in response to the racially polarized analyses that were being done in litigation, and I suppose also in the literature at the time.

He was motivated to create his procedure while in court listening to another expert talk about how the estimates were above 100 percent support for a group for a candidate, or even below zero, and he was dissatisfied with that, thought that had lots of

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problems with it, and so he developed his routine.
Q. Understood. What is a "homogenous precinct analysis"?
A. A homogenous precinct analysis is an analysis where the investigator looks at only the precincts that are defined as homogenous. I would say the standard definition is 90 percent or more, or -greater than 90 percent.

That just looks at the two extreme sets of precincts in terms of racial composition within them -- I'm sorry, when I said "90 percent," I meant presence of one group or the other group, or a third group, whatever kind of analysis is being done.

What that entails is simply looking at the votes cast in the homogenous precincts, those that are a homogenous minority of one type or another, or perhaps combined, and the other is the other voters, and you compare those two things.

People report them as -- or sometimes estimates of a citywide value, they should be reported simply as -- they're not estimates of anything, they're really just the results of calculating the votes in the two sets, extreme sets, of precincts, but they are sometimes used to infer to a jurisdiction overall.
Q. Have you ever utilized the homogenous precinct analysis?
A. Yes.
Q. And did you use it in this particular case?
A. No.
Q. Why not?
A. It's archaic. We don't need to do that.
Q. Was it possible to utilize the homogenous precinct analysis in this case?
A. Could I program a computer to give me the results of a homogenous precinct analysis?
Q. Right.
A. Certainly.
Q. Let me ask you this. Are you aware of the fact if there were any homogenous Hispanic precincts in this particular case?
A. It's my memory that there were none, based on that definition.
Q. What was the most homogenous Hispanic precinct that you're aware of in this particular case in terms of a percentage?
A. Well, there were none that would be considered homogenous, so I can't say which was the lowest among the homogenous.
Q. Were you aware if there was any precinct,

Hispanic precinct, in this case that was above 50 percent, that was a majority Hispanic precinct?
A. My memory is there was not.
Q. Do you know what the highest percentage that there was for any precinct for Hispanic composition in this case?
A. Hispanic composition being a percentage of voter sign-in or turnout? We use both expressions sometimes.
Q. Both.
A. Okay. Now, where were we?
Q. We're looking at the highest --
A. Oh, I'm sorry.
Q. -- Hispanic composition of those two.
A. Right. It would differ by election.

It wouldn't differ by the same election -- same ballot
one year, but it would differ from year -- from one
election day to another election day, to another election day.
Q. Right.
A. I think sometimes it was in the 30 percentage point range. I think one time it may have been 40 . That's what my memory is saying right now.
Q. Would that be significant to you as part of your analysis in this case?

MS. KHANNA: Object to the form of the question as overly broad and vague.
Q. Go ahead and answer the question.
A. Well, I'm not sure what you mean by "significant," but I will say that, yes, it's -- it creates a real world constraint on the efficiency of our estimates. Other things being equal, it would be preferable for analytic purposes to have a greater range of observation.
Q. What do you mean by that?
A. Well, what you're telling the computer is if you have a greater range, then there are precincts in which there are more Latinos, and so that influences the estimate on voting behavior, or could.

Now, with regression, it doesn't matter. I mean, regression gives you the same line, unless you have more points. Then if the points are different, it may have a different result.

But it is a real world constraint. It's not a mistake in application or anything. It simply reflects, in this instance, the presence of Latinos across all of the precincts in the city of Yakima.
Q. Does it have anything to do with the concentration of Latinos in the boundaries of the city of Yakima?
A. Well, it has something to do with the concentration and how the precinct lines are drawn.
Q. What are "scatter plots"?
A. Scatter plots are graphs that show the placement of a precinct. Generally, they're two-dimensional, and the independent variable or the X axis would be the percent of the minority presence, or -- yes, the Y axis would be the vertical axis.

\section*{Q. Right.}
A. Then on that you plot the percent of the vote for a particular candidate. It could be the percent of the vote for several candidates, if you wanted to do it that way. But it simply compares the presence, measured in some form, of the group in the precinct and -- across each of the precincts and the kind of vote that was cast in that particular precinct.

Those become -- those are like -- it can be different figures, but you can envision dots on a graph.
Q. On a graph, right, something that you would prepare in a statistics class, beginning statistics class, and you graph something on an X and a Y axis?
A. You could.
Q. Could you use the Excel program to prepare scatter plots?
A. You can use many programs to prepare scatter plots.
Q. You don't even need a program, you could just do it --
A. Well --
Q. You don't even need a program, you can just do it with the data, correct?
A. Well, you can eyeball it, you know, get a ruler out and do it, I suppose, but you can also have a statistical software create them for you.
Q. Have you ever utilized scatter plots in any cases?
A. Yes.
Q. All right. What is "voter crossover"?
A. Well, I think it might be best to keep it in the context of racially polarized voting.
Q. Sure, if you would like to.
A. Okay. Crossover generally refers to voters who are not in the minority group voting and how they vote, so it's -- generally, it's when -- the other voters, it's the level of the vote they give from their group to a particular -- well, to a minority candidate. That's where "crossover" comes.
Q. And how does voter crossover relate to voter polarization?

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A. It's basically prong 3 of Gingles, and it's -- you know, is it strong enough to defeat the -is it strong enough or, you know -- or insufficient to defeat the candidate of choice of the minority voters.
Q. So, if it is a majority -- well, let me give you an example. Let's assume that it's 51 percent non-Latino vote for a candidate, but there is 49 percent crossover. Would that still be voter polarization, in your opinion?
A. It would be a difference in candidate preferences. I tend not to talk about polarization as an election-specific thing. It's a characteristic of a group of elections.
Q. Let's assume we had a group of elections that were that way; 51 percent for the majority with a 49 percent crossover for the minority.
A. Yes.
Q. Would that, in your opinion, be polarization?
A. Well, I think maybe you're -- okay. I think you inverted what was majority and --
Q. I misspoke, then. Let me rephrase it.
A. Okay.
Q. So, 51 percent for the majority --
A. Okay.
Q. -- and 49 percent crossover for the Latino

1 vote
A. Are you talking about --

MS. KHANNA: I'm going to object to the form of the question. I think it mischaracterizes the previous testimony as what "crossover" was.

MR. FLOYD: I'm not characterizing any testimony. I'm asking him a hypothetical.
A. Well, you're talking about the crossover of the minority votes --
Q. No, I'm talking about --
A. -- so you're talking about 49 percent support for a white candidate --
Q. 49 percent --
A. -- or a non-Latino candidate.
Q. 51 percent for the non-Latino candidate, and then 49 percent of the non-Latinos support the Latino candidate --
A. Okay.
Q. -- so you've got 49 percent crossover and you've got 51 percent for the non-Latino candidate.
A. By non-Latino voters?
Q. Yes.
A. Okay.
Q. Would that be "polarization," in your opinion?

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A. Well, again, polarization in the context
we're talking about is not election-specific. It's a function of what you find in all of the elections you've analyzed.
Q. And what I'm asking is, is 51 percent, in your opinion, voter polarization?
A. It would --

MS. KHANNA: I'm going to object; asked and answered.
Q. Go ahead and answer.
A. Well, it would be the beginning of polarization, but certainly not very -- it's not intense polarization.
Q. And how do you measure or how do you quantify the intensity of the polarization? Would that be something called "cohesion"?
A. Well, you can talk about "cohesion" in this context as support of minority candidates, and then "crossover" as support of -- Latino support for candidates would be cohesion, non-Latino support for those same candidates would then be crossover.
Q. Crossover. All right.
A. And then your question was -- oh, quantify?
Q. Yes.
A. I'm not aware that there is a widely accepted
quantitative cutoff for how many elections have to be at what level of strength or anything like that.
Q. So you are not aware of any threshold, any minimum threshold, that you would be willing to testify to for polarization?
A. We're only aware of one classification scheme, and I would not be willing to testify based on that scheme.
Q. What do you mean by that?
A. Well, there's a political scientist who has a set of classifications, and I think at some point it's moderate, at some point it's strong, that kind of thing. It hasn't been accepted by the courts.

You throw away data when you do that regarding the classifications. You're saying -you may have .02 percent difference in -- let's say in the difference in the two groups, but he may say that -- let's see.

Let's say that you may have a .02 percent difference, say, in minority cohesion and he may say the lower one is moderate and the higher one is strong. You're throwing away information about the levels you've discovered.

So I'm not aware of any quantitative scheme. You know, other factors enter in -- well, in

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terms of the elections you analyze, I'm not aware of any particular scheme.

I am aware of the fact that not every
Latino candidate has to be supported by Latino voters to find racial polarized voting in a community. There is no requirement that Latinos vote for every single candidate who puts their name on the ballot.
Q. That would be 100 percent, though, correct?
A. 100 percent of what?
Q. Well, you're saying it doesn't have to be that every single Latino voter voted for a Latino candidate in order to have polarization, correct?
A. Correct -- every single -- I'm sorry, every single Latino candidate got 100 percent of the Latino vote?
Q. No, that's not what I said.
A. Okay.
Q. Let's back up. I'm getting confused.
A. I'm sorry.
Q. Let me ask this. You talked about moderate polarization, correct?
A. I said somebody has a classification scheme that says this would be moderate.
Q. How would you characterize the polarization in this particular case?
A. Very strong in general elections, very strong in all two-choice elections and less strong in primaries where there are more candidates. Latino voters may feel like they can't -- Latinos can't win and they're less likely, therefore, to cast a vote for them, until they're in the general election, and then that creates a lot of interest and possibility of winning.
Q. Is that your explanation for the differences in the apparent polarity between the primary and the general elections? Or do you have any additional explanations for that?
A. No. I can see why that might happen, and it could be that there are more candidates to choose from, which could distribute the vote over more. It may also be that when you continue to lose elections under an election system, people, minorities, have less motivation to participate in those elections.

But that motivation may increase when a Latino candidate has made it to the general election and is facing one white candidate. All I know is what I've discovered in the -- that's not an empirical explanation, that's just a possible explanation.
Q. Right.

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A. But what I do discover is there is quite a difference in voting behavior among Latinos between primaries and general elections.
Q. And you also analyzed the election of Mr. Jevons, correct, who was a Latino?
A. Correct.
Q. Was there polarity with respect to his election?
A. To clarify, the election that Mr. Jevons was in?
Q. Yes.
A. He didn't get elected.
Q. I'm sorry, the election involving

Mr. Jevons --
A. I am aware of that election in which he was a candidate.
Q. And was there racially polarized voting in that election?
A. To the extent I do believe that Latinos were in support of -- I forget the surname, but Folsom-Hill, maybe, something like that -my recollection is that they didn't support Jevons, that they had a preference for a white candidate in that election.
Q. And how was that racial polarization, if they
voted for a white candidate?
A. Well, I mean, if you -- some people like to analyze white-on-white elections. I don't do that. I'm just saying that in that context, Latinos did not support the Latino candidate.
Q. When you do your analysis of voter polarization, do you look at all of the elections and then make one determination as to whether there is racially polarized voting, or do you look at specific elections and say: This one is racially polarized, the next one is not racially polarized, this one has strong racial polarization and this other election is mild? Do you do that, or do you --
A. I do not do that.
Q. Why not?
A. I looked at the results.
Q. So, do you accumulate all the elections and then make a decision on polarization, for all of the elections, or do you make a determination as to each specific election?
A. Well, as I say, I don't make a determination of each specific election.
Q. All right.
A. I'm not interested in trees, I'm interested in the forest.

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Q. That's what I thought. And how many trees are in this forest?

MS. KHANNA: Object to the form of the question; broad and ambiguous.
A. I believe there were seven elections analyzed in the first report, and then two more in the second report.
Q. Did you do any analysis of the level of Hispanic participation in any of the elections?
A. Well, I'm aware of the level of Hispanic sign-in; in other words, people receiving ballots.
Q. Did you notice any variation in the amount of Hispanic participation in the various elections that you analyzed?
A. I don't recall looking at that.
Q. Is that something you believe would be significant in this case?

MS. KHANNA: Object to the form of the question; undefined term, "significant."
A. Certainly nothing that is necessary to do.
Q. How do you determine the Latino preferred candidate?
A. Well, the Latino preferred candidate would be the candidate that gets the most votes from Latinos in an election.
Q. And is there any particular threshold, minimum threshold, in terms of how many votes would have to be received in order to be designated the Latino preferred candidate, or is it just merely the person who gets the most?
A. Well, that is a threshold.
Q. The threshold is whoever gets the most, correct?
A. Yes.
Q. All right. Can you articulate any benefits from the current electoral system in Yakima? MS. KHANNA: I'm going to object it calls for speculation.
A. It's nothing I've examined.
Q. Well, you're familiar with the system, correct?
A. Yes.
Q. And you gave opinions about whether this particular system produced enhancing factors, correct?
A. Not produced them, entailed them.
Q. Entailed them.

Can you think of any benefits that would result from this particular system of electoral process in the city of Yakima?
A. Empirically, I can say the only thing I've
studied is -- would result in a disadvantage of the system, the opposite of a benefit. I haven't examined what people may see as benefits or think are benefits or what I would think are benefits. You know --.
Q. So is it your position that this particular electoral system in Yakima only yields negative benefits --
A. I said that --
Q. -- there is no positive?
A. The only thing I've studied is the impact on the ability of minorities to elect people from within their own group if they're their preferences. I haven't looked at the other things.
Q. How do you define "polarization"?
A. I did already.
Q. How do you define it in terms that are not racially -- can you think of polarization that doesn't involve race?
A. We've been through that, and I said yes, there can be other things.
Q. Right.
A. It may be Catholics and Protestants.

It might be men and women, you know, gay and straight
Q. Republicans and Democrats?
A. It could be.
Q. Could it be on gender, woman and man?
A. I did say that; yes.
Q. Would you agree that crossover is an
indication of lack of polarization?
A. Not in and of itself, no.
Q. Can it be an indication of lack of polarization?
A. Well, it would depend on what the crossover values were.
Q. And can you give me what your thresholds would be for those values?
A. For a lack of polarization?
Q. Yes.
A. I'd say --
Q. How much crossover would you have to have for you to say there is no polarization?
A. I would have to say that both groups support the same candidate, had the same preference.
Q. Equally?
A. No. In other words, the Supreme Court talks about the separate electorates test, which is, you know, who would win among one group and who woulc win among the other group.

If the same person wins in both groups,
they have the same candidate preference, and no one is
A. No, that's -- no crossover is not a definitional requirement of there being a racially polarized election.
Q. And that --
A. Hold it. I'm sorry, say it again. MR. FLOYD: Could you read it back, please.

> (The question was read back as requested.)
A. I answered that. I'm not going to agree with that. There's nothing that says you don't have polarized voting only when there is no crossover.
Q. And that's based upon what definition?
A. The Supreme Court's.
Q. Do you have a definition of "polarization" other than your understanding of what you believe to be Supreme Court decisions, past Supreme Court decisions, on this issue?
A. Okay, ask it again.
Q. Do you have a social science definition of "polarization" that's separate and independent of what your understanding of the Supreme Court's definition is?
A. That's a different question.
Q. That's a different question?

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going to be diluting the other person's -- other group's vote if that's the way elections occur.
Q. So if everyone votes for the same candidate, there is no polarization, correct?
A. If everyone votes for the same candidate?
Q. Right.
A. No, there would not be.
Q. Would there be polarization?
A. There would not be, actually.
Q. All right.
A. If that was characteristic of all of the elections, then no, there would not be.
Q. What if 50 percent of the people voted for one candidate and 50 percent voted for the other? Would there be polarization in that situation?
A. They have the same preference.
Q. Would you agree with the statement that if there is a truly polarized election, there is no crossover?
A. No.
Q. Why not?
A. Well, what do you mean by "truly polarized"?
Q. I mean completely polarized.
A. Okay. There would be no --
Q. Crossover?

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A. Well --.
Q. I have the option of changing my questions.
A. Okay. I asked you to repeat it.
Q. Sure.
A. No, I don't, but, of course, in the context of litigation, what matters is what the Supreme Court has said the concept refers to.
Q. Well, my question is, you don't have a social science definition of "polarization" independent of your understanding of the Supreme Court's definition; is that correct?
A. Correct.
Q. All right.

MS. KHANNA: We've been going about an hour and a half. Do you want to take a break?

MR. FLOYD: Sure.
(Brief recess taken.)
(The question was read
back as requested.)
Q. (By Mr. Floyd) Dr. Engstrom, would you look at Exhibit-1, page 12, paragraph 29, the third line from the bottom. It talks about the percentage of all of the ballots returned by Latino voters in Yakima ranging from 2.9 to 10.4 in these elections. Is that correct?
\begin{tabular}{rl} 
& Page 66 \\
1 & A. That's what it says, yes. \\
2 & Q. What do those numbers represent? Is this the \\
3 & turnout? \\
4 & A. It is the turnout in the sense of people \\
5 & receiving ballots. It is not election- -- it is not \\
6 & office-specific, however. My preference is to use \\
7 & sign-in for it if you've got a ballot whatever way. \\
8 & "Turnout" is sometimes referred to as \\
9 & election day turnout. "Turnout" can also be referred \\
10 & to the turnout for a particular office on the ballot. \\
11 & And this would be -- this is, as I say, of all of the \\
12 & ballots returned. \\
13 & Q. And 2.9 to 10.4 is a percentage, correct? \\
14 & A. Correct. \\
15 & Q. A percentage of what? Of the total ballots \\
16 & that were handed out? \\
17 & A. No, among those returning ballots. \\
18 & Q. So this would be the participation level by \\
19 & the Latinos in the election, correct? \\
20 & A. Turning out to vote on that day. \\
21 & Q. All right. \\
22 & A. Not necessarily voting in a particular \\
23 & city council election. \\
24 & Q. And the parameters, then, the low would be \\
25 & 2.9 percent, up to 10.4 percent, correct?
\end{tabular}

\section*{Q. Right.}
A. It refers to the extent to which a group of voters tend to support the same candidates.
Q. Did you do any analysis of voter cohesion, either Latino or non-Latino, in this particular case in any election?
A. Well, you would infer it from the tables.
Q. What do you mean by that?
A. Well, the tables provide the estimates, and the estimates would give you what would function as cohesion scores and crossover scores for each particular election.
Q. Are you talking about the tables that are contained on pages 15 and 16 of your first report?
A. Yes.
Q. Okay.
A. And so you could look at those across the elections and determine whether -- what cohesion was like.
Q. Well, let's start with Rodriguez. Tell me about how you would interpret cohesion as it relates to Rodriguez's primary election.
A. Well, it would -- I mean, the voters -she was the candidate of choice of Latino voters in both elections.

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A. Right. That's citywide.
Q. Understood.
A. That's not per precinct, that's citywide.
Q. And how does that compare with the non-Latino participation?
A. Well, if you divide -- if you subtract 2.9 and 10.4 from 100, you'll have the percentage of the non-Latino participation.
Q. So what you're saying is, if this data is correct -- well, the next phrase says, "The highest percentage of Latinos among those returning ballots in any of the precincts range from 18.6 to 41.9 across the elections," correct?
A. Correct.
Q. So that would be the participation within precincts, not the entire election?
A. Correct. Those are precinct-specific numbers.
Q. And as to any of these precincts, do you know if there was a majority of Latino registered voters?
A. I don't know.
Q. What is "voter cohesion"?
A. I thought we discussed that.
Q. Just one more time.
A. Okay. What is voter cohesion?

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Q. Why do you say that?
A. Because it was over a majority. In the primary it's lower, and in the general it is much higher, as I testified earlier, and you can see in the decisive election she is estimated to have received over 90 percent of the Latino votes.
Q. So what is your analysis of cohesion, then, with respect to the primary election first, and then with respect to the primary compared to the general, as it relates to Rodriguez?

MS. KHANNA: I'm going to object to the form of the question. He's already testified about the extent to which any individual elections -he formed a conclusion as to any individual elections.

MR. FLOYD: That was, I believe, on polarity. We're talking about cohesion now.
A. I thought you were talking in the context of cohesion.
Q. I am, yes. I was just commenting to her objection.
A. Oh, okay.
Q. So let's talk about --
A. I understand.
Q. Tell me about --
A. It's the same thing. You will notice in
my individual election analysis, I don't use the expression "cohesion." Cohesion is left at the end for looking at Latinos and how their voting behavior has been in these elections, plural.
Q. I'm sorry, plural?
A. Plural.
Q. Okay.
A. Elections plural.
Q. So cohesion would then be a function of --
A. Prong 2 is not an election-specific thing, it's the elections generally.
Q. All right. So is cohesion something that you believe should be a significant point of analysis for prong 2 ?
A. Well, prong 2 specifically says cohesion.
Q. And did you do a cohesion analysis?
A. Well, the scores for each election are there.

In my opinion, yes, the Latinos in Yakima are politically cohesive.
Q. And is that because the point estimates are above 50 percent?
A. Well, followed by point estimates above 90 percent. When we go from primaries to generals, and when there are fewer candidates, then it becomes one Latino versus non-Latino, there you see very acute
polarization, over 90 percent.
You see it repeated in the other 2009 election, for the one involving Soria, and then again, we see the primary is -- it's a candidate of choice. But, you know, the primary cohesion scores are similar. In these scores for the primary, the support level within the group for the Latino candidate is consistently lower in primaries than general elections.
Q. You mentioned "cohesion scores," and that's what I wanted to ask you about. What are you referencing as "cohesion scores"?
A. Well, "cohesion" refers to the level of support provided to the same candidates.
Q. All right.
A. Now, these are the scores that go into a determination of whether a group is politically cohesive in that jurisdiction.
Q. And what scores specifically are you looking at? 52.9, 92.8? Are those the point estimates?
A. Well, those are the point estimates for the first two elections in the table.
Q. Are you also looking at confidence intervals in determining whether there is cohesiveness?
A. No. I'm going to rely on the -- what the
statistical routine says are the best estimates.
I did note in my report that the confidence intervals are wider for Latinos than non-Latinos, and that is no doubt primarily a function of there aren't heavily Latino precincts.

So the machine is basically saying, you know, we're not -- this is not particularly what's called in statistics an efficient estimate.
Q. Did you do an analysis of the more heavily Latino precincts to see if there was cohesion within those subset of precincts?
A. There are no heavily cohesive -- excuse me, there are no heavily Latino precincts.
Q. All right. What is "ethnic voting"?
A. Whatever anybody wants to identify as ethnicity.
Q. Pardon me?
A. Different -- groups that are different in terms of ethnicity.
Q. That vote for ethnic reasons, or just that they vote for a particular candidate?
A. What was your question again, then?
(The question was read back as requested.)
A. Ethnic voting is voting along identity lines
in terms of that you're voting for, generally, candidates from within your own group.
Q. Within their own ethnicity?
A. Well, that would be the group, yes.
Q. Okay.
A. You're talking about ethnicity, so however it gets defined.
Q. Could ethnic voting be voting behavior that is not based upon ethnicity?
A. If groups are divided ethnically, then whatever anybody might suggest to be some intervening causal variable in turn relates to ethnicity.
Q. Why would it necessarily be related to ethnicity?
A. Well, if that's what somebody thinks is a causal factor, the intervening variable, take one step back and the intervening variable is, in turn, itself related to groups.
Q. But there could be other intervening variables other than ethnicity, correct?
A. Not if they relate to the racial -- to the group divisions in voting -- excuse me.

THE WITNESS: Repeat the question.
A. I can't ask her to, I'm sorry.
Q. No, you can go ahead and ask her.
A. Okay. I'll respect your turf better.
(The question was read back as requested.)
A. Well, what I'm saying is, is if these other variables relate to the ethnic differences in the voting, then these other variables in turn relate to ethnicity.
Q. It seems like circular reasoning, but I don't understand --
A. Well, it's actually more of -- considered a causal sequence if you put it in causal terms.
Q. Okay.
A. I mean, what you're saying is there may be intervening variables that relate to these voting patterns.
Q. Yes.
A. Okay. If those intervening variables are, themselves -- I mean, they have to be related to ethnicity if they're related to the ethnic differences in voting behavior, so they in turn are related to ethnicity.
Q. But they wouldn't necessarily be caused by ethnicity, correct?
A. No, related to.
Q. Okay.

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A. I mean, in some cases they may be caused by, but they relate to.
Q. Okay.
A. I can't preclude a causal connection.
Q. All right. I think I understand now.

Now, I want to finish up on your cohesion analysis. When did you do your cohesion analysis?
A. Prior to writing the first report.
Q. Right, but when with respect to your
analytical methodology did you do the cohesion analysis?
A. Well, the EI routine provides estimates of each group.
Q. Provides what?
A. Estimates of each group's support for the candidate, each group you're looking at.
Q. Okay.
A. So, you know, those are the levels of support. Now, you can look across the levels of support and ask yourself whether they're -- this group is politically cohesive or not.
Q. So are you saying that once you determine that there is a candidate of choice, then you believe that there is cohesive voting?
A. No.
Q. Well, then how do you determine what level of support constitutes cohesive voting and what level of support does not constitute cohesive voting?
A. As I said, I'm not aware of any quantitative scheme to tell you that. You can look at it and you can take context into account; for example, 52.9 percent in the primary followed by 92.8 percent in the general election.

What that meant was that in the decisive election, polarized voting was over 90 percent -excuse me, support for the Latino candidate among Latino voters was over 90 percent. All right?

I think that's quite important. That's when you get down to -- you eliminate additional candidates -- none of these generals have any more than two candidates on the ballot. All right?

So when you -- there may be lower support earlier. I said it could be there are simply more choices. It could be that Latino voters have, you know, been trying to elect people in this community unsuccessfully and have decided that, you know, this is not going to -- it's not going to happen.

So, you could start to vote for a candidate that isn't your sincere preference, but
rather a candidate that you prefer over the other available candidates.
Q. Well, I don't understand, because Rodriguez and Soria both ran in the primary election, correct?
A. Correct.
Q. They were Latinos that were on the ballot in both the primary and the general election, correct?
A. Uh-huh.
Q. So, if Rodriguez was the candidate of choice of the Latinos, why would they vote any different in the primary as opposed to the general election if all of their opponents are non-Latino?

MS. KHANNA: I'm going to object it calls for speculation.

You can answer.
A. It's motivation. It could be motivation.

The difference between sincere and strategic voting. All right? When they get into the general election -this is the end, this is the decisive election, and there are only two candidates -- then they may have more motivation to cast sincere ballots.
Q. And would motivation be a factor in determining whether there was voter cohesion?
A. Well, what it shows is high levels of support in the context in which they might be more motivated
to vote. It's not uncommon in American politics for people to look at a field of candidates and say: Yeah, but that person can't win, so I'm going to cast my vote for either the one I -- the next one I prefer or the one that is least offensive to me. That's called strategic voting.
Q. And do you have any evidence that there was strategic voting going on in Yakima?
A. No. I just say it's a context in which it could occur.
Q. Okay.
A. But I am much more impressed in this analysis with the general election levels of support. I mean, I think that's very significant, and that is the decisive election. When it came to that last election and who they voted for, it is quite significant.

You'll also notice Proposition 1 occurred in the primary, but it was still a two-choice election, yes or no, and that is also up above 90 percent.
Q. What about Gonzalez?
A. Gonzalez? I don't recall how many candidates.
Q. Only two.
A. Okay.
Q. I'm holding up two fingers. I'm coaching you. There are only two.
A. Then it could have been two.
Q. Okay.
A. And they supported him at over a 60 percent
level. You know, in U.S. elections, that would
normally be -- if somebody wins with over 60 percent, it's generally considered a landslide.
Q. All right. Let's talk about Dr. Alford's reports -- well, let me finish with your report first.
A. All right.
Q. If you look at page 13 of your report, paragraph 33, you indicate --
A. Hold it. Page 13?
Q. I'm sorry, page 13.
A. And the paragraph?
Q. Paragraph 33 there at the bottom.
A. 33, okay
Q. You indicate here, "Based on the analysis reported above, I conclude that Latinos have constituted a cohesive voting group in Yakima ...". That was your conclusion, correct?
A. Correct.
Q. And have we talked about all the bases for your conclusion that the Latinos constituted a
cohesive voting group in Yakima?
A. I believe we have.
Q. And where it goes on here, "... and that the non-Latino majority has routinely voted sufficiently as a bloc to defeat those choices," is that also your opinion?
A. Yes.
Q. And when you say "routinely," what do you mean by that?
A. Well, did any of these Latino candidates win in Yakima, or did they get their preference in terms of Proposition 1?
Q. Okay. So they --
A. So --.
Q. You say that the --
A. None of the city council candidates won, because Hollis did not win in Yakima. He did win the seat, but it's statewide, I believe, or involves more than Yakima. And even the primary. So I would say it's -- one, two, three four -- five to five, in effect.
Q. You say "sufficiently as a bloc," b-l-o-c, correct?
A. Yes.
Q. What do you mean by "bloc? How do you define
"bloc"?
A. Just voting together to result in a defeat of the other --.
Q. Sufficient to win the election is what you're saying?
A. Basically, yes.
Q. All right. So that would be a majority, then?
A. Sufficiently to win the election?
Q. Right. It would be a majority if there were only two candidates. They voted in a, quote, bloc, unquote, sufficiently to win the election. Is that what you're saying?
A. Yes.
Q. And you didn't do any cohesive analysis of the non-Latino vote, correct?
A. Well, there's the levels of support for the non-Latino candidates, and as you can see, they have not supported a non-Latino candidate.
Q. What about crossover? Would that be something you would want to look at, to see if there was support among the non-Latino voters for the Latino candidate?
A. And when I said the level of support for the non-Latino candidates -- non-Latino voters for the

Latino candidates, that's exactly what would end up going into a sufficiently -- that they vetoed the choices of the Latino voters.
Q. "Veto" meaning that the Latino choice lost, correct?
A. Yes.
Q. All right.
A. Every time.
Q. Does the level of participation by Latinos have any effect on whether the non-Latino majority could block the preferred choices of the Latino community?
A. It wouldn't make a difference in the candidate preference, but, sure. If -- could you repeat the question, I'm sorry.
Q. I'll have her read it back. I don't know that I can do again.
(The question was read
back as requested.)
A. Yes, it can.
Q. Could you explain that.
A. Well, it depends on turnout, if they don't participate. But as I've said, they may not participate because they view the system as diluted.
Q. You don't know why they wouldn't participate,

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\section*{right?}
A. I think that's one reason why they might not.
Q. Did you do anything to determine what,
if any, reason the Latinos didn't turn out for any of the elections?
A. I didn't do any console analysis, no.
Q. All right. Could you look at page 2 of your second report, your reply report, Exhibit No. 2, please.
A. (Witness complies.) I'm there.
Q. All right. In paragraph 6, you talk about,
"The most important thing that Dr. Alford states about my RPV analysis is that his estimates and my estimates of Latino voter cohesion and non-Latino crossover voting are substantially very similar." Did I read that correctly?
A. Yes, you did.
Q. All right. What was your estimate of

Latino voter cohesion? I want to make sure we're comparing --
A. My estimate of it?
Q. Yes.
A. I don't have a particular number estimate.

I look over the elections and I find that in all the
elections they supported Latino candidates, and in
decisive elections they are over 90 percent
Q. And you also analyzed "non-Latino crossover"?
A. Yes.
Q. And how is your analysis of non-Latino
crossover substantively similar to Dr. Alford's?
A. I'm saying -- well, I didn't say it was
substantially similar. I said Dr. Alford said that.
Q. So you disagree with his characterization?
A. Oh, excuse me. We are on the second report.
Q. That's right.
A. Oh, I'm sorry. No, I don't. I think our estimates are quite similar. I apologize.
Q. And are your conclusions, based upon the data, similar or substantively similar to Dr. Alford's?
A. No.
Q. I take it you have no criticism of Dr. Alford's methodology, it's just his conclusions based upon interpretation of the data, correct?
A. Well, I will criticize his methodology when he relies on homogenous precincts and ecological regression as opposed to inference. He talks about R-squareds as if they're a measure of racially polarized voting, I believe, and they are not a measure.
Q. What are "R-squareds"?
A. R-squareds, they're in a column in his table, page 10 of his report.
Q. But what are "R-squareds"?
A. R-squareds are statistics coming out of regression based on a linear assumption in terms of group voting behavior, and that statistic, in effect, says how much of the variation around the mean -support for a candidate across all precincts, how much of the variation can be accounted for by the regression line.
Q. All right. How many simulations did you utilize for the EI analysis?
A. One hundred.
Q. Could you look at Exhibit-3, which is your supplemental report.
A. Yes.
Q. Do you have that?
A. Yes.
Q. This was your analysis of the Reynaga and Jevons elections, correct?
A. The elections in which they were candidates.
Q. Yes.
A. That's correct.
Q. What were your conclusions with respect to
the Jevons election?
A. That Jevons was not the candidate of choice of Latino voters.
Q. And why was that?
A. Because Latinos cast more votes for Folsom-Hill.
Q. And Folsom-Hill was a white female?
A. Well, I --.
Q. Or do you know?
A. I believe that's the case, but I have never met her, so --.
Q. Okay.
A. I think it's been represented to me that she's a white female.
Q. And then you also, on page 4, had some comments about school board elections; is that correct?
A. Yes.
Q. And I noticed in your documents that you had looked at some Facebook pages and some newspaper articles with respect to school board elections?
A. Facebook pages?
Q. I think so.

MS. KHANNA: I'm going to object.
There are no Facebook pages --.
Page 87
based upon the newspaper articles at trial or not?
A. The newspaper articles basically document the descriptive information that was provided, that she said that she wasn't a candidate anymore, that she, in fact, was withdrawing, that she hadn't filled out some of the paperwork required of a candidate during the campaign and at some point she withdrew. So they just document the descriptive information provided.
Q. Did you do anything to verify if what was indicated in the newspaper article was true or not?
A. No. There were more than one newspaper article, so I took them at face value.
Q. So does multiple newspaper articles make it more credible than just a single one? I mean, you could have checked with the Yakima County elections department to see if she had actually withdrawn, correct?
A. Well, she didn't apparently actually withdraw, because her name was on the ballot.
Q. Right. And do you know what Price's position is with respect to the allegations in the newspaper article, whether she claims they're true or not?
A. I'm not aware that she claims they were untrue. I am aware that she said, Okay, I'll take my seat.

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Q. All right.
A. That's not a quote.
Q. Are you going to rely --
A. I mean, it's --.
Q. Do you intend to rely upon these school board elections at all in your opinions?
A. Only in response to what your experts have said.
Q. Okay.
A. I don't think we need to go to any of the exogenous elections. We don't need to in this case. We know about the voting behavior for the city council. But this is in response to what they were saying about the school board elections.
Q. And "exogenous elections," can you define that for me. What does that mean?
A. Those are elections to an office not at issue in the litigation.
Q. And that would include areas that are outside the boundaries of the city of Yakima?
A. Not in my analyses it wouldn't. The school board might.
Q. That's what I'm saying.
A. I mean -- okay. Yeah, the school board, I understand, is not exactly coterminous with
the city, so it would involve more than the city. Maybe a little less than the city, too. I'm not sure exactly where the non- -- where they are not identical.
Q. But it would certainly involve a different electorate for the school board than for the city council; you would concede that?
A. To some extent, yes.
Q. Did you analyze the differences between the composition of the respective electorates for school board and city council positions at the precinct level?
A. No.
Q. And Mr. Cooper did not do that, either, correct?
A. I have no idea whether he did.
Q. He didn't give you that data, though?
A. No.
Q. Do you normally rely on --
A. I don't believe so. No.
Q. Do you normally rely on newspaper articles?
A. Sure, at times.
Q. And why do you rely upon newspaper articles?
A. Well, it depends what the information is. If it's descriptive information, I'm more likely to

\section*{Page 91}
rely on them than if it is a causal inference within a newspaper article.
Q. All right.
A. This is simply descriptive information.

If it's not valid information, I'm sure that, you know, you will bring that up.
Q. I notice here that you have underlined on a certain document what looks like a comment, perhaps, to some article --

MS. KHANNA: I'm sorry, is this an exhibit?

MR. FLOYD: Yes. I'll make it an exhibit if you want.
Q. You underlined something that says, "My decision to vote for Rice was racially motivated, not because I didn't want to elect an Hispanic, but because looking at all of the rest of the positions and who was running, it almost felt like an affirmative action vote." Why did you underline that, "racially motivated"?

By the way, maybe you didn't underline it. Did someone else underline that?
A. I suspect I did, because it was a very interesting statement, but I don't rely on these statements. These are just comments.
Q. All right.
A. I don't know the basis of somebody saying their vote was racially motivated.
Q. The fact that one person said that and then gave an explanation that it felt like it was an affirmative action vote, that doesn't affect your opinion, then?
A. None of that reflects my -- influenced my opinion. My opinion was -- simply relies on the descriptive characteristics of Ms. Rice, and I don't do any kind of analysis except note what happened in the school board election in response to what the defendants' experts had been saying about the school board elections.
Q. And the defendants' experts have never said that there was any racial motivation in the school board elections, correct?
A. I don't know if they did or not. I'm just saying that this was another instance of a Latino being appointed to the school board and then being defeated in the subsequent election.
Q. Well, I'm just trying to sort out why you would be looking at newspaper articles, and it sounds like you didn't rely upon the newspaper articles for any of your opinions; is that correct?
A. Well, for the descriptive information.
Q. Only for the descriptive information?
A. As I recall, the attorneys told me that this woman had withdrawn, hadn't filed proper papers for a candidate, and I think I said, "Can you send me documentation on it."
Q. All right. But you don't normally rely upon newspaper articles for any other reason, other than for the content that you've read, correct?
A. Other than the content of --?
Q. Other than for factual matters.
A. Oh, it would depend on what the investigation is about.
Q. Have you ever relied upon newspaper articles for any other purpose? I'm trying to find out if that, in your opinion, is a legitimate source for a reputable social scientist to rely upon.

MS. KHANNA: Object to the form of the question; argumentative. And also vague and ambiguous in terms of "rely upon" for what?

MR. FLOYD: For any reason.
A. Social scientists rely on newspaper articles. I've relied on newspaper articles in scholarly writing certainly. Again, as I said, I think it depends what information you're getting. Descriptive information,
\begin{tabular}{|c|c|c|c|}
\hline & Page 94 & & Page 96 \\
\hline 1 & I think, is more reliable, but when it comes to causal & 1 & Q. All right. \\
\hline 2 & inferences and things -- yeah. & 2 & A. I think they are -- would not be considered \\
\hline 3 & Q. Okay. That's all I wanted to get. & 3 & "substantively very similar" to those that I report. \\
\hline 4 & A. Okay. & 4 & Q. Any other criticisms? \\
\hline 5 & Q. I think I may be -- well, let's talk about & 5 & MS. KHANNA: I need to object as overly \\
\hline 6 & Dr. Alford's reports. & 6 & broad. \\
\hline 7 & In your supplemental report and in your & 7 & Q. Well, take your time and read the entire \\
\hline 8 & reply, did you deal with all of your criticisms of & 8 & report. \\
\hline 9 & Dr. Alford's reports? & 9 & A. Okay. \\
\hline 10 & A. Well, I certainly did in the reply report up & 10 & Q. If you want to. I don't want to have any \\
\hline 11 & to that point. & 11 & surprises at trial, so if you need to read the entire \\
\hline 12 & Q. Okay. & 12 & report right now, please do it, because I want to know \\
\hline 13 & A. I mean in terms of empirical matters. & 13 & if there are any additional criticisms. \\
\hline 14 & Q. Yes. & 14 & A. Okay. \\
\hline 15 & A. Now, my supplemental report, I believe, & 15 & Q. I don't want to have any games played by \\
\hline 16 & preceded his, and so I didn't write any -- or there's & 16 & saying: Well, I didn't read it that carefully, so if \\
\hline 17 & no critique of what he did in the supplemental report. & 17 & you would just read it right now, I'd appreciate it. \\
\hline 18 & Q. And do you have any additional criticisms to & 18 & MR. FLOYD: And while he's reading it, \\
\hline 19 & offer of any of Dr. Alford's reports at this time? & 19 & let's go ahead and take a break. \\
\hline 20 & A. I think I would -- do we have his -- where is & 20 & MS. KHANNA: Are we off the record? \\
\hline 21 & his --? & 21 & MR. FLOYD: We're off the record. \\
\hline 22 & MR. FLOYD: We'll mark the supplemental & 22 & (Brief recess taken.) \\
\hline 23 & report of Dr. Alford as the next exhibit. & 23 & Q. (By Mr. Floyd) Dr. Engstrom, you've had \\
\hline 24 & (Exhibit No. 5 marked & 24 & a chance to look at Exhibit No. 5, correct? \\
\hline 25 & for identification.) & 25 & A. Correct. \\
\hline & Page 95 & & Page 97 \\
\hline 1 & Q. (By Mr. Floyd) Do you have Exhibit-5 in & 1 & Q. And you've had a chance to carefully review \\
\hline 2 & front of you? & 2 & Exhibit No. 5? \\
\hline 3 & A. I'm sorry? & 3 & A. Yes. \\
\hline 4 & Q. Do you have Exhibit-5 in front of you? & 4 & Q. And can you tell me if there are any \\
\hline 5 & A. Yes, I do. & 5 & additional criticisms of Exhibit No. 5 that you have \\
\hline 6 & Q. All right. If you would look at Exhibit-5, & 6 & at this time. \\
\hline 7 & tell me if you have any additional criticisms of & 7 & A. Yes. On page 1, I believe, Mr. Alford -- \\
\hline 8 & Dr. Alford's opinions. & 8 & excuse me, Dr. Alford refers to a support level of \\
\hline 9 & A. Well, I -- & 9 & 70 percent, Latino support for Villaneuva as "modest \\
\hline 10 & MS. KHANNA: Object to the question as & 10 & Hispanic cohesion" in that election. I don't think \\
\hline 11 & overly broad. & 11 & 70 percent support is a modest level of support for \\
\hline 12 & Q. Go ahead and answer. & 12 & a candidate from the group. \\
\hline 13 & A. I don't think I agree with him on the results & 13 & Q. All right. \\
\hline 14 & of the EI analysis being -- or two EI analyses being & 14 & A. I would also say that on page 3 he refers to \\
\hline 15 & "substantively very similar ..." -- excuse me, his & 15 & these results of his in this report, "continue the \\
\hline 16 & analysis being "substantively very similar to those & 16 & pattern of weak to nonexistent minority cohesion." \\
\hline 17 & reported by Dr. Engstrom." & 17 & Well, I don't think there is a pattern of "weak to \\
\hline 18 & Q. Where are you reading? & 18 & nonexistent minority cohesion," which he says was \\
\hline 19 & A. Page 3, the first sentence under the table. & 19 & evident in the initial reports in this case. That \\
\hline 20 & Q. All right. Explain why you disagree with & 20 & covered earlier elections. I would take issue with \\
\hline 21 & that comment. & 21 & that, the way he expresses that. \\
\hline 22 & A. Because I think there are important & 22 & Q. All right. \\
\hline 23 & differences in the estimates. The Latino support for & 23 & A. Then on page 4 he concludes by saying that \\
\hline 24 & Reynaga, certainly, and the Latino support for & 24 & "so geographically" -- Latinos are "so few in number \\
\hline 25 & Folsom-Hill. & 25 & and so geographically disbursed and their \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline & Page 98 & & Page 100 \\
\hline 1 & participation rates are so low, in effect, that their & 1 & program with three candidates, and that confirmed that \\
\hline 2 & lack of election success cannot be simply attributed & 2 & Folsom-Hill, I believe, was the candidate of choice of \\
\hline 3 & to the at-large election system that is employed." & 3 & Latino voters. \\
\hline 4 & First of all, I think that would require & 4 & Q. So you did all candidates for Jevons and you \\
\hline 5 & seeing what would happen if the election system were & 5 & did a single run for Reynaga, correct? \\
\hline 6 & changed and there were -- there was at least a & 6 & A. Well, not a single run. \\
\hline 7 & district with a Latino majority of citizen voting age & 7 & Q. But you ran -- \\
\hline 8 & population. & 8 & A. I mean, they both are a single run of the \\
\hline 9 & I would also note that the at-large -- & 9 & program. \\
\hline 10 & that I believe the at-large system in Yakima is & 10 & Q. Right. \\
\hline 11 & diluted, and that, in turn, can have a chilling effect & 11 & A. In the first election, there was Reynaga \\
\hline 12 & on participation levels, so I don't think we can & 12 & versus the other candidates. \\
\hline 13 & simply conclude as he does. & 13 & Q. Okay. \\
\hline 14 & The test really does require an & 14 & A. All right? And then in the -- and that \\
\hline 15 & illustrative prong 1 district, and the assessment of & 15 & concluded to me that Reynaga was the choice. \\
\hline 16 & that is not turnout in an election system that is in & 16 & You can't divide two other candidates and get more \\
\hline 17 & itself diluted but what happens when you create a & 17 & than 67.4 percent of the vote. There's not enough of \\
\hline 18 & restructure of the competition so that there's a & 18 & them left. \\
\hline 19 & reasonable opportunity to elect candidates of their & 19 & And in Jevons, then, because of that \\
\hline 20 & choice. & 20 & initial bivariate -- excuse me, two-candidate run, \\
\hline 21 & Q. Any other criticisms or disagreements? & 21 & I did all three, and those results in the table are \\
\hline 22 & A. I think that's it. & 22 & from all three. Also, the results of all three are in \\
\hline 23 & Q. All right. Now, when you & 23 & the text when I talk about the Folsom-Hill -- I'm \\
\hline 24 & A. I could go on to the vitae. & 24 & sorry, I forgot, but the thing where I identify the \\
\hline 25 & Q. Pardon me? What was that? & 25 & estimate as 49.7 percent. \\
\hline & Page 99 & & Page 101 \\
\hline 1 & MR. ALFORD: Don't go there. & 1 & Q. And then did you use the default for your \\
\hline 2 & MS. KHANNA: He could go on to the vitae. & 2 & random number, C ? \\
\hline 3 & MR. FLOYD: Oh, okay. & 3 & A. Yes. \\
\hline 4 & Q. Let me ask you a couple of concluding & 4 & Q. And do you know what the number was, \\
\hline 5 & questions. & 5 & if you're going to replicate it? \\
\hline 6 & A. Okay. & 6 & A. 100. \\
\hline 7 & Q. When you did your analysis for the Reynaga & 7 & Q. The default? \\
\hline 8 & and Jevons elections, did you run a single E1 for each & 8 & A. Yeah, the default. \\
\hline 9 & candidate or did you run an E1 for all of the & 9 & Q. What default number did you use for your C? \\
\hline 10 & candidates? & 10 & A. For my what? \\
\hline 11 & A. Let me see. I believe in these -- the & 11 & Q. For your random C. What did you use -- \\
\hline 12 & Reynaga estimate was 67.4 percent, so I did not feel a & 12 & A. My random C simulation? \\
\hline 13 & need to in any way further identify who might have & 13 & Q. Right. \\
\hline 14 & been the Latino candidate of choice. So that is, & 14 & A. 100. \\
\hline 15 & I believe, a bivariant -- excuse me, that's just & 15 & Q. 100? \\
\hline 16 & Reynaga versus the others. & 16 & A. (Nods affirmatively.) \\
\hline 17 & Q. Okay. & 17 & Q. And did you use that same number on all of \\
\hline 18 & A. All right? Now, in Jevons, that's a function & 18 & the runs, one hundred? \\
\hline 19 & of including all three candidates in one equation, & 19 & A. I believe the entire -- \\
\hline 20 & because I did not conclude -- I could not tell that & 20 & MS. KHANNA: Object to the form of the \\
\hline 21 & Jevons was the candidate of choice for Latino voters & 21 & question. It's a little unclear what we're referring \\
\hline 22 & at 39.3 percent. & 22 & to as 100 . \\
\hline 23 & It's mathematically possible some other & 23 & Q. Go ahead. \\
\hline 24 & candidate got more votes. In fact, my analysis & 24 & A. All these election analyses are based on the \\
\hline 25 & indicates that, so I put the other two in and ran the & 25 & default option of 100 simulations. \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|c|}
\hline & Page 102 & & Page 104 \\
\hline 1 & Q. Understood. Actually, this is not an & 1 & \\
\hline 2 & important point, so I'll move on and see if I have & 2 & SIGNATURE \\
\hline 3 & anything else. & 3 & \\
\hline 4 & Have you ever been to Yakima? & 4 & \\
\hline 5 & A. No. & 5 & I declare under penalty of perjury under \\
\hline 6 & Q. And are you going to be available for trial & 6 & the laws of the State of Washington that I have read \\
\hline 7 & in May? & 7 & my within deposition, and the same is true and \\
\hline 8 & A. As far as I know. & 8 & accurate, save and except for changes and/or \\
\hline 9 & Q. Do you plan on doing anything else between & 9 & corrections, if any, as indicated by me on the \\
\hline 10 & now and trial? & 10 & CHANGE SHEET flyleaf page hereof. \\
\hline 11 & A. No. I haven't been asked to. & 11 & \\
\hline 12 & Q. All right. Thank you. & 12 & \\
\hline 13 & MR. FLOYD: Nothing further. & 13 & Signed in .............., Washington, \\
\hline 14 & (Discussion off the record.) & 14 & on the .......... day of ................., 2014. \\
\hline 15 & MR. FLOYD: Dr. Engstrom, thank you very & 15 & \\
\hline 16 & much. We're going to order it, and you are entitled & 16 & \\
\hline 17 & to read this to make sure it's been accurately & 17 & \\
\hline 18 & transcribed, so -- & 18 & \\
\hline 19 & THE WITNESS: Read and sign. & 19 & RICHARD L. ENGSTROM, Ph.D. \\
\hline 20 & MR. FLOYD: Read and sign? & 20 & TAKEN: February 18, 2014 \\
\hline 21 & THE WITNESS: Yes. & 21 & \\
\hline 22 & MR. FLOYD: All right. Thank you very & 22 & \\
\hline 23 & much. & 23 & \\
\hline 24 & (Discussion off the record.) & 24 & Mary A. Whitney, CCR - WCRL \#2728 \\
\hline 25 & & 25 & \\
\hline & Page 103 & & Page 105 \\
\hline 1 & (Deposition adjourned at & 1 & \\
\hline 2 & 11:42 AM.) & 2 & CERTIFICATE \\
\hline 3 & (Signature reserved.) & 4 & STATE OF WASHINGTON ) \\
\hline 4 & -o00- & 5 & COUNTY OF KING ) \\
\hline 5 & & 6 & I, the undersigned Washington Certified Court \\
\hline 6 & & 7 & Reporter, hereby certify that the foregoing deposition \\
\hline 7 & & 8 & upon oral examination of RICHARD L. ENGSTROM, Ph.D. was taken stenographically before me on February 18, \\
\hline 8 & & & 2014, and thereafter transcribed under my direction; \\
\hline 9 & & 9 & That the witness was duly sworn by me pursuant \\
\hline 10 & & 10 & to RCW 5.28.010 to testify truthfully; that the \\
\hline 11 & & 11 & transcript of the deposition is a full, true and correct transcript to the best of my ability; and that \\
\hline 12 & & & I am neither attorney for, nor a relative or employee \\
\hline 13 & & 12 & of, any of the parties to the action or any attorney or counsel employed by the parties hereto, nor \\
\hline 14 & & 13 & financially interested in its outcome; \\
\hline 15 & & 14 & I further certify that in accordance with \\
\hline 16 & & 15 & examine, read, and sign the deposition within 30 days \\
\hline 17 & & 16 & upon its completion and submission unless waiver of signature was indicated in the record \\
\hline 18 & & 17 & \\
\hline 19 & & 18 & IN WITNESS WHEREOF, I have hereunto set my \\
\hline 20 & & & hand this 25th day of February, 2014. \\
\hline 21 & & 19
20 & \\
\hline 22 & & 21 & /s/ Mary A. Whitney \\
\hline 23 & & 22 & \\
\hline 24 & & 23 & \\
\hline 25 & & 24
25 & Mary A. Whitney, CCR - WCRL \#2728 \\
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Richard L. Engstrom, Ph.D.
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