No. 143, Original

IN THE
Supreme Court of the United States

STATE OF MISSISSIPPI,
Plaintiff,

v.

STATE OF TENNESSEE, CITY OF MEMPHIS, TENNESSEE,
AND MEMPHIS LIGHT, GAS & WATER DIVISION,
Defendants.

On Bill of Complaint
Before the Special Master, Hon. Eugene E. Siler, Jr.

POST-HEARING REPLY BRIEF OF THE STATE OF TENNESSEE

DAVID C. FREDERICK
JOSHUA D. BRANSON
T. DIETRICH HILL
GRACE W. KNOFCZYNSKI
KELLOGG, HANSEN, TODD,
FIGEL & FREDERICK, P.L.L.C.
1615 M Street, N.W.
Suite 400
Washington, D.C. 20036
(202) 326-7900

Special Counsel to Defendant
State of Tennessee

HERBERT H. SLATERY III
Attorney General
ANDRÉE SOPHIA BLUMSTEIN
Solicitor General
BARRY TURNER
Deputy Attorney General
Counsel of Record
SOHNIA W. HONG
Senior Counsel
P.O. Box 20207
Nashville, Tennessee 37202-0207
(615) 741-3491
(barry.turner@ag.tn.gov)

Counsel for Defendant
State of Tennessee

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2018 Op.	Memorandum of Decision on Defendants' Motion for Summary Judgment, *Mississippi v. Tennessee, et al.*, No. 143, Orig. (U.S. Nov. 29, 2018) (opinion of Special Master) (Dkt. No. 93)
Aquifer	Middle Claiborne Aquifer
CMP	Case Management Plan (Oct. 26, 2016) (Dkt. No. 57)
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USGS	United States Geological Survey

INTRODUCTION

The Special Master twice has held that the equitable-apportionment doctrine requires dismissal of Mississippi's claims if the Middle Claiborne Aquifer is an interstate resource. The evidence at the hearing confirmed that it is.

In its post-hearing brief, as during the trial itself, Mississippi scarcely even attempts to engage with that question. Instead, Mississippi argues about damages, relitigates whether equitable apportionment applies to groundwater, and recycles the same flawed legal theories the Special Master already rejected. Throughout it all, Mississippi offers no new legal or factual argument supporting its claimed property right to groundwater within the eight-state Middle Claiborne Aquifer. Equitable apportionment – not tort law – thus supplies Mississippi's sole judicial remedy, and Mississippi persists in disclaiming that remedy. Mississippi's claims fail for that reason alone.

In addition to rehashing its failed legal theories, Mississippi's brief offers irrelevant accusations that MLGW and Memphis (collectively, "MLGW") have intentionally and unnecessarily harmed Mississippi through their pumping. These assertions are not only beyond the scope of the limited evidentiary hearing the Special Master ordered, but also based on insufficient – and in some cases non-existent – evidence. In light of the clear prejudice to Defendants, which limited their presentations to the question the Special Master posed, the Special Master should

exclude that irrelevant evidence. And because Mississippi does not and cannot plead a viable equitable-apportionment claim, the Special Master should recommend the dismissal of Mississippi's claims with prejudice.

ARGUMENT

I. THE EVIDENCE CONFIRMED FOUR INDEPENDENT BASES FOR FINDING THAT THE AQUIFER IS AN INTERSTATE RESOURCE, WHICH MISSISSIPPI FAILS TO REBUT

The Special Master limited the evidentiary hearing "solely" to "whether this case involves an interstate resource," because, if it does, equitable apportionment would compel dismissal of Mississippi's claims. 2018 Op. 20; *see also* 2016 Op. 25. The evidence presented overwhelmingly established that the Middle Claiborne Aquifer ("the Aquifer"), including the water within it, is an interstate resource under four distinct theories. *See* TN Br. 9-26 (explaining the Aquifer, pumping-effects, natural-flow, and connection theories). At the hearing, Mississippi's experts refuted none of those theories: neither expert offered any opinion at all suggesting that the Aquifer or the water at issue is intrastate. *See*, *e.g.*, Tr. 316:19-24 (Spruill). Put simply, although Mississippi now asserts that the Aquifer's interstate status raises "a mixed question of law and fact," MS Br. 8, it adduced no evidence at the hearing demonstrating that the Aquifer is factually intrastate. If anything, Mississippi's witnesses just confirmed the opposite. *See*, *e.g.*, Tr. 318:12-16 (Dr. Spruill agreeing that "the Middle Claiborne Aquifer would be an interstate aquifer because it

physically exists beneath multiple states"). Mississippi's post-hearing brief is similar, as explained below.

A. The Aquifer Is A Single Hydrogeological Unit That Extends Beneath Eight States

The evidence at the hearing demonstrated that the Aquifer is interstate because it is a single hydrogeological unit that spans multiple States, including Mississippi and Tennessee. *See* TN Br. 9-15. Mississippi attempts to inject confusion by emphasizing the complexity of aquifers, and groundwater generally, and by suggesting that this case implicates multiple, separate aquifers. *See* MS Br. 23-30. But the testimony of all parties' experts confirms that the Aquifer is a single unit for purposes of defining the water resource at issue.

There is no genuine scientific disagreement over the identity of the resource at issue.[1] Mississippi fails to acknowledge that all five experts at the hearing agreed that – although it can be called different names and even, at times, divided into sub-units – the Middle Claiborne Aquifer is a hydrogeologic unit that extends beneath portions of eight States. Defs.' PFOF ¶¶ 64-65. Although there are variations

[1] Although in his report Dr. Langseth used the term Memphis-Sparta Sand Aquifer, abbreviated MSSA, he explained at the hearing that the Memphis-Sparta Sand Aquifer is simply another name for the Middle Claiborne Aquifer and that he agreed with the earlier descriptions of the Aquifer at issue. Tr. 986:7-987:16 (Langseth). And, although the experts testified that the Middle Claiborne Aquifer is hydrologically connected to other aquifers in the Mississippi Embayment, each agreed that the aquifer at issue is the Middle Claiborne. Defs.' PFOF ¶¶ 52, 186-190.

throughout, the Middle Claiborne Aquifer is a continuous unit, Defs.' PFOF ¶¶ 64-77, throughout its eight-state extent, Defs.' PFOF ¶ 198. There are no barriers, and never have been any barriers, that impede the lateral flow of water from one part of the Aquifer to another. Defs.' PFOF ¶¶ 76-77. For purposes of determining the lateral extent of the resource at issue, the Middle Claiborne Aquifer constitutes the entirety of this interconnected layer.

Contrary to Mississippi's suggestion (at 27-29), the trial testimony was consistent with the published scientific literature. The different sections of the Aquifer are sometime referred to by different names. Defs.' PFOF ¶¶ 191-197. The Aquifer can be visualized as a two-pronged fork, Defs.' PFOF ¶¶ 198-204: the portion shaped like the "handle" of this fork sometimes is called the Memphis Sand; the "upper prong" sometimes is called the Sparta Sand; and the "lower prong" sometimes is called the Lower Claiborne or Meridian Sand. Defs.' PFOF ¶¶ 193-194, 203-204. As Tennessee has acknowledged, the "lower prong" is distinguished for some purposes from the Middle Claiborne Aquifer – for example, in the USGS's MERAS model – because the Lower Claiborne Confining Unit is a barrier to the *vertical* flow of water directly between the two prongs. Defs.' PFOF ¶ 212. But that does not change the hydrogeological reality that the "lower prong" is continuous with the "handle" in the same way as the "upper prong" and the "handle." TN Br. 13-14. All are parts of a single, multistate hydrogeological unit.

Nor does Dr. Waldron's prior reference to "three separate sub-aquifers," *see* MS Br. 28, help Mississippi's position. Hydrologists may divide a single aquifer like the Middle Claiborne into multiple layers for some purposes, as when the MERAS model – used by experts on both sides – divided the "Middle Claiborne" into six layers. Defs.' PFOF ¶¶ 279-280. Similarly, the various sections of the Aquifer can be referred to as "subaquifers" or "subunit[s] to the Middle Claiborne Aquifer." J-76 at 56; Tr. 963:21-964:11 (Waldron). But as the USGS, the relevant models, and the experts in this case recognized, those sub-units remain part of a larger whole. Defs.' PFOF ¶¶ 59, 64, 97-101, 278-280, 285. It is immaterial whether they are considered sections, sub-units, or sub-aquifers; they undisputedly are interconnected and together form the Middle Claiborne. Defs.' PFOF ¶ 213.

Mississippi's contention (at 26) that the Middle Claiborne is a "hydrogeologic aquifer unit" rather than an "aquifer" is pure semantics – and immaterial to the question of whether Mississippi's claims concern an interstate resource. Mississippi does not explain what it believes to be the difference between an "aquifer" and a "hydrogeologic aquifer unit," and the phrase "hydrogeologic aquifer unit" does not even appear in the USGS paper Mississippi cites, J-18, or, for that matter, in the testimony of Mississippi's experts. Nor, as far as Tennessee can determine, does the phrase appear in any other relevant USGS paper. Mississippi's expert, Dr. Spruill, used the terms Middle Claiborne Aquifer and Middle Claiborne Aquifer Unit

interchangeably. *E.g.*, Tr. 220:3-10, 281:22-282:8. And, even if there were a distinction, Mississippi nowhere suggests that a "hydrogeologic aquifer unit" cannot be an interstate water resource. For all of the reasons the Middle Claiborne Aquifer constitutes an interstate water resource – including, most importantly, that Mississippi's claims depend on the alleged effects of pumping in one portion of the Middle Claiborne on water in another State – it would remain an interstate water resource even if termed the "Middle Claiborne Aquifer Unit."

In any event, each section of the Middle Claiborne Aquifer – even considered alone – would be an interstate aquifer because each extends without interruption beneath multiple States. The section Mississippi calls the "Memphis" extends beneath Mississippi, Tennessee, Arkansas, and Kentucky.[2] Defs.' PFOF ¶ 214. The section Mississippi calls the "Sparta" similarly extends beneath Mississippi, Arkansas, and Louisiana. Defs.' PFOF ¶ 215. The same is true of the section called the "Lower Claiborne." Defs.' PFOF ¶ 216. All would be interstate resources in

[2] Mississippi repeatedly claims (at, e.g., 25) that the facies change may occur "at" the Mississippi border. In support, Mississippi relies solely on a figure from J-36, which shows the facies change reaching the border in some areas. But an updated paper from that same study, J-18, indicates that the thick, continuous sand layer extends multiple miles south of the border between Mississippi and Tennessee. *See* J-18 at 10; *see also* D-200; Tr. 780:11-782:14 (Larson). And Dr. Spruill also depicted the facies change occurring entirely south of the border. *See* P-210. The evidence thus established that the intervening Lower Claiborne Confining Unit begins south of the border. Defs.' PFOF ¶ 78.

their own right, and so dismissal would remain appropriate under the equitable-apportionment doctrine. *See* TN Br. 14-15.

B. The Effects Of Pumping In The Aquifer Cross State Borders

Pumping from the Middle Claiborne Aquifer in one State can and does affect water levels in neighboring States. *See* TN Br. 15-18. Any pumping sufficiently near a state border will – through the natural laws of hydraulics – create a cone of depression that extends across the border affecting water within a neighboring State.[3] Mississippi makes no effort to rebut that fact. Nor could it. There are countless examples of such cross-border cones of depression within the Aquifer. Defs.' PFOF ¶¶ 126-130. And the entire premise of Mississippi's lawsuit is that pumping by MLGW entirely within Tennessee affects water within Mississippi. Defs.' PFOF ¶ 124. That "'the removal of water within a State's borders can have a direct effect on the availability of water in another State'" independently establishes that the resource is interstate and equitable apportionment applies. 2018 Op. 14 (quoting 2016 Op. 31).

[3] Mississippi's vague insinuation that cross-border cones of depression occur only because of MLGW's "large commercial turbine pumps," MS Br. 13, 23, is incorrect. A cone of depression is the mechanism through which a well removes water from an aquifer. All pumping wells create cones of depression, regardless of the size or power of the pumps, and cones of depression are not affected by political boundaries. *See* TN Br. 16.

C. The Groundwater In The Aquifer Naturally Flowed Out Of Mississippi, Including From Mississippi Into Tennessee

The evidence at the hearing established that groundwater within the Aquifer flowed across state borders under pre-development conditions, further supporting the conclusion that the Aquifer is interstate. *See* TN Br. 19-24. Mississippi concedes (at 12) that some of the groundwater in Mississippi flowed "from Mississippi into Tennessee under natural conditions." And Mississippi makes no attempt to rebut the evidence that there was also significant pre-development cross-border flow from Mississippi into Arkansas and Louisiana, and that an estimated 37 million gallons of water naturally flowed out of Mississippi into other States each day. *See* TN Br. 28. In fact, the evidence demonstrated that all of the water in the Middle Claiborne Aquifer was on natural flow paths to leave Mississippi eventually. Defs.' PFOF ¶ 174. In response, Mississippi agrees "that groundwater eventually leaves Mississippi under natural conditions" and merely asserts, without support, that the eventual fate of the water has "absolutely no legal or practical significance." MS Br. 7-8. But the Special Master already has concluded that a long residence time does "not indicate an intrastate character," 2018 Op. 19, and specifically requested evidence on "the extent of historical flows in the Aquifer between Mississippi and Tennessee," 2016 Op. 36.

The trial evidence that Tennessee supplied on that question cuts decisively against Mississippi's position. Indeed, Mississippi does not challenge Tennessee's

evidence that the single most reliable map of pre-development conditions found *more* water crossing the border from Mississippi into Tennessee under natural conditions than in 2007. *See* TN Br. 21-23. That undisputed factual showing both reinforces the Aquifer's interstate character and undermines Mississippi's core premise that MLGW's pumping has increased flow from Mississippi into Tennessee. *Id*. An aquifer in which such a substantial volume of water flows naturally across state borders – more in pre-development times than after the pumping of which Mississippi complains – epitomizes an interstate resource to which the equitable-apportionment doctrine must apply.

D. The Aquifer Is Hydrologically Interconnected To Interstate Surface Water

The evidence at the hearing also conclusively demonstrated that the Aquifer is interconnected to interstate surface water, including the Mississippi River and the Wolf River. *See* TN Br. 25-26. Mississippi does not even attempt to argue otherwise. As the Special Master has held, these connections indicate that the Aquifer is an interstate resource. 2018 Op. 19-20. The Supreme Court previously has applied equitable apportionment in cases involving surface water-connected groundwater. *See Nebraska v. Wyoming*, 515 U.S. 1, 14 (1995); *Texas v. New Mexico*, 462 U.S. 554, 556-57 & nn.1-2 (1983); *Kansas v. Colorado*, 206 U.S. 46, 114 (1907). Applying a different rule depending on whether issues concerning groundwater or surface water predominate, as Mississippi vaguely suggests (at 35-

36 n.10), has no support in the Court's cases and would be difficult to administer. *See* TN Br. 5.[4]

II. MISSISSIPPI'S CRITICISMS OF THE EQUITABLE-APPORTIONMENT DOCTRINE ARE UNPERSUASIVE

The Special Master twice has concluded that equitable apportionment provides Mississippi's sole judicial remedy if its claims concern an interstate resource. Nevertheless, having practically conceded that the Aquifer is interstate, Mississippi spends the majority of its brief attempting to revive its failed arguments that equitable apportionment should not apply. Those arguments remain unpersuasive and foreclosed by the Special Master's prior rulings.

A. The Special Master Should Reject Mississippi's Attempt To Amend Its Claims

Although Mississippi again seeks to premise its claim on its alleged ownership of the groundwater, it no longer limits its claims to "groundwater stored naturally in the Sparta Sand formation underneath Mississippi's borders which does not cross into Tennessee under natural predevelopment conditions." Compl. ¶ 46; *see also* Pl.'s Opp. to MJOP 18; Pl.'s Resp. to SJ 14. Mississippi abandoned that theory for

[4] Mississippi's focus on "deep confined aquifer system[s]," MS Br. 36 n.10, suggests that it believes that different legal rules apply to confined and unconfined aquifers. This very case demonstrates why such a distinction is untenable; the Middle Claiborne Aquifer has confined and unconfined portions, and water in the confined area typically entered the Aquifer in the unconfined area. Defs.' PFOF ¶¶ 82-85.

good reason. The unrebutted trial evidence showed that: (1) significantly more of the water in Mississippi flowed into Tennessee under natural conditions than Mississippi initially realized, and (2) *all* of the water within the Aquifer within Mississippi eventually would have flowed into another State. Defs.' PFOF ¶¶ 141, 174.

In response, Mississippi is now forced to claim ownership of *all* water within the Aquifer beneath Mississippi's borders, for however long it would have remained within Mississippi's territory under natural conditions. *See* MS Br. 12. The Special Master should not permit Mississippi to amend its claims after the close of the hearing – especially after Tennessee has spent five years litigating the claims in Mississippi's Complaint and relying on Mississippi's concessions that some of the water is interstate. *See Head v. Timken Roller Bearing Co.*, 486 F.2d 870, 873-74 (6th Cir. 1973) ("[A]mendments should be tendered no later than the time of pretrial, unless compelling reasons why this could not have been done are presented.") (citation omitted); *see also* Fed. R. Civ. P. 15(b).

Regardless, Mississippi's shifting theory does not cure the fatal flaws in its claims. The Special Master has held that Mississippi cannot avoid equitable apportionment "by limiting its claims to a specific portion of the water" and that it does not "own" *any* of the groundwater in the Aquifer. 2018 Op. 13, 23. Despite that holding, Mississippi now apparently claims that a particular molecule of

groundwater beneath its territory belongs to Mississippi until it passes beneath a border and becomes another State's water. *See* MS Br. 12. But a molecule that supposedly belongs to one State and then, the next moment, to a different State does not actually belong to either: it is the epitome of an interstate resource. Water that flows across a state border is not an *intrastate* resource under the common definition of intrastate merely because it, for a time, "exist[s] within a state." *Id.* at 8. Indeed, under Mississippi's theory, there would be no interstate rivers because, typically, the water "exist[s] within a state" before flowing to another State. That is reason enough to reject Mississippi's new theory.

B. Neither The Public-Trust Doctrine Nor Territorial Sovereignty Controls Mississippi's Claims

Mississippi again seeks to rely on the "public trust" doctrine and Mississippi's territorial sovereignty to support its ownership claim over groundwater within the Aquifer. The Special Master already has held that these theories do not support Mississippi's position. *See* TN Br. 6-8.

Mississippi does not own the groundwater within the Aquifer. In *Sporhase v. Nebraska ex rel. Douglas*, 458 U.S. 941 (1982), which Mississippi fails to address, the Court rejected "the legal fiction of state ownership" of groundwater. *Id.* at 951. "States have an important interest in, and may regulate and control natural resources, but they do not own these resources." 2018 Op. 23. As the Special Master already concluded, *Tarrant Regional Water District v. Herrmann*, 569 U.S. 614 (2013),

"instructs that a state may generally regulate water collection activities occurring *within its own borders*," but it says nothing about a State's ability to regulate water-collection activities occurring in other States. 2018 Op. 21-22 (citation omitted); *see also* 2016 Op. 22-24. As Mississippi points out (at 11-12), both Mississippi and Tennessee regulate the use and taking of groundwater (and other water) within their respective borders. But these state statutes do not and cannot govern when the rights of two States conflict.[5]

At bottom, Mississippi's ownership claim fails to recognize Tennessee's equal rights to use the groundwater within *its* own borders in the shared interstate Aquifer. Equitable apportionment is the Court's solution to this very problem: "[b]oth States have real and substantial interests" in a single resource, which "must be reconciled as best they may." *New Jersey v. New York*, 283 U.S. 336, 342-43 (1931). With groundwater, as in surface-water equitable-apportionment cases, each State has "control over waters within their own territories," *Tarrant Reg'l Water Dist.*, 569 U.S. at 631, and neither State "can legislate for[] or impose its own policy upon the other," *Kansas v. Colorado*, 206 U.S. at 95. As the Special Master previously explained, Mississippi has not "lost rights to the water" in the Aquifer;

[5] In fact, Mississippi state law recognizes that Mississippi may need to enter a compact governing its "share of ground water" in a resource shared with another State. Miss. Code Ann. § 51-3-41.

rather, "equitable apportionment supplies the proper method for determining rights." 2018 Op. 21.

Mississippi cannot avoid that conclusion by pointing out immaterial distinctions between surface water and groundwater. *See* MS Br. 4-6. Tennessee generally agrees that groundwater cannot be seen from the surface of the land and that groundwater typically flows more slowly than surface waters. *See id.* at 4-5; *see also* Defs.' PFOF ¶ 261. But those characteristics do not make groundwater part of Mississippi's sovereign territory exempt from equitable apportionment. *See Sporhase*, 458 U.S. at 951. Groundwater is simply water that occurs beneath the land surface in the pore spaces of rocks and sediments. Defs.' PFOF ¶ 6. It is no more subject to state ownership than surface water or other natural resources. *See Hood ex rel. Mississippi v. City of Memphis*, 570 F.3d 625, 630 (5th Cir. 2009) ("The fact that this particular water source is located underground, as opposed to resting above ground as a lake, is of no analytical significance.").

None of Mississippi's alleged distinctions is relevant to whether equitable apportionment applies. Equitable apportionment applies whenever "'the action of one State reaches through the agency of natural laws into the territory of another State.'" 2016 Op. 20 (quoting *Idaho ex rel. Evans v. Oregon*, 462 U.S. 1017, 1024 n.8 (1983)). In an interstate aquifer, just as in an interstate river, "a simple consequence of geography" allows one State to "depriv[e]" another State "of the

benefit of water." *Kansas v. Nebraska*, 135 S. Ct. 1042, 1052 (2015).[6] In such cases, the Court may be called upon to reconcile the competing "rights of the two states" through an equitable apportionment. *Kansas v. Colorado*, 206 U.S. at 97-98.

Nor does it matter that the Middle Claiborne Aquifer extends beneath portions of eight States, so that pumping in the Memphis area might not have a perceptible effect on water within the Aquifer in some of the more-distant overlying States (for example, Louisiana). *See* MS Br. 31.[7] Not every State that an interstate river transverses can affect water levels within the river in every other State. In fact, there is more capacity for interstate effects in an interstate aquifer: with an aquifer, the actions of any State may affect the bordering States, while, with a river, only an upstream State can reach though the agency of natural laws into the territory of a downstream State. Yet even Mississippi concedes that equitable apportionment applies in the case of an interstate river. As the trial demonstrated, the pervasive

[6] Mississippi's suggestion that interstate rivers are different from interstate groundwater because one can trace "the interstate path of the water" in a river is incorrect. MS Br. 35 n.10. As the evidence demonstrated, all of the water within the Middle Claiborne Aquifer is on interstate flow paths. *See* discussion *supra* p. 8. Further, because the rights of Mississippi and Tennessee to use the resource may conflict regardless of flow directions, it does not matter whether any groundwater within the Aquifer naturally flowed from Mississippi into Tennessee.

[7] It would make little sense to declare that the Middle Claiborne Aquifer was not an interstate resource because it extended across *too many* States, across *too wide* an area, so that not every State could affect water in every other overlying State.

cross-border pumping effects in the Aquifer – often running in both directions across state borders – make an equitable-apportionment analysis even more applicable here.

C. Mississippi's Ownership Theory Would Impair Other States' Rights And Encourage Litigation

Mississippi's ownership theory would impair Tennessee's sovereign rights by impeding upon Tennessee's ability to control the water within Tennessee's own borders. *See Tarrant Reg'l Water Dist.*, 569 U.S. at 631. As the evidence showed, a cone of depression is an inevitable consequence of pumping within the Aquifer. Defs.' PFOF ¶ 220. And when that pumping occurs sufficiently close to a state border, the cone of depression will extend across the state border. Tr. 646:2-9 (Larson). The consequence of Mississippi's theory would be a border zone in multistate aquifers in which States were not permitted to use the water, regardless of what would be the most sustainable or efficient use of the resource. Mississippi does not have the right to "impose its own policy" on Tennessee in such a manner. *Kansas v. Colorado*, 206 U.S. at 95.

Similarly, Mississippi's theory would require MLGW to make significant, costly changes to their existing water infrastructure. Mississippi's own expert concluded that moving the three MLGW well fields closest to Mississippi (Davis, Palmer, and Lichterman) all the way to the northern part of Shelby County would cause very little change in the cone of depression's extent into Mississippi. Defs.' PFOF ¶ 250. And he could not say whether even moving *all* of MLGW's well fields

20 miles north would be enough to prevent the cone of depression extending in Mississippi. Defs.' PFOF ¶ 251. Even if MLGW could relocate its wells to eliminate cross-border effects, both of Mississippi's experts agreed that it would require the design and construction of hundreds of new wells and many miles of pipeline, and that "[t]he cost would be enormous." Tr. 330:19-331:1, 332:15-333:6 (Spruill); *see also* Defs.' PFOF ¶ 252. Mississippi cannot unilaterally require that MLGW make these changes to their lawful actions within Tennessee's borders; allowing it to do so would, in effect, permit Mississippi to promulgate water-use regulations for Tennessee.

Mississippi's position also would encourage litigation, not cooperation, between the States. Mississippi seeks at least $615 million in damages based on its ownership theory. *See* Compl. ¶ 55. If the Court were to credit Mississippi's theory and allow it to recover such massive tort damages, States overlying the countless interstate aquifers around the Nation would be encouraged to bring similar suits seeking windfalls for their treasuries. Defs.' PFOF ¶ 110. This would destabilize national water policy by requiring States that reasonably have used interstate groundwater resources within their borders – relying on the Court's equitable-apportionment jurisprudence – to defend against massive litigation. *See* Tenn. MJOP 31-32; U.S. Amicus Br. 22.

Contrary to Mississippi's position (at 37-38), applying equitable apportionment encourages cooperation between the States and efficient management of interstate resources. The "Court's authority to apportion interstate streams encourages States to enter into compacts with each other." *Kansas v. Nebraska*, 135 S. Ct. at 1052. Because the parties know that the alternative is allowing the Supreme Court to determine their rights, "controversies will probably be settled by compact." *Id.* (citation and alteration omitted). And the parties also know that "equitable apportionment will protect only those rights to water that are reasonably required and applied. . . . Thus, wasteful or inefficient uses will not be protected." *Colorado v. New Mexico*, 459 U.S. 176, 184 (1982) (citation omitted). States are therefore incentivized to appropriately manage their use of interstate resources.

Equitable apportionment is, if anything, even more necessary for groundwater than for surface water, because groundwater is more difficult to study and measure. When the Court is "confronted with competing claims to interstate water, the Court's 'effort always is to secure an equitable apportionment without quibbling over formulas.'" *Florida v. Georgia*, 138 S. Ct. 2502, 2513 (2018) (quoting *New Jersey v. New York*, 283 U.S. at 342-43). Relying on such equitable consideration is all the more important here where determining precise movement and flow patterns of water is more difficult. *See* MS Br. 38-39; Tr. 404:11-405:9 (Wiley).

III. MISSISSIPPI'S EFFORTS TO DEPICT MLGW AS A BAD ACTOR AND TO SHOW HARM TO MISSISSIPPI ARE CONTRARY TO THE EVIDENCE AND IRRELEVANT

Mississippi attempts (at 10) to show that the water is "*'intrastate in nature' as a matter of law*," by suggesting that MLGW intentionally harmed Mississippi by capturing its water through its placement of wells and volume of pumping. But that is a non-sequitur. The Special Master already has concluded that MLGW's pumping "'does not tend to show that the relevant water lacks an interstate character.'" 2018 Op. 14 (quoting 2016 Op. 29). On the contrary: MLGW's pumping demonstrates that the Aquifer is *interstate*, as such cross-border effects are "'the basis of many – if not all – interstate water disputes.'" *Id.* at 16 (quoting 2016 Op. 29). MLGW's actions – even if, contrary to all of the evidence, they were improper in some way – do not affect the interstate or intrastate character of the water. Mississippi's evidence is thus irrelevant and should be excluded for that reason. In any event, Mississippi's contentions are also unsupported and fail on their own terms.

A. Mississippi's Allegations About MLGW's Intent Are Unsupported

In addition to being irrelevant, Mississippi's claim that MLGW intentionally deprived Mississippi of water is unsupported by the evidence offered at the hearing. Mississippi leans heavily on the assertion (at 17) that the USGS issued "warnings" against pumping near the border. But that is not the case. Mississippi relies on three USGS publications from the mid-1960s, which concluded that pumping in the

Memphis area was creating cones of depression and having cross-border effects in Mississippi. *See* MS Br. 15-16 (citing J-22, J-58, J-59). None of these reports, however, claimed that MLGW's pumping was harming the Aquifer or Mississippi's ability to use it. In fact, one of the reports concluded that "ground-water supplies in both the '500-foot' [Middle Claiborne] sand and the unnamed sand unit will be adequate for the predicted rate of municipal growth and economic development for many years to come." J-58 at 47.

Mississippi asserts that MLGW deliberately placed the Palmer, Lichterman, and Davis well fields near the border after the USGS issued the so-called "warnings." MS Br. 14, 17. It is hardly surprising that MLGW would build wells, whose purpose is to supply Memphis with water, within Memphis (which borders Mississippi). And as Mississippi's own expert determined, even if MLGW had placed those three well fields in far northern Shelby County, the cone of depression in Mississippi would have been much the same. Defs.' PFOF ¶ 250.

Nor has Mississippi shown that MLGW had any feasible alternative for supplying water to Memphis. Mississippi relies on a single sentence from a 40-plus-year-old publication, which does not analyze the costs or desirability of potential alternatives to groundwater. *See* MS Br. 21-22 (citing J-60 at 33). And to support its claim that MLGW could have placed the wells farther to the north, Mississippi relies (at 22) on generic statements in reports about the extent of the Middle

Claiborne Aquifer. *See*, *e.g.*, J-63 at 6, 8, 11. Those reports did not perform a detailed analysis about the feasibility of placing wells in particular locations in northern Tennessee or whether cones of depression from wells in that area would extend into Arkansas. The only testimony on this topic at the hearing was a previously undisclosed opinion by Mississippi's expert Dr. Spruill about the availability of water north of Memphis, which – as has Tennessee has explained – should be struck. *See* TN Br. 37-39. Regardless, Mississippi's own experts admitted that placing the wells north of Shelby County would have required the construction of many miles of pipeline at enormous cost. Defs.' PFOF ¶ 252.

As these examples illustrate, Mississippi's assertions about MLGW's well placement are incorrect or, at best, incomplete. Defendants would be prepared to prove these points, as well as others, if such evidence were to become relevant to the proceedings. Mississippi's repeated attempts to use – and even distort – the evidence it presented at the hearing on this issue simply confirm that the Special Master should grant Defendants' motion to exclude Mississippi's irrelevant evidence. *See* Dkt. Nos. 81, 94. In doing so, the Special Master should strike all evidence about MLGW's groundwater management practices or alleged intent in placing wells. Such facts have no bearing on whether the Aquifer is interstate and are beyond the limited scope the Special Master ordered for the hearing. Admitting this evidence would prejudice Defendants.

B. Mississippi's Alleged Harms Are Irrelevant And Contrary To The Evidence

Mississippi also argues that MLGW's pumping has "caused substantial harm to Mississippi." MS Br. 18. It persists in invoking evidence of that supposed harm even though it concedes that allegedly diverted volumes of water are "not at issue at this stage of the proceedings." *Id.* at 19. Alleged harm to Mississippi would be relevant in an equitable-apportionment action – assuming that Mississippi could meet the threshold burden of clearly showing substantial harm, *see Florida v. Georgia*, 138 S. Ct. at 2514 – but Mississippi has disclaimed that remedy. Any alleged harm to Mississippi has no relevance to the question of whether the Aquifer is interstate, and Mississippi does not even attempt to argue otherwise.

In alleging "material" harm, Mississippi relies on thin or non-existent evidence and, in some cases, makes assertions that directly contradict the evidence offered at the hearing. Most importantly, Mississippi has not demonstrated that MLGW's pumping actually resulted in the diversion of additional water from Mississippi, because the single most reliable pre-development map estimated that less water was flowing from Mississippi into Tennessee in 2007 than under pre-development conditions. Defs.' PFOF ¶ 154. Mississippi invokes (at 21) a supposed reduction in total available drawdown in Mississippi from MLGW's pumping, but Mississippi's experts did not attempt to calculate the reduction in total available drawdown in Mississippi caused by the regional cone of depression, much

less the reduction caused by MLGW's pumping. Defs.' PFOF ¶ 239. Similarly, Mississippi's experts did not establish that the maximum yield – the amount of water that a well can remove from an Aquifer in a given period of time – of any well in Mississippi has been reduced. *See* MS Br. 21; *see also* Tr. 774:17-775:17 (Larson) (explaining that reduction in total available drawdown does not necessarily mean the maximum yield of a well is less).

Mississippi's claims that "more wells and more pumps – at great expense – are required to recover the water needs of Mississippi's producers," MS Br. 21, likewise have no basis in the record. In fact, Dr. Spruill has not "estimated the cost associated with the impact of the cone of depression." Tr. 335:22-336:3 (Spruill); *see also* Defs.' PFOF ¶ 245. True, Dr. Spruill speculated that it was "entirely conceivable" and "reasonable to assume" that Mississippi's power costs could increase. Tr. 212:8-20. But he did not estimate any of these costs to producers within Mississippi, and the unrebutted testimony established that any such cost would be much smaller than the damages Mississippi seeks in this case. Defs.' PFOF ¶ 244. Ultimately, the evidence established that water purveyors in Mississippi have been able to increase their usage of water from the Middle Claiborne Aquifer significantly over the last few decades, without difficulty, and are currently able to meet demand. Defs.' PFOF ¶¶ 240, 243. MLGW's pumping, the same as any pumping, has changed flow patterns and the potentiometric surface

within the Aquifer, but there was no evidence that it has harmed the Aquifer or Mississippi. Defs.' PFOF ¶ 249.

Mississippi's attempts to rely on these irrelevant and unsupported harms to Mississippi again confirm that the Special Master should grant Defendants' motion in limine. *See* Dkt. Nos. 81, 94. Mississippi does not use any of its evidence of alleged diversions or other harms to Mississippi's interests to address whether this case concerns an interstate resource. It presents the evidence solely in an attempt to paint MLGW as a bad actor. In light of the prejudice to Defendants from this one-sided testimony, the Special Master should exclude the evidence.

C. Mississippi's Arguments Confirm That Its Claims Should Be Dismissed With Prejudice

Mississippi's Complaint should be dismissed with prejudice because it disclaims an equitable apportionment. *See* TN Br. 29-35. Mississippi's post-hearing brief, which effectively concedes that the resource is interstate and merely seeks to relitigate whether equitable apportionment applies, confirms this conclusion. It also confirms that Mississippi cannot show the requisite level of injury to obtain an equitable apportionment. Despite Mississippi's repeated – and unsupported – allegations of material harm, Mississippi essentially concedes it cannot show any real injury. *See* MS Br. 38 (arguing that equitable apportionment should not apply to aquifers because it "would have no judicial recourse . . . until the affected aquifer is substantially harmed"). Because Mississippi has failed to demonstrate any injury,

even with a one-sided presentation of irrelevant evidence, it could not pursue an equitable apportionment even if it wanted to. Dismissal with prejudice is warranted.

CONCLUSION

The hearing demonstrated that this case involves an interstate resource to which equitable apportionment applies. The Special Master should recommend that the Supreme Court dismiss Mississippi's claims with prejudice.

Respectfully submitted,

/s/ *David C. Frederick*

DAVID C. FREDERICK
JOSHUA D. BRANSON
T. DIETRICH HILL
GRACE W. KNOFCZYNSKI
KELLOGG, HANSEN, TODD,
FIGEL & FREDERICK, P.L.L.C.
1615 M Street, N.W.
Suite 400
Washington, D.C. 20036
(202) 326-7900

Special Counsel to Defendant
State of Tennessee

HERBERT H. SLATERY III
Attorney General
ANDRÉE SOPHIA BLUMSTEIN
Solicitor General
BARRY TURNER
Deputy Attorney General
Counsel of Record
SOHNIA W. HONG
Senior Counsel
P.O. Box 20207
Nashville, Tennessee 37202-0207
(615) 741-3491
(barry.turner@ag.tn.gov)

Counsel for Defendant
State of Tennessee

October 21, 2019

CERTIFICATE OF SERVICE

Pursuant to Paragraph 3 of the Special Master's Case Management Plan (Dkt. No. 57), I hereby certify that all parties on the Special Master's approved service list (Dkt. No. 26) have been served by electronic mail, this 21st day of October 2019.

/s/ *David C. Frederick*
David C. Frederick
Special Counsel to Defendant
State of Tennessee