

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

Order

May 21, 2021

I. Introduction and Summary Conclusions

Texas has moved for partial summary judgment seeking a ruling to define Texas's and New Mexico's apportionments of the Rio Grande pursuant to the Rio Grande Compact (Compact). Texas also seeks rulings as to: New Mexico's Compact duties; the inapplicability of New Mexico state law to Rio Grande waters downstream of the Elephant Butte Reservoir (Reservoir); the compacting states' intent to protect a "1938 condition"; and New Mexico's depletion of hydrologically connected Rio Grande waters. Including subparts, Texas asserts eighteen points of law or fact it describes as appropriate for summary resolution.

New Mexico filed its own motion for partial summary judgment as to Compact apportionment and filed additional motions seeking to limit Texas's claims for damages to certain years.

The United States, which is largely aligned with Texas in this litigation, also moved for partial summary judgment. The United States asserts an apportionment position that is something of a middle ground between Texas and New Mexico. Colorado and the several amici have filed briefs in support of or in resistance to the motions.

The summary judgment record, viewed in the light most favorable to the respective non-moving parties as to each separate motion, presents many questions of disputed material fact and leaves many issues for resolution at trial. In addition to the Compact itself, the record includes historical evidence predating the Compact and addressing: the genesis and early operations of the Rio Grande Project (Project); scientific reports the states relied upon during Compact negotiations; pre-Compact litigation; and the Compact negotiations themselves. Evidence also includes contracts between Elephant Butte Irrigation District (EBID), El Paso

County Water Irrigation District No. 1 (EP1), and the United States Bureau of Reclamation or its predecessor (Reclamation), all entered into nearly simultaneously with Compact formation (Downstream Contracts). Evidence postdating the Compact describes in detail: Project operations, Compact area water use, Compact area groundwater development, Compact area development generally, and litigation between the compacting states and their water districts. The evidence from 1938 onward covers extended time periods involving different economic conditions and different drought conditions against a backdrop of changing crop patterns, rapid population growth, rapidly improving pumping technology, substantially unmonitored and unregulated groundwater pumping, and a generally increasing understanding of groundwater and surface water interactions.

A fair amount of this evidence, at its core, appears to be undisputed. But, different reasonable inferences may be drawn from this body of evidence as a whole in relation to the issues before the Court. For example, it is difficult at the summary judgment stage to draw inferences about Compact interpretation and the compacting states' intentions based upon one of the traditional tools of contract interpretation: course of performance. Nearly all evidence of the lengthy course of performance between 1938 and the commencement of this action must be viewed against the shifting backdrop just described. And, throughout much of this extended course of performance, the states and Reclamation were acting with incomplete information as to one another's practices. Reasonable inferences abound in several directions as to how this course of performance might aid resolution of the pending claims. Trial findings will be needed to sort through these matters.

I do not in this Order address all of the parties' summary judgment evidence in detail, and I presently do not rule on any of the parties' several "motions to strike."¹ Rather, I identify those issues I conclude are appropriate for summary

¹Motions *in limine* will be taken up later, as will any challenges to evidence during the trial itself.

resolution and identify the key undisputed evidence and the reasonable inferences that permit summary resolution of those limited issues.² For now, keeping in mind that Rule 56 generally guides the analysis but is not strictly applicable, and also keeping in mind my charge to provide a full record for the Supreme Court, I rule as follows.

First, the Compact itself unambiguously establishes that New Mexico receives its Compact apportionment in two parts, one upstream of the Elephant Butte Reservoir and one downstream of the Reservoir. Upstream from the Reservoir, New Mexico's apportionment is the difference between Colorado's state-line delivery obligation (Compact Article III) and New Mexico's delivery obligation at the Reservoir (Compact Article IV), both as determined by schedules of ratios between measured flows set forth expressly in the Compact's tables.

Downstream from the Reservoir, the Compact relies on the Rio Grande Project for water delivery and is *programmatic* in its apportionment of water as between Texas and New Mexico, with a fixed annual quantity of treaty water expressly reserved for Project delivery to Mexico. New Mexico's Compact apportionment below the Reservoir is limited to water from the Project delivered by Reclamation.³ Reclamation currently delivers New Mexico's downstream apportionment to EBID, which controls certain Project infrastructure and delivers

²At the end of this Order, I address in "bullet-point" fashion the parties' asserted bases for summary judgment, specifically as articulated by each party.

³The parties repeatedly reference certain "pre-project" water rights that allegedly exist downstream of the Reservoir and within New Mexico. Because no party appears to dispute the existence of such rights in the context of the present motions, I do not intend by my reference to the "limited" scope of New Mexico's downstream apportionment to suggest "pre-project" rights do not exist. As represented by the parties, any such rights are essentially *de minimis* on a relative basis. I do not in this ruling intend to make any findings recognizing or rejecting such "pre-project" rights other than to acknowledge the parties' apparent agreement as to their relatively *de minimis* nature.

the Project water to its members. The Texas Compact area extends below the Project area.⁴

Second, I deny Texas's motion for summary judgment on New Mexico's counterclaims 1 and 4. Texas argues New Mexico has no downstream apportionment, but Texas admits in its briefing that characterization of the southern New Mexican water does not alter the amount of water to which users in southern New Mexico might be entitled. Rather, Texas asserts its apportionment argument partially as a means to defeat New Mexico's counterclaims 1 and 4, which Texas characterizes as depending upon the existence of a downstream New Mexican apportionment. Because I conclude the Project water for southern New Mexico must be characterized as part of New Mexico's Compact apportionment, Texas's related motion for summary judgment as against New Mexico's counterclaims 1 and 4 necessarily fails.

Third, groundwater and surface water are hydrologically interconnected downstream of the reservoir to a sufficient degree that groundwater extraction generally reduces drain return flows and adversely affects Rio Grande surface water flows. As such, to a degree subject to material dispute on the summary judgment record, at least a portion of groundwater capture downstream of the Reservoir serves merely as the capture of Rio Grande surface water by different and indirect means. Although the states' understanding of the connections between groundwater and surface water below the Reservoir in 1938 were nascent, the compacting states were aware, at a minimum, that substantial groundwater

⁴Texas emphasizes that the Project and the Compact are not geographically coextensive. For example, below the Project area and above Ft. Quitman, a Texas water district is a party to a Warren Act contract with Reclamation to divert water, "when available." Scott Miltenberger Declaration, November 2, 2020 (TX_MSJ_001585), 20 (Miltenberger) (citing Contract Ilr-493, "Contract Between the United States and Hudspeth County Conservation and Reclamation District No. 1, Providing for the Rental of Water to the district, December 1, 1924").

development within the Compact region eventually would affect surface water flows.

Fourth, consistent with the programmatic nature of the Compact's downstream apportionment, New Mexico has a Compact-level duty to avoid material interference with Reclamation's delivery of Compact water to Texas: to avoid and prevent the capture of Rio Grande surface water, drain return flows, and hydrologically connected groundwater to the extent that the overall impact of such capture is inconsistent with Compact water deliveries to Texas or interferes with long-term operation of the Project. This duty is found throughout several interrelated provisions of the Compact, including: (1) the use of the term "deliver" to describe both Colorado's state-line obligation and New Mexico's intrastate Reservoir input obligation; (2) the necessary relinquishment of control inherent in the term "deliver"; (3) the express designation of a normal annual release amount that presumes the protection and reuse of Project return flows; (4) the granting of rights to Texas and New Mexico to protect the delivery of water into the Reservoir through calls upon another state; (5) the inclusion of a provision stating that changes in Mexican water capture shall not alter Compact delivery schedules coupled with the conspicuous omission of any similar provision regarding changes in the compacting states' water capture; and (6) the incorporation of Project-specific terms to define the states' rights and duties above and below the Reservoir through reference to Reservoir releases, Project storage conditions, and various express Compact accounting provisions.

Fifth, the compacting states intended to protect not merely water deliveries into the Reservoir, but also a baseline level of Project operations generally as reflected in Project operations prior to Compact formation. The compacting states did not express an intent for agricultural practices, irrigation practices, and other forms of development to remain static. But, they also did not express an intent to allow unlimited indirect capture of Rio Grande surface flows through the

unregulated capture of hydrologically connected water or the elimination of Project return flows. The protection of a baseline level of Project operations required, at a minimum, the protection of return flows to effectuate the Compact's apportionment. In broad strokes, this condition can be viewed as akin to a "1938 condition" as urged generally by Texas. But, the exact contours of that condition remain to be established at trial.

Sixth, just as the Compact fundamentally relied on the Project, the Project fundamentally relied on the division of acreage between the states as ultimately reflected in the Downstream Contracts. Project operations prior to Compact ratification resulted in a de facto division of Project deliveries between the states in a ratio necessarily related to the division of Project lands. This division varied annually because it was driven by farmers' direct orders for water from Reclamation and because the annual number of irrigated acres varied, particularly during Project development and the Great Depression. Aggregated over several years, however, the resulting average was a natural consequence of: the division of the states' acreage within the Project, the generally similar irrigation practices on those acres, and the generally similar calls from water users directly to Reclamation for water deliveries on those acres. Taking the record in the light most favorable to Texas, the Compact and the closely related Downstream Contracts together establish the 57%/43% split as a rough protected baseline division of Project deliveries as between New Mexico and Texas downstream of the Reservoir, at least in "water short" years. Although actual acres under cultivation and actual water orders and deliveries varied around this baseline amount, there exists no other benchmark for assessing the intent of the compacting states as to the downstream apportionment or the general framework of the bargain they sought and achieved through Compact formation.

This determination, however, begs the question: division of what? Just as the precise definition of a protected baseline condition eludes summary ruling, the

question of what the compacting states intended to divide 57%/43% between southern New Mexico and Texas remains to be determined at trial. In fact, the question of what the states intended to divide 57%/43% is inseparable from the triable issue of the baseline condition. As to these related determinations, trial findings will be required.

Seventh, relying on New Mexico's own witnesses, computer models, and admissions, all taken in the light most favorable to New Mexico, it is undisputed that New Mexico's groundwater pumping downstream of the Reservoir has affected Project return flows, surface water flows, and the Project's delivery of Texas's Compact apportionment. This same evidence shows that New Mexico has long been aware of these effects. The details as to these effects and the extent to which they comprise Compact violations that caused damages and warrant a remedy remain to be established at trial.

II. Discussion

A. The Parties' Positions

The pending motions focus primarily on defining New Mexico's and Texas's apportionments under the Compact as a preliminary step for framing issues at trial and determining whether the states have acted in compliance with the Compact. In broad strokes, Texas argues New Mexico's delivery of water into the Reservoir serves as a de facto delivery to Texas such that water in the Project is Compact water apportioned to Texas subject merely to non-Compact claims by southern New Mexican water users (through contracts with Reclamation) and treaty claims by Mexico. In this manner, Texas argues New Mexico does not, in fact, receive a Compact apportionment downstream of the Reservoir. According to Texas, this analytical framework does not diminish any entitlement to water by southern New Mexicans. Rather, it determines which sovereign's laws apply to controlling such

water and deprives New Mexico of the ability to interfere with negotiations and contracts between Reclamation and EBID. Texas also argues that New Mexicans' non-Compact claims on the downstream water generally are limited to water in an amount as used in 1938. Texas argues that the absence of a New Mexico downstream apportionment deprives New Mexico of the right to maintain claims against Texas based on Texas's own capture of Rio Grande surface water and hydrologically connected groundwater or return flows. Finally, Texas argues New Mexico has a general duty to avoid interference with the Project's delivery of Texas's Compact apportionment and has violated that duty.

New Mexico, on the other hand, asserts just two points in its own apportionment-based motion for summary judgment. First, New Mexico argues the Court should characterize the southern New Mexico water entitlement as a Compact apportionment and not merely a Reclamation-based entitlement. Second, New Mexico argues that the rough division of irrigated acres, 57% in New Mexico and 43% in Texas, serves as a Compact apportionment of water as between the two states. In making this argument, New Mexico relies on the Downstream Contracts which establish this ratio of irrigated acres as the basis for dividing Project costs as between the two states' water districts and also, "as far as practicable," a division of water in times of shortage. New Mexico, however, does not clearly define what precisely, under its theory, is to be divided 57%/43%. Texas characterizes New Mexico's argument in this regard as asserting a 57%/43% split of whatever Rio Grande surface water happens to evade indirect capture by largely unregulated New Mexican pumping. Texas also characterizes New Mexico's argument as ignoring the long-term, year-over-year effects of New Mexican water capture on Project operations and storage.

In separate motions, New Mexico seeks partial summary judgment precluding Texas from seeking damages: (1) for years prior to 1985; and (2) as to

certain later years for which New Mexico claims Texas received a full “Project Supply” and provided no notice of alleged shortages.⁵

The United States, in its own motion, splits the baby. The United States characterizes New Mexico’s Project entitlement as the downstream component of New Mexico’s Compact apportionment and defines this apportionment through reference to the Downstream Contracts. But, like Texas, the United States emphasizes the existence of a duty on New Mexico to avoid interference with Project operations. The United States seeks a declaration that injunctive relief will be necessary to force New Mexico to stop non-EBID users from depleting Project supply and to stop EBID users from depleting that supply in excess of contractual amounts. In describing its desired relief, the United States goes somewhat further than Texas. Texas expresses generally a desire for relief in the aggregate that will ensure Compact water reaches Texas without reference to New Mexico’s internal methods for protecting the water. The United States, on the other hand, seeks more specific limitations on New Mexico’s internal affairs as to water capture.⁶

To sort through these various positions, it is necessary to examine the Compact, the closely related Downstream Contracts, and the history of the Compact

⁵New Mexico’s motion seeking a summary ruling concerning damages prior to 1985 is granted. Texas has not sought damages for the time period prior to 1985 and openly admits to this limitation on its claims. In fact, the necessity of a ruling in this regard is somewhat unclear. The granting of this motion in no manner limits the admissibility of any evidence (including evidence of damages prior to 1985, which Texas asserts cannot be measured on a merely annual basis) nor in any manner curtails Texas’s ability to present its case. New Mexico’s motion as to what New Mexico characterizes as “full supply years” and New Mexico’s motion concerning notice issues are denied. The concept of a full supply year is a relatively undefined and disputed concept. The Compact contains no express notice provision concerning alleged shortfalls. And, material disputes exist as to the proper treatment of carryover effects on Project storage and subsequent years’ available supply of usable water.

⁶To the extent the United States presently seeks a declaration stating that various forms of injunctive relief against New Mexico eventually will be required, I deny the motion. The necessity of any injunctive relief will be determined at trial.

and the Project to identify undisputed facts that may aid in analysis. As discussed below, I conclude that the Compact unambiguously answers the first, second, and (at a general level) the fourth issues identified above (New Mexico receives a downstream apportionment; summary judgment is denied as to counterclaims 1 and 4; New Mexico owes Texas a downstream duty to avoid interference with Compact water for Texas). Looking at limited undisputed evidence predating and contemporaneous with Compact ratification, additional details regarding New Mexico's duty start to become clear. In addition, the third, fifth, and sixth issues may be resolved at a general level leaving detailed disputed issues of fact for trial (interrelated nature of Compact area groundwater, return flows, and surface water; protection of a general baseline condition; 57%/43% split). Finally, the seventh issue may be established as a general matter based on statements from New Mexico's own witnesses (New Mexico's groundwater pumping has affected Project operations and Texas's Compact water deliveries).

B. The Compact

1. The Compact Requires that the Project Water for Southern New Mexico be Characterized as a Compact Apportionment

The Compact is a contract, federal law, and state law. See Act of May 31, 1939, 53 Stat. 785; see also, e.g., N.M. Stat. Ann. § 72-15-23. As with any contract or statute, the Compact must be read as a whole and normal rules of statutory and contract interpretation apply. See Texas v. New Mexico, 482 U.S. 124, 128 (1987) (“[A] compact when approved by Congress becomes a law of the United States, but a Compact is, after all, a contract.” (cleaned up)). “It remains a legal document that must be construed and applied in accordance with its terms.” Id. When a compact's terms are ambiguous, it is appropriate to resort to extrinsic evidence to determine the compacting states' intent. See Oklahoma v. New Mexico, 501 U.S. 221, 235 n.5 (1991) (noting that it is “appropriate to look to extrinsic evidence of the negotiation history of [a] [c]ompact” term that is ambiguous). Read as a whole, the Compact

reveals its overall design, demonstrates the full extent to which the Project is intertwined with the Compact, and establishes that the southern New Mexican Project entitlement must be characterized as a Compact apportionment.

The Compact contains a preamble and seventeen articles. The preamble provides the first indication that the southern New Mexican water entitlement should be deemed a Compact apportionment. The preamble states Colorado, New Mexico, and Texas intend to “effect[] an equitable apportionment” “of the waters of the Rio Grande above Fort Quitman, Texas.” In simplistic terms, if the states intended to apportion the river within a certain region, then the Compact-recognized entitlements to water within that region naturally should be deemed apportionments. This is true whether the water entitlement is articulated as a gauged and measurable inflow-outflow system like at the Colorado border and the upstream end of the Reservoir or articulated as a programmatic division of water subject to federal storage and distribution as within the Project area downstream of the Reservoir (or as with the relatively undefined waters that may reach the portion of Texas below the Project and above Ft. Quitman). Although simplistic, this argument carries substantial force and serves as a guidepost against which the rest of the Compact must be read. See, e.g., Montana v. Wyoming, 563 U.S. 368, 386–87 (2011) (relying on a compact’s preamble to determine whether a “plain reading” “makes sense”).

Article I sets forth seventeen separately enumerated definitions, seven of which directly reference the Project and four of which necessarily embrace the Project.⁷ One of these definitions imposes a cap on the amount of storage that may

⁷ Article I (g)–(j) define annual and accrued debits and credits for New Mexico and Colorado in reference to deliveries in excess or below scheduled deliveries. For New Mexico, those deliveries are into the Reservoir, i.e., into the Project. The balance of the Compact uses these four definitions repeatedly to define rights and duties with reference to Project operations. Because I reference other definitions repeatedly in this Order, I set forth the definitions that most directly reference the Project.

be employed within the Project. Article I(k). Another definition references a Project release amount—790,000 acre-feet per year. Article I(q). In fact, the Compact later references this same volume of water as a normal annual release from the Reservoir. Articles VII, VIII. Finally, the Compact uses several of the Project-related definitions to define all three states’ rights and duties in terms of granting or limiting the states’ abilities to store water upstream of the Project or call for or limit releases of water from such storage. These upstream and downstream Project-related rights and duties include both annual matters and longer-term, carryover

Article I (k) 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.”

Article I (l) 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.”

Article I (m) defines “Credit Water” as “that amount of water in project storage which is equal to the accrued credit of Colorado, or New Mexico, or both.”

Article I (n) defines “Unfilled Capacity” as “the difference between the total physical capacity of project storage and the amount of usable water then in storage.”

Article I (o) defines “Actual Release” as “the amount of usable water released in any calendar year from the lowest reservoir comprising project storage.”

Article I (p) 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.”

Article I (q) defines “Hypothetical Spill” as “the time in any year at which usable water would have spilled from project storage if 790,000 acre-feet had been released therefrom at rates proportional to the actual release in every year from the starting date to the end of the year in which hypothetical spill occurs; in computing hypothetical spill the initial condition shall be the amount of usable water in project storage at the beginning of the calendar year following the effective date of this Compact, and thereafter the initial condition shall be the amount of usable water in project storage at the beginning of the calendar year following each actual spill.”

matters. And these rights and duties are defined through reference to Project storage or operating conditions that are a direct function of downstream water deliveries.

This integration of several Project-specific terms within the Compact itself demonstrates in part why the Supreme Court described the Project as “inextricably intertwined” with the Compact and why the Court described the United States as “a sort of agent of the Compact.” Texas v. New Mexico, 138 S. Ct. 954, 959 (2018). This level of integration seemingly undercuts arguments that seek to distinguish between “mere” Project water entitlements, on the one hand, and downstream Compact apportionments, on the other. The express text of the Compact establishes that the states entered into the Compact against the backdrop of the existing Project and relied on its established operations to effectuate the Compact. The Compact defines terms, rights, and duties accordingly.

Article II identifies locations for the establishment and maintenance of gaging stations. Most are located upstream of the Reservoir to aid in the determination of Colorado’s state-line delivery obligation and New Mexico’s Reservoir delivery obligation. Two gaging stations, however, are located downstream of the Reservoir: one below the Elephant Butte Reservoir itself, and one below the smaller Caballo Reservoir located near and below the Elephant Butte Reservoir. In this way, the Compact itself, and not merely the Project, reflects an intent to monitor Reservoir outflows. Simply put, the Compact’s interest in the Project does not end with New Mexico’s delivery of water into the Reservoir.

Article III defines Colorado’s state-line delivery obligation with reference to a schedule of relationships between flows at certain gages. Article III also provides that “appropriate adjustments shall be made” to the schedules in response to

specific changed conditions and that Colorado “shall not” receive credit for certain imported water that fails to meet a salinity limit.⁸

Article IV similarly defines New Mexico’s Reservoir delivery obligation with reference to a schedule of relationships between flows at certain gages. Article IV also provides that “appropriate adjustments shall be made” to the schedules in response to specific changed conditions.⁹ Article IV expressly requires that “[c]oncurrent records” be kept of the flow entering and leaving the Reservoir as well as the flow at a location upstream of the Reservoir approximately midway between Albuquerque and the Reservoir “to the end that the records at these three stations may be correlated.”

Article V provides flexibility for Compact Commissioners (see also Articles XII and XIII) to unanimously determine whether changed conditions make it necessary to add, abandon, or alter the location of any gaging stations subject to the requirement that substitute or replacement stations “will result in substantially the same rights and obligations to deliver water.”

Article VI, a lengthy article, provides for the computation of annual and accrued debits and credits for New Mexico and Colorado; imposes limits on those credits and debits; and imposes requirements to hold water in, or release water from, upstream non-Project storage in relation to the credit and debit amounts. Through this article, the Compact recognizes some flexibility and creates an

⁸Regarding changed conditions, Article III states, “[A]ppropriate adjustments shall be made for (a) any change in location of gaging stations; (b) any new or increased depletion of the runoff above inflow index gaging stations; and (c) any transmountain diversions into the drainage basin of the Rio Grande above Lobatos.”

⁹Regarding changed conditions, Article IV states, “[A]ppropriate adjustments shall be made for (a) any change in location of gaging stations; (b) depletion after 1929 in New Mexico at any time of the year of the natural runoff at Otowi Bridge; (c) depletion of the runoff during July, August, and September of tributaries between Otowi Bridge and San Marcial; and (d) any transmountain diversions into the Rio Grande between Lobatos and San Marcial.”

accounting regime for the upstream states in satisfying their delivery obligations and holding water in certain reservoirs. But, Article VI imposes limits on that flexibility.

In addition, Article VI provides that in years of hypothetical or actual spill from the Elephant Butte Reservoir, accrued credits are reduced, prior-year accrued debits are erased, and annual debits and credits are not computed. In years when New Mexico's and Colorado's accrued debits "exceed[] the minimum unfilled capacity of project storage," debits are reduced proportionally. Thus, Article VI illustrates the intertwined nature of the Project and the Compact beyond mere shared definitions. Through Article VI, upstream rights and duties are defined by reference to Project storage conditions which, in turn, are at least partially the result of cumulative Project releases for downstream water deliveries. Article VI also reveals that the Compact addresses not merely annual deliveries and Reservoir releases but also rights and duties defined across longer time periods during which the cumulative effects of downstream and upstream releases, impoundments, and water capture affect Project storage.

By providing flexibility, Article VI essentially acknowledges the physical reality of a need to accommodate and account for real-world operating conditions—limited shortfalls or excesses in deliveries—while still protecting the long-term supply of water for the Project.

Article VII limits the ability of New Mexico and Colorado to increase the amount of water held in storage in any upstream, non-Project reservoirs constructed after 1929 if there is less than 400,000 acre-feet of water in Project storage. This same article provides for adjustments if the actual releases of usable water from the Reservoir exceed an average of 790,000 acre-feet per year during periods of years that follow an actual spill. Finally, this article provides that New Mexico and Colorado may relinquish accrued credits, and Texas "may accept such

relinquished water” thus entitling the states “so relinquishing” to “store water in the amount of the water so relinquished.” In this manner, Article VII protects the Project’s water supply by limiting upstream storage flexibility while also protecting New Mexico and Colorado from excessive demands when Project supply is adequate. As with Article VI, this article defines upstream states’ Compact rights and duties through reference to Project storage conditions and downstream Reservoir releases on a cumulative, multiyear basis.

Article VIII provides that, in January of any year, Texas may demand of Colorado and New Mexico, and New Mexico may demand of Colorado, the release of water stored in reservoirs constructed after 1929 up to and in proportion to each upstream state’s accrued debits. Releases may be demanded “to bring the quantity of usable water in project storage to 600,000 acre-feet by March first and to maintain this quantity in storage until April thirtieth, to the end that a normal annual release of 790,000 acre feet may be made from project storage in that year.” Through this article, both Texas and New Mexico are granted the right to demand of another compacting state the release of water for the protection of the Project’s supply, at least to the extent of the upstream states’ accrued debits. And, because this article provides a limit on the downstream states’ rights to call for releases measured in terms of usable water in Project storage, the Compact again demonstrates a balancing of upstream and downstream rights and defines both duties and rights in reference to a measurable figure—Project storage—that is determined, at least in part, by the cumulative amount of water the Project releases from the Reservoir for downstream delivery.

Through Articles VII and VIII, the Compact demonstrates the compacting states’ intentions that normal operation of the Project will entail the annual release of 790,000 acre-feet. When read against the fixed, pre-determined, and undisputed obligation to deliver 60,000 acre-feet per year to Mexico, it is reasonable and necessary to conclude the compacting states intended Texas and southern New

Mexico to share the balance as adjusted for system losses, return flow reuse, and natural but unreliable intermittent arroyo inflows below the Reservoir. The drafters' choice not to quantify expressly how that water would be shared does little to disprove New Mexico's claim to an enforceable Compact right to a portion of that water below the Reservoir.

Articles IX and X address potential diversions of water from outside sources into the Rio Grande Basin. These provisions indicate consent, provide for certain credits, require the protection of certain existing uses, and require the cooperation of Colorado and New Mexico in relation to the construction of new diversion infrastructure.

Article XI serves as an acknowledgment as between New Mexico and Texas that "all controversies between said States relative to the quantity or quality of the water of the Rio Grande are composed and settled," noting, however, that nothing in the Compact "shall be interpreted to prevent 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." Article XI also provides, "Nothing herein shall be construed as an admission by any signatory state that the use of water for irrigation causes increase of salinity for which the user is responsible in law."

Articles XII and XIII provide for the creation of a commission with one representative from each compacting state along with a nonvoting representative for the United States. The Commission has certain duties and powers as specifically articulated in other articles of the Compact. Article XII provides generally that the Commission is to collect data, preserve records, and make non-binding recommendations to the compacting states. Article XIII provides that the Commission may meet every five years "to review any provisions [of the Compact]

which are non-substantive in character and which do not affect the basic principles upon which the Compact is founded.”

Article XIV provides, “The schedules herein contained and the quantities of water herein allocated shall never be increased nor diminished by reason of any increases or diminutions in the delivery or loss of water to Mexico.” Article XIV does not similarly restrict schedule amendments or water quantity adjustments by reason of water loss to a compacting state.

Article XV acknowledges the unique characteristics of the Rio Grande Basin and provides that “none of the signatory states admit that any provisions herein contained establishes any general principle or precedent applicable to other interstate streams.”¹⁰

Article XVI provides that the Compact does not affect “the obligations of the United States of America to Mexico under existing treaties or to the Indian tribes, or as impacting the rights of the Indian tribes.”

Article XVII provides for an effective date upon ratification.

Read as a whole, the Compact conclusively and unambiguously establishes a level of integration between the Compact and Project so fundamental to operation of the Compact that the Project water for southern New Mexico must be deemed a Compact apportionment. The Compact does not treat the Project as merely a vehicle for delivering water. Nor does the Compact require the delivery of water

¹⁰Colorado has described its interest in active participation in this case as relating to (1) the desire to prevent any ruling that might create an adverse consequence at the upstream reaches of the Compact area, and (2) the desire to prevent the establishment of adverse precedent that might negatively impact Colorado’s position in reference to any one of the several other compacts governing Colorado rivers. As to the latter, it would seem Article XV should provide some protection against any such adverse consequences.

into the Reservoir without further concern for, or reference to, how downstream water use might affect all three states. Rather, the Compact defines all three states' rights and duties through reference to multiple Project definitions, the status of Project storage, and the annual and longer-term status of Project operations. The usable water actually released from the Reservoir for Project delivery to Mexico, New Mexico, and Texas directly affects Project storage and all three states' rights and duties.

Texas correctly notes that certain aspects of the Compact seemingly treat southern New Mexico as if it were a part of “geographic New Mexico” but “Compact Texas.” As such, it might be possible to characterize New Mexico's downstream water as a type of right falling somewhere short of a Compact apportionment—a New Mexican claim against the Texas apportionment based on some other source of law. For example, the Compact's failure to address expressly the Texas/southern New Mexico water division lends at least some support to Texas's assertions. And, within the structure of the Compact itself, there is at least some support for the position that the Compact may recognize claims on water without creating Compact-level rights for the protection of those claims. The Mexican treaty water, for example, cannot properly be labeled a Compact apportionment in the sense of granting Mexico any Compact rights. Rather, the water for Mexico represents a federal treaty obligation that predated the Compact and for which the Compact made express allowance. But, at the end of the day, the Compact's silence as to a downstream division and its treatment of a foreign state's share of water fall short of creating an ambiguity as to whether New Mexico's downstream water entitlement should be characterized as an apportionment.

Texas also emphasizes that, although Article VII permits both New Mexico and Texas to call for the release of stored credit water from an upstream state, Article VIII permits Texas alone to accept relinquished credit water. Texas argues

that this distinction proves that only Texas has the right to protect the Project's water supply and, therefore, Texas alone has a downstream apportionment.

No doubt, this distinction illustrates that Texas has a stronger ability than New Mexico to protect the Project's water supply from actions by another state. In effect, Texas has a Compact right of enforcement that New Mexico lacks. But, this difference in rights does little to show that the Project water for New Mexico is something less than a Compact apportionment. As just described, several Compact articles define upstream rights through reference to Project storage and operations in a manner that balances upstream rights against the protection of the Project's water supply. Texas's ability to accept relinquished credit water simply is not the only protection for the Project's water supply.

And, as a practical matter, New Mexico did not need the grant of a Compact right to "accept" relinquished water from itself. Rather, the New Mexican decision to *offer* a relinquishment is an intrastate matter of competing intrastate interests seeking greater water supply upstream or downstream of the Reservoir. Texas's argument regarding the acceptance of relinquished credit water, therefore, relies primarily on the fact that the Compact does not grant New Mexico the right to accept *Colorado's* relinquishment of credit water. In asserting this narrow argument, Texas hangs its hat on a small peg. Rather than showing that New Mexico's downstream water is something less than an apportionment, the better reading of Article VIII is that the Compact wisely placed the acceptance of relinquished water in the hands of one downstream state thus avoiding administrative limbo where two downstream states (one with potentially conflicting internal interests) might disagree. In this regard, the Compact simply expresses an expedient solution, placing control over the limited issue of Colorado's relinquishment of credit water solely in one receiving state's hands. This imbalance in rights as between New Mexico and Texas, therefore, appears to be more of a practical solution recognizing complicated and competing intrastate interests than a

strong indication as to how the Court should characterize New Mexico's downstream water.

Looking only at the Compact, arguments in support of Texas's preferred interpretation fail to create an ambiguity as to the proper characterization of the downstream New Mexican water right. The downstream water Reclamation delivers to southern New Mexico is a part of New Mexico's two-part apportionment.

Finally, I note that the parties dispute the extent to which the Supreme Court's 2018 opinion recognized a downstream New Mexico "apportionment" or described downstream New Mexico as "Compact Texas." The Supreme Court indicated 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. 954, 959 (2018) (quoting Texas's Reply to Exceptions to the First Interim Report of the Special Master 40 (emphasis added)). New Mexico relies on this language to argue the Court has already found New Mexico's downstream entitlement to be an apportionment. But the Court also referred to EBID and EP1 together as the "Texas water districts," *id.* at 957, arguably lending some support to Texas's theory that the New Mexican lands below the Reservoir are a part of "Compact Texas."

I conclude it is unnecessary to pick over the Court's language as urged by the parties in this regard. The Compact itself answers the apportionment characterization question. Nothing the Court said in its 2018 opinion when addressing purely preliminary and jurisdictional issues clearly contradicts this conclusion.

2. What the Compact says About a Duty to Protect Project Operations, a Baseline Condition, and Measuring a Downstream Apportionment.

The Compact also establishes generally the existence of New Mexico's duty to safeguard Texas's Compact apportionment and the states' intention to protect a baseline Project operation condition. This duty is apparent based on: the level of Compact and Project integration; the "obligation of New Mexico to *deliver* water," Article IV; and the limitations on Article XIV's protections for the Compact's express delivery schedules.

For all of the reasons just stated regarding the fundamental integration of the Project and Compact, New Mexico has a duty to avoid interfering with the Project's delivery of Texas's apportionment. Because all three states' rights and duties are defined expressly by reference to annual or cumulative Project storage and Reservoir releases, many such rights and duties would be rendered "meaningless" or illusory if a compacting state were allowed to interfere with Project operations. See 2 S. Williston, Law of Contracts § 620, p. 1202 (1920) (contracts should be interpreted so as to not render terms meaningless); Kansas v. Nebraska, 574 U.S. 445, 493–94 (2015) (Thomas, J., dissenting in part). The unauthorized indirect or direct capture of Project water to an extent that substantially interferes with Project operations is a violation of the Compact, not merely a transgression of Reclamation law.

Use of the term "deliver" to describe both the Colorado state-line obligation and the New Mexico Reservoir input obligation serves as strong textual evidence of a duty to avoid interference with Compact water for Texas. Relying on common and essentially indisputable dictionary definitions from near in time to Compact formation, the First Interim Report concluded the duty to "deliver" necessarily carried with it a duty to relinquish "control and dominion" over the water so delivered. See Texas v. New Mexico, O141, First Interim Report of the Special Master (Feb. 9, 2017) (Sp. M. Docket 54) at 196–97 (quoting BALLENTINE'S LAW DICTIONARY 353 (1930); BLACK'S LAW DICTIONARY 349, 842 (2d ed. 1910);

and WEBSTER'S SECOND NEW INTERNATIONAL DICTIONARY 963 (1934)). Although the Court did not expressly adopt that report and the parties contest the meaning and full extent of the First Special Master's determination, I hold that, at a minimum, the term "deliver" requires New Mexico to avoid interference with Project operations and to apply its own laws to protect Texas's Compact apportionment. Water delivered into the Reservoir is not truly delivered if captured, directly or indirectly, below the Reservoir.

Finally, Article XIV also supports finding a New Mexican downstream duty. Article XIV expressly protects the Compact's delivery schedules for Colorado and New Mexico against being "increased [or diminished]" in response to changes in water capture by Mexico. The omission of a similar protection for the schedules against changes in water capture by the compacting states themselves is telling.

The omission might seem to mean little in reference to changes in water capture in Colorado or in northern New Mexico. After all, in both of these Compact regions apportionments are measured on an inflow-outflow basis according to the scheduled gages as adjusted for specific identified conditions. See Article III ("appropriate adjustments shall be made"), IV (same). Under such an inflow-outflow regime, these regions are essentially free to develop their resources and change their water capture however they see fit, so long as they meet their delivery obligations and comply with the Compact's storage, accounting, and other express provisions.

The omission is meaningful, however, when viewed with reference to the programmatically driven Compact area below the Reservoir. Nothing in the Compact expressly protects New Mexico's upstream reservoir input delivery schedule from being "increased [or diminished] by reason of any increases or diminutions in the delivery or loss of water to" southern New Mexico. Article XIV. In fact, a parallel express provision protecting the schedules against increases or

diminutions in the delivery or loss of water to southern New Mexico would have been flatly contrary to the common meaning of the term “deliver” as just described. What Article XIV expressly says, and what it doesn’t say, therefore, together support the existence of a New Mexico duty to avoid interference with Project operations. In fact, Texas has repeatedly referenced changes to New Mexico’s delivery obligation as a possible statewide remedy in this case.

Beyond these determinations the Compact itself does not identify expressly through quantities or percentages how New Mexico and Texas are to share water below the Reservoir. Instead, the Compact is programmatic in its division of water below the Reservoir, referring simply to the Project. Nor does the Compact address expressly the full details of the Project’s baseline operating conditions as understood by the states in 1938.

As discussed below, however, these two areas of ambiguity—downstream water division and baseline operations—become clear at a general level through reference to limited and materially undisputed additional evidence. The Downstream Contracts and evidence as to the source of the Compact’s normal annual release figure (790,000 acre-feet) begin to reveal the scope but not the details of New Mexico’s downstream duty and what the states intended the Compact to protect. Some of that evidence, like the Downstream Contracts, might even be said to be implicitly incorporated by reference. Texas v. New Mexico, 138 S. Ct. at 959 (“Or by way of another rough analogy, the Compact could be thought implicitly to incorporate the Downstream Contracts by reference.”).

C. Additional Evidence

A first category of evidence includes the general and undisputed history of Project inception, Project operations prior to 1938, and the Downstream Contracts. A second category includes the negotiation and litigation history as between the

compacting states. This second category also includes evidence of the states' scientific understanding of the Rio Grande and its waters as reflected in several sources, but primarily in a 1937 report conducted at the behest of the compacting states: Natural Resource Committee, Regional Planning Part VI, The Rio Grande Joint Investigation in the Upper Rio Grande Basin in Colorado, New Mexico, and Texas, 136–37 (TX_MSJ_004506–005091) (Joint Report).

A third category of evidence, evidence of the post-1938 course of performance, speaks largely to issues of breach, liability, damages, or acquiescence. To the extent the parties, primarily New Mexico, assert such evidence to prove what the compacting states intended at the time of Compact formation (specifically the permissibility of pumping hydrologically connected groundwater), such evidence is disputed and speaks with a level of detail beyond what is being decided on summary judgment. Such evidence speaks to questions such as the details of what a protected baseline condition might have been and details of how Project operations and the states' actions or inactions might further illustrate the states' understanding of the baseline condition, the 57%/43% split, or other issues.

Undisputed evidence from after 1938, however, is directly material to three issues on summary judgment: the hydrological connections between groundwater, return flows, and surface water in the Project area; depletion of return flows and surface flows by New Mexican pumping; and New Mexico's knowledge of these effects. I address the post-1938 evidence as to these issues.

1. Project Inception, Pre-Compact Operations, and the Downstream Contracts

Development of the Project occurred against the backdrop of international treaty negotiations with Mexico arising from concerns among New Mexicans, Texans, and Mexicans as to the development of water resources in Colorado. Jennifer Stevens, The History of Interstate Water Use on the Rio Grande:

1890–1955 (NM Ex. 112 at 14) (Stevens); Miltenberger, 5–6. In fact, the 1906 treaty with Mexico was premised, in part, on the construction of the Elephant Butte Reservoir to regulate flow and ensure an annual delivery at the international border. See Texas v. New Mexico, 138 S. Ct. at 957 (“[I]n 1906, the United States agreed by treaty to deliver 60,000 acre-feet of water annually to Mexico upon completion of the new reservoir”). Eventually, the Project was developed with direct federal funding (to recognize the Project’s role in fulfilling the United States’ treaty obligation) and with federal loans backed by agreements with water user associations in Texas and New Mexico—predecessors to EBID and EP1—for the repayment of construction costs. Stevens, 18; see also “An Act Relating to the Construction of a Dam and Reservoir on the Rio Grande, in New Mexico, for the Impounding of the Flood Waters of Said River for Purposes of Irrigation,” Pub. L. No. 58–104, § 798, 33 Stat. 814 (1905) (extending the Reclamation Act of 1902 to include the Project); “An Act To Extend the Irrigation Act to the State of Texas,” Pub. L. No. 59–225, 34 Stat. 259 (1906) (extending the Act of 1902 to all of Texas). Project water deliveries from Reservoir releases commenced in 1915. NM SOF 10; United States Reclamation Service, Project History Rio Grande Project Year 1915, 138 (1915). Construction of the Reservoir and other storage and diversion infrastructure was substantially complete in 1919. NM SOF 11.

Soon after regular irrigation supply became available to Project lands, portions of the land became waterlogged under the new supply. Stevens, 27; Miltenberger, 28; Expert Report of Margaret Barroll (Barroll) (NM Ex-100 at 17–18). This triggered an increase in the construction of drains to collect irrigation seepage for return to the river and for reuse further downstream.¹¹ Miltenberger,

¹¹Today, in addition to the Elephant Butte Reservoir, which serves as the Project’s primary storage facility, the Project includes a power production facility in New Mexico, the Caballo Dam and Reservoir (a smaller control facility near to and downstream of the Elephant Butte Reservoir), three primary diversion dams in New Mexico, two primary diversion dams in Texas, and approximately 141 miles of canals, 461 miles of lateral ditches, and 457 miles of drains in New Mexico and Texas. U.S. SOF 12.

28. Drain construction was largely complete by 1925. Barroll, 18. Return flow provided by the drains was known to be an established and substantial component of Project deliveries prior to Compact ratification. Joint Report, 100 (Table 90). In the early 1930s, return flow comprised approximately 35 percent of the water diverted by Reclamation near El Paso and approached 60 percent at the southern reaches of the Project. Id.; Barroll, 18.

In addition, various engineering reports and design targets reflected a relatively consistent expectation that the Project would be sufficient to supply water to approximately 155,000 irrigated acres in the United States with 60,000 acre-feet per year reserved for delivery to Mexico, taking into account unavoidable system losses. Stevens, 20; see also, e.g., 61st Congress, 3rd Session, House of Representatives, Document No. 1262: Fund for Reclamation of Arid Lands. Message from the President of the United States Transmitting a Report of the Board of Army Engineers in Relation to the Reclamation Fund,” 106–07. The parties appear to dispute minor aspects of one another’s evidence regarding evolution of the Project, and they provide varying levels of detail as to the history of how acreage came into production within the Project. It is undisputed, however, that by as early as 1921, Reclamation had reported the scope of the Project as serving the United States’ treaty obligation as well as approximately 155,000 Project acres in New Mexico and Texas. NM-EX 313, United States Reclamation Service, Project History Rio Grande Project Year 1921, 6-7 (1921). While the actual number of acres under cultivation and irrigation varied annually for any number of reasons, no party identifies pre-Compact evidence after 1921 suggesting a substantial or lasting deviation from the acreage division of Project lands as 57% in New Mexico and 43% in Texas or suggesting a change to the general scope of the overall Project.¹²

¹²Actual Project acres under cultivation grew before and during the 1920s as irrigation supply made farming new acres feasible. Stevens, 75. Acres then declined during the Great Depression to a low of approximately 120,000 and increased after Compact ratification to a high of approximately 160,000 in the 1950s. Id. No party seriously contends that the decline during the Great

Due to economic difficulties surrounding the Great Depression, payments to Reclamation lagged. Miltenberger, 25. Congress authorized temporary relief for project participants throughout the West. See An Act for the Temporary Relief of Water Users on Irrigation Projects Constructed and Operated Under the Reclamation Law, April 1, 1932, 47 Stat. 75, chapter 95; see also An Act to Extend the Operation of the Act entitled, “An Act for the Temporary Relief of Water Users on Irrigation Projects Constructed and Operated Under the Reclamation Law,” March 3, 1933, 47 Stat. 1427, chapter 200. EBID, which had been created under New Mexico law, and EP1, which had been created under Texas law, entered into new contracts with one another and Reclamation, replacing the earlier water user associations that had initially contracted with Reclamation at Project inception. See 1937 US-EP1 Contract (TX_MSJ_004464–88); 1937 US-EBID Contract TX_MSJ_004434–61); 1938 EBID-EP1 Contract (TX_MSJ_005249–50) (collectively, the Downstream Contracts). Essentially, the districts renegotiated their payment obligations to eliminate payments for construction, maintenance, and operation of the Project’s power production infrastructure in exchange for relinquishment of any claims to that infrastructure or the benefits it generated. 1937 US-EP1 Contract; 1937 US-EBID Contract.

The 1938 contract between the districts apportioned Project costs between EBID and EP1 based on their respective Project acreage: approximately 57% in New Mexico (88,000 acres) and 43% in Texas (67,000 acres). The same contract provided a cushion for the increase of irrigated acres such that each district could increase its acreage by as much as 3% (up to a total of 90,640 acres in EBID and 69,010 acres in EP1), with associated adjustments to their cost shares. Perhaps most importantly for the present case, the 1938 contract also provided:

Depression somehow reflects any state’s changed understanding of the Project’s general scope.

It is further agreed and understood 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 [43%] thereof to the lands within El Paso County Water Improvement District No. 1, and 88/155 [57%] to the lands within the Elephant Butte Irrigation District.

To an extent, the Downstream Contracts merely memorialized what had been understood by Project engineers, lawmakers, and landowners likely from near in time to Project inception but undisputedly from 1921 onward: the scope of the Project was well defined, total acreage might vary slightly, but the division of the Project's lands were approximately 57% in New Mexico and 43% in Texas.

Several aspects of the Project, or of water use practices within the Project area, appear to be materially undisputed for the decade that preceded Compact ratification. Crops in the Project area generally were annual, not permanent, and they consisted primarily of cotton, alfalfa, and row crops. See, e.g., Joint Report, 382 (Table 94, Mesilla Valley). Some groundwater well development for irrigation had occurred, but such use was not substantial, and it trailed off following the arrival of Project irrigation. Miltenberger, 28; Barroll, 19 (“Irrigation pumping within the Rio Grande Project was minimal during the early years of the Project, until the drought of the 1950s.”). Substantial urban and industrial development around the two primary Project population centers, Las Cruces, New Mexico, and El Paso, Texas, had, to a large extent, not yet occurred. Water use for villages, cities, and other non-irrigation purposes served as a minor component of overall Project area water use. Joint Report, 104–05; Stevens, 63 (noting that the Joint Report characterized municipal demands as “relatively minor”).

In operation, Reclamation played a large role in the actual delivery of water. From the beginning of Project deliveries until approximately 1980, Reclamation delivered water directly to farm headgates. US SOF 41; Barroll, 9. Individual water users would place water orders directly with Reclamation, and Reclamation

would adjust Reservoir releases as well as downstream control dam and canal headgate releases to attain the desired delivery of water at farm headgates. Barroll, 9 (“[T]he necessary release from Caballo was calculated based on the sum of the water required at each Project diversion heading, adjusted for the estimated transit losses and ‘drainage flow’ returns to the river above each diversion heading.”). Federal ditch riders managed individual farm deliveries. Id.

Although annual Reservoir releases varied, the average Reservoir releases for the decade preceding Compact ratification closely matched the release amount later referenced in the Compact. See United States Reclamation Service, Project History Rio Grande Project Year 1937 (1938) (“[T]he average release during the past ten years has been 780,640 acre-feet.”). And, although the parties appear to dispute the details to a limited extent, the division of water deliveries as between southern New Mexico and Texas for the seven years preceding the Compact roughly tracked the states’ 57%/43% division of Project acres (as referenced in Downstream Contracts for acres and for the division of available supply in water-short years).¹³

In this regard, New Mexico’s expert, Barroll, presents data purporting to quantify the relative diversions to Texan and New Mexican Project acres between 1931 and 1978. NM Ex 100 (Table A.2 “District Diversions” and Table A.3 “Farm Delivery Data from Project WDR Forms Adjusted for [EP1] Lands in Mesilla Unit”). Barroll’s summary of data for the pre-Compact years, 1931–37, indicates an annual variation, but a seven-year average of 53.5% to 55.5% for New Mexico and 46.5% to

¹³The United States’ treaty with Mexico also addressed the division of water during water shortages, using the term “extraordinary drought” to create a proportionate exception to the Treaty’s 60,000 acre-feet requirement. See Convention between the United States and Mexico providing for the equitable distribution of the waters of the Rio Grande for irrigation purposes, U.S.–Mexico, 34 Stat. 2953, Art. II (“In case, however, of extraordinary drought or serious accident to the irrigation system in the United States, the amount delivered to the Mexican Canal shall be diminished in the same proportion as the water delivered to lands under said irrigation system in the United States.”).

44.5% for Texas, depending on the data source. Texas emphasizes that Reclamation did not necessarily set allocation limits for all of those years—irrigators were not in each year strictly limited in their receipt of deliveries to amounts determined by Reclamation at the beginning of the irrigation season. Texas’s Evidentiary Objections and Responses to the State of New Mexico’s Facts, Dec. 22, 2020 at 44; Miltenberger Declaration, December 22, 2020 (TX_MSJ_007371), 23. Texas also identifies discrepancies between Barroll’s reported diversion percentages and underlying data presented by another New Mexico Expert, Spronk Water Engineers. See Expert Report of Gregory Sullivan and Heidi Welsh, Spronk Engineers, Oct. 31, 2019; Declaration of Robert Brandes, Dec. 22, 2020 (TX_MSJ_007312), 8–9. The discrepancies Texas identifies appear to address the entire time periods identified by Barroll. Those time periods are primarily post-Compact years (1931-1979) or exclusively post-Compact years (1951–79). Brandes, 8–9. In this regard, Texas notes that for these larger and later time periods, Spronk reported a lower percentage of diversions to Texas than the 43% identified in the Downstream Contracts. Id.

Regardless of these disputes, Texas has identified no evidence showing a state’s intent, or an actual distribution of water prior to Compact formation, that substantially and consistently deviated from the ratio as identified in the Downstream Contract-recognized division of water for water-short years. I do not cite this evidence to suggest that Reclamation, prior to Compact formation, was carefully coordinating with the water districts to ensure a 57%/43% split. Quite the contrary, any resulting division of water between the states was merely the aggregate effect of acreage, generally similar conditions, and generally similar treatment of each state’s Project irrigators by Reclamation. By the time of Compact formation, Project operations were sufficiently established to reflect a division of water, in practice, that was similar to the division of acres.

2. Compact Negotiations, Interstate Disputes, and the Joint Investigation Report

While the Project was being developed and its operations were in their infancy, disputes persisted between Colorado, New Mexico, and Texas. Colorado sought to develop its water resources. Stevens, 28; Miltenberger, 5–6. New Mexico sought to protect and develop its water resources between Colorado and the Reservoir. Stevens, 28. And Texas, along with interests in southern New Mexico, sought to protect the Project’s water supply (the Project seemingly having resolved the division of surface water between Texas and southern New Mexico—at least under the conditions that prevailed in the 1930s and prior to the advent of widespread, intensive, and sustained pumping). *Id.*; Miltenberger, 6.

Through federally imposed embargos during the first quarter of the twentieth century, dam and reservoir development outside the Project was largely halted on the Rio Grande in New Mexico and Colorado. Miltenberger, 5; Stevens, 34. New Mexico and Colorado initially met to seek a Compact between themselves, and Texas later joined the discussions, recognizing the need to advocate for protection of the Project. Stevens, 34. In order to permit negotiation of a permanent compact, the three states entered into a temporary compact in 1929 that was to last until 1935. Stevens, 36–37. The temporary compact froze upstream depletions at a 1929 level but did not prohibit the construction of upstream infrastructure. Miltenberger, 7. Negotiations did not progress rapidly, and in 1935, the states agreed to extend the temporary compact for an additional two years. Stevens, 47; Miltenberger, 8.

Also in 1935, Texas brought an original jurisdiction action against New Mexico alleging New Mexico was depleting water above the Reservoir in violation of the 1929 temporary compact. Miltenberger, 8–9. That case progressed until the Special Master recommended suspension of the case to permit further Compact negotiations. *Id.* at 8. Adoption of the Compact in 1938 ended the suit between

Texas and New Mexico regarding New Mexico's depletion of waters above the Reservoir. Id.; Compact, Art. XI. No party reasonably disputes the fact that Texas consistently advocated for protection of Project supply in Compact negotiations. In fact, no party reasonably disputes that water users in southern New Mexico were largely aligned with Texas in seeking protection of the Project's supply. See Miltenberger, 22.

To inform negotiators and engineers as to the existing water uses and available resources in the Compact area, the three states commissioned the Joint Report. The Joint Report provides important insight both as to the source of the Compact's 790,000 acre-feet normal annual release amount and as to the Compact negotiators' knowledge and consideration of Project return flows and groundwater and surface water interactions.

The Joint Report detailed the composition of Project deliveries at different points downstream from the Reservoir and showed the average relative percentages of Reservoir releases, return flows, and arroyo inflows as to discrete locations and as to overall Project deliveries. Joint Report, 98–104. Intermittent arroyo flows from rainfall events, on average, comprised a relatively minor component of the river's flow throughout the Project area. Return flows comprised less than ten percent of the river's flow in the upper reaches of the Project's irrigated acreage in New Mexico, but over thirty-five percent near El Paso and approximately sixty percent in the southern reaches of the Project. Joint Report, 100 (Table 90).

An important feature of the Compact for all interested groups was the Project's anticipated supply needs, as illustrated not only by the 1935 Supreme Court action by Texas against New Mexico, but also by the negotiating history itself. The Reservoir delivery obligation, after all, ultimately served to define the upstream delivery schedules, limiting what could be retained or used upstream of the Reservoir by New Mexico and Colorado. Compact negotiators, relying on the

Joint Report, understood there to be both quantitative and qualitative requirements driving the overall Project supply requirement amount. Miltenberger, 21. The states advocated for differing amounts, disputing the quantities necessary to meet downstream irrigation demand, provide treaty water to Mexico, accommodate a rate of system loss (due to several factors, including evaporation or river bed losses), incorporate return flow reuse, and sufficiently dilute salts to permit irrigation use at the southern end of the Project. Stevens, 64–69.

Ultimately, Texas advocated for 800,000 acre-feet as a normal annual release amount; New Mexico advocated for 750,000 acre-feet; and Colorado sought generally the smallest figure it could achieve, arguing for nothing more than 750,000. Stevens, 65. The Joint Report had indicated 773,000 would be sufficient to meet downstream needs. Joint Report, 103. In urging a smaller water supply for the Project, upstream interests emphasized the potential for increased efficiency within the Project and for reductions in illicit Mexican water capture. Stevens, 70. During Compact negotiations, the states believed Mexican water capture was substantially in excess of the 60,000 acre-feet due under the Treaty. Stevens, 51–53. In fact, throughout Compact negotiations, infrastructure development was underway around El Paso to divert river surface flow upstream of the point where the Rio Grande became an international boundary, thus reducing non-Treaty Mexican surface water capture. *Id.*; Joint Report, 101. In the end, negotiators settled on 790,000 acre-feet as the Compact’s stated normal annual release amount from the Reservoir. Compact, Art. VIII.

The capture and reuse of return flows was fundamental to the determination that this overall figure would be an adequate amount to serve the irrigation and treaty demands below the Reservoir. Joint Report, 102–04; Stevens, 65–68; Miltenberger, 19–20. Return flows factored into determining not only the quantity of water required to meet irrigation demands, but also the quality of water required for irrigation throughout the Project—taking into account the need for Reservoir

releases to dilute higher salinity return flows. Joint Report 102–04. New Mexico’s historical expert discusses at some length the negotiating history, emphasizing evidence that suggests Texas used poorly substantiated water quality concerns as a negotiating tool to advocate for a greater normal annual release figure than might otherwise have been achieved. Stevens, 64–69. Regardless of the suggestion that the Texas negotiators had exaggerated their water quality concerns, there is no material dispute as to the importance and role of return flows in determining the appropriate normal annual release for the Compact. And, although the parties dispute details regarding the compacting states’ knowledge as to the precise interconnections between groundwater, surface water, and return flows in the Project area, there is no material dispute as to one simple fact: the Project’s collection and reuse of return flows was fundamental to the determination of the Compact’s normal annual release figure and, by extension, the upstream delivery schedules.

In formulating the upstream delivery schedules, the states reviewed river flow data from different years for different stretches of the river. Miltenberger, 13–15. Ultimately, the Colorado delivery schedule was derived based on the Compact’s normal annual release figure and river flow data between set points for the years 1928–37. *Id.* The New Mexico delivery schedule was derived based on the Compact’s normal annual release figure and river flow data between set points above the Reservoir prior to 1930.

Regarding the general state of knowledge as to groundwater in the Compact area, the Joint Report referenced groundwater in the Compact area generally, but focused mostly on areas above the Reservoir. The Joint Report states:

The principal ground-water basins for consideration with respect to water supply in the upper basin are these underlying the San Luis Valley [Colorado], The Middle Valley from Cochiti to San Marcial [northern New Mexico], and the Rincon [New Mexico Project area],

Mesilla [Project areas in New Mexico and to a lesser extent Texas], and El Paso [Texas Project area] Valleys. *In none of these areas has ground water been utilized to any appreciable extent as a primary or basic source of supply for irrigation, although extensive control of ground water for the practice of subirrigation in western San Luis Valley areas might be considered as an exception to this statement. Moreover, there appears to be no immediate probability of extensive ground-water development as a basic supply, except as the recurrence of dry years may result in increased pumping in San Luis Valley [Colorado], or Wagon Wheel Gap Reservoir [Colorado], if constructed and accompanied by power development, may create a condition favorable to ground-water pumping in that valley. This investigation accordingly has been concerned with the relation of ground water to present utilization of surface supplies and to present losses by evaporation and transpiration in seeped areas, rather than with potentialities of ground water as a basic supply. It is to be observed, in general, that extensive development of ground water for irrigation would add no new water to the Upper Rio Grande Basin and that recharge of the ground-water basins would necessarily involve a draft on surface supplies which are not utilized otherwise. The chief element to be considered in such a development would be the redistribution of the availability and use of present supplies and the resulting effect upon the water supply of lower major units.*

Joint Report, 55–56 (emphasis added). As used in this quoted section of the Joint Report, the term “Upper Basin” referred to the entire Rio Grande Basin above Ft. Quitman. Joint Report, 7.

The Joint Report proceeds to discuss in detail groundwater studies in Colorado and northern New Mexico. Regarding the Project area, however, the Joint Report states:

Ground-water data for [the Rincon, Mesilla, and El Paso Valleys] are very meager and no study of ground-water conditions in them was included in the Rio Grand joint investigation. These valleys comprise the Rio Grande Project, which is well provided with open drains that satisfactorily maintain ground-water levels at the depths below ground surface required to prevent waterlogging and seeping of the lands.

Periodic measurements of the depths to ground water in 55 to 88 wells in Mesilla Valley have been made by the Bureau of Reclamation in every year since 1924. The observations were made and the results were used chiefly to derive the annual increment or decrement of ground water as a necessary factor in computing the annual consumptive use of water in the valley by the inflow-outflow method.

Joint Report, 62.

The Joint Report's statements as to groundwater originating in the river were consistent with earlier studies as cited by Texas's expert historian. Miltenberger identified studies from 1904 and 1907 that had concluded groundwater below Elephant Butte originated mainly from the Rio Grande itself. See Willis T. Lee, Water Resources of the Rio Grande Valley in New Mexico and their Development, Department of the Interior, United States Geological Survey Water-Supply and Irrigation Paper No. 188 (GPO, 1907), 41 ("Professor Slichter has shown that the ground water of the valley is derived largely from the river."); id. at 49 ("The waters of the underflow are derived mainly from the Rio Grande. The rainfall is comparatively unimportant as a source of supply, since the rains are usually violent and of short duration, and although the material upon which the rain falls is very porous the greater part of the water enters the river."); Charles S. Slichter, Observations on the Ground Water of the Rio Grande Valley, Dept. of the Interior, U.S. Geological Survey Water-Supply and Irrigation Paper No. 141 (GPO, 1905), 27 ("The observations of the test wells show that the ground waters in the Mesilla Valley originate in the flood waters of the river.").

Similarly, New Mexico's own Rio Grande Compact engineering advisor, John Bliss, conducted a study in 1936 that showed a "direct relation" between surface flow and groundwater below Elephant Butte. Miltenberger, 27–28 (quoting John H. Bliss, "Report on Investigation of Invisible Gains and Losses in the Channel of the Rio Grande from Elephant Butte to El Paso," Feb. 1936 (TX_MSJ_003746), 12). Regarding New Mexico's Rincon valley immediately downstream of the Reservoir,

Bliss concluded, “The water lost in the Rincon Valley feeds the ground water of the surrounding lands and is recovered largely by the drains.” TX_MSJ_003755. And, although Bliss emphasized uncertainty and admitted data was not ample through the Mesilla Valley, he concluded there was “a direct relation of seepage to groundwater and irrigation.” TX_MSJ_003759.

These studies and the JIR do not paint a complete picture of the states’ knowledge as to groundwater at the time of Compact formation. They do, however, illustrate undisputedly that the compacting states understood at the time of Compact formation that the drains, the river, and the groundwater at shallow depths were hydrologically connected. Given the necessary construction of drains in response to the initial waterlogging of Project lands, such a connection cannot reasonably be denied. See also Joint Report, 104 (describing existing groundwater wells for “city, town, and village water supplies” as generally “constitut[ing] a stream-flow depletion.”).

Texas and the United States emphasize the Joint Report’s general comments as to the Compact area as a whole and the unavailability of groundwater as a separate resource. In particular, they highlight the Joint Report’s conclusion that substantial groundwater development in the Compact area would serve as a draw on surface flows. New Mexico, on the other hand, emphasizes the uncertainty evident in all the studies and the Joint Report’s disclaimer that the groundwater resources below the Reservoir (in the Rincon, Mesilla, and El Paso valleys) had not been well studied.

For summary judgment purposes, what matters is not the details as to the states’ knowledge as to the precise groundwater conditions below the reservoir. What matters is the undisputable state of knowledge as to the importance of drains below the reservoir in providing return flows and the well understood existence of a general relationship between the groundwater and the return flows. These flows

were fundamental to the determination of the Compact’s normal annual release amount and to the determination of upstream delivery schedules based on the release amount.

Given the negotiators’ reliance on return flows in defining the Compact’s delivery schedules and normal Reservoir releases and given the states’ knowledge as to the general relationship between return flows and pumping, New Mexico’s duty to protect Texas’s Compact apportionment necessarily includes the duty to protect the Rio Grande’s hydrologically connected return flows.

The extent to which this duty accommodates some degree of groundwater pumping—at particular rates, in particular places, or at particular times—without substantially affecting Project operations is not an issue appropriate for summary resolution. Similarly, it remains to be shown the extent to which this duty accommodates other changes in the Compact area that alter return flows, whether increased municipal and industrial use, changed irrigation and cropping practices, or other changes. Finally, it remains to be shown the extent to which any state knowingly acquiesced in another state’s actions and the extent to which any state’s own return flow capture caused or increased any purported harm.

3. Post-Compact Operations: Increased Understanding of Hydrological Connections, New Mexican Water Capture, and New Mexico’s Knowledge.

Texas seeks general-level summary rulings not only that groundwater and surface water in the Project area are interconnected, but that: New Mexican pumping depletes surface flows; New Mexico admits its pumping depletes surface flows; and New Mexico knew or should have known that its actions “were adversely affecting Texas’s apportionment.” Post-1938 evidence as to these issues appropriate for consideration on summary judgment consists primarily of admissions or descriptions from New Mexico’s witnesses as to the effects of pumping. Evidence

also includes reports illustrating the continuing development of the states' understanding of the groundwater, surface water, and return flow interconnections in the Project area.

Prior to determining with greater detail the extent of New Mexico's downstream duty and the related issue of the downstream water division, it remains difficult to conclude whether and to what extent New Mexico's actions may have been "adversely affecting Texas's apportionment." Regardless, it is possible to speak in terms of undisputed facts when addressing New Mexico's depletion of surface flows and New Mexico's knowledge as to such depletions. It is also possible to speak in limited terms of interference with a downstream apportionment, at least where New Mexico admits that its actions interfered even with New Mexico's apparent definition of Texas's apportionment.

Regarding the general connections between groundwater and surface water in the Project area, a 1954 USGS report—the Conover report—addressed more fully the connections as identified in the 1904 Slichter report, the 1907 Lee report, the 1936 Bliss report, and later, the Joint 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) (Conover Report); see also NM-EX 343, C.S. Conover, Preliminary Memorandum on Groundwater Supplies for Elephant Butte Irrigation District, New Mexico (Sept. 1947). The Conover Report concluded generally that "Ground 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." Conover Report, 2. The Conover report did not suffer from the same level of uncertainty as the earlier reports. The states' knowledge of the Conover report is materially undisputed. Even New Mexico's historical expert described the Conover report as concluding that "pumping groundwater would only provide a small

amount of net additional water to the Project as a whole, with water being diverted ‘to the pumps that would otherwise be available as surface supply lower down the valley.’” Stevens, 92 (quoting Conover Report at 13).

Nothing that comes after the Conover report materially detracts from its core findings.¹⁴ In fact, New Mexico does not directly contest the core findings of the Conover report. Instead, New Mexico emphasizes aspects of the Conover report that add nuance and illustrate the complexity inherent in analyzing the relationship between drain flows, pumping, and surface flows. See, e.g., Stevens 92 (“Conover seemed to advocate for pumping as a short-term solution to the drought issue, a conclusion with which Reclamation agreed. Conover recognized that pumping would have the effect of drying out the drains of return flow, but also found that less waste (through transportation and evaporation) would be realized by pumping than through surface deliveries, at least a 10% savings, which was not insignificant during drought years.”).

New Mexico points to evidence regarding the states’ practices during and after a mid-century drought to argue that: (1) Texas demonstrated a general understanding that the Compact permits intensive pumping alongside surface water deliveries in New Mexico, and (2) Texas acquiesced in at least a certain level

¹⁴Some studies that came after Conover suggested a certain degree of temporary pumping could be used to supplement surface water supplies in water-short years. See Miltenberger, 31–32 (discussing Narendra Gunaji, Ground Water Conditions in Elephant Butte Irrigation District (University Park, New Mexico: Engineering Experiment Station, New Mexico State University, November 1961) (TX_MSJ_005903), 5; and E.R. Leggat, M.E. Lowry, and J.W. Hood, Ground-Water Resources of the Lower Mesilla Valley, Texas and New Mexico, U.S. Geological Survey Water Supply Paper 1669-AA (GPO, 1963) (TX_MSJ_005980), AA18-AA19 and AA24). These studies, however, did not purport to identify substantial independent sources of water detached from hydrological effects on the Rio Grande’s surface waters. Rather, these later studies merely asserted that a limited degree of pumping in the Project area could be accommodated. See, e.g., Gunaji, 8 (“On a long-term basis, nearly all water removed from ground water storage must be replaced before the flow of the drains returns to normal.”).

of pumping. New Mexico also points to actions by the United States during this time that New Mexico describes as promoting pumping as a solution to surface water shortfalls. Texas, on the other hand, argues that questions of fact abound concerning the permissible inferences arising from the United States' and the states' actions during and after the mid-century drought.

It is undisputed that pumping increased dramatically in the Project area during the mid-century drought. But it is also undisputed that hydrologic conditions varied dramatically in the decades that followed, arguably masking or occasionally alleviating the potential long-term consequences of such pumping. Further, it is undisputed that detailed information as to ongoing pumping was not generally available because pumping in New Mexico was largely unmonitored for a substantial portion of the twentieth century. I conclude that most evidence as to the states' practices during and after the mid-century drought permits too many conflicting inferences to aid in summary judgment. And in any event, this disputed evidence speaks to issues beyond the simple fact of New Mexican water capture and knowledge.

Turning to the fact of actual New Mexican water capture and New Mexico's state of knowledge, no dispute of material fact exists at a general level: New Mexican pumping below the Reservoir has interfered with surface flows and Project deliveries to Texas. See, e.g., Barroll Report, NM-EX-100 at 18 ("Groundwater pumping by farmers and for municipal supply and other uses would reduce the flow in nearby drains."); Barroll Deposition Transcript Aug. 7, 2020 204:23–205:4 (groundwater pumping "does have an impact on project operations"); Lopez 30(b)(6) Deposition Transcript Sept. 18., 2020, 31:15–20 ("The groundwater pumping in New Mexico does impact surface supply."); D'Antoni Deposition Transcript, June 25, 2020 193:3–11 (Q. "[T]o the extent that there is surface water in the Rio Grande that is flowing to Texas, will groundwater pumping in New Mexico have an affect on that flow of water?" A. "I can say it will have a[n] affect. I'm not sure exactly what

affect. And I think that goes back again to asking our modelers and our experts on what exactly that affect is.”). Barroll Suppl. Rebuttal Report, NM-EX-103, at 4–9 (explaining how New Mexico’s computer simulations demonstrate variable impact of pumping under different conditions). Any purported dispute New Mexico asserts speaks to the details of the interference based on various factual issues such as the timing and location of the pumping.

Disputes also speak to New Mexico’s position as to whether such pumping interferes with what New Mexico asserts Texas is entitled to receive as the Texas apportionment. For example, New Mexico’s expert Margaret Barroll stated in her declaration responding to Texas’s motion for summary judgment:

37. 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.
38. 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. 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.
39. However, stream depletions that occurred in the years leading up to a shortage could reduce the Project allocations in the subsequent water-short years. The amount by which allocations are reduced would not be equal to the stream depletions. Stream depletions occurring outside of the Caballo release season would not reduce Project allocation or deliveries, which are accounted only during the Caballo release season. Stream depletions occurring during the irrigation season could result in extra releases from Project storage, reducing the Usable Water available in subsequent short-supply years. Prior to 2006, this would result in reduced allocations to both Districts in the subsequent low-supply years. However, the reductions to Usable Water in storage that accumulated during the years leading up to the shortage would also have reduced reservoir evaporation. This difference in evaporation would lessen the change in allocation caused by those stream depletions.

Second Declaration of Margaret Barroll, NM_Ex-006, ¶¶ 37–39 (December 22, 2020) (citations omitted).

In fact, New Mexico’s counterclaims and general defense to Texas’s claims essentially rest on an admission that groundwater pumping affects surface flows and, under some conditions, Project operations. In this regard, New Mexico identifies Texan pumping and Texan return flow capture as indirectly impacting Project storage (and therefore Project water for New Mexico) and as directly impacting Project deliveries to users farther downstream in Texas. Such a theory, consistent with the Conover report, presumes the very effects of pumping on surface flow that Texas asserts in its own claims. New Mexico’s extensive computer modeling of the Compact area as offered in this case bears this out. See, e.g., Rebuttal Expert Report of Sullivan and Welsh, Sept. 15, 2020 at 147, Fig. 19-2 (New Mexico computer modeling experts’ report of total and relative depletions to the Rio Grande at El Paso based on New Mexican pumping in the Rincon and Mesilla Valleys and Texan pumping in the Mesilla Valley between 1950 and 2017).

As to the years 2003 and 2004 New Mexico admits that New Mexican pumping interfered with Texas’s receipt of its Compact apportionment, even as New Mexico seeks to define it. During oral argument on the pending motions, counsel for New Mexico made clear New Mexico’s position as to the fact and impact of New Mexican pumping on return flows. New Mexico admits that groundwater pumping impacts return flows but denies the legal import of such effects on Texas’s Compact rights other than during discrete identified years:

Special Master: Well, I thought it was — as I understand it, there may be a dispute about the amount of depletion, but there’s no dispute that—that even your own experts can see that groundwater pumping is depleting both return flows and surface water. Am I incorrect?

New Mexico: Well, we agree that groundwater pumping impacts surface water and return flows, so you are correct about that. I

want to be careful there because what we do not agree on and what there is a dispute on is whether or not those depletions have had any impact on deliveries to Texas whatsoever and, in part, has to do with the full supply and the timing and nature of those—that groundwater pumping in the impacts. We think during times of full supply, as I'll talk about in a little bit, but during those times, Texas has received everything which they are entitled to. And I would also point out that this is undisputed that all of the water that EP1 has ordered, that Texas has ordered, has been received by EP No. 1 . . .

. . .

Special Master: What gives New Mexico the right to groundwater pump and reduce the flow down to Texas in short years?

New Mexico: In short years, the answer is we agree that there could be a Compact violation, that there's a reduction there, and that what—the way you measure is—

Special Master: Do you disagree that that's been happening?

New Mexico: *In the record that you have before you, it happened in two years. You can see this in Dr. Barroll's September, 2020, report, which is part of the record. That is there were two water-short years, in '03 and '04, and in those years, yes the groundwater pumping in New Mexico reduced—reduced the overall supply that was available to be divided and released and, therefore, the amount—we categorized both the amount in storage, the amount of allocations, and the amount of diversions that that—that would have impacted Texas, and the—the answer is it impacted Texas to the tune of approximately 105,000 acre-feet.*

Transcript of March 9, 2021 Remote Hearing, 118–122 (emphasis added).

Essentially, rather than looking at the year-over-year impact of pumping on actual water available for release, New Mexico seeks to define Texas's Compact apportionment narrowly in terms of the amount of water Texas irrigators actually order. But the Texas orders are necessarily based on the amount that Reclamation determines at the beginning of the irrigation season will be available for any given year. Such an amount is limited and can be a legacy of prior-year depletions. It does not necessarily reflect what Texas might have received in the absence of ongoing New Mexican pumping. In short, the 105,000 acre-feet cited at oral

argument serves as an admission that, even by New Mexico's definition, New Mexican pumping interfered with Texas's Compact apportionment. Texas asserts New Mexican interference of a much greater scope.

New Mexico's apportionment theory, of course, speaks to the core outstanding questions not being decided on summary judgment: what are the details of New Mexico's downstream duty and what, exactly, did the compacting states intend to divide 57%/43%. Material factual disputes remain as to: the actual impact of pumping in different locations and at different times on surface water flows; what a course of performance and disputed evidence reveal as to acquiescence or as to the compacting states' intent regarding downstream apportionments; and the scope of the duty to protect Project operations. But, at a general level, certain matters are undisputed: the fact of a hydrological connection, the impact of New Mexico's pumping on surface flow, and the admission of Compact delivery interference as to certain years.

III. Summary Conclusions

Looking specifically at the parties' positions as articulated in their motions, I rule as follows:

Summary Judgments sought by Texas:

1. The 1938 Compact is unambiguous pursuant to principles of Compact interpretation.

Grant in part and deny in part. The Compact unambiguously establishes that: (1) New Mexico receives part of its apportionment above the Reservoir and part below; (2) New Mexico's downstream apportionment is delivered by the Project; and (3) New Mexico owes Texas a duty to not interfere with the Project's delivery of

Texas's Compact apportionment. The Compact is ambiguous as to the detailed scope of the apportionments and the New Mexican duty.

2. **Apportionments of Rio Grande water to the states of New Mexico and Texas are set forth in the plain text and structure of the unambiguous 1938 Compact.**
 - a. **New Mexico receives its sole apportionment of water pursuant to Article III of the Compact at the Colorado-New Mexico state line.**

Deny. The Compact standing alone and read as a whole demonstrates unambiguously that New Mexico receives a portion of its overall apportionment downstream of the Reservoir.

- b. **The water New Mexico delivers into the Elephant Butte Reservoir pursuant to Article IV of the Compact is apportioned to Texas, subject only to the United States' 1906 Treaty with Mexico and the United States' Downstream Contracts with Elephant Butte Irrigation District (EBID).**

Deny. See 2.a.

- c. **The Compact, in Articles VII and VIII, expressly grants Texas the power and authority to protect the delivery of water in Elephant Butte Reservoir from upstream depletions by Colorado and New Mexico. The Compact grants no such powers to New Mexico.**

Grant in part and deny in part. Texas's power to protect against upstream depletions is greater than the other states' powers, but that power is not exclusive.

First, when it comes to the actual physical delivery of water, New Mexico and Colorado are free to exceed their Compact delivery requirements regardless of any Compact accounting credits. Second, Texas may call for certain New Mexico and Colorado water releases, and New Mexico may call for certain Colorado water releases. New Mexico may force upstream New Mexico water releases without

resort to the Compact because such releases may be handled as an intrastate matter. And third, New Mexico and Colorado may offer to relinquish stored credit water, but only Texas may accept such relinquishment. As a whole, the Compact balances the rights of New Mexico and Texas to protect Project supply against the rights of New Mexico and Colorado to enjoy limited flexibility in non-Project upstream storage and to enjoy limits on other states' calls for their release of water. Finally, through several defined terms, the upstream states' rights to store water and the calculation of annual or accrued debits and credits are dependent on actual Project storage which, in turn, is dependent on multiyear Reservoir releases and downstream water use. The Compact as a whole defines all three states' rights and duties through reference to upstream and downstream conditions, effectively spreading the power to protect Project supply among the states.

- d. In order to protect Texas's apportionment as well as the United States' ability to meet its 1906 Treaty obligations to Mexico and its contractual obligation to EBID, the 1938 Compact requires New Mexico to relinquish dominion and control over the water it delivers to the Elephant Butte Reservoir pursuant to the Compact. New Mexico has no residual sovereign right to water it delivers in Elephant Butte Reservoir.**

Grant in part. New Mexico enjoys sovereign rights to protect its downstream Compact apportionment through action against the other compacting states. The Compact imposes on New Mexico a duty to employ its laws to protect Compact deliveries to Texas and treaty deliveries to Mexico. New Mexico's sovereign laws apply to define the relative rights between New Mexicans as to their respective share of New Mexico's overall Compact apportionment. And, New Mexico's laws provide for and define EBID's existence and authority. New Mexico's laws are inferior to the Compact and do not define Texas's Compact apportionment.

- e. The 1938 Compact does not apportion water to New Mexico below Elephant Butte Reservoir. The water**

released from Elephant Butte Reservoir, and delivered to EBID pursuant to the United States' Downstream Contracts with EBID, is not a Compact apportionment to New Mexico. This water is a Project allocation, defined by the United States' Downstream Contracts with EBID.

Deny in part. See 2.a. The downstream component of New Mexico's Compact apportionment is defined by the Downstream Contracts with EBID.

- 3. Because there is no Compact apportionment to New Mexico below Elephant Butte Reservoir, New Mexico's first and fourth counterclaims, based upon alleged Compact violations by Texas, must fail as a matter of law.**

Deny. See 2.a.

- 4. The Compact protects the Project and its operations under the conditions that existed in 1938, at the time the Compact was executed.**

Grant in part. The Compact protects the Project, its water supply, and a baseline operating condition. The baseline condition requires, at a minimum, New Mexican protection of surface water and return flows against direct and indirect capture beyond limits that are subject to material dispute.

- 5. New Mexico, through its groundwater pumping below Elephant Butte Reservoir, depletes surface water flows and the volume of water in the Rio Grande in excess of depletion conditions that existed in 1938 (1938 Condition).**

- a. Surface and groundwater in the Rio Grande basin below Elephant Butte Reservoir are interconnected.**

Grant.

- b. New Mexico must refrain from actions that deplete the Rio Grande in excess of the 1938 Condition. Post-1938 groundwater pumping in a fully appropriated Rio Grande basin decreases the volume of water available for Project allocations, and intercepts Texas's apportionment.**

Grant in part. New Mexico owes a duty to prevent groundwater pumping that adversely affects surface water and Project return flows to an extent that interferes with Project delivery of Mexican treaty water or Texas's Compact apportionment. Deny in part due to the existence of material factual disputes concerning the baseline condition and the full scope of the effect of New Mexican pumping on Project operations.

- c. **New Mexico has admitted that its groundwater pumping depletes surface water flows.**

Grant.

- d. **New Mexico has admitted that it knew or should have known that its actions were adversely affecting Texas's apportionment.**

Grant in part. New Mexico admits generally that groundwater pumping beyond disputed limits reduces return flows and affects surface water supplies. New Mexico admits that its actions interfered with Texas's receipt of its Project deliveries in 2003 and 2004. New Mexico disputes the extent of the interference and the extent to which interference rises to the level of a Compact violation.

- 6. **New Mexico state law has no application to the water New Mexico delivers to the Project at Elephant Butte Reservoir pursuant to the Compact, or to the Project's subsequent distribution of the water pursuant to Downstream Contracts to which New Mexico is not a party.**
 - a. **The Compact preempts conflicting New Mexico state law.**

Grant.

- b. **New Mexico state law does not control Texas's apportionment. Rather, Texas's apportionment is controlled by authority superior to New Mexico state law, and New Mexico must administer its state laws so as to protect Texas's apportionment.**

Grant.

- c. **New Mexico is not a party to the United States' Downstream Contracts with EBID and El Paso County Water Improvement District No. 1 (EP1), and cannot alter, modify, and/or condemn the Downstream Contracts' terms and rights.**

Grant in part. New Mexico is not a party to the Downstream Contracts. New Mexico law, however, governs EBID's existence and authority and the relative rights of individual New Mexicans to their share of New Mexico's apportionment. New Mexico represents the interests of all New Mexicans (fictional or natural, including EBID) as *parens patriae* in this Compact action. Nothing in the Downstream Contracts or the Compact speaks to a state's right of condemnation. Condemnation is not an issue before the Court in this original jurisdiction action.

Summary Judgment Sought By New Mexico:

1. **New Mexico and the State of Texas each have a Rio Grande Compact apportionment of the Rio Grande Project water supply below Elephant Butte Reservoir.**

Grant.

2. **This apportionment is 57% to New Mexico and 43% to Texas.**

Grant in part. The Compact and the inextricably intertwined Project and Downstream Contracts provide for the 57%/43% split. Material dispute remains as to what is meant by "Project water supply."

3. **In separate motions, New Mexico argues for a recognition that Texas has not asserted claims for damages for years prior to 1985 and is barred from seeking damages for those years. New Mexico also argues Texas should be precluded from seeking damages for years in which Texas did not provide notice or received what New Mexico calls a "full supply."**

Grant in part. Texas admits that it does not seek damages for Compact violations that predate 1985. Summary judgment as to this issue in no manner relates to the exclusion of any evidence or suggests damages calculations can or will be cabined to annual figures. Deny in all other respects. The Compact does not include a notice requirement nor does it define or employ the term “full supply.” Broadly interpreted, these motions indirectly seek resolution of the underlying liability questions including the baseline condition and downstream apportionment. And, these motions seek to impose a definition for damages that cabins the concept of damages to discrete determinations for particular years. New Mexico’s motions for summary judgment to preclude damages are denied to the extent they seek to preclude claims for damages for years after 1985.

Summary Judgment Sought By the United States:

- 1. As a party to the Rio Grande Compact, the State of New Mexico has an obligation not to intercept or interfere with deliveries of water by the federal Rio Grande Project that effectuate the Compact apportionment to Texas and the part of New Mexico below Elephant Butte Reservoir.**

Grant in part to the extent that New Mexico’s duty exists in the aggregate to not interfere with Project delivery of Mexican treaty water or the Compact apportionment to Texas. I am not prepared at this time to issue a ruling as to whether the intrastate impact on New Mexicans of water capture by other New Mexicans violates a Compact duty independent of impacts on another state. Although a remedy in this case may impose specific requirements on how a state treats its own citizens, a state’s citizens do not enjoy the right to assert Compact claims against their own state, and the United States’ admission into this action as a party was based, in part, on the United States’ pursuit of relief substantially similar to the relief sought by Texas.

- a. **New Mexico may not allow water users other than those within the EBID to deplete the surface water supply of the Project.**

Grant in part to the extent such depletions interfere with Compact delivery to Texas or Treaty delivery to Mexico. See above.

- b. **New Mexico may not allow water users within EBID to deplete the surface water supply in excess of the amount allocated to EBID from the Project pursuant to EBID's contract with the Secretary of the Interior.**

Grant in part to the extent such depletions interfere with Compact delivery to Texas or Treaty delivery to Mexico. See above.

- c. **New Mexico must affirmatively act to prohibit and prevent such depletions by, among other things, accounting and providing offsets to the Project water supply and the flows of the Rio Grande to compensate for the depletions.**

Deny. See below.

2. **Injunctive relief is warranted because New Mexico has not fulfilled its obligations and thereby violated the Compact, and because a declaration of New Mexico's obligations standing on its own would not be sufficient to remedy the violation and prevent future violations from occurring.**

Deny. The propriety and necessity of injunctive relief remains to be determined based on the detailed resolution of issues identified above and based on proof of damages taking into account as of yet unresolved issues including: acquiescence, equitable defenses, and any offsetting harm a state's own actions have caused. It is anticipated any such relief, if proven necessary, will be directed against a state as a whole but hopefully will include sufficiently specific requirements to ensure immediate and practical relief to the prevailing party.

Done and ordered this 21st day of May, 2021.

A handwritten signature in black ink, appearing to read "M. J. Melloy", written over a horizontal line.

Honorable Michael J. Melloy
Special Master
United States Circuit Judge
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