

EXHIBIT B

Rebuttal Report Submitted on Behalf of Plaintiffs in
Amber Sherman, et al. v. Tre Hargett, et al., No. 26 Civ. 616

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I. Introduction

1. I, Kassra A.R. Oskooii, am over 18 years of age and am competent to testify.
2. I submitted an expert report in this case on May 12, 2026 (“Oskooii Report”), which sets forth my qualifications and compensation.
3. I have been asked by counsel for the plaintiffs to review Dr. Michael Barber’s May 27, 2026, report in this case (“Barber Report”), and herein provide my assessments about the conclusions he has reached related to my analyses.
4. Additionally, I was asked to examine Dr. Barber’s conditional simulation analysis and findings (Barber Report, pgs. 17-24) and opine about its reliability.

II. Response to Dr. Barber’s Assessments of My Analyses

5. Dr. Barber does not dispute or contest the following:
 - a. Any of the data and methods I relied on.
 - b. The numerical accuracy of any of my results.
 - c. District 9 of the 2022 Map was dramatically changed under the 2026 Map, and the 2026 Map splits more counties, municipalities, and VTDs relative to the 2022 Map.
 - d. The 2026 Map is relatively less compact than the 2022 Map.
 - e. Shelby County was split across three districts under the 2026 Map, cracking the Black Voting Age Population (“BVAP”) roughly into thirds.
 - f. The splitting of the Black population in the city of Memphis is striking such that Districts 5 and 9 of the 2026 Map received nearly identical shares of the BVAP, with only a 252-person difference between them.
 - g. Voting within the boundaries of District 9 of the 2022 Map and Districts 5, 8, and 9 of the 2026 Map is racially polarized such that Black voters generally support one set of candidates and White voters generally support different and opposing sets of candidates. Stated differently, candidate preferences clearly diverge across racial groups.
 - h. The candidates preferred by Black voters consistently lose in Districts 5, 8, and 9 of the 2026 Map, while they were able to win in District 9 of the 2022 Map. That is, the 2026 Map has effectively eliminated Black voters’ ability to elect their candidates of choice relative to the 2022 Map.

- i. In the 2022 Democratic Primary for Governor, White voters preferred the White candidate, Jason Martin, while Black voters preferred the Black candidate, J.B. Smiley Jr.
 - j. With the exception of Shelby County, which is majority-Black, the White-preferred White candidate, Martin, defeated the Black-preferred Black candidate, Smiley, in all counties west of Williamson and Rutherford and east of Madison in which Districts 5, 8, or 9 of the 2026 Map partially or fully stretch into, including Bedford, Benton, Carroll, Chester, Decatur, Giles, Hardin, Henderson, Henry, Hickman, Houston, Humphreys, Lawrence, Lewis, Lincoln, Marshall, Maury, McNairy, Montgomery, Moore, Perry, Stewart, and Wayne.
6. Instead, of disputing any of the analyses and results, he appears to attribute them to partisanship,¹ even though I was not asked to ascertain the motivations of the legislature in crafting the 2026 Map, nor was I asked to determine if only partisan or racial motives explain the choices made by the legislature.
7. However, Dr. Barber appears to engage in the sort of analysis that I was not asked to conduct. And in doing so, he appears to offer conclusions that, in my opinion, are speculative, at times contradictory, and devoid of key research findings in political science and related disciplines on the relationship between race and partisanship.
8. For example, he argues that because race and partisanship are highly correlated, any analyses offered by Plaintiffs' experts poses "significant inference problem[s]" (Barber Report, pg. 24). Despite making such a claim, it did not stop Dr. Barber from reaching the conclusion that the 2026 Map "...is more consistent with a plan designed to achieve a partisan objective by dividing Tennessee's largest concentrations of Democratic voters. Because Black voters in Shelby County are also heavily Democratic voters, that partisan strategy has racial effects" (Barber Report, Pg. 6).
9. However, using his own logic, one could easily reach the exact opposite conclusion: that the 2026 plan was designed to achieve a racial objective by dividing Tennessee's largest concentration of *Black voters*. And because Black Voters in Shelby County are also heavily Democratic voters, that *racial strategy* has *partisan effects*. Dr. Barber's report provides no reason to infer causation one way or the other.
10. In attempting to interpret the racially polarized voting ("RPV") findings I provided, Dr. Barber claims that "estimated racial polarization is also estimated partisan polarization" (Barber Report, pg. 31). However, if race were devoid of influence over political preferences in this jurisdiction, including over partisanship, one would not expect to find such sharp sorting of votes along racial lines.
11. In fact, decades of prominent research in political science and fields such as economics have provided compelling evidence that race and racial attitudes, particularly in the former

¹ Barber Report, pg. 6.

confederate states,² have played a central role in structuring party loyalties and voting behavior even on non-racial issues, examples of which I provide below.

12. Carmines and Stimson's (1989)³ *Issue Evolution* shows that race served as the central catalyst that restructured partisan coalitions, with racial politics reshaping party cues and mass partisanship over several decades.
13. Kinder and Sanders' (1996)⁴ *Divided by Color* finds that racial resentment is the most powerful determinant of White opinion on a wide range of racially charged policies, including welfare, affirmative action, and school desegregation, and documents how racial resentment also shapes vote choice and party identification itself. In other words, the Democratic and Republican parties have become differentiated not just by policy platforms but by the racial attitudes of their respective coalitions.
14. In *Post-Racial or Most-Racial*, Tesler's (2016)⁵ finds that rather than ushering in a post-racial era, the Obama presidency intensified the role of race in American politics, a phenomenon he calls the "spillover of racialization." Racial attitudes increasingly structured not only evaluations of Obama himself, but also evaluations of his political rivals, party identification, and opinions on policies with no explicit racial content, such as health care and assessments of economic conditions. Tesler's central argument is that this rapidly intensifying influence of race is what has driven the deepening partisan divide between Democrats and Republicans.
15. In *The Roots of Polarization*, O'Brian (2024)⁶ shows that partisan divide over civil rights in the 1960s was not an isolated realignment but the foundational event that subsequently organized partisan conflict across a wide range of culture-war issues, such as abortion, gay rights, gun control and immigration. The implication is that what appears today as polarization over non-racial issues is, at its roots, an extension of the original racial fault line that split the parties in the 1960s. In this sense, race does not merely correlate with partisanship, it has actively constituted it.
16. Kuziemko and Washington' (2018)⁷ *American Economic Review* article of *Why Did the Democrats Lose the South?* shows that backlash to Civil Rights legislation explains almost the

² South Carolina, Mississippi, Florida, Alabama, Georgia, Louisiana, Texas, Virginia, Arkansas, North Carolina, and Tennessee.

³ Carmines, E. G., & Stimson, J. A. (1989). *Issue evolution: Race and the transformation of American politics*. Princeton University Press.

⁴ Kinder, D. R., & Sanders, L. M. (1996). *Divided by color: Racial politics and democratic ideals*. University of Chicago Press.

⁵ Tesler, M. (2016). *Post-racial or most-racial? Race and politics in the Obama era*. University of Chicago Press.

⁶ O'Brian, N. A. (2024). *The roots of polarization: From the racial realignment to the culture wars*. University of Chicago Press.

⁷ Kuziemko, I., & Washington, E. (2018). Why did the Democrats lose the South? Bringing new data to an old debate. *American Economic Review*, 108(10), 2830-2867.

entire shift of Southern Whites from the Democrats to the Republicans, over and above economic explanations.

17. Valentino and Sears (2005)⁸ likewise analyze the partisan shift among White Southerners and find that racial attitudes played a central role in moving many Whites out of the Democratic Party and into the Republican Party. In other words, they conclude that race-related considerations, rather than economic or ideological factors, were the key drivers of the southern partisan realignment.
18. Other works echo similar findings about the relationship between race and partisanship, with Green and colleagues (2002)⁹ in *Partisan Hearts and Minds* showing that once the “social imagery” of the Democratic Party shifted and it became explicitly linked with Black voters and civil rights, it prompted Southern Whites to switch party allegiance.¹⁰
19. As such, the literature consistently documents that where partisanship or vote choice is sorted by race or deeply intertwined with it, race and racial attitudes play a central or defining role in explaining that sorting. Dr. Barber’s analyses ignore this prominent body of scholarship entirely, an omission that poses a challenge to his claims regarding the supposed partisan objectives of the legislature.
20. Furthermore, my analysis of the biracial 2022 Democratic primary for Governor shows that, in a contest where candidates share a party label but differ by race, White voters disproportionately supported the White candidate and Black voters disproportionately supported the Black candidate, providing additional evidence that race plays a crucial role in structuring voting preferences in the subject jurisdiction.¹¹

⁸ Valentino, N. A., & Sears, D. O. (2005). Old times there are not forgotten: Race and partisan realignment in the contemporary South. *American Journal of Political Science*, 49(3), 672-688.

⁹ Green, D. P., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds: Political parties and the social identities of voters*. Yale University Press.

¹⁰ In the early to mid-twentieth century, most White southern voters identified with the Democratic Party of the former confederate states, while Black Americans identified with Lincoln’s Republican Party or the party of emancipation. DONALD GREEN ET AL., *PARTISAN HEARTS AND MINDS: POLITICAL PARTIES AND THE SOCIAL IDENTITIES OF VOTERS* (2002).

¹¹ Dr. Barber appears to downplay RPV findings of CLD9 under the 2022 Map, suggesting that a majority of Whites did not cast their ballots for any candidate. But he fails to acknowledge that in a contest with three candidates, the plurality of White voters preferred the White candidate while both White and Black voters did not support the third-place candidate, Atwater. In any case, Dr. Barber does not dispute that White voters in Western Tennessee preferred the White candidate, Martin, over any of the Black candidates.

III. Assessment of Dr. Barber's Conditional Simulation Analysis and Results

21. Starting on Page 17, Dr. Barber discusses the process he used to generate computer-simulated Congressional ensembles for Tennessee. Through counsel, I received the code and data he relied on, which allowed me to reproduce his results and associated diagnostic tests.
22. Dr. Barber generated two different ensembles. First, he conducted a statewide race and party-neutral simulation and found that none of the computer-generated plans produce nine Republican-leaning districts, and Shelby County is split across only two districts in “all but two of the 10,000 plans” (Barber Report, Pg. 19). Second, he conducted a “conditional simulation” analysis holding fixed “the non-Shelby County portions of 2026 enacted Districts 5, 8, and 9 and the six districts that do not touch Shelby County” (Barber Report, Pg. 20).
23. This conditional simulation therefore freezes the non-Shelby County portions of the 2026 enacted plan, collapsing all six non-Shelby districts and the non-Shelby geographic portions of Districts 5, 8, and 9 into fixed, immovable units. He then instructs the `redist_smc()` algorithm to allocate only Shelby County precincts. This is confirmed directly in his code, where “non_shelby_units” are aggregated into locked blocks and then bound together with Shelby County precincts passed to `redist_map()` function. The sampler therefore has no freedom to alter any geographic areas outside Shelby County.
24. The SMC algorithm Dr. Barber relies on builds redistricting plans sequentially, proposing and accepting or rejecting proposed map configurations at each split step.¹² Barber's SMC diagnostics across all five runs of 20,000 simulations reveal a consistent and serious sampling failure. At Split 1, acceptance rates are 3.9% across four of five runs (and 3.1% in Run 3). At Split 2, the acceptance rate is 0.1% in every single run without exception. These figures are due to the structural feature of his simulation design, repeating consistently because the same frozen-boundary constraint is tightly imposed in each run.
25. These rates fall far below any defensible threshold. The `redist` package's own documentation flags acceptance rates below 5% as cause for concern and rates below 1% as indicative of a fundamentally compromised ensemble.¹³ A 0.1% acceptance rate at Split 2 means the SMC

¹² The SMC algorithm constructs redistricting plans by making a series of sequential “splits.” In simple terms, rather than drawing all districts simultaneously, the algorithm builds a plan one step at a time, first dividing the map's geographic units (precincts or blocks) into two rough halves, then subdividing those halves further, continuing until the target number of districts is reached. Each of these division steps is called a “split.” At every split, the algorithm generates many candidate configurations (called “particles”) and evaluates each against the applicable constraints, such as population balance, contiguity, and compactness. Configurations that satisfy the constraints are accepted; those that do not are rejected. After each split, a “resample” step reweights and culls the particle pool, discarding poor proposals and retaining promising ones to carry forward. The acceptance rate at each split measures what percentage of proposed configurations pass this test. A healthy simulation typically accepts 20–40% of proposals at each step, ensuring that the final ensemble of plans is drawn from a broad and representative distribution of valid configurations. When acceptance rates fall to a fraction of one percent, the particle pool degenerates, collapsing onto a handful of near-identical configurations that are then replicated across the nominally large sample, destroying the diversity and representativeness of the ensemble, leaving it too narrow to support reliable conclusions.

¹³ When the acceptance rate drops below 5%, the algorithm is struggling to find valid proposals. It is akin to a search party that keeps being turned back before it can explore new terrain. At 0.1%, the algorithm is effectively stuck: for

sampler is rejecting approximately 999 out of every 1,000 proposed configurations at that step. Moreover, among the small fraction of proposals that are accepted, the diagnostics reveal that only approximately 35% represent somewhat unique plans, meaning the remaining 65% are duplicates of configurations already present in the ensemble. In other words, his simulation produces a small set of maps that all look nearly identical to one another, which means comparing the 2026 Map to his computer-generated set tells us nothing meaningful about whether the 2026 Map is typical or extreme.

26. This outcome occurs because, when the outer district boundaries are frozen, the algorithm must propose internal Shelby County configurations that simultaneously satisfy population balance, contiguity, and a hard geometric connection to the already-fixed external district boundaries. That is, Dr. Barber creates a severely constrained problem such that nearly all proposals fail, and when acceptance collapses to 0.1%, the SMC resampling step, designed to prune low-quality proposals and maintain ensemble diversity, has almost nothing valid to work with.
27. The result of all this is particle degeneracy: the algorithm replicates the few surviving configurations thousands of times. Although Dr. Barber nominally produces 100,000 simulated plans, they do not represent 100,000 meaningfully distinct redistricting configurations; they represent a small number of near-identical maps repeated many times over.
28. This major flaw has significant ramifications for the conclusions he has drawn. Dr. Barber's central finding is that race-blind conditional simulations, once filtered for partisan similarity to the enacted plan (which further reduce the already thin sample), tend to produce racial compositions resembling the 2026 Plan. He interprets this as evidence that the plan's racial outcomes are explainable by partisan considerations alone.
29. But this conclusion is an artifact of the simulation's design. By freezing the enacted plan's external skeleton, he has constrained the sampler to explore only those configurations already structurally consistent with the state's own mapmaking choices, including which portions of western Tennessee each district reaches into Shelby County, and at what geographic entry points. As such, the algorithm is not answering the question, "What would a race-neutral mapmaker draw?" It is answering a far narrower question: Would a severely constrained ensemble forced to honor every structural choice the state already made result in maps that resemble the 2026 Map? The answer to this latter question is of course an expected "yes," as the simulation was set up to produce such an outcome.
30. As such, what Dr. Barber did here is akin to testing whether a coin is fair, after it keeps landing on heads, by running a test using the state's own coin that is in question.
31. A methodologically sound benchmark ensemble for this analysis would simulate the full nine-district Tennessee congressional plan without anchoring to the 2026 map's structure, which is the approach he took in his first non-conditional ensemble. The 2026 map could then be compared to the unconstrained ensemble to assess whether the degree of Shelby County

every 1,000 configurations it proposes, it can only keep one. This means that the sampler is no longer exploring the map space; it is trapped, circling the same patch of territory over and over.

cracking, and its racial consequences, falls within or outside the range of what neutral mapmaking would ordinarily produce. Dr. Barber's conditional simulation cannot serve that function, and the conclusions he draws from it are totally unreliable.

IV. Conclusion

32. The findings and conclusions in this Report are based upon information that has been made available to me or known by me to date. My work in this matter is ongoing, and I reserve the right to modify, update, or supplement my analyses, findings, and any conclusions as additional information is made available to me or as I perform further analysis.
33. Pursuant to 28 U.S.C. § 1746, I, Kassra AR Oskooii, declare under penalty of perjury that the foregoing is true and correct according to the best of my knowledge, information and belief.

Executed by:

A handwritten signature in black ink, appearing to read "Dr. Oskooii", with a stylized flourish at the end.

Dr. Kassra A.R. Oskooii

Dated: June 2, 2026