

# **EXHIBIT 1**



No. 141, Original

IN THE  
SUPREME COURT OF THE UNITED STATES

STATE OF TEXAS,

*Plaintiff*

v.

STATE OF NEW MEXICO and  
STATE OF COLORADO,

*Defendants*

**SECOND DECLARATION OF JENNIFER STEVENS, PH.D.**

I, Dr. Jennifer Stevens, pursuant to 28 U.S. C. § 1746, hereby declare as follows:

1. I am over 18 years of age and have personal knowledge of the facts stated herein.

2. I am the same Dr. Jennifer Stevens who authored expert reports in this litigation (NM-EX 112 and 113) and my first declaration for New Mexico’s dispositive motions filed November 5, 2020 (NM-EX 005).<sup>1</sup> My credentials and background are listed in my November 4, 2020 declaration. NM-EX 005 at ¶¶2-7.

3. ~~Texas and the United States make several incorrect and erroneous statements of fact in their Motions for Partial Summary Judgment, and I have been asked to address them.~~

4. ~~As early as the turn of the 20th century, groundwater was recognized as a potential source of supply for irrigation in the Rio Grande Valley.<sup>2</sup> The New Mexico Agricultural Experiment Station noted in 1903 that Texas irrigators around El Paso had “been compelled to~~

<sup>1</sup> All exhibits designated “NM-EX” in this Declaration are contained within the State of New Mexico’s Exhibit Compendium filed with New Mexico’s Partial Summary Judgment Motions dated November 5, 2020, and additional exhibits in the State of New Mexico’s Supplemental Exhibit Compendium dated December 22, 2020 filed with New Mexico’s responses to the Texas and United States November 5 motions for partial summary judgment. Exhibits used by the United States and Texas in their motions for partial summary judgment are cited as in those briefs.

<sup>2</sup> NM-EX 113, Jennifer Stevens, “Rebuttal Report, Prepared for the New Mexico Office of the Attorney General in the Matter of *State of Texas v. State of New Mexico and State of Colorado* No. 141, Original,” June 15, 2020 (“Stevens Reb. Rep.”) at 6.

turn their attention to other water supplies or else abandon all agricultural work. As a consequence they have demonstrated the fact that crops can be profitably grown by irrigation from wells tapping the underflow in the Rio Grande Valley.<sup>23</sup> New Mexico irrigators in the Mesilla Valley also used groundwater in the years immediately after the turn of the century, before the Rio Grande Project was approved and constructed.<sup>4</sup>

5. Due to Rio Grande Basin-wide needs for a reliable water supply, the U.S. Congress authorized the U.S. Reclamation Service to construct the Rio Grande Project in 1905. Parts of the Project, including the Leasburg Diversion Dam and Canal, were completed in 1908 and watered 25,000 acres in the Mesilla Valley by 1911.<sup>5</sup> Storage water from Elephant Butte dam was delivered to users within the New Mexico and Texas Project districts beginning in 1916.

6. In negotiations related to what became the temporary compact of 1929, each of the three states—Colorado, New Mexico, and Texas—took separate positions, and Texas and New Mexico’s positions were closely aligned. New Mexico was unique among the three states in that the two primary water user groups in the state had opposing interests, with its upstream users in Middle Rio Grande Conservancy District (MRGCD) wanting a lesser delivery obligation into Elephant Butte Reservoir and the downstream Project users in EBID demanding a greater delivery of water, thus creating tension between them and putting the state in a tricky position. New Mexico was bound to protect users both above and below the dam, with the city of Albuquerque growing exponentially during these years.<sup>6</sup> Fostering the MRGCD development helped both sets of users, since it permitted development of acreage in the Middle Valley through the drainage of lands; downstream water users in both New Mexico and Texas accepted and agreed with engineering studies showing that MRGCD development would better regulate flows into the Elephant Butte Reservoir as well as augment volumes.<sup>7</sup>

7. During 1920s negotiations, Texas supported New Mexico’s MRGCD development, because Texas believed that development of MRGCD would augment and regulate supply into EBR. Texas was not opposed to this development during the 1920s negotiations and supported New Mexico’s development of the area.<sup>8</sup> Texas’s engineer explained that “the purpose of a compact on the part of New Mexico and Texas with Colorado with regard to the Rio Grande would

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<sup>3</sup> NM-EX 332, John J. Vernon and Francis E. Lester, “Pumping for Irrigation from Wells,” Bulletin No. 45 (State College, N.M.: New Mexico College of Agriculture and Mechanic Arts, Agricultural Experiment Station, April 1903) at NM\_00151742.

<sup>4</sup> NM-EX 332, Vernon and Lester at NM\_00151741.

<sup>5</sup> NM-EX 112, Jennifer Stevens, Ph.D., “The History of Interstate Water Use on the Rio Grande: 1890-1955,” Expert Report Prepared for the New Mexico Office of the Attorney General, October 28, 2019 (“Stevens Rep.”) at 21.

<sup>6</sup> Albuquerque had 15,157 residents in 1920, 26,570 in 1930, and 35,449 in 1940. (U.S. Census records, New Mexico).

<sup>7</sup> NM-EX 112, Stevens Rep. at 34-35.

<sup>8</sup> NM-EX 112, Stevens Rep. at 34-35, fn 38.

be to assure a continued supply of water to their lands in the Middle Rio Grande Conservancy District, the Rio Grande Project and other irrigated lands, as good as has been enjoyed heretofore.” See NM-EX-333, Comments on Compact Negotiations (undated, c. 1929) at NM\_00101878-886.

8. New Mexico represented two powerful user groups in compact negotiations, user groups whose interests were not aligned. New Mexico’s position in the 1920s compact negotiation (as well as the 1930s) was that the Rio Grande Project had “greatly benefitted the section between the dam in New Mexico and Fort Quitman in Texas but above San Marcial the burden of the obligation to Mexico operates as a direct drain during dry cycles upon the resources of the stream in the basin.”<sup>9</sup> Therefore, New Mexico’s compact delegation aimed to protect the Project as a unit while also protecting the supplies of upstream users in the Middle Valley. Texas and Colorado agreed that the obligation to Mexico through the 1906 Treaty hurt farmers throughout the Rio Grande Basin (hereinafter, “Basin”), and that the United States should fund the construction of infrastructure that would augment supply to the Basin above Elephant Butte, from which Mexico’s treaty water was delivered, thereby assuring supply into the reservoir for users in both New Mexico and Texas.

9. To protect its users below the dam, New Mexico aimed, therefore, to protect the Project as a unit, ensuring it received the supply necessary to water all the lands in EBID.<sup>10</sup> Protecting the Project as a unit was the vehicle through which New Mexico protected its users below Elephant Butte in the 1920s as well as the 1930s.<sup>11</sup>

10. Texas and New Mexico even jointly hired an engineer—Osgood—to study Colorado plans in the San Luis Valley and ensure they would not harm Project supplies.<sup>12</sup>

11. Meanwhile, Texas also sought to protect the lower Rio Grande area, including the lands in Hudspeth County, which had rights only to excess Project water through Warren Act contracts, and lands around Fort Quitman, which Texas proposed to serve through six groundwater pumps.<sup>13</sup>

12. Texas’s position in the 1920s included its goal to protect future additional developments throughout the Basin, including within its own and New Mexico’s borders. Texas’s Richard Burges makes this clear in his opposition to one of the proposed compact terms in the

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<sup>9</sup> NM-EX-338, Francis C. Wilson, “Rio Grande Compact Report of Francis C. Wilson, Commissioner for New Mexico” (Interstate River Commission for the State of New Mexico, 1929) at NM\_00118544.

<sup>10</sup> NM-EX-112, Stevens Rep. at 34-35.

<sup>11</sup> NM-EX-112, Stevens Rep. at 38-39.

<sup>12</sup> NM-EX-339, J.W. Taylor, President and Manager, to Mr. D.C. Henny, February 7, 1927 at NM\_00117911-7912.

<sup>13</sup> NM-EX-340, E.P. Osgood, “Preliminary Report Upon the Use, Control & Disposition of the Rio Grande and Its Tributaries Above Fort Quitman, Texas,” March 31, 1928 at NM\_00118331-8332.

following passage: “Colorado alleges that over 200,000 acre feet of water on the average are surplus waters. It should be noted that if a compact division of the water is entered into, then New Mexico and Texas are giving up all rights to further appropriation of the alleged surplus, but freeing Colorado, subject to the Compact, to such capture of water as she can effect and to such extension of irrigation as she can accomplish. In other words, Colorado only is the applicant for further and new rights.” See NM-EX 333, Burges Comments on Compact Negotiations at NM\_00101878-886. This interest in and demand to permit future development remained consistent in the 1930s compact negotiations:

13. By 1938, however, Texas’s position on other points had changed rather dramatically from its negotiating position in the 1920s, particularly related to MRGCD. In November 1935, Texas filed a complaint against the State of New Mexico in the U.S. Supreme Court,<sup>14</sup> alleging that the infrastructure comprising the Middle Rio Grande project violated provisions of the 1929 Compact and reduced flows into Elephant Butte Reservoir.<sup>15</sup> NM-EX 112, Stevens Rep. at 48-50, 54. Texas was convinced that the MRGCD had increased the amount of acreage the project had originally intended to serve but could not procure any data to prove it.<sup>16</sup> NM-EX 112, Stevens Rep. at 59.

14. Texas gradually recognized the difficulty of proving its case against New Mexico because ~~there was no data showing that the MRGCD had caused water deliveries to Elephant Butte Reservoir to decline~~. Therefore, upon a recommendation from Texas’s Raymond Hill, the state turned to a new interpretation of a 1929 Compact clause whose language prohibited New Mexico from “impairing” Texas’s water supply; Hill’s new interpretation depended not on the quantity of water delivered to Elephant Butte, but on the quality of the water Texas used on its lands. According to Hill, “impair” simply meant any change that would “reduce the value of the water supply.”<sup>17</sup> NM-EX 112, Stevens at 59, fn 25. This novel interpretation of the 1920s compact clause became the prime concern in the *Texas v. New Mexico* litigation and subsequently, in negotiations over the permanent compact. Concerns over water quality had been non-existent in the 1920s.<sup>18</sup> (C14)

15. New Mexico’s positions in the 1930s negotiations remained consistent. New Mexico’s compact commissioner Thomas McClure steadfastly represented water users both above and below Elephant Butte Reservoir in the 1930s negotiations, as he had in the 1920s, despite growing tension within New Mexico between water users above and below Elephant Butte Reservoir. New Mexico’s delegation had to broker the friction throughout negotiations, and its efforts to protect Project supplies was the means by which it protected its downstream users, while

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<sup>14</sup> *State of Texas v. State of New Mexico*, No. 10 Original, Supreme Court of the United States.

<sup>15</sup> NM-EX 112, Stevens Rep. at 48-50, 54.

<sup>16</sup> NM-EX 112, Stevens Rep. at 59.

<sup>17</sup> NM-EX 112, Stevens Rep. at 59, fn 25.

<sup>18</sup> NM-EX 112, Stevens Rep. at 58-59, fns 25-31 and at 66-67, fn 74.

simultaneously ensuring that the reservoir's agreed-upon "normal release" figure was not higher than was fair for the state's upstream users. See TX\_MSJ\_005303, Appendix 2, McClure to Harper, 1/25/38; TX\_MSJ\_005311, Appx. 6, March 4, 1938, ¶4; NM-EX-112, Stevens Rep. at 66-69.

16. In late 1937, the Engineering Committee submitted recommended Compact terms to the Compact Commission. Upon review of the December 27, 1937 Engineering Committee report, New Mexico delegate McClure "came to the definite conclusion" that several changes were necessary, particularly the recommended delivery schedule for San Marcial that was based on the relationship between the Otowi index supply and the Elephant Butte usable supply, a relationship which New Mexico felt was "not an accurate or good basis" on which to set up the delivery schedule. See TX\_MSJ\_005258-59, 03-03-1938 Proceedings of the Meeting of the RGCC. Additionally, McClure noted that New Mexico "cannot be satisfied" with the figures in the report representing the "normal release" from Elephant Butte. See TX\_MSJ\_005259, 03-03-1938 Proceedings of the Meeting of the RGCC. These concerns stemmed from McClure's need to balance the demands of both upstream and downstream users.

17. During final negotiations, the parties met again in early March 1938 to discuss and determine whether to adopt the details of the December 1937 Engineering Committee report. Considering New Mexico's objections, the commissioners sent the engineers back to the drawing board to reconsider certain points, at which point former New Mexico Governor Anthony Hannett—serving as one of New Mexico's legal advisers—recommended that MRGCD engineering consultant Mr. H.C. Neuffer be permitted to sit in on the Engineering Committee meetings. See TX\_MSJ\_005273-5276, 03-03-1938 Proceedings of the Meeting of the RGCC. Judge Edwin Mechem, representing EBID, misunderstood the request and objected that he did not want Neuffer *representing* the State of New Mexico. Hannett made clear that New Mexico's formal engineer representative, John H. Bliss, (the only one granted authority to represent the state in the Engineering Committee) represented *all* of that state's water users, and that the request was merely to permit Neuffer to *physically attend* the meetings specifically on behalf of the MRGCD water users, "since that district is the most vitally interested area in New Mexico as to the effect of this compact." See TX\_MSJ\_005273, 03-03-1938 Proceedings of the Meeting of the RGCC. The implied corollary to Hannett's statement was that the Project itself protected the downstream users in EBID. Hannett explained that Neuffer was not to be given a vote or any other formal authority, but that the commission should allow *any* water users' representative to sit in on the engineers' sessions, so that they could ask questions and contribute necessary data in real time. Furthermore, Hannett continued, if any one group (in this scenario, MRGCD) successfully lobbied the New Mexico (or other states') legislature not to ratify the Compact because of their dissatisfaction with its terms, all the negotiations would be pointless; therefore, allowing Neuffer to participate would expedite the process because he would be able to weigh in on the proceedings and obtain and/or

~~contribute the data he needed. See TX\_MSJ\_005273-5276, 03-03-1938 Proceedings of the Meeting of the RGCC.~~

~~18. Neuffer was therefore permitted to attend the engineer advisory committee meetings as an extra attendee, with no formal role, while Bliss remained the neutral New Mexico representative who protected both the Project and the MRGCD. See TX\_MSJ\_005276, 03-03-1938 Proceedings of the Meeting of the RGCC).~~

~~19. New Mexico also advocated for the Project by ensuring a clause through which New Mexico could call for water from Colorado to fill Elephant Butte Reservoir. This clause, found in Article VIII, gave New Mexico the authority to protect its own downstream users. New Mexico's John H. Bliss noted that the Compact permitted either "The commissioner from Texas or New Mexico" [emphasis added] to "call for the release of Elephant Butte water in upstream reservoirs in amounts sufficient to bring project storage up to 600,000 acre feet by the first of March and to maintain it there until April 30th." NM-EX 327, J.H. Bliss, Provisions of the Rio Grande Compact (April 2, 1938).~~

~~20. New Mexico's support of treating the Rio Grande Project as a unit continued until the Compact was signed. New Mexico's own John Bliss stated on April 2, 1938 that "the measurement of the water at San Marcial rather than at the New Mexico-Texas line is necessary because the Elephant Butte Project must be operated as a unit." NM-EX 327, J.H. Bliss, Provisions of the Rio Grande Compact (April 2, 1938).~~

~~21. The 1938 Compact in no way "mimics" the 1929 Temporary Compact. The 1929 Compact was overtly temporary and intended only to provide a truce between parties that would last long enough for data about supply in the Basin to be gathered. NM-EX-112, Stevens Rep. at 37.~~

~~22. The 1929 Temporary Compact was described by contemporaries as a "six-year cessation of hostilities," and it contained explicit language freezing conditions.<sup>19</sup> The parties intended the document to halt development in Colorado and New Mexico that would deplete downstream flows until a permanent agreement was reached. Language in the temporary compact included Article V, establishing that Colorado "will not cause or suffer the water supply at the Interstate Gauging Station to be impaired by new or increased diversions or storage within the limits of Colorado unless and until such depletion is offset by increase of drainage return."<sup>20</sup> See NM-EX 338, Francis C. Wilson, "Rio Grande Compact Report of Francis C. Wilson, Commissioner for New Mexico" (Interstate River Commission for the State of New Mexico, 1929) at NM\_00118539.~~

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<sup>19</sup> NM-EX 112, Stevens Rep. at 37.

<sup>20</sup> NM-EX 338, Francis C. Wilson, "Rio Grande Compact Report of Francis C. Wilson, Commissioner for New Mexico" (Interstate River Commission for the State of New Mexico, 1929) at NM\_00118539.

Similar language bound New Mexico in Article XII: “[New Mexico] will not cause or suffer the water supply in the Elephant Butte Reservoir to be impaired by new or increased diversion or storage within the limits of New Mexico unless and until such depletion is offset by increase of drainage return.”<sup>21</sup> See NM-EX 338, Francis C. Wilson, “Rio Grande Compact Report of Francis C. Wilson, Commissioner for New Mexico” (Interstate River Commission for the State of New Mexico, 1929) at NM\_00118540. This temporary “truce” (NM-EX 338, Letter Francis C. Wilson to NM Governor Richard Dillon, at NM\_00118541 (1929) came on the heels of federal revocation of the embargo on Rio Grande development and federal approval of a right of way for a new Colorado reservoir. In significant contrast, Articles III and IV of the permanent 1938 Compact is missing any such language, replaced with schedules built in part on the RGJI data and designed to permit maximum possible development of the resource. NM-EX 112, Stevens Rep. at 41, fn 6

23. There is no historical evidence whatever that the 1938 Compact intended to similarly freeze conditions in the Basin. The materials cited by Dr. Miltenberger for this assertion do not actually state what he claims they state. While Article VI contains schedules for deliveries, it does not in any way reference a freeze on existing conditions. It is clear that all parties intended for existing legitimate uses to be protected,<sup>22</sup> and historical documents also state that “usable water supply is no more than sufficient to satisfy such [current] needs.” See TX\_MSJ\_005313, 03-03-1938 Proceedings of the Meeting of the RGCC. ***However, protecting “present uses” is not the same as freezing depletions to “present conditions.”*** Contrary to Texas’s position today, the historical record is replete with documents which make it abundantly clear that none of the three states intended to or believed the Compact would halt their own development. None of the parties—including Texas—would have supported any such freezing, as each state intended to continue developing their supplies within the limits imposed by the protection of existing uses. As noted in my original report, common understanding about the river’s behavior was growing and changes to the river’s infrastructure were occurring even as the Compact was being negotiated and signed, changes intended to alter the river’s flow and improve Project efficiency.<sup>23</sup> Even the Rio Grande Joint Investigation<sup>24</sup>—upon whose data all parties agreed to rely for the 1938 Compact—stated its intent to study “the past, present, and prospective uses of water” in the Rio Grande Basin (TX\_MSJ\_005338-5339, 03-03-1938 Proceedings of the Meeting of the RGCC; NM-EX 112, Stevens Rep. at 55) and to “determine the basic facts needed in arriving at an accord” among the three states “on an allocation and use of Rio Grande waters in *the future development* of the basin.” [Emphasis added.] The RGJI’s fundamental premise was to expand development within the limits of the resource.<sup>25</sup> Finally, the Committee of Engineers who reported their recommendations to the compact commissioners in December 1937 explained that the schedules ultimately outlined in

<sup>21</sup> NM-EX 338, Francis C. Wilson, “Rio Grande Compact Report of Francis C. Wilson, Commissioner for New Mexico” (Interstate River Commission for the State of New Mexico, 1929) at NM\_00118540.

<sup>22</sup> NM-EX 112, Stevens Rep. at 56, 68.

<sup>23</sup> NM-EX 112, Stevens Rep. at 77-81.

<sup>24</sup> TX\_MSJ\_000022, Rio Grande Joint Investigation (RGJI), February 1938.

<sup>25</sup> NM-EX 112, Stevens Rep. at 62, fn 50.



Article VI were intended to “permit the maximum practicable use of the waters of the Rio Grande.”<sup>26</sup>

24. The historical record does not provide details on precisely how the schedules in the Compact’s Articles III and IV were ultimately derived, nor is it material to the allocation of water represented by the Compact; the schedules speak for themselves. The record tells us that New Mexico objected to the schedules presented in the December 1937 Engineering Committee report, and that New Mexico recommended new schedules based on the relationship between Otowi Bridge and San Marcial, the relationship that was ultimately used in Article IV. Data gathered by and compiled in the RGJI as well as data and records maintained by New Mexico and Colorado informed these schedules. (See, as just one example, reference made to New Mexico submitting curves, tables, and other details of stream flows to the engineering advisors. TX\_MSJ\_005311, 03-03-1938 Proceedings of the Meeting of the RGCC. In fact, these Articles were arguably the most controversial of the Compact, as they were, in a sense, the basis for the allocation. However, once the compact commissioners directed the engineer advisors to return to the drawing board in March 1938, no records were kept of their discussions. Instead, the language they ultimately recommended merely states that the schedule for Article IV reflects the relationship between Otowi Bridge and San Marcial “for the period prior to 1930,” exclusive of July, August, and September. See TX\_MSJ\_005316, 03-03-1938 Proceedings of the Meeting of the RGCC. John Bliss, New Mexico’s engineer advisor, recorded his understanding of this particular relationship just two weeks after the Compact was signed, and wrote that the Compact language and the schedule was intended to represent the system prior to the time when “reclamation and drainage in the Middle Rio Grande Conservancy District was started.” See TX\_MSJ\_005349, 04-02-1938 Bliss re Provisions of the RG Compact. Note that there is no language restricting development after that time.

25. Much of the Rio Grande Joint Investigation, upon which the Compact was based, had been occupied with investigating methods to augment the existing supply of the river and permit additional development. The Compact wording, which repeatedly accommodated developments on the river *after* 1929 and *after* 1937 also clearly indicated an intent to continue development. Rather than using language that would have limited development below Elephant Butte dam, such as “works constructed at or before 1937,” it clearly stated that schedules were intended to accommodate both existing and future works constructed after those dates as well as “trans mountain diversions into the Rio Grande between Lobatos and San Marcial.” See TX\_MSJ\_005317, 03-03-1938 Proceedings of the Meeting of the RGCC. The Compact and the documentation leading up to the Compact demonstrates a clear intent by all to permit continued development and a “living Compact” within the limits posed by existing *legitimate* uses.<sup>27</sup>

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<sup>26</sup> NM-EX 112, Stevens Rep. at 68, fn 86.

<sup>27</sup> NM-EX 112, Stevens Rep. at 69, 72.

26. One of the most controversial issues for the parties to settle in the ultimate Compact language was determining the stated volume of water to be considered “normal” or “actual” release from Elephant Butte Reservoir. The RGJI had recognized the inadequacy of data to account for increased salinity in the lower end of the Project and had thus “arbitrarily” assumed allowances to maintain a salt balance. The arbitrary number arrived at by RGJI authors was 773,000 acre-feet.<sup>28</sup> Like any compromise, none of the parties was completely satisfied with that number. Colorado believed it was too high and demanded an actual release volume no higher than 750,000 acre-feet. Texas continued to push for a volume even higher than the 773,000, advocating 800,000 acre-feet instead, even as Texas engineer Raymond Hill recognized that the actual Project releases in recent years had been closer to 730,000 acre-feet, making it “very difficult to substantiate the 800,000 acre-feet requirement.”<sup>29</sup> Still, in late 1937, Texas’s Hill expressed his belief that New Mexico was “not unreasonable in their demands” and that New Mexico intended to “continue deliveries into Elephant Butte reservoir, to the extent that water actually entered the reservoir in past years.”<sup>30</sup> Again, New Mexico’s position reflected its effort to balance the needs of its users above and below the dam, both ensuring that MRGCD was not held to unreasonable standards for delivery and also that EBID users would have ample supplies for existing uses.<sup>31</sup>

27. In trying to land on the right “normal release” volume, New Mexico clearly was balancing the needs of all its users.<sup>32</sup> Since MRGCD’s H.C. Neuffer was advocating for a volume no higher than 700,000 acre-feet,<sup>32</sup> New Mexico’s ultimate agreement to the 790,000 acre-feet normal release number did not demonstrate an undue influence of MRGCD, but instead New Mexico’s delicate balancing act between users, protecting the irrigation needs of New Mexico Project users as well as those in Texas. Although Texas perceived that it was being held overly responsible for protecting the Project, including EBID users, *this compromise demonstrates New Mexico’s balancing of user needs above and below the Elephant Butte Reservoir*. New Mexico acted accordingly to ensure that neither MRGCD nor EBID users lobbied against Compact ratification.

28. Texas also agreed to the 790,000 acre-feet number and understood that its Project users would receive 43% of actual Project Supply in any given year. There is no evidence in the historical record that Texas believed it controlled all of the water being delivered into Elephant Butte; instead, Texas relied on Reclamation to administer the Project Supply, including return flows, according to contracts signed between the two districts in late 1937 which divided the supply

<sup>28</sup> NM-EX 112, Stevens Rep. at 65.

<sup>29</sup> NM-EX 112, Stevens Rep. at 67, fn 79.

<sup>30</sup> NM-EX 341, Raymond A. Hill to Mr. Clayton, Memorandum In re Meeting of Committee of Engineers, at Santa Fe, November 22 to 24, 1937, November 26, 1937 at TX\_MSJ\_00002921-2924.

<sup>31</sup> NM-EX 112, Stevens Rep. at 65-69.

<sup>32</sup> The historical record does not suggest or support an interpretation that the “normal release” volume had any relation to delivery schedules into the reservoir by Colorado and New Mexico.

<sup>33</sup> NM-EX 112, Stevens Rep. at 68.

according to a division of the 155,000 Project acres into 57% for EBID (88,000) and 43% for EPCWID (67,000).<sup>34</sup>

29. ~~Water supply shortages, the Depression, and flooding events which caused the river to move, had caused great variations in irrigated acreage between the 1920s and the 1930s in both Project districts. Therefore, the downstream contracts signed in 1937 between the Project Districts permitted a 3% increase in acreage irrigated over and above the Project's irrigated acreage figures.<sup>35</sup> Furthermore, the RGJI recognized future increase in demand downstream of the dam for both municipal and industrial uses. NM-EX 112, Stevens Rep. at 64, fn 64.~~

30. ~~Municipalities downstream of Elephant Butte Dam had long relied on groundwater for their supplies,<sup>36</sup> and farmers used wells, too. According to U.S. Geological Survey's Charles S. Slichter writing about groundwater supplies in the Mesilla Valley in 1905, a "number of pumping wells have been installed for the purpose of obtaining ground water for irrigation."<sup>37</sup>~~

31. ~~However, scientific understanding of the relationship between groundwater and surface water in the Rio Grande Basin was limited at the time that the 1938 Compact was signed, and Texas's delegation fought to keep it that way.<sup>38</sup> The City of El Paso faced a significant municipal water shortage in the mid-1930s. El Paso had been dependent on pumping groundwater for its municipal supply since at least the turn of the twentieth century, and by the mid-1930s, the volume it pumped had increased beyond the existing supplies. The city requested that the U.S. Geological Survey conduct an intensive study of groundwater conditions around the city, which the agency began in July 1935. The agency published the results in 1945. In between those two dates, parties executed the Rio Grande Compact. Texas was well aware of El Paso's predicament and of these studies during Compact negotiations.<sup>39</sup> Thanks to arguments and lobbying by Texas's Raymond Hill, groundwater study of the valleys below Elephant Butte did not figure into the RGJI, nor did it figure into the schedules outlined in the 1938 Compact. Texas's Raymond Hill, in arguing for a limited role for the U.S. Geological Survey in the RGJI, noted in 1936 that "groundwater supplies along the Rio Grande are of little importance in relation to the total supply."<sup>40</sup> And, Hill argued to reduce the role of the federal agency to groundwater studies above Elephant Butte. Therefore, thanks in part to Texas's lobbying for such a limited role, *no* conclusions were drawn related to groundwater below Elephant Butte, either related to additional supply or related to its~~

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<sup>34</sup> NM-EX 112, Stevens Rep. at 74-77.

<sup>35</sup> NM-EX 112, Stevens Rep. at 74-77.

<sup>36</sup> NM-EX 112, Stevens Rep. at 83-84.

<sup>37</sup> NM-EX 342, Charles S. Slichter, "Observations on the Ground Waters of Rio Grande Valley," U.S. Geological Survey Water Supply and Irrigation Paper No. 141 (Washington, D.C.: Government Printing Office, 1905) at NM\_00166723.

<sup>38</sup> NM-EX 113, Stevens Reb. Rep. at 6-15.

<sup>39</sup> NM-EX 112, Stevens Rep. at 84-85.

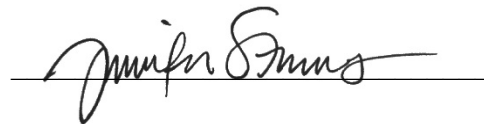
<sup>40</sup> NM-EX 112, Stevens Rep. at 57-58, fn 19.

connection to surface water.<sup>41</sup> ~~*It is a farce to contend that the historical record supports Texas's position that Texas negotiated to prevent groundwater pumping in the Compact when all evidence points to the southernmost state in the talks doing everything it could to limit any such studies.*~~ Senior geologist for the U.S. Geological Survey on the RGJI called the data on groundwater in the Mesilla Valley "meager."<sup>42</sup>

32. ~~A severe drought began in the late 1940s and continued into the 1950s, causing all parties concern over supplies and spurring new groundwater studies that would finally provide an understanding of the relationship between groundwater basins below Elephant Butte Dam and the surface flow of the Rio Grande.<sup>43</sup> Contrary to Texas's current position, the studies conducted by the U.S. Geological Survey in the 1940s and 1950s presented *new* information that was not available at the time of the Compact signing in 1939. Even C.S. Conover, who in 1954 studied and reported on groundwater conditions in New Mexico's valleys downstream of Elephant Butte Dam called the available data "meager."<sup>44</sup>~~

I declare under penalty of perjury that the foregoing is true and correct.

Executed on December 21, 2020



Dr. Jennifer Stevens, Ph.D.

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<sup>41</sup> ~~NM EX 113, Stevens Reb. Rep. at 12-13.~~

<sup>42</sup> ~~NM EX 113, Stevens Reb. Rep. at 14.~~

<sup>43</sup> ~~NM EX 113, Stevens Reb. Rep. at 16-21.~~

<sup>44</sup> ~~NM EX 113, Stevens Reb. Rep. at 17-18.~~