EXHIBIT 5



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

FIRST DECLARATION OF RYAN J. SERRANO

I, Ryan J. Serrano, pursuant to 28 U.S.C. § 1746, hereby declare as follows:

- 1) I am over 18 years of age and have personal knowledge of the facts stated herein.
- 2) The State Engineer promoted me to the position of Water Master for the Lower Rio Grande Water Master District (LRG Water Master District) on May 12, 2012. Prior to that my position was Assistant Lower Rio Grande Water Master with the Office of the State Engineer (OSE), a position I held from June 27, 2009 until my promotion. The LRG Water Master District encompasses a geographic area of 4,224 square miles and is home to one of New Mexico's largest agricultural districts, Elephant Butte Irrigation District (EBID). *See* NM-EX 540, Lower Rio Grande Water Master Annual Report, 2018 Accounting Year, (2018 WM Report) at 1, and map at 4.¹
- 3) I earned my Bachelor of Science in Geography, with a minor in Geographic Information Systems (GIS), from New Mexico State University in May 2009.
- 4) Water Masters appointed by the State Engineer "shall have immediate charge of the apportionment of waters in the water master's district under the general supervision of the

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

state engineer, and the water master shall so ... regulate and control the waters of the district as will prevent waste." NMSA 1978, § 72-3-2. The LRG Water Master ensures compliance on the local level with the New Mexico Water Code, permits and licenses issued by the State Engineer, orders issued by the LRG adjudication court, and State Engineer orders, regulations, and policy guidance and directives.

- 5) As the LRG Water Master, I am statutorily charged with the responsibility to regulate and control the waters of the Water Master district, in the best interests of public safety and the water right owners of the district and under the general supervision of the State Engineer. NMSA 1978, §§ 72-3-1, 72-3-2. More specifically, I ensure that water rights in the LRG Water Master District are administered according to New Mexico water administration policy and directives. My duties include but are not limited to:
 - a) Controlling illegal diversions (i.e. any diversion without a water right, or in excess of the elements or conditions of a water right);
 - b) Measuring and reporting water usage within the District;
 - c) Controlling out-of-priority diversions;
 - d) Administering water usage according to agreements entered into by the water right owners of the district; and
 - e) Coordinating, where indicated, with the United States Bureau of Reclamation (Reclamation) and Elephant Butte Irrigation District (EBID).

These actions are intended to ensure the appropriate regulation and control of groundwater withdrawals. *See also* the State Engineer's order specifying my duties. NM-EX 429, In the Matter of the Creation of the Lower Rio Grande Water Master District ... Order No. 169, (12-3-2004) (Water Master Order #169).

6) As the Water Master I have a staff of four (4) full-time employees who serve as Assistant Water Masters and who assist me in determining whether a water rights owner is in compliance with his or her permit as it relates to all elements of a water right, including diversion limits, place of use or purpose of use, or requirements to retire lands. My Assistant Water Masters also help identify illegal uses of water or over-diversion of water, conduct field investigations and inspections of wells or other points of diversion, and analyze and access aerial photographs and historical records relating to the nature and extent of water rights. These duties facilitate the opening, maintaining and closing of water rights files maintained at the OSE District IV office with respect to all applications, declarations and other matters touching upon water rights assists in enforcement efforts.

- 7) My Assistant Water Masters and I spend a great deal of time about 60% of the work week – "in the field", directly dealing with water right owners. We drive all the farm roads, visit water right owners' fields, monitor their meters, advise on issues of compliance with permits and other state requirements, perform visual checks of such compliance, and attend community meetings (including all EBID Board meetings). We are in communication with LRG water right owners on a daily basis.
- 8) The LRG's agricultural importance to New Mexico is significant. Pecan production in New Mexico is the second highest in the nation and is the State's number one cash crop with a value of \$162.3 million in 2018. New Mexico is also ranked 2nd in the nation for chile production, most of that coming from the LRG. New Mexico is ranked 5th in the nation for onion production, and the LRG accounts for the majority of the onion cash crop. NM-EX 540, 2018 WM Report at 1.
- 9) In their motions for partial summary judgment, Texas and the United States display a number of misunderstandings and also provide erroneous statements of fact relating to New Mexico water administration authority and enforcement in the LRG. I have been asked to address those.

ENFORCEMENT MECHANISMS AND PROCESS

- 10) Specific statutory authority providing mechanisms for the State Engineer's enforcement of compliance² with statutes, court orders, and the State Engineer's regulations, permits, licenses, and orders is at NMSA 1978, § 72-2-18. This provision allows the State Engineer to employ a variety of remedies including issuing Compliance Orders, providing an opportunity for hearing, and filing civil actions against offenders. NMSA 1978, § 72-2-18. For all enforcement issues, I follow this statutory scheme; as an example. The process for any type of violation related to well pumping is:
 - a) In the field, Water Master staff will put a "red tag" on non-compliant wells to be followed up by a letter.
 - b) By letter I notify an offender of the specific violation/s. Violations include, but are not limited to, inaccurate meters, failure to timely file meter readings, over-diversion, and illegal pumping. The offender is given 30 days to comply. Receipt of the letter usually results in the offender contacting and working directly with Water Master staff to reach compliance.
 - c) The offender has 30 days in which to respond to my notice letter, after which I refer the issue to the OSE's Administrative Litigation Unit (ALU) and request that a compliance order issue to the offender. After receipt of the Compliance Order, the offender has 30 days in which to comply.

² The word 'compliance' in this declaration means compliance with State Engineer permits, licenses, orders and regulations, as well as New Mexico law as it relates to the administration of water.

d) If the offender does not comply with the Compliance Order within 30 days, the ALU can file suit in the state district court to enforce the Compliance Order.

See also NM-EX 235, Thacker 30(b)(6) Dep. at 35:18-38:7.

MONITORING COMPLIANCE

- 11) Every water right in New Mexico must comply with state statutory requirements, State Engineer permits, licenses and orders, OSE policy and guidelines, and applicable court orders.
- 12) The Mesilla Valley Administrative Area (MVAA) guidelines are the State Engineer's areaspecific guidelines applicable to the vast majority of LRG water rights and that are used in assessing applications made to the OSE for changes in use, purpose, or location of a water right, as well as ensuring compliance with other OSE directives. *See, e.g.*, NM-EX 232, Serrano Dep. (2-26-19) at 94:7-96:24.
- 13) The adjudication court order that most affects my work is the LRG SS101 Adjudication Order (*see* NM-EX 007, D'Antonio 2nd Decl. at ¶37(a). That order establishes the total amount of surface and groundwater that may be used on an acre of land in the LRG. To assure compliance with that order I employ various metrics and mechanisms to monitor water diversions and use, including the following:
 - a) As to enforcement of groundwater use, all irrigation wells in the LRG are metered. Meter readings must be submitted to District IV on a quarterly basis. These meter readings are input by OSE staff into WATERS and publicly available at http://nwrrs.ose.state.nm.us/nmwrrs/index.html. See NM-EX 232, Serrano Dep. (2-26-19) at 54:22-55:13 (testifying that all metering information from irrigation, municipal, commercial, industrial, dairy and metered domestic is available to the public).
 - b) Before every irrigation season Reclamation calculates allocation of Project water with input from EBID and EPCWID through the Allocation Committee. The allocation determines how much Project water is available for Project lands in New Mexico. Given their Project allocation, EBID then determines the individual allotments to EBID farmers. This may be adjusted based on changes in Project allocation during the season. The LRG Water Master and staff obtain this information from EBID and input it into WATERS as to each EBID member. NM-EX 236, Serrano Dep. (4-17-19) at 183:19-24. In accordance with the SS101 LRG Adjudication Order, the OSE assumes that EBID members use their full allotments, when available, as to surface water diversions and that they use their surface water allotments before using groundwater. NM-EX 541, Final Judgment in SS-97-101 (SS101 LRG Adjudication Order) at ¶ II(D), V(B). This is a conservative assumption because it limits the amount of groundwater available to EBID members. On these assumptions, OSE calculates how much of each water rights owner's 4.5 AF/acre (or 5.5 AF/acre) combined water right may be satisfied by the diversion of groundwater.

This calculation assures compliance with the SS101 LRG Adjudication Order. NM-EX 235, Thacker 30(b)(6) Dep. at 33:12-35:17.

- c) OSE does not measure or limit individual EBID farmer diversions of surface water. That is, by statute and EBID procedures, the responsibility of the irrigation district. NMSA 1978, §§ 73-10-16, -24. However, all non-EBID surface water irrigation diversions are monitored through the use of meters and the full panoply of OSE compliance mechanisms.
- d) Non-EBID irrigation surface water rights owners in the LRG are required to meter their surface water diversions.³ The OSE uses these meter readings from surface water and groundwater to track use.
- e) All non-irrigation wells in the LRG are metered, excepting single-family domestic and small stock wells. NM-EX 227, Barroll Dep (2-5-20) at 39:21-40:24; NM-EX 533, State Engineer Suppl. Order No. 180 (3-28-2007) (Final Metering Order).
- f) Single-family wells and small stock wells are estimated to use approximately 2-3,000 AF/yr total in the LRG. Under the State Engineer's 2006 Domestic Well rules, domestic wells for single-family use do not require meters but are permitted for 1 AF/yr; if livestock is included the permit may be for 2 AF/yr. NM-EX 234, D'Antonio Dep. (6-26-20) at 329:6-331:2. The United States mistakenly confers great importance on domestic well use, which constitutes less than 1% of water use in the LRG.
- 14) The LRG Water Master staff closely monitors metering in the LRG to assure compliance with the State Engineer's Metering Order (*see* NM-EX 007, D'Antonio 2nd Decl. at ¶¶ 41, 44):
 - a) There are approximately 2,650 active irrigation wells in the LRG. All are metered.
 - b) There are approximately 350 active non-irrigation wells in the LRG.⁴
 - c) There are thus approximately 3,000 active wells in the LRG. I do not know how Texas came up with a figure of 8,000 wells; that is simply wrong by thousands.
 - d) Meters are regularly checked in the field for accuracy and correct usage. If a meter is non-compliant, it is "red-tagged" and enforcement proceedings begin.
 - e) Irrigation meter readings are due quarterly. The final quarter includes the last groundwater use of the irrigation season (farmers often irrigate through the end of the year and after surface water allotment deliveries have ceased) and those readings are due on January 10. It would be impractical from administration and cost perspectives to require more frequent meter readings for irrigation wells. *See* ¶ 24, below.

³ The water rights of non-EBID surface water rights holders in the LRG pre-date the Project.

⁴ Again, not including the domestic use statutory exceptions.

- f) Municipal, commercial and industrial (M&I) use meter readings must be provided monthly. NM-EX 232, Serrano Dep. (2-26-19) at 72:25-74:3. The United States confuses domestic wells with M&I wells. As I clearly stated in my deposition, all M&I wells are metered and compliance enforced. *Id.* I did *not* testify that "use from these wells was not tracked" until 2012. *See* USMF #59.
- g) Contrary to statements by the United States (USMF #59), LRG Water Master staff consistently monitor domestic well issues:
 - i) We analyze domestic well meter readings just as we do irrigation meter readings, and
 - ii) We regularly make visual checks on domestic wells as to compliance with limitations on their use.

The United States mischaracterizes the evidence it relies upon when it suggests that the OSE does not perform oversight of domestic wells: the State Engineer testified that he has the authority to monitor domestic wells if necessary, which to date it has not been. NM-EX 234 D'Antonio Dep. (6-26-20) at 331:6-24. He testified he did not know if there has been any enforcement on domestic well use (NM-EX 234, D'Antonio Dep. (6-26-20) at 331:3-6) because that issue is below his level of involvement. *See* (NM-EX 234, D'Antonio Dep. (6-26-20) at 318:17-319:11. Further, of the several thousand domestic wells drilled through the decades in the LRG, many are now plugged and many are no longer used because residences now have municipal water. In any event, the small amount of domestic and stock water use in the LRG has no appreciable impact on surface water supplies.

- h) Water Master staff inputs all meter readings into the WATERS database and at that time usage anomalies may be flagged and addressed. For instance, if we receive a meter reading at the July quarterly submission date that reflects higher than expected diversions at that time in the season, we will contact the water right owner and, if warranted, initiate compliance enforcement.
- My staff is proactive in obtaining meter reading compliance, including sending postcards to water rights owners in advance of the meter reading submission date. *See* NM-EX 540, 2018 WM Report at 11. If a groundwater right owner does not timely submit meter readings, the Water Master staff contacts the water right owner to achieve compliance.
- j) If the Water Master staff receives complaints about improper groundwater or surface water diversions, we promptly investigate and/or notify EBID in the case of EBID surface water complaints.
- k) If the Water Master and other LRG OSE staff are not able to obtain compliance with water administration issues by working with water rights owners at the local level, we follow the mandates in NMSA 1978, § 72-2-18 and refer the matter to the ALU for legal action.
- 15) I have read former LRG Water Master Sheldon Dorman's testimony. The United States has misconstrued Mr. Dorman's testimony about domestic wells to the extent the United States implies that Mr. Dorman was describing the present state of administration. First, Mr. Dorman left the LRG in 2011. NM-EX 229, Dorman Dep. at 29:7-11. In his deposition he is discussing the 2007 time period, before final implementation of the Final Metering Order.

He explains that during the implementation of the Metering Order and the comprehensive investigation by the OSE of metering conditions in the LRG, some number of domestic wells were being improperly used to supplement surface water. He goes on to explain that the OSE required that such wells be metered. NM-EX 229, Dorman Dep. at 71:10-25, 72:1-24. All improper uses noted by Mr. Dorman have long since been rectified.

- 16) During field inspections or through citizen complaints, Water Master staff occasionally discover domestic wells that are non-compliant either because they service more than one household (in which case they must be metered) or because they are being used to irrigate. In those situations we immediately initiate actions to obtain compliance with the limitations on domestic well use.
- 17) Another statute I enforce is NMSA 1978 §72-12B, "Use of Waters Outside the State." This occurs when New Mexico water right owners pump New Mexico groundwater into Project conveyances for delivery across the Texas state line. NM-EX 548, New Mexico Groundwater Irrigations Wells Pumping Groundwater for Use in Texas (9-11-2018) (EP#1 directed New Mexico farmers to pump New Mexico groundwater into Texas).

WELLS

- 18) From 2016 through December 14, 2020, the OSE issued permits for 252 wells for M&I use (municipal, commercial, mutual domestic, and industrial; that is, every non-irrigation or non-single-family domestic) in the Mesilla and Rincon basins. This includes exploratory and monitoring wells. Municipal groundwater use in the LRG, including the Jornada basin and unmetered domestic use, is about 40,000 AF/yr. *See, e.g.*, NM-EX 540, 2018 WM Report at 17-18. The OSE subjects every application for municipal or industrial use to the same rigorous and comprehensive analysis as applications for irrigation wells. *See* NM-EX 007, D'Antonio 2nd Decl. at ¶¶ 5 (a-d), 16-17, 19-24. In general, such applications are seeking supplemental or replacement wells and if permitted, are permitted with conditions such that they cause no new depletions to the Rio Grande.
- 19) Since the LRG Basin was declared in 1980/1982 (*see* NM-EX 007, D'Antonio 2nd Decl. at ¶¶ 13-15), the OSE has permitted approximately 2,678 changes to existing irrigation well water rights. Each one went through the rigorous and comprehensive analysis required by the permitting process.
- 20) As of 2020 there are approximately 3,000 active irrigation and "M&I" wells in the LRG. See \P 14, above.
- 21) My staff and I have done an extensive search to confirm that the OSE has not permitted any new appropriations of groundwater in the Mesilla or Rincon basins since the LRG Groundwater Basin was declared in September 1980. *See* NM-EX 007, D'Antonio 2nd Decl.

at $\P\P$ 13-15. We have discovered three (3) trivial exceptions mostly based on minor inaccuracies or mistakes:

File No.	Use	Total Diversion In AF/acre	Official Priority Date	Comments
1232	Comm.	3	12/31/1980	The water right owner filed his declaration in March 1981, claiming a pre-1980 well, but the date is unclear on the declaration. WATERS, as a standard protocol in such situations, applies the last day of the year: 12/31/1980. Thus, although this looks like a new post-Basin right, it is not.
5406	Irr.	7.695	5/16/1985	This was adjudicated a 1985 priority date. However, we have investigated this and it appears the adjudication subfile order (subfile LrN-28-013- 0287) was incorrect in that 5/16/1985 was the date the declaration was filed. The declaration claims a priority date of about 1890, with a replacement well drilled in about 1975. Thus, although this looks like a new post-Basin right, it is not.
17587	Irr.	3.17	2/18/1988	This is a "move from/to" application and OSE is awaiting proof of beneficial use which is expected to prove less than 3.17.
TOTAL		13.865 AF		For context, water use in the entire LRG Basin is approximately 350,000 to 375,000 AF annually; these exceptions represent a tiny fraction of a percentage.

OVER-DIVERSIONS

- 22) Over-diversion is when a water rights owner takes more water than that to which he/she is entitled. Over-diversion, or a potential for over-diversion, is discovered:
 - a) when District IV staff calculates usage in excess of the permitted 4.5 AF/acre (or 5.5 AF/acre) based upon groundwater meter data and the status of the surface water allotment (or surface water meter reading) (see ¶ 13);
 - b) when third parties report over-diversion by others; or
 - c) at the end-of-season reconciliation of all water use data.

Contrary to the unsupported and incorrect assertions by the United States, *the Water Master investigates EVERY over-diversion*.

- 23) If an over-diversion or potential for over-diversion is discovered during the irrigation season, the Water Master contacts the offending water right owner and discusses how to either avoid a potential over-diversion or "repay" an actual over-diversion. If those discussions do not resolve the issue, the matter is sent to the ALU to take appropriate legal action. Over the last ten years, anywhere from 5 to 35 matters per year have been sent to the ALU for resolution; this number includes any type of violation we have not resolved at the local level including, for instance, meter violations. The ALU can, and does, litigate these matters and has obtained court orders and injunctions requiring water right owners to cease groundwater pumping. Any over-diversion of water must also be repaid to the system. NM-EX 235, Thacker 30(b)(6) Dep. at 36:5-38:7.
- 24) If an over-diversion is discovered at the end of the irrigation season when District IV conducts its reconciliation of all water use data after receipt of the 4th quarter meter readings, our first undertaking is to "true up" the data to account for errors. NM-EX 540, 2018 WM Rep. at 7; NM-EX 226, Barroll 30(b)(6) Dep. at 22:14-25, 23:1-2; NM-EX 235, Thacker 30(b)(6) Dep. at 36:5-25. The reconciliation process can take several weeks as data anomalies are discovered and corrected.
- 25) Repayment for over-diversions requires a formal, written repayment plan reached in consultation with and acceptable to the LRG Water Master. Repayment plans can be entered into during the season in which they take place, but in any event are entered into before April of the next irrigation season so that the farmer understands payback requirements while making crop decisions for the upcoming season. Due to the nature of water use for seasonal crops, the repayment generally takes the form of abstention from water use, or transfer of water use, in the next season. The Water Master enforces these repayment plans. The procedures for reconciliation and repayment are published every year in my annual Water Master report. *See, for example*, NM-EX 540, 2018 WM Report at 10. The process is extremely effective, as reflected in the graphic showcasing repayment success on page 9 of my 2018 Water Master Report. NM-EX 540, 2018 WM Report.
- 26) I have read the deposition testimony of Dr. Peggy Barroll with regard to over-diversions. The United States has cited it incompletely. First, many instances of potential for over-diversion are discovered and addressed during the irrigation season. Second, much of the potential for over-diversion is at the end of the irrigation season in October through December. Meter readings for groundwater use for those months is not due until January 10; thus, over-diversions in those months are addressed after OSE receives the meter readings. While a recent average of over-diversions in a season may reach 200, that includes infractions that are dealt with and resolved immediately at the local level. The number reaches that higher end when surface water supplies are low. As the State Engineer testified, in 2018 we had 133 enforcement actions (not limited to over-diversion) in the LRG, and about 70% were resolved at the local level. The other 30% were referred to ALU. NM-EX 234, D'Antonio Dep. (6-26-20) at 317:4-318:7; NM-EX 540, 2018 WM Rep. at 9. It is important to not

YEAR	NUMBER OF OVER- DIVERSIONS	TOTAL AMOUNT OF OVER-DIVERSION
2019	215	5,173 AF
2018	133	1,769 AF
2017	128	3,992 AF
2016	109	4,161 AF
2015	154	9,563 AF

overstate or exaggerate the significance of over-diversions. The LRG stream system has an average of 350,000 to 375,000 AF/yr of diversions; over-diversions are relatively small:

27) The United States has misstated my testimony with regard to litigation of enforcement actions for over-diversion. As I explained in my deposition, the OSE has an expedited hearing process for over-diversion. I have many times been prepared to testify at such hearings, but to date we have been able to resolve the issues "at [the negotiating] table" before the hearing. In every such resolution the OSE has effected a full repayment of the over-diversion, so the fact that we are able to accomplish compliance without the time and expense of a hearing is a testament to the effectiveness of our compliance process.⁵

"RIVER PUMPERS"

- 28) There have occasionally been persons who illegally pump Rio Grande surface water for irrigation uses: "river pumpers." Water Master staff investigate and enforce against these illegal uses. The OSE will and has prosecuted these illegal diversions in state court. See, e.g., NM-EX 542, Field Investigation of river pumps/diversions (June 26, 2013); NM-EX 543, Memorandum Opinion, State of New Mexico ex rel. State Engineer v Faykus, No. A-1-CA-36848 In the Court of Appeals of the State of New Mexico (April 13, 2020) (affirming the District Court's order that Faykus did not have a water right to pump water from the Rio Grande).
- 29) Reclamation and the International Boundary Water Commission (IBWC) have themselves improperly pumped surface water for some of IBWC's projects. *See, e.g.,* NM-EX 544, Gary Esslinger letter to Ed Drusina (January 25, 212).
- 30) There are also a few instances within the LRG where water rights owners are authorized to implement a point of delivery from the Rio Grande main stem. On occasion, Reclamation

⁵ Texas and the United States use the term "curtail" differently than does New Mexico. The OSE uses "curtail" to refer specifically to the mechanism for enforcing a priority call. There has never been a priority call in the LRG. *See* NM-EX 232, Serrano Dep. (Feb 26, 2019) at 55:14-22. In OSE parlance, all other enforcement of water rights, including limits to diversion, is referred to as water right "enforcement."

and/or Texas have complained about these river pumpers, without understanding that they are permitted or otherwise legally entitled to receive their surface water supply in this manner. *See, e.g.*, NM-EX 542, Field Investigation of river pumps/diversions (June 26, 2013), examples at PDF page 39 (Duran surface water pump permitted by the OSE and authorized and assessed by EBID for Project water), pdf page 43 (Holguin surface water pump determined to be a pre-Project right), pdf page 51 (Dulin surface water pump permitted by the OSE and authorized and assessed by EBID for Project water), pdf page 59 (Thurston's Rio Grande river pump adjudicated, and authorized and assessed by EBID for Project water).

OWMAN

- 31) The SS101 LRG Adjudication Order specifically provides for a mechanism by which water rights owners may exercise surface water rights and groundwater rights to achieve necessary flexibility in irrigation. NM-EX 541, SS101 LRG Adjudication Order at §IV(c). In response, District IV created the "Ownership Management Program" (OwMan). OwMan allows farmers who own or manage lands under more than one water right file number to manage the water rights associated with these lands conjointly so that a higher percentage of groundwater may be used on part of the lands, while a higher percentage of surface water is used on the other part.⁶ The combination of water rights used must not exceed the amount of acre-feet per acre per year (AF/A/yr) allowed under the relevant permitted water rights. Applicants for OwMan must formally file statements of intent to enter an OwMan arrangement with co-owners or co-managers by April 30 of each irrigation year (unless they have a pre-existing OwMan statement). *See also* NM-EX 235, Thacker 30(b)(6) Dep. at 42:9-43:9, 44:8-14; NM-EX 540, WM Report at 6.
- 32) When designing the OwMan program, OSE consulted with LRG water right owners. The LRG water right owners suggested that the OSE use as its model the surface water sharing program used by EBID whereby surface water allotments can be moved from one account to another and surface water use averaged across the assessed acreage. EBID also allows certain flat-raters⁷ to combine acreage to achieve farm rate assessments. Further, a liberal mechanism for effecting water sharing such as under the OwMan program is specifically provided to EBID under the statutes governing "Irrigation Districts Cooperating with the United States Under Reclamation Laws; Formation and Management." NMSA 1978, §§ 73-

⁶ OwMan reflects historical water use in the LRG beginning back in the 1950s when Reclamation staff assisted LRG farmers in conjunctive management of groundwater and surface water, sharing of groundwater among farms, and the transfer of surface water from farms with wells to those without wells. For instance, in NM-EX 433, Reclamation Water Announcement of March 1, 1954: "Farmers with good irrigation wells are requested to use them to the greatest extent possible as a source of supply and to make available for transfer their allotment water to those farmers who do not have satisfactory wells." Dr. Barroll discusses the issue of Reclamation encouraging groundwater sharing in her expert report. NM-EX 100, Barroll Rep. at §4.1.

⁷ A "flat-rater" is a water rights owner with two acres or less of land and are charged a flat annual rate for their water based on the amount of acreage owned.

10-1 *et seq.* Under those statutes, a district member may "assign the right to the whole or any portion of the water [allocated to him/her by the district] for any one year where practicable, to any other bona fide landowner..." NMSA 1978 § 73-10-16. EBID refers to these transfers as "in-season assignments." Reclamation is apparently supportive of these water sharing arrangements.

- 33) Texas mischaracterizes OwMan and my testimony about it. OwMan is not a transfer of existing water rights. Instead, it is a sharing of use; there is no transfer of water rights involved. Further, the program is not "informal"; there is in fact a formal process for OwMan applicants and the water usage under an OwMan is monitored for compliance as is all groundwater use in the LRG. See NM-EX 232, Serrano Dep. (2-26-19) at 85:17-91:8.
- 34) In rare cases (less than 5 per year) I will allow the implementation of an OwMan arrangement after the fact when the water rights owners involved can prove that water was shared during the irrigation season due to an unavoidable situation such as a failed pump. I investigate each such request and require proof of such emergencies; if the proof fails, repayment of over-diversion is required.

EFFECTS OF THE 2008 OPERATING AGREEMENT

- 35) I have had many conversations with water right owners about how the 2008 Operating Agreement has impacted them. One common complaint is that those citizens with surface water only rights have had their surface water allotments severely cut back as a function of the 2008 Operating Agreement, but they cannot make up those losses through use of groundwater. The practical effect is that many water right owners who had, for instance, subsistence gardens and fruit and pecan orchards have lost those crops and property improvements. I have seen many such "dried up" gardens and orchards.
- 36) Another frequent complaint I hear is that pumping costs have increased as a result of the decrease in surface water allotment since the 2008 Operating Agreement. This is a manifestation of the "vicious cycle" discussed and presented by Dr. Barroll. *See, e.g.,* NM-EX 118, Effect of 2008 OA on New Mexico: A Vicious Cycle (2020).
- 37) I have described the rigorous and effective compliance and enforcement activities by the OSE in the LRG. Texas's statement that "measuring is all New Mexico has done" is demonstrably false. *See also* NM-EX 100, Barroll Rep. at 22-23, fn 48, describing the New Mexico groundwater administration and noting "Texas has no such mechanisms.

I declare under penalty of perjury that the foregoing is true and correct. Executed on December <u>22nd</u>, 2020

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Ryan J. Serrano