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.

DEFENDANTS' JOINT MOTION TO EXCLUDE THE TESTIMONY AND OPINIONS OF MISSISSIPPI'S EXPERT DAVID A. WILEY

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

November 1, 2018

LEO M. BEARMAN

Counsel of Record

DAVID L. BEARMAN

KRISTINE L. ROBERTS

BAKER, DONELSON, BEARMAN,

CALDWELL & BERKOWITZ, PC

165 Madison Avenue, Suite 2000

Memphis, Tennessee 38103

(901) 526-2000

(lbearman@bakerdonelson.com)

Counsel for Defendants City of Memphis, Tennessee, and Memphis Light, Gas & Water Division

(Additional Counsel Listed On Next Page)

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 CHERYL W. PATTERSON
CHARLOTTE KNIGHT GRIFFIN
MEMPHIS LIGHT, GAS & WATER
DIVISION
220 South Main Street
Memphis, Tennessee 38103

Counsel for Defendant Memphis Light, Gas & Water Division

BRUCE A. MCMULLEN
City Attorney
CITY OF MEMPHIS, TENNESSEE
125 North Main Street, Room 336
Memphis, Tennessee 38103

Counsel for Defendant City of Memphis, Tennessee

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GLOSSARY

MLGW	Memphis Light, Gas & Water Division
Op.	Memorandum of Decision on Tennessee's Motion to Dismiss, Memphis and Memphis Light, Gas & Water Division's Motion to Dismiss, and Mississippi's Motion to Exclude, <i>Mississippi v. Tennessee, et al.</i> , No. 143, Orig. (U.S. Aug. 12, 2016) (opinion of Special Master) (Dkt. No. 55)
Wiley Dep.	Deposition of David Wiley, <i>Mississippi v. Tennessee</i> , et al., No. 143, Orig. (Sept. 26, 2017)
Wiley 2007 Rep.	Report on Diversion of Ground Water from Northern Mississippi Due to Memphis Area Well Fields (prepared by Leggette, Brashears & Graham, Inc.) (May 2017) (expert report of David A. Wiley)
Wiley 2014 Rep.	Update Report on Diversion and Withdrawal of Groundwater from Northern Mississippi Into the State of Tennessee (prepared by Leggette, Brashears & Graham, Inc.) (April 14, 2014) (attached as Ex. 1 to Mississippi's Motion for Leave To File Bill of Complaint in Original Action, <i>Mississippi v. Tennessee</i> , et al., No. 143, Orig. (U.S. filed June 6, 2014))
Wiley 2017 Rep.	Update Report on Diversion and Withdrawal of Groundwater from Northern Mississippi Into the State of Tennessee (prepared by Leggette, Brashears & Graham, Inc.) (June 30, 2017) (expert report of David A. Wiley)

Pursuant to Section I(C)(1) of the Special Master's Corrected Pre-Hearing Scheduling Order (Dkt. No. 69), Defendants State of Tennessee, City of Memphis, Tennessee, and Memphis Light, Gas & Water Division ("Defendants") respectfully move the Special Master to exclude the testimony and opinions of Plaintiff's proffered expert, David A. Wiley.

I. INTRODUCTION

The Special Master held that, "in the absence of an interstate compact, the Court has authorized only one avenue for States to pursue a claim that another State has depleted the availability of interstate waters within its borders: equitable apportionment." Op. 35. The Special Master noted, however, that "Mississippi has explicitly disclaimed a request for equitable apportionment." *Id.* Accordingly, the Special Master held "the threshold issue in this matter is whether the Aquifer is an interstate resource." Op. 36.

The Special Master recognized the Supreme Court's "functional approach" to determining when a water resource is interstate: "If a body of water is such that the removal of water within a State's borders can have a direct effect on the availability of water in another State, the resource is likely interstate in nature." Op. 31 (emphasis added). "Evidence that would likely be relevant to this determination includes the nature and extent of hydrological and geological connections between the groundwater in Memphis and that in Mississippi, the

extent of historical flows in the Aquifer between Mississippi and Tennessee, and similar conditions." Op. 36.

In this Motion, Defendants seek to exclude the testimony and opinions of Mississippi's expert witness, David A. Wiley. Wiley's opinions are not helpful because he focuses on questions irrelevant to the "threshold issue" of "whether the Aquifer is an interstate resource." *Id.* Wiley's opinions also are not reliable because his analysis is replete with data errors, indicating that Wiley did not reliably apply his own methods.

II. LEGAL STANDARD

The Federal Rules of Evidence provide guidance in original-jurisdiction actions. *See* Sup. Ct. R. 17.2. Federal Rule of Evidence 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
 - (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702.

Thus, for an expert opinion to be admissible, it must be both helpful and reliable. To meet the helpfulness requirement of Rule 702, an expert's opinion

must be relevant to the issue at hand. *See Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 591 (1993) ("Expert testimony which does not relate to any issue in the case is not relevant and, ergo, non-helpful.'") (quoting 3 Jack B. Weinstein & Margaret A. Berger, *Weinstein's Evidence* ¶ 702[02], at 702-18 (1988) ("Weinstein & Berger")). The "helpfulness" standard is higher than the minimal relevance required by Rules 401 and 402: "To be admissible, expert testimony must be relevant not only in the sense that all evidence must be relevant, but also in the incremental sense that the expert's proposed opinion, if admitted, likely would assist the trier of fact to understand or determine a fact in issue." *Ruiz-Troche v. Pepso Cola of Puerto Rico Bottling Co.*, 161 F.3d 77, 81 (1st Cir. 1998) (citations omitted).

To meet the reliability requirement, an expert's opinion "must be derived by the scientific method." *Daubert*, 509 U.S. at 590. As Rule 702 explicitly provides, the expert must "reliably appl[y]" a valid method to the particular facts of the case. Fed. R. Evid. 702(d). "[T]he reliability analysis applies to all aspects of an expert's testimony: the methodology, the facts underlying the expert's opinion, the link between the facts and the conclusion, *et alia*." *Heller v. Shaw Indus., Inc.*, 167 F.3d 146, 155 (3d Cir. 1999).

III. ARGUMENT

A. Wiley's Opinions Are Not Helpful To The Special Master

As discussed in detail in Defendants' contemporaneous Motion in Limine To Exclude Evidence Irrelevant to the Limited Evidentiary Hearing, Wiley's proffered testimony is not relevant to the question whether the Aquifer constitutes an interstate resource. Wiley seeks to offer testimony on (1) the volume of water MLGW has pumped from the Aquifer and (2) the volume of water MLGW has purportedly diverted across the state border from Mississippi into Tennessee – issues that do not bear on the fundamental hydrogeological characteristics that determine whether the Aquifer is interstate. Wiley's testimony on these irrelevant issues will not help the Special Master "to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702(a). Indeed, at his deposition, Wiley conceded he did not know what issues this evidentiary hearing is intended to resolve and did not have any opinion on whether the Aquifer constitutes an interstate resource:

- Q. Are you going to opine on the issue identified by Special Master Siler in his memorandum of decision?
 - A. I have not reviewed that.
 - Q. You have not read the opinion?
 - A. No.
- Q. You have not been asked, then, to opine on whether the Memphis Sparta Aquifer is an interstate water resource?
- A. I don't know what an interstate aquifer resource is. I've seen no definition of that anywhere in the literature. I can't talk to that.

. . .

- Q. Are you going to offer an opinion as to whether the Memphis Sparta Aquifer is an interstate resource?
 - A. No.
- Q. Are you going to offer an opinion as to whether the groundwater in the Memphis Sparta Aquifer is an interstate resource.
 - A. No.
- Q. Is there anything in your initial report, Exhibits 1 and 2 [to the deposition], that address or might be a factor in determining whether the Memphis Sparta Aquifer or the groundwater in it is an interstate or intrastate resource?
 - A. No.

. . .

- Q. ... Do you know if the test to determine whether an aquifer is interstate or intrastate is an objective test?
 - A. I know of no such test.

Ex. 9 (Wiley Dep. 20:20-22:19). Thus, Wiley admits that his own opinions are not relevant to the only issue before the Special Master "and, ergo, non-helpful." *Daubert*, 509 U.S. at 591 (quoting 3 Weinstein & Berger ¶ 702[02], at 702-18). For that reason alone, they should be excluded.

B. Wiley's Opinions Based On Pumping Data Are Not Reliable

The Special Master also should exclude Wiley's opinions about pumping and diversion as unreliable because the data upon which they are based are internally contradictory and, by Wiley's own admission, replete with errors. An expert opinion cannot help resolve disputed issues when it "contain[s] many obvious errors and mistakes" and when "factual deficiencies' further evidence . . .

'faulty methods and lack of investigation.'" *EEOC v. Freeman*, 778 F.3d 463, 470 (4th Cir. 2015) (quoting *Brown v. Burlington N. Santa Fe Ry. Co.*, 765 F.3d 765, 773 (7th Cir. 2014)). A court cannot rely on an expert opinion that suffers from "basic mathematical errors and flaws in methodology." *Dart v. Kitchen Bros. Mfg. Co.*, 253 F. App'x 395, 399 (5th Cir. 2007).

Wiley's pumping-volume analysis suffers from unexplained (and perhaps inexplicable) inconsistencies and errors. Wiley has served as an expert witness for Mississippi since the original *Hood ex rel. Mississippi v. City of Memphis* lawsuit was filed in federal district court in 2005. In that capacity, he has submitted several expert reports, including reports dated December 2006, May 2007, November 2007, April 2014, and June 2017. The May 2007, 2014, and 2017 reports include tables that purport to list the annual volume of groundwater pumping that Wiley's computer model of the Aquifer attributes to MLGW in Shelby County, Tennessee, and to all pumpers collectively in DeSoto County, Mississippi.

Wiley's 2007 Report included pumping data from 1865 to 2006. *See* Ex. 9 (Wiley Dep. 32:21-33:1). Wiley testified that, in his 2014 Report (filed as part of Mississippi's Motion for Leave To File an Original Action), he updated his

¹ Excerpts of four of these reports are attached respectively as Exhibits 4 (December 2006 report), 5 (May 2007 report), 6 (April 2014 report), and 7 (June 2017 report).

computer model by adding annual pumping volumes for the years 2007 through 2012, but he did not go back and change any pumping data from 1965 to 2006.² See id. at 33:2-10. Similarly, Wiley testified that, for his 2017 Report, he updated his model merely by adding pumping to his model for the years 2013 through 2016, but he did not go back and change any pumping data from the previous years. See id. at 33:11-34:1. Based on Wiley's testimony, the pumping volumes for 1965 through 2006 should be consistent in all three reports. Similarly, the pumping volumes for 2007 through 2012 should be consistent between the 2014 and 2017 reports. They are not.

The table below compares the pumping data in Wiley's model for DeSoto County, Mississippi, as reported in Wiley's 2007 and June 2017 Reports (expressed in million gallons per day or "MGD"). According to Wiley's deposition testimony, the pumping data in these two reports should be the same. Instead, the data is different for *every single year* between 1965 and 2006.

² Wiley did remove pumping for 1865-1964.

Comparison of Pumping Volumes (in MGD) Reported for DeSoto County, Mississippi, in Wiley's 2007 and 2017 Reports				
Year	2007 Report (Table 2)	2017 Report (Table 2)		
1965	1.23	0.9		
1966	1.23	0.9		
1967	1.23	0.9		
1968	1.23	0.9		
1969	1.23	0.9		
1971	4.18	1.23		
1972	4.18	1.23		
1973	4.18	1.23		
1974	4.18	1.23		
1981	3.6	4.18		
1982	3.6	4.18		
1994	13.05	3.6		
1996	13.4	13.04		
1997	13.4	13.04		
1998	13.4	13.04		
1999	13.4	13.04		
2000	13.4	13.43		
2001	14	13.43		
2002	14	13.43		
2003	14	13.43		
2004	14	13.43		
2005	14	13.97		
2006		14.47		

Below is a comparison of Wiley's pumping volumes assigned to Shelby County by Wiley in his 2014 and 2017 Reports. Although Wiley testified that none of these numbers should have changed, again there are differences for *every single year* from 2007 to 2012 in his 2017 Report.

Comparison of Pumping Volumes (gallons/day) Reported for Shelby County, Tennessee, in Table 1 of Wiley's 2014 and 2017 Reports				
Year 2014 Report 2017 Report ³				
2007	153,985,700	151,911,863		
2008	143,356,242	142,628,493		
2009	140,325,833	135,914,795		
2010	151,324,167	147,592,055		
2011	132,755,833	147,592,055		
2012	143,593,333	140,743,288		

Finally, Wiley's 2014 and 2017 Reports each included two tables purporting to represent the amount of pumping by MLGW that Wiley included in his model for Shelby County, Tennessee. "Table 1" in each report was expressed in gallons per day. "Table 2" in each report was expressed in million gallons per day ("MGD"). Shown below are the comparisons of Tables 1 and 2 in Wiley's 2014 and 2017 reports. For virtually every year from 1965 through 2012, the annual pumping volume in Table 2 (MGD) is inexplicably hundreds of thousands of gallons more than the volume for the same year in Table 1 (gallons per day).

³ Table 1 of Wiley's June 2017 Report omitted the years 2007 through 2016, but at his deposition Wiley disclosed the corrected Table 1 to that report, which was marked as Exhibit 10 to his deposition and is part of Exhibit 7 to these motions in limine.

Comparison of Pumping Volumes for Shelby County, Tennessee, Reported in Tables 1 and 2 of Wiley's 2014 Report				
Year	Table 1 (Gallons/Day)	Table 2 (Million Gallons/Day)		
2007	153,985,700	154.9		
2008	143,356,242	144.3		
2009	140,325,833	141.2		
2010	151,324,167	152.3		
2011	132,755,833	133.6		
2012	143,593,333	144.4		

Comparison of Pumping Volumes Reported for Shelby County, Tennessee, in Tables 1 and 2 of Wiley's 2017 Report						
Year	Table 1 (Gallons / Day)	Table 2 (MGD)		Year	Table 1 (Gallons / Day)	Table 2 (MGD)
1965	71,961,000	72.1		1986	136,539,452	136.8
1966	75,747,000	75.9		1987	135,446,301	135.7
1967	77,702,000	77.8		1988	142,589,315	142.8
1968	81,081,000	81.2		1989	135,324,658	135.6
1969	82,645,000	82.8		1990	141,008,219	141.3
1970	90,299,000	90.5		1991	140,070,959	140.3
1971	95,858,000	96		1992	139,243,014	139.5
1972	99,042,000	99.2		1993	139,616,164	139.9
1973	108,469,998	108.7		1994	142,362,466	142.6
1974	109,543,166	109.7		1995	148,000,000	148.3
1975	110,187,330	110.4		1996	149,881,370	150.1
1976	111,255,000	111.4		1997	145,672,877	145.9
1977	118,012,000	118.2		1998	156,403,014	156.7
1978	117,478,000	117.7		1999	161,876,438	162.2
1979	119,714,000	119.9		2000	162,108,493	162.4
1980	123,983,000	124.2		2001	153,407,397	153.7
1981	119,408,000	119.6		2002	154,523,333	154.8
1982	121,627,000	121.8		2003	151,900,832	152.2
1983	124,855,983	125.1		2004	154,350,001	154.6
1984	127,680,984	127.9		2005	156,891,666	157.2
1985	131,655,274	131.9		2006	156,233,333	149.8

These errors show not only that Wiley's reports are inconsistent over time, but that each report also is internally inconsistent. More concerning, Wiley's reports all conflict with his deposition testimony about the work he performed for each report. When asked to explain the inconsistencies from one report to another and within each report, Wiley testified: "I don't know." Ex. 9 (Wiley Dep. 59:13-60:14, 61:4-6). If Wiley accurately testified that he did not intend to change any numbers and did not know why they differed from report to report, he does not actually know what is happening in his model.

During his deposition, Wiley admitted to other errors in his report. *See*, *e.g.*, *id.* at 68:24-70:19 (admitting that the representation in his report that a computer model created Figure 9 was wrong); *id.* at 124:9-18 (admitting that extraneous language in Figure 3 to his report was an error); *id.* at 128:19-129:2 (admitting that the sources of information identified in Figures 14-17 to his report were wrong); *id.* at 129:16-130:8 (admitting that Figure 22 to his report, which Wiley described as including pumping from both DeSoto County and Marshall County, was an error because Marshall County was not included).

This "plethora of errors" in Wiley's data and in his reports render his "conclusions worthless." *EEOC v. Freeman*, 961 F. Supp. 2d 783, 793, 796 (D. Md. 2013), *aff'd in part*, 778 F.3d 463 (4th Cir. 2015). Even Wiley himself acknowledged that it was important for his pumping data to be accurate. *See* Ex. 9

(Wiley Dep. 61:7-10). Given his inability to meet his own standard and his repeated and unexplained errors and discrepancies, his report is unreliable. *See*, *e.g.*, *In re Viagra Prods. Liab. Litig.*, 658 F. Supp. 2d 936, 945, 948-49 (D. Minn. 2009) ("numerous miscodings and errors have rendered the McGwin Study as published unreliable"; "the discrepancies between the originals survey forms and the electronic dataset that Dr. McGwin used for the McGwin Study as published undermines the reliability of that study"). Such unreliable expert testimony cannot help resolve any disputed issues.

CONCLUSION

For the reasons set out herein, this Court should grant Defendants' Motion and exclude the testimony of Plaintiff's expert David A. Wiley.

Respectfully submitted this 1st day of November 2018,

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

S/Leo M. Bearman
LEO M. BEARMAN
Counsel of Record
DAVID L. BEARMAN
KRISTINE L. ROBERTS
BAKER, DONELSON, BEARMAN,
CALDWELL & BERKOWITZ, PC
165 Madison Avenue, Suite 2000
Memphis, Tennessee 38103
(901) 526-2000
(lbearman@bakerdonelson.com)
Counsel for Defendants
City of Memphis, Tennessee, and
Memphis Light, Gas & Water
Division

CHERYL W. PATTERSON
CHARLOTTE KNIGHT GRIFFIN
MEMPHIS LIGHT, GAS & WATER
DIVISION
220 South Main Street
Memphis, Tennessee 38103
Counsel for Defendant
Memphis Light, Gas & Water
Division

BRUCE A. MCMULLEN

City Attorney
CITY OF MEMPHIS, TENNESSEE
125 North Main Street, Room 336

Memphis, Tennessee 38103

Counsel for Defendant
City of Memphis, Tennessee

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 1st day of November 2018.

/s/ David C. Frederick

David C. Frederick

Special Counsel to Defendant

State of Tennessee