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

OFFICE OF THE SPECIAL MASTER

UNITED STATES OF AMERICA'S RESPONSE TO THE STATE OF NEW MEXICO'S CONSOLIDATED STATEMENT OF MATERIAL FACTS

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UNITED STATES OF AMERICA'S RESPONSE TO THE STATE OF NEW MEXICO'S CONSOLIDATED STATEMENT OF MATERIAL FACTS

The United States raises a general objection to the State of New Mexico's Consolidated Statement of Material Facts, as improper and not allowed under Rule 17 of the Supreme Court of the United States and Rule 56(c) of the Federal Rules of Civil Procedure. The Consolidated Statement of Facts is redundant and duplicative of material New Mexico previously provided in support of its motion for summary judgment and motions for partial summary judgment. Substantial numbers of these statements are characterizations of expert testimony and opinion. Many are unclear, vague, and ambiguous, or framed in subjective terms. [1]

Should the Court consider New Mexico's Consolidated Statement of Facts, the United States construes, for purposes of this response, the Consolidated Statement of Facts to exclude the string citations and parenthetical quotations offered to support the factual allegation. The United States' responses do not address the accuracy of the citations or the quotations except to the extent necessary to show that the Statement itself is disputed. Each of the following *italicized* numbered paragraphs corresponds to and quotes New Mexico's statement of fact, followed by the United States' response **in bold** with accompanying explanation.

Citations to the exhibits in New Mexico's compendium take the form "**NM-EX-0000, [Short Title], at [Bates No.],**" unless there is a clear internal page number (as in an expert

[1] The United States preserves all objections to admissibility of New Mexico's evidence based on lack of authentication, hearsay, competence to testify, or any other reason under the Federal Rules of Evidence. Concurrently with this filing, the United States submits a separate motion to strike the Second Declaration of Margaret Barroll, PhD ("NM-EX-006), the Second Declaration of John D'Antonio (NM-EX-007), the Second Declaration of Estevan R. Lopez, P.E. (NM-EX-008), the Declaration of Ryan J. Serrano (NM-EX-010), the Second Declaration of Jennifer Stevens, PhD (NM-EX-011), and the Declaration of Lee Wilson, PhD (NM-EX-013), to the extent those declarants testify to matters beyond their personal knowledge or technical expertise.

report). In a few places, the page number for the PDF document provided by New Mexico is used because the Bates number was not legible.

I. DEVELOPMENT OF THE RIO GRANDE PROJECT

1. Following an investigation, the Reclamation Service (precursor to the Bureau of Reclamation) (both the Reclamation Service and Bureau of Reclamation are referred to herein as "Reclamation") recommended that Congress authorize a storage reservoir near Elephant Butte, New Mexico, rather than an alternative site at El Paso, Texas, to capture, store, and regulate torrential and storm water flows in the Upper Rio Grande. See NM-EX 300, F.H. Newell, Second Annual Report of the Reclamation Service, H.R. Doc. No. 58-44, at 375-80 (1904); NM-EX 301, B.M. Hall, A Discussion of the Past and Present Plans for Irrigation of the Rio Grande Valley, 52 (Nov. 1904); NM-EX 106, Kryloff Rep. at 6; see also Texas v. New Mexico, 138 S. Ct. 954, 957(2018) ("The federal government responded by proposing, among other things, to build a reservoir and guarantee Mexico a regular and regulated release of water. Eventually, the government identified a potential dam site near Elephant Butte, New Mexico, about 105 miles north of the Texas state line."). [Apportionment UMF No. 1].

RESPONSE: Not disputed.

2. At the Twelfth National Irrigation Congress in 1904, Reclamation engineer Benjamin Hall reported that the proposed reservoir at Elephant Butte was preferable to the project proposed near El Paso because it would have a greater storage capacity, would minimize flooding that would render unusable irrigable land in New Mexico, and would impound sufficient water to irrigate 110,000 acres in New Mexico in addition to making deliveries to Mexico and irrigable land in Texas. NM-EX 303, Guy Elliott Mitchell, The Official Proceedings of the Twelfth National Irrigation Congress Held at El Paso, Texas, Nov. 15-16-17-18, 1904, 213-15 (1905); see alsoNM-EX 111, Miltenberger Rep. at 8; NM-EX 112, Stevens Rep. at 17. [Apportionment UMF No. 2].

RESPONSE: Not disputed.

3. The Reclamation proposal recommended delivery of water as between the lands in southern New Mexico and Texas based on the ratio of project lands within each state. NM-EX 220, Miltenberger Dep. (June 8, 2020) at 39:7-20. [Apportionment UMF No. 3].

RESPONSE: Disputed. Reclamation Service Engineer Hall did not recommend delivery of water based on the ratio of project lands within the state. Hall expressly avoided the issue of how impounded and released water would be distributed. *See* NM-EX-303, 1904 Irr. Cong., at 219

4. Delegates from Mexico, New Mexico, and Texas at the Irrigation Congress each approved the Reclamation proposal and unanimously passed a resolution declaring that the proposed project would affect "an equitable distribution of the waters of the Rio Grande with due regard to the

rights of New Mexico, Texas and Mexico." NM-EX 303, Guy Elliott Mitchell, The Official Proceedings of the Twelfth National Irrigation Congress Held at El Paso, Texas, Nov. 15-16-17-18, 1904, 107 (1905); NM-EX 111, Miltenberger Rep. at 9; NM-EX 106, Kryloff Rep. at 6. [Apportionment UMF No. 4].

RESPONSE: Disputed. The delegates from Mexico, New Mexico, and Texas unanimously adopted a resolution stating that they "heartily endorse and approve the proposal of building the Elephant Butte dam as a happy solution of a vexed question that has heretofore embarrassed the parties interested, providing that an equitable distribution of the waters of the Rio Grande with due regard to the rights of New Mexico, Texas, and Mexico." NM-EX-303,1904 Irr. Cong., at 109.

5. In support of Congressional authorization to begin work on the reservoir, the Reclamation Service Director testified to Congress that the project would be engineered to supply enough water to irrigate 20,000-25,000 acres in Mexico, 110,000 in New Mexico, with the "balance" to Texas. Mr. Newell further testified that "New Mexico, Texas, and old Mexico will divide the water in about the proportion stated." See NM-EX 305, The Reclamation Work of the Government Under the National Irrigation Act: Hearing Before the H. Comm. on Irrigation of Arid Lands, 59 Cong. 222 (1906) (statement of Frederick Newell, Reclamation Service Director); NM-EX 112, Stevens Rep. at 18. [Apportionment UMF No. 5].

RESPONSE: Not disputed.

6. In 1906, the United States entered into a treaty with the Republic of Mexico for annual delivery of 60,000 acre-feet of water to the Acequia Madre, above Juarez, in years of full supply, with proportionate reductions in times of shortage. NM-EX 307, Distribution of the Waters of the Rio Grande, Mex.-U.S., May 21, 1906, 34 Stat. 2953; NM-EX 111, Miltenberger Rep. at 9; see also Texas v. New Mexico, 138 S. Ct. 954, 957 (2018) ("in 1906, the United States agreed by treaty to deliver 60,000 acre-feet of water annually to Mexico upon completion of the new reservoir.") [Apportionment UMF No. 6].

RESPONSE: Disputed. The 1906 treaty does not refer to "years of full supply." It provides for the United States to deliver 60,000 acre-feet ("af") "annually" into the bed of the Rio Grande, with proportionate reduction "[i]n case . . . of extraordinary drought or serious accident to the irrigation system in the United States." NM-EX-307 at 1, 2.

7. In 1907, Congress authorized construction to begin on the Elephant Butte Reservoir. An Act Making Appropriations for Sundry Civil Expenses of the Government for the Fiscal Year Ending June Thirtieth, Nineteen Hundred and Eight, and for Other Purposes, Pub. Law No. 59-253, 34 Stat. 1295 (1907); NM-EX 112, Stevens Rep. at 19. [Apportionment UMF No. 7].

RESPONSE: Disputed. The 1907 Act appropriated federal funds for the Rio Grande Project construction. 34 Stat. 1357. The authority to construct the Project derives from the Reclamation Act of 1902, and the Rio Grande Project Act of Feb. 25, 1905, 33 Stat. 814 (1905), which extended the 1902 Act to the portion of Texas that would benefit from the Project.

8. In its initial conception, Reclamation engineered the Project to deliver an annual release between 750,000 acre-feet and 800,000 acre-feet, enough to provide 60,000 acre-feet of water to Mexico and to irrigate 155,000 acres in the United States (assuming delivery of three acre-feet per acre, plus twenty percent loss in the distribution system), of which 110,000 acres would be situated in New Mexico and 45,000 in Texas. See NM-EX 310, Fund for Reclamation of Arid Lands, H.R. Doc. 61-1262, at 106 (1911); NM-EX 112, Stevens Rep. at 21. [Apportionment UMF No. 8].

RESPONSE: Disputed. The report cited here was prepared in 1910, several years after the "initial conception" of the Project and before the dam was constructed. The report states that "there seems to be an assured supply of 750,000 to 800,000 acre-feet" for the Project, and it considers the amount of water that would be provided for irrigation use from assumed releases of 750,000 af and 800,000 af. NM-EX-310, Recl. Fund Rep., at 105, ¶¶ 15-16. The report finds the "amount required for diversion to lands in the United States is 581,250 acre-feet," in order to provide each farm enough water to apply 3 af/acre ("af/ac") after accounting for on-farm distribution losses. *Id.* at 106, ¶ 18. The report finds that "approximately 800,000 acre-feet would be required" to overcome the twenty percent transit loss in the river to make the 581,250 af available for diversion. *Id.* The report does not draw the same conclusion for a release of 750,000 af or any amount less than 800,000 af. *See id.* The report states that that "the total area in the Project is 155,000 acres," of which 45,000 acres were in Texas and 132,000 acres were in new Mexico (110,000 acres plus 12,000 acres of public land "subject to the reclamation act," i.e., withdrawn from entry). *Id.*, ¶ 19.

*9. **[a]** Reclamation appropriated water for the Project under New Mexico territorial law, consistent with Section 8 of the Reclamation Act. Specifically, Reclamation provided notice to the Territorial Engineer for the Territory of New Mexico to appropriate and store 730,000 acre-feet per year at Elephant Butte Reservoir in 1906 and to appropriate all "unappropriated waters of the Rio Grande" at Elephant Butte in 1908. See NM-EX 306, Letter from B.M. Hall, Supervising Engineer, United States Reclamation Service, to David L. White, Territorial Irrigation Engineer, Territory of New Mexico (Jan. 23, 1906); NM-EX 309, Letter from Louis C. Hill, Supervising Engineer, United States Reclamation Service, to Vernon L. Sullivan, Territorial Engineer, Territory of New Mexico (Apr. 1908); NM-EX 111, Miltenberger Rep. at 9-10; see also Texas v. New Mexico, 138 S. Ct. 954, 957 (2018) ("After obtaining the necessary water rights, the United States began construction of the dam in 1910 and completed it in 1916 as part of a broader infrastructure development known as the Rio Grande Project."). **[b]** Ultimately, the Rio Grande water appropriated by the United States was limited by the size of the Project. [Apportionment UMF No. 9; similar language in Notice UMF No. 8].*

RESPONSE:

[a] Disputed. Reclamation appropriated water for the Project in 1903. *See* Findings of Fact and Conclusions of Law 29-30, 52-54, *State of New Mexico ex rel. State Engineer v. Elephant Butte Irrigation District*, No. CV-9688, Stream Sys. Issue No. 104 (N.M. 3d Jud. Dist. Apr. 17, 2017) ("SS 104") (in U.S. Supp. App.). The 1906 notice to the New Mexico Territorial Engineer was not an appropriation but, instead, is a request from the

United States to the Territory of New Mexico to reserve from appropriation by others the waters of the Rio Grande the United States' intended to utilize described as "[a] volume of water equivalent to 730,000 acre-feet per year requiring a maximum diversion or storage of 2,000,000 miner's inches. . . . ." NM-EX-306, Letter to White dated Jan. 23, 1906, at 1. The 1908 notice expands the United States' request to reserve from appropriation by others all the unappropriated waters of the Rio Grande and its tributaries within the Territory, not just at Elephant Butte. NM-EX-309, Letter to Sullivan dated Apr. 1908. The notices were filed to conform with provisions of the New Mexico territorial code regarding federal projects. *See* SS 104 at 40-42.

[b] Disputed. The statement that the "water appropriated by the United States was limited by the size of the Project" is vague and ambiguous, and appears to be a conclusion of law. New Mexico has not cited any materials supporting this statement. Further, the 1908 notice requests all unappropriated waters of the Rio Grande, without any limitation related to Project size.

10. From that point forward, the New Mexico State Engineer considered the surface waters of the Rio Grande below Elephant Butte Reservoir to be fully appropriated. See NM-EX 002, D'Antonio Decl. at ¶ 9; NM-EX 200, Barroll Dep. (Aug. 10, 2020) at 424:15-425:4, 426:13-18; NM-EX 106, Kryloff Rep. at 26-27; NM-EX 205, D'Antonio Dep. (June 26, 2020) at 274:1-5. [Notice UMF No. 8].

RESPONSE: Not disputed.

11. Notably, the water that Reclamation appropriated in its 1906 and 1908 filings with the New Mexico Territorial Engineer did not include groundwater. NM-EX 112, Stevens Rep. at 11; see also NM-EX 113, Stevens Reb. Rep. at 8. Cf. NM-EX 310, Fund for Reclamation of Arid Lands, H.R. Doc. No. 61-1262, at 106-07 (1911) (discussing return seepage as a source of project supply without mention of groundwater resources).

RESPONSE: Disputed. The March 16, 1905 Territorial law entitled, "An Act Creating the Office of Territorial Irrigation Engineer, to Promote Irrigation Development and Conserve the Waters of New Mexico for the Irrigation of Lands and for other Purposes," 1905 N.M. Laws 277 (ch. 102, § 22, providing water for a federal reclamation project, does not differentiate between surface waters and groundwater. The Reclamation Services' 1906 Notice notified the New Mexico Territory of the United States' intent to utilize water for storage at the future Elephant Butte Dam and diversion at downstream diversion dams. The 1908 Notice notified the New Mexico Territory of the United States' intent to utilize all the unappropriated waters of the Rio Grande and its tributaries for storage at the future Elephant Butte Dam and diversion at downstream diversion dams. The water utilized downstream at diversion dams within the Project includes water that infiltrates into the ground from irrigated fields and returns to the river through Project drains. Therefore, it is incorrect to state that the 1906 and 1908 Notices of water intended to be used for the Project did not include groundwater.

12. In 1915, while Project construction was ongoing, Reclamation began water deliveries through the Project. See NM-EX 404, Robert Autobee, United States Bureau of Reclamation, Rio Grande Project, at 12 (1994); NM-EX 311, United States Reclamation Service, Project History Rio Grande Project Year 1915, at 137-141 (1915). [Apportionment UMF No. 10; similar language in Notice UMF No. 11].

RESPONSE: Disputed. Water was diverted from the Rio Grande at a Project diversion structure at Leasburg, New Mexico, beginning in 1908. NM-EX-404, Autobee Rep., at 9. The first deliveries of water released from storage in Elephant Butte reservoir began in February 1915, although more than a year remained before completion of the Elephant Butte Dam. NM-EX-311, 1915 Project History, at 138.

13. By 1919, construction of the Elephant Butte Dam and the major diversion works of the Project was complete. NM-EX 312, United States Reclamation Service, Project History Rio Grande Project Year 1919, at 4-5 (1919) (reporting "practical completion of the main canal system, including diversion dams, for the lands of the New Mexico and El Paso County Irrigation Districts"); see also NM-EX 111, Miltenberger Rep. at 10. [Apportionment UMF No. 11].

RESPONSE: Not disputed.

14. By 1921, Reclamation reported that the final "determined irrigable area of the project" in the United States was 155,000 acres. See NM-EX 313, United States Reclamation Service, Project History Rio Grande Project Year 1921, at 6-7 (1921); NM-EX 106, Kryloff Rep. at 23. [Apportionment UMF No. 12].

RESPONSE: Disputed. The 1921 Project History was compiled in 1922. *See* NM-EX 313, 1912 Project History, at 6-7 (pdf pages 44-45) (reporting costs "to January 1, 1922"). The quoted portion of the Project History does not characterize the "determined irrigable area" as "final." The United States does not dispute this statement if it is revised to read: "In 1922, Reclamation reported that 'the determined irrigable area of the project' included 155,000 acres in the United States."

II. NEGOTIATION OF THE RIO GRANDE COMPACT

15. Upon completion of the major storage and diversion works for the Project, Colorado proposed to New Mexico legislation authorizing a joint commission between the two states, and New Mexico and Colorado each appointed commissioners in 1923 to negotiate an interstate compact regarding development upstream of Elephant Butte Reservoir. See NM-EX 111, Miltenberger Rep. 11; NM-EX 112, Stevens Rep. 29.

RESPONSE: Not disputed.

16. After the first meeting of the Colorado and New Mexico commissioners in 1924, Texas petitioned the Secretary of Commerce, who served as the federal representative, to "accord[] [to the Texas] the same representation upon that Commission which is accorded to the States of

New Mexico and Colorado." See NM-EX 314, Letter from Pat M. Neff, Governor, State of Texas, to Herbert Hoover, Secretary of Commerce (Sept. 20, 1924); NM-EX 111, Miltenberger Rep. 12.

RESPONSE: Not disputed.

17. The New Mexico Compact Commissioner supported the inclusion of Texas in further compact negotiations. He wrote the New Mexico Governor that the exclusion Texas "assumed" that Reclamation would "protect[]" the rights of the Project in negotiations, but this assumption proved false because "the Reclamation Service apparently decided to take no action whatever looking to the presentation of the rights of the Rio Grande Project either as to lands in New Mexico or Texas, although it was expected that this would be done." See NM-EX 315, Letter from J.O. Seth, Commissioner, State of New Mexico, to A.T. Hannett, Governor, State of New Mexico, at 3 (Feb. 20, 1925).

RESPONSE: Disputed. The quoted portion of the letter states that the exclusion of Texas from the joint commission "can be accounted for only *on the theory* that the Legislature assumed that the only lands in Texas that would be affected by any Compact or Agreement [between New Mexico and Colorado] are those [in the Project] and that all rights to the waters of the Rio Grande held by these lands would be protected by the Reclamation Service." NM-EX-315, Seth Letter, at 3. The report states that "up to . . . October, 1924," Reclamation had not taken action, but notes that Reclamation had apparently been "taking steps to properly present the rights of the Rio Grande Project" since then. *Id.")*

18. Compact negotiations resumed in 1928 following the appointment of a Texas commissioner. Those initial negotiations resulted in a temporary compact in February 1929. See NM-EX 111, Miltenberger Rep. 13; NM-EX 112, Stevens Rep. 29, 35, 40;NM-EX 316, Rio Grande Compact Commission, First Annual Report of the Rio Grande Compact Commission, 1-10 (1931).

RESPONSE: Not disputed.

*19. **[a]** During the negotiations leading to the 1929 temporary compact, New Mexico represented the potentially opposing interests of water users in the State below Elephant Butte Reservoir and those of upstream users in the Middle Rio Grande Conservancy District ("MRGCD"). New Mexico took the position that fostering development in the MRGCD helped both sets of users, since it permitted development of acreage in the Middle Valley through the drainage of lands;**[b]** 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. See NM-EX 011, Stevens 2d Decl. at ¶¶ 6-8; NM-EX 112, Stevens Rep. at 34-35; see also, e.g., NM-EX 340, E.P. Osgood, Report on Water Supply Irrigation and Drainage in the San Luis Basin of the Rio Grande, Appx. D at ¶ 1 (1928).*

RESPONSE:
[a] Not disputed.

[b] Disputed. The report of E.P. Osgood, Report on Water Supply Irrigation and Drainage in the San Luis Basin of the Rio Grande, Appx. D at ¶ 1 (1928), NM-EX 340, does not state that 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. The report states "The Middle Rio Grande Conservancy District in the vicinity of Albuquerque proposes to rehabilitate its 140 000 acres of land with reports indicating, generally, that, rather than depleting the river it will increase the flow to the Rio Grande project." NM-EX 340, at 2. There is no indication that other users in New Mexico or Texas accepted and agreed with the reports.

20. During these negotiations in the 1920s, Texas' apparent goal was to permit future additional developments throughout the basin. See NM-EX 011, Stevens 2d Decl. at ¶ 12; NM- EX 340, E.P. Osgood, Report on Water Supply Irrigation and Drainage in the San Luis Basin of the Rio Grande, Appx. D at ¶ 12 (1928).

RESPONSE: Disputed. This statement is not a fact and is based on speculation ("Texas' apparent goal").

21. The 1929 temporary compact contained explicit language to freeze depletions by preventing any development that would "impair" flows. NM-EX 316, Rio Grande Compact Commission, First Annual Report of the Rio Grande Compact Commission, 1-10 (1931) (containing the temporary compact); NM-EX 011, Stevens 2d Decl. at ¶ 22.

RESPONSE: Not Disputed, with the clarification that the States' agreement to prevent any change in conditions or the use of water within the Rio Grande basin was for the "time intervening between the signing of' this [temporary] Compact and the concluding of such subsequent Compact to the end that the rights and equities of each State may be reserved unimpaired." NM-EX 316, Rio Grande Compact Commission, First Annual Report of the Rio Grande Compact Commission, containing Compact of June 17, 1930 (date of congressional ratification), at Article VII(b).

22. In December 1935, the Rio Grande Compact Committee met to continue negotiations. At that meeting, officials from the National Resources Committee presented a proposal for a comprehensive study of the Rio Grande in order to facilitate an agreement. See NM-EX 317, Proceedings of the Rio Grande Compact Commission held in Santa Fe, New Mexico December 2- 3, 1935, at 5-7 (1935); NM-EX 112, Stevens Rep. at 55.

RESPONSE: Not disputed.

23. This proposed comprehensive study became the Rio Grande Joint Investigation. According to the authors, the "prime purpose" of the investigation was "to determine the basic facts needed in arriving at an accord" among the states "on an allocation and use of Rio Grande waters in the future development of the upper basin." NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, 10-11 (1937); NM-EX 112, Stevens Rep. 62.

RESPONSE: Not disputed, with the qualification that "upper basin," as used in the Joint Investigation Report ("JIR") refers to the Rio Grande Basin from its headwaters to Fort Quitman, Texas, and that the quoted text actually says: "an *equitable* allocation and use… ." NM-EX-318, JIR excerpts, at 10-11 (emphasis added).

24. One category of required information was accurate data concerning existing diversions, including those of the Project. The Joint Investigation Report collected available data to prepare and present a comprehensive analysis of actual diversions, including diversions between Elephant Butte Reservoir and Fort Quitman, Texas, for the period 1930-36. The Joint Investigation Report also catalogued Project Acreage, including lands for "Cities, Towns, and Villages." See NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, 11, 14-16 (1937); NM-EX 112, Stevens Rep. 64.

RESPONSE: Not disputed.

25. Texas objected to any rigorous groundwater investigation below Elephant Butte Reservoir as part of the RGJI. See NM-EX 011, Stevens 2d Decl. at ¶ 31; NM-EX 113, Stevens Reb. Rep. at 6-7. Texas took the position that significant groundwater investigation was unnecessary because "groundwater supplies along the Rio Grande are of little importance in relation to the total supply." NM-EX 112, Stevens Rep. at 56-57; NM-EX 318, Stevens Reb. Rep. at 12-13; NM-EX 011, Stevens 2d Decl. at ¶ 31; NM-EX, 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 62 (1937). As such, the Rio Grande Joint Investigation involved little study of groundwater resources below Elephant Butte Reservoir and drew no conclusions regarding groundwater below Elephant Butte. NM-EX 112, Stevens Rep. at 56-57; NM-EX 318, Stevens Reb. Rep. at 12-13; NM-EX 011, Stevens 2d Decl. at ¶ 31; NM-EX, 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 62 (1937). What little treatment the RGJI report does devote to groundwater below Elephant Butte is concerned with whether the drains were sufficient to lower the water table and prevent seeped lands. NM-EX 112, Stevens Rep. 64; *e.g., See* NM-EX 318, Harlow M. Stafford et al., *Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation*, at 62 (1937).

RESPONSE: Disputed. The term "rigorous groundwater investigation" is vague and ambiguous and the statement is disputed on that basis. Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, did not object to any groundwater investigation below Elephant Butte reservoir. Mr. Clayton stated that the Rio Grande Basin water supply "more depends upon the amount of return flow and losses than any other single element" and that USGS studies of "return flow and of present water and losses . . . are probably of the greatest importance." NM-EX 346, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to National Resources Committee (Feb. 1, 1936). The Texas Engineer Advisor, as well as the other States' engineer advisors, clearly understood the groundwater source of return water in the Project drains. TX_00000561, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 47 (1937)("In the main river valleys of

the upper basin a supply of considerable magnitude is water which, once diverted for irrigation, returns to the stream as direct drainage or as inflow from the ground-water basin.")

26. The RGJI found that return flows were an important part of Project Supply. The report states that total measured return flows was 50 percent of the average of total net diversions in the same period." NM-EX 38, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 13 (1937). T This means that the amount of total annual drain flow, throughout the Project and throughout the calendar year, is equal to approximately 50% of the amount of water diverted at Project headings. NM-EX 100, Barroll Rep. at 14-15, Appx. C, C-4-8; see also NM-EX 006, Barroll 2d Decl. at ¶ 48.

RESPONSE: Not Disputed.

27. **[a]** *In entering negotiations New Mexico stressed that for it to agree, the final compact needed to provide that "[a]ll existing rights to the use of water in the Rio Grande Basin in New Mexico shall be recognized as having the right to an adequate supply of water from said river system."* **[b]***This position was important to New Mexico, in part, because the surface water in the Lower Rio Grande in New Mexico was fully appropriated and New Mexico expected the final compact to protect those existing rights. See NM-EX 319, Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held in Santa Fe, New Mexico, September 27, to October 1, 1937, 12-13 (1937); NM-EX 111, Miltenberger Rep. 25; NM-EX 112, Stevens Rep. 65; NM-EX 005, Stevens Decl. ¶ 8; NM-EX 002, D'Antonio Decl. ¶ 9.*

RESPONSE:
[a] Not disputed.

[b] Disputed. Whether this position was "important" to New Mexico is a subjective determination, not a statement of fact, and the reasons why the position might have been important to New Mexico are matters of speculation. The statement is also ambiguous in its reference to "those existing rights." The New Mexico Compact Commissioner explained that "[a]ll existing rights to the use of water in the Rio Grande Basin in New Mexico shall be recognized as having the right to an adequate supply of water from said River System," suggesting that New Mexico's affirmation of the Compact endorsed the Project as a mechanism for supplying an adequate water supply in the lower portion of New Mexico. NM-EX 319, RGCC Sept.-Oct 1937, at 59.

28. With regard to water use below Elephant Butte, New Mexico's negotiation position sought to protect the Project as a unit, ensuring that it received a stable supply necessary to water all of the lands within the New Mexico portion of the Project, while simultaneously ensuring that the reservoir's agreed-upon "normal release" figure was not higher than was fair for the State's upstream users. See NM-EX 011, Stevens 2d Decl. at ¶¶ 9-10, 15-20, 26-28; NM-EX 112, Stevens Rep. at 34-35, 66-69; see, e.g., Letter from Thomas M. McClure, State Engineer, State of New Mexico, to S.O. Harper, Chairman, Rio Grande Compact Commission (Jan 25, 1938) (produced at TX_MSJ_005303); E.B. Debler et al., Committee of Engineering Advisers, Rio Grande Compact Commission, Report to the Rio Grande Compact Commission by the Engineer

Advisers on New Mexico Objections to Their Report of Dec. 27, 1937 (Mar. 4, 1938) (produced at TX_MSJ_005311).

RESPONSE: Disputed. Neither of the historical documents cited by New Mexico in support of this purported Statement of Fact states New Mexico's negotiation position was to protect the Project as a unit. On the contrary, New Mexico was concerned about control of operations above Elephant Butte Reservoir, and its interest below the Reservoir was only that the proposed 800,000 acre-feet of water for an average release exceeded requirements below the Reservoir (which was eventually reduced to a normal release amount of 790,000 acre-feet). *See* E.B. Debler et al., Committee of Engineering Advisers, Rio Grande Compact Commission, Report to the Rio Grande Compact Commission by the Engineer Advisers on New Mexico Objections to Their Report of Dec. 27, 1937 (Mar. 4, 1938 (produced at TX_MSJ_005311). Further, Frank Clayton, Rio Grande Compact Commissioner for Texas, in response to Thomas M. McClure, New Mexico State Engineer, noted that New Mexico's interest in representing and protecting the Middle Rio Grande Conservancy District "seems to lose sight of the fact that there is a very extensive section of [Mr. McClure's] own State lying below the Elephant Butte dam." Letter from F. Clayton to S.O. Harper, Chairman, Rio Grande Compact Commission (Jan 25, 1938) (produced at TX_MSJ_005303).

29. The Engineer Advisors for the three states used the Joint Investigation to prepare a Report of Committee of Engineers to the Rio Grande Compact Commissions, dated December 27, 1937. The express "general purpose" of this report was to recommend apportionment among three divisions of the Rio Grande—the San Luis Valley, the "Middle Rio Grande from Lobatos to Elephant Butte Reservoir," and the Project from Elephant Butte Reservoir to Fort Quitman, Texas—according to a "general policy" that "present uses of water in each of the three States must be protected in formulation of the Compact." See NM-EX-322, Letter from E.B. Debler, et al., Committee of Engineer Advisors, Rio Grande Compact Commission, to Rio Grande Compact Commission (Dec. 27, 1937); NM-EX 111, Miltenberger Rep. 29; NM-EX 112, Stevens Rep. 67-68.

RESPONSE: Disputed. The report does not use the term "apportionment." The report proposes a "definite schedule of deliveries," and states the advisors' opinion that "the [delivery] schedules and provisions will permit the maximum practicable use of the waters of the Rio Grande." NM-EX 322, Dec. 1937 Eng. Rep., at 1, 9.

30. The Committee of Engineers initially recommended a "normal release" from Elephant Butte Reservoir of 800,000 acre-feet per annum. See NM-EX-322, Letter from E.B. Debler, et al., Committee of Engineer Advisors, Rio Grande Compact Commission, to Rio Grande Compact Commission (Dec. 27, 1937); NM-EX-112, Stevens. Rep. 67-68.

RESPONSE: Disputed. The Engineer Advisors' report recommends that "the normal release from Elephant Butte Reservoir *be deemed to be* 800,000 acre-feet per annum, adjusted for any gain or loss of usable water resulting from the operation of any reservoir below Elephant Butte," NM-EX-322, Dec. 1937, Eng. Rep. at 9 (emphasis added). They

also recommended "this normal release be reduced or increased by two-thirds of any change in the aggregate diversions or loss to Mexico." *Id.*

31. Following negotiations, the Committee of Engineers revised its recommendation to provide for a normal release from the Reservoir of 790,000 acre-feet per year to meet the irrigation demands of Project lands in New Mexico and Texas and to make the 1906 treaty delivery to Mexico. See NM-EX 325, Letter from Thomas M. McClure, State Engineer, State of New Mexico, to S.O. Harper, Chairman, Rio Grande Compact Commission (Jan. 25, 1938), in Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held at Santa Fe, New Mexico, March 3rd to March 18th, inc. 1938, at CO-006216 (1938); NM-EX 325, Letter from E.B. Debler, et al., Committee of Engineer Advisors, Rio Grande Compact Commission, to Rio Grande Compact Commission (Mar. 9, 1938), in Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held at Santa Fe, New Mexico, March 3rd to March 18th, inc. 1938, at CO-006226-33 (1938); NM-EX 112, Stevens Rep. 68-70; NM-EX 111, Miltenberger Rep. 33, 37-39.

RESPONSE: Disputed. The revised recommendation is "that the normal release from Elephant Butte Reservoir be deemed to be *an average of* 790,000 acre-feet per annum, adjusted for any gain or loss of usable water resulting from the operation of any reservoir below Elephant Butte." NM-EX-325, RGCC Mar. 1938 Proc., at CO-006233.

32. On March 18, 1938, the members of the Rio Grande Compact Commission ("RGCC") each executed the final Rio Grande Compact. Congress gave its approval to the Rio Grande Compact on May 31, 1939. See NM-EX 325, Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held at Santa Fe, New Mexico, March 3rd to March 18th, inc. 1938, 34-35 (1938); An Act Giving Consent and Approval of Congress to the Rio Grande Compact Signed at Santa Fe, New Mexico, on March 18, 1938, Pub. Law No. 76-95, 53 Stat. 785 (1939).

RESPONSE: Not disputed.

33. The historical record contains no evidence that the negotiators expressly addressed groundwater development. See NM-EX 112, Stevens Rep. 11-12, ¶ 6; NM-EX 240, Kryloff Dep. (Aug. 6, 2020) 57:1-10, 118:10-119:13; NM-EX 241, Miltenberger Dep. (June 8, 2020) 99:8-101:22, 103:13-24, 105:9-106:23.

RESPONSE: Disputed. The Rio Grande Joint Investigation Report, available to the Compact negotiators, discusses the connection between surface water and groundwater in the Rio Grande Basin. *NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation*. Further, the cited depositions of the Texas and United States experts opine that the Compact negotiators were aware of the groundwater-surface water interconnection and the paucity of groundwater development, except in the Albuquerque, New Mexico, and the El Paso, Texas areas. See *Miltenberger Dep. (June 8, 2020) 104:7-13. Kryloff Dep. (Aug. 6, 2020) 57:1-10*

III. TERMS OF THE RIO GRANDE COMPACT OF 1938

34. The preamble of the Rio Grande Compact of 1983 states: "The State of Colorado, the State of New Mexico, and the State of Texas, desiring to remove all causes of present and future controversy among these States and between citizens of one of these States and citizens of another State with respect to the use of the waters of the Rio Grande above Fort Quitman, Texas, and being moved by considerations of interstate comity, and for the purpose of effecting an equitable apportionment of such waters, have resolved to conclude a Compact for the attainment of these purposes . . . ." NM-EX 330, Rio Grande Compact of 1938, 53 Stat. 785, 785 (1939) ("Rio Grande Compact" or "Compact").

RESPONSE: Not disputed.

35. Article I(c) of the Compact defines the term "Rio Grande Basin" to mean "all of the territory drained by the Rio Grande and its tributaries in Colorado, in New Mexico, and in Texas above Fort Quitman, including the Closed Basin in Colorado." NM-EX 330, Compact at Art. I(c). See NM-EX 008, Lopez 2d Decl. at ¶ 5.

RESPONSE: Not disputed.

36. Article I, Paragraph (k) of the Compact defines "Project Storage" as "the combined capacity of Elephant Butte Reservoir and all other reservoirs actually available for the storage of usable water below Elephant Butte and above the first diversion to lands of the Rio Grande project, but not more than a total of 2,638,860 acre-feet." 53 Stat. at 786.

RESPONSE: Not disputed.

37. The limit on Project Storage within the Compact accords with what was considered the maximum capacity of Elephant Butte Reservoir. See NM-EX 107, Estevan R. Lopez, Expert Report of Estevan R. Lopez, P.E., 15 (Oct. 31, 2019) ("Lopez Rep.").

RESPONSE: Not disputed.

38. The Compact contemplates that usable water will be released from storage to meet irrigation demands. Article I, Paragraph (l) of the Compact defines "Usable Water" as "all water, exclusive of credit water, which is in project storage and which is available for release in accordance with irrigation demands, including deliveries to Mexico." 53 Stat. at 786; NM-EX 107, Lopez Rep. 16.

RESPONSE: Not disputed.

39. Article I, Paragraph (o) of the Compact defines "Actual Release" as "the amount of usable water released in any calendar year from the lowest reservoir comprising project storage." 53 Stat. at 786.

RESPONSE: Not disputed.

40. Article I, Paragraph (p) of the Compact defines "Actual Spill" as "all water which is actually spilled from Elephant Butte Reservoir, or is released therefrom for flood control, in excess of the current demand on project storage and which does not become usable water by storage in another reservoir; provided, that actual spill of usable water cannot occur until all credit water shall have been spilled." 53 Stat. at 786.

RESPONSE: Not disputed.

41. Article I, Paragraph (q) of the Compact defines "Hypothetical Spill" as "the time in any year at which usable water would have spilled from project storage if 790,000 acre-feet has been released therefrom at rates proportion to the actual release in every year from the starting date to the end of the year in which hypothetical spill occurs." 53 Stat. at 786.

RESPONSE: Not disputed.

42. Article II of the Compact specifies that stream gaging stations be established at specific locations in the Rio Grande Basin for the purposes of Compact accounting. The lowest required stream gage under Article II is just below Caballo Reservoir. See 53 Stat. at 786-87; NM-EX 107, Lopez Rep. 18.

RESPONSE: Not disputed.

43. Article III of the Compact specifies two delivery schedules for Colorado: one for the Conejos River and one for the Rio Grande exclusive of the Conejos River. NM-EX 330, Compact at Art. III; see also NM-EX 008, Lopez 2d Decl. at ¶ 7.

RESPONSE: Not disputed.

44. Article IV of the Compact defines New Mexico's obligation to deliver water from the Rio Grande to San Marcial based upon nine (9) non-summer months of river flows. The delivery obligation at San Marcial is defined by a mathematical relationship corresponding to recorded flow at the Otowi gage during those months. The Otowi gage located in New Mexico about 100 miles south of the Colorado border. The San Marcial gage was located just upstream of Elephant Butte Reservoir. See 53 Stat. at 788; NM-EX 107, Lopez Rep. at 20.

RESPONSE: Not disputed.

45. In 1948, the RGCC changed New Mexico's delivery schedule under Article IV of the Compact to require deliveries at Elephant Butte Reservoir, rather than San Marcial, and removed the Article II gaging stations at San Marcial and San Acacia. See NM-EX 331, Rio Grande Compact Commission, Tenth Annual Report of the Rio Grande Compact Commission, 17-18 (1948); NM-EX 107, Lopez Rep., 18-22.

RESPONSE: Not disputed.

46. *The 1948 amendment also removed a requirement from Article IV to adjust the scheduled delivery amounts based on depletion of tributary runoff between Otowi Bridge and San Marcial during July, August, and September by works constructed after 1937. See NM-EX 008, Lopez 2d Decl. at ¶ 34; see also See NM-EX 331, Rio Grande Compact Commission, Tenth Annual Report of the Rio Grande Compact Commission, at 17-18 (1948); NM-EX 107, Lopez Rep. at 17-18.*

RESPONSE: Not disputed, with the clarification that in amending Article IV the Compacting parties did not limit the accounting of Compact deliveries to an annual calculation. Rather, the Compacting parties found it "desirable and necessary that the obligations of New Mexico under the Compact to deliver water in the months of July, August, September should be scheduled." NM-EX 331, Rio Grande Compact Commission, Tenth Annual Report of the Rio Grande Compact Commission, at 17 (1948).

47. Article VI of the Compact defines procedures to determine the annual credits and debits for Colorado and New Mexico. Of note, Article VI permits Colorado and New Mexico to authorize releases of Credit Water to avoid spill in excess of downstream demand and permits such releases to be included in the accounting of an Actual Spill. See 53 Stat. at 789-90; NM-EX 107, Lopez Rep. 22-23.

RESPONSE: Not disputed.

*48. **[a]** The Compact separately defines "Annual Debits," "Annual Credits," "Accrued Debits," and "Accrued Credits." **[b]** These distinctions indicate that each state's credit or debit balance is subject to annual accounting. See NM-EX 330, Compact at Art. I(g)-(j), VI; NM-EX 008, Lopez 2d Decl. at ¶ 12; NM-EX 107, Lopez Rep. at 16-17.*

RESPONSE:
[a] Not disputed.

[b] Disputed. Whether the distinctions "indicate" the states credit or debit is a legal conclusion, not a statement of fact.

49. Article VII of the Compact prohibits any increase in storage by either New Mexico or Colorado in reservoirs constructed after 1929 if the volume of Usable Water in Project Storage is less than 400,000 acre-feet. This threshold value decreases if the aggregate releases from Project storage have averaged more than 790,000 acre-feet from the beginning of the calendar year following the effective date of the Compact, or from the beginning of the calendar year following an Actual Spill, before the storage limitation takes effect. Further, the article permits that either Colorado or New Mexico may offer to relinquish accrued Credit Water to Texas, and Texas may accept such an offer at its discretion. If New Mexico and Texas agree on a relinquishment, the relinquished Credit Water becomes Usable Water and is available for use on lands in both New Mexico and Texas. See 53 Stat. at 790; NM-EX 107, Lopez Rep. 23.

RESPONSE: Not disputed, with the clarification that relinquished Credit Water becomes Usable Water and is available for delivery to lands in both New Mexico and Texas and delivery to Mexico.

50. If Texas agrees to New Mexico's or Colorado's offer to relinquish Credit Water, the state that has so relinquished has a right to store a like amount of water in the upstream post-1929 reservoirs. Texas has sole authority to accept relinquishment of Accrued Credits. However, neither Colorado nor New Mexico is obligated to offer such relinquishment. In other words, Texas cannot compel such relinquishment. See NM-EX 330, Compact at Art. VII; NM-EX 008, Lopez 2d Decl. at ¶¶ 14, 15; NM-EX 107, Lopez Rep. at 23.

RESPONSE: Not disputed

51. The Compact provides that "a normal release … from Project Storage" is 790,000 acre-feet. NM-EX 001, Barroll Decl. at ¶ 16; NM-EX 330, Compact at Art. VIII; see also NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement, at 17 (Sept. 30, 2016) (describing a full allocation release to be 790,000 acre-feet per year as provided in the Compact).

RESPONSE: Disputed. The United States does not dispute that Article VIII of the Compact refers to a "normal release of 790,000 acre-feet." The United States disputes the characterization of the FEIS in the parenthetical. The FEIS states that 790,000 acre-feet "is specified as the normal release in the Rio Grande Compact." NM-EX-529, FEIS at 17. It does not state that the Compact characterizes it as a "full" release.

52. Article VIII of the Compact permits New Mexico to demand of Colorado, and Texas to demand that Colorado and New Mexico, in January, release of water then held in storage from post-1929 reservoirs upstream of Elephant Butte to the amount of any accrued debits of Colorado and New Mexico, respectively, as necessary to help bring the amount of water in Project Storage up to 600,000 acre feet by March first. The purpose of this provision is to bring the quantity of Usable Water in Project Storage to 600,000 acre-feet by March first and to maintain this quantity until April thirtieth to allow for a normal release of 790,000 acre feet in that year. See 53 Stat. at 790.

RESPONSE: Not disputed.

IV. THE STATES' UNDERSTANDING OF THE COMPACT

A. Indications of Intent in the Structure of the Compact

53. The text and structure of the Compact indicate that the Project, Compact, and Downstream Contracts are inextricably intertwined. The Compact incorporates the definition of Project Storage into a number of provisions. See NM-EX 330, Compact, Articles I(l)-(q), VI, VII, and VIII; NM- EX 008, Lopez 2d Decl. at ¶ 4; NM-EX 107, Lopez Rep. at 15-25.

RESPONSE: Not Disputed, with the clarification that the U.S. Supreme Court's description of the Compact as "inextricably intertwined" with the Project and the Downstream Contracts provided in part the Court's rationale denying New Mexico's motion to dismiss and permitting the United States to pursue its claims in this case. *Texas v. New Mexico*, 138 S. Ct. 954, 959 (2018).

54. An intent to protect the Project is evident in the delivery obligations in Articles III and IV. These constraints primarily benefit the Project. The schedules in Articles III and IV of the Compact were derived from streamflow data that was available in 1938. This assured that existing uses as of 1938 in Colorado, in New Mexico above Elephant Butte Reservoir and in the Rio Grande Project area below Elephant Butte were all protected while allowing Compact operation in variable hydrology. Further, both Colorado and New Mexico were allowed to develop additional water resources after 1938 subject to certain constraints that are specified in Articles VI, VII and VIII. Notably, those constraints do not preclude additional depletions but do constrain operations of post-1929 upstream reservoirs depending on the conditions at Elephant Butte Reservoir. To the extent that those Articles protect Project Supply during relatively dry periods, those protections benefit New Mexico below Elephant Butte, Texas, and Mexico. See NM-EX 008, Lopez 2d Decl. at ¶¶ 8, 11, 18; see also NM-EX 330, Compact, at Arts. III-IV; NM-EX 107, Lopez Rep. at 22-26.

RESPONSE: Not disputed, with the clarification that the delivery schedules enumerated in Articles III and IV control New Mexico's ability to store in reservoirs upstream from Elephant Butte Reservoir, and the Compact's restrictions on upstream storage may or may not be tied to relatively dry periods.

55. In its protection of preexisting uses as of 1938, the Compact protects certain pre-Compact rights in New Mexico that are not part of the Project. See NM-EX 008, Lopez 2d Decl. at ¶ 30; NM-EX 237, Rule 30(b)(6) Dep. of the State of New Mexico by and through Lopez (Sept. 18, 2020) at 83:3-85:16.

RESPONSE: Disputed. The Compact does not identify any pre-Compact rights in New Mexico that are not part of the Project, nor does the Compact protect certain pre-Compact rights in New Mexico that are not part of the Project. The Compact identifies volumes of water at certain delivery points above Elephant Butte Dam, and such gauged values are typically not water rights. The Compact leaves deliveries below Elephant Butte Dam up to the Project, with no mention or protection of pre-Compact rights in New Mexico that are not part of the Project.

*56. **[a]** There is not any indication in the Compact that the states intended to adopt a 1938 Condition. First, the plain text of the Compact does not refer to any 1938 Condition, in contrast to other interstate water compacts of the era, such as the Pecos River Compact, NMSA 1978 § 72-15-19 (1947). **[b]** Second, the Downstream Contracts similarly do not refer to any 1938 condition. **[c]** Third, the Downstream Contracts do not define a total volume of water to which the Districts are entitled. See NM-EX 008, Lopez 2d Decl. at ¶¶ 24-25; see also NM-EX 330, Compact; NM-EX 107, Lopez Rep. at 8, 26-27, 41-43; NM-EX 108, Lopez Reb. Rep. at 6-9.*

RESPONSE:
[a] and [b] are Disputed. The Compact contains delivery requirements at certain gauged locations calculated from pre-1938 Rio Grande Basin hydrology. Rio Grande Compact, Act of May 31, 1939, ch. 155, 53 Stat. 785. These flows delineate a pre-1938 "condition" that determines, *inter alia*, water deliveries to Elephant Butte Reservoir in order to meet irrigation demands below the Elephant Butte dam within the Project. Below Elephant Butte dam, the Compact is effectuated by Project irrigation demands that were well-established by 1938, and therefore it is reasonable to conclude that the Compacting States intended to adopt a 1938 Condition.

[c] Not disputed, with the clarification that the volume of water to which the Districts are entitled is *all* the usable water in Project storage and the usable water released from Project storage to meet irrigation demands including return flows from Project deliveries.

57. *In effect, Article IV deliveries are deliveries into the Project as a whole and benefit New Mexico, Texas, and Mexico. Nothing in Article IV indicates that the Compact vests in Texas control, dominion, or ownership in the water delivered to Elephant Butte Reservoir. Rather, the Compact provides that New Mexico and Texas may each share in releases of "Usable Water," after satisfying the delivery to Mexico pursuant to the 1906 Treaty, to meet irrigation demands in accord with the ordinary operation of the Project and the Downstream Contracts. See NM-EX 008, Lopez 2d Decl. at ¶¶ 12, 17, 40; NM-EX 107, Lopez Rep. at 8, 20-22, 26-27; see also NM-EX 012, Sullivan Decl. at ¶ 23 (describing a number of reasons why portions of the water delivered into Elephant Butte Reservoir cannot be delivered to Texas).*

RESPONSE: Disputed. The Compact does not state that New Mexico and Texas may share in releases of usable water.

58. Although the drafters certainly could have done so, the Compact does not define a specific delivery to the New Mexico-Texas state line. Rather, deliveries to Texas and its apportionment are effectuated through the operation of the Rio Grande Project as a single unit that makes Project Supply available equally (i.e., on an acre-foot per annum/acre basis) to all authorized Project lands, whether in New Mexico or in Texas. See NM-EX 008, Lopez 2d Decl. at ¶¶ 7, 24; see also NM-EX 330, Compact; NM-EX 107, Lopez Rep. at 19-22, 26-27; NM-EX 108, Lopez Reb. Rep. at 6-9, Appx. 1.

RESPONSE: Disputed. The term "Project Supply" is undefined, vague and ambiguous, and the statement is disputed on that basis. Further, the Project "is operated as an administrative unit by the Bureau of Reclamation, and the dam and releases from the reservoir are controlled by the Bureau. . . " which is not the same as operating as a single unit that makes Project Supply available equally on an acre-foot per annum/acre basis. *See* NM-EX-328, *Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938)* at 1. Neither the Compact nor Project operational contracts state that surface water delivered to Project lands in Texas or New Mexico is on an equal acre-foot per annum/acre basis.

59. The absence of gages downstream of the Caballo Reservoir gage in Article II of the Compact also indicates that the compacting States had no intention to guarantee a specific state-line delivery to Texas. Texas has not requested any gages "necessary . . . for the carrying out of the [C]ompact" near the state line. See NM-EX 008, Lopez 2d Decl. at ¶ 36.

RESPONSE: Disputed. The absence of gages downstream of Caballo Reservoir does not indicate a lack of intent to deliver specific amounts of Project water to the state line between New Mexico and Texas. The Compacting parties recognized a specific Texas state-line delivery obligation for New Mexico was not considered feasible or practical because New Mexico does not control Project operations as well as the fact that there is no single state-line crossing from NM to TX (the river and Project conveyances criss-cross the state line). NM-EX 328, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938) ("Obviously, neither Colorado nor New Mexico could be expected to guarantee any fixed deliveries at the Texas line when the operation of the dam is not within their control but is in the control of an independent agency."). NM-EX 239 Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas to C.S. Clark, Chairman, Board of Water Engineers, State of Texas (Oct. 16, 1938), at 7. Instead, the Usable Water released from Project storage, tributary inflows to the Rio Grande below Elephant Butte, and all return flows contribute to Project water delivery at major headgates that serve lands in Texas, thus ensuring specific delivery to Texas and making gages at the state line unnecessary.

60. The division of rights under Article VII of the Compact, whereby only New Mexico and Colorado may offer relinquishment of credit water and only Texas may accept, reflects three practical concerns: (1) Texas's sole apportionment under the Compact is entirely below Elephant Butte; (2) Texas is the only Compact party that cannot accrue Credits under the Compact that it could relinquish; and (3) Texas has no post-1929 reservoirs upstream of Elephant Butte within which it could store water. See NM-EX 008, Lopez 2d Decl. at ¶ 15; NM-EX 107, Lopez Rep. at 23.

RESPONSE: Disputed. The characterization of practical concerns for Article VII is inaccurate. First, Texas receives its apportionment by delivery into Elephant Butte Reservoir. Second, Texas has no practical reason to establish credits in storage at Elephant Butte Reservoir as credit water inures to the benefit of the upstream user. Third, the fact that Texas has no reservoirs (post-1929 or otherwise) upstream of Elephant Butte reflects a practical concern only for New Mexico and Colorado. Credit water relinquishment and acceptance in the Compact provides a mechanism for Colorado and New Mexico above Elephant Butte reservoir to increase storage and usage of water upstream of the Project**.** NM-EX 330, Compact at Art. VII.

61. Article VIII of the Compact reflects New Mexico's apportionment interest below Elephant Butte Reservoir because it permits New Mexico, independent of Texas, to demand of Colorado a release of water intended to increase Usable Water in Project Storage. *See* NM-EX 008, Lopez Decl. at ¶ 16; *see also* NM-EX 330, Compact at Art. VIII; NM-EX 107, Lopez Rep. at 24-27.

RESPONSE: Disputed. Article VIII of the Compact allows, *inter alia*, New Mexico to demand of Colorado the release of water from storage reservoirs constructed after 1929 in Colorado to the amount of the accrued debits of New Mexico to ensure a quantity of usable water in Project storage to 600,000 acre-feet and a normal release of 790,000 acre-feet. This reflects the Compact interest in preserving storage in Elephant Butte Reservoir and the normal release of Project water in order to maintain the integrity of the Project, not New Mexico's apportionment interest below Elephant Butte Reservoir.

62. The definition of "normal release" in Article VIII was a negotiated amount reflecting the amount of water thought to be needed for Project irrigation purposes in a given year, including deliveries to Mexico under the 1906 Treaty and an unspecified allowance for flushing salts. There is no indication, in the structure of the Compact, that the normal release assumes any specific amount of return flow. Project return flows occur entirely below the Rio Grande below the Caballo Reservoir gage where releases from Project Storage are measured. Moreover, the Compact does not require the Actual Release in a given year to be 790,000 acre-feet/year, permitting variability to address annual changes in conditions. *See* NM-EX 008, Lopez 2d Decl. at ¶¶ 19-20; NM-EX 107, Lopez Rep. at 8, 17-18, 26-27. The provisions of Articles VII and VIII do not guarantee that 790,000 acre-feet of Usable Water will be available for a normal release in any given year. *See* NM-EX 008, Lopez 2d Decl. at ¶ 21; NM-EX 107, Lopez Rep. at 22-25.

RESPONSE: Disputed. The "normal release" described in Article VIII of 790,000 acre-feet/year is the amount the Compacting parties agreed was needed to meet irrigation demands plus Mexico's treaty water within the Project based upon the twenty-two years (1915-1937) of release and diversion data amassed since Project releases from storage at Elephant Butte reservoir began in 1915. This over-two decades of Project operations utilized return flows. NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 13, 15 (1937). The storage release plus return flows set the 790,000 acre-feet Compact release requirement to meet normal operations. Therefore, return flow is indicated in the structure of the Compact. The United States does not dispute that the actual release in a given year is variable and may be greater than or less than 790,000 acre-feet because the release amount is based upon the amount of usable water in Project storage and irrigation demands which is variable. *See* Art. I(l) and (o).

63. **[a]** To the extent that the Compact negotiators had a nascent understanding of the interactions between groundwater extraction and surface flow, there is no indication in the text that they intended to apportion groundwater below Elephant Butte Reservoir. Initially, the Compact does not make any mention of groundwater. **[b]** Next, the Compact defines two inflow-outflow schedules above Elephant Butte (Articles III and IV) that effectively require the administration of groundwater use in order to meet delivery obligations at the Colorado state line (Article III) and into Elephant Butte Reservoir (Article IV), but there is no similar mechanism in effect below Elephant Butte Reservoir. *See* NM-EX 008, Lopez 2d Decl. at ¶¶ 22-23, 41.

RESPONSE:
[a] Disputed. The Compact's lack of citation to groundwater does not indicate that groundwater was unimportant to the equitable apportionment in the Rio Grande Basin.

Compact negotiators were aware that more depends upon the amount of return flow and losses than any other single element, and that water which, once diverted for irrigation, returns to the stream as inflow from the ground-water basin. NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation (1937) This indicates that any loss of return flows, including loss through groundwater pumping, was critical to the equitable apportionment.

[b] Disputed. Schedules of delivery below Elephant Butte Reservoir was not considered feasible or practical because New Mexico does not control Project operations as well as the fact that there is no single state-line crossing from NM to TX (the river and Project conveyances criss-cross the state line). CITE; See Response to SOF 59. 64. The Compact indicates that New Mexico's apportionment comprises two parts:

a. Colorado's required deliveries under Compact Article III plus inflows between the Colorado-New Mexico state line and Elephant Butte Reservoir *less* New Mexico's delivery obligation to Elephant Butte under Article IV based on the flow at Otowi gage; and

b. 57% of the Project Supply that remains after first having provided for Mexico's allocation under the 1906 Treaty. NM-EX 008, Lopez 2d Decl. at ¶ 26; *see also* NM-EX 330, Compact; NM-EX 107, Lopez Rep. at 8, 19-22 and 26-27.

64. The Compact indicates that New Mexico's apportionment comprises two parts:

a. *Colorado's required deliveries under Compact Article III plus inflows between the Colorado-New Mexico state line and Elephant Butte Reservoir less New Mexico's delivery obligation to Elephant Butte under Article IV based on the flow at Otowi gage; and*

b. *57% of the Project Supply that remains after first having provided for Mexico's allocation under the 1906 Treaty. NM-EX 008, Lopez 2d Decl. at ¶ 26; see also NM-EX 330, Compact; NM-EX 107, Lopez Rep. at 8, 19-22 and 26-27.*

RESPONSE:
[a] Not Disputed.

[b] Disputed. The term "Project Supply" is undefined, vague and ambiguous, and the statement is disputed on that basis. Further, the Compact does not apportion 57%, or any other percentage, of the Project water to New Mexico. The Project allocates Usable Water between EBID, EPCWID, and Mexico, and the allocation and delivery to EBID constitutes the apportionment to New Mexico.

65. The Compact indicates that the apportionment to lands in New Mexico below Elephant Butte is to New Mexico. New Mexico would continue to be entitled to its apportionment below Elephant Butte regardless of whether EBID ceased to exist. *See* NM-EX 008, Lopez 2d Decl. at ¶ 30; NM-EX 237, Rule 30(b)(6) Dep. of the State of New Mexico by and through Lopez (Sept. 18, 2020) at 83:3-85:16.

RESPONSE: Disputed. The Compact does not state or indicate that the apportionment to lands in New Mexico below Elephant Butte is to New Mexico. The Project allocates Usable Water between EBID, EPCWID, and Mexico, and the allocation and delivery to EBID constitutes the apportionment to New Mexico.

B. Indications of Intent in Extrinsic Evidence

66. The historical record indicates that one purpose of the Compact was to protect the operation of the Project. NM-EX 111, Miltenberger Dep. (June 8, 2020) 38:8-17, 137:9-138:21; NM-EX 112, Stevens Rep. 72; NM-EX 005, Stevens Decl. ¶ 10. See, e.g., NM-EX 319, Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held in Santa Fe, New Mexico, September 27, to October 1, 1937, 12-13 (1937).

RESPONSE: Not disputed.

67. The historical record indicates that another purpose of the Compact was to protect existing rights. NM-EX 106, Kryloff Dep. (Aug. 6, 2020) 108:9-109:18; NM-EX 005, Stevens Decl. ¶ 11. See, e.g., NM-EX 319, Rio Grande Compact Commission, Proceedings of the Meeting of the Rio Grande Compact Commission Held in Santa Fe, New Mexico, September 27, to October 1, 1937, 12-13 (1937); NM-EX 322, Letter from E.B. Debler, et al., Committee of Engineer Advisors, Rio Grande Compact Commission, to Rio Grande Compact Commission (Dec. 27, 1937).

RESPONSE: Disputed. "Existing rights," as used in the statement, is ambiguous and disputed to the extent New Mexico construes it to mean the Compact was intended to protect the rights of water users within the States. The engineer advisors for the negotiating committee "avoided discussion of the relative rights of water users in the three States . . . ." *See* NM-EX-22, Dec. 1937 Eng. Rep., at 2 (pdf page).

68. However, there is no historical evidence indicating that the compacting States intended to freeze conditions in the Rio Grande Basin, as they did in the 1929 temporary compact. Rather, the available historical evidence indicates that each state intended to continue developing their supplies within the limits imposed by the protection of existing uses under the Compact. NM-EX 011, Stevens 2d Decl. at ¶¶ 21, 23-25; NM-EX 008, Lopez 2d Decl. at ¶ 6; NM-EX 112, Stevens Rep. at 56, 68, 81; see, e.g., Letter from S.O. Harper, Chairman, Rio Grande Compact Commission, to Secretary of the Interior (Mar. 26, 1938) (describing the RGJI as a study of all "past, present, and prospective uses of water" in the basin) (produced as TX_MSJ_005338-40); NM-EX 352, Rio Grande Compact Commission, First and Second Annual Reports of the Rio Grande Compact Commission 1939 and 1940, at 15-19 (Feb. 25, 1941) (adopting rules that "permit[] each State to develop its water resources at will, subject only to its obligations to deliver water in accordance with the schedules set forth"); see also, e.g., NM-EX 112, Stevens Rep. at 81 (quoting Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to E.H. Thornton, Jr. (Mar. 23, 1939)).

RESPONSE: Disputed. The term "freeze conditions in the Rio Grande Basin" is vague and ambiguous, and the statement is disputed on that basis. Further, it was the intent of the Compacting States to not "further deplete the waters of the Rio Grande system" and

"preserve the status quo as far as the water supply is concerned, while, at the same time, permitting New Mexico and Colorado to proceed with certain desired developments." Letter, Frank Clayton, Rio Grande Compact Commissioner for Texas to S.O. Harper, Chairman, Rio Grande Compact Commission (Jan 25, 1938) (produced at TX_MSJ_005303). Notwithstanding the stated dispute, the United States agrees that the compacting States were not restricted in their use of water provided the use adhered to the Compact, including non-interference with Project water necessary to meet irrigation demands.

69. Prior to negotiation of the Compact, Reclamation administered the Project as a single unit. NM-EX 111, Miltenberger Dep. (June 8, 2020) 41:22-42:12; NM-EX 202, Cortez Dep. (Vol. I) (July 30, 2020) 58:6-18; NM-EX 107, Lopez Rep. 25.

RESPONSE: Disputed. "Administered as a single unit," as used in the statement, is ambiguous and the statement is disputed on that basis. The letter from Commissioner Clayton on October 4, 1938 to the Compact Commission, states that the Project "is operated as an administrative unit by the Bureau of Reclamation, and the dam and releases from the reservoir are controlled by the Bureau and will continue to be at least until the federal government is repaid its investment, and very probably even beyond that time." NM-EX-328, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938)(Clayton Letter) at 1. The United States disputes any other construction of Statement of Fact No. 69. The United States does not dispute that prior to the Compact, the Project delivered water to farms in the Project area, and did not allocate to District diversion headings as it does now.

70. In negotiating the Compact, the States understood that all lands within the Project had equal rights to water. NM-EX 111, Miltenberger Dep. (June 8, 2020) 44:4-23; NM-EX 328, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938); NM-EX 107, Lopez Rep. 26-27, 35, 67-68; NM-EX 005, Stevens Decl. ¶ 11.

RESPONSE: Disputed. "Equal rights to water," as used in this statement, is ambiguous and the statement is disputed on that basis. Texas Commissioner Clayton's statement that "lands within the Project have equal water rights" does not mean that all acreage had equal rights to water. Mr. Clayton referred to the Project "areas involved in the two States," which he describes as 88,000 acres for Elephant Butte Irrigation District and 67,000 acres for El Paso Water Improvement District No. 1, not to individual lands or acres within the Project. NM-EX-328, Clayton Letter. Additionally, Mr. Clayton's letter says the water distribution "is of course a private one between the districts involved, and for that reason it was felt neither necessary nor desirable that it be incorporated in the terms of the Compact."

71. The historical record reflects that the States agreed on 790,000 acre-feet per year as a normal release in the Compact because it was sufficient to satisfy irrigation demands in both New Mexico and Texas, as well as address water quality concerns. NM-EX 220, Miltenberger Dep. (June 8, 2020) 146:21-148:1; NM-EX 215, Kryloff Dep. (Aug. 6, 2020) 55:17-56:25, 89:20-90:1; NM-EX 106, Kryloff Rep. 25-26.

RESPONSE: Disputed. The Joint Investigation Report did not conclude that a 790,000 acre-feet per year release addressed water quality concerns. The Report states that "[q]uality of water, as well as quantity of water, becomes [] an important consideration particularly to the waters that are available to the lowest lands in the basin, such as those in the Tornillo unit of the Rio Grande Project and in the Hudspeth District." JIR 62 (in U.S. App. at TX_00000561). The release from Elephant Butte Reservoir of 766,000 acre-feet of water was calculated to remove 620,000 tons of dissolved solids past Fort Quitman, indicating that the amount of pre-Compact releases of water and drainage return flows was important to maintain flushing of salts. *Id*. at 64. The continuing concern for water quality is demonstrated by Article XI permitting "recourse by a signatory state to the Supreme Court of the United States for redress should the character or quality of the water, at the point of delivery, be changed hereafter by one signatory state to the injury of another."

72. The historical record indicates that the Compact relied upon the Project and its allocation and delivery of water in relation to the proportion of Project irrigable lands to provide the basis for the apportionment of Rio Grande waters to users in New Mexico and Texas. NM-EX 220, Miltenberger Dep. (June 8, 2020) 40:7-22; NM-EX 107, Lopez Rep. 67-68.

RESPONSE: Disputed. The United States disputes that delivery of water "in relation to the proportion of Project irrigable lands" was an assumption on which the Compacting States "relied" as a basis for concluding that the operation of the Project would effect an equitable apportionment. Under the 1938 contract, the distribution of water was to be made in proportion of Project irrigable lands in the States only "in the event of a shortage of water for irrigation in any year," and only "so far as practicable." NM-EX-324, 1938 Contract. The United States does not dispute this statement if "in relation to the proportion of" is deleted.

73. 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 the Downstream Contracts.

RESPONSE: Disputed. The term "controlled all the water being delivered into Elephant Butte" is vague and ambiguous, and the statement is disputed on that basis. Notwithstanding the stated dispute, the United States does not dispute that Texas, as well as New Mexico, relied upon the Project to effectuate the Compact's terms including the release and delivery of Project water to Project lands in Texas.

74. The historical record confirms that historically Project deliveries were made based upon the ratio between Project acreage in New Mexico and Project acreage in Texas. In other words, under the Compact, the delivery of water through the Project was based on the irrigable acres in each State. Historically that ratio is 57% to New Mexico and 43% to Texas. NM-EX 220, Miltenberger Dep. (June 8, 2020) 39:2-40:6, 47:17-48:18.

RESPONSE: Disputed. The terms "historically," "based upon," and "under the Compact," as used in this statement are ambiguous and the statement is disputed on that basis. The Compact does not address the allocation within the Rio Grande Project. 53 Stat. 785. As noted, the 1938 contract between EBID and EPCWID (NM-EX 324) called for the distribution of available supply in proportion to acreage only in the event of a shortage of water for irrigation, and only so far as practicable. Until 1978, the Project delivered water to lands and did not allocate to the districts. Diversion records show that the percentage of total diversions to EBID ranged from 48.5% to 65.6%, and that the average diversion to EBID was 56.2%. NM-EX-100, Barroll Oct. 2019 Rep. at A-7-A-8. *See also* Statement of Fact 62 (summary statistics that do not align with 57/43 split).

75. The understanding of the compacting States was that Reclamation would continue to operate the Project [as a unit]. NM-EX 328, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938) ("Obviously, neither Colorado nor New Mexico could be expected to guarantee any fixed deliveries at the Texas line when the operation of the dam is not within their control but is in the control of an independent agency."); NM-EX 327, J.H. Bliss, Provisions of the Rio Grande Compact, 1 (Apr. 2, 1938) ("The measurement of the water at San Marcial rather than the New Mexico-Texas line is necessary because the Elephant Butte Project must be operated at as a unit."); NM-EX 112, Stevens Rep.at 72. [Notice UMF No. 13].

RESPONSE: Disputed. The term "[as a unit]" is vague and ambiguous and the statement is disputed on that basis. Reclamation's administrative control and operation across the entire Project was recognized with the clarification that the negotiators recognized that the Districts would eventually fulfill their repayment obligations and take over operations and maintenance of the Project irrigable lands. NM-EX 346, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to National Resources Committee (02/01/1936).

76. **[a]** *Shortly after the Compact was finalized, Texas Commissioner Frank Clayton explained the way that the Compact divided water below Elephant Butte:*

> *[T]he question of the division of the water released from Elephant Butte reservoir is taken care of by contracts between the districts under the Rio Grande Project and the Bureau of Reclamation. These contracts provide that the lands within the Project have equal water rights, and the water is allocated according the areas involved in the two States. By virtue of the contract recently executed, the total areas is 'frozen' at the figure representing the acreage now actually in cultivation: approximately 88,000 acres for Elephant Butte Irrigation District, and 67,000 for the El Paso County Water Improvement District No. 1, with a 'cushion' of three per cent for each figure.*

NM-EX 328, Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938).

[b] *The expert historian for the United States agreed that this letter was "an important document" for understanding the way that the Compact divides the water below Elephant Butte. See Ex 215, Kryloff Dep. (Aug. 6, 2020) 41:15-20, 41:21-42:9; NM-EX 106, Kryloff Rep. 12; see also NM-EX 220, Miltenberger Dep. (June 8, 2020) 43:17-44:23.*

RESPONSE:
[a] Not disputed, to the extent the statement is intended to report the fact of what Clayton wrote, and not to establish the specific contents of his statement as a factual matter.

[b] Not disputed, with the qualification that Mr. Kryloff is retained by the United States but has not been identified by the United States as a witness as of this filing.

77. Similarly, shortly after the Compact was finalized, Texas Commissioner Frank Clayton described the operation of the Compact to the Chairman of the Texas Board of Water Engineers. Commissioner Clayton explained:

> *Moreover, since the source of supply for all lands above Fort Quitman and below Elephant Butte reservoir, whether in Texas or New Mexico, is the reservoir itself, it could hardly be expected of Colorado and New Mexico that they should guarantee a certain amount of water to pass the Texas state line, since this amount is wholly dependent upon the releases from the reservoir and the reservoir is under the control of an entirely independent agency – the Bureau of Reclamation.*
>
> *Also, by contract between the New Mexico interests and the Texas interests in the Rio Grande Project, all the lands in the Project have equal water rights, and the acreage to be irrigated is practically "frozen" at its present figures, with a three per cent "cushion."*
>
> *It is therefore not necessary, even if it were practicable, to make any definite provision in the Compact for the amount of water to pass the Texas-New Mexico state line."*

NM-EX 329, Letter from Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas to C.S. Clark, Chairman, Board of Water Engineers, State of Texas (October 16, 1938).

RESPONSE: Not disputed, to the extent the statement is intended to report the fact of what Clayton wrote, and not to establish the specific contents of the letter as a factual matter.

78. In 1968, Raymond Hill, the Engineer Advisor for the State of Texas during Compact negotiations explained "that the Rio Grande Compact Commissioners, at the time of executing the Rio Grande Compact of 1938, anticipated that compliance" with Articles III and IV "would result in enough water entering Elephant Butte Reservoir to sustain an average normal release of 790,000 AF per year from Project storage for use on lands in New Mexico downstream of Elephant Butte Reservoir and on lands in Texas and also to comply with the obligations of the

Treaty of 1906 for deliveries of water to Mexico." NM-EX 401, Raymond A. Hill, Development of the Rio Grande Compact of 1938, 38 (Oct. 8, 1968) (emphasis added).

RESPONSE: Not disputed, to the extent the statement is intended to report the fact of what Hill wrote, and not to establish the content of what he wrote as a factual matter**.**

V. POSITIONS OF THE PARTIES ON THE COMPACT APPORTIONMENT BELOW ELEPHANT BUTTE

A. Position of Texas on the Compact Apportionment Below Elephant Butte

79. **[a]** *Consistent with the Reclamation Act, Texas adjudicated the Project Right in Texas. Specifically, it determined that EPCWID had the right to divert up to 376,000 from the Rio Grande. NM-EX 505, Texas Comm'n on Env't Quality, Certificate of Adjudication No. 23-5940, ¶ 1.b. (Mar. 7, 2007); see also Final Judgment and Decree, In re: The Adjudication of Water Rights in the Upper Rio Grande Segment of Rio Grande Basin, No. 2006-3219 (El Paso Cty. Dist. Ct., Oct. 30, 2006).* **[b]** *Using the D1/D2 method, 376,000 AF represents approximately 43% of Project water when there is a full supply. NM-EX 001, Barroll Decl. ¶ 23.* **[c]** *376,000 AF also represents approximately 43% of Project supply under a normal release of 790,000 AF, once return flows are taken into account. See, e.g., NM-EX 212, Gordon Dep. (Vol. II) (July 15, 2020) 20:11-21:11.*

RESPONSE:

[a] Disputed. Whether the Texas adjudication was "[c]onsistent with the Reclamation Act" is a legal conclusion, not a statement of fact. The United States disputes the statement on this basis but does not dispute the statement if "Consistent with the Reclamation Act" is deleted.

[b] Disputed. The cited paragraph of Dr. Barroll's declaration does not support the first sentence in the statement, and the figure she uses in that paragraph is 376,842 af, This number is not consistent with the number in the preceding paragraph (376,**862** af). "Project water" and "full supply" are ambiguous in the context of this statement, and the statement is disputed on that additional basis. The designation of a "full supply" in the 2008 Operating Agreement, or under the 1985 draft operating agreement, does not represent the maximum supply that could have been available but for the influence of groundwater pumping, as evidenced by the releases substantially greater than 790,000 af in some years before the Compact. *See* Resp. to Statement No. 55.

[c] Disputed. The term "Project supply" as used in this statement is ambiguous. Dr. Barroll defines Project supply in her declaration in a way that includes the water allocated to Mexico under the treaty, and the calculations in her declaration show she excludes the treaty water. NM-EX 001, Barroll Decl. ¶ 22. This statement does not provide for an exclusion of treaty water. Further, 376,862 af is approximately 43% of the total diversion allocation to the Districts applying "the D1/D2 method" to an assumed release of 763,842 acre-feet. *Id.*

80. The Texas Compact Commissioner recognizes that a full supply release from the Project is 790,000 AF, and that Texas water users are entitled to 43% of Project supply and New Mexico water users are entitled to 57% of Project supply. NM-EX 211, Gordon Dep (Vol. I) (July 14, 2020) 71:18-73:13; NM-EX 212, Gordon Dep. (Vol. II) (July 15, 2020) 11:20-13:21, 20:11-21:11, 121:9-11.

RESPONSE: Not disputed, with the clarification that Mr. Gordon's explanation of Project supply is not clearly defined.

81. The Texas Compact Commissioner concedes that Rio Grande water is divided below Elephant Butte by the Downstream Contracts and that the Downstream Contracts "are incorporated into the Compact." NM-EX 212, Gordon Dep (Vol. II) (July 15, 2020) 10:25-12:19, 15:6-16:18.

RESPONSE: Not disputed, with the clarification that Mr. Gordon's explanation of Project supply is not clearly defined.

82. The Texas Compact Commissioner concedes that the Project acts as the mechanism by which water users in New Mexico receive 57% of Project supply and water users in Texas are allocated 43% of Project supply. He further concedes that the mechanism for delivering Project water was incorporated into the Compact. NM-EX 212, Gordon Dep. (Vol. II) (July 15, 2020) 10:25-16:24.

RESPONSE: Not disputed, with the clarification that Mr. Gordon's explanation of Project supply is not clearly defined.

83. In official remarks at the 2011 RGCC meeting, Texas Compact Commissioner Gordon acknowledged that the Compact apportioned water between New Mexico and Texas based on the 57%-43% split. Specifically, Commissioner Gordon responded to comments of the New Mexico Commissioner by stating "I agree that the purpose of the Compact was to allocate the water between the Districts and the 53[-]47 [sic] as provided in the Compact. I do agree with that." NM- EX 518, Rio Grande Compact Commission, Transcript of the 72nd Annual Meeting (94th Meeting), 59:2-4 (Mar. 30, 2011).

RESPONSE: Not disputed, with the clarification that the sentence immediately following the quoted statement says, "[h]owever, that 53/47 needs to take into account diversions that are happening in each of the particular states, whether it's Texas, New Mexico; and we believe that the Operating Agreement tried to take those diversions into account to fairly allocate the water that was allocated to the users at Elephant Butte Reservoir and take into account any downstream diversions that were occurring." NM-EX 518, 59:4-11. Later in the transcript, Mike Hamman from the Bureau of Reclamation explains that the premise of the Operating Agreement was to address concerns about increased groundwater pumping in the Mesilla Valley. *Id.*, 92:7-19.

84. In 2004, the Texas Compact Engineer Advisor from 1987 to 2015 wrote that "[t]he Compact specifies a normal release of 790,000 acre–feet annually from Project Storage for use in Texas and New Mexico and for delivery of water to Mexico." NM-EX 412, Herman R. Settemeyer, "Rio

Grande Project/Rio Grande Compact Operation," in CLE International, Rio Grande Superconference G-1, G-2 (2004) ("Settemeyer CLE Presentation").

RESPONSE: Not disputed.

85. The Texas Compact Engineer Advisor from 1987 to 2015 testified that "the Rio Grande Compact incorporated the Rio Grande Project." NM-EX 225, Settemeyer Dep. (Vol. I) (July 30, 2020) 41:24-42:10.

RESPONSE: Not disputed.

86. The Texas Compact Engineer Advisor from 1987 to 2015 further testified that "the Rio Grande Project [water] is apportioned 57 – 57 percent to New Mexico and 43 percent to Texas." NM-EX 225, Settemeyer Dep. (Vol. I) (July 30, 2020) 41:24-42:10.

RESPONSE: Disputed. The quotation does not appear in the cited document. *See* NM-EX 225.

87. In May of 2011, Texas and New Mexico met to discuss the implications of the 2008 Operating Agreement on the Compact. Prior to the meeting, Texas had developed a set of talking points that represented Texas's positions on the Rio Grande Compact. A photograph of those talking points is NM-EX 519 (Schmidt-Petersen, Photographs of Handwritten Notes on Easel). NM-EX 003, Lopez Decl. ¶ 18; NM-EX 004, Schmidt-Petersen Decl. ¶ 11. Using those talking points, Texas expressed its position that the Compact apportions the water below Elephant Butte between New Mexico and Texas "based on acreage" existing in each State. Texas further explained its position that under the Compact, the State of Texas is entitled to 43% of Project supply and the State of New Mexico is entitled to 57% of Project supply. NM-EX 519, Schmidt-Petersen, Photographs of Handwritten Notes on Easel; NM-EX 003, Lopez Decl. ¶ 18; NM-EX 004, Schmidt-Petersen Decl. ¶ 11.

RESPONSE: Disputed, to the extent New Mexico asserts that the hand-written notes establish a Texas position that Texas is entitled to only 43% of Project water released from storage, and not the amount of return flows expected under pre-pumping historic conditions. The same photographs of the handwritten notes state under the heading "Apportionment of Project Water to Project Users" assumes "[a]ll delivery of Project water to Project users are <u>undiminished</u> by <u>'man's activities'</u>" and that "Pumping is a 'man's activity.'" NM-EX 519 (underline in original).

88. Even in this litigation, Texas has admitted on numerous occasions that New Mexico has a Compact apportionment below Elephant Butte Reservoir.

a. In its Complaint in this case, Texas made the following relevant factual allegations:

i. "[T]he Rio Grande Compact, among other purposes, was entered into to protect the operation of the Rio Grande Reclamation Project." Compl. ¶ 4 (Jan. 8, 2013).

ii. "Project water deliveries are made based upon the ratio between the irrigable acreage of the Rio Grande Project situated in New Mexico, and the irrigable acreage of the Rio Grande Project situated in Texas. Historically, this ratio has been 57% in New Mexico and 43% in Texas." Id. at ¶ 8.

iii. The Compact "relied upon the Rio Grande Project and its allocation and delivery of water in relation to the proportion of Rio Grande Project irrigable lands in southern New Mexico and in Texas, to provide the basis of the allocation of Rio Grande waters between Rio Grande Project beneficiaries in southern New Mexico and the State of Texas." Id. at ¶ 10.

b. Texas's brief in support of its motion to file its complaint referred to Elephant Butte Irrigation District as the entity formed within New Mexico to contract with the United States "for the water allocated and apportioned for use within New Mexico." Texas's Brief in Support of Motion to File Complaint 7 (Jan. 2013) (emphasis added).

c. In the course of its briefing on New Mexico's Motion to Dismiss, Texas defined its apportionment as "the water New Mexico delivers to Elephant Butte, less the water provided to Rio Grande Project lands in New Mexico by the Rio Grande Project." Texas' Brief in Response to New Mexico's Motion to Dismiss Texas' complaint and the United States' Complaint in Intervention, 11 (June 16, 2014).

d. Further, in briefing on exceptions to the First Interim Report of the Special Master, Texas averred: "[T]he compact utilizes the Rio Grande Project, operated by the United States, as the single vehicle by which to apportion Rio Grande water to Texas and New Mexico." See Texas's Reply to Exceptions to First Interim Report of Special Master, 40 (July 28, 2017) (quotation marks omitted).

RESPONSE: Not disputed.

89. In connection with filing the Complaint in this case, Texas issued a News Release. In that News Release, Texas admitted "[h]istorically, water apportioned under the Rio Grande Compact has resulted in approximately 57 percent of the water supply below the Elephant Butte Reservoir being delivered to New Mexico, and 43 percent being delivered across the New Mexico-Texas state line for Texas." NM-EX 524, Tex. Comm'n on Env't Quality, News Release, 2 (Jan. 8, 2013) (emphasis added).

RESPONSE: Not disputed, except to the extent "admitted" is used to imply a binding admission for purposes of litigation.

90. Every alternate year the Texas Commission on Environmental Quality ("TCEQ") reports to the Texas Legislature about environmental issues, including interstate river compacts. In describing the Rio Grande Compact in 2014, the TCEQ explained "[t]he compact did not contain specific wording regarding the apportionment of water in and below Elephant Butte Reservoir. However, the compact was drafted and signed against the backdrop of the 1915 Rio Grande Project and a 1938 U.S. Bureau of Reclamation contract that referred to a division of 57 percent to New Mexico and 43 percent to Texas." NM-EX 526, Texas Comm'n on Env't. Quality, Biennial Report to the 84th Legislature (2014) (emphasis added).

RESPONSE: Not disputed.

B. Position of the United States on the Compact Apportionment Below Elephant Butte

91. **[a]** *In New Mexico's adjudication of Lower Rio Grande water rights, the United States requested that the New Mexico Adjudication Court "recognize an amount of up to 376,000 acre-feet per year for delivery to Texas." See NM-EX 527, Order (1) Granting Summary Judgment Regarding the Amounts of Water; (2) Denying Summary Judgment Regarding Priority Date; (3) Denying Summary Judgment to the Pre-1906 Claimants; and (4) Setting a Scheduling Conference, New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irr. Dist., no. CV-96-888, ¶ 4 (N.M. 3d Judicial Dist., Feb. 17, 2014).*

[b] *As discussed, under the D1/D2 method, 376,000 acre- feet was a full supply for EPCWID, and represents approximately 43% of Project water when there is a full supply.*

[c. footnote] *In response to the United States request that New Mexico recognize 376,000 AFA for delivery to Texas, the New Mexico Adjudication Court explained that the United States' request was beyond the jurisdiction of the court, but that the "State of New Mexico's offer of judgment appropriately recognizes Project deliveries to Texas as an essential element of the Project." Id.*

RESPONSE:
[a] Not disputed, with the clarification that the United States made this request on the basis of seeking full faith and credit for the Texas determination.

[b] Disputed. The Allocation Procedures (NM-EX 400, at 9-14) characterize the allocation to EPCWID in a "full supply year" as approximately 376,000 af, not that this is a "full supply for EPCWID." The 376,000 af is roughly 43% of the amount available for allocation to the Districts in a "full supply year," not 43% of "Project water," some of which is released for Mexico under the 1906 treaty. The designation of a "full supply" in the Allocation Procedures does not represent the maximum supply that could have been available but for the influence of groundwater pumping. NM-EX-100, Barroll Oct. 2019 Rep. 35.

[c, footnote]. Not disputed.

92. Reclamation has recognized that "[b]ecause one district is located in New Mexico (EBID) and the other is located in Texas (EP#1), the operation of the Rio Grande Project has a bearing on each state's claim to the waters of the Rio Grande." NM-EX 503, Briefing Paper by Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to Robert W. Johnson, Commissioner, Bureau of Reclamation (Nov. 2, 2006).

RESPONSE: Disputed. Mr. Cortez was not making, and could not legally make, any statement binding upon or imputable to Reclamation in the cited document. The United States does not dispute that the document contains the quoted statement.

93. Reclamation has acknowledged the intent of the Compact "to recognize a yearly average of 790,000 AF release from Project storage to satisfy water users" in both States and Mexico. NM-EX 411, Letter from Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to William A. Paddock, 2 (Sept. 11, 2002).

RESPONSE: Disputed. Mr. Cortez was not making, and could not legally make, any statement binding upon or imputable to Reclamation in the cited document. The United States does not dispute that the document contains the quoted statement.

94. Reclamation has recognized that "[t]he 1938 Rio Grande Compact intended to use the Reclamation Rio Grande Project as the vehicle to guarantee delivery of Texas's, New Mexico's and Mexico's equitable apportionment of the Rio Grande waters below Elephant Butte Dam." NM-EX 530, Filiberto Cortez, Bureau of Reclamation, EBID Depletion Reduction and Offset Program WaterSMART Grant Proposal, 1 (emphasis added).

RESPONSE: Disputed. Mr. Cortez was not making, and could not legally make, any statement binding upon or imputable to Reclamation in the cited document. The United States does not dispute that the document contains the quoted statement.

95. At the hearing on New Mexico's Motion to Dismiss in this proceeding, counsel for the United States conceded that the "[P]roject is central to the [C]ompact," that "New Mexico would also, by the same token, have an apportionment" delivered through the Project, and that the Downstream contracts "effectuate the intended apportionment that is made in the [C]ompact." Hrg. Tr. 88:17, 91:6-14, 100:7-18 (Aug. 19, 2015).

RESPONSE: Not disputed, except to the extent "conceded" implies a statement against interest.

96. The United States has taken the following relevant positions in this case:

a. "New Mexico receives an additional apportionment of water under the Compact below Elephant Butte Reservoir, and Texas receives its entire equitable apportionment of water, through the Project, in the form of water released by the Project 'in accordance with irrigation demands.' Those deliveries are divided according to the 57% to 43% split reflecting the historical proportion of irrigation acreage in EBID and EPCWID, respectively." Brief for the United States in

Opposition to New Mexico's Motion to Dismiss Texas's Complaint and the United States' Complaint in Intervention, 28 (June 2014) (quoting Compact Art. I(l)).

b. "Usable Water" is "available for release in accordance with irrigation demands in lower New Mexico, in Texas, and in Mexico." Reply Brief for the United States on Exceptions by the States of New Mexico and Colorado to the First Interim Report of the Special Master, 6 (July 2017).

c. "To effectuate an equitable apportionment of the waters of the Rio Grande, the compacting States incorporated and relied upon an existing reclamation project 'as the vehicle to guarantee delivery of Texas's and part of New Mexico's equitable apportionment of the stream.' The United States agreed to that arrangement through congressional approval of the Compact." Id. at 18 (emphasis added) (quoting First Interim Report of the Special Master, 204 (Feb. 9, 2017)).

d. "In the Compact, the States (i) incorporated and relied upon an existing Reclamation project to deliver Texas's and part of New Mexico's equitable apportionment." Sur-Reply Brief for the United States on Exceptions by the States of New Mexico and Colorado to the First Interim Report of the Special Master, 12-13 (September 2017).

e. "[T]he Compact identifies what is to be done with water that is delivered by New Mexico to Elephant Butte Reservoir, and the Compact 'protects the water that is released from Elephant Butte in order for it to reach its intended destination." Id. at 13 (quoting First Interim Report of the Special Master, 200 (Feb. 9, 2017)).

RESPONSE: Not disputed.

97. In response to a Request for Admission, the United States admitted for all purposes in this case that "under the Compact, the states relied upon an existing Reclamation project to deliver Texas's and part of New Mexico's equitable apportionment." NM-EX 602, United States of America's Responses to New Mexico's First Set of Requests for Admission, 13 (November 4, 2019) (response to Request for Admission 30).

RESPONSE: Not disputed, with the qualification that this Statement of Fact and the United States' response to the Admission is a legal conclusion.

98. The expert historian sponsored by the United States in this case has opined that that the States intended for the Compact to apportion surface water below Elephant Butte Reservoir to New Mexico for the lands in New Mexico under the Rio Grande Project. NM-EX 215, Kryloff Dep. (Aug. 6, 2020) 52:23-53:8, 73:23-74:9.

RESPONSE: Not disputed, with the qualification that the United States has not designated Mr. Kryloff as a witness for trial as of this filing.

C. Position of New Mexico on the Compact Apportionment Below Elephant Butte

99. Consistent with the Reclamation Act (and the adjudication in Texas), New Mexico adjudicated the Project Right in New Mexico. In accordance with the Compact, the New Mexico Adjudication Court established that the Project is entitled to an annual release of up to 790,000 acre-feet. See NM-EX 527, Order (1) Granting Summary Judgment Regarding the Amounts of Water; (2) Denying Summary Judgment Regarding Priority Date; (3) Denying Summary Judgment to the Pre-1906 Claimants; and (4) Setting a Scheduling Conference, New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irr. Dist., no. CV-96-888 (N.M. 3d Judicial Dist., Feb. 17, 2014).

RESPONSE: Disputed. Whether the New Mexico adjudication court's decisions are "[c]onsistent with the Reclamation Act" and "[i]n accordance with the Compact" are legal conclusions, not a statements of fact. What the court "established" is also a legal conclusion. The United States disputes the statement on these grounds.

100. Unlike Texas, the New Mexico Adjudication Court set limits on the amount of surface water and groundwater that could be diverted or consumed on an acre of Project land in New Mexico. See NM-EX 527, Final Judgment, New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irr. Dist., no. CV-96-888 (N.M. 3d Judicial Dist., Aug. 22, 2011). Consistent with Reclamation operations and analysis, New Mexico recognized the right for each Project acre to receive 3.024 acre-feet per annum of surface water. Id. at ¶ I.A.

RESPONSE: Disputed. The state adjudication court order cited as NM-EX-527 is not titled a "Final Judgment" and does not reference a limit on the amount of surface water that can be diverted or consumed on an acre of Project land in New Mexico. The limits decreed by the adjudication court for use of surface water on irrigated crops is defined as the farm delivery requirement (FDR), stating that an "FDR of 3.024 afay is a reasonable FDR, and is representative of historic agricultural practices in the Lower Rio Grande, for those crops irrigated with surface water only." *See* Final Judgment, *New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irr. Dist.*, No. CV-96-888 (N.M. 3d Judicial Dist., Aug. 22, 2011), NM_0082198. The United States disputes the implication that "Reclamation operations and analysis" conferred a "right for each Project acre to receive 3.024 acre-feet-per-acre per annum."

101. Prior to this litigation, New Mexico has consistently taken the position that the Compact divides the waters below Elephant Butte according to the acreage in each State so that New Mexico is entitled to 57% and Texas is entitled to 43% of Project supply. For example, in negotiations that occurred during the 1990s and 2000s, New Mexico was steadfast in its position that a potential operating agreement for the Project could not alter the 57-43 division of water below Elephant Butte that was required by the Compact. NM-EX 004, Schmidt-Petersen Decl. ¶ 12; NM-EX 003, Lopez Decl. ¶ 17; NM-EX 002, D'Antonio Decl. ¶ 13.

RESPONSE: Not disputed.

VI. POSITION OF THE RIO GRANDE COMPACT COMMISSION ON THE COMPACT APPORTIONMENT

102. The RGCC and its Engineer Advisers regularly request information and receive briefings from Reclamation on Project operations, including operations below Elephant Butte. NM-EX 202, Cortez Dep. (Vol. I) (July 30, 2020) 45:9-46:12; NM-EX 004, Schmidt-Petersen Decl. ¶ 13; NM- EX 003, Lopez Decl. ¶ 13; NM-EX 525, Email from Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to Kenneth Rice, Bureau of Reclamation (May 2, 2013); NM-EX 405, Facsimile from David Allen, El Paso Field Office, Bureau of Reclamation, to Darren Powell, Herman Settemeyer, et al. (June 25, 1996).

RESPONSE: Not disputed.

103. Reclamation reports to the RGCC every year about operations that are relevant to the Compact. As part of that report, Reclamation provides information about the operations of the Rio Grande Project. See, e.g., NM-EX 512, Bureau of Reclamation, Calendar Year 2009 Report to the Rio Grande Compact Commission, 59-67 (Mar. 2010); NM-EX 003, Lopez Decl. ¶ 13; NM-EX 004, Schmidt-Petersen Decl. ¶ 13; NM-EX 405, Facsimile from David Allen, El Paso Field Office, Bureau of Reclamation, to Darren Powell, Herman Settemeyer, et al. (June 25, 1996); NM-EX 410, Fascimile from Steve Vandiver, Engineer Adviser, State of Colorado, to Ken Maxey, Albuquerque Area Manager, Bureau of Reclamation, and Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation (Aug. 2, 2002).

RESPONSE: Not disputed.

104. The RGCC conducts Compact accounting on an annual basis. Part of the Compact accounting includes a report on the Project Storage and Releases. That accounting tracks both the releases of Usable Water to water users in both States to satisfy irrigation demands, and the accrued departure of the releases from the Compact's normal release of 790,000 acre-feet per year. See, e.g., NM-EX 501, Rio Grande Compact Commission, Report of the Rio Grande Compact Commission 2005, 20 (Mar. 23, 2006). See also NM-EX 004, Schmidt-Petersen Decl. ¶ 14; NM- EX 003, Lopez Decl. ¶ 14.

RESPONSE: Not disputed.

105. "Reclamation interprets this accrued departure from normal release [Compact accounting provision] as a measure of how the Rio Grande Project is complying with its obligation to meet yearly demand from the water users of the Rio Grande Project and at the same time comply with the Rio Grande Compact intent to recognize a yearly average of 790,000 AF release from project storage to satisfy water users" below Elephant Butte. NM-EX 411, Letter from Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to William A. Paddock, 2 (Sept. 11, 2002).

RESPONSE: Disputed. The statement says, "…intent to recognize a yearly average of 790,000 AF release from Project storage to satisfy water users within the 'Texas portion' of the Compact." NM-EX 411 at 2.

106. The releases from Project Storage are tracked so that the Compact Commissioner from each respective State is able to understand the amount of Project water that users in his or her State are entitled to. NM-EX 004, Schmidt-Petersen Decl. ¶ 14; NM-EX 003, Lopez Decl. ¶ 13.

RESPONSE: Disputed. "Entitled to," as used in this statement, is ambiguous. The statement is disputed on that basis. The Project allocates water to the Districts. The United States does not dispute the statement if "users in his or her State are entitled to" is replaced with "the District in his or her state has been allocated."

107. The RGCC acts or speaks in a number of forms, including through resolutions, all of which must have unanimous agreement. NM-EX 002, D'Antonio Decl. ¶ 14, NM-EX 003, Lopez Decl. ¶ 15. Through unanimous resolutions, the RGCC has taken the following relevant positions:

a. The State of New Mexico has a Compact apportionment in southern New Mexico below Elephant Butte, as recognized in the citations below:

i. "[O]ver half of New Mexico's population is located within the Rio Grande basin and depends on New Mexico's allocation of Rio Grande water under the Rio Grande compact." NM-EX 406, Rio Grande Compact Commission, Resolution of the Rio Grande Compact Commission Regarding the Need for Careful Evaluation of the Water Supply and Socioeconomic Impacts of Any Designation of Critical Habitat for the Rio Grande Silvery Minnow (Mar. 25, 1999).

ii. "[A]ll Rio Grande water allocated to New Mexico both upstream and downstream from Elephant Butte Reservoir is fully appropriated under New Mexico state law." Id. (emphasis added).

iii. "[T]he waters of the Rio Grande Project are used to . . . provide a water supply for Southern New Mexico and Texas downstream of Elephant Butte Reservoir." NM-EX 408, Rio Grande Compact Commission, Resolution of the Rio Grande Compact Commission Regarding the Development of an Appropriate Methodology for Determining the Annual Allocation of Usable Water in Rio Grande Project Storage (Mar. 21, 2002) (emphasis added).

b. The operations and accounting of the Project have the potential to impact New Mexico's Compact apportionment. Id. ("[T]he dissemination of inaccurate allotments [by Reclamation] causes unnecessary hardship to the water users of Southern New Mexico and Texas along the Rio Grande downstream of Elephant Butte Reservoir") (emphasis added);

NM-EX 002, D'Antonio Decl. ¶ 14; NM-EX 003, Lopez Decl. ¶ 15

c. The Project is "required to be operated in compliance with the Rio Grande Compact." NM-EX 528, Rio Grande Compact Commission, Resolution of the Rio Grande Compact Commission Regarding Temporary Modification of Operations at El Vado Reservoir in New Mexico during April, May, and June 2015 (Mar. 24, 2015); see also NM-EX 002, D'Antonio Decl. ¶ 14, NM-EX 003, Lopez Decl. ¶ 15.

RESPONSE: Not disputed, to the extent the statement is characterizing positions taken by the RGCC.

108. To address the potential for Project operations to impact New Mexico's (and Texas's) Compact apportionment, the RGCC has taken at least these three actions by resolution:

a. First, the RGCC unanimously "request[ed] that the Bureau of Reclamation work cooperatively with the Engineer Advisers to develop procedures for determining the annual allotments of water supply in accordance with the Rio Grande Compact." NM-EX 408, Rio Grande Compact Commission, Resolution of the Rio Grande Compact Commission Regarding the Development of an Appropriate Methodology for Determining the annual Allocation of Usable Water in Rio Grande Project Storage (Mar. 21, 2002); see also NM- EX 002, D'Antonio Decl. ¶ 15, NM-EX 003, Lopez Decl. ¶ 16.

b. Second, the RGCC entered into a memorandum of understanding ("MOU") with Reclamation to "conduct a Compact water accounting documentation project." The purpose of the MOU was "to clarify and formally articulate the details of the duties, roles and responsibilities of each party for the water accounting, reporting, and documentation of the waters of the Rio Grande Basin above Fort Quitman, Texas, in accordance with the Compact." NM-EX 407, Memorandum of Understanding between the Rio Grande Compact Commission and the United States Bureau of Reclamation, 2 (Mar. 21, 2002); see also NM-EX 002, D'Antonio Decl. ¶ 15, NM-EX 003, Lopez Decl. ¶ 16.

c. Third, the RGCC unanimously "request[ed] those federal agencies that operate water-related facilities within the Rio Grande basin to advise the Rio Grande Compact Commission prior to changing the operation of any of those facilities and when deemed necessary by the Rio Grande Compact Commission, seek its unanimous consent for changes prior to implementation." NM-EX 413, Rio Grande Compact Commission, Resolution of the Rio Grande Compact Commission Concerning Federal Agency Operations of Their Water-Related Facilities on the Rio Grande Compact Accounting (Mar. 25, 2004); NM-EX 002, D'Antonio Decl. ¶ 15, NM-EX 003, Lopez Decl. ¶ 16.

RESPONSE: Not disputed.

VII. DECISION OF THE SUPREME COURT ON THE COMPACT APPORTIONMENT

109. The Court held in this case that "the Compact . . . implicitly . . . incorporates the Downstream Contracts by reference." Texas v. New Mexico, 138 S. Ct. at 959. It noted that the "Compact is inextricably intertwined with the Rio Grande Project and the Downstream Contracts." Texas v. New Mexico, 138 S. Ct. at 959.

RESPONSE: Disputed. The citation elides a number of significant points. The quoted passage reads in full:

> First, the Compact is inextricably intertwined with the Rio Grande Project and the Downstream Contracts. The Compact indicates that its purpose is to "effec[t] an equitable apportionment" of "the waters of the Rio Grande" between the affected States. 53 Stat. 785. Yet it can achieve that purpose only because, by the time the Compact was executed and enacted, the United States had negotiated and approved the Downstream Contracts, in which it assumed a legal responsibility to deliver a certain amount of water to Texas. In this way, the United States might be said to serve, through the Downstream Contracts, as a sort of "'agent' of the Compact, charged with assuring that the Compact's equitable apportionment" to Texas and part of New Mexico "is, in fact, made." Texas's Reply to Exceptions to the First Interim Report of the Special Master 40. Or by way of another rough analogy, the Compact could be thought implicitly to incorporate the Downstream Contracts by reference. Cf. 11 R. Lord, Williston on Contracts § 30:26 (4th ed. 2017). However described, it is clear enough that the federal government has an interest in seeing that water is deposited in the Reservoir consistent with the Compact's terms. That is what allows the United States to meet its duties under the Downstream Contracts, which are themselves essential to the fulfillment of the Compact's expressly stated purpose.

Texas v. New Mexico, 138 S. Ct. 954, 959 (2018).

110. The Court further held that "the United States might be said to serve, through the Downstream Contracts as a sort of agent of the Compact, charged with assuring that the Compact's equitable apportionment to Texas and part of New Mexico is, in fact, made." Texas v. New Mexico, 138 S. Ct. at 959 (emphasis added; internal quotation marks omitted).

RESPONSE: Disputed. The United States disputes the characterization of this statement as a holding. The United States does not dispute this statement if "held" is changed to "stated."

111. In the Downstream Contracts, and in particular in the 1938 Downstream Contract, "the federal government promised to supply" Project water to the New Mexico water district Elephant Butte Irrigation District ("EBID") and to the Texas water district EPCWID (collectively, the "Districts") in accordance with their irrigable acres within the Project—"roughly 57% for New Mexico and 43% for Texas." Texas v. New Mexico et al., 138 S. Ct. at 957.

RESPONSE: Disputed. In the 1937 contract with EBID (NM-EX 320), and the 1937 contract with EPCWID (NM-EX 321), the United States agreed to supply water from the Project to each district. The 1938 contract (NM-EX 324) was an agreement between EBID and EPCWID, approved by the Assistant Secretary of the Interior. It established for the first time the number of irrigable acres in each district, approximately 67,000 acres in EPCWID and approximately 88,000 acres in EBID. *Id.* The contract also provides that "in the event of a shortage of water for irrigation in any year, the distribution of the available supply in such year, shall so far as practicable, be made in the proportion of 67/155 to the lands within [EPCWID] and 88/155 to the lands within [EBID]." *Id.* The contract thus provides for a proportionate division only in shortage years, and only "so far as practicable." It does not reflect "a promise by the United States to supply Project water to the districts "in accordance with their irrigable acres within the Project," as New Mexico contends.

VIII. OPERATION OF THE RIO GRANDE PROJECT

A. General Features of the Rio Grande Project

112. Water rights associated with the Project comprise the largest surface water rights in the Lower Rio Grande ("LRG"). In addition to Project water rights, there are a few pre-Project surface water rights in the New Mexico part of the LRG. New Mexico water laws and regulation protect the senior water rights of the Rio Grande Project. See NM-EX 006, Barroll 2d Decl. at ¶ 76; see also NM-EX 007, D'Antonio 2d Decl. at ¶ 37.

RESPONSE: Not disputed.

113. The actual irrigated acreage within the Project in 1938 was approximately 140,000 acres, about 20,000 acres less than the full irrigated acreage authorized in the 1938 Downstream Contract. The irrigated area within the Project increased gradually through the 1940s, reaching its maximum extent of about 160,000 acres in the early 1950s. It has gradually declined in both New Mexico and Texas ever since. However, the actual irrigated acreage within the Project fluctuates from year to year based on a number of factors, including water supply, planting and fallowing decisions by individual farmers, and urbanization. See NM-EX 012, Sullivan Decl. at ¶ 44; see also NM- EX 112, Spronk Rep. at 43 & Fig. 5-4.

RESPONSE: Disputed. The term "authorized" is vague and ambiguous, and the statement is disputed on that basis. The Project does not have a congressionally authorized acreage; the acreage is contractually agreed upon, not "authorized." The United States does not dispute that irrigated acreage within the Project in 1938 was approximately 140,000 acres, and increased gradually through the 1940s, reaching its maximum extent of about 160,000 acres in the early 1950s. However, the acreage fluctuated up and down with an overall downward trend and has not gradually declined ever since the early 1950s.

114. The total amount of irrigated acreage in New Mexico today is approximately 75,000 acres. Taking this change into account, the total volume of irrigation water applied in the New Mexico

portion of the Project is consistent with the irrigation demand in New Mexico during the 1940s and 1950s. See NM-EX 006, Barroll 2d Decl. at ¶¶ 24-25; cf. NM-EX 432, Narenda N. Gunaji, Engineering Experiment Station, New Mexico State University, Groundwater Conditions in the Elephant Butte Irrigation District, at 3, 19 (1961) (reporting per-acre demand figures during the 1950s); NM-EX 343, C.S. Conover, Preliminary Memorandum on Groundwater Supplies for Elephant Butte Irrigation District, New Mexico, at 6 (Sept. 1947) (reporting demand figures for the 1940s).

RESPONSE: Disputed. The term "irrigation demand" is vague and ambiguous, the statement is disputed on that basis. Irrigation demand could refer to consumptive irrigation requirement (CIR), total farm delivery requirement (TFDR), diversion demand at canal headings, or something else. Further, overall annual agricultural consumptive use in the Rincon and Mesilla Valleys increased by approximately 15% between 1938 and 2018 (see Kimmelshue expert rpt., May 2019, p. 81); see also Schorr and Kikuchi expert rpt., May 2019, p. 35-36, Figs 2.6-2.7 (also concluding that consumptive use of irrigation water has increased over this period.

115. *The Project is operated by the United States Bureau of Reclamation ("Reclamation"). The operations of the Project include the allocation and delivery of Project water stored in Elephant Butte and Caballo reservoirs to the Districts and to Mexico. NM-EX 001, Declaration of P. Barroll [hereinafter "Barroll Decl."], ¶ 14; NM-EX 003, Lopez Decl., ¶ 19; see also e.g., NM-EX 529, Bureau of Rec., Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement [hereinafter "FEIS"] at 3–4 (Sep. 30, 2016).*

RESPONSE: Not disputed.

116. The Rio Grande Project is a federal Reclamation Project, therefore neither Texas nor New Mexico have a direct role in the operation of the Project. See NM-EX 202, Cortez Dep. (Vol. I) (July 30, 2020), 63:18-69:2; NM-EX 211, Gordon Dep. (Vol. I) (July 14, 2020), 89:4-11, 172:13- 22.

RESPONSE: Not disputed.

117. Specifically, although New Mexico retains administrative jurisdiction over the surface water of the Rio Grande Project, the New Mexico State Engineer has no involvement in day-to-day Project operations, including orders and deliveries. NM-EX 206, D'Antonio Dep. (Vol. IV) (Aug. 14, 2020), 93:12-96:7.

RESPONSE: Not disputed, with the clarification that New Mexico retains regulatory jurisdiction of surface waters, subject to its Compact obligations not to interfere with the Project.

118. Reclamation operates Elephant Butte Reservoir as part of the principal storage infrastructure for the Rio Grande Project. See NM-EX 202, Cortez Dep. (July 30, 2020) at 56:20- 58:3.

RESPONSE: Not disputed.

119. At the time the Compact was executed, 88,000 authorized Project acres were situated within EBID in New Mexico, and 67,000 authorized Project acres were situated in EPCWID in Texas. NM-EX 328, Frank B. Clayton, Rio Grande Compact Commissioner, State of Texas, to Sawnie B. Smith (Oct. 4, 1938). Thus, approximately 57% of Project acreage was located in New Mexico, and 43% of Project acreage was located in Texas. NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, Final Environmental Impact Statement, at 4 (Sept. 30, 2016). [Apportionment UMF No. 53].

RESPONSE: Not disputed.

120. In operation of the Rio Grande Project, Reclamation is responsible to control releases of Project supply from Elephant Butte and Caballo reservoirs to assure delivery of all ordered water to the canal diversions. This function includes monitoring the river to determine gains and losses throughout the river reaches between stream gages. See NM-EX 202, Cortez Dep. (July 30, 2020) at 34:12-35:5. [Notice UMF No. 21].

RESPONSE: Disputed. The United States does not dispute the factual assertion that Reclamation is responsible for controlling releases from Elephant Butte and Caballo reservoirs to the extent it is consistent with Mr. Cortez's Deposition. NM-EX-202, Cortez 7/30/20 Dep. Tr., 34:12-35:5. However, neither Mr. Cortez's deposition testimony nor the document he is discussing, FC3, reflects that Reclamation has the responsibility "to assure delivery of all ordered water to the canal diversions" or that this "function includes monitoring the river to determine gains and losses throughout the river reaches between the stream gages." *Id*.

121. The Project beneficiary in New Mexico is [EBID]. EBID is a New Mexico entity created by New Mexico statute and subject to New Mexico law. See Motion of Elephant Butte Irrigation District for Leave to Intervene, and Memorandum and Points of Authority, 2 (Dec. 3, 2014); see also NM-EX 302, Elephant Butte Water Users Association, Articles of Incorporation (Dec. 22, 29, 1904); NM-EX 112, Stevens Rep. at 18; NM-EX 111, Miltenberger Rep. at 9. [Apportionment UMF No. 50].

RESPONSE: Not disputed.

122. The Project beneficiary in Texas is [EPCWID]. EPCWID is a Texas entity created by Texas statute and subject to Texas law. See Motion of El Paso County Water Improvement District No. 1 for Leave to Intervene as Plaintiff, Complaint in Intervention, and Memorandum in Support of Motion to Intervene as Plaintiff, 1-3 (Apr. 22, 2015); see also NM-EX 304, El Paso Valley Water Users' Association, Articles of Incorporation (Mar. 31, 1905); NM-EX 112, Stevens Rep. at 18; NM-EX 111, Miltenberger Rep. at 9. [Apportionment UMF No. 51].

RESPONSE: Not disputed.

123. Once delivered to the Elephant Butte Reservoir, Project water is allocated to the Rio Grande Project beneficiaries in southern New Mexico and in Texas. See NM-EX 220, Miltenberger Dep. (June 8, 2020) at 38:22-39:6. The Project water users are located in [EBID] and [EPCWID] (referred to jointly as "Districts"). See Motion of Elephant Butte Irrigation District for Leave to Intervene, and Memorandum and Points of Authority, 2 (Dec. 3, 2014); Motion of El Paso County Water Improvement District No. 1 for Leave to Intervene as Plaintiff, Complaint in Intervention, and Memorandum in Support of Motion to Intervene as Plaintiff, 1-3 (Apr. 22, 2015); NM-EX 112, Stevens Rep. at 18; NM-EX 111, Miltenberger Rep. at 9. [Notice UMF No. 3].

RESPONSE: Disputed. "Project water" is not a term defined by the Compact and is ambiguous. Water delivered to Elephant Butte Reservoir, exclusive of credit water and imported water from the San Juan Chama Project, becomes "usable water." Art. I(*l*), 53 Stat. 786; *see also* U.S. Mem. 8, ¶ 31 & n.31. This usable water is available for release in accordance with irrigation demands, including deliveries to Mexico. Art. I(*l*), 53 Stat. 786; *see also* U.S. Mem. 8, ¶ 33. Thus, all usable water is not allocated to Rio Grande Project beneficiaries in southern New Mexico and in Texas, nor are all users of the usable water located in EBID or EPCWID.

124. Although the Compact defines a "normal release" from Project Storage of 790,000 acre-feet, the release has been less than 790,000 acre-feet/year in all but 13 years since 1938. Further, many of those years in which the release exceeded 790,000 acre-feet/year were years in which a spill occurred. See NM-EX 008, Lopez 2d Decl. at ¶ 19; see also NM-EX 122, Sullivan & Welsh 2d Rep. ("Spronk Rep.") at 41, 180.

RESPONSE: Not Disputed.

125. The term "Project Supply" means the Usable Water released from Caballo Dam, plus Project return flows and inflows occurring below Caballo Dam, that can be allocated and delivered to the beneficiaries of the Project—namely EBID and EPCWID—and to Mexico. Not all water delivered into Elephant Butte Reservoir constitutes "Project Supply" because some water evaporates in storage, constitutes water in storage other than Useable Water (e.g., Credit Water), or may be used to satisfy pre-Compact water rights. See NM-EX 006, Barroll 2d Decl. at ¶ 10; see also NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement, at 3–5 (Sept. 30, 2016). [Similar language in Full Supply UMF no. 4].

RESPONSE: Disputed. New Mexico's proposal to define "Project supply" in a particular way for purposes of litigation is not a statement of fact. New Mexico may define "Project supply" however it chooses for purposes of litigation, unless it is intending to capture the definition used in a particular document. The United States has characterized the water supply available to the Project in various ways over time. *See, e.g.*, NM-EX-510, 2008 Operating Agreement 2, (defining "Project water" as including "usable water in Project Storage," "all water required by the Rio Grande Compact to be delivered into Elephant Butte Reservoir," and "all water released from Project storage and all inflows reaching the bed of the Rio Grande between Caballo Dam and Fort

Quitman, Texas."); NM-EX-400, Allocation Procedures, at 9 (attachment to Water Supply Allocation Procedures defining "Project Water Supply" as "stored water legally available for release from Elephant Butte and Caballo Reservoirs and including the legally appropriated waters reaching the bed of the Rio Grande between Caballo Dam and Riverside Diversion Dam.").

126. Project return flows form part of Project Supply. Project return flows available for use within the Project were historically generated within the Rincon Valley in New Mexico, the Mesilla Valley in New Mexico and Texas, and the El Paso Valley above the Tornillo heading in Texas. Project return flows that are associated with irrigation, by and large, return through Project drains and wasteways. See NM-EX 006, Barroll 2d Decl. at ¶¶ 46-47, 49; see also NM-EX 100, Barroll Rep. at 26-30; Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation 100 (1937) (produced at TX_MSJ_000132); NM-EX 122, Spronk Rep. at 24-32; NM-EX 424, C.S. Conover, Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico, at 45-50 (1954).

RESPONSE: Disputed. The term "Project Supply" is not defined, is vague and ambiguous. The word "historically" is vague and ambiguous. Further, seepage from irrigation contribute a significant amount of return water to the river. In addition, in Texas, return flows through drains in the El Paso Valley were substantially reduced by rectification and use of return flows through drains in El Paso Valley was often limited due to their high salinity content. NM-EX 100, Barroll Rep. at 51, 56-6.

127. Return flows vary spatially and temporally depending on many factors, including hydrologic conditions and Project operations. See NM-EX 012, Sullivan Decl. at ¶¶ 26, 35.

RESPONSE: Not disputed.

128. The flow in Project drains is a component of total Project return flows. Drain flows comprise a number of sources of water, including groundwater seepage, wastewater, tailwater, and on-farm runoff. Drain flows vary throughout the year depending on many factors, including the timing and volume of surface water deliveries and irrigation applications, weather conditions, and other factors. See NM-EX 012, Sullivan Decl. at ¶¶ 30, 31, 34; see also NM-EX 122, Spronk Rep. at 225; NM-EX 123, Spronk Reb. Rep. at 170-71.

RESPONSE: Not disputed, with the clarification that groundwater pumping in particular has a strong influence on drain flows.

129. Project Allocations are the amount of Project supply each District (EBID and EPCWID) is entitled to order (take) from the Project, each year, and the amount Mexico is entitled to receive by Treaty. NM-EX 001, Barroll Decl., ¶ 18; NM-EX 003, Lopez Decl., ¶ 23; NM-EX 307, Convention between the United States and Mexico: Equitable Distribution of the Waters of the Rio Grande [hereinafter "Treaty"] (May 21, 1906); NM-EX 529, FEIS at 4.

RESPONSE: Disputed. New Mexico's proposal to define "Project Allocations" in a particular way for purposes of litigation is not a statement of fact. New Mexico may define "Project Allocations" however it chooses for purposes of litigation, unless it is intending to capture the definition used in a particular document. The United States disputes the definition because "entitled" is ambiguous and apparently reflects a conclusion of law. Reclamation uses the term "diversion allocation." As stated in the FEIS, "Reclamation allocates RGP water supplies such that the diversion allocations to EBID and EPCWID are proportionate to each district's respective acreages." NM-EX529 FEIS, at 25 (pdf page). The FEIS continues, "[t]he annual diversion allocation is the quantity of RGP water that is allocated each year for delivery to EBID, EPCWID, and Mexico at their respective diversion headings." *Id.* By treaty, Mexico receives 60,000 acre feet per year, except in cases of extraordinary drought or serious accident to the irrigation system, whereby the amount delivered shall be diminished in the same proportion as the water delivered to lands in the United States. NM-EX-307, Convention between the United States and Mexico: Equitable Distribution of the Waters of the Rio Grande (May 21, 1906).

130. Reclamation determines Project Allocations before the beginning of the irrigation season and updates the Project Allocations as necessary throughout the season. See NM-EX 006, Barroll 2d Decl. at ¶ 11.

RESPONSE: Disputed. Reclamation makes a diversion allocation determination before the beginning of the irrigation season and updates the Project Allocations as necessary throughout the season.

131. Historically, Reclamation calculated and declared the allocation of Project supply available to lands in New Mexico, lands in Texas, and Mexico on the basis of water in storage available for release and on historical return flows to the Rio Grande. NM-EX 506, Cortez Aff. at ¶ 7 (Apr. 20, 2007); NM-EX 200, Barroll Dep. (Aug. 10, 2020) at 393:3-5; NM-EX 219, Lopez Dep. (Aug. 21, 2020) at 40:13-20; NM-EX 107, Lopez Rep. at 5-6. [Apportionment UMF No. 67].

RESPONSE: Not disputed, to the extent that "historically" refers to operations before 1979.

132. The allocation of Project supply available for lands in the two States was historically equally divided to all Project lands on an acre foot per acre basis. NM-EX 506, Cortez Aff. at ¶ 8 (Apr. 20, 2007); NM-EX 108, Lopez Reb. Rep. at 7-9; NM-EX 210, Ferguson Dep. (Feb. 20, 2020) at 240:25-241:5; NM-EX 214, King Dep. (May 18, 2020) at 115:13-25. [Apportionment UMF No. 60].

RESPONSE: **Disputed**. The term "allocation of Project supply available for lands" is ambiguous. Reclamation historically announced an amount of water available to Project lands on an acre-feet per acre basis based on the amount of water in storage at the start of the irrigation season. *See* NM-EX-323, United States Reclamation Service, Project History, Rio Grande Project Year 1937, at NM_00024896-7. Allotments were updated

during the irrigation season based on inflows to Project storage and observed "operating efficiency" over the course of the season. US0220403, Memorandum of Conversation re: 1906 Treaty Deliveries to Mexico (June 29, 1956), at 2. Water was not delivered to lands based on an equal acre-foot per acre basis; water was delivered to fulfill farm orders. *See* New Mexico Statement of Fact No. 59 (above).

133. Reclamation releases Usable Water from Project Storage for delivery to Project beneficiaries and to Mexico as part of the operations of the Rio Grande Project. Releases are made in response to orders by the Districts, and in accordance with each year's schedule of deliveries to Mexico. See NM-EX 006, Barroll 2d Decl. at ¶ 9; see also NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement, at 3-5 (Sept. 30, 2016).

RESPONSE: Not disputed.

134. The Rio Grande Compact incorporates the Rio Grande Project as the mechanism by which water users in Texas (EPCWID) receive the State's equitable apportionment of the waters of the Rio Grande. See NM-EX 212, Gordon Dep. (July 15, 2020) at 14:22-16:10; Texas's Reply to Exceptions to First Interim Report of Special Master, 40 (July 28, 2017); see also First Interim Report of the Special Master, 194-95 (Feb. 9, 2017); Texas's Reply to Exceptions to First Interim Report of Special Master, 40 (July 28, 2017); Reply Brief for the United States on Exceptions by the States of New Mexico and Colorado to the First Interim Report of the Special Master, 18 (July 2017). [Notice UMF No. 6].

RESPONSE: Disputed. The express language of the Compact does not incorporate the Rio Grande Project. This assertion by New Mexico is an incomplete conclusion of law that ignores several significant points. The Supreme Court's discussion of the Compact's implicit "incorporation" of the Downstream Contracts reads in full:

> First, the Compact is inextricably intertwined with the Rio Grande Project and the Downstream Contracts. The Compact indicates that its purpose is to "effec[t] an equitable apportionment" of "the waters of the Rio Grande" between the affected States. 53 Stat. 785. Yet it can achieve that purpose only because, by the time the Compact was executed and enacted, the United States had negotiated and approved the Downstream Contracts, in which it assumed a legal responsibility to deliver a certain amount of water to Texas. In this way, the United States might be said to serve, through the Downstream Contracts, as a sort of "'agent' of the Compact, charged with assuring that the Compact's equitable apportionment" to Texas and part of New Mexico "is, in fact, made." Texas's Reply to Exceptions to the First Interim Report of the Special Master 40. Or by way of another rough analogy, the Compact could be thought implicitly to incorporate the Downstream Contracts by reference. Cf. 11 R. Lord, Williston on Contracts § 30:26 (4th ed. 2017). However described, it is clear enough that the federal government has an interest in seeing that water is deposited in the Reservoir consistent with the Compact's terms. That is what allows the United States

> to meet its duties under the Downstream Contracts, which are themselves essential to the fulfillment of the Compact's expressly stated purpose.
>
> *Texas v. New Mexico*, 138 S. Ct. 954, 959 (2018).

135. [Duplicate (please refer to NM-CSMF ¶ 125)].

RESPONSE: no response necessary.

136. Project Allocations are the amount of Project supply each District (EBID and EPCWID) is entitled to order (take) from the Project, each year, and the amount Mexico is entitled to receive by Treaty. NM-EX 001, Barroll Decl., ¶ 18; NM-EX 003, Lopez Decl., ¶ 23; NM-EX 307, Convention between the United States and Mexico: Equitable Distribution of the Waters of the Rio Grande (May 21, 1906); NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement, at 4 (Sep. 30, 2016). [Full Supply UMF No. 7].

RESPONSE: Disputed. New Mexico's proposal to define "Project Allocations" in a particular way for purposes of litigation is not a statement of fact. New Mexico may define "Project Allocations" however it chooses for purposes of litigation, unless it is intending to capture the definition used in a particular document. The United States disputes the definition because "entitled" is ambiguous and apparently reflects a conclusion of law. Reclamation uses the term "diversion allocation." As stated in the FEIS, "Reclamation allocates RGP water supplies such that the diversion allocations to EBID and EPCWID are proportionate to each district's respective acreages." NM-EX529 FEIS, at 25 (pdf page). The FEIS continues, "[t]he annual diversion allocation is the quantity of RGP water that is allocated each year for delivery to EBID, EPCWID, and Mexico at their respective diversion headings." Id. By treaty, Mexico receives 60,000 acre feet per year, except in cases of extraordinary drought or serious accident to the irrigation system, whereby the amount delivered shall be diminished in the same proportion as the water delivered to lands in the United States. NM-EX-307, Convention between the United States and Mexico: Equitable Distribution of the Waters of the Rio Grande (May 21, 1906).

137. The Project has changed significantly since 1938. Major changes to the Project include but are not limited to: completion of the Rectification and Canalization projects, proliferation of groundwater wells in both states and in Mexico, Project acreage buildout then reduction in irrigated acreage, changes in on-farm irrigation efficiencies, changes in crop mix, urbanization of Project area, growth of municipal water demands with significant amounts of that demand being supplied by the Project, significant Project accounting changes, infrastructure changes (e.g., construction of the American Canal and its Extension), designation of wastewater treatment plant treated effluent as non-Project water, transfer of ownership and operation of Project infrastructure from Reclamation to the Districts, and significantly modified Project operations under the 2008 Operating Agreement. NM-EX 008, Lopez 2d Decl. at ¶ 33; see also NM-EX 107, Lopez Rep. at 12-13, 33, 35, 43-48, 62-65; NM-EX 100, Barroll Rep. at 53-60, Appx. C.

RESPONSE: Disputed. The terms "significantly" and "significant" are subjective and the statement is disputed on that basis. Specifically, the United States disputes that there was a proliferation of new wells in the Texas portion of the Project compared to the number of new wells in the New Mexico portion of the Project. Further, the "designation of wastewater treatment plant treated effluent as non-Project water" is disputed. The definition of Project water has not changed. Effluent that is no longer discharged into the Rio Grande is not considered Project Water.

138. The cropping pattern in the Project has changed throughout the history of the Project. NM-EX 006, Barroll 2d Decl. at ¶ 23; see also NM-EX 101, Barroll Reb. Rep. at 5.

RESPONSE: Not disputed.

B. Operation of the Rio Grande Project Prior to the Compact

139. Under the Reclamation Act, Congress intended that water projects would be self-supporting, and each would generate sufficient revenue to cover the approximate costs of construction and operation and maintenance. Thus, Reclamation intended for the total estimated costs of the Rio Grande Project to be equitably borne by its beneficiaries. NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, Final Environmental Impact Statement, at 3 (Sept. 30, 2016); NM-EX 005, Stevens Decl. at ¶ 13. [Apportionment UMF No. 49].

RESPONSE: Disputed. "Equitably," as used in the statement, is ambiguous, and the statement is disputed on that basis. The United States does not dispute the statement if "equitably" is deleted.

140. To comply with the principle that the beneficiaries equitably bear the costs of the Project, Reclamation entered into contracts with EBID and EPCWID to establish the repayment obligations between the two districts based on the irrigable acreage within each district. NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, Final Environmental Impact Statement, at 4 (Sept. 30, 2016); e.g., NM-EX 308, Articles of Agreement between the United States of America, Elephant Butte Water Users Association, and El Paso Valley Water Users' Association (June 27, 1906) ("1906 Contract"); NM-EX 321, Contract between the United States and the El Paso County Water Improvement District No. 1 adjusting construction charges and for other purposes (Nov. 10, 1937) (reciting amendments to 1906 Contact); NM-EX 320, Contract between the United States and the Elephant Butte Irrigation District adjusting construction charges and for other purposes (Nov. 9, 1937) (same); NM-EX 326, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938) ("1938 Downstream Contract"). [Apportionment UMF No. 52].

RESPONSE: Disputed. As noted above, "equitably" is ambiguous, and the statement is disputed on that basis. The United States does not dispute the statement if the term "equitably" is deleted.

141. In 1937 and 1938, Congress authorized the execution of amended repayment contracts with EBID and EPCWID. These contracts addressed the repayment obligations of the Districts and established a corresponding right of use to a proportion of the annual Project water supply during times of shortage based on an established irrigation acreage in each District: 57% to EBID in New Mexico, and 43% to EPCWID in Texas. NM-EX 107, Lopez Rep. at 26-27; NM-EX 109, Lopez Suppl. Reb. Rep. at 6-7; see, e.g., NM-EX 308, Articles of Agreement between the United States of America, Elephant Butte Water Users Association, and El Paso Valley Water Users' Association (June 27, 1906); NM-EX 321, Contract between the United States and the El Paso County Water Improvement District No. 1 adjusting construction charges and for other purposes (Nov. 10, 1937); NM-EX 320, Contract between the United States and the Elephant Butte Irrigation District adjusting construction charges and for other purposes (Nov. 9, 1937); NM-EX 324, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938) ("1938 Downstream Contract"). Collectively, these contracts are known as the "Downstream Contracts." [Apportionment UMF No. 57].

RESPONSE: Disputed. The 1937 contracts between the Secretary and the Districts do not provide for a "right of use to a proportion of the annual Project water supply during times of shortage based on an established irrigation acreage in each District." *See* NM-EX-320, 1937 EBID Contract; NM-EX-321, 1937 EPCWID Contract. The 1938 contract between EBID and EPCWID states that "in the event of a shortage of water for irrigation in any year, the distribution of the available supply in such year, shall so far as practicable, be made in proportion" to the acreage. NM-EX-324, 1938 Contract. The contract does not establish a "right of use."

142. For example, the 1938 Downstream Contract quantified the authorized irrigable acreage within each district as 88,000 acres in EBID, and 67,000 acres in EPCWID (for a total of 155,000 Project acres). It goes on to state that in the event of a shortage of water, "the distribution of the available supply in such a year, shall so far as practicable, be made in the proportion of 67/155 [43%] thereof to the lands within [EPCWID], and 88/155 [57%] to the lands within [EBID]." NM-EX 324, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938); NM-EX 107, Lopez Rep. at 26-27; NM-EX 001, Barroll Decl. at ¶19. [Apportionment UMF No. 58; similar language in Notice UMF No. 5; Full Supply UMF No. 8].

RESPONSE: Not disputed.

143. The 1938 Downstream Contract is not itself a repayment contract between a district and Reclamation. Rather, it is a contract between the Districts and approved by Reclamation that reflects the Districts' agreement concerning the revised 1937 repayment contracts. See NM-EX 008, Lopez 2d Decl. at ¶ 29; see also NM-EX 321, Contract between the United States and the El Paso County Water Improvement District No. 1 adjusting construction charges and for other purposes (Nov. 10, 1937); NM-EX 320, Contract between the United States and the Elephant Butte Irrigation District adjusting construction charges and for other purposes (Nov. 9, 1937); NM-EX 324, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938).

RESPONSE: Disputed. This statement is a legal characterization of the 1938 contract and not a statement of fact. To the extent a legal characterization may be drawn from the contract, the document speaks for itself and is the best source of its contents.

144. The Downstream Contracts generally restrict use of available Project Supply to irrigation purposes on authorized Project lands. However, both the purpose of use and the place of use are subject to modification through execution of Miscellaneous Purposes contracts under the Sale of Water for Miscellaneous Purposes Act of 1920. See NM-EX 008, Lopez 2d Decl. at ¶ 27; see also NM-EX 308, Articles of Agreement between the United States of America, Elephant Butte Water Users Association, and El Paso Valley Water Users' Association (June 27, 1906); NM-EX 321, Contract between the United States and the El Paso County Water Improvement District No. 1 adjusting construction charges and for other purposes (Nov. 10, 1937); NM-EX 320, Contract between the United States and the Elephant Butte Irrigation District adjusting construction charges and for other purposes (Nov. 9, 1937); NM-EX 324, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938

RESPONSE: Disputed. The term Project Supply, is undefined, vague and ambiguous and the statement is disputed on that basis. Further, the statement is a legal characterization of the 1938 contract and not a statement of fact. To the extent a legal characterization may be drawn from the contract, the document speaks for itself and is the best source of its contents.

145. The Downstream Contracts do not address depletions, whether in New Mexico, Texas, or Mexico, that may affect available Project Supply. See NM-EX 008, Lopez 2d Decl. at ¶ 28; see also NM-EX 308, Articles of Agreement between the United States of America, Elephant Butte Water Users Association, and El Paso Valley Water Users' Association (June 27, 1906); NM-EX 321, Contract between the United States and the El Paso County Water Improvement District No. 1 adjusting construction charges and for other purposes (Nov. 10, 1937); NM-EX 320, Contract between the United States and the Elephant Butte Irrigation District adjusting construction charges and for other purposes (Nov. 9, 1937); NM-EX 324, Contract Between Elephant Butte Irrigation District and El Paso County Water Improvement District No. 1 (Feb. 16, 1938).

RESPONSE: Disputed. The terms "Project Supply" and "depletions" are vague and ambiguous and the statement is disputed on that basis. This statement is a legal characterization of the 1938 contract and not a statement of fact. To the extent a legal characterization may be drawn from the contract, the document speaks for itself and is the best source of its contents.

146. **[a]** *At the time the Compact was signed, Reclamation had been operating the Project, in its entirety, as a single unit for over twenty years.* **[b]** *During that time, the Project operated under Reclamation law. See, e.g., NM-EX 318, Harlow M. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, 8 (1937); NM-EX 005, Stevens Decl. ¶ 9.*

RESPONSE:
[a] Disputed. As noted in response to Statement No. 40, "as a single unit" is ambiguous, and "in its entirety," as used in this statement is also ambiguous. Statement No. 146 is disputed because of those ambiguities. The United States does not dispute the statement if "in its entirety, as a single unit" is deleted.

[b] Not disputed, insofar as the Project has always been operated pursuant to federal reclamation law. The term "operated under Reclamation law" as used in the statement is disputed if given any other construction.

147. In the years prior to the Compact being signed (1928-37), the average release from the Project was 780,640 acre-feet to satisfy irrigation demands on Project lands in both New Mexico and Texas. NM-EX 323, United States Reclamation Service, Project History Rio Grande Project Year 1937 (1938).

RESPONSE: Disputed. The 1937 Project History contains a report, dated May 3, 1937, that states that the average annual release "for the past 10 years" was 780,640 acre-feet. That 10-year period would have been 1927 to 1936, not 1928 to 1937. The report does not state that this release actually did "satisfy" irrigation demands, or that the release was made solely to meet the irrigation demands in the districts and excluded the release to Mexico. *See* NM-EX 323, at pdf p.27. In several years, the annual release exceeded 820,000 acre-feet. *See, e.g.* Project History for 1932, US0178115, at US0178127 (in U.S. Supp. App.); Project History for 1933, US0178318 at US0178330 (in U.S. Supp. App.).

148. In the years prior to the Compact being signed, the Project would set an equal allotment for each Project acre to satisfy irrigation demands. NM-EX 323, United States Reclamation Service, Project History Rio Grande Project Year 1937 (1938). The amount of water that was actually used on each acre depended on the amount called for by the individual farmers. See NM- EX 202, Cortez Dep. (Vol. I) (July 30, 2020), 18:10-22; Ex.100, Margaret Barroll, Ph.D, Expert Report of Margaret Barroll, Ph.D., 32 (Oct. 31, 2019) ("Barroll Rep.).

RESPONSE: Disputed. The Project did not set an allotment every year. In years with higher starting levels of reservoir storage (such as 1932, 1933, and 1934), the Project Histories do not reflect that any per-acre allotment was set. *See* Project History for 1932, US0178115, at US0178127, US0178201-202 (showing one notice regarding irrigation deliveries); Project History for 1933, US0178318, at US0178328, US0178391-392 (showing one notice regarding irrigation deliveries); Project History for 1934, US0178513, at US0178523. In years without allotments, Reclamation allowed farmers to take more than the "irrigation duty" of water, which was assumed to be 3 af/ac (after accounting for on-farm distribution losses) but did not represent an "allotment." NM-EX 323 at pdf 22 (Division Memorandum dated July 15, 1937 in the United States Reclamation Service, Project History Rio Grande Project Year 1937 (1938)). In years with lower initial reservoir storage (such as 1935), Reclamation set an initial allotment but sometimes raised it over the course of the year as more water came in to storage. *See* Project History for 1935, US0178674**,** US0178737-742**.** *See also* NM-EX-323, July 1937

Mem., at pdf 22. Delivery records also showed that the amount of water delivered per acre in any given year was not equal but varied across the different divisions of the Project. *See, id.* at 48 of pdf. At the time the Compact was signed, Reclamation had been operating the Project, in its entirety, as a single unit for over twenty years. During that time, the Project operated under Reclamation law. *See, e.g.*, NM-EX 318, Harlow M. Stafford et al., *Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation*, 8 (1937);NM-EX 005, Stevens Decl. at ¶ 9. [Apportionment UMF No. 54].

149. Prior to the Compact, return flow, generated both in New Mexico and Texas, was a substantial part of Project deliveries to EPCWID. EPCWID headings diverted return flows generated in the upper part of the El Paso Valley as well as municipal effluent generated by the City of El Paso. See NM-EX 006, Barroll 2d Decl. at ¶ 50; see also NM-EX-100, Barroll Rep. at 14, Appx. C, C8; NM-EX-101, Barroll Reb. Rep. at 25. The data in Table 90 of the RGJI reflects the diversion of return flows arising in the El Paso Valley. See Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 13 (1937) (produced at TX_MSJ_000132); see also Figure 6, Texas's Motion for Partial Summary Judgment; Memorandum of Points and Authorities in Support Thereof (produced at TX_MSJ_000131 and 1579). The percentages of return flows shown throughout Table 90 of the RGJI reflect the return flows occurring during the 1930-1936 period. At the time of the negotiation of the Compact, the return flows generated within the El Paso Valley were an integral part of Project Supply. See Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 100 (1937) (produced at TX_MSJ_000132); NM-EX 100, Barroll Rep. at Appx. C.; NM-EX 101, Barroll Reb. Rep. at 24-36;
NM-EX 103 Barroll 2d Suppl. Reb. Rep. at 21-30.

RESPONSE: Disputed. The term "return flows" is not defined, is vague and ambiguous and the statement is disputed on that basis. The United States agrees that return flows were and remain a substantial part of Project deliveries to EPCWID. Further, the United States agrees that prior to the Compact, return flows were generated in both New Mexico and Texas; that prior to the Compact, EPCWID diverted return flows generated in the El Paso Valley above Tornillo diversion dam; and that prior to the Compact, EPCWID diverted return flows from City of El Paso effluent. The United States further agrees that Table 90 of the RGJI reflects the diversion of return flows arising in the El Paso Valley during the period 1930-1936, and that these were a part of the Project supply, with the clarification that Table 90 diversions at Tornillo include a much larger percentage of return flows than diversions at Franklin and this increase in percentage reflects the diversion of return flows from Franklin and Riverside canals at Tornillo.

C. Operation of the Rio Grande Project from 1938 Until 1979.

150. The rectification of the Rio Grande in the El Paso Valley in 1938 separated the Rio Grande from the Tornillo, Hanson, and Guadalupe canal headings. From 1938-1980, water was diverted from EPCWID drains in the El Paso Valley into the Tornillo canal for use by EPCWID farmers. See NM-EX 006, Barroll 2d Decl. at ¶ 51; see also NM-EX 100, Barroll Rep. Appx. C, C-21-28.

RESPONSE: Not disputed.

151. Until about 1979, Reclamation operated the entire Project, including delivering Project water to individual New Mexico and Texas farm headgates in response to farm orders, and Project farmers ordered water directly from Reclamation. Reclamation then determined what releases and diversions were needed to fulfill those orders, released water from Caballo reservoir, and diverted water at appropriate canal headings. Reclamation ditch riders then delivered the ordered water to individual farms. See NM-EX 202, Cortez Dep. (July 30, 2020) at 20:1-15, 58:6-59:11; NM-EX 001, Barroll Decl. at ¶ 20; NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, Final Environmental Impact Statement, at 5 (Sept. 30, 2016). [Apportionment UMF No. 59; Full Supply UMF Nos. 9; similar language in Notice UMF Nos. 12 (period from inception to 1951) and 15 (period from 1951 to 1979)].

RESPONSE: Not disputed.

152. Prior to 1951, the Project enjoyed plentiful water supplies, and Reclamation allowed Project farmers to order water as they needed to irrigate their crops. NM-EX 202, Cortez Dep. (July 30, 2020) at 18:16-19:15, 58:6-18. [Apportionment UMF No. 61].

RESPONSE: Disputed. Although some years did see high levels of reservoir storage and inflow, Reclamation announced potential and initial allotments in a number of years prior to 1951 based on *low* water supply. *See* Response to Statement No. 36, *supra*; *see also* Project History for 1934, US0178513, at US0178523 (in U.S. Supp. App.) (stating that Project would rely on reservoir storage that year because reservoir inflow was "the second lowest in the recorded history of the Rio Grande at San Marcial"); Project History for 1947, US017169, at US017200 (in U.S. Supp. App.) (announcing, in August 1947, an allotment of 1 af/ac for 1948 based on "the record low stage of the Rio Grande storage reservoirs as a result of five consecutive years of below normal inflow"). Sometimes the allotments announced in these years were increased or lifted if conditions changed, but farmers could not always "order water as they needed" in earlier parts of the season. *See, e.g.*, Project History for 1935, US0178674 at US0178737-742 (in U.S. Supp. App.).

153. In 1951, drought forced Reclamation to limit per-acre allocations to Project lands, which it did by evaluating deliveries to lands from 1946 through 1950. NM-EX 202, Cortez Dep. (July 30, 2020) at 19:1-20:4, 58:19-59:7; NM-EX 100, Barroll Rep. at 32. Reclamation in 1951 determined that 3.0241 acre-feet per acre constituted a full allocation to Project lands. NM-EX 202, Cortez Dep. (July 30, 2020) at 19:8-20:4. [Apportionment UMF No. 62].

RESPONSE: Disputed. The cited sources do not show that Reclamation conducted an evaluation in 1951, or that Reclamation was "forced" to make per-acre allotments only for the first time in 1951, or that drought began in 1951. The Project History for 1947 cites "five consecutive years of below normal inflow." Project History for 1947, US017169, at US017200. The allotment initially imposed for 1948 was lifted but water conditions continued to be unreliable, resulting in steadily reduced reservoir storage, and culminating in initial reservoir storage of approximately 443,000 af in 1951 and a total

allotment of 1.75 af/ac that year. Project History for 1951 (file 2 of 6), US0018796, at US0018805, US0018841 (in U.S. Supp. App.). *See also id.* at US0018843 (stating that "[i]nflow to Elephant Butte since 1915 has averaged annually 1,039,500, while for the past eight years the average has been only 659,400 acre-feet."). The 1951 Project History states that "average annual use" for the eight years prior to 1951 was 3.1 af/ac, not 3.0241 af/ac. *Id.* A 1956 memorandum states that a normal delivery was equivalent to 3.0241 af/ac, based on the average total Project delivery in the years 1946 to 1950. *See* Memorandum of Conversation re 1906 Treaty Deliveries to Mexico (June 29, 1956)(1956 Memo), US0171657 at US01716560. "Full allocation" not a term used to describe the supply and delivery of Project water in 1946-1950. *See id.*

154. From 1951 through 1979, Reclamation allocated Project deliveries on an equal basis to all Project lands and delivered allocated water directly to Project lands. NM-EX 202, Cortez Dep. (July 30, 2020) 58:19-59:7; NM-EX 511, Filiberto Cortez, Lower Rio Grande Project Operating Agreement: Settlement of Litigation, at 4 (Oct. 2008); NM-EX 100, Barroll Rep. at 31-32. [Apportionment UMF No. 63; similar language in Notice UMF No. 14].

RESPONSE: Disputed. From 1951 through 1979, Reclamation enforced an equal amount of water to each acre during years of inadequate supply. In other years the on-farm delivery may not have been based on an equal basis to each acre. NM-EX-202, Cortez 7/30/20 Dep. Tr. 58:19-59:7.

155. Reclamation also maintained the Districts' annual allocation accounting. Reclamation tracked the amount of surface water delivered to individual farm turnouts and assessed these amounts against the farmers' respective allocations. See NM-EX 202, Cortez Dep. (July 30, 2020) at 20:1-15, 42:15-43:4, 58:6-59:11; NM-EX 100, Barroll Rep. at 32-33; NM-EX 001, Barroll Decl. at ¶ 20; NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, Final Environmental Impact Statement, at 5 (Sept. 30, 2016). [Notice UMF No. 16].

RESPONSE: Disputed. Between 1951 and 1978, Reclamation did not maintain "Districts' annual allocation accounting," because water was not allocated to the Districts. NM-EX-529, FEIS, at 5.

156. **[a]** *Before 1980, Reclamation operated the Project in its entirety, combining storage and return flows so that each acre of Project land was entitled to receive an equal amount of water regardless of the source of the water or in what State the land was located.* **[b]** *Thus, based on each District's share of authorized acreage, "EBID is allocated 88/155 of the available Project water supply and EPCWID is allocated 67/155 of the available Project water supply." NM-EX 506, Cortez Decl. ¶ 11 (Apr. 20, 2007); NM-EX 100, Barroll Rep. 31.* **[c]** *During this period, there is no record that any party lodged an objection, whether through the RGCC or Reclamation, to challenge Reclamation's principle of allocation on an equal per-acre basis. NM-EX 005, Stevens Decl. ¶ 12; NM-EX 003, Lopez Decl. 25; EX-NM 002, D'Antonio Decl. ¶ 16.*

RESPONSE:

[a] Disputed. "Operated the Project in its entirety" and "entitled to," as used in this statement, are ambiguous, and the statement is disputed on that basis. The United States does not dispute that from 1951 to 1979, Reclamation considered the amount of usable water in Project storage and predicted reservoir inflows to determine whether it would be necessary to issue and enforce reduced allotments of water on an acre-foot-per-acre basis to all Project lands. Project efficiency and the availability of return flows were also considered. The quotation of Paragraph 11 of the Cortez Declaration applies to water allocations *since* 1980, not before. NM-EX-506, Cortez Decl. ¶¶ 8, 9, 11. After 1980, Reclamation set an annual diversion allocation of the available water supply to each District in proportion to its irrigable acreage. *See* NM-EX-400, Allocation Procedures. Reclamation did not operate the Project under a legal requirement that each acre of Project land was entitled to receive an equal amount of water.

[b] Disputed. Mr. Cortez's statement on diversion allocation relates to Project operations after 1980.

[c] Not disputed, with the clarification that the statement refers to the period before 1980.

157. From 1931 to 1979, Reclamation operated the Project such that the diversions for EBID in New Mexico totaled 54.5% and diversions for EPCWID in Texas totaled 45.5% of total diversions. From 1951, when Reclamation began enforcing allocations to each acre, until 1979, the diversions for EBID in New Mexico totaled 56.2% and diversions for EPCWID in Texas totaled 43.8% of total diversions. NM-EX 100, Barroll Rep. at Appx. A, A-8. This is shown graphically in Figure A-3 of Dr. Barroll's Expert Report: ***[figure omitted].*** *See also id. at A-9; NM-EX 101, Barroll Reb. Rep. at 41, Appx. A, 39. [Apportionment UMF No. 65].*

RESPONSE: Not disputed.

D. Operation of the Rio Grande Project from 1979 Until 2005

158. In approximately 1979, Project operations changed with the transfer of some Project facilities to the Districts. Reclamation started to allocate water to each District for delivery at the District's canal headings (i.e., Arrey, Leasburg, Mesilla, Franklin and Riverside) rather than directly to farm headgates. Since those transfers, Reclamation determines the Districts' Project allocations, takes water orders from the Districts, releases water from Caballo reservoir, and then makes deliveries to canal headings for water users in each District. The Districts in turn take farm orders from their members, place orders with Reclamation for water to be delivered at canal headings, and then take delivery of that water and deliver it to farm headgates in each State. NM-EX 001, Barroll Decl. at ¶ 21; See NM-EX 202, Cortez Dep. (July 30, 2020) at 59:12-60:4, 64:3-15; NM-EX 210, Ferguson Dep. (Feb. 20, 2020) at 233:3-6; NM-EX 208, Esslinger Dep. (Aug. 18, 2020) at 57:4-58:8, 59:3-18; NM-EX 222, Reyes Dep. (Aug. 31, 2020) at 20:3-14; NM-EX 223, Rios Dep. (Aug. 26, 2020) at 48:12-18, 49:10-20. [Apportionment UMF No. 66; similar language in Notice UMF No. 17 and Full Supply UMF 10].

RESPONSE: Not disputed.

159. Reclamation retained, in the period after 1979, the responsibility to account for the total deliveries to each District (EBID and EPCWID) and to Mexico at their respective diversion headings in a given year. See NM-EX 202, Cortez Dep. (July 30, 2020) at 31:13-23, 49:3-11. From 1979 through 2005, Reclamation continued to operate the Project as a single unit on an equal amount of water per acre basis. [Notice UMF No. 18].

RESPONSE: Not disputed, to the extent that "historically" refers to operations before 1979.

160. Reclamation relies on the Districts to monitor and report the actual diversions that each takes at its diversion points from the Rio Grande. See NM-EX 202, Cortez Dep. (July 30, 2020) at 49:20-50:12. [Notice UMF No. 19].

RESPONSE: Not disputed.

161. Reclamation compiles its accounting of the Districts' respective Project allocation and delivery charges on a monthly basis. See NM-EX 203, Cortez Dep. (July 31, 2020) at 215:23-216:16; NM-EX 221, Reyes Dep. (Nov. 16, 2018) at 65:8-66:8. [Notice UMF No. 20].

RESPONSE: Not disputed.

162. After 1979, Reclamation developed a method known as the D1/D2 method for allocating water to the Districts. See NM-EX 403, Operating Agreement between Elephant Butte Irrigation District, El Paso County Water Improvement District No.1, and United States Bureau of Reclamation, at 3-4 (1985) (unexecuted draft); NM-EX 511, Filiberto Cortez, Lower Rio Grande Project Operating Agreement: Settlement of Litigation, at 4 (Oct. 2008); NM-EX 100, Barroll Rep. at 33. [Apportionment UMF No. 68].

RESPONSE: Not disputed.

163. The D1/D2 method was based on the distribution of Project supply during the period from 1951 to 1978 and continued allocating 57% of Project supply to New Mexico lands and 43% of Project supply to Texas lands. NM-EX 202, Cortez Dep. (July 30, 2020) at 170:25-172:10 (examining NM-EX 403, Operating Agreement between Elephant Butte Irrigation District, El Paso County Water Improvement District No.1, and United States Bureau of Reclamation, at 3-4 (1985) (unexecuted draft)); NM-EX 100, Barroll Rep. at 33-34. [Apportionment UMF No. 70].

RESPONSE: Disputed. The D1/D2 allocation method does not "continue[] allocating 57% of Project supply to New Mexico lands and 43% of Project supply to Texas lands." The D1/D2 allocation method was developed from a regression equation to estimate the amount of water that could be delivered to Project headgates in a given year based upon the amount of water available for release in that year. The D1/D2 method allocates water to each district at its respective points of diversion based on the approximate 57/43 ratio of irrigable lands in EBID and EPCWID. NM-EX-529, FEIS at 8-9.

164. Under the D1/D2 Allocation Method, the D1 Curve is the observed relationship between total Project release from storage and farm delivery plus the delivery to Mexico, and the D2 Curve is the observed relationship between Project release from storage and total project diversions, including Mexico. Using the method, Mexico's share of Project Supply was calculated using the D1 Curve. The total Project Supply was calculated using the D2 Curve, and Project Supply remaining beyond Mexico's share was split 57% to EBID and 43% to EPCWID. See NM-EX 006, Barroll 2d Decl. at ¶ 57; see also NM-EX 100, Barroll Rep. at 33-37, Appx. A, A-13-17.

RESPONSE: Disputed. The terms "observed relationship" and "Project Supply" are vague and ambiguous and the statement is disputed on that basis. The D1/D2 "Curves" are linear regression equations. The D1 Curve is a linear regression equation derived from annual Project releases from Caballo Dam and annual Project deliveries to farms plus annual delivery to Mexico during the period 1951-1978 (inclusive). The D2 Curve is the linear regression equation derived from annual Project release from Caballo Dam and annual Project net supply during the same period; Project net supply is not equal to total Project diversions. The D2 Curve was used to estimate the net Project supply available for diversion based on the estimated amount of water available for release during the current year. The net Project supply is allocated 57% to EBID and 43% to EPCWID, and the actual diversions to the Districts are adjusted by the Diversion Ratio as agreed to under the 2008 Operating Agreement.

165. Reclamation began making Project allocations using the D1/D2 allocation procedure from at least 1985. NM-EX 202, Cortez Dep. (July 30, 2020) at 168:20-24; NM-EX 100, Barroll Rep. at 33-34. [Apportionment UMF No. 72].

RESPONSE: Not disputed.

166. According to Reclamation, "D2 was developed to calculate the amount of water that was needed at the main canal headings to make the 3.0241 ac-ft/acre deliveries to the lands." NM-EX 409, Email from Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to Chris Rich et al. (Apr. 12, 2002). [Apportionment UMF No. 69].

RESPONSE: Not disputed that the quoted sentence was included in an email from Mr. Cortez, with the clarification that the D1 and D2 Curves were developed to represent the relationship between historical releases, diversions, and deliveries under the range of hydrologic conditions from 1951-1978, and 3.024 acre-feet/acre was calculated as the annual acre-feet charged to farms on the Project irrigated acres averaged over the five year period from 1946 to 1950. NM-EX-400, Allocation Procedures, at 9-14.

167. In order to calibrate releases of Project supply from Caballo and Elephant Butte reservoirs into the Rio Grande, Reclamation takes delivery orders from each District and makes appropriate reservoir release adjustments on a daily basis. See NM-EX 202, Cortez Dep. (July 30, 2020) at 64:3-15. [Notice UMF No. 22].

RESPONSE: Not disputed, with the understanding that that "Project supply" in this instance refers to Project water in storage.

168. To facilitate this process, the Districts take water orders from their respective constituents and transmit total orders to Reclamation. See NM-EX 208, Esslinger Dep. (Aug. 18, 2020) at 57:4-58:8, 59:3-18; NM-EX 222, Reyes Dep. (Aug. 31, 2020) at 20:3-14; NM-EX 223, Rios Dep. (Aug. 26, 2020) at 48:12-18, 49:10-20; NM-EX 001, Barroll Decl. at ¶ 21. [Notice UMF No. 23].

RESPONSE: Not disputed.

169. Once Reclamation delivers water to a District's diversion point, the District administers the conveyance of that water to individual farm turnouts and accounts for delivery of the water in satisfaction of the farmers' respective orders. See NM-EX 208, Esslinger Dep. (Aug. 18, 2020) at 56:19-58:23, 60:22-62:7; NM-EX 223, Rios Dep. (Aug. 26, 2020) at 31:4-6, 33:10-14. [Notice UMF No. 24].

RESPONSE: Not disputed.

*170. **[a]** Beginning in about 1980, changes to Project infrastructure within EPCWID eliminated river diversions that previously supplied the Riverside and Tornillo Canals and ceased the conveyance between the EPCWID drains in the El Paso Valley and the Tornillo Canal. Following these changes, there is no evidence that EPCWID makes any use of drain flow or other irrigation return flow arising within the El Paso Valley. See NM-EX 006, Barroll 2d Decl. at ¶ 51; see also NM-EX 100, Barroll Rep. Appx. C, C-21-28. **[b]** If EPCWID resumed use of the irrigation return flows that arise within its boundaries, this would reduce the reservoir releases needed to meet EPCWID demands and would make additional water available for allocation and delivery to EBID. See NM-EX 012, Sullivan Decl. at ¶¶ 26, 35; see also NM-EX 122, Spronk Rep. at 19-20.*

RESPONSE: Disputed.
[a] The term **"**conveyance between the EPCWID drains in the El Paso Valley and the Tornillo Canal" is unclear, and the statement is disputed on this basis. The term may refer to the "drain to canal" diversion or to diversion from the Rio Grande at Tornillo (pre-Rectification). Further, the river diversion to the Tornillo Canal was eliminated by the Rectification in the 1930s, not 1980. River diversion to Riverside was eliminated in approximately 2000, not 1980. Therefore, the assertion regarding behavior "following these changes" is also incorrect or at best unclear.

[b] This statement is speculative and relies on the assumption that there would be no change in acreage, cropping patterns, or other conditions within EPCWID. Due to their poor quality, use of EP Valley drainage/return flows would likely result in salinity damage to crops and/or soils. Salinity issues may require additional water to be delivered for leaching. This would likely offset any reduction in release from use of drainage/return flows. Further, because the Rectification severed access to most of the irrigation return

flows in the El Paso Valley, new facilities would need to be constructed to make use of these return flows.

171. **[a]** Starting in about 1990, Reclamation determined that a release of 763,842 AFY from Project Storage was a full-supply condition. *See, e.g.*, NM-EX 105, Excerpts, United States' Disclosure of Expert Rebuttal Witness Dr. Ian M. Ferguson (Dec. 30, 2019) [hereinafter "Ferguson Discl."] at 8 ("Prior to the [2008 Operating Agreement], full supply was defined by Usable Water available for the current-year allocation equal to or greater than 763,800 acre-feet . . . ."); NM-EX 104, Excerpts, United States' Disclosure of Rebuttal Expert Dr. Al Blair (Dec. 30, 2019) [hereinafter "Blair Discl."] at 8 (stating that prior to 2008 Operating Agreement a maximum annual release for a full-supply year was 763,840 AF).

[b] Reclamation determined that this release from Project Storage would provide 931,841 AFY of divertible water at U.S. and Mexico canal headings. NM-EX 001, Barroll Decl., ¶ 22; NM-EX 400, Bureau of Rec., Rio Grande Project Water Supply Allocation Procedures [hereinafter "WSAP"] at 4.

[c] According to Project allocation procedures at that time, from this 931,841 AFY, 60,000 AFY was deducted for delivery to Mexico.

[d] Reclamation then divided the remaining 871,841 AFY, 43% (376,862 AFY) to EPCWID and 57% (494,979 AFY) to EBID in accordance with the percentages set out in the 1938 Downstream Contract. NM-EX 001, Barroll Decl., ¶ 22; NM-EX 400, WSAP at 4–5; NM-EX 324, 1938 Downstream Contract.

[e] The 376,842 AFY quantity represents a full-supply Project allocation to EPCWID that Reclamation will ensure is available for diversions at EPCWID's headgates if EPCWID orders (takes) this volume of water. NM-EX 001, Barroll Decl., ¶ 23; NM-EX 400, WSAP at 4–5; see also NM-EX 529, FEIS at 86 (referring to "[t]he historical full [EPCWID] allocation of 376,842 acre-feet").

RESPONSE:

[a] Disputed. "Full supply" as used in the cited sources refers to what was considered to be the maximum release for purposes of calculating diversion allocations. That maximum was derived from storage and diversion records from 1951-1978. The Water Supply Allocation Procedures incorporate the assessment of "normal supply" in a 1956 memorandum setting forth how Reclamation would allocate water as between the Districts and Mexico in years of shortage. 1956 Memo, US0171657 at US01716560. The "normal" supply calculated to be 3.024 acre-feet/acre in the 1956 memo may therefore reflect to some extent the influence of groundwater pumping. The Allocation Procedures, in turn, use the 3.024 af/ac number to characterize 931KAF as a full supply, and reservoir release of 764KAF as the amount associated with a full supply year. NM-EX 400 at 9-12. Therefore characterizing any particular amount in storage, or any particular release from storage, as "full" supply is misleading.

[b] Not disputed.

[c] Not disputed.

[d] Disputed. The Water Supply Allocation Procedures document does not link the 57%-43% division of water between EBID and EPCWID to the 1938 Contract. NM-EX-400, Allocation Procedures, at 4.

[e] Not disputed, provided that "full-supply Project allocation" is a characterization of the Water Supply Allocation Procedures calculation, and not an attempt to characterize actual physical conditions or the apportionment effected by the Compact. The allocations to the districts under Allocation Procedures were based on the "D2 Curve," a regression analysis of delivery data from the period 1951-1978, when groundwater pumping had already been established within EBID. *See* NM-EX-400, Allocation Procedures, at 9-14. The D2 thus reflects the effects of this "significant" amount of pumping. NM-EX-100, Barroll Oct. 2019 Rep. 35. Allocations based on the D2 Curve do not represent the maximum allocations that would have been possible in the absence of groundwater pumping.

*172. **[a]** Between 1985 and 1990, before Reclamation had finalized the analysis described above, Reclamation's full-supply year determinations for EPCWID varied slightly from 376,842 AFY. For example, from 1985 through 1988, Reclamation determined a full-supply year Project allocation to EPCWID to be 363,963 AFY; and in 1989 and 1990, Reclamation determined a full-supply year Project allocation to EPCWID to be 359,165 AFY.*

***[b]** These were hydrologically wet years with plenty of water in Project Storage and full-supply allocations were available to both Districts (EBID and EPCWID). NM-EX 001, Barroll Decl., ¶ 24; NM-EX 509, Bureau of Reclamation Table, Rio Grande Project Allocation of Project Water Supply (Apr. 3, 2008) ("Reclamation Data Table") at col. 2.*

RESPONSE:

[a] Disputed. The BOR data table, dated 2008, designates certain years as years of "full supply irrigation" and shows the total amounts in storage and the allocations to the two districts and Mexico combined. The table does not reflect "full supply determinations for EPCWID." Dr. Barroll's calculations appear to be based on taking the reported total allocation (902,000 af in 1985-1988, e.g.), subtracting 60,000 af for Mexico (yielding 842,000 af, e.g.), then multiplying the remainder by 88/155 (resulting in 363,963 af, e.g.). That is Dr. Barroll's calculation. It does not show a "determination" by Reclamation.

[b] Disputed. The terms "hydrologically wet" and "plenty of water" are statements of opinion and are ambiguous when presented as facts. Because of that ambiguity, the statement as a whole is disputed. The United States notes that the Compact defines "Project storage" by reference to a maximum of around 2.6 million acre-feet ("af"), and that beginning-of-year Project storage in the years 1985 to 1988 ranged from 1.8 million af to 2.4 million af, approximately. The United States also notes that spring run-off in 1988, 1989, and 1990 was also much lower than the run-off in 1985, 1986, and 1990. Reclamation characterized these years on the 2008 data table as "full supply irrigation years" based on the allocation procedures developed in 1990. In 2003, the Project began to suffer the effects of the severe drought that has plagued the Rio Grande basin for the last two decades. NM-EX 412, Herman Settemeyer, *Rio Grande Project/Rio Grande Compact Operation*, at 4 (2004); NM-EX 213, Ivey Dep. (Aug. 28, 2020) at 69:25-71:1,

75:19-24. Nonetheless, in 2003 and 2004, Reclamation allocated 57% of Project water to New Mexico Project lands and 43% to Texas Project lands using the D1/D2 method. NM-EX 201, Rule 30(b)(6) Dep. of the U.S. Bureau of Reclamation by and through Cortez (Aug. 20, 2020) at 50:6-51:15. [Apportionment UMF No. 74].

174. Reclamation continued making allocations to the Districts in the proportion of 57% of Project water to New Mexico lands and 43% of Project water to Texas lands using the D1/D2 method through 2005. NM-EX 202, Cortez Dep. (July 30, 2020) at 59:12-60:9; NM-EX 511, Filiberto Cortez, Lower Rio Grande Project Operating Agreement: Settlement of Litigation, at 4 (Oct. 2008); NM-EX 100, Barroll Rep. at 34, n.66. [Apportionment UMF No. 73].

RESPONSE: Disputed. The reference to allocations to "lands" in New Mexico and Texas is ambiguous and vague. Since 1980, Reclamation has determined a diversion allocation for each district at its respective headings in proportion to the authorized acreage within each district. The districts then determine allocations to lands within their boundaries. *See* NM-EX-100, Barroll Oct. 2019 Rep., Appendix A, A-13.

175. In 2005, Reclamation was able to make a full D1/D2 allocation in the percentage of 57% to New Mexico lands and 43% to Texas lands. NM-EX 202, Cortez Dep. (July 30, 2020) at 89:21-90:5 (examining NM-EX 328, Bureau of Reclamation, Environmental Assessment and Finding of No Significant Impact for the Bureau of Reclamation Federal Rio Grande Project New Mexico-Texas Operating Procedures, Dona Ana, Sierra, and Socorro Counties, New Mexico and El Paso County, Texas, at 4 (June 11, 2007)); NM-EX 100, Barroll Rep. at 34, n.66. [Apportionment UMF No. 75].

RESPONSE: Disputed. The reference to allocations to "lands" in New Mexico and Texas is ambiguous and vague. Since 1980, Reclamation has determined a diversion allocation for each district at its respective headings in proportion to the authorized acreage within each district. The districts then determine allocations to lands within their boundaries. *See* NM-EX-100, Expert Report: Margaret Barroll, Appendix A, A-13.

*176. **[a]** From 1979 to 2005, Reclamation allocated Project water such that 57% of Project supply was available for EBID lands in New Mexico and 43% of Project supply was available for EPCWID lands in Texas. NM-EX 100, Barroll Rep. at Appx. A, A-13-15. This is illustrated in Figure A.5 of Dr. Barroll's expert report:* ***[figure omitted]***

***[b]** From 1979 to 2005, the charged diversions by EBID in New Mexico (which accounts for water available and ordered by the Districts) totaled 58% and charged diversions for EPCWID in Texas totaled 42% of total diversions. NM-EX 100, Barroll Rep., Appx. A, A-16-19. See also NM-EX 101, Barroll Reb. Rep., Appx. A, 41-42. [Apportionment UMF No. 76]*.

RESPONSE:

[a] Disputed. The term "Project supply" is not defined and is ambiguous. The reference to allocations to "lands" in New Mexico and Texas is ambiguous and vague. Since 1980, Reclamation has determined a diversion allocation for each district at its respective headings in proportion to the authorized acreage within each district. The districts then

determine allocations to lands within their districts. *See* NM-EX-100, Expert Report: Margaret Barroll, Appendix A, A-13.

[b] Not disputed.

177. Reclamation recognizes the years 1985 through 2002 and 2005 as full supply years for the Project, and also recognizes those years as full-supply years for EPCWID, meaning that in each of those years Reclamation determined that a full allocation of Project water was available for diversions at EPCWID's headgates if ordered. NM-EX 001, Barroll Decl., ¶¶ 28–30, 32–33, 37 & Table 1; see also NM-EX 402, EPCWID Accounting Records [EOY_Acct_EP_1985-2016]; NM-EX 509, Reclamation Data Table; NM-EX 202, Cortez Dep (Jul. 30, 2020) at 82:16-83:2, 91:1-8, 92:19-93:7 (stating that 1979 through 2002 were "full supply" years, that a full Project supply allocation is the maximum amount that Reclamation will allocate, and that "[a] full supply is the allocation made to the district based on historical data" about irrigation demands); NM-EX 210, Ferguson Dep. (Feb. 20, 2020) at 229:15-18 ("[F]rom about 1985 or '6, through about 2002 . . . I know to be years of full project supply."), 233:1-3 (agreeing that "there's full supply from 1979 to 2002"); and 259:12-16 (agreeing that "[t]he project enjoyed full supply conditions from 1979 through 2002, and EPCWID was allocated a full supply in each year"); NM-EX 412, Herman Settemeyer, Rio Grande Project/Rio Grande Compact Operation, at 4 (2004) (presenting that "Rio Grande Project water users enjoyed full allocations of water from 1979 until 2003"); see also NM-EX 214, Excerpts, King Dep. (May 18, 2020) at 102:19-23 (confirming that a full supply "is the amount of water that Reclamation allocated to each district from 1979 to 2002, when each year was a full-supply" and that in each of those years "[t]here was a full supply available for release from storage"). [Full Supply UMF No. 16].

RESPONSE: [a] Not disputed, with qualification. New Mexico's statement that "Reclamation recognizes" particular years as "full supply" years is based on the testimony of Filiberto Cortez, who was deposed in his capacity as a fact witness for Reclamation, not a witness designated on behalf of Reclamation pursuant to Rule 30(b)(6) of the Federal Rules of Civil Procedure. The United States does not dispute the statement if the phrase "for purposes of Reclamation's allocation procedures" is inserted after "full supply years for the Project." As noted in response to Statement No. 11, the "full supply" and "full Project allocation" under the Allocation Procedures and Operating Agreement do not reflect the maximum supply or maximum allocation that would have been possible in the absence of groundwater pumping.

178. According to Reclamation, prior to 2005, the Districts did not sign an "operating agreement, plan, or criteria," but "acquiesced and cooperated with Reclamation's procedures on a year to year basis." NM-EX 508, Bureau of Reclamation, Environmental Assessment and Finding of No Significant Impact for the Bureau of Reclamation Federal Rio Grande Project New Mexico-Texas Operating Procedures, Dona Ana, Sierra, and Socorro Counties, New Mexico and El Paso County, Texas, at 3 (June 11, 2007); NM-EX 202, Cortez Dep. (July 30, 2020) at 87:8-88:10. [Apportionment UMF No. 71].

RESPONSE: Not disputed, with the clarification that "each district may be under protest, but they still would comply with the amount of water that was going to be delivered to their facilities." NM-EX-202, Cortez 7/30/20 Dep. Tr. 88:1-4.

E. Operation of the Rio Grande Project from 2006 Until the Present

179. In 2006 Reclamation began using a new method for allocating Project water between the two Districts. Neither the RGCC nor New Mexico were given input into the new method before it was implemented. NM-EX 100, Barroll Rep. at 40; NM-EX 004, Schmidt-Petersen Decl. at ¶ 10; NM-EX 003, Lopez Decl. At ¶ 29; NM-EX 002, D'Antonio Decl. at ¶ 10; see, e.g., NM-EX 504, Letter from Filiberto Cortez, Manager, El Paso Field Division, Bureau of Reclamation, to Gary Esslinger, Manager-Treasurer, Elephant Butte Irrigation District (Nov. 21, 2006). [Apportionment UMF No. 77].

RESPONSE: Not disputed, to the extent "given input" means that the RGCC as an entity, and the State of New Mexico, as an entity did not participate in the negotiations.

180. **[a]** *From 2006 onwards, Reclamation has determined annual Project allocations to the Districts under the 2008 Operating Agreement, and the antecedent D3-Allocation-Plus-Carryover method from which the 2008 Operating Agreement was developed.* **[footnote]** *NM-EX 001, Barroll Decl., ¶ 25; NM-EX 510, Operating Agreement for the Rio Grande Project [hereinafter "2008 Operating Agreement"] (Mar. 10, 2008); NM-EX 502, D3 Allocation of Project Water to the Districts and Mexico; NM-EX 507, 2007 Operating Procedures.*

[b, Footnote] *Under the post-2006 allocation system, EPCWID was allocated far more Project Water than the share due its 67,000 of 155,000 Project irrigable acres (43%), and received far more than its 43% share of Project Water. NM-EX 001, Barroll Decl., ¶ 36; see also NM-EX 100, P. Barroll Expert Report (Oct. 31, 2019), at x-xi, 31, 33, 69.*

[c] *Under the 2008 Operating Agreement, Reclamation determines a full-supply year Project allocation to EPCWID to be 388,192 AFY. NM-EX 001, Barroll Decl., ¶ 25; NM-EX 510, 2008 Operating Agreement at 3; see, e.g., NM-EX 105, Ferguson Discl. at 8 ("[U]nder the [2008 Operating Agreement], full supply conditions are defined by Usable Water available for the current-year allocation equal to or greater than 790,000 acre-feet."); NM-EX 104, Blair Discl. at 8 (stating that prior to the 2008 Operating Agreement, a maximum annual release for a full-supply year was 763,840 AF).*

RESPONSE:

[a] Not disputed, with qualification. The "D3-Allocation-Plus-Carryover method" is Dr. Barroll's characterization of the allocation method used in the 2008 Operating Agreement, based on a document generated by EBID that refers to a "D3 Allocation Method." The Operating Agreement does not use the terms "D3" or "D3-Allocation-Plus-Carryover method."

[b, Footnote] Disputed. The term "share" and the phrase "share due" are ambiguous and appears to reflect conclusions of law. The Operating Agreement determines the diversion allocation to each district consistent with the 67/155 and 88/155 proportions of irrigated acreage. EPCWID continues to be allocated 67/155 of the amount available for

allocation. NM-EX-510, Operating Agreement, at US0108802. Under the agreement, EBID voluntarily cedes—i.e., agrees not to order--some of the amount it was allocated, to compensate for the effects of groundwater pumping on Project deliveries. *Id.* at US0108799; U.S. Mem.15 & n.71.

[c] Not disputed, provided that "full-supply year Project allocation" is a characterization of the Operating Agreement calculation and not the Compact.

181. Under the D3-Allocation-Plus-Carryover method, Reclamation generally allocates to Mexico and EPCWID the same amounts that they would receive for a given level of Project supply under the D1/D2 methodology. EBID's allocation, however, relies on the "Diversion Ratio." This term is calculated as the ratio of annual charged diversions from the Project, including Mexico, divided by the annual Project release. The D3 method calculates Project supply as a function of the Diversion Ratio and calculates EBID's allocation as the difference between Project supply minus the allocation to EPCWID and Mexico. Holding the effects of carryover and accounting credits constant, a higher Diversion Ratio generally increases the allocation to EBID while a lower one decreases it. See Ex. 100, Barroll Rep. at 40-41, Appx. D, D-14-15.

RESPONSE: Disputed. The terms "D3-Allocation-Plus-Carryover method," "Project supply," and "effects of carryover and accounting credits" are undefined, vague and ambiguous, and the statement is disputed on that basis. The statement is an over-simplified explanation of how the Operating Agreement allocation process works, and does not reflect all the different conditions that can occur in the Operating Agreement allocation methodology.

182. The D3-Allocation-Plus-Carryover method reduces EBID's allocation by the total of all real or apparent discrepancies in Project performance relative to the 1951-1978 period. As a result, all increases in system losses that have occurred since the 1951-1978 period result in reductions to EBID's allocation. Similarly, all reductions in accounted deliveries that have occurred as a result of changes in Project accounting cause reductions to EBID's allocation. NM-EX 100, Barroll Rep. at 40-44. For example, the fact that municipal effluent from the City of El Paso in the El Paso Valley is no longer accounted as Project Supply reduces EBID's allocation. See NM-EX 006, Barroll 2d Decl. at ¶¶ 41, 58; see also NM-EX 428, Letter from Filiberto Cortez, Manager, Bureau of Reclamation, to Edd Fifer (July 8, 1999); NM-EX 100, Barroll Rep. at 30, 49- 50, Appx. D, D-25-28; NM-EX 101, Barroll Reb. Rep. at 24-36.

RESPONSE: Disputed. The terms "D3-Allocation-Plus-Carryover method," "Project supply," "apparent discrepancies," and "Project performance" are undefined, vague and ambiguous, and the statement is disputed on that basis. The United States agrees that EBID's voluntary concession under the Operating Agreement of some of the amount it is allocated compensates for all the increases in system losses in New Mexico that have occurred since the 1951-1978 period, including the effects of groundwater pumping by non-Project pumpers. Further, the municipal effluent from the City of El Paso no longer reaches the Rio Grande and for that reason is not a part of the Project allocation. On this topic, New Mexico cites to the wrong exhibit, NM-EX 428, in its Compendium. The

correct exhibit number for the Letter from Filiberto Cortez, Manager, Bureau of Reclamation, to Edd Fifer (July 8, 1999) is NM-EX 425. This letter explains the modified accounting procedures for the change in City of El Paso effluent discharge.

183. Much of the apparent discrepancies in Project performance during the period from 2006 forward relative to the 1951-1978 period may be explained by changes to the accounting methods at use in the Project. New Mexico's analysis shows that changes in Project accounting are responsible for up to 74,000 AF of the apparent reduction in Project deliveries or Project performance since the 1951-1978 period; D3 Allocation reduces EBID's allocation for all these reductions in Project performance. Thus, up to 74,000 AF of reduction in EBID's allocation are not a result of groundwater pumping in New Mexico. See NM-EX 006, Barroll 2d Decl. at ¶ 59; see also NM-EX 100, Barroll Rep. at 60.

RESPONSE: Disputed. The terms "apparent discrepancies" and "Project performance" are undefined, vague and ambiguous, and the statement is disputed on that basis. Further, the Project supply identified and used by Ms. Barroll in her assessment of a 74,000 AF of reduction in EBID's allocation is based on an inaccurate description of the Operating Agreement's annual allocation process and an inaccurate description of Project water deliveries to EBID. The United States does not dispute, however, that groundwater pumping in New Mexico is a cause of the reduction in EBID's surface water deliveries (not allocation).

184. Also starting in approximately 2006, Reclamation initiated individual "carryover accounts" for the Districts. Thereafter and during the allocation process, the amounts in the Carryover account, plus extra water needed to ensure delivery of those accounts, has been deducted from Project Storage before the D3 Allocation for the next year is calculated. Because of the contemporaneous reduction in its allocation, EBID has not been able to take much advantage of Carryover. In contrast, EPCWID has carried over large amounts of allocation in many years. The mechanics of how these Carryover accounts are implemented means that large amounts of EPCWID Carryover have reduced the water available for allocation to EBID. See NM-EX 006, Barroll 2d Decl. at ¶ 60; NM-EX 100, Barroll Rep. at 48-49, Appx. D, D-21-23; NM-EX 101, Barroll Reb. Rep. at 21-24.

RESPONSE: Disputed. Pre-2006, EBID rarely left significant amounts of their allocation unused whereas EPCWID frequently had unused allocation prior to 2006 which was then unavailable for the following year allocation to EPCWID. This pattern has not changed post-2006 and into the Operating Agreement implementation in 2008, with the notable exception that EPCWID has utilized Carryover accounting more frequently than EBID. NM-EX 100, Barroll Rep. at 62.

185. In January and February 2008, Reclamation, EPCWID, and EBID negotiated a new operating agreement for the Project as settlement for the two lawsuits among the parties ("2008 Operating Agreement"). See generally NM-EX 511, Filiberto Cortez, Lower Rio Grande Project Operating Agreement: Settlement of Litigation (Oct. 2008). The negotiations were mediated by Pat Gordon, Texas's Compact Commissioner. NM-EX 212, Gordon Dep. (July 15, 2020) at 42:8-43:24; NM-EX 107, Lopez Rep. at 43. [Apportionment UMF No. 78].

RESPONSE: Not disputed.

186. The 2008 Operating Agreement [adopted the D3-Allocation-Plus-Carryover allocation system], and therefore[, it changed] the amount of water that was available for lands in New Mexico and Texas. NM-EX 202, Cortez Dep. (July 30, 2020) at 94:23-96:9 (examining NM-EX 506, Cortez Affidavit ¶¶ 11, 25 (Apr. 20, 2007)); NM-EX 100, Barroll Rep. at 40-46; NM-EX 107, Lopez Rep. at 44-46. [Apportionment UMF No. 79].

RESPONSE: Disputed. The term "D3-Allocation-Plus-Carryover method" is undefined, vague and ambiguous, and the statement is disputed on that basis. The 2008 Operating Agreement did not change the 57/43 ratio in allotting the available supply to the Districts based on the D1/D2 methodology. Under the Operating Agreement, the Elephant Butte Irrigation District foregoes a portion of that allocation to account for deviations in Project performance to mitigate the effect of ground water pumping in New Mexico. NM-EX-529, FEIS Appendix C at 8-9.

187. United States witnesses have testified that the purpose of the change in allocation associated with the 2008 Operating Agreement was to both offset depletions caused by New Mexico groundwater pumping and depletions, and to protect the delivery of EPCWID's allocation from the effects of New Mexico pumping. See, e.g., NM-EX 105, Ferguson Reb. Rep. at 5-6. The United States did not perform any quantitative analysis of the impacts of New Mexico pumping at the time the 2008 Operating Agreement was adopted. See NM-EX 006, Barroll 2d Decl. at ¶ 65.

RESPONSE: Disputed. The impacts of New Mexico pumping was apparent prior to the 2008 Operating Agreement, particularly during the 2002-3 drought years, from measured deviation from the D2 release and diversion equation. The United States does not dispute that a purpose of the 2008 Operating Agreement is to offset depletions caused by New Mexico groundwater pumping, and to protect the delivery of EPCWID's allocation from the effects of New Mexico pumping, but that is not the sole purpose.

188. Under the D3-Allocation-Plus-Carryover allocation system, EPCWID has been allocated and received far more than its 43% share of Project Water. Conversely, EBID has been allocated and received less than its 57% share of Project Water. Dr. Barroll's figure 8.3 depicts this change: ***[figure omitted].*** *NM-EX 100, Barroll Rep. at 68; see also NM-EX 001, Barroll Decl., ¶ 36; NM-EX 100, Barroll Rep. at x-xi, 31, 33, 69.*

RESPONSE: Disputed. The term "D3-Allocation-Plus-Carryover method" is undefined, vague and ambiguous, and the statement is disputed on that basis. The 2008 Operating Agreement did not change the 57/43 ratio in allotting the available supply to the Districts based on the D1/D2 methodology. NM-EX-529, FEIS at 8-9.

189. From 2006-2019, EPCWID's percentage share of Project allocation, excluding Carryover, has averaged 56% of the total Districts' allocation, compared with 43% prior to 2006. If Project Supply had been divided 57:43—as it had been done historically—EPCWID would have been

allocated a total 693,408 AF less during 2006-19. EBID would have been allocated 693,408 AF more of Project Supply. NM-EX 101, Barroll Reb. Rep. at 44 & Table 9. By reducing EBID's surface water allocation, the 2008 Operating Agreement forces EBID members to pump additional groundwater to order to supply their crops. See NM-EX 006, Barroll 2d Decl. at ¶ 62.

RESPONSE: Disputed. The 2008 Operating Agreement did not change the 57/43 ratio in allotting the available supply to the Districts based on the D1/D2 methodology. NM-EX-529, FEIS at 8-9. Further, the Operating Agreement does not "force" EBID members to pump additional groundwater, as the Operating Agreement has no provisions regarding groundwater pumping.

190. Following the 2008 Operating Agreement, among other changes, the Districts assumed from Reclamation the responsibility to calculate the actual Project release as a function of their total daily orders. See NM-EX 207, Esslinger Dep. (Aug. 17, 2020) at 122:4-9; NM-EX 221, Reyes Dep. (Nov. 16, 2008) at 23:20-24:18; NM-EX 001, Barroll Decl. at ¶ 21. [Notice UMF No. 25].

RESPONSE: Not Disputed.

191. During each irrigation season (approximately March through October), each District is entitled to order delivery of Project Water up to its annual Project allocation. Deliveries to the Districts are measured by gages and are converted into what are known as "Charged Diversions" (or "Allocation Charges"), which are then subtracted from each District's allocation account as the irrigation season progresses. NM-EX 001, Barroll Decl. at ¶¶ 21, 26; NM-EX 510, 2008 Operating Agreement at 9–11; NM-EX 529, Bureau of Reclamation, Continued Implementation of the 2008 Operating Agreement for the Rio Grande Project, New Mexico and Texas: Final Environmental Impact Statement, at 18, 24, appx. B (Sep. 30, 2016). [Full Supply UMF No. 14].

RESPONSE: Not disputed, provided that "entitled to order" is a characterization of the Operating Agreement.

192. During the course of the irrigation season, Reclamation receives orders from the Districts and adjusts the gates of Caballo Dam so that these orders are delivered to the Districts' canal headings. See NM-EX 531, Rio Grande Project Operations Manual at 4-5 (2018) [hereinafter "Operations Manual"]. Reclamation sets the Caballo release amount taking into account the losses and gains between Caballo Dam and the canal headings to which it is delivering water, so that regardless of what losses or gains are occurring, the amount ordered will reach the canal heading for which the order is being made. NM-EX 531, Operations Manual at 4–8. If the delivery to EPCWID falls short of the order, there is a procedure by which EPCWID, EBID and Reclamation coordinate and water is released from EBID's works to temporarily mitigate the shortfall until adjustment of Caballo releases resolves the problem. NM-EX 001, Barroll Decl., ¶ 27; NM-EX 531, Operations Manual, at 8. Historically, Reclamation has always been able to fulfill the orders made by the Districts. NM-EX 001, Barroll Decl. at ¶ 27; see also NM-EX 105, Ferguson Discl. at 12–13 ("EPCWID received all water that the district ordered during the period 1979-2002"); NM-EX 210, Ferguson Dep. (Feb. 20, 2020) at 260:6-7 ("I'm not aware of

any records that suggest EP1 [EPCWID] ordered water that it did not receive."). [Full Supply UMF No. 15].

RESPONSE: Not disputed, provided that "[h]istorically" refers to 1979 to present.

193. The years 2007 through 2010 were full-supply years for EPCWID because in each of those years EPCWID's annual allocation available for diversions at EPCWID's headgates (if ordered) exceeded 376,862 AFY—the full-supply allocation amount determined by Reclamation in 1990—and also exceeded the higher full-supply allocation to EPCWID (388,192 AFY) under the 2008 Operating Agreement. NM-EX 001, Barroll Decl. at ¶¶ 28, 31, 34-37 & Table 2; NM-EX 402, EPCWID Accounting Records; NM-EX 500, EPCWID Water Allocation Records (2006-2016); NM-EX 510, 2008 Operating Agreement, Tables 2 & 4. [Full Supply UMF No. 17].

RESPONSE: Not disputed, provided that "for purposes of Reclamation's allocation procedures" is inserted after "full-supply years." As noted above, the "full supply" and "full supply allocation" under the Operating Agreement do not reflect the maximum supply or maximum allocation that would have been possible in the absence of groundwater pumping.

194. In 2010, after it had an opportunity to study the new operations and method for allocating water, New Mexico raised several concerns about the 2008 Operating Agreement. One of New Mexico's primary concerns was that the 2008 Operating Agreement was inconsistent with the Compact because it did not allocate 57% of Project supply to New Mexico lands. NM-EX 517, Letter from John D'Antonio, State Engineer, State of New Mexico to Michael Connor, Commissioner, United States Bureau of Reclamation (Mar. 4, 2010); NM-EX 002, D'Antonio Decl. at ¶ 11. [Apportionment UMF No. 80].

RESPONSE: Disputed. The statement is disputed to the extent it implies New Mexico did not have "an opportunity to study" the new operations any earlier than 2010 or 2008, as the project had operated in the manner set forth in the agreement since 2006. *See* Statement of Fact No. 77, *supra*. The United States also disputes the statement to the extent it purports to characterize the Operating Agreement, under which approximately 57% of the total amount available for diversion in the United States is allocated to EBID, which then foregoes a portion of that allocation to account for the effect of groundwater pumping in New Mexico. NM-EX-529, FEIS, Appendix C at 8-9. *See also* U.S. Mem. 15 & n.70. The United States does not dispute that New Mexico raised concerns about the Operating Agreement in 2010 in the letter that is cited.

195. Under the 2008 Operating Agreement, Reclamation delivers New Mexico's surface water to Texas without a required export permit required by New Mexico law. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 37(a), 50-51.

RESPONSE: Disputed. Whether New Mexico state law requires an export permit for Project water is a legal conclusion, not a statement of fact. The United States disputes the statement on this basis, and any factual assertion that an export permit is required to deliver Project water to Texas.

196. Reclamation's implementation of the D3 Allocation method and the 2008 Operating Agreement have reduced the delivery efficiency and performance of the Rio Grande Project as a whole. NM-EX 100, Barroll Rep. at 77-78; NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 18-19. Reclamation's implementation of the D3 Allocation method and the 2008 Operating Agreement have harmed New Mexico by substantially reducing its surface water supply in the LRG, and negatively impacting the water balance of groundwater systems of the Rincon and Mesilla basins. NM-EX 100, Barroll Rep. at 71-77. EPCWID and Texas have benefitted by gaining a disproportionate share of surface water. See NM-EX 006, Barroll 2d Decl. at ¶¶ 71-72.

RESPONSE: Disputed. The terms "delivery efficiency," "performance of the Rio Grande Project," and "water balance of the groundwater systems" are undefined, vague and ambiguous, and the statement is disputed on this basis. Further, decreased return flows and increased river losses due to groundwater pumping in New Mexico are substantially reducing its surface water supply in the LRG, and negatively impacting groundwater systems of the Rincon and Mesilla basins. NM-EX-100, Barroll Rep. of Oct 2019, at 18, 23, 55; NM-EX 122, Sullivan and Welsh, Rebuttal Report of July 15, 2020, at 94-96, 477-480.

197. After attempts to resolve the issues related to the 2008 Operating Agreement failed, in 2011, New Mexico filed suit in federal district court seeking to have the 2008 Operating Agreement set aside. NM-EX 520, Complaint for Declaratory and Injunctive Relief, New Mexico v. United States, No. 1:11-cv-00691 (D.N.M. Aug. 8, 2011). [Apportionment UMF No. 81].

RESPONSE: Not disputed.

198. Texas filed the present original action in reaction to New Mexico's 2011 federal district lawsuit. NM-EX 212, Gordon Dep. (July 15, 2020) at 109:2-13; NM-EX 224, Schmidt-Petersen Dep. (June 29, 2020) at 40:19-41:12. [Apportionment UMF No. 82].

RESPONSE: Not disputed.

IX. DEVELOPMENT OF SUPPLEMENTAL GROUNDWATER FOR IRRIGATION USE

A. Development Prior to 1938

199. Prior to the creation of the Project, farmers in the Rio Grande Valley below what is now Elephant Butte Reservoir recognized that groundwater was a potential source of irrigation supply. NM-EX 011, Stevens 2d Decl. at ¶ 4; NM-EX 006, Barroll 2d Decl. at ¶ 14.

RESPONSE: Not disputed, with the clarification that farmers did not pursue groundwater as an important source of irrigation supply once the Project was authorized under the terms of the 1903 Reclamation Act. NM-EX 006, Barroll 2d Decl. at ¶ 14.

200. In 1903, the New Mexico Agricultural Experiment Station reported that irrigators in Texas around El Paso had "been compelled to turn their attention to other water supplies or else

abandon all agricultural work. … they have demonstrated the fact that crops can be profitably grown by irrigation from wells tapping the underflow in the Rio Grande Valley." The report noted that observation wells at the station demonstrated "an ample quantity" of groundwater for irrigation described as "reliable and secure," "subject to no fluctuations," and "sufficient to meet all reasonable needs." NM-EX 332, John J. Vernon and Francis E. Lester, Agricultural Experiment Station, N.M. College of Agriculture and Mechanical Arts, Bulletin No. 45, Pumping for Irrigation from Wells, at 12-14, 56 (1903); NM-EX 011, Stevens 2d Decl. at ¶ 4.

RESPONSE: Not disputed that the quotes derive from the 1903 report and it is the best source of its contents, with the clarification that the report pre-dates the Project and the availability of a reliable source of surface water for irrigation.

201. Prior to construction of the Rio Grande Project, irrigators in the Mesilla Valley in New Mexico developed a number of groundwater wells to supply irrigation water during period of low and variable surface supply. See NM-EX 011, Stevens 2d Decl. at ¶¶ 4, 30; NM-EX 006, Barroll 2d Decl. at 14; NM-EX 332, John J. Vernon and Francis E. Lester, Agricultural Experiment Station, N.M. College of Agriculture and Mechanical Arts, Bulletin No. 45, Pumping for Irrigation from Wells, at 55 (1903); NM-EX 342, Charles S. Slichter, United States Geological Survey, Water Supply and Irrigation Paper No. 141, Observations on the Ground Waters of the Rio Grande Valley, at 22 (1905).

RESPONSE: Disputed. The term "a number" is vague and ambiguous, and the statement is disputed on that basis. If the reference to "a number" is meant to connote a large number of irrigation wells, the cited references belie this conclusion. NM-EX 332, John J. Vernon and Francis E. Lester, Agricultural Experiment Station, N.M. College of Agriculture and Mechanical Arts, Bulletin No. 45, Pumping for Irrigation from Wells, (1903), at Table 9, lists ***two*** wells in the Las Cruces area of the Rio Grande Valley; NM-EX 342, Charles S. Slichter, United States Geological Survey, Water Supply and Irrigation Paper No. 141, *Observations on the Ground Waters of the Rio Grande Valley*, (1905), at Contents, lists ***ten*** wells in the vicinity of Las Cruces and Mesilla Park in New Mexico. *See also id*. at 22 ("Owing to frequent shortage in the river supply of water, a number of pumping plants have been installed for the purpose of obtaining ground water for irrigation.").

202. By1940, after decades of Project operations, very few of these pre-Project wells remained in operation. However, documentation with the New Mexico Office of the State Engineer suggests that at least some irrigation wells were drilled in the 1920s and 1930s. See NM-EX 006, Barroll 2d Decl. at ¶ 14; see also NM-EX 427, C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico, at 9, 103-105, 107 (1954).

RESPONSE: Disputed. The report of C.S. Conover is incorrectly identified as NM-EX 427. It is produced as NM-EX 424. This report states that at the end of 1946 "about 11 irrigation wells were in operation in the Rincon and Mesilla Valley" which approximates the number of wells in the early 1900s. *See* NM-EX 424 , C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, *Ground-Water*

Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico, (1954), at 107.

203. Following construction of the Rio Grande Project storage and diversion works there was continuing interest, in both New Mexico and Texas, in developing groundwater resources to supplement existing irrigation supplies. See, e.g., NM-EX 348, D.C. Henny, Board of Engineers, Rio Grande Project, Report on Water Supply and Project Area High Line Canal Construction Power Development and City Water Supplies, at 35 (Nov. 1919); NM-EX 349, Harold Conkling, United States Reclamation Service, Water Supply of the Rio Grande River, at TX_00182134 (June 18, 1919); see also NM-EX 113, Stevens Reb. Rep. at 11 (discussing Conkling's conclusion that groundwater pumping to expand the irrigable acreage of the project would only have affected surface supply in the two lowest supply years in the 58 years of data examined); NM-EX 337, D.C. Henny, Board of Engineers, Rio Grande Project, Report on Water Supply and Project Area High Line Canal Construction Power Development and City Water Supplies, at 35-36 (Nov. 1919).

RESPONSE: Disputed. The term "continuing interest" is vague and ambiguous, and the statement is disputed on that basis. To the extent "continuing interest" means that numerous wells were drilled in the New Mexico portion of the Project, that assertion is belied by the Conover Report. NM-EX 424 , C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico, (1954), at 107.

204. Ultimately, as of 1938, scientific understanding of the relationship between groundwater and surface water in the Rio Grande Basin was limited and conflicting. The RGJI did not include an investigation of groundwater resources below Elephant Butte. NM-EX 113, Stevens Reb. Rep. at 4, 6, 8; NM-EX 011, Stevens 2d Decl. at ¶ 31. See, e.g., NM-EX 342, Charles S. Slichter, United States Geological Survey, Water Supply and Irrigation Paper No. 141, Observations on the Ground Waters of the Rio Grande Valley, at 27-29 (1905); NM-EX 347, E.L. Barrows, Report of Seepage Study on Rio Grande Between Elephant Butte Dam and Leasburg Dam, at 1 (Nov. 26-28, 1928).

RESPONSE: Disputed. The studies cited by New Mexico in SOFs 200-204 above show that a number of scientific studies established an understanding of the relationship between groundwater and surface water in the Rio Grande Basin prior to 1938. The RGJI did not include a thorough investigation of the groundwater resources below Elephant Butte because as engineer advisors to the Rio Grande Commission noted, "groundwater supplies are of little importance in relation to the total supply." *See* Response to SOF 25 above.

B. Development Between 1938 and 1979.

205. Reclamation's and other parties' conduct in the post-Compact drought during the 1940s and 1950s indicates that no contemporary actor believed that the Compact prohibited groundwater pumping. See NM-EX 113, Stevens Reb. Rep. at 15; NM-EX 112, Stevens Rep. at 92-94.

RESPONSE: Not disputed, assuming the statement addresses the content of the Compact which makes no reference to groundwater pumping. However, the Compact is violated by groundwater pumping that interferes with usable water released for irrigation demands in the Project.

206. In the middle 1940s, the Project faced its first significant period of drought following execution of the Compact. As a result, Project Storage levels fell below average, causing Reclamation to warn of potential water rationing. See NM-EX 006, Barroll 2d Decl at ¶ 15; NM-EX 100, Barroll Rep. at 19; NM-EX 112, Stevens Rep. at 94. See, e.g., NM-EX 334, Barroll Excerpts of Rio Grande Project Histories 1946-50, at NM_00027487, NM_00027860, NM_00027861, NM_00028290, NM_00029140.

RESPONSE: Not disputed.

207. Drought conditions worsened in the 1950s. See NM-EX 006, Barroll 2d Decl. at ¶ 17. Beginning in 1951, Reclamation announced limits to per-acre allocations to Project lands. See id.; NM-EX 419, Barroll Excerpts of Rio Grande Project Histories 1951-1957, at NM_00029503-07 (indicating, in a series of "Water Announcements," that "strict rationing" would be mandatory and setting allotments).

RESPONSE: Not disputed.

208. Facing limited surface supply allocations, farmers within EBID and EPCWID both developed groundwater pumping capacity in order to supplement their irrigation supplies. See NM-EX 006, Barroll 2d Decl. at ¶ 15; NM-EX 100, Barroll Rep. at 19-20 (citing NM-EX 424, C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico (1954); NM-EX 432, Narenda N. Gunaji, Engineering Experiment Station, New Mexico State University, Groundwater Conditions in Elephant Butte Irrigation District (Nov. 1961)); NM-EX, 437, Ralph E. Smith, United States Geological Survey, Bulletin 5603, Ground-Water Resources of the El Paso District, Texas, at 10 (Feb. 1956).

RESPONSE: Not disputed.

209. Reclamation recognized that groundwater pumping would be necessary to sustain the Project and actively encouraged the development of groundwater pumping capacity to supplement irrigation supply in the Project throughout the 1950s. See NM-EX 006, Barroll 2d Decl. at ¶¶ 15, 17-18; NM-EX 113, Stevens Reb. Rep. at 19-20; NM-EX 100, Barroll Rep. at 21; see also, e.g., NM-EX 419, Barroll Excerpts of Rio Grande Project Histories 1951, at NM_00029507 (Aug. 1951 "Water Announcement" that encourages "[w]ater users who have pumps of good capacity that will supply their needs" to "arrange for transfer of part of their unused allotment water to those who are in need of additional water"); NM-EX 417, Barroll Excerpts of Rio Grande Project Histories 1951-1957, at NM_00029819, NM_00029823, NM_00030599, NM_00030890 (similar); NM-EX 420, Barroll Excerpts of Rio Grande Project

Histories 1951-1957, at NM_00029465, NM_0029793 (permitting Project farmers to distribute pumped groundwater through Project conveyances).

RESPONSE: Disputed. Reclamation did not "actively encourage[] the development of groundwater pumping capacity." As the Project Histories cited in the SOF state, Reclamation encouraged the sharing of water among EBID members who pumped groundwater with EBID members without wells during the 1950s period of drought.

210. The use of groundwater to supplement surface supplies allowed the Project to remain economically viable during the drought. See NM-EX 006, Barroll 2d Decl. at ¶¶ 19-20; see also, e.g., NM-EX 420, Barroll Excerpts of Rio Grande Project Histories 1951-1957, at NM_00029783; NM_00030086, NM_00030570, NM_00030862, NM_00030870, NM_00030873, NM_00031107 (discussing the importance of well water irrigation to the economic production of the Project during the drought).

RESPONSE: Disputed. The term "economically viable" is vague and ambiguous, and the statement is disputed on that basis. The United States does not dispute that crop production during the 1950s drought was assisted by pumped irrigation water.

211. In the course of the drought, Reclamation and the irrigation districts developed a greater understanding of the effects of groundwater pumping on surface supply in the region. See NM-EX 011, Stevens 2d Decl. at ¶ 32; NM-EX 006, Barroll 2d Decl. at ¶ 16. Hydrologist Clyde S. Conover conducted an investigation at the request of EBID and published a report in 1954; he concluded that "[g]round water obtained by pumping in the Rincon and Mesilla Valleys does not represent an additional supply or new source of water to the project, but rather a change in method, time, and place of diversion of the supplies already available" and that pumping in successive dry years would draw from groundwater storage and require a period of recharge in later years in order for return flows to recover." NM-EX 113, Stevens Reb. Rep. 18; NM-EX 424, C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico, at 2-3, 128 (1954). Other follow-up studies built upon this analysis and refined Conover's conclusions regarding groundwater recharge. See NM-EX 113, Stevens Reb. Rep. 20 (summarizing the work of Narendra N. Gunaji, who concluded that Conover overestimated the length of time necessary to recharge the groundwater after surface supplies return to normal).

RESPONSE: Not disputed.

212. Despite a coalescing understanding of the interrelationship between groundwater pumping and surface supplies, the historical record contains no evidence that any party objected to the increase in groundwater extraction during 1940s and 1950s. NM-EX 113, Stevens Reb. Rep. at 15-18; see also NM-EX 241, Miltenberger Dep. (June 8, 2020) at 93:10-19, 114:9-115:23; NM-EX 240, Kryloff Dep. (Aug. 6, 2020) at 111:1-112:14.

RESPONSE: Disputed. There is no historical evidence that any party was aware of the impact of groundwater pumping on surface water supplies, and therefore no basis to infer that a lack of objection to groundwater pumping relates to a coalescing understanding of

the interrelationship between groundwater pumping and surface supplies. The report of C.S. Conover notes that "pumping in successive dry years would draw from groundwater storage," not surface supplies. See NM-EX 424, C.S. Conover, United States Geological Survey, Geological Survey Water Supply Paper 1230, *Ground-Water Conditions in the Rincon and Mesilla Valleys and Adjacent Areas in New Mexico*, at 2-3, 128 (1954).

213. Instead, the improving scientific understanding about the groundwater supply in this period led Reclamation to develop and support a system conjunctive (joint) management of the overall supply. See NM-EX 113, Stevens Reb. Rep. at 15. Indicative of this development, overall agricultural demand for water in EBID was effectively stable over the period from 1950 forward, with the amount of groundwater pumping increasing or decreasing year over year to meet the deficit of between demand and available surface supply. See NM-EX 101, Barroll Reb. Rep. at 9-10, Figs. 9-10. Cf. NM-EX 243, Esslinger Dep. (Aug. 17, 2020) 112:4-113.

RESPONSE: Disputed. The terms "system of conjunctive (joint) management," "overall supply," "overall agricultural demand for water", and "effectively stable" are vague, ambiguous, and undefined, and the statement is disputed on that basis. Further, Reclamation did not and has not developed or supported any system or program to authorize, monitor, regulate, or otherwise manage groundwater use within the Project. In addition, the amount of surface water and groundwater applied annually for irrigation within EBID has fluctuated considerably since 1950. New Mexico's experts' analysis showed that estimated annual applied irrigation water within EBID, including surface water and groundwater, between 1950 and 2017 ranged from 228,167 AF to 334,037 AF. NM-EX 122, Sullivan Rep. (July 15, 2020) at 194 (Fig. 5-15).

214. In the 1960s and 1970s, Reclamation continued to encourage the Districts to develop groundwater pumping capacity to satisfy irrigation demands during periods of low supply. NM-EX 006, Barroll 2d Decl. at ¶ 21; see also, e.g., NM-EX 242, Esslinger Dep. (Aug. 18, 2020) at 22:8-24:18 (concerning Reclamation support for EBID's well drilling program); NM-EX 441, Salopek Aff. at ¶¶ 8-9 (Mar. 3, 2004) (describing development of EBID's well-drilling program); NM-EX 422, License Agreement with El Paso County Water Improvement District No. 1 for Installation of 4 Water Wells (Feb. 1, 1978).

RESPONSE: Disputed. Reclamation did not "encourage the Districts to develop groundwater pumping capacity to satisfy irrigation demands." Rather, Reclamation intended for wells to be used to deliver up to a full allotment of 3 af/acre, not more, when surface water supplies were low. NM-EX 441 at ¶ 8.

C. Development Between 1979 and 2006

215. Reclamation's adoption of the D1/D2 allocation method formalized its recognition of conjunctive use within the Project. Because the method is premised upon diversion data from a period after the significant development of groundwater in the 1940s and 1950s, it presumes the hydrologic conditions that existed during and following the development of significant conjunctive use within the Project, and acceptance of the methodology is consistent with a common understanding that groundwater pumping for supplemental irrigation purposes is

permitted under the Compact. Stated differently, the D1/D2 allocation effectively "grandfathered" in any effects that groundwater pumping during 1951-78 had on Project operations. See NM-EX 006, Barroll 2d Decl. at ¶ 57; NM-EX 107, Lopez Rep. at 35-36; NM-EX 108, Lopez Reb. Rep. at 14; see also NM-EX 101, Barroll Reb. Rep. at 1; NM-EX 007, D'Antonio 2d Decl. at ¶ 20; NM-EX 012, Sullivan Decl. at ¶¶ 17, 112.

RESPONSE: Disputed. The D1/D2 allocation method is a regression equation to estimate the amount of water that could be delivered to Project headgates in a given year based upon the amount of water available for release in that year developed from release and diversion data during 1951-1978. The D1/D2 method was not developed to recognize conjunctive use in the Project.

216. During the D1/D2 period, Texas continued to support conjunctive use within the Project. For instance, when New Mexico declared a groundwater basin in the Lower Rio Grande, limiting further depletions and increasing administrative oversight, Texas urged New Mexico to reconsider, citing the importance of conjunctive use within the Project. See NM-EX 107, Lopez Rep. at 33; NM-EX 418, Transcript of Proceedings from 43rd Annual Meeting of the Rio Grande Compact Commission, at 66-67 (Mar. 25, 1982).

RESPONSE: Disputed. New Mexico's citations do not show that Texas supported conjunctive use throughout the D1/D2 period. The transcript shows one "instance" of comments made by the Texas Compact Commissioner in 1982. The method of allocation under the "D1/D2 method" is not documented until 1984.

217. Prior to 1980, the conjunctive use of surface and groundwater in the Project was hydrologically stable. In drought years, farmers in both Texas and New Mexico, with the encouragement of Reclamation, pumped groundwater to supplement the surface supply delivered by the Project. In wetter years, the groundwater table throughout the Project rebounded quickly from the effects of that pumping. The state line was irrelevant. See NM-EX 007, D'Antonio 2d Decl. at ¶ 12; see also NM-EX 506, Cortez Aff. at ¶ 8; NM-EX 100, Barroll Rep. at §§2.1, 2.2.

RESPONSE: Disputed. The term "hydrologically stable" is undefined, vague and ambiguous, and the statement is disputed on that basis. Further, the sentence "the state line is irrelevant" is a non sequitur and its relevance to the statement is not clear, and therefore is disputed.

218. Groundwater rights for irrigation in the LRG were fully developed prior to 1980, during the drought periods of the 1950s, 1960s and 1970s, in cooperation with Reclamation. During that time, it is likely that almost every acre of land in EBID was irrigated by groundwater. See Barroll 2d Decl. at ¶ 79.

RESPONSE: Disputed. The terms "groundwater rights for irrigation" and "fully developed" are undefined, vague and ambiguous, and the statement is disputed on that basis. Upon information and belief, groundwater rights for irrigation in the LRG have yet to be determined. The statement that almost every acre in EBID was irrigated by groundwater prior to 1980 is speculative and lacks factual foundation.

219. In about 1980, the City of El Paso expressed its intent to appropriate a one hundred-year supply of groundwater in New Mexico. In response to this development and to the recent changes in Project operations following transfer of title to the diversion structures from Reclamation to the Districts, the New Mexico State Engineer declared New Mexico's LRG Underground Water Basin in 1980 and extended it in 1982. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 5(b), 8-9, 14-15; see also NM-EX 427, Office of the State Engineer, State Engineer Order No. 126 (Sept. 1980); NM-EX 428, Office of the State Engineer, State Engineer Order No. 135 (Sept. 1982).

RESPONSE: Not disputed, with the clarification that neither of the cited State Engineer orders declares the declaration of a closed basin in the LRG was in response to City of El Paso actions.

220. Since 1980, the New Mexico State Engineer has not permitted any new appropriations of groundwater in the groundwater basins supporting the Rio Grande. A review of all permits since 1980 revealed only three exceptions totaling 13.865 AF per year, as compared to approximately 350,000 to 375,000 AF of total annual use in the Lower Rio Grande Basin in New Mexico. See NM-EX 010, Serrano Decl. at ¶ 21; NM-EX 007, D'Antonio 2d Decl. at ¶¶ 18-19.

RESPONSE: Disputed. The term "new appropriations" is undefined, vague and ambiguous, and the statement is disputed on that basis. The claim that no new well appropriations have been permitted is also contradicted by SOF 229, which states that the New Mexico State Engineer issued permits for 252 wells in the Mesilla and Rincon Basins in the last four years alone. Further, the New Mexico State Engineer has allowed thousands of new domestic wells in the LRG since 1980, and existing irrigation wells have significantly increased pumping since 1980, which may be considered new appropriations of groundwater.

221. Under NMSA 1978 §72-12-5 (1931), water rights users who claim a priority date earlier than the September 1980 LRG Groundwater Basin declaration could file with the State Engineer individual "declarations" describing their claimed existing rights and were encouraged to do so by the State Engineer. The vast majority of these declarations reflect that the subject wells were drilled during the droughts of the 1950s and 1970s. See NM-EX 007, D'Antonio 2d Decl. at ¶ 19.

RESPONSE: Not disputed.

222. In total, since the New Mexico State Engineer declared the Lower Rio Grande Basin in 1980, the New Mexico State Engineer has permitted approximately 2,678 changes to existing irrigation well water rights. Each one went through the rigorous and comprehensive analysis required by the permitting process to assure that the change would not cause new depletions to the river or to other water rights owners. See NM-EX 010, Serrano Decl. at ¶ 18; NM-EX 007, D'Antonio 2d Decl. at ¶ 21.

RESPONSE: Disputed. The description of the State Engineer well change application review and approval process to assure changes would not cause new depletion is belied by the numerous studies that show river depletion caused by groundwater pumping since

1980, indicating that the State Engineer's analysis is neither rigorous nor comprehensive or is deeply flawed, or both. NM-EX 100 Barroll Rep. at 47-48; *see also Review of Texas Model, a Numerical Model of the Rio Grande below Elephant Butte Reservoir, Jean Moran (May 31, 2019); Expert Report of Gregoryu K. Sullivan, P.E. and Heidi M. Welsh (October 21, 2019); Expert Report of William R. Hutchison (May 31, 2019); USGS study titled Rio Grande Transboundary Integrated Hydrologic Model and Water-Availability Analysis, New Mexico and Texas, United States, and Northern Chihuahua, Mexico.*

223. The average annual volume of LRG groundwater pumped in New Mexico during the period 1979-2005 (109,600 AF) was much less than during the period 1951-78 (179,100 AF). NM-EX 012, Sullivan Decl. at ¶ 20; see also NM-EX 123 Spronk Reb. Rep. at 27.

RESPONSE: Disputed. The State Engineer did not require the metering of wells in the LRG until after 2005, therefore the annual volumes prior to full metering are estimates only. Further, the statement provides no explanation for the selected periods and their comparison of estimated average annual volumes pumped is affected by the predominately-dry period in the 1950s and 1970s.

D. Development After 2006

224. Farmers in both districts continue to rely, as they have throughout the history of the Project, upon conjunctive management of groundwater and surface supply. See NM-EX 006, Barroll 2d Decl. at ¶ 28; see also NM-EX 242, Esslinger Dep. (Aug. 18, 2020) at 30:12-46:4; NM-EX 245, King Dep. (May 18, 2020) at 91-92, 101. For instance, EPCWID maintains 62 high capacity wells, and its constituents have an unknown additional number of private wells for supplemental irrigation use. NM_EX 100, Barroll Rep. 25; see also NM-EX __, Reyes Dep. (Aug. 31, 2002) 36:22-50:2 (discussing the wells and their use during the 2003-04 drought).

RESPONSE: Disputed. The history of the Project shows little to no use of groundwater early in the Project. The change to more reliance on groundwater was due in the 1950s to drought and more recently to the change in cropping patterns, particularly the increase in pecans, that is contributing to the increased reliance on groundwater. *NM-EX 106.*

225. Reflecting EBID's reliance on conjunctive use, when EBID and EPCWID negotiated the 2008 Operating Agreement, EBID's principals understood that a primary effect of the agreement would be to "grandfather" levels of groundwater pumping in New Mexico commensurate with the D2 period. See NM-EX 108, Lopez Reb. Rep. at 17; NM-EX 101, Barroll Reb. Rep. at 43; see, e.g., NM-EX 208, Esslinger Dep. (Aug. 18, 2020) at 157:11-24.

RESPONSE: Disputed. The terms "grandfather" and "primary effect" are vague and ambiguous, and the statement is disputed on that basis. Further, the 2008 Operating Agreement is based, in part, on the Project depletion levels from the D2 period, not the pumping levels.

226. Following the 2008 Operating Agreement, New Mexico farmers were forced to increase their groundwater use steeply in order to maintain their crops and balance reduced surface

water allocations. In years in which the Project has a full supply available, the 2008 Operating Agreement has reduced EBID's allocation by more than one-third, leading to increased groundwater pumping in full supply and decreased opportunity for recharge. As a result, drawdowns to the aquifer in the New Mexico portion of the Project accelerated, and the aquifer fell to unprecedentedly low levels. See NM-EX 007, D'Antonio 2d Decl. at ¶ 47; NM-EX 006, Barroll 2d Decl. at ¶¶ 26, 65, 81; see also, e.g., NM-EX 100, Barroll Rep. at §§6.3, 6.4, 9.3, 9.4, 9.5.

RESPONSE: Disputed. The cited sources do not show that the 2008 Operating Agreement "forced" farmers to increase groundwater use steeply. Increased groundwater pumping is tied to the change in cropping patterns, particularly the increase in pecans, that is supported by a State Engineer permitted farm delivery requirement of 4.5 to 5.5 acre-feet per acre in excess of the Project's historic 3.024 acre-feet per acre in a year in which a full surface water supply is available.

227. Nevertheless, current irrigation well pumping levels in in low supply years in New Mexico are comparable to irrigation well pumping during the 1950s drought. The comparison may be visualized in the following figure: [figure omitted]. NM-EX 006, Barroll 2d Decl. at ¶ 26.

RESPONSE: Disputed. The State Engineer did not require the metering of wells in the LRG until after 2005, therefore the annual volumes prior to full metering are estimates only. Nevertheless, assuming the well pumping values are reasonably correct the comparison demonstrates that the 2008 Operating Agreement is not the cause of well pumping levels in low supply years.

228. Many water rights owners in the Lower Rio Grande Basin in New Mexico have informed the Water Master that the reduction in surface water effected by the 2008 Operating Agreement has had significant negative impacts on them, including increased pumping costs and loss of their crops and property improvements. See NM-EX 010, Serrano Decl. at ¶¶ 35, 36.

RESPONSE: Disputed. This statement lacks factual foundation and is based on hearsay and speculation.

229. Excepting only irrigation and single family wells, the New Mexico State Engineer issued permits for 252 wells in the Mesilla and Rincon Basins from 2016 to December 14, 2020. Each such application is subject to comprehensive analysis and, if permitted, are permitted with conditions such that the well causes no new depletions of the Rio Grande or to other water rights owners. See NM-EX 010, Serrano Decl. at ¶ 18.

RESPONSE: Disputed. The description of the State Engineer well permitting review and approval process to assure changes would not cause new depletion is belied by the numerous studies that show river depletion caused by groundwater pumping indicating that the State Engineer's analysis is neither rigorous nor comprehensive or is deeply flawed, or both. NM-EX 100 Barroll Rep. at 47-48; *see also Review of Texas Model, a Numerical Model of the Rio Grande below Elephant Butte Reservoir*, Jean Moran (May 31, 2019); Expert Report of Gregoryu K. Sullivan, P.E. and Heidi M. Welsh (October 21,

2019); Expert Report of William R. Hutchison (May 31, 2019); USGS study titled *Rio Grande Transboundary Integrated Hydrologic Model and Water-Availability Analysis, New Mexico and Texas, United States, and Northern Chihuahua, Mexico*.

230. As of 2020, there are approximately 3,000 total irrigation, commercial, mutual domestic, and industrial wells in the Lower Rio Grande in New Mexico. The New Mexico State Engineer meters every well within this group and enforces compliance with water rights limits. See NM-EX 010, Serrano Decl. at ¶¶ 14, 20.

RESPONSE: Disputed. No water rights for wells have been adjudicated and decreed in the LRG and therefore compliance with water right limits is unknown.

231. There is no indication, from the historical record, that any party, prior to this litigation, ever formally requested that New Mexico curtail groundwater pumping below Elephant Butte. See NM-EX 008, Lopez 2d Decl. at ¶ 39; see also NM-EX 002, D'Antonio Decl. at ¶ 18; NM-EX 004, Schmidt-Petersen Decl. at ¶ 16; NM-EX 218, Lopez Dep. (July 7, 2020) at 140:13-141:13; NM-EX 204, D'Antonio Dep. (June 25, 2020) at 169:1-7.

RESPONSE: Not disputed, with the clarification that "formally requested" means a mechanism for curtailment based on statute or regulatory requirement in New Mexico.

232. Irrigation well pumping in the LRG portions of New Mexico has been fully metered since 2008. Metering data, combined with surface water delivery data, indicates that New Mexico farmers are applying an average of 4.0 AF of combined surface and groundwater to each irrigated acre. By comparison, EPCWID allots 4.0 AF per acre of surface water to its farmers in full-supply years, plus unknown amounts of groundwater. NM-EX 006, Barroll 2d Decl. at ¶ 22; see also NM-EX 423, 2001 Rio Grande Project Third Party Implementing Contract Among the U.S., EPCWID, and the City of El Paso at 49, 59 (Apr. 10, 2001)

RESPONSE: Disputed. The comparison of EBID and EPCWID average farm delivery per annum is not comparable because New Mexico farmers are applying an average of 4.0 AF per acre of combined surface and groundwater to each irrigated acre in less than full supply years, while EPCWID farmers generally apply less than 4.0 AF per acre in less than full supply years.

X. DEVELOPMENT OF GROUNDWATER FOR MUNICIPAL AND INDUSTRIAL USE

233. Prior to 1938, municipalities in New Mexico below Elephant Butte Reservoir relied on groundwater for municipal and industrial use. See NM-EX 011, Stevens 2d Decl. at ¶ 30; NM-EX 112, Stevens Rep. at 83-84; NM-EX 318, HarlowM. Stafford et al., Rio Grande Joint Investigation Part I: General Report of the Rio Grande Joint Investigation, at 11, 14-16 (1937) (cataloguing use by "Cities, Towns, and Villages"); NM-EX 350, R.A. Scalapino, Ground-Water Resources of the El Paso Area, Texas, at 1 (1949) (discussing "[a]n intensive study of ground-water resources of the El Paso area" for municipal use in 1935).

RESPONSE: Not disputed.

234. Following the Compact, cities and towns in the LRG have grown in their reliance on groundwater supplies. Without groundwater supplies, cities and towns would be left without water for their citizens. Outside of established public utilities, domestic wells also continue to supply waters to individual homes. See NM-EX 006, Barroll 2d Decl. at ¶ 28.

RESPONSE: Disputed. The term "grown in their reliance" is vague and ambiguous and objected to on this basis. The United States does not dispute that pumping of groundwater for non-irrigation use has grown significantly since the Compact. The statement that cities and towns would be left without water for their citizens without groundwater supplies is hyperbole and speculation.

235. For instance, Las Cruces has pumped groundwater since the late nineteenth century, gradually increasing their diversions as the population of the city increased. NM-EX 013, Wilson Decl. at ¶ 4. Within New Mexico, the City of Las Cruces currently pumps approximately 15,000 AF/yr from wells in the Mesilla basin and 4,000 AF/yr from wells in the Jornada del Muerto, an adjoining but hydrologically disconnected basin. See NM-EX 006, Barroll 2d Decl. at ¶ 29; NM-EX 013, Wilson Decl. at ¶ 6. However, given the amount of water the City of Las Cruces returns to the Rio Grande it supplies a net gain to the river system. NM-EX 013, Wilson Decl. at ¶ 6.

RESPONSE: Disputed. The City of Las Cruces claimed and received a Subfile Order for its use of water in the LRG water rights adjudication, *State of New Mexico v. Elephant Butte Irrigation District*, No. CV 96-888, NM Third Judicial Dist, MSJ_00004511. The Subfile Order establishes 1905 as the City's first beneficial use of water "for all groundwater diverted," not the late nineteenth century. Further, Mr. Wilson's declaration claims the City has a "[a]t least 6,500 AFY entitlement from grandfathered rights" when the D-2 curve was adopted in1980 which he uses to declare a "surplus" of water the City contributes to the river. NM-EX 013, Wilson Decl. at ¶ 6. The so-called "entitlement" is legally flawed (the City does not have "grandfathered" rights) and the City's net gain to the river system is inaccurate.

236. Treated effluent from Las Cruces, regardless of source, returns to the Rio Grande below Las Cruces and is available for diversion as part of Project Supply. See NM-EX 006, Barroll 2d Decl. at ¶ 29; NM-EX 013, Wilson Decl. at ¶ 6.

RESPONSE: Not Disputed.

237. In New Mexico, groundwater pumping for municipal and industrial use comprises only 10 to 20% of total groundwater pumping, with the remainder being irrigation use. In contrast, Texas groundwater pumping for municipal and industrial use comprises far more than half of all groundwater pumping in the state within the Compact area (although a lack of metering data makes it difficult to ascertain the exact percentage). See NM-EX 006, Barroll 2d Decl. at ¶ 30.

RESPONSE: Not Disputed, with the clarification that municipal and industrial groundwater pumping in the El Paso Valley primarily occurs in the Hueco Bolson, downstream and hydrologically separate from Project diversion points on the Rio Grande.

238. Texas pumps groundwater for municipal and industrial uses from its part of the Mesilla basin. Texas does not provide comprehensive metering data, but the Canutillo well field is known to pump approximately 24,000 AF/yr, based on data by the El Paso Water Utility, for El Paso municipal use. A portion of this water returns to the Rio Grande as return flow below the Courchesne gage and is accounted for as Project Supply. See NM-EX 006, Barroll 2d Decl. at ¶¶ 31-32; NM-EX 100, Barroll Rep. at 30.

RESPONSE: Not Disputed.

239. The City of El Paso and Ciudad Juarez also pump large amounts of water from the Hueco bolson. The extent of this pumping has resulted in a cone of depression more than 100 feet deep and has been identified as a significant problem since the 1980s. The rate of pumping increased substantially since 1938. There has been no recovery in these groundwater levels. See NM-EX 006, Barroll 2d Decl. at ¶¶ 32, 45; NM-EX 012, Sullivan Decl. at ¶ 36; see also NM-EX 117, Greg Sullivan, LRG Wells and Groundwater Level Drawdowns (Sept. 15, 2020); NM-EX 121, Spalding & Morrissey Rep. at fig. 5.4.

RESPONSE: Not Disputed, with the clarification that there are no known studies that show that this cone of depression results in increasing depletions in Project water in the Rio Grande because EPCWID diverts water upstream from the cone of depression since the discontinuance of Riverside Diversion Dam.

240. The decline in groundwater levels in the El Paso Valley due to municipal pumping by El Paso and Ciudad Juarez has caused the groundwater to become disconnected from the surface water in northern portions of the valley. This means that Project water conveyance losses in the disconnected area are at a maximum and are not affected by variations in pumping. See NM-EX 012, Sullivan Decl. at ¶ 47.

RESPONSE: Disputed. Project conveyance losses of water in transit in ditches and canals in areas where the surface water is disconnected from the groundwater may be affected by other conditions. For example, there is no seepage loss in lined canals where the El Paso Valley groundwater is disconnected from the surface water. Therefore, it is incorrect to state categorically that conveyance losses are at a maximum when the groundwater-surface water connection is lost. Further, unlike areas in the Mesilla Valley in New Mexico, the disconnection of groundwater and surface water in the El Paso Valley occurs downstream from EPCWID's diversions on the Rio Grande and does not cause depletion of Project water in the river.

241. Non-irrigation groundwater pumping in Texas and Mexico in basins connected to the Rio Grande has averaged 86,700 AF/y and 150,900 AF/y, respectively during the period 2013-17. In comparison, non-irrigation groundwater in New Mexico is only about 37,000 AF/y, of which 17,000 AF/y returns to the Rio Grande as return flow. See NM-EX 012, Sullivan Decl. at ¶ 16; see also NM-EX 122, Spronk Rep. at 51, 205-07.

RESPONSE: Disputed. Approximately 12,900 AF/y of return flows from non-irrigation groundwater pumping in New Mexico is returned to the Rio Grande. An estimated 4,100 AF/y of return flows becomes urban deep percolation (groundwater recharge), which may or may not ultimately return to the Rio Grande. *See* NM-EX 122, Spronk Rep. at 51. Moreover, in addition to return flows from non-irrigation groundwater pumping in New Mexico, non-irrigation groundwater pumping in Texas and Mexico also generate return flows of approximately 64,000 AF/y and 71,400 AF/y, respectively. *Id.* at 51, 206.

XI. IMPACT OF GROUNDWATER PUMPING

242. When water is pumped from a stream-connected aquifer, that pumping eventually depletes water from the stream system, but the timing of the depletion, the location where that depletion occurs, and the amount of depletion depends on a variety of hydrologic conditions as well as the location and construction of the pumping wells. Stream depletions generally consist of reduction of gains to streams and to irrigation drains, and increases in the seepage loss from natural streams and irrigation conveyances. NM-EX 006, Barroll 2d Decl. at ¶ 34.

RESPONSE: Not Disputed, with the clarification that "stream depletions" to irrigation drains is a misnomer and depletion of irrigation drain flow may occur from groundwater pumping regardless of "stream depletion" or proximity to any stream or river.

243. The Rio Grande within the LRG and El Paso Valley has historically had both gaining and losing reaches. During times of low Project Supply and high groundwater pumping, the losses from the Rio Grande are higher than in high-Project-supply years with low groundwater pumping. Groundwater pumping in both New Mexico and in the Texas Mesilla impact the gains and losses from the Rio Grande in the Mesilla Valley. Groundwater pumping in both Texas and Mexico impact the gains and losses from the Rio Grande in the El Paso Valley. NM-EX 006, Barroll 2d Decl. at ¶ 35; see also NM-EX 122, Spronk Rep. at 92-98; NM-EX 121, Spalding & Morrissey Rep. at fig. 9.3.

RESPONSE: Not Disputed.

244. Stream depletion by groundwater pumping does not necessarily equate to impairment of other water rights, even in a fully appropriated stream system. The impact of stream depletion upon other water users depends on a number of factors, including hydrologic conditions and river operations. In the case of the Project, stream depletions that occur during years of adequate supply do not impact downstream deliveries. Instead, as a function of normal operations of the Project, Reclamation adjusts releases from Caballo as necessary, taking into account the gains and losses occurring between Caballo dam and the points of delivery, to ensure that all the water that has been ordered is in fact delivered. NM-EX 006, Barroll 2d Decl. at ¶ 36; see also NM-EX 100, Barroll Rep. at § 2.2, Appx. B.

RESPONSE: Disputed. Impairment of water rights is a legal conclusion not a statement of fact, and the statement is disputed on that basis. Further, the impact from stream depletions even during years of adequate surface water supply affects downstream deliveries due to increased conveyance losses.

245. Groundwater pumping in both New Mexico and Texas (and Mexico as well) may cause stream depletions. These stream depletions may cause Reclamation to release more water from Project Storage in order to deliver water to Project beneficiaries than otherwise. NM-EX 006, Barroll 2d Decl. at ¶¶ 37, 52-53; see also NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 4; NM-EX 122, Spronk Rep. at 92-93.

RESPONSE: Disputed. This is a statement of expert opinion, not a statement of fact, and it is disputed on this basis. While stream depletions in the Rincon Valley and the New Mexico and Texas portions of the Mesilla Valley may cause Reclamation to release more water from Project Storage in order to deliver water to Project beneficiaries than if there was no groundwater pumping-induced stream depletions, there is no basis for asserting that such Project operations are due to pumping by Mexico or Texas below the Mesilla Valley.

*246. **[a]** Groundwater pumping by in Texas and New Mexico intercepts return flows that are associated with Project irrigation and reduces the flow in Project drains. But, these effects do not necessarily translate to effects upon Project deliveries. Prior to 2006, stream depletions occurring in Project full-supply years would have no effect on either the water allocated to the Districts or the water delivered to the Districts in those full-supply years.*

***[b]** Furthermore, if Project Supplies remained adequate until the next spill of the Project reservoirs, then the Project beneficiaries would not experience any later reduction in deliveries resulting from those stream depletions. However, stream depletions that occurred in the years leading up to a shortage could reduce the Project allocations in the subsequent water-short years, but this depends on many factors, including increased reservoir evaporation and spills that may occur in the interim. NM-EX 006, Barroll 2d Decl. at ¶¶ 38-39, 52-53; see also NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 3-9; NM-EX 122, Spronk Rep. at 71-72; NM-EX 012, Sullivan Decl. at ¶¶ 13, 17-18, 25.*

RESPONSE:

[a] Disputed. The United States does not dispute that groundwater pumping in New Mexico intercepts return flows associated with Project irrigation and reduces the flow in Project drains. Whether pumping in Texas has similar effects, and where, is a matter of dispute. The term "effects upon Project deliveries" is ambiguous in the second sentence, and the term "full supply" is disputed as used by New Mexico. The remainder of the statement is expert opinion, not a statement of fact, and is disputed on that basis. Stream depletions prior to 2006 did affect the Districts by requiring more releases to compensate for increased conveyance losses. Rio Grande depletion, as shown in deviations from the D2 equation of releases and deliveries prior to 2006, caused Reclamation to release more water from Project storage, even during "full-supply years," to ensure delivery of a "full supply" allocation.

[b] Disputed. The term "Project Supplies" and "adequate" are undefined, vague and ambiguous, and the statement is expert opinion. The statement is disputed on these grounds. Further, the release of water in storage necessary to compensate for stream depletions reduces usable water in storage that is available for Project allocation in

subsequent years, and thus Project beneficiaries *would* experience any later reduction in deliveries resulting from those stream depletions.

XI. IMPACT OF GROUNDWATER PUMPING

247. **[a]** *The effects of groundwater pumping in New Mexico on Project deliveries are intermittent and variable for a number of reasons. First, pumping in New Mexico has varied substantially since it developed in the early 1950s, with higher amounts of pumping in low Project supply years and lower amounts of pumping in full supply years.* **[b]** *Second, in full supply years, the Districts received all water they ordered, up to their total allocations, so pumping does not impact deliveries in those years.* **[c]** *Third, some of the river depletions from pumping occur during the winter when the Project is not making deliveries.* **[d]** *Fourth, the amount and timing of Rio Grande depletions from pumping depends on many factors, including the locations and depth of the wells, the timing and amount of pumping, aquifer characteristics, the interaction of ground water and surface water, Project and reservoir operations, including spills, and many other factors. See NM-EX 012, Sullivan Decl. at ¶¶ 13-14, 102; see also NM-EX 122, Spronk Rep. at 194, 318; NM-EX 123, Spronk Reb. Rep. at 58-59.*

RESPONSE:
[a] Disputed. The terms "intermittent and variable" and "varied substantially" are vague and ambiguous, and the statement is disputed on this basis.

[b] Disputed. New Mexico's characterization of "full supply" and the concept of a "full supply year" are opinion statements that the United States disputes. The United States does not dispute that volumes of groundwater pumped in New Mexico vary from year to year.

[c] Not disputed.

[d] Disputed. The terms "depends upon," "many factors" and "many other factors" are vague and ambiguous, and the statement is disputed on this basis. The United States does not dispute that the factors specifically identified are relevant to modeling depletions from the Rio Grande.

248. Groundwater pumping in Texas has lowered groundwater levels, intercepted irrigation return flows, dried up drains, and increased seepage losses from the Rio Grande, impacting the entire Project. These effects have increased depletions to surface water flows and increased conveyance losses in delivering Project water. In fact, these drawdowns may have disconnected the stream system from the aquifer in the El Paso area, maximizing the seepage losses in this area. See NM-EX 006, Barroll 2d Decl. at ¶ 42, 44; NM-EX 012, Sullivan Rep. at ¶ 36; see also NM-EX 101, Barroll Reb. Rep. at 18; NM-EX 122, Spronk Rep. at 65.

RESPONSE: Disputed. In the El Paso Valley, the increased conveyance losses had occurred only in the reach from International Dam to the former Riverside Dam and only prior to the American Canal Extension (ACE) coming online in 2000. Since the ACE came online, water is conveyed down the concrete-lined ACE and pumping no longer

impacts deliveries. Whether or not the stream system is disconnected from the aquifer is no longer relevant as the concrete-lined ACE is disconnected from both.

249. The effects of groundwater pumping in Texas impact the Project in New Mexico. The Rincon-Mesilla Basin and El Paso Valley are hydraulically connected by the surface flow of the Rio Grande. Additionally, the Project is operated as a single unit. As such, the effects of pumping on surface flows in Texas can propagate throughout the Project area and impact deliveries of Project water to New Mexico. See NM-EX 012, Sullivan Decl. at ¶¶ 72-73.

RESPONSE: Disputed. While pumping in the Texas portion of the Mesilla Valley may impact Project deliveries downstream, the impacts of pumping in the El Paso Valley are fully offset by effluent return flows from the City of El Paso and therefore do not propagate throughout the Project area and impact deliveries of Project water in New Mexico. To the contrary, modeling results from New Mexico's ILRGM demonstrate that "turning off" pumping in the Texas portion of El Paso Valley "*reduces* EBID [farm headgate] deliveries by an average of 100 [acre-feet] during 1951-2017." (emphasis added). NM-EX 122, Sullivan and Welsh, Rebuttal Report of July 15, 2020, at 126-127. In addition, the term "operated as a single unit" is vague and ambiguous and the statement is further disputed on this basis. *See* response to statement 69, *supra*.

250. Prior to 2006, groundwater levels in the Rincon and Mesilla valleys were relatively high and fluctuated from season to season due to the application of irrigation water from the Rio Grande on Project lands resulting recharge to the groundwater system. Groundwater levels also fluctuated from year to year based on Project Supply levels: in low supply years groundwater levels declined, and in subsequent full-supply years groundwater levels recovered. Following the adoption of D3 Allocation in 2006 and the 2008 Operating Agreement, groundwater levels in the Rincon and Mesilla valleys have declined in years of low Project supply but have not recovered in any substantive way in subsequent full-supply years. NM-EX 006, Barroll 2d Decl. at ¶¶ 44, 66; see also NM-EX 100, Barroll Rep. at 73-77; NM-EX 012, Sullivan Decl. at ¶¶ 13, 45.

RESPONSE: Disputed. The terms "relatively high," "application of irrigation water," "resulting recharge," and "full-supply years" are undefined, vague and ambiguous, and the statement is disputed on this basis.

251. D3 Allocation and the 2008 Operating Agreement starve the upper part of the Project of water, causing reductions in total Project return flows and depleting the groundwater supply in the upper part of the Project. The net result is a reduction in Project delivery efficiency and a reduction in total Project Supply. NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 14-20. To use the analogy proposed by Texas, the 2008 Operating Agreement itself "reduces the size of the pizza" that represents Project Supply upon which the two District rely. See NM-EX 006, Barroll 2d Decl. at ¶ 64.

RESPONSE: Disputed. The term "delivery efficiency" is undefined, vague and ambiguous, and the statement is disputed on this basis. While it is not disputed that the Project has experienced increased seepage losses and reduced return flows since the early 2000s, it is disputed that these effects result from implementation of the 2008 Operating

Agreement. Groundwater pumping in New Mexico reduces the Project surface water supply by increasing seepage losses from the Rio Grande, reducing seepage gains to the Rio Grande, and reducing drainage return flows. Under the 2008 Operating Agreement, the annual Project allocation to EBID is reduced to offset the reduction in Project supply due to New Mexico groundwater pumping. Reductions in Project return flows and corresponding reductions in Project surface water supply since the early 2000s are due to irrigation demands in New Mexico remaining near or above historical average demands despite nearly two decades of sustained drought conditions, which have resulted in historically low inflows and storage in Elephant Butte Reservoir. NM-EX 122, Sullivan and Welsh report of Oct 2019, p. 194, Fig 5-15.

252. Because the D3 Allocation method reduces EBID's allocation to account for any real or apparent discrepancies in Project performance relative to the 1951-1978 period, groundwater pumping in Texas reduces EBID's allocation. Analyses using the ILRG Model indicate that Project water diversions by New Mexico during 2006 - 2017 were reduced by an average of 15,500 AF/y by Texas pumping, an average of 94,200 AF/y by imposition of the 2008 OA, an average of 86,300 AF/y by increases in Project operational waste (mostly in Texas), and by an average of 72,400 AF/y by changes in EPCWID operations. Due to nonlinearities in the ILRG Model, the foregoing impacts are not fully independent and additive. NM-EX 012, Sullivan Decl. at ¶¶ 15, 18; see also NM-EX 006, Barroll 2d Decl. at ¶ 41; NM-EX 123, Spronk Reb. Rep. at 379, 533, 577, 709.

RESPONSE: Disputed. The D3 Allocation method does not reduce EBID's allocation. Under the agreement, EBID voluntarily cedes some of the amount it was allocated, to compensate for the effects of groundwater pumping on Project deliveries. NM-EX-510, Operating Agreement, at US0108799; U.S. Mem.15 & nn.71.

253. Using the New Mexico Integrated Lower Rio Grande Model ("ILRGM") to calculate the impact of New Mexico pumping on Texas, New Mexico experts have shown that the impact is much smaller than the reallocation of Project water away from New Mexico the 2008 Operating Agreement. See NM-EX 006, Barroll 2d Decl. at ¶¶ 68, 80; see also NM-EX 103, Barroll 2d Suppl. Reb. Rep. at vi- vii, 9, 20.

RESPONSE: Disputed. What New Mexico experts have "shown" is subjective, as is what constitutes "impact . . . on Texas" is ambiguous, including how it compares to the "reallocation of water." Further, the statement appears to be based on hypothetical or counterfactual conditions regarding Project operations that are disputed. The United States does not dispute that New Mexico contends, based on its modeling and analysis, that its alleged injuries from the Operating Agreement exceed the alleged injuries to Texas at issue in this suit.

254. Results from the ILRGM show that had New Mexico had been allocated 57% percent of Project Supply from 2006 through 2017, the combined effects of that allocation increase. The effects of the improved groundwater conditions and Project performance would have resulted in New Mexico being allocated a total of 1,053,393 AF more than under D3 Allocation, or, on average, 94,000 AF more per year from 2006 through 2017. In effect, the D3 Allocation and the

2008 Operating Agreement have reduced New Mexico surface water allocation by 88,000 AF/yr on average since 2006. See NM-EX 006, Barroll 2d Decl. at ¶ 69; see also NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 15-16.

RESPONSE: Disputed. What the results "show" is subjective, and the terms "Project Supply," "improved groundwater conditions," and "Project performance" are undefined, vague and ambiguous, and the statement is disputed on this basis. Further, the Compact does not apportion 57%, or any other percentage, of the Project water to New Mexico; Project water is allocated to EBID, EPCWID, and Mexico.

255. The ILRGM also calculates that if New Mexico had been allocated 57% of Project Supply, the resulting improved groundwater conditions and associated reduction in river seepage—and increased drain flow—would have resulted in a total increase in Project Supply deliveries of 863,730 AF during 2006 through 2017, or an average of 72,000 AF/year. See NM-EX 006, Barroll 2d Decl. at ¶ 70; NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 18.

RESPONSE: Disputed. The terms "Project Supply," "improved groundwater conditions," and "Project performance" are undefined, vague and ambiguous, and the statement is disputed on this basis. Further, the Compact does not apportion 57%, or any other percentage, of the Project water to New Mexico; Project water is allocated to EBID, EPCWID, and Mexico.

256. Had EBID been allocated and delivered its 57% share of Project Supply since 2006, the Project as a whole would have benefitted from an improvement in groundwater conditions in New Mexico. This improvement in groundwater conditions would have increased Project delivery efficiency and thereby further increased EBID's allocation and delivery at little cost to EPCWID. See NM-EX 006, Barroll 2d Decl. at ¶ 62; see also NM-EX 103, Barroll 2d Suppl. Reb. Rep. at 18-19.

RESPONSE: Disputed. The terms "Project Supply," "improved groundwater conditions," and "Project performance" are undefined, vague and ambiguous, and the statement is disputed on this basis. Further, the Compact does not apportion 57%, or any other percentage, of the Project water to New Mexico; Project water is allocated to EBID, EPCWID, and Mexico. The allegation of a "57% share of Project supply" is a legal conclusion, not a fact.

XII. GROUNDWATER MODELING

257. The ILRGM model simulates the impact of pumping on surface water flows and the effects on Project operations and all simulated processes that result as the changed conditions ripple spatially and temporally through the model just as they would in the real world. This is referred to as "re-operation" and is an essential element of the ILRG Model that is not present in the ground water model of the Rincon and Mesilla basins developed by the Texas experts ("Texas Model"). See NM-EX 012, Sullivan Decl. at ¶ 61.

RESPONSE: Disputed. The purpose of the ILRGM model is not disputed but whether it actually does simulate the impact of pumping and the effects on Project operations "as the changed conditions ripple spatially and temporally through the model just as they would in the real world" is a statement of opinion. What is "essential" to the model and whether it is "present" in the Texas model are also opinions. The statement is disputed on this basis.

258. New Mexico's ILRGM is the best available tool for evaluating the claims and counterclaims in this case because it is the only hydrologic model available to evaluate the effects of groundwater pumping and changes in historical Project operations on Project deliveries to Texas and New Mexico. The ILRGM is superior to the Texas Model because (a) it simulates the entire Lower Rio Grande area from Elephant Butte Reservoir to Fort Quitman, (b) it employs monthly stress periods that allow it to simulate the important seasonal variations in groundwater and surface water flows, and (c) it is capable of simulating the dynamic response of Project operations to changes in flow throughout the entire Project area. Conversely, the Texas Model fails to accurately evaluate pumping effects to Project deliveries because it does not simulate the dynamic response of Project reservoir releases to changes in flows that occur without pumping, provides no simulations for the area downstream of the El Paso gage and thus cannot simulate the feedback response from a large part of the Project area, and uses annual stress periods that prevent distinguishing impacts that occur during the Project release period (irrigation season) from impacts that occur during the non-irrigation season. In short, the absence of dynamic simulation of Project operations renders the Texas Model of no utility in analyzing the key issue presented in this case: impacts to Project deliveries from groundwater pumping and changes in historical Project operations. NM-EX 012, Sullivan Decl. at ¶ 118; see also NM-EX 122, Spronk Rep. at 9, 113.

RESPONSE: Disputed. The allegation that the ILGRM is the "best available tool" is a legal conclusion, not a statement of fact, and is disputed on that basis.

259. The ILRG Model has been used to run several model scenarios that evaluate New Mexico's pumping, Texas's pumping, the impacts of implementing the 2008 OA, the impacts of changes to historical Project operations and accounting in EPCWID on overall Project allocations, and various potential conjunctive use scenarios. The ILRG Model is the only model in this case that is capable of analyzing and quantifying the effects of these scenarios. The Texas Model is incapable of such analyses. NM-EX 012, Sullivan Decl. at ¶ 119; see also NM-EX 122, Spronk Rep. at 47.

RESPONSE: Disputed. The United States does not dispute the first sentence insofar as it characterizes the objectives of the model runs by New Mexico. The second and third sentences are opinions, not statements of fact and are therefore disputed.

XIII. DIVERSION OF PROJECT SUPPLY FOR MUNICIPAL AND INDUSTRIAL USE

260. **[a]** *The City of El Paso diverts a considerable amount of Project Water for municipal purposes in the El Paso Valley. Much of this municipal use has replaced Project irrigation in Texas. See NM-EX 423, Rio Grande Project Implementing Third-Party Contract among the U.S.,*

EPCWID, and the City of El Paso at 48, 74 (Apr. 10, 2001). **[b]** *Some of these municipal diversions are a result of contractual agreements allowing for the exchange of Project Supply for municipal effluent, which is then considered to be "District Supply" for EPCWID, and not "Project Supply." See NM- EX 006, Barroll 2d Decl. at ¶ 54.*

RESPONSE:

[a] Disputed. The terms "considerable amount" and "much of this municipal use" "improvement in groundwater conditions," and "Project delivery efficiency" are undefined, vague and ambiguous, and the statement is disputed on that basis.

[b] Disputed. The terms "municipal diversions" and "Project Supply" are undefined, vague and ambiguous, and the statement is disputed on that basis. Further, water accounting between EPCWID and the City of El Paso under the Rio Grande Project Implementing Third-Party Contract (Apr. 10, 2001) allows for the exchange of Project water for treated municipal effluent only under certain conditions.

261. Municipal effluent and return flows associated with the municipal use of Project Water in the El Paso Valley were originally accounted as part of Project Supply. NM-EX 100, Barroll Rep. at 30; NM-EX 428, Letter from Filiberto Cortez, Manager, Bureau of Reclamation, to Edd Fifer (July 8, 1999). However, Texas now intercepts these municipal Project return flows by diverting them directly into EPCWID conveyances and this water is no longer accounted for as Project Supply. NM-EX 100, Barroll Rep. at 30, 49-50; NM-EX 102, Barroll Reb. Rep. at 24-36. The reduction in irrigation return flows in Texas, as well as the fact that Reclamation no longer charges EPCWID for the use of any such return flows, means that a greater portion of EPCWID's charged diversions consist of reservoir releases than occurred previously. This change may increase EPCWID's draw on the reservoir, reducing the amount of water available for allocation to both New Mexico and Texas. See NM-EX 006, Barroll 2d Decl. at ¶ 55.

RESPONSE: Disputed. The terms "return flows," "municipal Project return flows," and "Project Supply" are undefined, vague and ambiguous, and the statement is disputed on that basis. Further, it is unclear what is meant by reduction in irrigation flows in Texas.

262. The treatment of municipal effluent in the El Paso Valley stands in stark contrast to the treatment of municipal effluent in New Mexico. Municipal effluent from the City of Las Cruces is available for diversion at Mesilla Dam and at the Project diversion heading farther downstream, and the diversion of that effluent is accounted as Project Supply. See NM-EX 006, Barroll 2d Decl. at ¶ 55.

RESPONSE: Disputed. The terms "municipal effluent," "stark contrast," and "Project Supply" are undefined, vague and ambiguous, and the statement is disputed on that basis.

XIV. ABSENCE OF SHORTAGE NOTIFICATIONS TO NEW MEXICO

A. Regular Reclamation Reporting

263. Reclamation compiles an annual written report to the Rio Grande Compact Commission and gives an annual oral report at the Rio Grande Compact Commission meeting regarding operation of the Rio Grande Project. These reports contain general, annualized data concerning the operation of the Project, such as the total amount of release from Project Storage, the amount of water in Project Storage, and the annual allocations to each district. See NM-EX 202, Cortez Dep. (July 30, 2020) at 44:6-45:4, 102:21-103:6; NM-EX 203, Cortez Dep. (July 31, 2020) at 209:20-210:14. E.g., NM-EX 516, Bureau of Reclamation, Calendar Year 2009 Report to the Rio Grande Compact Commission, 59-67 (Mar. 2010); NM-EX 003, Lopez Decl. at ¶¶ 14-15. [Notice UMF No. 26].

RESPONSE: Not disputed, with the clarification that this statement is correct only for the period of time after 1980 when annual allocations were made to each district. The United States disputes any other construction of Statement of Fact No. 263.

264. Reclamation also provides to the State of New Mexico courtesy copies of periodic reports concerning Rio Grande Project operations, including reservoir elevations, flow readings, and storage transfers between reservoirs. See NM-EX 203, Cortez Dep. (July 31, 2020) at 220:2-222:4. E.g., NM-EX 513, Letter from Filiberto Cortez, Manager El Paso Field Division, Bureau of Reclamation, to Water Accounting Division, U.S. Section, International Boundary Water Commission (Sept. 29, 2009); NM-EX 514, Letter from Filiberto Cortez, Manager El Paso Field Div., U.S. Bureau of Reclamation, to Lieutenant Col. Kimberly Colloton, District Engineer, Army Corps of Engineers (Sept. 29, 2009). [Notice UMF No. 27].

RESPONSE: Not disputed.

265. Reclamation also provides to the Engineer Advisers to the Rio Grande Compact Commission a report of Project accounting. Prior to 2006, that Project accounting amounted to Compact accounting below Elephant Butte Reservoir for New Mexico (EBID) and Texas (EPCWID). After the changes in Project operations in 2006, Project accounting provides a record of the deviation from the apportionment in the Compact. See NM-EX 008, Lopez 2d Decl. at ¶ 31; see also NM-EX 107, Lopez Rep. at 24, 30, 32, 44-48.

RESPONSE: Disputed. The term "Compact accounting" is undefined, vague and ambiguous, and the statement is disputed on this basis. Further, the Compact apportionment below Elephant Butte Reservoir has not deviated due to a change in Project operations in 2006. The Project still effectuates the terms of the Compact and the Project allocation to EBID remains the Compact apportionment to New Mexico.

266. New Mexico does not, however, receive daily operation information such as the daily release amount, the order amounts, or the timing of releases to satisfy orders. See NM-EX 202, Cortez Dep. (July 30, 2020) at 114:6-22; NM-EX 002, D'Antonio Decl. at ¶ 17; NM-EX 004, Schmidt-Petersen Decl. at ¶ 15; NM-EX 100, Barroll Rep. at 47; NM-EX 107, Lopez Rep. at 73 ("Historically, Reclamation information and data about Project operations has not routinely been shared with the States."). [Notice UMF No. 28].

RESPONSE: Not disputed, with the clarification that while daily operations data has not routinely been shared directly with the States, it has been publicly available upon request and online for several years.

267. Likewise, New Mexico does not receive any routine notice that any specific water order, whether at the district or individual farmer level, has or has not been filled. NM-EX 002, D'Antonio Decl. at ¶ 17; NM-EX 004, Schmidt-Petersen Decl. at ¶ 15. [Notice UMF No. 29].

RESPONSE: Not disputed.

268. Accordingly, New Mexico has no means to know, at any given time, what proportion of the water in the Rio Grande below Elephant Butte Reservoir is destined for delivery to EBID, EPCWID, or Mexico. NM-EX 002, D'Antonio Decl. at ¶ 17; NM-EX 004, Schmidt-Petersen Decl. at ¶ 15. [Notice UMF No. 30].

RESPONSE: Not disputed.

269. Further, New Mexico has no means to know, at any given time, whether the Rio Grande Project releases are in fact delivered to Texas in satisfaction of EPCWID orders. NM-EX 002, D'Antonio Decl. at ¶ 17; NM-EX 004, Schmidt-Petersen Decl. At ¶ 15; see also NM-EX 211, Gordon Dep. (July 14, 2020), 180:14-181:7. [Notice UMF No. 31].

RESPONSE: Not disputed.

270. Conversely, to the extent that any amount of water released from Project supply pursuant to a specific order is intercepted prior to delivery, New Mexico would have no basis to know of a shortage to either District without explicit notice. NM-EX 002, D'Antonio Decl. at ¶ 17; NM-EX 004, Schmidt-Petersen Decl. at ¶ 15. [Notice UMF No. 32].

RESPONSE: Disputed. The record shows that New Mexico was aware of the potential for shortage of Project water due to groundwater pumping as of at least 1980, when New Mexico closed the groundwater basin below Elephant Butte Reservoir. NMAC 19.27.48; *see also* U.S. Mem. 11, ¶ 50. In addition, the AWRM Presentation N.M. Interstate Stream Comm'n, Active Water Resource Management in the Lower Rio Grande: Tools for a New Era in Water Management at 7 (Aug. 19, 2005)("AWRM Presentation") created by the Office of State Engineer in 2005, TX00175991, as well as the attempted adoption of AWRM regulations, 19.5.13.1-19.5.50, NMAC, illustrate that New Mexico was aware of the impact of groundwater pumping on Rio Grande flows and Project diversions. *See generally* U.S. Mem. 15-17. In addition, in 1954 the United States Geological Survey published a report documenting its conclusion that groundwater pumping in the Rincon and Mesilla Valleys reduces the flows in Project drains and depletes surface water in the Rio Grande, thereby reducing the surface water supply for the Project. 1954 Conover at 115, 133 (point 5), US0027948, at 28062, 28080l; *see also* U.S. Mem. 10, ¶ 44-45.

B. Absence of Formal Priority Calls or Requests for Curtailment to New Mexico

271. From 1938 through the inception of this litigation, New Mexico did not receive any notice, with the potential exception of one complaint concerning surface water diversions (discussed below), whether from Reclamation, Texas, EBID, or EPCWID, that the conduct of water users in New Mexico prevented the United States from making delivery of Project water called for by Texas (EPCWID). NM-EX 002, D'Antonio Decl. at ¶ 18; NM-EX 004, Schmidt-Petersen Decl. at ¶ 16; see NM-EX 218, Lopez Dep. (July 7, 2020) at 140:13-141:13; NM-EX 204, D'Antonio Dep. (June 25, 2020) at 169:1-7. [Notice UMF No. 33].

RESPONSE: Disputed. The record shows that New Mexico was aware of the potential for shortage of Project water due to groundwater pumping as of at least 1980, when New Mexico closed the groundwater basin below Elephant Butte Reservoir. NMAC 19.27.48; *see also* U.S. Mem. 11, ¶ 50. In addition, the AWRM Presentation created by the Office of State Engineer in 2005, TX00175991, as well as the attempted adoption of AWRM regulations, 19.5.13.1-19.5.50, NMAC, illustrate that New Mexico was aware of the impact of groundwater pumping on Rio Grande flows and Project diversions. *See generally* U.S. Mem.15-17. In addition, in 1954 the United States Geological Survey published a report documenting its conclusion that groundwater pumping educes the flows in Project drains and depletes surface water in the Rio Grande, thereby reducing the surface water supply for the Project. 1954 Conover Rpt., at 115, 133 (point 5), US0027948, at 28062, 28080l; *see also* U.S. Mem. 10 at ¶ 44-45.

272. Filiberto Cortez, El Paso Field Division Manager for Reclamation, testified that Reclamation has only made one communication to New Mexico that notified New Mexico of concerns regarding water use in New Mexico potentially impacting Project deliveries. See NM-EX 202, Cortez Dep. (July 30, 2020) at 111:13-112:10. [Notice UMF No. 34].

RESPONSE: Not disputed.

273. Specifically, in April 2012, Reclamation informed the New Mexico Office of the State Engineer that the Districts and Reclamation had identified a number of river pumps that were "impacting the deliveries" from the Rio Grande Project to EPCWID and Mexico. See NM-EX 521, Email from Filiberto Cortez, Manager El Paso Field Div., U.S. Bureau of Reclamation, to Rolf Schmidt-Peterson, Rio Grande Bureau Basin Manager, N.M. Interstate Stream Comm'n (Apr. 11, 2012). [Notice UMF No. 35].

RESPONSE: Not disputed.

274. The New Mexico State Engineer performed an investigation of the water pumps at issue and responded on September 21, 2012. The investigation concluded that all but two of the sites were operating in compliance with adjudicated water rights that are senior to the Project's or approved groundwater withdrawal permits. With regard to the remaining two sites, the investigation concluded that the pumps in question were no longer operable, and it was not possible to determine if any diversion occurred at either site. See NM-EX 523, Letter from Scott A. Verhines, State Engineer, State of N.M., to Ed Drusina, Comm'r, Int'l Boundary and Water

Comm'n, and Mike Hamman, Albuquerque Area Manager, U.S. Bureau of Reclamation (Sept. 21, 2012). [Notice UMF No. 36].

RESPONSE: Not disputed.

275. The New Mexico State Engineer further invited Reclamation to "continue to notify" the State of any "potential unlawful diversions" so that the State Engineer could "initiate appropriate water administration actions, if necessary, to prevent the unlawful diversion of water." See NM- EX 523, Letter from Scott A. Verhines, State Engineer, State of N.M., to Ed Drusina, Comm'r, Int'l Boundary and Water Comm'n, and Mike Hamman, Albuquerque Area Manager, U.S. Bureau of Reclamation (Sept. 21, 2012). [Notice UMF No. 37].

RESPONSE: Not disputed.

276. Following this invitation, Reclamation made no further reports to the New Mexico State Engineer concerning improper surface water diversions. See NM-EX 202, Cortez Dep. (July 30, 2020) at 119:7-120:9. [Notice UMF No. 38].

RESPONSE: Not disputed.

277. Other than this surface pump investigation, Reclamation has not requested that New Mexico investigate or curtail any illegal water use, whether surface or groundwater. See NM-EX 202, Cortez Dep. (July 30, 2020), at 113:11-18. [Notice UMF No. 39].

RESPONSE: Not disputed.

278. Further, Reclamation has not informed New Mexico that it was unable in any year to deliver Project water that Texas (EPCWID) ordered due to the actions of New Mexico water users. See NM-EX 202, Cortez Dep. (July 30, 2020) at 114:23-115:7. NM-EX 002, D'Antonio Decl. at ¶ 19. [Notice UMF No. 40].

RESPONSE: Disputed. Reclamation does not allocate more water than can be physically delivered and Reclamation will not accept any water delivery orders that cannot be fulfilled. Orders reflect the usable water supply, and the actions of New Mexico water users over-pumping the aquifer is the primary reason for the reduced amount of Project water for ordering and delivery.

279. Likewise, Texas has not, through the Rio Grande Compact Commission, provided any notification that Texas's Project deliveries were shorted in any year. See NM-EX 211, Gordon Dep. (July 14, 2020) at 192:10-193:2. NM-EX 002, D'Antonio Decl. at ¶ 18; NM-EX 004, Schmidt-Petersen Decl. at ¶ 17. [Notice UMF No. 40].

RESPONSE: Disputed. The cited evidence, NM-EX 211, NM-EX 002 and NM-EX 004, does not support the statement as written. Further, the filing of this lawsuit by Texas served as notice of Texas's concerns that the Project deliveries were being impacted.

XV. TEXAS WATER ADMINISTRATION

280. **[a]** *The TX Rio Grande Compact Commissioner is a governor appointee. NM-EX 247, Gordon Dep. (July 14, 2020) at 25:5-9.* **[b]** *The current Commissioner has no water background and is a tax attorney. Id. at 17:19-25; 18:1-10 (no education in water administration, hydrology, or interstate water compacts).*

RESPONSE:
[a] Not disputed.

[b] Not disputed, to the extent the statement refers to formal educational credentials.

281. Groundwater use in Texas is subject to little direct regulation. Cf. Edwards Aquifer Auth. v. Day, 369 S.W.3d 814, 823–33 (Tex. 2012) (discussing the law of capture) The Texas Water Development Board ("TWDB") is the state agency statutorily charged with groundwater oversight, but it has no management, compliance, or enforcement authority. NM-EX 249, French Dep. (Aug. 31, 2020) at 16:5-25; 17:1-16 , 43:1-44:25. Likewise, the Texas Commission on Environmental Quality ("TCEQ"), which administers surface water rights, maintains a Groundwater Division, but it lacks any compliance or enforcement authority. NM-EX 250 Mills Dep. (Aug. 27, 2020) at 46:21-23, 52:4-5.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

282. TCEQ, with inputs by the TWDB, has the authority to establish Priority Groundwater Management Areas ("PGMA") based on a determination that there are critical groundwater problems, including water shortage issues. NM-EX 250, Mills Dep. (Aug. 27, 2020) at 21:6-18, 54-21-25; 55:1-17.

RESPONSE: Not disputed.

283. Groundwater Conservation Districts ("GCD") are political entities charged with management of groundwater resources, including permitting of groundwater wells, creating management plans, implementing policies and procedures to conserve groundwater resources and protecting property rights related to groundwater. NM-EX 249, French Dep. (Aug. 31, 2020) 49:12-14; NM-EX 250, Mills Dep. (Aug. 27, 2020) 37:1-17; 22-25. PGMA stakeholders have the authority to create GCDs. Additionally, the Texas legislature may create a GCD on the recommendation of the TCEQ. NM-EX 250, Mills Dep. (Aug. 27, 2020) 25:9-12

RESPONSE: Not disputed.

284. All groundwater management, including well permitting, requires a local GCD. NM-EX 249, French Dep. (Aug. 31, 2020) 49:12-14; NM-EX 250, Mills Dep. (Aug. 27, 2020) 37:1-17; 22-25. TWDB has no management, compliance, or enforcement authority over a GCD once created or its groundwater management plan. NM-EX 249, French Dep. (Aug. 31, 2020) 36:3-4; 43:1-6; 43:7-12; 43:13-18; 43:19-25; 44:1-8; 44:15-25.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

285. In 1998 TCEQ designated El Paso County as PGMA 5. NM-EX 250, Mills Dep. (Aug. 27, 2020) 27:11-24. PGMA 5 does not contain any GCDs. NM-EX 249, French Dep. (Aug. 31, 2020) 34:12-17; 35:2; 49:1-6. Accordingly, there is not a groundwater management plan in place for PGMA 5. NM-EX 249, French Dep. (Aug. 31, 2020) 46:1-6.

RESPONSE: Not disputed.

286. Texas's water administration, or lack thereof, within the Texas portion of the Project has not been consistent with a 1938 Condition. Changes that may affect Project conditions and impact Project depletions in Texas include the following:

a. Texas water users have made extensive use of groundwater for both Project and non-Project uses (with United States knowledge);

b. Texas and EPCWID have availed themselves of the benefits of the United States' Rectification and Canalization projects;

c. Texas farmers have improved irrigation efficiencies and changed their crop mix to higher water-use crops;

d. EPCWID has transferred the purpose of use of a significant portion of its Project Supply from irrigation to municipal supply through Miscellaneous Purposes contracts with Reclamation but without properly accounting for return flows;

e. EPCWID, working with Reclamation but without review by other Compact parties, has negotiated the American Canal Extension credit for its benefit and to the detriment of EBID;

f. Similarly, EPCWID, working with Reclamation but without review by other Compact parties, has deemed treated wastewater effluent as "non-Project" water— retaining its use but without being charged under its Project allocation;

g. EPCWID has opted to forego use of available drain flows, instead calling for additional water out of Project Storage;

h. EPCWID has sold Project water to Hudspeth County Conservation and Reclamation District No. 1; and

i. EPCWID, working with EBID, Reclamation and Texas but without the other Compact parties, negotiated the 2008 Operating Agreement which effectively changed Project operation and allocation contrary to the Compact to New Mexico's detriment.

See NM-EX 008, Lopez 2d Decl. at ¶ 35; see also NM-EX 100, Barroll Rep. at 20, 22, 31-52, Appxs. C-D; NM-EX 107, Lopez Rep. at 26, 43-66.

RESPONSE: These ambiguous and vague statements are legal conclusions, not statements of fact.

287. In contrast to New Mexico's comprehensive administrative scheme with regard to groundwater, Texas water authorities have not made efforts to control groundwater use in Texas, despite the detrimental effects of Texas' extensive groundwater use on historical Project Supply. See NM-EX 007, D'Antonio 2d Decl. at ¶ 56, NM-EX; see also NM-EX 606, Comparison of Select New Mexico and Texas Water Administration Facts.

RESPONSE: These ambiguous and vague statements are legal conclusions, not statements of fact.

XVI. NEW MEXICO WATER ADMINISTRATION BELOW ELEPHANT BUTTE RESERVOIR

A. General Features of New Mexico Water Administration

288. Under the New Mexico Constitution and law, water in New Mexico belongs to the public. Private rights to the use of New Mexico's unappropriated waters may be established by appropriation of water for beneficial use. Beneficial use is the basis, measure, and limit of a right to use water, and priority of appropriation gives the better right. See NM-EX 007, D'Antonio 2d Decl. at ¶ 1; see also N.M. Const. art. XVI, §§ 2, 3; NMSA 1978 §§ 72-12-1 and -2 (1931). The provisions of beneficial use and priority of appropriation were first formally adopted into New Mexico law in the 1907 Water Code, NMSA 1978, Title 72 (1907 Water Code). Based on a Model Water Code, the 1907 Water Code was enacted in anticipation of the Project in the LRG; it also places centralized authority in a State Engineer, a cabinet-level position and gives him broad and exclusive powers. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 2-3; see also NM-EX 434, Ira Clark, Water in New Mexico: A History of its Management and Use 118-119 (1987).

RESPONSE: Not disputed.

289. Since 1907, a permit from the State Engineer is required to develop a water right for surface water use. See NM-EX 007, D'Antonio 2d Decl. at ¶ 5(a); see also NMSA 1978 §§72-5-1 through -7. Since 1931, a similar permit requirement applies to all groundwater use within a "declared" groundwater basin. See NM-EX 007, D'Antonio 2d Decl. at ¶ 5(b); NMSA 1978 §72-12-1, et seq; see also State ex rel. Bliss v. Dority, 1950-NMSC-066, 55 N.M. 12, 225 P.2d 1007; Office of the State Engineer, Article 7: Declared Underground Water Basins (2006).

RESPONSE: Not disputed.

290. The State Engineer serves as the Secretary to New Mexico's Interstate Stream Commission (ISC), which oversees New Mexico's compact obligations and expends significant resources to ensure compliance with the Rio Grande Compact and seven (7) other interstate

compacts. See NM- EX 007, D'Antonio 2d Decl. at ¶ 5(g); see also NM-EX 009, Schmidt-Petersen 2d Decl., ¶¶ 4-5, 13-17.

RESPONSE: Disputed. The term "significant resources" is not defined and is ambiguous.

291. The State Engineer also serves as New Mexico's Rio Grande Compact Commissioner and has broad authority to address Compact compliance and administrative issues together. See NM- EX 007, D'Antonio 2d Decl. at ¶¶ 5(i), 8, 9. See also NM-EX 009, Schmidt-Petersen 2nd Decl., passim.

RESPONSE: Disputed. The term "broad authority" is not defined and is ambiguous.

292. Since 1907, the State Engineer has actively exercised broad powers to administer waters throughout the State of New Mexico in an exclusive and comprehensive administrative system. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 4-5, 11; see also Tri-State Generation and Transmission v. D'Antonio, 2012-NMSC-039, ¶ 24, 289 P.3d 1232; NMSA 1978 § 72-2-1 (1907). In exercise of this authority, the State of New Mexico has a robust and comprehensive system for water administration and enforcement in the LRG. New Mexico has successfully employed this system to ensure compliance with the Compact and stands ready to utilize that system to enforce the orders of the Court in this case, whatever those orders may be. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 5, 57-58; see also NM-EX 009, Schmidt-Petersen 2d Decl.; NM-EX 010; Serrano Decl.; NM-EX 006, Barroll 2d Decl. at ¶¶ 43, 78.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

B. New Mexico State Engineer Jurisdiction, Rules, and Regulations

293. The State Engineer established seven local district offices across New Mexico. District IV in Las Cruces, New Mexico, administers water in the Lower Rio Grande, including the New Mexico portion of the Project. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 6-7, 25.

RESPONSE: Not disputed.

294. Following the United States' appropriation of water rights in 1906 and 1908, the State Engineer has considered the Lower Rio Grande ("LRG") to be fully appropriated and has not permitted any new appropriation of surface waters. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 16-17; NM-EX 006, Barroll 2d Decl. at ¶ 75.

RESPONSE: Not disputed, with the clarification that the United States appropriated water rights in 1903, not 1906 and 1908. *See* New Mexico ex rel. Office of the State Engineer v. Elephant Butte Irr. Dist., no. CV-96-888 (N.M. 3d Judicial Dist., Aug. 22, 2011)

295. **[a]** *Further, after declaring the LRG groundwater basin in 1980, the State Engineer has not allowed any new rights or changes to existing rights to use groundwater without first finding, through the permitting process, that surface water was protected from any new depletions. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 16-17, 21-23; NM-EX 235, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Apr. 18, 2019) at 22:9-23:4.* **[b]** *Through the permitting process, the Office of the State Engineer ("OSE") rigorously evaluates an application to either appropriate water or to change an existing water right to determine whether it will impair existing rights, in addition to considering whether the proposed change is contrary to conservation within New Mexico or detrimental to the public welfare. If the application is found to impair other water rights, the permit may be denied, or the amount of water requested reduced, or the permit may be issued with conditions to address the impairment or depletion, which may include a requirement that any resulting depletions of surface water be offset. The permitting process ensures that no new depletions to the fully appropriated Rio Grande steam system are allowed. See NM-EX 007, D'Antonio 2d Decl. at ¶ 21; see also NMSA 1978 §72-12-3 (1931, as amended through 2019).*

RESPONSE: Disputed.
[a] New Mexico has not demonstrated that impairment is evaluated in a meaningful way that protects the Project surface water supply.

[b] New Mexico evaluates impairment against conditions in 1980 and by their own analysis, groundwater pumping resulted in substantial depletion of Project surface water supplies prior to 1980 – grandfathering of pre-1980 pumping does not actually protect the Project supply, but rather it sanctions continued depletions.

296. **[a]** *In 2003, the New Mexico Legislature enacted the Active Water Resource Management statute, NMSA 1978 § 72-2-9.1 (2003).* **[b]** *Thereafter, the State Engineer created and promulgated Active Water Resources Management regulations (AWRM Framework Rules). The AWRM Framework Rules provide rules of statewide applicability and allow for the adoption of specific rules that could be promulgated separately for individual Water Master Districts. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 38-41; see also 19.25.13.7(C) 1-4 NMAC.*

RESPONSE:
[a] Not disputed.

[b] Not Disputed, with the clarification that the State Engineer has not implemented AWRM district-specific regulations for the Lower Rio Grande.

297. The AWRM Framework Rules allows the State Engineer to support water right owners' creation of agreements that share shortages among themselves rather than strictly adhering to the priority administration system. See NM-EX 007, D'Antonio 2d Decl. at ¶ 40.

RESPONSE: Not Disputed, with the clarification that the State Engineer has not implemented AWRM district-specific regulations for the Lower Rio Grande.

298. In 2004, the State Engineer issued a metering order in the LRG, requiring that all groundwater wells in the LRG be metered by March 1, 2006. NM-EX-430, State Engineer Order No. 168 (Dec. 3, 2004). See NMSA §72-12-27 (1967). Following litigation with EBID among others, all irrigation, commercial, multi-family domestic, and municipal wells in the LRG were metered by 2008. See NM-EX 007, D'Antonio 2d Decl. at ¶ 44.

RESPONSE: Disputed. The metering order contains a number of exceptions and exclusions, so it is not accurate to state that all groundwater wells are metered. *See* NM-EX 430, at 2.

299. Should any water rights owner in the LRG request of the State Engineer a priority call due to water shortage, the State Engineer would promptly take the following actions: a) Investigate the validity and cause of the claimed shortage, and b) Determine appropriate short-term and long-term actions. Any response to a priority call is necessarily dependent upon the cause of the shortage and must take into consideration such things as the public health issues of essential drinking water and sanitation uses. Potential responses include, but are not limited to, release of storage water, curtailment of junior surface water diversions, curtailment of junior groundwater rights, and the possibility of a range of agreed-upon alternatives to strict priority administration. The required analysis, decision on response, and implementation of response could take place in a matter of days for a short-term response to a matter of weeks or months to address long-term or systemic response. See NM-EX 007, D'Antonio 2d Decl. at ¶ 53; see also NM-EX 226, Rule 30(b)(6) Dep. of the State of New Mexico by and through Barroll (Oct. 21, 2020) at 37:5-22 (errata).

RESPONSE: Disputed. This hypothetical scenario is not a statement of fact and depends on unverified, and unverifiable, events and circumstances.

300. While Reclamation and EBID control delivery of Project water, the State Engineer retains authority over and ensures compliance with all water rights and river diversions of water in the LRG, including the use of New Mexico water outside the state. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 6-7.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

C. LRG Stream Adjudication

301. **[a]** *A lawsuit for the adjudication of water rights was commenced in the LRG by EBID, and the State intervened in 1996. State of New Mexico ex rel. State Engineer v. Elephant Butte Irrigation District et al., No. D-307-CV-96-888 (the "LRG Adjudication").* **[b]** *As part of the adjudication process, the State Engineer performed a hydrographic survey, including a review of all historic State Engineer and county records relating to claimed water rights, in-person surveys, and aerial photography. Based on all known data, the State Engineer evaluates the information for each claimed water right and makes separate offers of judgment to each claimant within a unique "subfile" to the adjudication. The State Engineer and the claimant may either agree on the Offer of Judgment, mediate a different result, or try the case to the court. The*

result of those processes then becomes a "Subfile Order" entered by the court. See NM-EX 007, D'Antonio 2d Decl. at ¶¶ 32-34. **[c]** *The State Engineer's most recent status report in the LRG Adjudication reflects that there are presently approximately 14,050 subfiles in the adjudication, which encompass 18,546 water right claimants. Approximately 66% of these subfiles have been sent Offers of Judgment and 50% have been adjudicated. See NM-EX 007, D'Antonio 2d Decl. at ¶ 35.*

RESPONSE:
[a] Not disputed.

[b] Disputed. These ambiguous and vague allegations characterize a prior proceeding and contain legal conclusions, which are not statements of facts.

[c] Not disputed.

302. Apart from its orders on these individual subfiles, the LRG Adjudication Court has issued a number of orders governing the LRG Adjudication globally. These include the following:

a. Stream System 101 (SS 101): In August 2011, the LRG Adjudication court entered a Final Judgment in Stream System 101 that sets the limits on groundwater and surface water use affecting all LRG claimants. NM-EX 541, Final Judgment in SS-97-101 (SS101 LRG Adjudication Order) (Aug. 22, 2011) (SS101 LRG Adjudication Order). See NM-EX 007, D'Antonio 2d Decl. at ¶ 37(a). In relevant part, the SS 101 Order does the following:

i. The Order sets the annual FDR for the LRG at 4.5 AF/acre unless a claimant is able to prove beneficial use of up to 5.5 AF/acre. Surface water and groundwater use combined cannot exceed this total, and surface water available must be exhausted before groundwater may be used. See NM- EX 541, SS101 LRG Adjudication Order, §§ II(D), V(B).

ii. Consistent with historic Project operations, the maximum FDR for surface water was set at 3.024 AF/acre per year. See NM-EX 007, D'Antonio 2d Decl. at ¶ 37(a).

b. Stream System 103 (SS 103): The SS 103 Order addresses domestic wells and is currently on hold. Domestic and stock well use represents approximately 2,000 to 3,000 AF/yr. This less than one percent of total surface water and groundwater use in the Mesilla and Rincon basins. Domestic well and stock water use has a negligible effect on the issues in this case. See NM-EX 007, D'Antonio 2d Decl. at ¶ 37(b).

c. Stream System 104 (SS 104): The SS 104 Order addressed "the interests of the United States deriving from the establishment of the Rio Grande Project" for determination in the LRG Adjudication. NM-EX 534, Order Designating Stream System Issue/Expedited Inter Se Proceeding No. 104 (Jan. 8, 2010). The LRG Adjudication court found that the Project has a surface water priority date of March 1, 1903. No

final order has been issued on these Findings. NM-EX 536, Findings of Facts and Conclusions of Law, State of New Mexico v. EBID (Apr. 17, 2017) (CV-96-888). With a (non-final) priority date of March 1, 1903, the United States' Project water rights are senior to most of the groundwater rights in the LRG. See NM-EX 007, D'Antonio 2d Decl. at ¶ 37(c).

RESPONSE: Disputed. These allegations characterize a prior proceeding and contain legal conclusions, which are not statements of facts.

D. Compliance and Monitoring Efforts by the Lower Rio Grande Water Master

303. **[a]** *New Mexico has established a Water Master District for the Lower Rio Grande ("LRG"). The district encompasses a geographic area of 4,224 square miles and contains EBID.* **[b]** *The LRG Water Master ensures compliance on the local level with the New Mexico Water Code, permits and licenses issued by the State Engineer, orders issued by the LRG adjudication court, and State Engineer orders, regulations, and policy guidance and directives. These duties include, without limitation, controlling illegal diversions, measuring water use within the LRG, controlling the priority of diversions, administering water usage in accord with agreement by water right owners within the LRG, and coordinating (where indicated) with Reclamation and EBID. These actions are intended to ensure the appropriate regulation and control of groundwater withdrawals. See NM-EX 010, Serrano Decl. at ¶¶ 2-7; NM-EX 007, D'Antonio 2d Decl. at ¶ 42; NM-EX 540, Ryan J. Serrano, Office of the State Engineer, Lower Rio Grande Water Master Annual Report 2018 Accounting Year, at 1-5 (2019); see generally NMSA 1978, §§ 72-3-1 (1919), 72-3-2 (2007); NM-EX 429, State Engineer, Water Master Order No. 169 (Dec. 3, 2004).*

RESPONSE:
[a] Not disputed.

[b] Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

304. The LRG Water Master and Assistant Water Masters spend the majority of their time in the field, visiting water right owners' fields, monitoring their meters, advising on issues of compliance with permits and other state requirements, performing visual checks of such compliance, and attending community meetings. See NM-EX 010, Serrano Decl. at ¶¶ 6-7.

RESPONSE: Not Disputed.

305. Water users in the LRG must comply with applicable state statutory requirements, State Engineer permits, licenses and orders, OSE policy and guidelines, and applicable court orders. The LRG Water Master has specific statutory authority under NMSA 1978, § 72-2-18 (2007) to enforce compliance with these requirements. See NM-EX 010, Serrano Decl., ¶¶ 11-13, 17; NM-EX 007, D'Antonio 2d Decl. at ¶ 25; NM-EX 232, Serrano Dep. (Feb. 26, 2019) at 94:7-96:24.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

306. In enforcing these requirements, the LRG Water Master has a number of metrics and mechanisms to monitor water diversions. Among these, all wells (except single-family domestic and livestock wells), and non-EBID surface water diversions are subject to metering requirements, and water users must report meter readings regularly. See NM-EX 010, Serrano Decl., ¶¶ 13-14; see also NM-EX 236, Serrano Dep. (Apr. 17, 2019) at 54:22-55:13, 94:7-96:24, 183:19-24; NM- EX 235, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Sept. 18, 2020) at 33:12-35:17; NM-EX 227, Barroll Dep. (Feb. 5, 2020) at 57:4-58:22.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

307. The Water Master is not responsible for assuring or monitoring delivery of Project supply to EBID members; rather, that is the responsibility of EBID. To assure compliance with the SS101 LRG Adjudication Order, during each irrigation season, the Water Master for the Lower Rio Grande Water District receives Project allotment information for each EBID member from the district. Using this data, the Water Master calculates how much of each EBID member's 4.5 AF/acre (or 5.5 AF/acre) combined water right may be satisfied by the diversion of groundwater. This calculation assumes that EBID members use their full allotments as to surface water diversions and that they use their surface water allotments before using groundwater. See NM-EX 010, Serrano Decl., ¶¶ 13-14.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

308. The Water Master regularly monitors groundwater wells to ensure compliance. See NM-EX 010, Serrano Decl., ¶¶ 10, 11, 14-16; NM-EX 010, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Sept. 18, 2020) at 35:18-38:7; NMSA 1978, § 72-2-18 (2007).

RESPONSE: Disputed. The terms "regularly monitors" and "ensure compliance" are vague and ambiguous, and the statement is disputed on this basis.

309. When the Water Master determines that a well is out of compliance, the Water Master actively works with the water user to effect compliance. If local attempts are unavailing, the Water Master refers the issue to the OSE Administrative Litigation Unit for legal action. See NM-EX 010, Serrano Decl., ¶¶ 10, 11, 14; NM-EX 010, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Sept. 18, 2020) at 35:18-38:7; NMSA 1978, § 72-2-18 (2007).

RESPONSE: Disputed. The terms "out of compliance," "actively works," and "effect compliance" are vague and ambiguous, and the statement is disputed on this basis. The statement also contains legal conclusions, which are not statements of fact.

310. The Water Master for the LRG investigates every over-diversion, including unauthorized surface diversions, in the district. If an over-diversion or potential for over-diversion is

discovered during the irrigation season, the Water Master seeks an accommodation for voluntary compliance. If no agreement can be reached, the Water Master refers the matter to the Administrative Litigation Unit for enforcement proceedings. If an over-diversion is discovered after the end of the irrigation season during the process of reconciling the final meter readings of the year, the Water Master effectuates compliance through a written repayment plan. See NM-EX 010, Serrano Decl. at ¶¶ 22-30; see also NM-EX 235, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Sept. 18, 2020) at 36:5-38:7; NM-EX 226, Rule 30(b)(6) Dep. of the State of New Mexico by and through Barroll (Oct. 21, 2020) at 22:14-25, 23:1-2; NM-EX 234, D'Antonio Dep. (June 26, 2020) at 317:4-318:7; NM-EX 540, Ryan J. Serrano, Office of the State Engineer, Lower Rio Grande Water Master Annual Report 2018 Accounting Year, at 10 (2019).

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

311. Pursuant to the SS101 LRG Adjudication Order, certain water users within the LRG are subject to an Ownership Management Program. The program permits farmers who own or manage lands under more than one water right to manage the rights associated with the lands conjointly, but the combination of water rights used may not exceed the total amount allowed under the permitted water rights. See NM-EX 010, Serrano Decl. at ¶¶ 31-34; see also NM-EX 235, Rule 30(b)(6) Dep. of the State of New Mexico by and through Thacker (Sept. 18, 2020) at 42:9-43:9, 44:8-14; NM-EX 540, Ryan J. Serrano, Office of the State Engineer, Lower Rio Grande Water Master Annual Report 2018 Accounting Year, at 6 (2019).

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

E. Additional Compliance Efforts by the Interstate Stream Commission

312. The New Mexico Legislature statutorily created the New Mexico Interstate Stream Commission ("the ISC") in 1935. NMSA 1978, Section 72-14-3 (1935). The ISC is a permanent body that negotiates interstate stream compacts and has broad powers to investigate, protect, conserve, and develop New Mexico's waters, including both interstate and intrastate stream systems. New Mexico is a party to eight interstate stream compacts, which are comprised of both state and federal law. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶¶ 4-5.

RESPONSE: Disputed. The term "broad powers" is not defined, is vague and ambiguous, and that statement is disputed on this basis.

313. In addition, the ISC is also responsible for ensuring compliance with provisions of United States Supreme Court Decrees governing water allocations and negotiating controversies that arise related to interstate compacts and court decrees. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 6. The ISC is also authorized to investigate and develop New Mexico's water supplies and institute legal proceedings on behalf of New Mexico for planning, conservation, protection, and development of public waters; it is responsible for statewide water planning. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 7. It also administers the strategic water reserve pursuant to

NMSA 1978, Section 72-14-3.3 (2005, as amended through 2007) to assist complying with interstate stream compacts and court decrees, or endangered species water management in New Mexico. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 8.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

314. The ISC's hydrologists, engineers, water management professionals, and attorneys analyze data related to New Mexico's interstate streams to assure compliance with all applicable obligations. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 9.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

315. Significantly, ISC staff reviews water right applications filed with the OSE and will file protests, when necessary, to protect New Mexico's interests and obligations under the New Mexico interstate compacts. ISC staff also provides support in water rights adjudications to protect New Mexico's allocations and obligations under its interstate compacts. See NM-EX 009, Schmidt- Petersen 2d Decl. at ¶¶ 10-11.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

316. The ISC is a lead agency and a member of the executive committee of the Upper Rio Grande Water Operations Model (URGWOM). The purpose of the executive committee is to develop a unified water operations model for the Rio Grande Basin from its headwaters in Colorado to Hudspeth County, Texas. The URGWOM is used for reservoir and river planning, operations, and accounting upstream of Elephant Butte Reservoir. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 12.

RESPONSE: Not disputed.

317. The ISC has undertaken significant river and drain maintenance works to aid in Rio Grande Compact compliance. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 13. These efforts include removing sediment, removing phreatophytes, maintaining river system infrastructure, operation of the Delta Channel Project, operating the Low Flow Conveyance Channel project (in collaboration with Reclamation and the MRGCD), operating the New Mexico Strategic Water Reserve to ensure compliance with the Compact and other legal requirements (e.g., endangered species protections), and improving river gaging, data management, and reporting capabilities in New Mexico. See id at ¶¶ 14-15, 19-21.

RESPONSE: Disputed. The terms "significant river and drain maintenance works" and "ensure compliance" are vague and ambiguous, and the statement is disputed on this basis. The statement also contains legal conclusions, which are not statements of fact.

318. The ISC's river and drain maintenance efforts have contributed to the State of New Mexico's ability to accrue a large volume of Accrued Credit (Compact Article VI) in Elephant Butte Reservoir over the last few decades. This Accrued Credit has allowed New Mexico to relinquish approximately 380,000 AF of its Accrued Credit for use by the Project. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 16. In response to issues raised by EBID and others related to Project operations and groundwater use, the ISC has provided infrastructural support to New Mexico water users. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 17.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

319. In the mid-to-late 2000's, the ISC collaborated with the States of Colorado and Texas, and numerous stakeholders, in the Rio Grande Compact Commission's Rio Grande Salinity Management Coalition ("Coalition") to address salinity concerns largely raised by Texas. The ISC and the stakeholders evaluated changes in water quality (mostly salinity) from San Acacia, New Mexico to Fort Quitman, Texas. The Texas complaints were addressed and resolved. No further complaints from Texas about water quality were expressed until the Original No. 141 was filed. See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 18.

RESPONSE: Disputed. These ambiguous and vague statements are legal conclusions, not statements of fact.

320. The ISC Rio Grande Basin staff periodically communicates with Reclamation's Rio Grande Project water operations staff throughout the year to understand Reclamation's planned and actual Project operations. The purpose is to understand how those operations may both directly impact New Mexico water users at and downstream of Elephant Butte Reservoir and indirectly impact upstream reservoir operations (if Compact Articles VI, VII, or VIII are triggered). See NM-EX 009, Schmidt-Petersen 2d Decl. at ¶ 22.

RESPONSE: Not disputed.

CONCLUSION

The United States respectfully requests that the Court decline to treat disputed statement of fact identified above as undisputed or established for purposes of trial.

Respectfully submitted this 5th day of February 2021,

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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

OFFICE OF THE SPECIAL MASTER

CERTIFICATE OF SERVICE

This is to certify that on the 5th day of February, 2021, I caused a true and correct copy of the **UNITED STATES OF AMERICA'S RESPONSE TO THE STATE OF NEW MEXICO'S CONSOLIDATED STATEMENT OF MATERIAL FACTS** to be served via electronic mail upon those individuals listed on the Service List, attached hereto.

Respectfully submitted,

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