

SUPREME COURT OF THE UNITED STATES
NO. 141, ORIGINAL

STATE OF TEXAS,)
)
 Plaintiff,)
)
VS.) VOLUME XIV
)
STATE OF NEW MEXICO)
AND STATE OF COLORADO,)
)
 Defendants.)

TRANSCRIPT OF PROCEEDINGS

The above-entitled matter came on for HEARING
before HONORABLE MICHAEL A. MELLOY, SPECIAL MASTER,
held REMOTELY via Zoom, on NOVEMBER 3, 2021,
commencing at 11:00 a.m.;

Proceedings reported by Certified Shorthand
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INDEX

	Page
JORGE GARCIA	
Further Direct Examination by Mr. Draper	5
Cross-Examination by Ms. Barfield	51
Cross-Examination by Ms. Coleman	75
Redirect Examination by Mr. Draper	90
SCOTT ESCHENBRENNER	
Direct Examination by Ms. Barela	98
Cross-Examination by Mr. Deitchman	145
Cross-Examination by Ms. Najjar	147
Redirect Examination by Ms. Barela	152
MIKE GREENE	
Direct Examination by Ms. Thompson	157
Cross-Examination by Mr. Dubois	204
Cross-Examination by Ms. Barfield	213
Redirect Examination by Ms. Thompson	214
REPORTER'S CERTIFICATION	223

1 **JUDGE MELLOY:** All right. This is in
2 Original No. 141, Texas versus New Mexico and
3 Colorado. We have the same parties as yesterday
4 evening when we broke with Dr. Jorge Garcia so,
5 Mr. Draper, you may resume your examination.

6 **MR. DRAPER:** Thank you, Your Honor.
7 Good morning.

8 JORGE GARCIA,
9 having been previously duly sworn, testified further
10 as follows:

11 FURTHER DIRECT EXAMINATION

12 BY MR. DRAPER:

13 Q. And good morning to you, Dr. Garcia.

14 A. Good morning.

15 Q. All right. I'd like to pick up where we left
16 off yesterday. Looking at now Demonstrative No. 4,
17 I'd like to ask you about the city's water and
18 wastewater systems, Doctor. Looking at this
19 demonstrative, would you please give a summary of what
20 those systems consist of?

21 A. Yes. The city water sources are from the
22 valley and West Mesa well fields, which are in the
23 Mesilla Basins. The East Mesa well field that is in
24 the Jornada Del Muerto basin. The treated waste water
25 either goes to the Jacob Hands wastewater facility. I

1 believe the Master visited that facility. Or some of
2 the flows go to the East Mesa water reclamation
3 facility for recycling that wastewater and to put it
4 for irrigation, and some wastewater goes to the West
5 Mesa Wastewater Treatment Plant. The treated
6 wastewater out of the Jacob Hands gets discharged
7 directly into the Rio Grande.

8 **Q. Thank you. Let's turn, now, to the next**
9 **demonstrative, No. 5. Doctor, what does this exhibit**
10 **show?**

11 A. This exhibit shows several things. One is in
12 gray shading is the utility service area for the City
13 of Las Cruces water system. Starting to the right of
14 the graph, the green block, is the well field in the
15 Jornada Del Muerto Basin. The dark blue in the middle
16 is the Valley well field, and the light blue is the
17 West Mesa well field. Each of the well fields has
18 several markings. They cross -- the blue crosses with
19 a white circle are the existing wells, and the black
20 triangles are the permitted well locations. This map
21 is similar, I believe, to Figure 1 that was showed
22 yesterday. Also shows in dashed lines the locations
23 of the boundaries between the Mesilla Basin and the
24 Jornada Del Muerto Basin.

25 **Q. All right. And in the middle of the map in**

1 the Mesilla Valley well field, we have the number 70
2 there?

3 A. That's correct.

4 Q. What -- why is that marked?

5 A. We call that particular existing well, Well
6 70, to give reference to the Master because I believe
7 he visited that location during his tour.

8 Q. All right. And this is -- this map is taken
9 from the 40-year water development plan; is that
10 right?

11 A. That's correct. It's adopted from the Figure
12 5 of the water development plan. It's a simplified
13 map of that Figure 5.

14 Q. All right. Let me have brought up the
15 original map in the 40-year plan. That's from Page 16
16 of Exhibit 2492. This is the figure I think you were
17 referring to, Doctor?

18 A. That's correct.

19 Q. And what does this show that the previous
20 version of this map did not show?

21 A. You can see the labels in each of those
22 wells, and the labels correspond to the numbers as
23 well as some of the city numbers, so we decided to
24 clean up the map a little bit and remove those labels.

25 Q. All right. And about how many active wells

1 are there that provide water to the City?

2 A. Approximately 40.

3 Q. And are all of those wells subject to New
4 Mexico state engineer permits?

5 A. Yes, they are.

6 Q. And are the state engineer well numbers the
7 numbers that have been -- that are shown in this
8 version of the map?

9 A. That's correct.

10 Q. Okay. And do the wells have conditions
11 imposed on them by the state engineer?

12 A. Yes, they do.

13 Q. Very good. Let's look at the next
14 demonstrative, No. 6, if you please. What does this
15 show, Doctor?

16 A. This is a table extracted from the 40-year
17 water plan. It's a list of the City's water rights.
18 The different columns, the first column, is the New
19 Mexico Office of the State Engineer file number, the
20 basin, there's a water rights status column and a
21 diversion amount to the -- in the last column of the
22 table. The first row shows the LRG 430. That's a
23 pre-basin right that has wells in the Mesilla and
24 Jornada Del Muerto basin for 21,869 acre-feet. The
25 second row in the table is the series of wells on the

1 East Mesa permit located in the Jornada Del Muerto
2 Basin for maximum of 10,200 acre-feet. The third one
3 is the LRG 3275 series, that is the West Mesa permit.
4 It's in the Mesilla Bolson, but it's in the West Mesa
5 well field for a maximum amount of 8,000 acre-feet.
6 Then there is other miscellaneous smaller water rights
7 that the City acquired over the years, and listed
8 there in the last row is a series of wells located --
9 water rights located in the Mesilla and the Jornada
10 that were acquired in the acquisition of a private
11 water company about three or four years ago for an
12 amount of 5,961 acre-feet. The addition of those
13 rights is 51,179.

14 Q. So the numbers shown in the far right column
15 under the heading diversion amount acre-feet per year,
16 is that the amount actually pumped or is that the
17 amount permitted?

18 A. That's the amount permitted, the maximum
19 amount permitted by the state engineer.

20 Q. All right. And the total, I think you said,
21 was the figure at the lower right; is that right?

22 A. Yes.

23 Q. Okay. Very good. Are all of the city's
24 water rights that are used to supply the needs of the
25 city, are they groundwater rights?

1 A. Yes.

2 Q. And do you know what the approximate
3 percentage is of the city's diversions of groundwater
4 as a percentage of the total metered groundwater
5 diversions in the LRG?

6 A. It's about 8 percent in 2020.

7 Q. All right. Now, the first water right that
8 you've listed is -- on this demonstrative is LRG-430.
9 Is this also called the Valley well field permit
10 sometimes?

11 A. That is correct. Though there is -- there
12 are some wells -- there are some LRG-430 wells on the
13 East Mesa, a couple of them in wells on the West Mesa.

14 Q. All right.

15 A. But the majority are in the Valley well
16 fields.

17 Q. All right. Let's turn to the first appendix,
18 Appendix A, in the 40-year plan, and if we could go to
19 the next page in the exhibit. Do you recognize this
20 document, Doctor?

21 A. Yes. This appears to be the sub-file order
22 from the Judicial District Court granting the LRG-430
23 water right to the City. It describes priority, the
24 sources, the underground waters of the Lower Rio
25 Grande.

1 Q. Is this -- to your understanding, is this
2 from the ongoing general stream adjudication in the
3 state court?

4 A. Yes, it is.

5 Q. Does the City consider this an important
6 document with respect to their water rights?

7 A. Yes. This -- this is the -- probably the
8 original water right dating back to 1905, so this --
9 this is very important to the City.

10 Q. In fact, if we look at the lower part of the
11 page here under "priority," we see that the state
12 adjudication court has awarded it a 1905 priority; is
13 that right?

14 A. That's correct.

15 Q. All right. And also on this page at the
16 bottom, is the source of water indicated?

17 A. Yeah. The underground waters of the Lower
18 Rio Grande. That's the main basin in the Mesilla
19 Bolson.

20 Q. All right. And that's within the Rio Grande
21 Basin with -- with the river; is that right?

22 A. Yes.

23 Q. All right. If we look at the next page of --
24 of this exhibit, what are we seeing there?

25 A. It's a list of the wells existent at the time

1 of the order, also called points of diversion, and
2 there's the location and coordinates of those location
3 of those wells.

4 Q. All right. Let's go to the next page. What
5 do we have on this page of the sub-file order?

6 A. It continues with -- with a description of
7 the wells and describes the maximum amount of water is
8 21,869 acre-feet.

9 Q. And that's specified down at the bottom of
10 the page --

11 A. Yes.

12 Q. -- Paragraph 5?

13 A. Yes.

14 Q. All right. If we look at the last line of
15 this page and going over to the next page, that
16 Paragraph 5 that starts out with the maximum diversion
17 of 21,869 acre-feet, what else is notable about this
18 paragraph in the order?

19 A. A basic condition of this order in this right
20 is that in times of drought when the allotment, EBID
21 allotment is less than 2 acre-feet, the effluent
22 derived from the LRG-430 wells must be returned to the
23 stream system.

24 Q. Now, you normally return the treated effluent
25 from the LRG-430 wells --

1 A. Correct.

2 Q. -- to the stream; isn't that right?

3 A. Yes. That is done anyway, other than the
4 small amount recycled in the East Mesa plant. The
5 rest of the effluent --

6 Q. But this --

7 A. -- arrives to the river.

8 Q. Okay. But this makes it a legal obligation
9 under the circumstances set forth in this paragraph?

10 A. That's correct. Yes.

11 Q. Okay. All right. Now, you also mentioned
12 the East Mesa wells. If we could go back to
13 Demonstrative No. 6 that we looked at earlier, in this
14 -- in the second row there, is that -- is that the
15 East Mesa well permit designation?

16 A. That is correct. The series -- the number
17 series are indicated in the first column.

18 Q. All right.

19 A. Those are in the Jornada Del Muerto Basin.

20 Q. All right. Let's look at Exhibit B to the
21 40-year plan. I believe this contains those. It's on
22 Page 11 of New Mexico Exhibit 2491. Is this appendix
23 referring to the East Mesa wells?

24 A. Yes. This is Appendix B of the plan is the
25 East Mesa permit and wells in the Jornada Del Muerto.

1 Q. All right. Let's go to the next page of the
2 exhibit, please. This is a letter from the state
3 engineer; is that right?

4 A. Yes. To Mayor Ruben Smith in February of
5 2002?

6 Q. All right. I'd like to highlight the first
7 two lines of the letter and ask you to tell us what is
8 referred to in those two lines?

9 A. The state engineer sends a letter to the
10 mayor indicating that there is a number of
11 applications that were approved. Those were 12
12 applications were approved, 2 were denied, and 5 were
13 modified. Originally in 1981, there were 14
14 applications of a thousand acre-feet each filed with
15 the state engineer so that was 14,000 acre-feet. What
16 this letter does is says after analysis by the state
17 engineer, they curtailed or removed two of the
18 proposed wells. They approved seven of them, and the
19 other five, they reduced the amount of water that
20 could be extracted. Those were mainly on the east
21 side of the basin.

22 Q. All right. And east side of the basin, that
23 is primarily the Jornada area; is that right?

24 A. East side of the Jornada Bolson, yes.

25 Q. Okay. All right. Let's look at the next

1 couple of sentences in this letter, if you please.
2 What is the state engineer imposing on the city in
3 that section of the letter?

4 A. Well, all of the permits -- I'm sure we'll be
5 reviewing some of them today -- have a condition of
6 water conservation, practices, measurement, and other
7 conditions. All permits have certain conditions.
8 This paragraph is summarizing some of the conditions
9 that are being put on this permit. There's a
10 reporting requirement to the state engineer on an
11 annual basis as to what progress has been made on
12 water conservation.

13 Q. All right. We'll look at the actual
14 conditions here in a second, but let me ask you to
15 look at the last sentence there of this paragraph.
16 What does that refer to?

17 A. I believe at the time the state engineer
18 requested that at least the residential per capita
19 where it was reduced to some southwestern average. I
20 believe that was done and submitted to the state
21 engineer subsequent -- in subsequent -- in 2005,
22 because it's within three years so the City had to
23 really ramp up their conservation program as part of
24 this condition.

25 Q. All right. Let's turn to Page 13 of this

1 exhibit, please. What do we see here on this page of
2 the exhibit, Doctor?

3 A. This is the -- I mentioned a minute ago that
4 there's conditions of approval. This is the detail.
5 So when the letter is attached, there's -- the letter
6 contains this document that has a series of conditions
7 that must be met.

8 Q. So these are the actual legal requirements
9 that were referred to in the letter?

10 A. That is correct.

11 Q. All right. Do we see a priority as part of
12 this here on this page?

13 A. Yeah. So -- so it lists, again, the points
14 of diversion or permit numbers, the priority, the
15 source of water is the sub-basin of the Lower Rio
16 Grande, which is the Jornada Del Muerto, and then it
17 lists all the points of diversion with the appropriate
18 locations, township, range, et cetera.

19 Q. Let's turn to the next page, if you please.
20 Doctor, in the third -- well, the first three lines of
21 this page, what do you see specified there of
22 importance?

23 A. Every -- every permit has a maximum amount of
24 water, so this states that the amount of water granted
25 to the City is 10,200 acre-feet. I described earlier

1 that some of the permits were curtailed on the east
2 side of the basin so this table shows the amount of
3 acre-feet per annum that can be pumped out of those
4 wells. So this is the maximum -- there's not only a
5 maximum total amount, but there is a maximum amount
6 that can be pumped from each individual point of
7 diversion, and that's listed on this table.

8 Q. And you have applied for a thousand acre-feet
9 from each well, and -- and we can see that some of
10 those were cut back from that request?

11 A. Yes.

12 Q. Okay. All right. And then if we go to the
13 bottom paragraph on this page, that's Paragraph No. 4,
14 I believe, what is contained in that paragraph?

15 A. The Jornada Del Muerto is basically an
16 isolated basin separate from the Mesilla Bolson, so
17 the -- the amount of water required for offsets is
18 really small. It shows an amount -- they calculated
19 an amount about 644 acre-feet after a hundred years so
20 -- and that's what this paragraph indicates.

21 Q. That's because this is an essentially
22 separate basin; is that right?

23 A. That's correct, yes.

24 Q. And what becomes of the treated effluent that
25 is provided to the City from this basin?

1 A. Well, the basin is pumped. Water goes to
2 customers. Customers send wastewater to the main
3 plant so technically, this -- this wastewater moves
4 into the Mesilla Bolson, we call it imported water
5 into the Mesilla Bolson after it's been treated and
6 discharged into the river.

7 **Q. And where is it discharged into the river?**

8 A. At the Jacob Hands wastewater treatment
9 plant.

10 **Q. And is that a facility that the Special**
11 **Master visited on the tour?**

12 A. That's my understanding, yes.

13 **Q. All right. Let's turn our attention to the**
14 **West Mesa wells that you mentioned. This is in**
15 **Appendix C of the 40-year plan, so it's up -- begins**
16 **on Page 17 here of Exhibit 2491. The West Mesa wells**
17 **are the ones we saw on the initial maps we looked at**
18 **this morning on the left-hand side?**

19 A. It was the left-hand side of the map.

20 **Q. Okay. If we go to the next page of the**
21 **exhibit, what do we have here?**

22 A. This is the permit that was applied for and
23 was returned with approval and indicates the -- the
24 approval of 8,000 acre-feet diversion from the West
25 Mesa.

1 Q. All right. And it has a priority date of --
2 of what?

3 A. '81.

4 Q. All right. Which was its date of filing?

5 A. Correct.

6 Q. All right. And if we turn to the conditions
7 of approval, which, I believe, is Page 20 of the
8 exhibit, we see these basic aspect of the water rights
9 set out there?

10 A. That's correct. It lists the permit numbers,
11 the priority, the source, in this case is the Mesilla
12 Bolson, and it lists the seven points of diversion,
13 locations of the seven points of diversion.

14 Q. All right. Is there a condition requiring
15 offsets in this permit?

16 A. Yes.

17 Q. If we go to the next page, I think we may see
18 that in Paragraph 3. Am I right about that?

19 A. That's correct. This permits require a
20 one-to-one offset meaning that the City has to
21 demonstrate that has acquired or there's return flows
22 in an amount of 8,000 acre-feet before they can
23 exercise this permit.

24 Q. So this is quite different from the offset
25 conditions that we just saw with regard to the East

1 **Mesa wells in the Jornada Del Muerto Basin; is that**
2 **right?**

3 A. That's correct. This is the river connected
4 well field, therefore, there is a one-to-one
5 requirement of offsets.

6 Q. If we look at the next page of the exhibit,
7 Paragraph 6, is -- is this the specific requirement
8 that we saw referred to in the cover letter?

9 A. That's correct. All the permits have the
10 condition of conservation reporting on an annual basis
11 so this -- this is that provision. You will see this
12 in all of the permits.

13 Q. All right. And does -- and the next
14 paragraph, Paragraph 7, what is the condition placed
15 on the City there?

16 A. The -- both the water conservation plan and
17 the 40-year water plan need to be updated as a minimum
18 every ten years.

19 Q. All right. And Paragraphs 9 and 10, are
20 those the standard requirements of the state engineer
21 that all wells be metered and that those readings be
22 submitted to the state engineer?

23 A. That's correct. Metering requirements are in
24 all the permits.

25 Q. Very good. Okay. Let 's turn to

1 **Demonstrative Exhibit No. 7, please. Doctor, what do**
2 **we see on this demonstrative?**

3 A. This is a simplified map of -- of the
4 location of the wastewater treatment plants, but it
5 also shows, in schematic form, the Jornada Del Muerto
6 Basin to the right and the East Mesa well field that
7 we saw before. You see the Valley well field in
8 darker blue. You see the river. You see the West
9 Mesa well field. And then in the green blocks
10 indicate the approximate locations of the three
11 wastewater plants. The East Mesa water reclamation
12 facility to the right of the map, the wastewater
13 treatment facility, also called the Jacob Hands
14 wastewater treatment facility, in the middle, and the
15 -- at the west -- on the west side or left side of the
16 map, the West Mesa wastewater treatment plant. The
17 main plant, the large plant, is the wastewater
18 treatment facility that the Master visited, and that
19 is in the middle of the map.

20 **Q. All right. And this is a simplified version**
21 **of a figure that appears in the 40-year water plan?**

22 A. That's correct. Figure 2, I believe.

23 **Q. All right. Let's take a look at Figure 2 of**
24 **the 40-year water development plan. That's in New**
25 **Mexico Exhibit 2492 at Page 5. What do we see here,**

1 **Doctor?**

2 A. Well, this is basically the same map with --
3 with a little bit more information. It shows in -- in
4 round circles or some white squares the -- the water
5 supply, the water systems. There is green arrows
6 showing the wastewater of those systems going into the
7 respective plants, and there's also some blue arrows
8 showing water going into the water system so it's just
9 a schematic that shows the flows, but we removed those
10 so that it would be a little simpler to see.

11 **Q. All right. You mentioned the return flow**
12 **plan. Is that -- of the city. Is that part of the**
13 **40-year water development plan?**

14 A. Yes. It's one of the appendices.

15 **Q. And that appears in Appendix New Mexico 2493**
16 **at Page 2. There's Page 1 and Page 2. Can you**
17 **briefly describe what -- what the return flow plan of**
18 **the city consists of?**

19 A. The return flow plan outlines the framework
20 for the calculation of return flows to the river.
21 This document is an '09 document, but it sets off the
22 calculations and the parameters that go into the
23 reporting -- annual reporting to the state engineer of
24 those return flows.

25 **Q. Very good. Let's look at the discharge**

1 permits, if you please, relating to the Jacob Hands
2 facility. This is Exhibit New Mexico 955 and 944. If
3 we start there, we have both of them, actually, at
4 least the first page of each one. What are these
5 exhibits, Doctor?

6 A. This appears to be a cover letter in the
7 actual NPDS, the National Pollutant Discharge
8 Elimination System, permit for the city. It was sent
9 to the new director in this year, May of this year.
10 This is the approval from the Environmental Protection
11 Agency to discharge wastewater into the river at the
12 plant that the Master visited.

13 Q. This is what we normally call an NPDES
14 permit?

15 A. Yes.

16 Q. Okay. All right. Let's turn now to New
17 Mexico Exhibit 957, Page 1, if you please. Doctor,
18 what is shown on this exhibit?

19 A. This is a summary of the last five years of
20 both diversions and returns at the Jacob Hands
21 wastewater plant. The first column is the total
22 diversion. That would include pumping on all of the
23 well fields. The next column is the pumping only on
24 the Jornada Del Muerto Basin, and then the remaining
25 three columns -- or the next one is the Mesilla or the

1 LRG-430 pumping from the Mesilla Basin. In those
2 years, there was no pumping from the smaller rights of
3 389 and 399, that's why you show zeros. The next
4 column, JWC, stands for the former Jornada water
5 company that was acquired a few years back. Those
6 wells are being pumped, they're owned by the City now,
7 and those are the amounts of water pumped from those
8 wells. The next column shows the total Mesilla
9 diversions with an average from the bottom being about
10 16,000 acre-feet -- 16,400 acre-feet. The last column
11 is the total discharge that is the effluent, the
12 wastewater -- treated wastewater that reaches the bed
13 of the river for each of those years. All of these
14 measurements, of course, are in acre-feet per year.

15 **Q. In that upper -- upper part of that column on**
16 **the right, what does JHWWTF stand for?**

17 A. Yeah. That is the Jacob Hands Wastewater
18 Treatment Facility.

19 **Q. Let me ask you a couple of questions about**
20 **this table, if I may. Which -- first of all, are**
21 **these the permitted amounts that are listed here or**
22 **the actual diversion amounts?**

23 A. Actual diversion amounts

24 **Q. So these are the actual diversion amounts,**
25 **and what was the -- what's the total of those amounts**

1 on average?

2 A. Well, the -- the diversion amounts on average
3 are about 21,000 acre-feet. You would notice that
4 from 2016 to 2020, they've been pretty level,
5 increased a little bit after we acquired the water
6 company, but in this period, we added, I estimated
7 approximately 4,000 customers. We had acquired 3,500
8 customers. So you can see that water offsets, this
9 increasing customers, is the conservation because the
10 diversion amounts are pretty stable.

11 Q. Which of the water rights is shown by this as
12 being the one that the City relies on most?

13 A. LRG-430.

14 Q. All right. That's the City's pre-basin 1905
15 water right?

16 A. Yes.

17 Q. Okay. Very good. The final column are the
18 acre-feet of treated return flows to the river; is
19 that right?

20 A. Yes.

21 Q. Okay. All right. This exhibit also has some
22 additional pages as part of it. Let's just take a
23 quick look at the next page. What is this detail that
24 is shown on this -- on this page, Doctor?

25 A. The -- this was a massive spreadsheet that

1 the first exhibit -- the first page was the summary.
2 For each of those years, you have the list of all the
3 wells and all of the years, and then the last column
4 is the total. So -- so the -- the basic data or the
5 raw data that generated the summary table is shown in
6 the remaining pages of this exhibit.

7 Q. All right. And that includes the backup not
8 only for the diversions, the actual amounts pumped,
9 but also for the discharges to the river?

10 A. That's correct. The discharges are outlined
11 at the bottom of those tables.

12 Q. All right. We've looked at various permits
13 that the City relies on. Who issues those permits?

14 A. State engineer.

15 Q. And do they all have conditions that require
16 monitoring and reporting of amounts pumped to the
17 Office of the State Engineer?

18 A. Yes, all of them.

19 Q. Let's turn to Exhibit New Mexico 0949, if you
20 please. What is this? I would mention there's some
21 check marks on this exhibit, but we're not using it
22 for that purpose. We'll make no reference to those.
23 But what -- what is shown in the printed part of this
24 exhibit?

25 A. This appears to be the report the City

1 submits to the state engineer for all of the wells --
2 all of the active points of diversion. This happens
3 to be December of 2020. It outlines the well -- the
4 well name, the LRG number, of course the location,
5 starting and ending points of the -- of the meter, the
6 totalizing meter, and then the production in gallons
7 and conversion to acre-feet. It also shows an
8 accounting of some blow-off water in case some of the
9 wells have blow-off water before they go online. It's
10 a design feature in some of the facilities.

11 Q. I see. Now, you -- you have the results
12 production in gallons in the third column from the
13 right. You also have acre-feet in the final column to
14 the right. What -- what is the number of gallons in
15 -- in a single acre-foot?

16 A. 325,851. Some people use 326,000.

17 Q. But the exact is 325,851 gallons per
18 acre-foot?

19 A. Yes.

20 Q. Okay. Now, how is the data shown in this
21 exhibit generated and recorded?

22 A. The vast majority of the diversions are
23 monitored by meters that are connected to a
24 supervisory control and data acquisition system,
25 SCADA. Those meters log the flow out of the well on a

1 realtime basis. On those wells is go to the database,
2 and for a given month, you'd compile and report those
3 readings, but -- but the readings on the -- on the
4 majority of the large wells are realtime. Of course,
5 the wells, those meters are calibrated and checked
6 periodically, but there is realtime logging into the
7 supervisory control system database. There's other
8 features of the supervisory control system, as well,
9 that -- that are in each of those facilities.

10 **Q. So you're able to keep tabs on most of the**
11 **wells on a realtime basis?**

12 **A.** Yes. The supervisory control system not only
13 controls the wells based on tank levels. You assign a
14 tank to a well, and when levels change, the wells
15 start and stop automatically. But we also have the --
16 the software in the interface, the human interface, to
17 -- to these wells and well fields through our dispatch
18 system so we have 24/7, 365 monitoring of all the
19 facilities with screens so you can see which wells are
20 up or down or there's an intrusion around. It's a
21 very elaborate supervisory control system.

22 **Q. Do all of the wells that the City is**
23 **operating, I think you said there were about 40 of**
24 **them. Do all of them have this -- this technology**
25 **mounted on them?**

1 A. No. About -- when we showed the summary, I
2 showed some of the Jornada water company wells. Those
3 wells were acquired a few years back are being
4 retrofitted to the new technology so those are not,
5 but they represent only about 10 percent of the
6 diversion. So I can say that 90 percent of the
7 diversion is managed in a realtime basis.

8 **Q. For how long has the City had this type of**
9 **functionality on its system?**

10 A. Well, I think yesterday, I described that one
11 of my projects was starting a computer-based
12 supervisory control system in the early '90s, so that
13 was the very beginning. The systems were very
14 rudimentary, of course. The City has progressed and
15 improved those systems over the years many times, and,
16 now, we have pretty much state-of-the-art technology
17 on computer and supervisory control monitoring of the
18 facilities.

19 **Q. Now, we've been talking about metering and**
20 **monitoring of the wells that produce the water for the**
21 **City's use. What has been done on the customer's side**
22 **with respect to metering?**

23 A. Yeah, yesterday, I mentioned that one of the
24 last projects I did working with my staff is the
25 implementation of performance contract for advanced

1 metering infrastructure. So on the customer side, we
2 went ahead and replaced more than 37,000 meters,
3 essentially all of the residential and the majority of
4 the commercial customers, to realtime measurement in
5 the very advanced technology. So that allows the
6 customer to -- to monitor their water use, to be able
7 to manage their -- their -- their consumption, and
8 there's -- the interface allows the customer to -- to
9 be able to receive notifications or the utility to
10 inform the customer that they may have a leak. It's
11 continuous monitoring of a system, and as part of that
12 installation, we also put in place leak detection
13 system on the distribution system. You can do that by
14 -- by putting sensors on the -- on the surface lines
15 throughout the system, so that network of 37,000
16 meters generated a network of monitoring for leak
17 detections. I understand the City has already made
18 repairs to -- to lines that you can see the leaks on
19 the street. There was a leak, but you couldn't see
20 any leak from the street. So I think that's a
21 state-of-the-art technology that will take us very far
22 in terms of water conservation.

23 **Q. Very good. And replacing 37,000 individual**
24 **meters at the -- at the customers' points of use, how**
25 **much did that cost the City?**

1 A. Well, the -- the project is really a 20-year
2 project. The initial cost was a \$20 million
3 investment, but with the leak avoidance and the
4 accurate measurement, we showed that financially, we
5 could pay the -- pay off the system in 16.4 years. So
6 -- and it's a performance contract meaning an
7 agreement with the private sector so every year an
8 audit is made, and the system -- the performance of
9 the system is monitored on an annual basis for 20
10 years to keep that -- that accuracy and reliability of
11 the system.

12 **Q. And has -- has all of that activity served to**
13 **conserve the water that is used by the City?**

14 A. I believe so. We've reduced our consumption,
15 but more so, I've seen the latest number of
16 unaccounted or non-revenue water. It dropped from 16
17 percent to 11 percent.

18 **Q. I see.**

19 A. So that's in two years.

20 **Q. Very good. That's water that disappears in**
21 **the transmission system?**

22 A. It's either leaks or -- or -- or inaccurate
23 measurement, of course.

24 **Q. So you've been able to reduce that situation?**

25 A. Yes.

1 Q. And in terms of a customer checking their
2 water use, is that something that can be done, say,
3 from a person's cellphone even?

4 A. Yes. Yes. The interface, you can log into
5 your account. In fact, I logged into my account this
6 morning to see, check my -- my water use.

7 Q. All right. Now, we've talked about the
8 efforts that the City makes to be sure that it's
9 monitoring its wells and complying with its permits,
10 but has the City ever exceeded its -- its permitted
11 amounts on -- on any wells?

12 A. It -- yes. It doesn't happen very often,
13 given that -- that we have a technology of monitoring,
14 but it can happen within the last month of the year if
15 -- if a well is not shut down, it's -- it's working
16 automatically against filling a certain tank, and it
17 has happened occasionally and on the East Mesa
18 particular.

19 Q. I see.

20 A. On the Jornada Bolson.

21 Q. When that -- when that type of situation
22 arises, what happens first?

23 A. Well, if the -- if the utility discovers
24 that, it gets reported to the state engineer, or if
25 the state engineer flags it first, they will send

1 immediately a letter and contact the utility to -- to
2 discuss how the situation will be remedied.

3 Q. Let me ask to take a look at Exhibit New
4 Mexico 0947, Page 4. We have a letter here dated May
5 31st, 2017. Can you describe for the Master what this
6 is?

7 A. Well, I believe this is the letter to my
8 staff, the director of water -- the deputy director of
9 water, Ms. Widmer, there had been an exceedance on
10 Well 41 of 99.66 acre-feet.

11 Q. All right. There was a limit on that
12 particular well; is that right?

13 A. 800.

14 Q. And what -- what then happens to resolve the
15 matter?

16 A. The City has to propose a corrective action.
17 In this particular case, the exceedance was basically
18 due to the fact that there was another well half a
19 mile south permitted for 800 acre-feet that had
20 problems with the screen so it was shut down. So in
21 essence, the total amount that would have been pumped
22 at the basin was not exceeded, but the particular one
23 well was exceeded by 99 acre-feet. I believe there
24 was some communication with the staff to attempt to
25 see if we could temporarily increase the amount of one

1 well because the other well was down, and the response
2 of the State Engineer was that without a full
3 administrative process, we couldn't do that. So there
4 was an amended corrective action that I believe a
5 letter that I sent saying that we would go ahead and
6 reduce the pumping on the following year by 99
7 acre-feet.

8 Q. All right. Here on Page 2, we have a letter
9 which suggests the alternative you just mentioned; is
10 that right?

11 A. Yes.

12 Q. But the state engineer did not accept that;
13 is that right?

14 A. Not without a full administrative process,
15 simply a public process where you have to let the
16 public know that you -- you are proposing even
17 temporarily to increase one diversion in lieu of
18 another diversion in place.

19 Q. And we see the final letter on the right-hand
20 side of the screen here, Page 1 of Exhibit 947,
21 confirming that you had resolved that, as you just
22 testified?

23 A. That's correct. That we were going to reduce
24 the pumping the following year.

25 Q. You mentioned that a further process would be

1 necessary to combine wells and remove the individual
2 well limit. If the City wants to do something like
3 that or replace a well, does it have to go through a
4 procedure with the state engineer?

5 A. Yes. You have to file an application for a
6 change of water right.

7 Q. Let's look at Exhibit New Mexico 0881, Page
8 1. What do we have here on the screen, Doctor?

9 A. That is the standard form that you -- you
10 fill or for the state engineer to change -- to make a
11 change in the water right. This particular one is a
12 form we submitted to replace one of our valley wells.

13 Q. I see. And what happens when you submit this
14 to the state engineer?

15 A. The state engineer evaluates the -- the
16 submittal. Sometimes they may come back and ask for
17 additional information if there's -- something is not
18 clear in the proposal, then the state engineer will
19 send you an advertisement to let the public know that
20 you are proposing to do, in this case replacing a
21 well.

22 Q. Just had brought up on the screen Page 31 of
23 the exhibit. Is this the letter effectuating that
24 part of the process that you just mentioned?

25 A. That's correct. Have to advertise for three

1 weeks the language of what is being done, and that is
2 prepared by the state engineer and must be attached to
3 this letter.

4 Q. All right. If we look at the next page of
5 the exhibit, I'd like to look at the next page, and
6 that's Page 32 and 33. Very good. What do we have
7 here, Doctor?

8 A. Well, it has the notice to the publisher at
9 the bottom. After the publication is done, there has
10 to be an affidavit, and you have to demonstrate that
11 you actually did that.

12 Q. Do we see at the top left here on the screen,
13 the state engineer at the beginning of the transmittal
14 specifying the exact newspapers that -- in which the
15 notice will be published?

16 A. Yes. Usually it's the papers of circulation.

17 Q. So there's a publication requirement, it
18 seems to be; is that right?

19 A. Yes.

20 Q. Does the state engineer take pains to make
21 sure that somebody doesn't publish their application
22 in a little-known newspaper?

23 A. That's correct. You can't do that.

24 Q. All right. Over on the Page 33 here, that
25 last paragraph, what -- what is that part of the

1 **notice?**

2 A. Well, that -- that is the information that a
3 potential protestant or someone that has an issue with
4 the proposed, in this case, replacement of this well.
5 They can -- they can file a protest with the state
6 engineer, and these are the instructions as to how to
7 do that basically.

8 **Q. All right. What happens if somebody does**
9 **protest a well application like this?**

10 A. If there's a protest, of course, the state
11 engineer will let you know. There may be a
12 possibility of resolving the protest, depending what
13 that is, but if you can't resolve the protest, you
14 have to have a hearing before the state engineer.

15 **Q. All right. What if there is no protest?**

16 A. If there's no protest, then the state
17 engineer does their own technical evaluation of the
18 proposal, and then if they don't see any issues, then
19 they approve the -- the request.

20 **Q. All right. And did this application, was it**
21 **protested?**

22 A. No. It was not.

23 **Q. So then the application was analyzed by the**
24 **state engineer staff; is that right?**

25 A. Yes. And then we got a notice of approval.

1 All we were doing is replacing the well by plugging
2 the old well and moving within a hundred feet in the
3 same property.

4 Q. All right. Let's look at the conditions very
5 briefly on Page 7 of the exhibit. Is this the
6 beginning of the conditions attached to the approval
7 of the application by the state engineer?

8 A. That's correct. And you can see that the
9 format is very similar to the ones we saw earlier.
10 You have permit numbers and then the -- the source,
11 the priority is -- this is part of the LRG-430, so
12 we're replacing one LRG-430 well that was old and had
13 problems with the stream. So it's the same format,
14 and there's several conditions of approval on that.

15 Q. All right. It specifies there, I see, the
16 source, and then points of diversion?

17 A. Yeah. This shows the existing points of
18 diversion on that same permit, so that's what they're
19 listing this document.

20 Q. All right. And if we look at Page 13, if you
21 please. What is specified on Page 13 of the exhibit
22 in these conditions?

23 A. Well, the purpose of use, place of use, of
24 course, is utility service area and the amount of
25 water is the cap that the 21,000 acre-feet. It

1 reminds you, also, of the 2 acre-foot per acre
2 requirement that is in the sub-file order.

3 Q. If you could speak a little bit louder or get
4 closest to the microphone. That would help, Doctor.

5 A. Yeah. This bottom of the permit declares the
6 amount of water but also the sub-file order regarding
7 the requirement of discharge when the allotment is
8 less than 2 acre-feet.

9 Q. Very good. Now, this process that we just
10 stepped through, is that a process only applied to Las
11 Cruces or -- or to cities by the state engineer?

12 A. All water -- all -- for any water user. I'm
13 sure wells in other mutual domestics and private water
14 systems have to go through the same process.

15 Q. All right. Let me turn us -- our attention
16 to Demonstrative No. 6, please. I'm sorry. I should
17 have said 8. There we go. What is shown on this
18 demonstrative, Doctor?

19 A. It's an outline of some of the elements of
20 our water conservation program.

21 Q. Would you step through those elements
22 briefly?

23 A. Yes. I'll start with some of the more -- the
24 recent changes since -- since the last water
25 conservation -- since -- since the water conservation

1 -- 2012 water conservation plan. More recently, the
2 City has implemented inclining block rate structure.
3 I believe Mr. Balliew wrote up the fact that one of
4 the important or most important tools in the
5 conservation is pricing, and I have to agree with him
6 because inclining block rate charges more for more use
7 at a higher rate, and it works. It does reduce the
8 use. It limits the customers to their basic uses, but
9 it really controls the high users, and it costs much
10 more to really use a lot of water. So it is a very
11 important conservation tool. There's different
12 designs of that rate structure. I believe ours is
13 really different than El Paso's, but it's the same
14 purpose and same objective is water conservation at
15 higher levels.

16 **Q. Okay. Let me ask you about that, Doctor.**
17 **Exactly how does an inclining block rate structure**
18 **work? What does that mean? Is that a -- well, if you**
19 **could say a little bit more about that.**

20 **A.** Well, you have a certain amount of water that
21 you buy. In our case, it's about \$13.60, I believe,
22 the access charge. The base charge gives you 3,000
23 gallons, three units, because we measure water in
24 thousand-gallon units. Then you have -- if you use
25 from another 10,000, so you go to 13,000 gallons, you

1 -- you pay a little more, might be \$2 and so, and then
2 you go for another 10,000 gallons, that costs more per
3 thousand gallons, and then up to -- after 23,000
4 gallons, you pay much more per thousand gallons. So
5 -- so it's not the same rate. It's a rate change on
6 each block, and when you have -- you know, it depends
7 how -- how steep your rate structure is, but it is --
8 it is a very good tool to limit residential use to
9 reasonable amounts.

10 **Q. All right. I -- I stopped you in the middle**
11 **of your description of Demonstrative No. 8. If you**
12 **could go ahead.**

13 A. Well, I described the second bullet, the
14 metering and leak detection system. I think that is
15 providing very good results. We have the -- the
16 program contains elements of watering restrictions for
17 odd/even watering on certain addresses on certain
18 days, times of day for watering, et cetera. We have
19 updated some of the elements of the city ordinance in
20 the last few years. Reclamation -- I measured the
21 reclamation facility, approximately 500 acre-feet of
22 water are reclaimed or reused, and that supplies some
23 city parks, one high school, and the City sold some
24 water to a golf course. And then the -- the utility
25 conservation program has done a lot of emphasis on

1 public information and public education. There is a
2 series of seminars on there called the latch and lean
3 program that are taught every year. Unfortunately
4 with the pandemic, that stopped, but for many years,
5 that was the case. We have utility developed some
6 years back a demonstration garden where you can show
7 what plants can be grown with very little water use so
8 -- and then very popular annual water festival for 3rd
9 and 4th graders. That was done for about, I believe,
10 nine years until the pandemic hit. I understand that
11 in 2022, they'll resume the festivals.

12 **Q. All right. You mentioned the city ordinance**
13 **prohibiting waste. Tell us a little more about that**
14 **and -- and what enforcement actions are necessary**
15 **using that?**

16 A. Well, the ordinance has two provisions. One
17 is, of course, there could be fines if there's
18 excessive water, you know, like water running down the
19 streets or if that customer does not make corrective
20 action of a problem that is identified. There are
21 also some administrative penalties that can be
22 imposed. They're much smaller in the 20 to 50 dollar
23 through the utility bill if the customer doesn't want
24 to work with the utility in trying to minimize their
25 use. I think our customers have been very good in

1 responding to -- to the program and the water audits
2 that are done. The -- the metering and leak detection
3 system has already allowed staff to -- to call a
4 customer and say you do have a leak in your house,
5 we're letting you know you have continuous flow of
6 anything more than 5 gallons an hour can be detected
7 in the system. So that proactive approach is really
8 -- is going to have tremendous benefits for that water
9 system.

10 **Q. And have you found the population to be**
11 **cooperative in terms of addressing problems with waste**
12 **or leaks?**

13 A. My understanding is that -- that the need to
14 take someone to municipal court because that's what is
15 required to the penalties in the ordinance. Has not
16 been necessary, but the process is there if someone
17 does not react to something that is very serious. I
18 think the staff interaction with customers has been
19 very positive and proactive on part of the utility.

20 **Q. All right. Can you tell if the City's**
21 **conservation efforts have been effective?**

22 A. Yes. Yes.

23 **Q. Let me -- let me bring up an exhibit that I'd**
24 **like to have you look at as you answer my question.**
25 **It's Exhibit New Mexico 957, Page 1, which we looked**

1 at earlier. This is the one that has the data on
2 diversions and discharge that you discussed in detail
3 earlier. Can you draw any conclusions with respect to
4 the effectiveness of your conservation efforts from
5 this tabulation?

6 A. I described earlier that from '16 to '20, we
7 had an increase of approximately 4,000 customers with
8 the acquisition of company, and you see that the
9 fluctuation in the diversions are not that large. So
10 -- so that tells me the program is working, and
11 there's been reduction in the gallons per capita day.
12 Back in 2000, we were at about 255 gallons per person
13 per day, and I believe the 2020 number is 173 of total
14 diversion.

15 Q. Let me draw your attention to part of the
16 40-year water development plan in this regard. If we
17 look at New Mexico Exhibit 0956 at Page 73, this is
18 part of Appendix P of the 40-year water plan, and we
19 also have here Page 81 following that cover sheet.
20 Could you describe what we are showing here?

21 A. Yes. That was what I was trying to -- to --
22 I was talking about, the -- the fourth column, the
23 GPCD, gallons per capita day, in 2000 were really
24 high, 255. The plan shows the decrease in the first
25 ten years up to 191. Like I mentioned earlier, we're

1 at about 173 right now. The last column is -- also
2 shows the -- the wastewater discharge at the Jacob
3 Hands plant, and you can see that number has
4 increased, but it is in the -- in the same order of
5 magnitude so -- so even with growth, you know, you
6 have -- you have a very -- you have increases in your
7 wastewater flow, but they are not drastic. They are
8 all in the -- in the range. So any other question?

9 **Q. All right. And let me turn your attention to**
10 **how this City has been planning for meeting the needs**
11 **of the City in the future. Is it fair to say that**
12 **that is the major purpose of the 40-year water**
13 **development plan is to plan for providing the water**
14 **necessary to meet the City's needs in the future?**

15 **A.** The 40-year water plan is the main document
16 that -- that provides guidance for the water planning,
17 water conservation, the water rights, and provides you
18 estimates of -- of population projections. Underneath
19 the 40-year water plan, you have a 20-year water
20 wastewater master plan, which outlines the
21 infrastructure needed for that growth over the next 40
22 years, and within the water wastewater master plan,
23 you have the five-year capital improvement plans that
24 are executed on, again, increments of five years.

25 **Q. All right.**

1 A. But there's three layers of planning
2 basically.

3 Q. One item that we haven't touched on in your
4 testimony yet is the fact that -- and if we could look
5 at Exhibit 943, New Mexico 943, is the fact that the
6 City has, in the past, purchased some acreages within
7 the EBID service area; is that right?

8 A. That is correct.

9 Q. And is that -- are the locations of the
10 various parcels shown on this exhibit?

11 A. Yeah. This exhibit shows some of the
12 locations of some of the parcels that have -- the City
13 owns and have the surface water rights. The -- there
14 is two inserts in this figure that -- that -- there's
15 a property called the Rincon, and that's further
16 north, but it's been brought into this map so I want
17 to clarify that. And then the Santa Tomas property is
18 another one where we have surface water rights
19 appurtenant to that land, and that is southwest of the
20 city. Some of the earlier maps that we showed show
21 the location of the Santa Tomas.

22 Q. All right. And does the City pay an
23 assessment to the Elephant Butte Irrigation District
24 every year for these lands?

25 A. Yes. The City pays approximately \$122,000 a

1 year to keep the water rights. It's a tax on the EBID
2 rights.

3 **Q. And I'm just showing here Exhibit NM-0946.**
4 **Is this an example of the type of payments that you're**
5 **referring to?**

6 A. Yes. And that -- this exhibit is a summary
7 spreadsheet of the -- of the properties, the
8 properties are listed, the taxable acres, the -- all
9 the information that -- that you have with EBID, but
10 the -- the water-righted acres is what is -- water
11 rights that you have in this particular case, the
12 total is about 1,355 water-righted acres within the
13 district.

14 **Q. All right. Thank you. Let me ask you why**
15 **the City purchased those acres?**

16 A. In the early 2000s, there was an attempt in
17 the plan to -- to use surface water, potentially build
18 a surface water plant, and try to provide some of the
19 supply to the City through a surface water plant.

20 **Q. Did the -- did the City do a thorough**
21 **investigation of that possibility?**

22 A. Yes. There was a preliminary engineering
23 report prepared in 2012 by CH2M Hill, now Jacobs
24 Engineering, that outlined different locations, did
25 the complete study. It was a very elaborate study in

1 costing of the plant.

2 Q. All right. What was the next step after
3 obtaining that preliminary engineering report?

4 A. The preferred alternative, which had the
5 plant located on the Santa Tomas side, was going to
6 cost the utility approximately \$152 million so -- so
7 the finances did not work for the treatment of about 5
8 million gallons a day for 152 million with a customer
9 base of -- of -- now, we have 37,000 customers, but we
10 have less then. So the finances did not work.

11 Q. But the -- the City continues to hold onto
12 some of those acreages; is that right?

13 A. Yeah. The policy decision of the Board and
14 the city council is that they will keep those
15 water-righted acres and those parcels, and perhaps
16 there is a possibility of those rights being useful in
17 the future.

18 Q. All right. Are you aware of the
19 cross-examination of Mr. Schmidt-Petersen by
20 Mr. Leininger where he referred to the 2017 Lower Rio
21 Grande Regional Water Plan?

22 A. Yeah. I was made aware of that.

23 Q. And specifically, Mr. Leininger referred to
24 the Las Cruces Sustainable Water Project that was
25 referenced in the 2003 Regional Water Plan referring

1 particularly to Exhibit NM-0616 at Pages 16 and 17.

2 Are you aware of that line of questioning?

3 A. Yeah. I was --

4 MS. BARFIELD: Your Honor, I need to
5 assert an objection, please. We're now raising
6 Exhibit New Mexico 0616, which is not on the direct
7 examination list for this witness so there's been no
8 notice that this witness was going to discuss this
9 issue.

10 MR. DRAPER: Your Honor, I'm just -- if
11 I may.

12 JUDGE MELLOY: Go ahead.

13 MR. DRAPER: I'm just quoting here the
14 rough transcript, and it mentions that particular
15 exhibit.

16 JUDGE MELLOY: I'll let you ask the
17 question, and we'll see where we are. Go ahead,
18 Mr. Draper.

19 MR. DRAPER: Thank you, Your Honor.

20 Q. (BY MR. DRAPER) And in that rough transcript
21 reference that I'm referring to, which is Page 71 for
22 the record, from the Monday transcript, there was a
23 reference to the Las Cruces Sustainable Water Project.
24 Is that -- is that your understanding?

25 A. Yes. That appears to be.

1 Q. And we're showing here that part of the
2 transcript, and you can see that he then follows this
3 up with the statement, after referring to the fact
4 that the project was no longer on the regional water
5 plan, and he says, "And that's because the City of Las
6 Cruces just wants to continue to pump the aquifer and
7 not acquire additional surface water rights, correct?"

8 Do you -- my question to you is this
9 reference in the transcript, do you agree with that
10 characterization of the City's activities?

11 A. No. Because to me, makes it sound like we
12 just dropped the effort without any due diligence.

13 Q. And did you perform due diligence to the
14 City?

15 A. I just described that. And by the way, that
16 study will cost close to half a million dollars to do
17 the preliminary engineering report and be able to get
18 the answers that we need to have from engineering
19 point of view.

20 Q. And once the costing of the project could be
21 done based on the engineering report, was there an
22 option to pursue so-called sustainable surface water
23 supply option?

24 A. Not financially, no.

25 Q. Let me turn to one last issue, if I may, and

1 **that is, Doctor, does the City support the gathering**
2 **of groundwater data in -- in the basin?**

3 A. Yes. The City has participated with the
4 USGS. I believe Mr. Schmidt-Petersen brought up the
5 study for USGS monitoring. The City has been a
6 contributor to that project since the inception of the
7 Project.

8 **Q. And does the City conduct some of its own**
9 **monitoring of water levels?**

10 A. Yes. For the last almost eight or nine years
11 now, the City has conducted groundwater monitoring
12 throughout our basin, both the Jornada and the Mesilla
13 Bolson Basin.

14 **MR. DRAPER:** Very good, Doctor. That's
15 all I have. Thank you very much.

16 Thank you, Your Honor.

17 **THE WITNESS:** Thank you.

18 **JUDGE MELLOY:** All right. Who's going
19 to go first, Ms. Barfield or Ms. Coleman?

20 **MS. BARFIELD:** I am, Your Honor.

21 **JUDGE MELLOY:** All right. Go ahead, Ms.
22 Barfield.

23 CROSS-EXAMINATION

24 BY MS. BARFIELD:

25 **Q. Good morning, Dr. Garcia.**

1 A. Good morning.

2 Q. To be clear, at the beginning of your
3 testimony yesterday, we did hear a little bit about
4 your educational history, and we did see your resume,
5 but despite your engineering education and licensing,
6 you're not offering testimony yesterday or today in
7 this matter in that capacity; is that right?

8 A. That's correct. I'm not an expert witness.

9 Q. Okay. You have not been disclosed by the
10 State of New Mexico as an expert on any level,
11 correct?

12 A. Yes.

13 Q. Okay. Now in the very last part of this
14 testimony, you were talking about water-righted acre,
15 surface water rights that the City of Las Cruces
16 holds, and the City of Las Cruces does consider itself
17 to be a member of Elephant Butte Irrigation District;
18 is that right?

19 A. Yes.

20 Q. Okay. And, in fact, you said you paid close
21 to \$122,000 a year to maintain those rights?

22 A. Yes.

23 Q. Okay. You just got done talking about the
24 CH2M Hill report and the feasibility and said it would
25 cost about a half a million dollars I think you said?

1 A. Yes.

2 Q. Is --

3 A. I recall it was close to that amount.

4 Q. I'm sorry. I spoke over you. Go ahead.

5 A. That's the approximate amount that whole
6 study costs.

7 Q. Okay.

8 A. It was a very elaborate study.

9 Q. And that was cost intrusive for the City; is
10 that right?

11 A. Can you repeat again?

12 Q. That was cost intrusive for the City; is that
13 right?

14 A. Yeah, it -- it was -- it was an expensive
15 study to do, but I'm glad we did it because it
16 provided a lot of good information.

17 Q. Okay. Are you aware that all of the water in
18 the Rio Grande is Project water? You are aware of
19 that, right?

20 A. Yes.

21 Q. Okay. And you mentioned -- go ahead.

22 A. Go ahead. I said yes.

23 Q. All right. You mentioned a lot of cost
24 reasons for not pursuing surface water essentially to
25 assist in municipal concerns. Did I have that

1 correct?

2 A. That -- that was the main factor, yes.

3 Q. Okay. Isn't it also true that you have to
4 have a contract with the Bureau of Reclamation to use
5 Project water for municipal purposes?

6 A. That is true.

7 Q. Okay. And the City of Las Cruces doesn't
8 have one of those contracts; is that right?

9 A. No.

10 Q. So even if the City of Las Cruces wanted to
11 spend the money to pursue the surface water, they
12 could not, in fact, do so because they do not have a
13 contract with the Bureau of Reclamation, correct?

14 A. That is correct.

15 Q. Now, the City, we spoke a little bit about
16 your conservation efforts, the City's conservation
17 efforts rather. The City of Las Cruces has not
18 explored the use of brackish groundwater supplies, has
19 it?

20 A. No, not yet; however, the -- the -- the 2017,
21 40-year water plan, one of the options could be deep
22 wells and brackish desalination, so it's not off the
23 table. It's one of the many alternatives listed at
24 the beginning of that document.

25 Q. I was just about to ask you about that. It

1 is, in fact, listed in the 40-year plan, but despite
2 its consideration in the 40-year plan, the City of Las
3 Cruces doesn't have any plan at least in the five-year
4 capital plan to pursue a desalination plant; is that
5 right?

6 A. That's right.

7 Q. Okay. Are you aware that the City of El Paso
8 has a desalination plant?

9 A. Yes.

10 Q. Okay. And, in fact, the 40-year plan for the
11 City of Las Cruces actually refers to El Paso Water
12 Utility's desalination plant and refers to it as proof
13 of the technical feasibility of this type of
14 conservation; isn't that correct?

15 A. That's correct. The plan refers to that
16 plant, and we visited that plant, by the way, yes. We
17 are very aware of that plant.

18 Q. Okay. The 40-year plan for the City of Las
19 Cruces also notes that the El Paso Water Utilities
20 desalination plant has a capacity to produce up to
21 27.5 millions of gallons of freshwater per day; is
22 that right?

23 A. I would have to look at the document, but I
24 know what -- I think I know which section that is,
25 yes.

1 Q. We can look at the document if you need to,
2 but -- but does that sound approximately right to you?

3 A. Yes.

4 Q. Okay. And is that almost 31,000 acre-feet
5 per year?

6 A. I believe so, yes.

7 Q. Okay. And the City of Las Cruces, according
8 to the 40-year plan, estimates that it only needs
9 about 5,000 acre-feet a year; is that right?

10 A. What are you talking about? On surface
11 water, you mean?

12 Q. In term -- well, why don't we just take a
13 look at it. Let's look at New Mexico 2492.

14 MS. BARFIELD: Justin, if you could pull
15 that up for us, please.

16 A. I think, if I may, I think you're referring
17 to the application for 5,000 acre-feet of deep
18 groundwater that's saline groundwater, and I think
19 that amount is correct, yes, if that's what you're
20 referring to.

21 Q. (BY MR. DRAPER) Okay. Yet the City of Las
22 Cruces has no current intention of proceeding in the
23 direction of a desalination plant; is that right?

24 A. I don't believe in the needed future. I
25 can't speak to what changes are going to happen in

1 this next year or two years or three years because I
2 no longer -- I'm a consultant. I'm telling you my
3 story over the last 30 years, so I don't know that
4 there's going to be a change in direction. The
5 40-year water plan shows different options of
6 alternative supply, one being importation from the
7 Corralitos basin, which is about 4 miles away from the
8 airport, and potentially the Nutt-Hockett. So -- so
9 it's my understanding, and I'm not there anymore, but
10 my understanding, the utility is exploring those
11 alternatives and costing those alternatives and
12 evaluating each of those elements. I'm sure the
13 utility board would be presented with those options
14 some time.

15 **Q. When you had your deposition taken in 2019,**
16 **isn't it correct that according to you at that time**
17 **when you were still the City of Las Cruces' utilities**
18 **director, there were no current plans for the City to**
19 **proceed in that direction; isn't that right?**

20 **A.** That's correct. I mean, it was in the plan,
21 but we hadn't initiated the further step, which is
22 costing the different alternatives and ranking them.
23 That started shortly after I left.

24 **Q. What started shortly after you left?**

25 **A.** Looking into some of those alternatives in

1 further detail and ranking those. There is an effort
2 to -- to look at -- out of the 40-year plan, look at
3 10-year action plan, and I believe the utility is
4 working on a 10-year action plan, but I'm not part of
5 that at this point.

6 Q. Now, according to the 40-year water
7 development plan, which you said was the primary layer
8 of planning for the City of Las Cruces, the City of
9 Las Cruces ranks the prospect of a desalination plant
10 lowest on its list on the basis of cost alone; isn't
11 that correct?

12 A. I believe that's correct.

13 Q. Okay. So instead of spending the money like
14 the City of El Paso spent, the City of Las Cruces opts
15 to continue to rely upon groundwater resources, even
16 if it means importing groundwater from other basins;
17 isn't that true?

18 A. The -- the feasibility will determine what is
19 the -- the appropriate option. I can tell you, it's
20 much easier to put a plant when you have 200,000
21 customers versus, you know 40,000 or 30,000 customers.
22 So I think the City -- I assume they'll be evaluating
23 all of the alternatives and then they will be ranking
24 those, but there is possibilities of bringing some
25 water from some of the adjacent basins more

1 efficiently than -- than drilling 4,000-foot well and
2 then putting a plant to treat that and remove the salt
3 and then -- and then supply it to customers.

4 Q. So I appreciate that detailed explanation,
5 but I'm not certain that I got an answer to the
6 question. Is it correct that the City of Las Cruces
7 has no current intention of pursuing a desalination
8 plant due to cost issues, but instead, prioritizes and
9 -- and intends at this time to continue importing
10 groundwater from other basins and have groundwater
11 supply be the priority source?

12 A. That -- that -- that is correct. That is the
13 priority in the plan.

14 Q. Now, you agree that the wells that the City
15 of Las Cruces pumps from, particularly in the LRG-430
16 group, those are connected to the Rio Grande, correct?

17 A. Yes. They're in the Mesilla aquifer, uh-huh.

18 Q. I'm sorry. Could you --

19 A. They're in the Mesilla Bolson, yes.

20 Q. I understand that they're in the Mesilla
21 Bolson, but you agree that they are interconnected,
22 that the pumping of that groundwater is interconnected
23 with the surface water flow with the Rio Grande,
24 correct?

25 MR. DRAPER: I need to object. This is

1 getting, Your Honor, into the area of expert
2 hydrologic questioning and is not appropriate for a
3 non-expert witness.

4 **MS. BARFIELD:** Your Honor, I'm not
5 asking -- in fact, I started my questions today with
6 an assertion or a question as to whether or not this
7 witness was testifying as an expert. I don't want any
8 testimony from this witness as an expert, but I'm
9 entitled to know what his understanding is of the
10 interrelation between groundwater and surface water as
11 the City of Las Cruces utilities manager for 30-odd
12 years.

13 **JUDGE MELLOY:** I'll let him testify
14 based upon his understanding as utility manager, but
15 not as an expert witness on hydrology.

16 All right. Go ahead.

17 **MS. BARFIELD:** Thank you, Your Honor.

18 **JUDGE MELLOY:** You can answer,
19 Dr. Garcia.

20 A. Yes. The aquifer system is connected to the
21 river. The degree of connection in time and space
22 will be determined by the experts in the next -- the
23 experts that will testify in the next part of the
24 trial.

25 **Q. (BY MS. BARFIELD)** Now, in your capacity as

1 the director of the utility for City of Las Cruces,
2 understanding you're retired now, but in that capacity
3 prior to your retirement, you had concerns regarding
4 declining water levels and water quality changes;
5 isn't that right?

6 A. That's correct. I think there was a
7 discussion in my deposition that in that -- that there
8 are declining water levels, particularly in the East
9 Mesa Basin, that is a disconnected basin. There are
10 some declines in the -- in the Valley well field and
11 some in the West Mesa. That's exactly why the City
12 has a very sophisticated groundwater monitoring
13 program and a series of threshold indicators for
14 drawdown in water quality so that the -- the basin can
15 be monitored and managed accordingly. I never denied
16 that the water is not dropping. There are drops in
17 water levels. My inspection of some of the recent
18 2020 data shows a drop of about from three tenths to
19 about nine tenths of a foot per year on the -- on the
20 Valley well field. So, yes, they're dropping, but
21 they're being monitored very carefully by the program.

22 Q. Okay. So you do agree that there are
23 declining water levels in the City's wells in the
24 Mesilla Bolson aquifer area, correct?

25 A. There are declining water levels, yes.

1 Q. Okay. And you also agree that the Jornada
2 Basin has declining water levels, as well, correct?

3 A. Yes.

4 Q. Okay. In fact, you perceive the declining
5 water levels in the Jornada Basin, those are declining
6 even faster than the Mesilla Bolson; isn't that right?

7 A. That's correct.

8 Q. Okay. What's the rate there?

9 A. It's about 4 foot a year.

10 Q. Okay. And you consider that to be the least
11 reliable basin; is that right?

12 A. Well, it's a closed basin, if that makes it
13 less reliable, I would agree with that, but it also
14 has potential for aquifer storage and recovery, for
15 example.

16 Q. And do you -- well, isn't it true that you
17 relate some of these concerns regarding the declining
18 water levels in the City's wells to the -- the
19 initiation or the institution of the operating
20 agreement?

21 A. I believe there was some discussion about
22 that in my deposition, if I recall, but my -- my
23 observation was that there was, after the operating
24 agreement, we observed more pumping, and we also
25 observed more decline on water levels.

1 Q. And that decline was a concern to you,
2 correct?

3 A. Yeah. The decline is a concern, and it needs
4 to be monitored.

5 Q. Okay. But despite your concerns with the
6 declining water levels in the City's wells, and
7 especially during now what's been, I think, 12 years
8 since the operating agreement has been in effect, you
9 never took any steps to challenge groundwater pumping
10 in New Mexico, either in administrative agencies or in
11 adjudications; isn't that correct?

12 A. I don't understand your question.

13 Q. You had a concern about groundwater pumping
14 and depletions --

15 A. Okay.

16 Q. -- in New Mexico; is that correct, in the
17 City's wells?

18 A. Yeah. We had concerns about some dropping
19 water levels, but I didn't understand the second part
20 of your question.

21 Q. Okay. But despite those concerns and
22 particularly related to the operating agreement, as
23 you just stated, and understanding that the operating
24 agreement has now been in play for the better part of
25 12 years, you've never taken any steps to challenge

1 groundwater pumping in New Mexico, either through
2 administrative agencies or through adjudications; is
3 that correct?

4 A. I believe that is correct.

5 Q. Okay. Now, you -- you mentioned your
6 deposition a few times now, and that was back in
7 February of 2019. Since that deposition and before
8 your retirement, did you take any steps to challenge
9 groundwater pumping in New Mexico in light of the
10 concerns you shared with us?

11 A. I don't believe so.

12 Q. Now, the utility department as a whole has
13 not taken any steps to object to increased
14 agricultural pumping, has it?

15 A. No, it has not.

16 Q. And at least as of 2019, the City of Las
17 Cruces has not taken any steps to manage the water
18 level declines; isn't that right?

19 A. I don't know if that -- I don't know that
20 that is exactly correct. I believe that -- that by us
21 having a very detailed groundwater monitoring program,
22 we are being very proactive about which areas need to
23 be watched for. That's -- that's exactly why now in
24 the ten-year action plan, the City is developing the
25 threshold indicators and the latest plan, the 2020

1 plan, is already utilized in threshold indicators,
2 which sent to the wells to monitor in the long-term.
3 The groundwater levels drops right now have not
4 impaired any of the water pumping on the city.
5 They're still very -- they're not severe enough to --
6 to have to abandon a well or to affect water quality,
7 but they're being watched every year. Some wells may
8 have to be shut down for periods of time in production
9 use elsewhere. Along those lines, some of the wells
10 in the -- in the 2020 report, some of the wells appear
11 to show in the Mesilla -- in the Valley well field,
12 appear to show actually increasing water levels rather
13 than just decrease. So labeling just decrease of
14 water level is inaccurate.

15 **Q. Well, considering that some of them show**
16 **increasing water levels, do you still have a concern**
17 **regarding the operating agreement and what you**
18 **described as increased groundwater pumping?**

19 A. I still have concerns about well --
20 particularly well -- and I think the 40-year water
21 plan says this, as -- as more wells get developed or
22 if they get developed deeper, that's when you're going
23 to see more drastic changes. Depth as to from which
24 you pump makes a difference in my experience.

25 **Q. So some well levels have increased, but you**

1 do still have a concern about groundwater pumping
2 related to the operating agreement and depletions that
3 that causes, correct?

4 A. Correct. As I explained, particularly if
5 more wells are added and they're deeper, then it's
6 going to be a more -- then we may see more drastic
7 effects.

8 Q. Okay. But my statement was correct, yes?

9 A. Yes.

10 Q. Okay. Yet the only step that the City of Las
11 Cruces has taken to manage this problem or to address
12 this problem is the monitoring you described; isn't
13 that true?

14 A. Well, the monitoring is -- is to monitor the
15 well field, but I described earlier in this testimony
16 that the large improvements we've made in conservation
17 and metering, I anticipate that a lot of the future
18 water supply will come from conservation and aquifer
19 storage and better -- better managing the water
20 resource. The technology that was adopted for
21 metering is -- has been installed in a few places in
22 the country, but it's not very common, and we made the
23 effort to do that because if you can meter it
24 correctly, then you can manage it.

25 Q. Has the City of Las Cruces or its

1 consultants, at least since 2019, performed any
2 analyses on the depletive effects of the LRG-430
3 wells?

4 A. I'm not aware of any specific analysis, other
5 than the work that is being done as part of the
6 monitoring program.

7 Q. Can we take a look at New Mexico 853, please?
8 Now, you've seen this document before; is that
9 correct?

10 A. Yes.

11 Q. Okay. And this is the New Mexico State
12 University order out of the Lower Rio Grande
13 Adjudication. It's similar to the City of Las Cruces'
14 LRG-430; is that right?

15 A. Yes.

16 Q. Okay. And this relates to NMSU's water
17 rights?

18 A. Yes.

19 Q. Okay. And taking a look at the first page
20 here that we see on the screen, you see that the
21 purpose of use includes university uses. It also
22 includes supply to the City of Las Cruces; is that
23 right?

24 A. Yes.

25 MS. BARFIELD: By the way, I don't think

1 this is an admitted document, Your Honor. I'd move to
2 admit New Mexico 853.

3 **MR. DRAPER:** Your Honor, we -- we did
4 have an objection to this exhibit because the witness
5 was not familiar with this exhibit until the State of
6 Texas showed it to him at his deposition, so there's
7 not foundation that this witness can answer questions
8 with respect to this document that he has no knowledge
9 of, other than just reading it into the record.

10 **MS. BARFIELD:** May I respond, Your
11 Honor.

12 **JUDGE MELLOY:** You may.

13 **MS. BARFIELD:** The witness just
14 testified he's familiar with the document, and we've
15 also just established that one of the purposes of the
16 use within the document itself includes supply to the
17 City of Las Cruces, and certainly as the water
18 utilities director for the City of Las Cruces for many
19 of the 30 years he worked there, he should be able to
20 talk about it. But at any rate, he admitted knowing
21 the document.

22 **JUDGE MELLOY:** I'll admit 853.

23 **MS. BARFIELD:** Thank you.

24 **Q. (BY MS. BARFIELD)** Can we look at the second
25 page, please? So let's focus on, if we go down for

1 purposes of my tech person to amount of water in 6.
2 All right. This says, "2,890 acre-feet per year is
3 the amount of water placed in the beneficial use as
4 December 31st, 2003." Is that correct?

5 A. That's what it says.

6 Q. Okay. Do you understand that to be true?

7 A. I assume it's true.

8 Q. Well, I don't want you to assume anything.
9 We -- I believe you talked about this at your
10 deposition, as well. You understand that New Mexico
11 State University has certain rights, and there's a
12 beneficial --

13 A. That's correct.

14 Q. -- establish -- I'm sorry. You'll need to
15 let me finish my question or it makes a very difficult
16 time for the court reporter if we talk over each
17 other.

18 JUDGE MELLOY: Finish your question.

19 MS. BARFIELD: Okay.

20 Q. (BY MS. BARFIELD) Let me just ask a different
21 question. Here's -- here's what I'm asking: As of
22 the certain point in time the New Mexico State
23 University had a certain amount of water that it was
24 entitled to beneficially use, and that's stated in
25 this document, can you agree with that?

1 A. Yes.

2 Q. Okay. And you had an understanding, at least
3 when you were utilities director, that there was an
4 additional amount of water that the New Mexico State
5 University would be entitled to use, but they needed
6 to establish the beneficial use or right to; is that
7 right?

8 A. Yes.

9 Q. Okay. In fact, it says here, "New Mexico
10 State University may place to beneficial use up to an
11 additional 8,564 acre-feet per annum." Do you see
12 that?

13 A. Yes.

14 Q. Now, isn't it true that in 2015, the City of
15 Las Cruces assisted New Mexico State University in
16 pumping some of the water under LRG-35?

17 A. In 2015, the City of Las Cruces used a 2007
18 agreement that allowed us to use approximately 4,000
19 acre-feet of the water for emergency purposes. It was
20 a water delivery -- supply and delivery agreement --
21 water sale and delivery agreement, yes, out of LRG-35.

22 Q. Okay. But the use of that 4,000 acre-feet of
23 water, did that not perfect a certain portion of the
24 NMSU rights by the City of Las Cruces pumping that
25 water?

1 **MR. DRAPER:** Objection, Your Honor.
2 She's asking for a legal conclusion with respect to
3 the perfection of a water right. That's a matter of
4 legal opinion.

5 **JUDGE MELLOY:** I'm going to sustain
6 that.

7 **Q. (BY MS. BARFIELD)** Did the City of Las Cruces
8 have any need to pump the 4,000 acres in 2015 that you
9 just referred to?

10 A. Yes.

11 **Q. What was that need?**

12 A. In 2015, knowing that we had this agreement
13 and the availability of this -- as I testified in my
14 deposition, by the way, this -- this agreement was for
15 emergency. In 2015, we had the opportunity to get
16 state funding to be able to replace three wells with
17 one contract in the Valley well field, in the water
18 called the low zone pressure zone. In addition, we
19 had another large well with the stream being repaired
20 so it was a good opportunity to take the state funding
21 and use this agreement to supplement that supply for
22 at least one year and then proceed with the repair of
23 one well and the drilling of the other three wells.

24 **Q. Isn't it actually true that those three**
25 **wells, in 2015, were abandoned?**

1 A. They were -- they were not abandoned. They
2 were -- they were -- production had been reduced quite
3 a bit. One was still pumping some; the other two were
4 pumping very little. When we shut them down and
5 decommissioned them for the -- once we made a decision
6 to -- to use this, the agreement, the agreement to
7 pump that water into the system.

8 **Q. Who was the water charged to?**

9 A. The water charged to? Can you explain that?
10 We had a -- we paid for the price of water to NMSU, if
11 that's what you're asking.

12 **Q. The pumping was charged to New Mexico State**
13 **University, not the City of Las Cruces, even though**
14 **the pumping was for the City of Las Cruces; isn't that**
15 **right?**

16 A. Charged meaning accounting of the water?

17 **Q. Exactly.**

18 A. Yeah. We took -- we took water from a well
19 at the university. The university reported that
20 usage, yes.

21 **Q. At the time when this discussion happened at**
22 **your deposition, and you just mentioned that**
23 **discussion at your deposition a minute ago during this**
24 **testimony, your -- your take on this entire situation**
25 **was that New Mexico State University had an interest**

1 in rights, and because they had a lot of land and they
2 might need a lot of water one day; isn't that right?

3 A. I think that's a true statement. NMSU has a
4 large amount of land that they -- where they planned
5 it using the water rights.

6 Q. Which is why the City of Las Cruces did this
7 pumping in the summer of 2015; isn't that right, too?

8 A. The pumping in 2015, as I said in my
9 deposition, and I'm going to say it again, the pumping
10 in 2015, with a 2007 agreement, was to provide us the
11 additional supply we needed during that time where we
12 drilled three wells, and we were repairing another
13 large well.

14 Q. Okay. So you testified a little while ago
15 that under LRG-430, the City of Las Cruces can pump a
16 certain amount of water, I think it was one of the
17 exhibits that Demonstrative No. 6 showed us that that
18 amount was 21,869 acre-feet per year from the LRG-430
19 wells; is that right?

20 A. Yes.

21 Q. Okay. And that LRG sub-file, it requires the
22 return of effluent, and you described that to us, from
23 the City's pumping, and that water goes to the Jacob
24 Hands plant, and then it goes back, correct?

25 A. That's correct.

1 Q. And LRG-430 defines or includes offsets for
2 depletions associated with pumping of the City of Las
3 Cruces' wells. That's true, right?

4 A. LRG-430 doesn't have any offset requirements,
5 other than returning the effluent when -- when the
6 allotment is less than 2 acre-feet. There's no
7 separate offset requirements.

8 Q. Okay. So you just don't define return of the
9 effluent to the river as an offset; is that what I'm
10 understanding?

11 A. Well, it -- I -- my opinion is that it is an
12 offset, yes.

13 Q. Okay. And there's also other offsets that
14 are imposed on the City of Las Cruces by way of
15 permits, and those permits were shown in Demonstrative
16 No. 6, right?

17 A. That's correct, yes.

18 Q. Okay. And I probably asked a bad question
19 because I ended it with "those permits were shown in
20 Demonstrative No. 6," and you said, "Yes," but I want
21 to make sure I get an answer to the substance of that
22 question, which was: Other offsets are required of
23 the City of Las Cruces pursuant to those permits,
24 right?

25 A. That's correct.

1 **Q. Okay.**

2 **A. The East Mesa wells have a minor amount of**
3 **offsets required.**

4 **Q. Okay. So as you sit here today, you're not**
5 **able to say whether those offsets are adequate to**
6 **protect Texas' apportionment of Project water; is that**
7 **right?**

8 **MR. DRAPER:** I need to object here, Your
9 Honor. This is now asking for a highly technical
10 response from the witness with respect to whether
11 offsets to what degree they may -- they may offset
12 pumping effects, and that is something that is
13 obviously a matter of central concern to the experts
14 in this case and not to this witness.

15 **JUDGE MELLOY:** I'm going to sustain
16 that. Go ahead.

17 **MS. BARFIELD:** I have no further
18 questions, Your Honor.

19 **JUDGE MELLOY:** Ms. Coleman, do you have
20 anything?

21 **MS. COLEMAN:** I do.

22 CROSS-EXAMINATION

23 BY MS. COLEMAN:

24 **Q. Good morning, Mr. Garcia.**

25 **A. Good morning.**

1 Q. So you testified yesterday and a bit with Ms.
2 Barfield today about the water development plan being
3 the first level of planning, and then today you
4 explained are three layers of planning, right?

5 A. Yes.

6 Q. And that was the 40-year plan, the 20-year
7 plan, and the 5-year capital improvement plan, right?

8 A. Yes.

9 Q. And then there's also the 10-year action plan
10 in addition to that; is that right?

11 A. The 10-year action plan is sort of a subset
12 of the 40-year water plan and the specific actions
13 that need to be taken. For example, I mentioned the
14 drought indicator, water quality indicators. Those
15 are two examples of what the action plan is.

16 Q. And that's different from the water
17 conservation plan?

18 A. Yes.

19 Q. And that's another 10-year plan; is that
20 right?

21 A. It's updated every ten years.

22 Q. Updated?

23 A. Yeah.

24 Q. So currently are all of these different plans
25 we've just been talking about in the process of being

1 updated?

2 A. Let me see. The water conservation plan is
3 being updated as we speak, and I understand there will
4 -- should be a 2022 standalone new water conservation
5 plan.

6 Q. Okay. And you're working as a consultant for
7 the City currently, right?

8 A. Yes.

9 Q. Are you consulting on any of these planning
10 efforts?

11 A. I -- I -- I'm working for the City as a
12 consultant for this proceeding through the city
13 utility attorney, the water rights attorney. I have a
14 separate contract with a utility for water system
15 training, which I'm doing with the engineers, and some
16 other elements. I have not been provided any drafts
17 or documents from other -- the ten-year action plan or
18 any other plans. But you're asking the scope. Yes,
19 they could ask me to review future plans if under the
20 scope of that other agreement.

21 Q. Okay. So you've been testifying about
22 LRG-430 in that sub-file order. Now, the sub-file
23 order issued in 2005; is that right?

24 A. Yes.

25 Q. Okay. And as utilities director, were you

1 involved in the process that led to that sub-file
2 order?

3 A. Well, yes. I worked with the water rights
4 attorney, provided information. There's a lot of
5 system information. Yes, I was involved.

6 Q. And that sub-file order adopts a signed offer
7 of judgment made by the state engineer to the City of
8 Las Cruces; is that right?

9 A. Yes.

10 Q. Okay. So it's the result of negotiation;
11 that's right?

12 A. That's correct, yeah.

13 Q. Okay. So we saw that LRG-430 has a priority
14 date of 1905. Remember that?

15 A. Yes.

16 Q. Okay. And what is that based on?

17 A. I believe it was based on some historical
18 research done by our historian in a document provided
19 to the state engineer through the attorney's office.

20 Q. And in your capacity as utilities director,
21 did you have responsibility for supervising litigation
22 on behalf of the city for water rights issues?

23 A. Yes and no. The contract attorneys work for
24 the city attorney's office, but I was very involved in
25 providing data, providing information they need, and

1 all that. So it's -- it's the support, but
2 technically, the contract attorneys work for the city
3 attorney's office.

4 **Q. So was there litigation over that sub-file**
5 **order?**

6 A. If you're referring to the -- the
7 adjudication litigation, yeah, but not -- not -- I
8 don't -- I don't -- I'm not aware of any other
9 litigation individually for that order itself.

10 **Q. So when Mr. Draper said that the 1905 date**
11 **was, quote, awarded to the City, he just means that**
12 **the court adopted the agreement between CLC, the City**
13 **of Las Cruces, and the state engineer, right?**

14 A. I -- I don't know what the state engineer --
15 I believe the state engineer relied on the historical
16 information provided of the city's water use back to
17 1905 to make the decision and award that grant --
18 grant that date.

19 **Q. Okay. So we saw on the sub-file order that**
20 **the amount is 21,869 acre-feet, right?**

21 A. Yes.

22 **Q. What's that number based on?**

23 A. I believe that number was based on the -- on
24 the pumping -- the capacity of the existing wells and
25 the projections of those -- the pumping of those wells

1 prior to the declaration of the basin. And that was
2 slightly before my time so that's what I hear that
3 that was the case.

4 Q. So that would be the -- it's your
5 understanding that it's based on the amount of pumping
6 as of around 1980?

7 A. I believe so, yes.

8 Q. But you would agree that 21,869 acre-feet
9 does not reflect the amount of pumping that was
10 occurring in 1905, right?

11 MR. DRAPER: Your Honor, this is asking
12 -- I'm -- if I may object here to historical
13 questioning that is beyond the -- beyond the
14 experience of this witness and is requesting evidence
15 that's not in -- not in the record by this witness.

16 JUDGE MELLOY: Well, he has testified
17 that he's provided data so based upon his analysis of
18 the data that he gave input on, I'll let him testify.

19 A. The data -- just to clarify. The data I
20 provided for this was the -- the well locations and
21 the pumping of those wells, but this is not prior to
22 1980, so -- so -- and then the historical record so I
23 am not aware of the individual wells prior to '80.
24 Both submissions were done by two utilities directors
25 before me and so I'm not -- when I said I provided

1 data, I said I provided data that -- of the system
2 that the state engineer needed in that sub-file order.
3 For example, the order has the locations of the
4 LRG-430 wells that are in that order. Well, most
5 likely my staff got those coordinates and provided
6 that data. So a lot of the data in that order is
7 provided -- was provided through the attorneys by my
8 office.

9 Q. (BY MS. BARFIELD) Okay. So you had a role
10 supervising and doing review of the 40-year plan,
11 right?

12 A. Yes. With my staff, but yes.

13 Q. And there was modeling involved in that plan,
14 right?

15 A. I believe that Shomaker did some modeling,
16 but there's no -- they may have done some -- used an
17 existing model, but I don't believe the scope of work
18 had comprehensive modeling, no.

19 Q. But that modeling did look at historical
20 pumping in the -- in the basin, right?

21 A. I assume if they modeled, they looked at
22 historical, but I cannot certify that they modeled or
23 they used just an existing model.

24 Q. Okay. So the water -- the 40-year plan we've
25 been talking about issued in April, 2017; is that

1 right?

2 A. Yes.

3 Q. And at the time that this plan was developed,
4 the City was assuming that the Project's priority date
5 was 1906, right?

6 A. I'm not sure.

7 Q. Okay. But at the same time in April, 2017,
8 the Project was adjudicated a 1903 date. Are you
9 aware of that?

10 A. Yes.

11 Q. Okay. So are you aware of -- let me withdraw
12 that.

13 After the Project priority date was
14 adjudicated a 1903 date, did the state engineer
15 approach the City of Las Cruces to discuss the offset
16 requirement for LRG-430?

17 A. Not that I'm aware of.

18 Q. And was that 1903 priority date a factor that
19 the City considered after 2017 in its planning
20 efforts?

21 A. I don't believe that's explicitly indicated
22 in the plan. It may be. But we were aware of that --
23 of that priority, yes.

24 Q. Okay. And has this litigation -- has this
25 litigation factored into the City's planning efforts

1 **since 2017?**

2 A. Yes. Certainly, yes. It's a -- I think
3 there's a statement in the 40-year water plan
4 alternatives, and there's a paragraph there on the
5 concerns about -- about the litigation, yes.

6 Q. Okay. Let's go to -- back to that water
7 plan, New Mexico Exhibit 2492.

8 JUDGE MELLOY: Ms. Coleman, maybe this
9 would be a good time -- if you're switching subjects
10 here a little bit, maybe this would be a good time to
11 take a break. Why don't we break until 1:15. All
12 right? Thank you, everyone.

13 MS. COLEMAN: Okay. Thank you.

14 (Recess.)

15 JUDGE MELLOY: All right. Are we ready
16 to go? Ms. Coleman, you may proceed.

17 MS. COLEMAN: Yes. Sorry. The -- we
18 didn't get a notice to leave the breakout room.
19 Apologize for the delay a minute.

20 Q. (BY MS. COLEMAN) Okay. So we're going to
21 pull up New Mexico Exhibit 2492 at Page 42. Okay.
22 And this is -- this is still on the 40-year plan. So
23 we see there in -- in the top paragraph, "As indicated
24 in the LRG-430 sub-file order, Las Cruces is not to
25 consumptively use the treated effluent derived from

1 the wells in periods of drought in which the EBID
2 allotment is less than 2 acre-feet per acre." You
3 described this earlier as an offset, yes?

4 A. I believe so.

5 Q. Okay. Now -- but you were saying that the
6 effluent discharged to the -- the effluent is
7 discharged to the river, you know, all the time,
8 regardless of this condition, right?

9 A. That is correct. We don't -- the City does
10 not have a -- a reclamation facility other than the
11 one on the East Mesa, so the wastewater goes back to
12 the river.

13 Q. And isn't it true that this effluent that's
14 discharged outside of periods of drought is used as
15 the offset for other wells that the City operates?

16 A. I believe it could, but we are not -- we --
17 other than the minor offset of the East Mesa well,
18 there's no other offset requirements right now.

19 Q. Right now. And so you -- I believe that we
20 also saw on that list the LRG-3275 series, that's the
21 West Mesa well fields?

22 A. Yes.

23 Q. Is that right? And those haven't been
24 drilled, right?

25 A. No.

1 Q. But they have a permitted amount of 8,000
2 acre-feet; is that correct?

3 A. Yes.

4 Q. What's that 8,000 acre-feet number based on?

5 A. That was the application for 8,000 acre-feet.

6 Q. Okay. And that has an offset requirement
7 that you would meet through the effluent that's
8 already being discharged into the stream; is that
9 right?

10 A. Or other water rights.

11 Q. Or other water rights?

12 A. Yeah.

13 Q. What other water rights are you discharging
14 into the stream?

15 A. Yeah. You have to offset 8,000 acre-feet,
16 whether it's in, I believe, the language in the -- in
17 the permit says that you could use wastewater or
18 retire other rights, but it needs to be offset.

19 Q. So is there any practical effect of this
20 provision that -- in the LRG-430 right that you can't
21 consumptively use the treated effluent when the
22 allotment is less than 2 acre-feet per acre?

23 A. Well, the practical effect is that,
24 especially if the allotment is -- is less than 2
25 acre-feet for a period of time, you're not -- you

1 don't -- you cannot re -- you don't make plans to
2 reuse the water and put a tertiary plant or a
3 secondary plant like we have in the East Mesa. So the
4 practical effect is you just discharge to the river.

5 Q. Right. So the only use that stops in those
6 less than 2 acre-feet per acre years is the small
7 amount that goes to the Reclamation plant and the
8 small off -- the ability to use it as an offset for
9 the East Mesa; is that right?

10 A. That -- that is correct, yeah.

11 Q. Okay. So we see in the second paragraph on
12 there, the 25 wells currently in service in the
13 valley, one paragraph up from there. So you see the
14 25 wells currently in service in the Valley were
15 completed between 1953 and 2012. Are you aware of any
16 wells in the Valley that were completed prior to 1953?

17 A. I'm not aware that there are still existing
18 any wells prior to '53.

19 Q. So the state engineer gave you a judgment of
20 a 1905 priority date and 21,869 acre-feet based on
21 wells that date back to 1953 at the earliest?

22 MR. DRAPER: Your Honor, this is asking
23 for a legal interpretation of a court order and is
24 beyond the -- beyond the scope of the direct
25 testimony, as well.

1 **JUDGE MELLOY:** I'll sustain that on the
2 legal conclusion. I'm not sure it's beyond the scope,
3 but I think this is asking for a legal conclusion as
4 to what the state attorney general thought or did.

5 **MS. COLEMAN:** Okay. Thank you. We'll
6 move on.

7 **Q.** **(BY MS. COLEMAN)** All right. Let's go to New
8 Mexico Exhibit 2492 at 37. This is what you used in
9 -- it was your Demonstrative 6. Okay. So we see here
10 that, as you testified, this 51,179 acre-feet per year
11 of groundwater rights and permits, of which you use
12 about 21,000 a year, give or take, right?

13 **A.** Correct.

14 **Q.** So you have about 30,000 acre-feet of unused
15 permitted water rights, correct?

16 **A.** Correct.

17 **Q.** Okay. And that -- and you have acquired that
18 many water rights based on population projections; is
19 that right?

20 **A.** Yeah. Partially, yes.

21 **Q.** All right. Okay. So when you did the 2017
22 plan, there were different population projection
23 scenarios, right, high, medium, and low population
24 projections; is that right?

25 **A.** That's correct.

1 Q. Okay. And you testified yesterday that the
2 City's population is about 111,000 or so currently; is
3 that right?

4 A. That's correct.

5 Q. Okay. Where does that fall in the projected
6 -- population projections?

7 A. It's in the low -- actually, a little under
8 the low at this time, yes.

9 Q. Okay. So the City planning to -- well, let
10 me ask this: Can the City sell any of that 30,000
11 additional acre-feet that it's on its water rights?

12 MR. DRAPER: Objection. This is a legal
13 question, whether the City can sell water rights
14 legally. It's asking for a legal conclusion.

15 JUDGE MELLOY: Well, I'll let him
16 answer. As the city utilities director, he had
17 testified about acquiring these rights and so I think
18 testimony about selling them would be fair game. Go
19 ahead.

20 A. I don't know. I assume the City could sell
21 the rights, but it would be subject to state engineer
22 approval and the protest process and all that.

23 Q. (BY MS. COLEMAN) Okay.

24 A. I don't -- I'm not saying that they will or
25 they will not. I can't speak for the City.

1 Q. Okay. Now, you -- so the City owns some
2 water-righted acres in EBID that we talked about,
3 right?

4 A. Yes.

5 Q. Are those leased out?

6 A. There is -- there are two parcels that are
7 being leased right now.

8 Q. And are they leased for agricultural use?

9 A. Yes.

10 Q. Are there -- are there pumps on those
11 parcels?

12 A. I -- I know there is a ground -- groundwater
13 rights associated with those two parcels. I can't
14 speak for pumps being there. I haven't been involved
15 in those leases.

16 Q. Okay. One more document to look at. Let's
17 look at New Mexico Exhibit 956 at 73. This is the
18 water conservation plan you were talking about with
19 Mr. Draper. Let's go to Page 104. Okay. So under
20 Heading 3 there, we see, "The Lower Rio Grande Basin
21 surface water supply and most of the groundwater
22 supply is fully or over appropriated." Can you tell
23 me what that sentence means?

24 A. It means that all the waters in the basins
25 are fully appropriated. I don't know what over

1 appropriated is.

2 Q. Well, you reviewed this plan, right?

3 A. Yes. I believe -- I believe I reviewed this.
4 This is the water conservation plan, but I probably
5 reviewed it before submittal, yes.

6 Q. Does this -- well, as utilities director, did
7 you interpret this part of the plan to mean that there
8 were no more water rights the City could acquire in
9 the Mesilla Basin?

10 A. That's correct.

11 MS. COLEMAN: That's all I have.

12 JUDGE MELLOY: Mr. Draper, any redirect?

13 MR. DRAPER: Yes, Your Honor, a couple
14 of questions if I may.

15 JUDGE MELLOY: Go ahead.

16 REDIRECT EXAMINATION

17 BY MR. DRAPER:

18 Q. Dr. Garcia, on the -- during your
19 cross-examination, you were asked whether the City
20 took any steps to manage or address the groundwater
21 declines that were thought to be caused by the
22 operating agreement. Isn't it true that you are aware
23 that the City had joined in the original lawsuit
24 challenging the operating agreement in Federal
25 District Court?

1 A. That's correct.

2 Q. You were also asked during cross whether, to
3 your knowledge, all of the water in the river was
4 Project water. Isn't it true that you were aware that
5 there are certain Project -- pre-Project rights with
6 earlier Project priorities with rights to water in the
7 river?

8 A. That's correct.

9 **MR. DRAPER:** I have no further
10 questions, Your Honor. I believe you're on mute.

11 **JUDGE MELLOY:** I didn't give you a
12 chance, Mr. Hartman. Do you have anything you want to
13 -- have any questions you have?

14 **MR. HARTMAN:** Thank you, Your Honor. I
15 have no questions.

16 **JUDGE MELLOY:** All right. Ms. Barfield,
17 anything further?

18 **MS. BARFIELD:** No, Your Honor.

19 **JUDGE MELLOY:** Ms. Coleman?

20 **MS. COLEMAN:** No, Your Honor.

21 **JUDGE MELLOY:** All right. Then
22 Dr. Garcia, you're excused. I appreciate your
23 testimony. You're free to go. Thank you.

24 We'll take five minutes, let everybody
25 get resituated. And our next witness, as I understand

1 it, will be Scott Eschenbrenner; is that correct?

2 **MR. DRAPER:** That's correct, Your Honor.

3 **JUDGE MELLOY:** We'll take five minutes
4 and let -- get Mr. Eschenbrenner lined up. Thank you.

5 **MR. DRAPER:** Thank you.

6 (Recess.)

7 **JUDGE MELLOY:** All right. Looks like we
8 have everyone back. Let me ask that we enter
9 appearances for this section session since it looks
10 like just about every chair has been replaced here.
11 Mr. Deitchman, you can start for Texas.

12 **MR. DEITCHMAN:** Good afternoon.
13 Rich Deitchman for Texas.

14 **JUDGE MELLOY:** For New Mexico?

15 **MS. BARELA:** Susan Barela for the State
16 of New Mexico, Your Honor.

17 **JUDGE MELLOY:** For the United States?

18 **MS. NAJJAR:** Jennifer Najjar for the
19 United States.

20 **JUDGE MELLOY:** I'm getting a little
21 feedback on your microphone, Ms. Najjar. Might want
22 to check that. Mr. Wallace I see for Colorado.

23 **MR. WALLACE:** Yes, good afternoon, Your
24 Honor.

25 **JUDGE MELLOY:** Okay. New Mexico may

1 call its next witness. Ms. Barela?

2 **MS. BARELA:** Thank you, Your Honor. New
3 Mexico calls Mr. Scott Eschenbrenner.

4 **JUDGE MELLOY:** Mr. Eschenbrenner, I need
5 to swear you as a witness. Will you raise your right
6 hand, please? Mr. Eschenbrenner, can you hear me?

7 **THE WITNESS:** Yes. Can you hear me?

8 **JUDGE MELLOY:** My screen was frozen
9 there for a second. Okay. Do you swear or affirm the
10 testimony you're about to give will be the truth, the
11 whole truth, and nothing but the truth?

12 **THE WITNESS:** I do.

13 **JUDGE MELLOY:** Mr. Eschenbrenner, I need
14 to go over a couple of the ground rules with you that
15 we've reviewed with each of the witnesses. First, let
16 me ask you: Is there anyone in the room with you at
17 the -- during your testimony?

18 **THE WITNESS:** No, Your Honor.

19 **JUDGE MELLOY:** Do you have any documents
20 available to you other than the exhibit books?

21 **THE WITNESS:** No, Your Honor.

22 **JUDGE MELLOY:** I need to advise you that
23 you're not allowed to have any communication devices
24 available to you during your testimony, including
25 iPads, iPhones, laptops with texting, e-mail

1 capability, or anything of that nature. Do you
2 understand?

3 THE WITNESS: Yes, Your Honor.

4 JUDGE MELLOY: All right. And before we
5 start the examination, let me just indicate for
6 Mr. Eschenbrenner's testimony, it does not appear that
7 any of the exhibits are A exhibits. They're all
8 objected to; is that correct, as far as everyone
9 knows?

10 MS. NAJJAR: Yes, Your Honor.

11 MR. DEITCHMAN: That's correct, Your
12 Honor.

13 MS. BARELA: That's correct, Your Honor.
14 I will add that New Mexico 0853 was admitted just now
15 with Dr. Garcia's testimony. New Mexico 0853.

16 JUDGE MELLOY: All right. I'll show
17 that 0853 has been admitted.

18 MS. BARELA: Thank you, Your Honor.

19 JUDGE MELLOY: All right. Ms. Barela,
20 you may proceed.

21 MS. NAJJAR: Your Honor, before we get
22 started here, the United States would like to assert a
23 standing objection to Mr. Eschenbrenner's testimony,
24 which I can state now for the record if you'd like.

25 JUDGE MELLOY: Go ahead.

1 **MS. NAJJAR:** New Mexico declined to
2 disclose Mr. Eschenbrenner as an expert, a retained
3 expert or a nonretained expert witness, yet as
4 described in New Mexico's September 23rd, 2021, filing
5 regarding the anticipated order of witnesses, which is
6 Docket 599, Page 4, New Mexico now seeks to elicit
7 testimony from Mr. Eschenbrenner about New Mexico
8 State University's economic impacts in the region,
9 economic value, and impacts of agriculture in the
10 Lower Rio Grande and New Mexico and impacts of the
11 2008 Operating Agreement on surface water supply. On
12 its face, this testimony requires expert opinion.
13 Economic and hydrologic evaluations of this magnitude
14 and geographic scope, the entire Lower Rio Grande and
15 state of New Mexico, plainly requires specialized
16 knowledge beyond that of an ordinary person.
17 Accordingly, the United States requests the testimony
18 proffered by Mr. Eschenbrenner is limited to what is
19 rationally based on his profession.

20 **MR. DEITCHMAN:** And, Your Honor, the
21 State of Texas joins that objection. This is the
22 second attempt here by New Mexico to elicit expert
23 testimony from a fact witness who was never disclosed
24 as an expert, so we join that objection.

25 **JUDGE MELLOY:** Ms. Barela, do you have

1 any response?

2 **MS. BARELA:** Yes, Your Honor. This is,
3 in fact, not a first attempt nor a second attempt to
4 offer a fact witness as an expert testimony. New
5 Mexico has never identified Mr. Eschenbrenner as an
6 expert or nonretained expert. We have entirely always
7 claimed that he is a fact witness, and this goes
8 specifically to Your Honor's question of whether
9 there's still an issue with pre-project water rights.
10 New Mexico State University has both pre-project
11 rights and post-1903 rights, and it is critical to
12 include these uses as a part of the record.
13 Mr. Eschenbrenner's testimony will lay the foundation
14 and show the history of 130 years of water use and
15 development by the university and so we ask Your Honor
16 to allow testimony -- factual testimony from
17 Mr. Eschenbrenner as a representative of New Mexico
18 State University.

19 **MR. DEITCHMAN:** And, Your Honor, I mean,
20 we have not objected to generally testimony regarding
21 New Mexico State University. The issue here is, as
22 Ms. Najjar laid out, he's listed as providing
23 testimony on the economic value and impacts of
24 agriculture in the LRG and New Mexico, which is
25 plainly expert testimony, and extremely similar to

1 what you heard yesterday from Mr. Carrasco.

2 **JUDGE MELLOY:** Well, I think we're
3 basically going to be pretty much handling
4 Mr. Eschenbrenner as we did Mr. Carrasco. He can
5 testify, and he can certainly testify about the
6 university and its activities and things of which he
7 has personal knowledge or has knowledge through his
8 research and study of the university, but he's not
9 been disclosed nor can he testify as an expert at this
10 point.

11 Let me ask you one thing, Ms. Barela. I
12 haven't gone back and studied the -- the witness list
13 or who we may be calling in the spring. Do you have
14 an economist that you have disclosed that will be
15 talking about economic impacts in the spring?

16 **MS. BARELA:** Your Honor, we -- I'm being
17 told that we are going to be offering economic
18 evidence in the spring.

19 **MR. DEITCHMAN:** Your Honor, as far as
20 disclosed experts, though, the only economist that New
21 Mexico has offered is Dr. Dana Hoag, who merely
22 provided a rebuttal to the expert report of Dr. David
23 Sunding, who is the expert for Texas. So in that
24 case, I would renew Motion in Limine 3 that Texas
25 filed, which was a motion to exclude evidence of

1 damages at trial by the State of New Mexico because
2 they did not offer an expert witness who would
3 describe those damages. It was merely a rebuttal to
4 Texas' report.

5 **JUDGE MELLOY:** Well, we'll take that up
6 in the spring. I'm not going to get into that now.

7 Go ahead, Ms. Barela. You may begin.

8 **MS. BARELA:** Thank you, Your Honor.

9 SCOTT ESCHENBRENNER,
10 having been first duly sworn, testified as follows:

11 DIRECT EXAMINATION

12 BY MS. BARELA:

13 **Q. Good afternoon, Mr. Eschenbrenner?**

14 **A. Hello. Good afternoon.**

15 **JUDGE MELLOY:** Excuse me a second.
16 Mr. Eschenbrenner, would you pull the microphone a
17 little closer? That's not real -- need a little more
18 volume. Thank you.

19 **Q. (BY MS. BARELA) Mr. Eschenbrenner, what is**
20 **your current professional position?**

21 **A. I'm special assistant to the president of New**
22 **Mexico State University, and I'm also president of**
23 **Aggie Development Incorporated.**

24 **Q. Where is New Mexico State University located?**

25 **A. We're located in Las Cruces, New Mexico.**

1 **Q. What are your responsibilities as special**
2 **assistant to the president?**

3 A. I manage the real estate assets for the
4 university as well as the water assets, as well.

5 **Q. And you mentioned Aggie Development**
6 **Incorporated. What is Aggie Development?**

7 A. Aggie Development is a 501C3 not for profit
8 that was established by the university about seven
9 years ago with the intention of developing our
10 underutilized land resources.

11 **Q. What is your role as president of Aggie**
12 **Development?**

13 A. Basically, oversee the day-to-day operations
14 of the organization. I'm also responsible for
15 reporting to our board, our board of directors.

16 **Q. I'd like to learn a little bit more about**
17 **your background and so let's go into your background a**
18 **little bit. Where did you go to college?**

19 A. I went to Texas State University.

20 **Q. Did you earn any undergraduate degrees?**

21 A. Yes, I did.

22 **Q. What year did you graduate?**

23 A. In 1986.

24 **Q. Mr. Eschenbrenner, do you have any additional**
25 **accreditation?**

1 A. I'm also a member of the Appraisal Institute,
2 and I'm also a general certified real estate appraiser
3 in the State of New Mexico.

4 **Q. When did you first begin working for New**
5 **Mexico State University?**

6 A. In June of 2015.

7 **Q. Have you worked there since 2015?**

8 A. Yes, I have.

9 **Q. Other than assistant to the president and**
10 **your role as president of Aggie Development, have you**
11 **had any other positions with the university?**

12 A. No, I haven't.

13 **Q. Prior to NMSU, what employment did you have**
14 **before working for the university?**

15 A. Before coming to the university, I was a real
16 estate appraiser from 1986 to -- to 1995 in El Paso,
17 and I started my own practice in Las Cruces in 1995
18 and operated that all the way to 2015, when I started
19 for the university.

20 **Q. Did you do any work appraising irrigated**
21 **land?**

22 A. Yes, I did.

23 **Q. Including any lands within the Lower Rio**
24 **Grande within New Mexico?**

25 A. Yes.

1 **Q. Now, I'd like to ask you a few questions**
2 **about your work as special assistant to the president**
3 **of NMSU. I assume you report to the president; is**
4 **that correct?**

5 A. Well, the title still remains the same
6 special assistant to the president, but we've had a
7 change in our administration about three-and-a-half
8 years ago, and we now have separate duties that are by
9 the president and the chancellor that run the
10 university system. I actually now report to the vice
11 chancellor and the chancellor of the university.

12 **Q. How about in your capacity of president of**
13 **Aggie Development, who do you report to?**

14 A. Aggie Development has a board of directors.
15 The chair of the board is the chancellor of the
16 university. We also have two of the five board of
17 regents members on that board, as well as the CFO from
18 the university and the dean of college of agriculture
19 and consumer environmental science. We refer to it as
20 A CES, and then there's four community members on that
21 board, as well.

22 **Q. What role do you play with respect to the**
23 **university's water rights and use of water?**

24 A. Primarily, my responsibility is to monitor
25 the water rights and the current activities in the

1 Lower Rio Grande Basin. Also responsible for
2 overseeing those in the rest of the state to at our
3 other ag experiment stations, but it's primarily to
4 provide information to our senior leadership and our
5 board of regents, as well.

6 **Q. Are you involved with any water-related**
7 **organizations?**

8 A. Through my employment with New Mexico State
9 University, we're a party to the Lower Rio Grande
10 Water Users Group.

11 **Q. I'll ask you more in a bit about the Lower**
12 **Rio Grande Water Users. Turning to the university**
13 **status in the Lower Rio Grande Basin and role as water**
14 **user and provider, I'd like to ask you some background**
15 **questions about the university. When was NMSU**
16 **founded?**

17 A. In 1888.

18 **Q. When the university was founded in 1888, what**
19 **was its mission?**

20 A. The mission primarily focused on education,
21 research, and extension.

22 **Q. Mr. Eschenbrenner, can you expand on**
23 **extension? What is extension?**

24 A. Well, extension is our outreach to our
25 community. We have an office in every county in the

1 State of New Mexico. We try -- we provide information
2 to those community members in those areas. We provide
3 information on the research that university has done
4 over the years. We also help with agriculture-related
5 issues, 4H programs. We're also -- one of our main
6 functions is to provide educational nutrition, and
7 it's targeted for those individual areas throughout
8 the -- throughout the state.

9 **Q. Does that mission continue to this day?**

10 A. Yes, it does.

11 **Q. What academic programs does the university**
12 **offer?**

13 A. We offer the Department of Agriculture, an
14 agriculture degree. We have a business degree, arts
15 and sciences, and we have a social -- social services
16 and education, have an engineering degree. We have a
17 graduate program and an honors program.

18 **Q. I'd like to turn to the first exhibit,**
19 **Exhibit New Mexico 0857, entitled, "Economic and**
20 **Functional Impact," dated September 2018. Do you**
21 **recognize this document?**

22 A. Yes, I do.

23 **Q. What is it?**

24 A. It's a report put out by the College of ACES.
25 It's reporting on the economic impact of agricultural

1 and environmental sciences, also the agricultural
2 experiment station system, and cooperative extension
3 services.

4 **Q. Is this kept in the regular course of**
5 **business of the university?**

6 **A. Yes, it is.**

7 **MS. BARELA:** Your Honor, at this time, I
8 would like to move the admission of New Mexico's
9 Exhibit NM-0857.

10 **JUDGE MELLOY:** Any objection?

11 **MS. NAJJAR:** Foundation, relevance.

12 **MR. DEITCHMAN:** Texas joins that
13 objection. Further, to the extent it provides
14 economic analysis, it's outside the scope of the fact
15 witness' testimony.

16 **JUDGE MELLOY:** Well, I think the
17 relevance --

18 **MS. NAJJAR:** Your Honor --

19 **JUDGE MELLOY:** -- is somewhat marginal,
20 but I'll admit 857. I believe foundation is laid as a
21 business record, so I'll admit 857.

22 **MS. BARELA:** Thank you, Your Honor.

23 **Q. (BY MS. BARELA) Turning your attention to**
24 **Page New Mexico 0857-0004 of this exhibit, you see the**
25 **executive summary there. What does this diagram in**

1 **that first page show?**

2 A. Diagram is basically mirroring our original
3 founding, which -- which is College of ACES is focused
4 on academics, research, and extension.

5 **Q. How does the university through the College**
6 **of Agriculture carry out those three core elements?**

7 A. If we could -- well --

8 **MS. BARELA:** And if we could highlight
9 those three bullet points on the bottom there, April,
10 thank you.

11 A. Thank you. It's providing R&D based
12 innovations and practice recommendations that enhance
13 productivity across agricultural and associated
14 industrial value-chains. It's solving specific
15 problems and challenges identified by producers,
16 industry, and key stakeholders, and it's assuring a
17 safe and secure domestically produced food supply.

18 **Q. (BY MS. BARELA) I'd like to turn your**
19 **attention to the next page, Page 5, Figure 12, "The**
20 **functional impact of ACES." What impacts does the**
21 **university seek to achieve by implementing these three**
22 **core elements?**

23 A. The core focus is on education and training,
24 food and fiber, agriculture and associated industries,
25 water resources, natural resources and environmental

1 stewardship, youth, family, and health.

2 Q. How important is agriculture to the
3 university's mission?

4 A. It's critical to our mission.

5 Q. Does the university's mission include
6 promoting agriculture in the Lower Rio Grande Valley
7 of New Mexico?

8 A. Yes, it does.

9 Q. How does the university promote agriculture
10 in the LRG?

11 A. Well, we do it through -- obviously through
12 our education, training of our students. We utilize
13 our ag research centers for that purpose. We also use
14 our ag research centers for research, as well, and --
15 and then we take this research and this information
16 and provide it in extension services, as well, so all
17 three are focused in -- in the LRG, as well as the
18 state of New Mexico.

19 Q. If we could turn to Page 6, I'd like to refer
20 you to Figure ES-2 Case Studies. What does this
21 diagram show?

22 A. This diagram is just showing just six of
23 probably over 70 examples of agricultural impacts in
24 New Mexico through -- through ACES involvement. It's
25 basically a positive investment of over \$190 million

1 for New Mexico annually.

2 **MR. DEITCHMAN:** Your Honor, objection.
3 He's providing testimony regarding agricultural
4 impacts to the State of New Mexico. The relevance to
5 the Lower Rio Grande has not been established, and the
6 relevance to this lawsuit has not been established nor
7 is the witness an expert.

8 **MS. NAJJAR:** The fact that the witness
9 compared the rest of this case study does not mean
10 they're qualified to attest to the validity of the
11 underlying contents.

12 **JUDGE MELLOY:** I'll let him testify
13 generally about the activities of the university
14 impact on the state. You know, I'm not -- granted, it
15 doesn't break it out in the Lower Rio Grande, but I
16 think the witness can generally testify about what the
17 university does. Go ahead.

18 **MS. BARELA:** Thank you, Your Honor.

19 **Q. (BY MS. BARELA)** Mr. Eschenbrenner, did you
20 have anything more to say on this diagram?

21 **A.** No, Ms. Barela, I think that's all.

22 **Q.** Thank you. I was just making sure. I would
23 like to turn over to Page 9, Table ES-1 of the
24 executive summary. What does this table show?

25 **A.** This table is also study done by ACES to

1 determine increase in agricultural output through the
2 research and work that NMSU does. It basically is --
3 is showing that for a 1 percent increase of total
4 economic output impact is about \$54 million. Labor
5 income generated for New Mexicans would be almost 15.2
6 million for an additional 1 percent increase, and 531
7 jobs would be created in the state by just a 1 percent
8 additional output.

9 **Q. Similarly, please turn to the next page, Page**
10 **10. Do you see Figure ES-5, "Components of the**
11 **Economic Impact of Institutional Expenditures"?**

12 A. Yes, I do.

13 **Q. What does this diagram show?**

14 A. This diagram is showing the direct impacts
15 plus indirect impacts and induced impacts equals the
16 total impact. I really think what's significant here
17 is just an example of what ACES academic programs,
18 experiment station, and extension in '16 and '17, we
19 spent over 71 million dollars and employed 742
20 full-time personnel to deliver that mission.

21 **Q. I'd like to move on from this exhibit and**
22 **move onto Exhibit New Mexico 0854. This exhibit is**
23 **entitled, "College of Agricultural Consumer and**
24 **Environmental Sciences Strategic Plan or ACES**
25 **Strategic Plan." Mr. Eschenbrenner, do you recognize**

1 **this document?**

2 A. Yes, I do.

3 **Q. What is it?**

4 A. It's the strategic plan for the College of
5 ACES for 2020 through 2025.

6 **Q. Is this kept in the regular course of**
7 **business of New Mexico State University?**

8 A. Yes, it is.

9 **MS. BARELA:** Your Honor, at this time,
10 New Mexico moves its admission, New Mexico 0854.

11 **JUDGE MELLOY:** Any objection?

12 **MR. DEITCHMAN:** Texas objects to
13 relevance.

14 **MS. NAJJAR:** The United States joins the
15 objection.

16 **JUDGE MELLOY:** I guess I'm having a
17 little trouble. What is the relevance of this to
18 water use of the Lower Rio Grande?

19 **MS. BARELA:** Your Honor, the purpose of
20 this testimony is to lay the foundation and show the
21 importance of agriculture and water use to the mission
22 of the university.

23 **JUDGE MELLOY:** But, again, what does
24 that have to do with the issues that are before us? I
25 guess I'm having a little trouble connecting the dots

1 of how -- I mean, I know what a land grant university
2 is. We have Iowa State University here. I know that
3 their mission is to study and promote agriculture, but
4 I guess I don't understand what this has to do with --
5 with -- with the issues that we're trying to decide
6 here.

7 **MS. BARELA:** Yes, Your Honor.
8 Mr. Eschenbrenner, again, is just laying the
9 foundation for the importance of agriculture and water
10 to the university's mission. We only have a few
11 questions on this document, similar to the other ACES
12 exhibit.

13 **JUDGE MELLOY:** All right. Well -- all
14 right. I'll admit 854, but I -- I guess I'm really
15 having trouble understanding this whole line -- the
16 whole issue of -- of the university in this case, but
17 -- but go ahead.

18 **MS. BARELA:** Thank you, Your Honor.

19 **Q. (BY MS. BARELA) Beginning on Page 8,**
20 **Objective 2.2, but continuing onto Page 10, please**
21 **take a look at the strategic priorities. What does**
22 **Objective 2.2 indicate?**

23 A. Objective 2.2 addresses the critical water
24 use and conservation issues in New Mexico and beyond
25 using the science-based approach.

1 **Q. Which of the stated actions relate to**
2 **sustainability and conservation of water?**

3 A. Well, I've highlight -- I'd like to highlight
4 four of these here. One is, "Advance our
5 understanding of impacts of using alternative water
6 sources for irrigated agriculture, characterize
7 groundwater or surface water resources to understand
8 water availability, discover requirements for water
9 resource sustainability within the fragile environment
10 of semi-arid systems, and optimize agricultural water
11 resources including ground and surface water through
12 water allocation, water conservation, and water
13 management to provide safe and secure food systems
14 while ensuring ecosystem services."

15 **Q. Does the university operate any farms in New**
16 **Mexico?**

17 A. Yes, we do.

18 **Q. How about --**

19 A. I'm sorry. I was just going to state that we
20 have 12 ag research science centers throughout the
21 state of New Mexico.

22 **Q. Thank you, Mr. Eschenbrenner. And I'm sorry.**
23 **I didn't mean to interrupt. How about in the Lower**
24 **Rio Grande, what experimental farming facilities does**
25 **the university have?**

1 A. Well, just north of Las Cruces, we have the
2 60,000 acre Chihuahuan Desert Range Research Center.
3 On our main campus, we have research plots. On the
4 main campus, we also have the Fabian Garcia
5 Horticulture Research Facility, about a 45-acre farm.
6 We also have a horse farm that's about 47 acres about
7 a mile south of the horticulture farm, and about 7
8 miles south of the main campus. It is a 202-acre
9 research farm referred to as Leyendecker Plant
10 Research Center.

11 **Q. What water supply do these farming facilities**
12 **receive?**

13 A. Receive both surface water and groundwater
14 and supplemental groundwater.

15 **Q. Does the university receive its surface water**
16 **supply from Elephant Butte Irrigation District, or**
17 **EBID as I may refer to it sometimes?**

18 A. Yes, it does.

19 **Q. How does the university get its groundwater**
20 **for these experimental facilities?**

21 A. Through groundwater pumping.

22 **Q. Do they rely on surface or groundwater more?**

23 A. I'd say over the past 12 years, it's been
24 primarily groundwater due to lack of availability of
25 surface water.

1 **Q. What has caused them to become more reliant**
2 **on groundwater?**

3 A. There's just been less water available to the
4 EBID members in the Lower Rio Grande Basin.

5 **Q. What would happen to the university's**
6 **experimental farms if they could not pump groundwater**
7 **to make up for the loss of surface supply?**

8 A. Well, if we didn't have groundwater and with
9 very limited surface supply, we probably wouldn't be
10 able to continue our mission of research and
11 agricultural production.

12 **Q. What role does the availability of**
13 **groundwater play in allowing agriculture to thrive in**
14 **the Lower Rio Grande Valley in New Mexico?**

15 A. Plays a critical role. Without water, we --
16 we don't have an agriculture. I think that's been
17 testified to before by other farm members.

18 **Q. How is groundwater used by NMSU?**

19 A. Well, it's used -- it's used as municipal use
20 for our main campus, for our faculty staff and
21 students. It's also used for agricultural output, and
22 we also use it for research, as well.

23 **Q. I'd like to turn to the university's history**
24 **of using water. If we can please pull up Exhibit New**
25 **Mexico 1027. This is entitled, "A history of New**

1 **Mexico State University's Well Development and**
2 **Groundwater Use," by Calvin Lashway dated July 1988.**

3 **Do you recognize this document?**

4 A. Yes, I do.

5 **Q. What is it?**

6 A. It's just that. It's a -- it's a graduate
7 student's report back in 1988 reporting on a
8 hundred-year history of New Mexico's water use,
9 groundwater use, and well development.

10 **Q. Is this an official record of the university?**

11 A. Yes, it is.

12 **Q. Kept in the regular course of business?**

13 A. Yes.

14 **MS. BARELA:** Your Honor, at this time,
15 New Mexico moves Exhibit New Mexico 1027 for
16 admission.

17 **JUDGE MELLOY:** Hold on a second. All
18 right. What's your position, Ms. Najjar?

19 **MS. NAJJAR:** Yes. Object to hearsay,
20 relevance, foundation, and improper testimony as a lay
21 witness. This technical report purports to opine on
22 the history of New Mexico State University's well
23 development. The principal investigator is Calvin
24 Lashway, who at the time in 1988, was a history
25 department student. It is not authored by anyone at

1 NMSU, and additionally, as Mr. Eschenbrenner has
2 opined today, he has -- he didn't start at NMSU until
3 2015, so there simply is no foundation. To the extent
4 that this could be a business record, which is
5 questionable, again, because it's not an NMSU
6 document, there's hearsay within hearsay. Mr. Lashway
7 states in his methodology that it's reported on
8 primary and secondary resources, many of which he
9 couldn't find or identify as stated in his
10 conclusions. Additionally, this report was developed
11 in part for the purpose of litigation that they were
12 preparing for so those are our objections.

13 **MR. DEITCHMAN:** And Texas joins those
14 objections.

15 **JUDGE MELLOY:** What do you mean was
16 prepared in part for litigation? What litigation?

17 **MS. NAJJAR:** Your Honor, on NM-1027,
18 Page 10, the justification of work performed states,
19 "A history of the university's use and development of
20 its water resources, especially groundwater, is
21 important in light of the claims of El Paso, Texas to
22 groundwater in the Mesilla Valley. This report can
23 help the university in establishing and defending its
24 water rights in the Mesilla Valley by documenting its
25 water development history."

1 **JUDGE MELLOY:** Do you have any response,
2 Ms. Barela?

3 **MS. BARELA:** Yes, Your Honor. New
4 Mexico feels that it has laid the proper foundation
5 for this document to be admitted. This is a business
6 record. It relates to the history of water use of the
7 university in the same way that other witnesses have
8 testified, such as Art Ivey and Bobby Sloan.
9 Mr. Eschenbrenner is not testifying as a historian nor
10 as an expert. The purpose of this testimony is to lay
11 the foundation and show the history of water
12 development by the university. This exhibit is a
13 university report held in the regular course of
14 business, and the Special Master has already allowed
15 testimony on the history of water use by other
16 witnesses.

17 **MR. DEITCHMAN:** Your Honor, just, if I
18 may, she just mentioned Art Ivey and Bobby Sloan. You
19 know, Mr. Ivey, for sure, did not seek to introduce a,
20 you know, historic technical history report from 1988
21 about historic water use. It was merely his live
22 testimony.

23 **MS. BARELA:** Your Honor, if I may?

24 **JUDGE MELLOY:** Go ahead.

25 **MS. BARELA:** It is important for New

1 Mexico State University to identify its pre-Compact
2 and pre-Project water rights in this case, and for the
3 university to have its voice heard as a New Mexico
4 water user, a very outstanding ...

5 JUDGE MELLOY: Well, I'm going to --

6 MS. NAJJAR: Your Honor --

7 JUDGE MELLOY: Go ahead.

8 MS. NAJJAR: As I stated before, it's
9 very --

10 JUDGE MELLOY: Can you speak up, Ms.
11 Najjar? I'm having trouble with your microphone.

12 MS. NAJJAR: Sorry. It's questionable
13 whether this could be a business record because it was
14 not -- the record was not made by someone from NMSU.
15 Additionally -- sorry. It's not a record of
16 regularly-conducted activity under 803.6.

17 JUDGE MELLOY: Well, I'm going to let
18 you ask some questions about it, but I'm going to
19 reserve ruling. I'm not sure a student paper
20 qualifies as a business record of the university, but
21 that -- quite frankly, I don't know the answer to
22 that. I am very concerned about the hearsay nature of
23 it, and I'm very concerned about the fact it was
24 prepared to help the university defend against a claim
25 by the City of El Paso. So I want to review it a

1 little more, and I also want to think about it a
2 little bit more, but I'll -- for purposes of making
3 the record and subject to possibly having testimony
4 stricken and disregarded, I'll let you go ahead and
5 ask the witness about the exhibit. Go ahead.

6 **MS. BARELA:** Yes, Your Honor. I will
7 add that New Mexico Water Resources Research
8 Institute, as stated on this first page of New Mexico
9 1027, is a department within New Mexico State
10 University, Your Honor, but I've noted your comments.
11 Thank you.

12 **JUDGE MELLOY:** Let me ask -- let me also
13 add, one of the justifications, as I understand it, is
14 to -- is to show priority dates. As I understand it,
15 that's already been adjudicated. Now, maybe -- of
16 course, I guess, based on the United States
17 cross-examination, they may be challenging those
18 priority dates, but go ahead. All right.

19 **MS. BARELA:** Thank you, Your Honor.

20 **Q. (BY MS. BARELA) Mr. Eschenbrenner, do you**
21 **know why this report was prepared?**

22 **A.** Yes. It was prepared to show the history,
23 hundred-year history, back when this was reported in
24 1988 of NMSU's water well development and groundwater
25 use.

1 Q. It is a long report, so I'd just like to ask
2 you about some of the early use of water shortly after
3 university's founding in 1888 and refer to you some of
4 the historic photos and diagrams. If we could turn to
5 Page 12 of this document, does this report reflect the
6 historical importance of groundwater use?

7 A. As I stated here, yes. It's reporting that
8 over the years, this water has been used by students,
9 faculty staff for dormitories, classrooms, and
10 research. It's been used by our ag experiment
11 stations to fulfill its agricultural research and
12 responsibilities for the people in New Mexico. It
13 also states there because of erratic Rio Grande water
14 flows and NMSU's continued growth, the river was not
15 able to provide and meet these educational resource
16 needs. The university found the only way it could
17 fulfill those needs in the semi-arid climate was to
18 drill wells for access to groundwater. Drilling these
19 wells is a vital part of the university's history.
20 Without access to underground water, NMSU would not
21 exist as we know it today, and institutions providing
22 agricultural engineering and humanities to many
23 students.

24 Q. If we could turn to Page 24, what was the
25 university water supply available in 1888 when the

1 **university was established?**

2 **MS. NAJJAR:** Your Honor --

3 A. It was established as surface water from the
4 Rio Grande.

5 **MS. NAJJAR:** I need to assert an
6 objection. The United States will renew its objection
7 here. This is hearsay. There is no -- very limited
8 citations and the fact that the witness can read to us
9 the report does not establish his qualifications to
10 opine on these matters.

11 **MR. DEITCHMAN:** And Texas joins the
12 objection.

13 **JUDGE MELLOY:** Well, as I said, I'll let
14 some questions about the report come in, but I also
15 understand that both Texas and the United States are
16 objecting to this line of testimony based on the
17 report, but as I say, subject to whether I ultimately
18 decide to admit the report, I'll let the witness
19 answer. I think the answer is already in, if I'm not
20 mistaken.

21 **MS. BARELA:** Yes, Your Honor. Thank
22 you.

23 **Q. (BY MS. BARELA) Mr. Eschenbrenner, do you see**
24 **the paragraph that started, "During construction"?**

25 A. Yes.

1 **Q.** Would you please read that paragraph. It
2 starts on this page and then it goes on.

3 **MR. DEITCHMAN:** Your Honor, I understand
4 that you understand our objection, however, counsel is
5 merely asking him to just read the document into the
6 record. There's no basis for him to do that.

7 **JUDGE MELLOY:** Go ahead. You can read
8 it.

9 **THE WITNESS:** Thank you, Your Honor.

10 **A.** "During construction it became immediately
11 evident that the water from the Rio Grande would not
12 sufficiently meet the needs of the college and
13 experiment station. In 1890, the college began
14 developing alternative sources of water." Our first
15 president, Hiram Hadley, wrote the need for
16 supplemental groundwater experiment station in their
17 first bulletin.

18 **Q.** **(BY MS. BARELA)** What was the university's
19 plan to secure reliable water supply?

20 **A.** Through groundwater.

21 **Q.** Turning your attention to Page 13, Table 1
22 entitled, "NMSU wells," and I'll have Ms. Ferguson
23 scroll through these pages. What are these headings
24 at the top of the page?

25 **A.** It's the name of the wells, the location, the

1 dates they were put in service, and the dates they
2 were taken out of service.

3 **Q. How is this table ordered?**

4 A. It's chronologically from the first well to
5 -- until the report date, I think the last one was in
6 1986.

7 **Q. And what is this table showing?**

8 A. It's basically showing NMSU's long history of
9 water use and the need for -- for groundwater.

10 **Q. Let's turn to Page 27. What does Figure 5**
11 **show?**

12 A. That's a picture of a hall and our first
13 windmill that was in 1890, circa 1890.

14 **Q. Based on this report, was it difficult for**
15 **the university to obtain a reliable water supply in**
16 **these early days?**

17 A. Yes. It's apparent when you look at the
18 dates of these wells being put in place and taken out
19 of service early on, these wells weren't lasting very
20 long, so this well, for instance, I think, only lasted
21 a period of about four years before it had to be
22 redrilled.

23 **Q. How did the university obtain water for its**
24 **agricultural properties?**

25 A. It -- it obtained it through both surface and

1 supplemental groundwater.

2 Q. Let's turn to Page 29 of this exhibit. What
3 does this photo show?

4 A. This is a view of the experimental station
5 looking west from that building that was just in the
6 previous picture. This is circa 1895. In the
7 left-hand side, left-hand center portion of the
8 picture, you can see the building. That was our first
9 pumping plant, pulsometer pumping plant.

10 Q. Was this also a stop on the basin tour?

11 A. Yes. Over on the far -- to the -- to the
12 right, far right-hand side of the picture, that's
13 where the basin tour met when we -- when we looked at
14 the university, about in that area.

15 Q. Let's look at the photo on Page 35. What
16 does this photo show?

17 A. This is circa 1896. Again, this is showing
18 the hall and the replacement windmill that was erected
19 there.

20 Q. Now, let's turn to Page 41, and what does
21 this photo show, Mr. Eschenbrenner?

22 A. This is a photo of our -- of a well circa
23 1902, irrigation -- Irrigation Department Well No. 1.

24 Q. On the next page, Page 42, there's another
25 picture of this. Do you know how this well was

1 **operated?**

2 A. Yes. This well was a steam-powered well.
3 Steam-powered pump.

4 **Q. What was the purpose of this well?**

5 A. Again, it was used for -- for agriculture and
6 domestic uses, as well.

7 **Q. Next, let's please turn to Page 54. What is**
8 **this a diagram of?**

9 A. It's a diagram of Mesa Pumping Plant, and
10 just a moment. I'll tell you the year. I think it
11 was, yeah, 1908.

12 **Q. How was this powered?**

13 A. This one was powered by a gasoline-driven
14 motor that powered the well.

15 **Q. Was it successful in providing water supply?**

16 A. Yes. This well, I think, I believe provided
17 water for -- through to the '40s, I believe.

18 **Q. And who did it supply water to?**

19 A. It supplied water for the university, faculty
20 staff and students. It also supplied water for
21 research, and it supplied water for our agricultural
22 output, as well.

23 **Q. Did it supply water to residential customers?**

24 A. Yes. Just north of the university, there was
25 some residences north of the university that were

1 outside the city limits, and we supplied water to
2 those residents, as well.

3 Q. At that time, Mr. Eschenbrenner, did the City
4 of Las Cruces not provide water supply in the area
5 around the university?

6 A. I believe it was outside of what they had
7 established as a service territory, yes. They did not
8 supply it there.

9 Q. Let's just look at a couple of later photos.
10 I'd like you to look at Figure --

11 JUDGE MELLOY: Ms. Barela, can I
12 interrupt you for a moment?

13 MS. BARELA: You may, Your Honor.

14 JUDGE MELLOY: I was just looking
15 through this report. On Page 58, it references a
16 Conover report from 1926 titled, "Groundwater
17 Conditions in the Rincon and Mesilla Valleys and
18 Adjacent Areas in New Mexico." Do you know or does
19 anyone know if that particular report is part of the
20 record? I know obviously the -- we've talked a lot
21 about the later Conover report, but do we know if that
22 one is part of the record in this case.

23 MS. NAJJAR: Your Honor, I'm being
24 informed that in 1926, that's when they bought the
25 land, and then it goes onto continue to the 1947

1 report.

2 JUDGE MELLOY: I'm sorry. What did you
3 say? The 19 -- when who bought the land?

4 MS. NAJJAR: In 1926, the college came
5 into possession of the College Ranch property.

6 JUDGE MELLOY: Okay. Oh, I see. It was
7 referring to the College Ranch property. Okay. All
8 right. Okay. Go ahead, Ms. Barela.

9 MS. BARELA: Yes. Thank you, Your
10 Honor.

11 Q. (BY MS. BARELA) I believe I had just asked to
12 turn to Page 66. What does this show?

13 A. This is a drilling rig that was used in -- on
14 a horticultural farm to replace a well. This is back
15 in 1935.

16 Q. What was the purpose of this new irrigation
17 well?

18 MR. DEITCHMAN: Your Honor, I'm going to
19 object on relevance. I'm not sure how any of this
20 testimony is related to the interstate Compact claims
21 that are at issue in this litigation. This appears to
22 be more New Mexico state attempting to prove its water
23 rights, which I'm not sure how that's relevant to this
24 case.

25 MS. NAJJAR: The United States joins the

1 objection.

2 JUDGE MELLODY: You may continue. Go
3 ahead.

4 MS. BARELA: Thank you, Your Honor.

5 Q. (BY MS. BARELA) There's a quote that starts
6 on Page 65 and continues on to the page -- top of Page
7 69. Mr. Eschenbrenner, would you please read that
8 quote?

9 A. Yes. "Owing to the anticipated shortage of
10 irrigation water for the Mesilla Valley for 1935
11 growing season, the College and Experiment Station
12 considered it advisable to install two pumping plants
13 to provide water in case of emergency. The drought
14 situation had decreased the supply of irrigation water
15 in the Elephant Butte Reservoir to such an extent that
16 by the spring of 1935, the district officials believed
17 that there would be insufficient water for crop
18 production for that year."

19 Q. I also want to ask you about the 1950s
20 drought and how the university adapted to the lack of
21 water. Please turn to Page 86. Do you see at the top
22 there, Mr. Eschenbrenner, "Drought affects college"?

23 A. Yes, I do.

24 Q. According to this history, how did irrigators
25 in the Valley cope with the lack of surface water?

1 A. The report states that, "Throughout most of
2 the 1950s, there was a shortage of irrigation water in
3 the Mesilla Valley. From 1951 to 1957, a severe
4 drought caused a shortage of surface irrigation water.
5 During this period, several hundred wells were drilled
6 and groundwater was developed for irrigation
7 purposes."

8 Q. The middle of this page references a
9 university document entitled, "Irrigation Situation
10 1951." Do you see that?

11 A. Yes, I do.

12 Q. Can you please read the quoted portion that
13 starts, "On the main College Farm," as Ms. Ferguson is
14 highlighting there for you?

15 A. Yes, Ms. Barela. "On the main College Farm,
16 besides the 174 acres noted above, we are now
17 irrigating at least 70 acres on the campus and at
18 least 20 acres at the U.S. Cotton Field Station. As
19 the picture appears at present, we will in 1951 have
20 174 acre -feet of water from the canal, whereas last
21 year we used 734 acre-feet. The only source of
22 irrigation for all lands west of the Las Cruces
23 lateral is the canal water. This is also true for the
24 U.S. Field Station. It is estimated for the main farm
25 that to supply 560 excess acre-feet would require

1 3,360 hours of operation, or 140 days of 24 hours each
2 day. It is further estimated that under continuous
3 operation, it would require 27 days to complete one
4 irrigation of the entire 264 acres."

5 **Q. If we could please turn to Page 89. Please**
6 **look at the photo here. What does this show?**

7 A. This is showing the wells that -- that NMSU
8 had circa 1953, the locations of them.

9 **Q. What purposes did these wells serve?**

10 A. They served both for domestic use and also
11 for agricultural and research.

12 **MS. BARELA:** Your Honor, I would like to
13 renew my -- New Mexico's moving to admit this exhibit.

14 **JUDGE MELLOY:** I'm going to continue to
15 reserve ruling. I'm not sure I'm going to be able to
16 make a decision today. Go ahead.

17 **MS. BARELA:** Your Honor, may I respond?

18 **JUDGE MELLOY:** Go ahead.

19 **MS. BARELA:** Your Honor, New Mexico
20 states that it is not a hearsay document under Rule
21 803, and as an ancient document based on its date. It
22 is relevant to show New Mexico State University's long
23 reliance on groundwater, which is challenged in this
24 case.

25 **JUDGE MELLOY:** I understand your

1 relevance to -- well, I'm not sure that I completely
2 understand the relevance either way of New Mexico
3 State University's reliance on groundwater, but --
4 well, let me think about it. I -- I told you what I'm
5 going to do. I'm going to think about it so go ahead.

6 **MS. BARELA:** Yes, Your Honor. Thank
7 you. And I did misspeak a amount ago. I said Rule
8 803. I meant Rule 803.16 as an ancient document.

9 **JUDGE MELLOY:** I know what you were
10 talking about. Go ahead.

11 **MR. DEITCHMAN:** Your Honor, I think this
12 is the case, but I just want to make sure it's clear
13 on the record, that we would move to strike all the
14 testimony he just gave relying on New Mexico Exhibit
15 1027 for the reasons stated in the objection.

16 **MS. NAJJAR:** United States will join
17 that motion to strike.

18 **JUDGE MELLOY:** I understand. Go ahead.

19 **MS. BARELA:** Thank you, Your Honor.

20 **Q. (BY MS. BARELA)** I'd like to turn to another
21 university water document, Exhibit New Mexico 0847.
22 I'm showing you exhibit entitled, "New Mexico State
23 University Water Plan 2002-2042." Do you recognize
24 this document?

25 **A.** Yes, I do.

1 **Q. What is it?**

2 A. It's a document that's stating our history of
3 our water use, and also our 40-year water plan for
4 where we are at that point in time in 2002 and where
5 they anticipate going in the next 40 years.

6 **Q. Is this an official record of the university?**

7 A. Yes.

8 **Q. Held in the regular course of business for**
9 **NMSU?**

10 A. Yes, it is.

11 **MS. BARELA:** Your Honor, at this time
12 New Mexico moves for New Mexico Exhibit NM-0847 into
13 evidence.

14 **JUDGE MELLOY:** Any objection?

15 **MS. NAJJAR:** Yes, Your Honor. The
16 United States objects again to hearsay, relevance,
17 improper testimony by a lay witness. This document is
18 dated June, 2003. While it is for NMSU, it lists 11
19 authors, none of whom are Mr. Eschenbrenner. Indeed,
20 it relies on Mr. Calvin Lashway, the same student who
21 authored the last exhibit we looked at, NM-1027. So
22 I'd say there's hearsay within hearsay, which cannot
23 be cured, and to the extent that this is improper lay
24 opinion testimony, New Mexico had Dr. Stevens to opine
25 as an expert historian. Mr. Eschenbrenner is simply

1 not qualified to speak to the contents of this
2 document.

3 **MR. DEITCHMAN:** Texas joins the United
4 States' objection.

5 **MS. BARELA:** Your Honor, may I respond?

6 **JUDGE MELLOY:** You may.

7 **MS. BARELA:** Your Honor, this is similar
8 to the Las Cruces water plan that was previously
9 admitted for Dr. Garcia just a few moments ago. This
10 is an official business record of the university. It
11 describes the different lands on which the university
12 uses water, and it is relevant to describing the
13 university's water use. Mr. Eschenbrenner is not
14 testifying as an expert or a historian and, again, the
15 purpose of this testimony is to lay the foundation and
16 show the history of water development by the
17 university. This is a university report held in the
18 regular course of business.

19 **JUDGE MELLOY:** Well, I will at least
20 admit that part of the report that talks about their
21 plans going forward for water use. Again, I'm going
22 to reserve any ruling as to that portion dealing with
23 the history. As I understand, it's just basically a
24 regeneration of the history that we just got done
25 discussing, and to the extent that I'm still not sure

1 if I'm going to admit that, I'll reserve ruling as to
2 that portion of the report. You may go ahead.

3 **MS. BARFIELD:** Thank you, Your Honor.

4 **Q. (BY MS. BARELA) Referring to Page 13 on this**
5 **exhibit, why did the university prepare this plan?**

6 A. The purpose of the water plan for NMSU is to
7 document its historic water resource development,
8 describe present water infrastructure and use, and
9 provide projections for water needs for the next 40
10 years.

11 **Q. Please turn to Page 16 of this exhibit. What**
12 **does this map show?**

13 A. This map shows NMSU properties in the Lower
14 Rio Grande Basin. If you'd like me to, I can describe
15 what's in here. Obviously, you have circled at the
16 top the Chihuahuan Desert Rangeland Research Center
17 north of Las Cruces as the 60,000 acre facility. We
18 also have the main campus down below, and adjacent to
19 that is the Fabian Garcia Horticultural Farm, about a
20 47-acre farm. A horse farm just below Fabian Garcia,
21 which is 45 acres and the Leyendecker Plant Science
22 Farm about 7 miles south of campus, 202-acre farm.

23 **Q. Mr. Eschenbrenner, if I can ask you what**
24 **water users, does the Chihuahuan Desert Rangeland**
25 **Research Center use?**

1 A. It's primarily just groundwater. We -- we
2 have mostly cattle and sheep up there -- no, just
3 cattle at that facility.

4 **Q. I would like to ask you about these**
5 **properties individually. Let's first turn to the map**
6 **of the main campus on Page 29. What does this map**
7 **show?**

8 A. In the areas that are in yellow cross hatch,
9 that's NMSU's real estate that we own located in the
10 center part of the picture, the triangle, that we
11 consider our main campus bounded by Interstate 25 to
12 the east, Interstate 10 to the south and west, and
13 University Avenue to the north. Then just to the left
14 or west of the main campus, you'll see the cross
15 hatched area that's the Fabian Garcia Horticulture
16 Farm and right below that another area is the
17 university horse farm.

18 **Q. Did the Special Master visit this area during**
19 **the basin tour?**

20 A. Yes, he did. He visited the main campus.

21 **Q. Is that near the university's Well No. 16?**

22 A. Yes, it is. Yeah. We were close to -- it is
23 just off the University Avenue by a little bit south
24 of that location but very close in general proximity.

25 **MS. BARELA:** Thank you, Ms. Ferguson.

1 **Q. (BY MS. BARELA) What is NMSU Well No. 16 used**
2 **for?**

3 A. Well, it's used for our domestic water. It's
4 also used for our agricultural output on the main
5 campus, and it's also the water well that we have an
6 interconnect with the City of Las Cruces.

7 **Q. I'd like to ask you about that interconnect**
8 **in a few minutes, but let's finish looking at these**
9 **maps first. Please turn to the map of Fabian Garcia**
10 **Horticultural Farm on Page 38. What does this show?**

11 A. This is our first ag experiment station other
12 than on the main campus. It's right adjacent to the
13 main campus to the west. It's a 47-acre research
14 facility.

15 **Q. Next, let's turn to Page 40. What does this**
16 **show?**

17 A. This is the university's horse farm where we
18 raise horses and also do educational work. That's a
19 45-acre horse farm facility just about a mile south of
20 the horticulture farm.

21 **Q. And if we could please turn to Page 42, what**
22 **does this show?**

23 A. That map shows the 202-acre Leyendecker Plant
24 Research Center about 7 miles south of campus.

25 **Q. Mr. Eschenbrenner, are you personally**

1 **familiar with this area?**

2 A. Yes, I am. Actually had a residence there a
3 few years back about 2 miles away from there so I'm
4 familiar with the area. Actually my first foray into
5 small hobby farm. Had about 7 acres where we grew
6 alfalfa for -- for livestock and wound up having to
7 rely on surface water for our farming. We do not have
8 any groundwater nor could we afford to put in a well.
9 Unfortunately, just the lack of reliance on
10 groundwater or surface water, we had to do away with
11 the agricultural output on that and rely just on
12 turning into pastureland and purchasing our alfalfa
13 from the market.

14 **Q. What is the purpose of these NMSU**
15 **agricultural properties?**

16 A. Again, it's education. It's research, and we
17 also run extension services out of here, too, as well.

18 **Q. What crops are grown on these farms?**

19 A. Well, it's a multitude. It's pecans. It's
20 onions. It's chile. We do research on cotton,
21 research on alfalfa. It 's just -- it's just -- I'm
22 just probably scratching the surface on the different
23 plants that -- that the college does research on in
24 this area.

25 **Q. How did they receive water?**

1 A. It's both surface water and groundwater.

2 **Q. How much of their supply comes from surface**
3 **water from the Rio Grande Project?**

4 A. Well, this year, we received 4 acre -- 4-inch
5 acre-feet of water out of into a full allotment that
6 would have been 3 acre-feet.

7 **Q. Do you know why they've been getting so**
8 **little surface water?**

9 A. I think it's partly to do with some drought
10 situations, and also I feel like part of this is a
11 challenge that we have with the 2008 Operating
12 Agreement in that a lot of this water is just not
13 being made available to Elephant Butte Irrigation
14 District members.

15 **Q. Do you know how much the university pays EBID**
16 **each year for water from the Rio Grande Project?**

17 A. Last two years, we paid approximately \$33,000
18 a year for our water.

19 **Q. And what do you expect for your \$33,000?**

20 A. We hope it'll be a full allotment of 3
21 acre-feet.

22 **Q. What did you get?**

23 A. This year, 4 inches, basically one irrigation
24 in the month of June.

25 **Q. Is this \$33,000 a significant amount for NMSU**

1 to pay?

2 A. Well, the number may not seem big to -- to a
3 lot of folks here, but I'll tell you that from NMSU's
4 budget, we operate 12 ag research science centers
5 throughout the state. We probably -- I just saw a
6 report that we have over \$80 million in deferred
7 maintenance. When you're paying even an amount of
8 \$33,000 a year, it's not only the cost of the water
9 that you're not getting, but it's also the cost of
10 energy to pump the water to supplement this lack of
11 surface water. In addition to that, it's additional
12 maintenance costs that's associated with running those
13 wells. So it's -- it's a challenge.

14 Q. Have the farms had to pump their wells more
15 in the last few years?

16 A. Oh, yes, certainly. Uh-huh. It's had to
17 pump it to supplement the lack of surface water.

18 Q. Has this increased pumping from their wells
19 caused any problems?

20 A. I think some of the problems would be
21 associated with additional wear and tear on the
22 equipment for the wells and then water quality issues,
23 as well.

24 Q. Have some of these problems included well
25 failures?

1 A. It has in the past, uh-huh.

2 **Q. What happens when you have a well failure?**

3 A. If it's significant in the casing, we can't
4 reutilize the well, we'll have to try to find
5 appropriation of funding. We'd cap that old well and
6 try and drill a new well in very close proximity after
7 we get approvals from the state engineer to do that.

8 **Q. Are these considered new wells?**

9 A. No. They're just replacement wells.

10 **Q. I would like to ask you now the university's**
11 **history of sharing water with the City of Las Cruces.**
12 **Do these histories, the Lashway report, and the water**
13 **plan describe the origin of the relationship, and in**
14 **particular, the interconnect of water lines?**

15 A. Yes, it does.

16 **Q. What is that history?**

17 A. My understanding, the history goes back to
18 probably about a 70-year history back to the '50s
19 where we had water sharing agreements between the City
20 and New Mexico State University. The agreements were
21 basically put in place that if one entity had
22 challenges or needed some supplemental well --
23 supplemental water, that we could rely on that entity
24 to help provide that.

25 **MS. NAJJAR:** Your Honor, I don't mean to

1 interrupt. It seems like my mic is going in and out,
2 and I just got a notification from the trial
3 administrator that I could not be heard. I had
4 objections to the previous statements based on
5 foundation, improper lay witness testimony. I'd just
6 like to state that now for the record. Apologies for
7 the technical mishap.

8 **JUDGE MELLOY:** Are you talking about the
9 -- the statement about the 70-year history?

10 **MS. NAJJAR:** Yes, Your Honor.

11 **JUDGE MELLOY:** All right. Well, the
12 prior witness was cross-examined pretty extensively
13 about the well sharing agreement between the City and
14 the university, so I think it certainly would for the
15 university representative to talk about that, as well,
16 so I'll allow the testimony. Go ahead.

17 **MS. BARELA:** Thank you, Your Honor.

18 At this time, New Mexico renews its
19 movement of admission of New Mexico Exhibit 847.

20 **JUDGE MELLOY:** As I've said before, I'm
21 going to reserve ruling. Let's move on.

22 **Q. (BY MS. BARELA)** I would now like to discuss
23 some specifics of the university 's water rights.
24 What water rights does the university own today?

25 **A.** We own both surface and groundwater rights.

1 Q. Is the university a party to the state
2 adjudication involved water rights in the Lower Rio
3 Grande and New Mexico?

4 A. Yes, we are.

5 Q. I'd like to move on to the next exhibit, New
6 Mexico Exhibit 0853.

7 MS. BARELA: And, Your Honor, this was
8 the exhibit that was previously admitted with
9 Dr. Garcia.

10 JUDGE MELLOY: All right.

11 Q. (BY MS. BARELA) Mr. Eschenbrenner, this is
12 the sub-file order for New Mexico State University.
13 When was this document entered by the adjudication
14 court?

15 A. On November 9th, 2007.

16 Q. Beginning here with the first page and
17 looking at the bottom of Page 1, what water right is
18 described here?

19 A. This is a groundwater right for our main
20 campus for LRG Well 35 -- for LRG 35. I'm sorry.

21 Q. What is the priority date?

22 A. It's April 30, 1890.

23 Q. What is the purpose of use?

24 A. Its purposes and related are consistent with
25 the teaching, research, and public service mission and

1 historic uses of NMSU, including supply to the City of
2 Las Cruces.

3 **Q. Moving on to the next page, Page 2, what**
4 **other elements of the water right does this describe?**

5 A. Showing the points of diversion, the place of
6 use, and the amount of water.

7 **Q. What is the place of use?**

8 A. It's the contiguous and noncontiguous New
9 Mexico State University campus and properties within
10 the Lower Rio Grande Basin, and said campus and
11 properties may be modified or changed from time to
12 time pursuant to law and use within the City of Las
13 Cruces municipal boundaries of water supplied to the
14 City of Las Cruces.

15 **Q. Continuing onto Page 3, right after this**
16 **first full paragraph, what water right is described**
17 **here?**

18 A. This is NMSU's groundwater and surface water
19 rights.

20 **Q. What is the priority date there?**

21 A. Again, the groundwater is April 30, 1890, and
22 the surface water is January 25, 1906.

23 **Q. And what is the purpose of use?**

24 A. Again, it's for purposes and related
25 consistent with the teaching, research, and public

1 service mission and historic use of NMSU.

2 Q. (BY MS. BARELA) And without going through the
3 rest of this exhibit, what does the rest of this
4 sub-file address?

5 A. It's just showing other wells on some of our
6 ag experiment stations within the Lower Rio Grande
7 Basin. It also mentions some other monitoring wells
8 and some geothermal wells, as well.

9 MS. BARELA: Thank you. You may take
10 down this exhibit.

11 Q. (BY MS. BARELA) Moving to the last topic,
12 Mr. Eschenbrenner, why is NMSU an amicus party in this
13 case?

14 A. NMSU has been a continual water user. We've
15 been in existence for 130 years. We have a case that
16 comes before us that may jeopardize those water
17 rights, our ability to continue with our mission, we
18 certainly have a strong interest in wanting to have a
19 say and be a party to that.

20 Q. Is NMSU concerned with the effects of the
21 2008 Operating Agreement?

22 A. Yes, we are.

23 MR. DEITCHMAN: Your Honor, Ms. Najjar
24 asserted an objection. I don't think she could be
25 heard, though.

1 **MS. NAJJAR:** Can you hear me?

2 Objection. There we go.

3 **MR. DEITCHMAN:** Yeah.

4 **MS. NAJJAR:** Foundation; improper lay
5 witness testimony.

6 **MR. DEITCHMAN:** And Texas joins that
7 objection.

8 **JUDGE MELLOY:** All right. Go ahead.
9 Tell us -- tell us your problems with the operating
10 agreement, if that's the question.

11 A. Yes, Your Honor. The challenge has been
12 since the operating agreement has been in place. It
13 just appears that we've had less and less surface
14 water so the challenges that we've mentioned before
15 would have more reliance on our groundwater, the
16 increased operating cost associated with it so that's
17 why we have an interest in the outcome of this trial
18 and feel like that the 2008 Operating Agreement had
19 been a challenge for New Mexico State University.

20 **MS. BARELA:** So that Ms. Najjar can
21 prepare herself, I only have a few more questions,
22 Your Honor.

23 **Q. (BY MS. BARELA)** Is NMSU a member of the Lower
24 Rio Grande Water Users?

25 A. Yes, we are.

1 **Q.** Did NMSU's decision to help form that group
2 relate to the concerns you just described?

3 A. Yes.

4 **Q.** What is the purpose of the Water Users Group?

5 A. The Water Users Group is trying to be
6 proactive. We're trying to look for alternative
7 administration ideas and also for groundwater
8 management, as well. That's been the primary function
9 of the group.

10 **MS. BARELA:** Thank you,
11 Mr. Eschenbrenner. I have no further questions.

12 THE WITNESS: Thank you.

13 **JUDGE MELLOY:** Well, it's a little early
14 to take our recess, but seems like a good breaking
15 point, so why don't we -- why don't we break for about
16 15 minutes and then we'll come back. Are you going
17 first, Ms. Najjar?

18 **MR. DEITCHMAN:** No, Your Honor, I'm
19 going to go first. I will say, at least from my
20 perspective, I only have one question for this
21 witness.

22 **JUDGE MELLOY:** Okay. Go ahead.

23 CROSS-EXAMINATION

24 BY MR. DEITCHMAN:

25 **Q.** Mr. Eschenbrenner, nice to meet you. My name

1 is Rich Deitchman. I'm one of the attorneys for Texas
2 in this case, and like I said, I have one question for
3 you. Isn't it true, Mr. Eschenbrenner, that
4 regardless of the outcome of this U.S. Supreme Court
5 litigation, New Mexico State University will continue
6 to assert its water rights under state law?

7 A. Can you repeat the question? I'm sorry,
8 Mr. Deitchman.

9 Q. Gladly. Isn't it true -- I've just got to
10 read it off of here again. Isn't it true that
11 regardless of the outcome of the U.S. Supreme Court
12 litigation, New Mexico State University will continue
13 to assert its water rights under state law?

14 A. I don't know that I can answer that question.
15 That's probably more of a legal question.

16 Q. But you manage the water rights for New
17 Mexico State University; you testified to that,
18 correct?

19 A. That's correct.

20 Q. So you can't answer -- you don't think you
21 can answer my question?

22 A. Well, I think it depends on the outcome of
23 this case, doesn't it?

24 Q. So you don't know the answer to the question?

25 A. No, I don't. I don't.

1 **MR. DEITCHMAN:** Okay. I have no further
2 questions, Your Honor.

3 **JUDGE MELLOY:** Ms. Najjar, do you have
4 cross-examination?

5 **MS. NAJJAR:** Your Honor, I only have a
6 handful of questions. I'm happy to do so now, but if
7 there's trouble with the mic, I am happy to switch
8 computers, if that would be helpful, during the break.

9 **JUDGE MELLOY:** Why don't we do that?
10 Let's take about a 15 -- we'll break until 3:05 our
11 time and maybe can get your mic set up. Okay? All
12 right. Thank you.

13 (Recess.)

14 **JUDGE MELLOY:** All right. We ready to
15 proceed?

16 **MS. NAJJAR:** Yes, Your Honor. Can you
17 hear me now?

18 **JUDGE MELLOY:** I can. Much better.
19 Thank you.

20 **MS. NAJJAR:** Sorry about that.

21 CROSS-EXAMINATION

22 BY MS. NAJJAR:

23 **Q.** Good afternoon, Mr. Eschenbrenner. My name
24 is Jennifer Najjar. I'm here on behalf of the United
25 States. How are you?

1 A. I'm doing fine. Thank you.

2 Q. I just have a couple questions for you.
3 Could we please pull up New Mexico 1027, the technical
4 report? This report is dated July, 1988; is that
5 right?

6 A. That's correct.

7 Q. And your employment with NMSU did not begin
8 until 2015?

9 A. That's correct.

10 Q. And you'll agree with me that the principal
11 investigator is Calvin Lashway?

12 A. That's correct.

13 Q. And in 1988, Calvin Lashway was enrolled as a
14 student in the Department of History at NMSU, wasn't
15 he?

16 A. That's my understanding.

17 Q. The report contains a disclaimer. Let's turn
18 to NM-1027, Page 2. The report contains a disclaimer
19 that says, "The views expressed are those of the
20 author and do not necessarily reflect those of the
21 Water Resources Research Institute," right?

22 A. Yes. I read that as the case.

23 Q. Let's turn to Page 10. The report also
24 contains a section -- section entitled, "Justification
25 of Work Performed." "The report was created in part

1 to help defend New Mexico State University's water
2 rights in light of the claims after El Paso, Texas to
3 groundwater in the Mesilla Valley," right?

4 A. That's -- that's what it states in the
5 document, yes.

6 Q. Okay. Let's just turn to "Methodology" very
7 quickly, Page 11. This report was based on primary
8 and secondary documents; is that right?

9 A. Yes. That's what it says.

10 Q. And physical plant department records from
11 1888 to 1930 were not relied upon in this report; is
12 that right?

13 A. It says they could not be found.

14 Q. Additionally, only a few documents dating
15 from the 1930s and early 1940s were found for this
16 report?

17 A. Yes. That's what I -- what I read to be
18 correct here.

19 Q. And it was difficult to use physical plant
20 documents to trace the well history over the years
21 because the university changed its well numbering
22 system, right?

23 A. Yes. That's correct. I read that here to be
24 the case.

25 Q. And this change in numbering created

1 **inconsistencies and confusion?**

2 A. Yes. I see what -- yes. I read that to be
3 correct here, as well.

4 **Q. And just to clarify, you're not testifying**
5 **here today as an expert historian?**

6 A. That is correct.

7 **Q. All right. Let's shift gears a little bit.**

8 **JUDGE MELLOY:** Just a second, Ms.
9 Najjar. On that page you were just asking about on
10 methodology, do we know what USGS report is referenced
11 in the last sentence.

12 **MS. NAJJAR:** Your Honor, it's unclear
13 from this document, and as I review the document,
14 there are numerous assertions without citation so it's
15 very difficult to understand the reliability of the
16 sources stated within.

17 **JUDGE MELLOY:** All right. Go ahead.

18 **MS. NAJJAR:** Could you please pull up
19 New Mexico 853?

20 **Q. (BY MS. NAJJAR) Mr. Eschenbrenner, you were**
21 **shown this document, which was titled, "Sub-file**
22 **Order." Do you recall this document?**

23 A. Yes, I do.

24 **Q. And you refer to the underground and surface**
25 **water described there as a water right; is that right?**

1 A. Yes.

2 **Q. But it's not adjudicated -- it's not an**
3 **adjudicated water right, correct?**

4 A. No. My -- the adjudication process has not
5 been finalized with the state engineer's office yet.

6 **Q. And a sub-file order is subject to challenge**
7 **by all other parties in the Lower Rio Grande**
8 **adjudication?**

9 A. I don't know the answer to that. That's
10 probably more of a legal question.

11 **Q. You do manage the water rights for New Mexico**
12 **State University?**

13 A. Yes. I oversee the water rights. We also
14 have a engineer at New Mexico State University that
15 handles all the day-to-day activities of recording
16 wells, submitting for when we have to try and get a
17 new well, but yes.

18 **Q. And you're aware that there's two phases of**
19 **challenges in New Mexico adjudications?**

20 A. No, I'm not.

21 **Q. Do you have an understanding of the inter se**
22 **phase of an adjudication?**

23 A. No, I don't.

24 **MS. NAJJAR:** All right. Your Honor, I
25 don't have any other further questions for

1 Mr. Eschenbrenner. Thank you.

2 JUDGE MELLOY: Ms. Barela, do you have
3 any further questions?

4 MS. BARELA: Yes. Just a few, Your
5 Honor.

6 REDIRECT EXAMINATION

7 BY MS. BARELA:

8 Q. Mr. Eschenbrenner, the report that Ms. Najjar
9 just been speaking to you about, has it been made an
10 official report of WRI, W-R-I?

11 A. Yes. That's where we obtained the document
12 was from the Water Research Institute.

13 Q. And is the Water Research Institute part of
14 New Mexico State University?

15 A. Yes, it is.

16 Q. Was one of the purposes of this report for
17 planning?

18 A. For -- for 1027, that document? Is that what
19 we're referring to?

20 Q. That's correct. New Mexico 1027.

21 A. This report, based on the cover, was for
22 history -- history of NMSU's well development and
23 groundwater use.

24 Q. And did this assist the university in
25 preparing its water plan, which was New Mexico 0847?

1 A. Yes. It's referred to in that document.

2 **MS. BARELA:** No further questions, Your
3 Honor.

4 **JUDGE MELLOY:** Anything further from
5 Mr. Deitchman or Ms. Najjar.

6 **MR. DEITCHMAN:** Nothing further.

7 **MS. NAJJAR:** Nothing.

8 **JUDGE MELLOY:** If not, you're excused,
9 Mr. Eschenbrenner. We appreciate your testimony, and
10 you're free to go. Thank you very much.

11 **THE WITNESS:** Thank you, Your Honor.

12 **JUDGE MELLOY:** All right. Who's next up
13 for New Mexico?

14 **MS. BARELA:** For New Mexico, it's Mike
15 Greene, Your Honor.

16 **JUDGE MELLOY:** Okay. Do you need a few
17 minutes to get him ready?

18 **MS. BARELA:** Yes, we do, Your Honor.
19 We'll have to switch chairs again.

20 **JUDGE MELLOY:** All right. Let's take
21 five minutes. We'll start with Mr. Greene.

22 **MS. BARELA:** Thanks very much.

23 (Recess.)

24 **JUDGE MELLOY:** All right. It looks like
25 we're about ready to go. Let's enter the appearances

1 for the attorneys who will be participating in this
2 last session this afternoon. For Texas, Ms. Barfield?

3 **MS. BARFIELD:** Good afternoon, Your
4 Honor. Theresa Barfield for Texas.

5 **JUDGE MELLOY:** And Ms. Barela for New
6 Mexico; is that right?

7 **MS. THOMPSON:** It's actually
8 Ms. Thompson.

9 **JUDGE MELLOY:** Excuse me. Ms. Thompson.
10 I'm sorry.

11 **MS. THOMPSON:** That's okay.

12 **JUDGE MELLOY:** And Mr. Hartman for
13 Colorado, Mr. Dubois for U.S.

14 **MR. DUBOIS:** Good afternoon, Your Honor.

15 **JUDGE MELLOY:** All right. You may call
16 your witness, Ms. Thompson.

17 **MS. THOMPSON:** New Mexico calls
18 Mr. Greene.

19 **JUDGE MELLOY:** Mr. Greene, I need to
20 swear you as a witness. Would you raise your right
21 hand, please? Do you swear or affirm that the
22 testimony you're about to give will be the truth, the
23 whole truth, and nothing but the truth?

24 **THE WITNESS:** Yes, I do.

25 **JUDGE MELLOY:** All right. Mr. Greene, I

1 need to go through a couple of things with you that we
2 have reviewed with each of the witnesses. First, is
3 there any one in the room with you during your
4 testimony?

5 THE WITNESS: There's no one here.

6 JUDGE MELLOY: Do you have any documents
7 that you will be referring to during your testimony
8 other than the exhibit book?

9 THE WITNESS: No.

10 JUDGE MELLOY: And then finally, I need
11 to advise you that you're not allowed to have any
12 communication devices available to you, including
13 laptops, iPhones, iPads, et cetera, that have any
14 communication capabilities such as texting, e-mail,
15 and so on. Do you understand?

16 THE WITNESS: Yes.

17 JUDGE MELLOY: All right. Before we
18 start the examination, let's talk about the exhibits
19 for a minute. New Mexico has three exhibits listed
20 for direct examination, all of which are A exhibits
21 and will be admitted. Those are New Mexico 864, 873,
22 and 874. So those three exhibits are admitted. For
23 cross-examination purposes, we have New Mexico 6 --
24 excuse me -- New Mexico 864, New Mexico 865, 867, 868,
25 870, and 874. Those are all A exhibits and will be

1 admitted. We also have Greene Demonstrative Exhibit
2 1, which will be admitted.

3 All right. Ms. Thompson, you may
4 proceed.

5 **MS. THOMPSON:** Thank you, Your Honor.
6 Just real quick before we get going, I wanted to make
7 sure you were aware that the next witness, Mr. Chavez,
8 is not available this afternoon. He's an adverse
9 witness and is not available until tomorrow. We do
10 believe we'll get through Mr. Greene here. It's not a
11 very lengthy direct, but I did want to make sure that
12 you were aware and the others were aware he would be
13 the last witness for today.

14 **JUDGE MELLODY:** Okay. Well, let me ask
15 you this: Who do you have on deck for tomorrow
16 because most of these you have -- most of the
17 witnesses you have after Mr. Greene are listed as
18 one-hour witnesses.

19 **MS. THOMPSON:** That's right, Your Honor.
20 And we do expect the next witnesses, Kelly Mills,
21 Larry French, John Stomp, and Brent Westmoreland,
22 those will all be fairly brief direct examinations,
23 and I think that leads into one of the concerns is
24 that we're a little bit ahead of schedule related to
25 disclosure of exhibits and review of exhibits, and

1 Mr. Westmoreland isn't available until Monday morning
2 and so it's possible we end up finishing Friday
3 earlier than we would have expected.

4 **JUDGE MELLOY:** Well, can we take any of
5 the other witnesses out of order? I think if we -- if
6 we're done very early on Friday, is there any chance
7 we can take Garay or Stahmann-Solis or any of the
8 other witnesses out of order?

9 **MS. THOMPSON:** Your Honor, I'll check on
10 that. Hopefully I can get back to you here during our
11 next break. I will check on that and see.

12 **JUDGE MELLOY:** All right. Okay. Let's
13 proceed with Mr. Greene.

14 **MS. THOMPSON:** All right.

15 **MIKE GREENE,**
16 having been first duly sworn, testified as follows:

17 **DIRECT EXAMINATION**

18 **BY MS. THOMPSON:**

19 **Q. Good afternoon, Mr. Greene.**

20 **A. Good afternoon.**

21 **Q. Mr. Greene, what's your current professional**
22 **position?**

23 **A. I'm a project manager of water resources for**
24 **Public Service Company in New Mexico.**

25 **JUDGE MELLOY:** Mr. Greene, could you

1 pull the microphone a little closer? We've had that
2 problem with other witnesses. Need to be fairly close
3 to the mic.

4 THE WITNESS: Sure.

5 JUDGE MELLOY: All right. Go ahead.

6 Q. (BY MS. THOMPSON) Mr. Greene, as the water
7 resource manager, you're responsible for managing the
8 water resources for Public Service Company of New
9 Mexico?

10 A. Yes, ma'am.

11 Q. And what is Public Service Company of New
12 Mexico?

13 A. It's the largest electric provider in the
14 State of New Mexico. We have over a million New
15 Mexicans that we serve power to.

16 Q. And is Public Service Company of New Mexico
17 often referred to as PNM?

18 A. Yes. PNM is what we usually call it.

19 Q. Okay. I may refer to it then throughout your
20 direct as PNM on occasion. Why is water required by
21 PNM for generating electricity?

22 A. Well, some of our generating resources use
23 steam-driven turbines so as you heat water into steam,
24 it expands, and we channel that through turbines.
25 Those turbines turn and -- and generate electricity,

1 and so the water that we use is used to cool that
2 steam back into water so that we can reuse it. So
3 it's basically for cooling.

4 Q. So so far, we've heard testimony from a
5 number of water users in New Mexico in the Lower Rio
6 Grande, including municipal water users and
7 agricultural water users. What type of water use does
8 PNM have?

9 A. Industrial.

10 Q. And what are your specific responsibilities
11 as the water resource manager?

12 A. Well, generally, since, you know, electricity
13 is such an important resource for New Mexicans, we
14 need to have a reliable supply of water so that we can
15 generate the electricity that our customers expect.

16 Q. And how do you do that? What are some of
17 your specific activities that you do in your role?

18 A. Oh, I acquire water rights for new
19 generation. I try and identify risks, peril, to our
20 water rights, and develop strategies to deal with
21 that. I meet with other stakeholders in, you know,
22 water users and environmental folks and talk about,
23 you know, shortage sharing, endangered species, act
24 compliance. I also -- just some of the care and
25 feeding of -- of a water right in terms of doing all

1 the paperwork and, you know, filing the applications,
2 et cetera, et cetera. So I do a lot of administrative
3 work, as well.

4 Q. And then just to be clear, PNM has water
5 rights in the Lower Rio Grande Basin, correct?

6 A. Yes. Yes, ma'am.

7 Q. Okay.

8 A. We have water rights all over the state.

9 Q. Okay. And I'm going to come back to those
10 water rights specifically and ask you about those on
11 your direct, but before we go any further, just tell
12 me very briefly just your background. First start
13 just your educational background, please.

14 A. Sure. I graduated high school in Las Cruces,
15 Mayfield High School. I joined the Navy to see the
16 world and spent all four years in San Diego as a
17 surgical intensive care tech and physician's
18 assistant. Then after I got out of the Navy, I went
19 to San Diego State University for a while, decided I
20 was never going to get my degree there so I went back
21 to New Mexico State University and got serious and got
22 any degree there, joined IBM after that, and although
23 I -- I loved all 300,000 people I worked with, I
24 decided to take a -- a job with a company selling
25 industrial wastewater treatment equipment all over the

1 western U.S. and Mexico.

2 **Q. When did you first start to work with PNM?**

3 A. In 1997, I decided that I was on the road way
4 too much and so I wanted to settle down, and I -- I
5 found an opportunity with PNM in 1997.

6 **Q. And have you been with PNM since then?**

7 A. Yes, ma'am.

8 **Q. So is that about 24 years now?**

9 A. Yep.

10 **Q. And, again, very briefly, just as background**
11 **for you and your role, describe your different**
12 **positions you've had at PNM?**

13 A. Well, I was hired on -- at the time PNM owned
14 the gas utility in Southern New Mexico, and since I,
15 you know, was the Southern New Mexico resident, I was
16 asked to help with gas marketing in the southern area,
17 Santa Teresa in particular, and then also I supported
18 economic development in the area, so we were helping
19 industrial parts and others recruit industry to the
20 area. That was in 1997 through 2000.

21 **Q. And what did you do after that?**

22 A. Then I worked with -- well, wholesale power
23 marketing group, which was responsible for generation
24 development and acquisition so I was involved in
25 acquiring several plants, developing power plants,

1 Afton being one of them, and so -- and we were looking
2 at a lot of different resources at the time.

3 Q. You just said Afton being one of them. Would
4 you describe what you mean by Afton?

5 A. Afton generating station is a power plant
6 that we have. It's down there in the Lower Rio Grande
7 about 12 or 15 miles from Las Cruces.

8 Q. And then after your position in the
9 development role, did you move on to the water
10 resource management role you're in now?

11 A. Yes, ma'am. In 2010, I became project
12 management for the water resources for PNM.

13 Q. And you still hold that position today,
14 right?

15 A. Yes.

16 Q. You mentioned earlier that sometimes you meet
17 with stakeholders. What did you mean by stakeholders
18 that you meet with?

19 A. Well, one example is we have a
20 shortage-sharing agreement among major water users up
21 in the San Juan on the San Juan River, but, you know,
22 I also meet with -- have met with a lot of folks in
23 the Lower Rio Grande. There 's a Lower Rio Grande
24 Water Users group, and so I -- I have met with them,
25 as well.

1 Q. I think we've heard from a couple prior
2 witnesses about the LRG Water Users Group. Will you
3 just describe what that group does?

4 A. Well, I -- it's basically just a group of
5 municipal, agricultural, and industrial water users
6 who are interested in the sustainability of the
7 aquifer and continued water use.

8 Q. Turning then to PNM's role as an electricity
9 provider in New Mexico, let's discuss briefly their
10 operations. Describe what the operations are for PNM
11 in New Mexico, please.

12 A. So like I said, we serve over a million New
13 Mexicans. We have 540,000 or so meters, and so those
14 include residential meters, but also commercial,
15 industrial, and military customers, and so, you know,
16 I think I might have said that even since energy is
17 such a vital economic resource, we are required,
18 obligated, to keep a very reliable supply available to
19 our customers. We -- we serve -- you know, we have
20 territory -- service territory all over the state, 13
21 different municipalities, you know, Santa Fe,
22 Albuquerque, Taos, you know, Belen, Las Lunas up in
23 the north part, over in Silver City area, over in the
24 east, Ruidoso, up in the very northeast little town
25 called Clayton. And we also serve eight of the Indian

1 pueblos or communities around the state, as well.

2 **Q. Does PNM serve the area around Las Cruces in**
3 **the LRG area?**

4 A. No, ma'am, we don't.

5 **Q. And who does that?**

6 A. That's El Paso Electric.

7 **Q. But you do have a generating plant in the**
8 **LRG, correct?**

9 A. Yes. Yeah, that's the Afton facility there.

10 **Q. When did PNM first start providing services**
11 **in New Mexico? When was it first founded?**

12 A. Well, back when Mr. Eschenbrenner was
13 starting New Mexico State University in 1888, we
14 started serving wood lumber mills in the Albuquerque
15 area. We didn't formulate until, you know, this
16 current company until 1917, but we have been around
17 since 1888.

18 **Q. So you mentioned that El Paso Electric**
19 **actually serves the electricity in the LRG?**

20 A. Yes.

21 **Q. Are you aware of where the El Paso Electric**
22 **plants are located?**

23 A. Well, they have an interest in Palo Verde
24 nuclear generating station. They have several plants
25 in the El Paso area. In fact, there's one down in

1 Sunland Park, New Mexico, right there by the river,
2 and that's been there quite a while.

3 Q. So El Paso Electric has a plant in Sunland
4 Park in New Mexico; is that correct?

5 A. That's right, yeah.

6 Q. What water rights do they have; do you know?

7 A. Yeah, I looked -- I looked at their file on
8 the state engineer's. They have New Mexico permitted
9 water rights.

10 Q. Those groundwater rights?

11 A. Yes. There was some mention that they used
12 to have surface water, but now they've been converted
13 to groundwater.

14 Q. So, again, just to make sure the record is
15 clear, if PNM does not serve the LRG area with
16 electricity, what specifically is your interest in
17 this case?

18 A. Well, when I first became aware of the case,
19 you know, since I -- like I said, I'm responsible for
20 making sure we have water available all the time, I
21 became concerned because the -- Afton is a very
22 valuable resource to our company, and it is also a
23 very valuable resource to the western grid, and so,
24 you know, I don't know how the attorneys will take
25 this or the judge, but sometimes bad things come out

1 of court cases and so I was -- I just wanted to make
2 sure that, you know, we were involved in -- in doing
3 what we could to make sure that we didn't have an
4 adverse outcome.

5 Q. Are you concerned, though, about the PNM
6 groundwater rights specifically?

7 A. Yeah. We -- yeah. We have 556 acre-feet of
8 permitted groundwater rights there.

9 Q. So we're going to talk a little bit about the
10 specifics of your PNM generating station. Let's turn
11 to Exhibit 874, please. Before we do, though, do you
12 recall when you were doing your review online of how
13 large of a water right the El Paso Electric Company --
14 how much water it utilizes?

15 MR. DUBOIS: Objection, Your Honor;
16 hearsay.

17 JUDGE MELLOY: I'll sustain that. Move
18 on, Ms. Thompson.

19 Q. (BY MS. THOMPSON) So looking at Exhibit 874,
20 do you recognize this document?

21 A. Yes, I do.

22 Q. And what is it?

23 A. Well, when you -- when you've been around as
24 long as I have, you get the opportunity to train new
25 supervisors from time to time, and this is kind of a

1 document that I put together to achieve two things, to
2 update new management of what our resources are, but
3 also if there are any risks associated with those and
4 how important I am in making sure that we have plans
5 to mitigate those risks.

6 **Q. Sorry. Did you say you prepared this**
7 **document; is that right?**

8 A. Yeah. So this is what I would use to, you
9 know, brief management.

10 **MS. THOMPSON:** Your Honor, this one is
11 obviously already admitted, New Mexico 874.

12 **Q. (BY MS. THOMPSON) So, Mr. Greene, looking at**
13 **the first page of this document, would you just**
14 **describe looking at the map here where the Afton**
15 **generating plant is located?**

16 A. Sure. Well, you can see from the map, it's
17 west of the Rio Grande River about, you know, 10 or so
18 miles, and southwest of Las Cruces by 10 or 15 miles,
19 so it's basically up on a Mesa out in the middle of
20 nowhere.

21 **Q. And when was the plant built?**

22 A. 2004 it came online as a simple cycle
23 gas-fired station, 150 megawatts. In 2007, it was
24 upgraded to a combined cycle operation of 230
25 megawatts.

1 Q. Is that the amount it produces today?

2 A. Yes.

3 Q. And how many households will that capacity
4 serve?

5 A. It's about 500 households per megawatt so
6 what's the math on that? It's over -- over a half a
7 million or -- I'm sorry. Over 500.

8 Q. Sorry. Is that 500 homes? I didn't get
9 that?

10 A. Yeah. 500. Well, 500 -- I'm sorry. One
11 megawatt is 500 homes. 230 times 500 is -- I don't
12 know. I don't have my calculator with me.

13 Q. Okay. That's fine. So on the first page,
14 though, looking back at the photograph of the Afton
15 plant, first off, I should say, is that the Afton
16 plant on that photograph?

17 A. Yes, it is.

18 Q. Okay. Would you just briefly describe what
19 we're seeing here in this photograph?

20 A. Sure. I'm going to start in the lower
21 right-hand corner. I don't have a pointer, but in the
22 lower right-hand corner is the switch yard so that's
23 where the electricity is gathered from the generator
24 and put out on to the electric grid. If you keep
25 going towards the upper left-hand corner, you'll see

1 there's kind of a box-looking thing and a couple of
2 smokestacks or they're actually -- yeah, those are not
3 really smokestacks. They're just exhaust stacks. The
4 first generator is in, you know, where you see that
5 little box back further down towards the -- towards
6 the substation. Sorry. Yeah. I wish I could control
7 that. Anyway, there is a -- so where that first
8 exhaust stack is is the first generator. It's -- it's
9 powered by gas so gas is put in into that chamber.
10 It's ignited, and it -- as it expands, it turns a
11 turbine generating electricity, and then behind that,
12 all of that waste heat is captured and used to turn
13 water into steam and so that is -- that's the cycle
14 that's called heat recovery steam generator. That's
15 where, you know, we're using water to create steam to
16 drive another turbine to generate more electricity.

17 **Q. And, Mr. Greene, how many wells are**
18 **associated with this facility?**

19 A. We have two wells there on the -- on the
20 fence line there towards the upper left-hand corner.

21 **Q. And just to make sure I'm clear then on how**
22 **specifically the water is used, is it used for the**
23 **cooling of -- at this facility?**

24 A. Yes. So we use it to cool that -- that steam
25 back into water so we can run it through the steam

1 generator again. There are two methods we use at this
2 plant to do that. One is a water-cooled cooling
3 tower, and that's -- you see the pond over there in
4 the upper right-hand corner, that's an evaporation
5 pond. There's a small little water cell just to the
6 left of that. The very large facility or very large
7 object up near the fence line is an air-cooled
8 condenser. So we use air instead of water to -- it's
9 just basically like a very large radiator to cool the
10 water, and that helps us save quite a bit of water
11 versus other plants that don't have that technology.

12 **Q. Did PNM receive state engineer authorization**
13 **to utilize groundwater rights?**

14 A. Yes, we did.

15 **Q. So turning to those water rights**
16 **specifically, if we could also continue to look at**
17 **this map on the first page, does the map indicate the**
18 **original location of specific water rights that you**
19 **currently use at the Afton plant?**

20 A. Yes, ma'am, it does.

21 **Q. Would you explain for the Court, please,**
22 **exactly what the purple dots are and how those purple**
23 **dots relate to your water rights at the Afton plant?**

24 A. Well, that indicates the location of the
25 original well that those water rights were associated

1 with and then subsequently moved up to our wells.

2 Q. And when you say "moved," is the term used in
3 New Mexico a transfer of water rights?

4 A. Yes.

5 Q. And how many total original water rights did
6 you transfer to the PNM plant?

7 A. Seven. Little green dot where Afton
8 generating station is, is also a water right for El
9 Paso Natural Gas that we also transferred into our
10 well.

11 Q. And why did PNM have to go out and purchase
12 these original water rights that we see in the purple
13 dots versus just seeking new appropriations or new
14 water rights?

15 A. Well, the basin was closed in 1980s so there
16 weren't any new appropriations available so, you know,
17 you basically had to identify water rights that you
18 could transfer to the -- to your own well. There's a
19 rigorous process to go through to do that.

20 Q. So you couldn't seek new water rights; you
21 had to find pre-basin water rights; is that right?

22 A. Yes.

23 Q. And then were you personally involved in the
24 work identifying these original water rights and
25 transferring them to PNM?

1 A. Yes, ma'am. I -- since I was local, I did a
2 lot of the ground work. We had water counsel
3 available to us and then some administrative folks and
4 another developer, who was also involved.

5 **Q. And since you were part of that team that**
6 **looked at these original water rights, what was your**
7 **criteria for evaluating which water rights to go out**
8 **and purchase?**

9 A. Priority date was a very critical one. This
10 power plant is very important to us and to the -- and
11 to the western grid and to our customers. We have to
12 have a good reliable source and, you know, the more
13 senior your water right, the better, and so we had --
14 we did our best to cobble together enough water rights
15 with good -- good priority date. We also were
16 concerned with the hydrographic survey or basically
17 the evidence of whether or not those rights had, in
18 the view of the state engineer, been used
19 beneficially. So if you try and transfer a water
20 right that doesn't -- hasn't been identified as having
21 been used beneficially, then you'll -- you'll end up
22 with a lot of wasted effort so we were looking for
23 rights that had good records of beneficial use. There
24 was also, you know, some concern. We had -- you know,
25 we looked at a lot of different water rights. I mean,

1 we got these -- we, you know, ended up with these
2 seven, but we looked at a lot of different water
3 rights and, you know, one of the things that we
4 discovered is that, you know, the state engineer's
5 office takes a look at the water right and determines
6 if you transfer it, determined whether or not it will
7 have an impact on other water users in the area but
8 also what impact that might have on -- on the river,
9 you know, the whole system there, and so we did look
10 at water rights that are actually west of the plant,
11 and as we, you know, went through and discussions with
12 the state engineer's office, they said, you know,
13 we're -- you know, you're not going to be able to
14 transfer all of these rights to the -- to the plant
15 because they'll have a greater impact on the river
16 than you -- than if you were moving away. So as you
17 can see, we moved, you know, six of those water rights
18 further away from the river and so we were able to
19 move all of the rights that had been beneficially
20 proven.

21 Q. So if we turn to the second page of this same
22 exhibit, there's a table at the top of the page. Do
23 you recognize this table?

24 A. Yes.

25 Q. And would you just briefly describe what this

1 **table is listing here?**

2 A. Well, it talks about the original OSE file
3 numbers, so if you wanted to, you could look into the
4 state engineer's file and find out, you know, what
5 information they have about that and then what the
6 priority date was and then the diversion and per
7 priority date. So, in other words, I ranked these in
8 this table by, you know, the oldest to the newest and
9 then summed them all up in the last column.

10 Q. And so just to confirm then, the priority
11 date column, it looks like your priority dates are
12 from 1949 to 1972; is that correct?

13 A. Yes, ma'am.

14 Q. Then you said earlier that you were
15 specifically targeting pre-1980 pre-basin rights; is
16 that right?

17 A. Yes.

18 Q. Okay. So all of these seven rights are
19 indeed pre-basin rights?

20 A. Yes, they are.

21 Q. And then on the right two columns, it
22 says, "Diversion per priority date" and "cumulative
23 diversion," which can be a little bit confusing, but
24 would you just describe for the Court please what you
25 mean there by "diversion"?

1 A. Yeah. It probably would have been better to
2 use consumption, but since we are a zero discharge
3 facility, in other words, whatever we take in,
4 whatever we divert, we're going to consume. You know,
5 they're pretty much interchangeable. But -- so
6 anyway, that's the amount that we would, you know,
7 legally by -- by using that right, that we would be
8 able to use 67.5 acre-feet of -- of that first 1949
9 right.

10 **Q. So is that the consumptive use amount then of**
11 **the original rights?**

12 A. Yes. Yeah. So most of these were
13 agricultural. There were two -- the LRG-15 was from
14 the El Paso Natural Gas, and LRG-8740, which is the
15 one all the way on the bottom, was from a RV park or
16 trailer park. All the rest of them were ag rights and
17 so they had much larger diversion rights because they
18 would have return flows into the system so they could
19 divert more. You know, let's just say they used --
20 they diverted 100 acre-feet. Their crops used 70
21 acre-feet. They'd return 30 acre-feet to the system
22 and so the diversion was 100, but their consumption
23 was only 70 and that's what we would be able to
24 transfer to our site.

25 **Q. And what was the process then that you had to**

1 go through with the state engineer's office to
2 transfer the original water rights to the PNM site?

3 A. Well, you have a lot of discussions with --
4 with the engineer. Hopefully you can get comfortable
5 with, you know, what their perception of those rights
6 are so you fill out an application. The original
7 owner is basically the one that fills out that
8 application. They say they want to transfer those
9 rights to -- to our site and that kicks off a number
10 of processes. The state engineer's office will look
11 at the record of the beneficial use, see if there was
12 any -- a sub-file order or anything associated with
13 that, but whatever the hydrographic survey said, then
14 they'll look at the modeling to see if this -- they
15 believe this will have an impact on, you know, the --
16 the system there, and then, also, they'll look to see
17 if there are other wells in the area that you are --
18 you know, you're wanting to transfer these rights to,
19 to make sure that you're not going to harm others by
20 your moving the location of those -- of those
21 diversions and consumption. And so you go through
22 that process, and the -- then another step is you've
23 got to publicize the fact in, you know, the paper
24 three weeks in a row, you know, the intent to move
25 those water rights. There's, you know, a lot of

1 information about, you know, the move where the wells
2 are -- where the water rights are now, where they're
3 intending to move them, and other locations. So other
4 information so that other water users can evaluate
5 whether or not that means anything to them, if it's
6 going to -- if it's going to impact them at all.

7 **Q. And so as part -- sorry.**

8 A. If they do think that, you know, there's
9 going to be harm to them or, you know, harm to
10 conservation or the good of New Mexico, then they can
11 protest those moving of those rights, and then that
12 kicks off another process of hearing those protests
13 and -- and sorting all that out. We never had any
14 protests so haven't had to go through that.

15 **Q. And so as part of PNM's transfer, PNM did**
16 **provide public notice in the newspaper; is that right?**

17 A. Yes. On every single one of these.

18 **Q. And then did you receive any protests on any**
19 **of the transfers?**

20 A. None of those were protested.

21 **Q. Even though there weren't any protests, does**
22 **the state engineer's office still do their own**
23 **detailed evaluation of the transfer?**

24 A. Right. Yeah. Well, that's the process about
25 looking at the beneficial use and looking at the

1 models to make sure and then, you know, make sure that
2 it's not going to impact the system, make sure it's
3 not going to impact others.

4 Q. And then ultimately, and you can refer back
5 to this table, the last column, what was the total
6 amount of water that was allowed to be transferred?

7 A. Yeah. 555.756 acre-feet.

8 Q. Then let's look then at the bottom of Page 2,
9 please. I want to just understand a little bit about
10 the importance of PNM and its importance of the
11 interconnected system here. Looking at this map,
12 would you describe what this is showing, Mr. Greene?

13 A. Well, this is a map of the Western Electric
14 Coordinating Council, so what it shows is that all of
15 these -- all the western states, you know, they are so
16 colored in whatever that putty, are all
17 interconnected. We're all synchronized. All the --
18 all the frequency of all the power on that whole grid
19 is synchronized. So it -- it is basically a bunch of
20 different nodes that are supporting the electric grid
21 and so the way -- the way the grid works is if you
22 have failure in some area, then hopefully other
23 generators will be able to pick up the -- the
24 difference and keep the transmission system alive.
25 It's almost like if you have, you know, a pipeline of

1 -- you have to have a pipeline completely full or
2 it'll fall apart. That's what the electric grid is
3 like. If you -- if -- if you had -- well, let's just
4 say like Texas had last year in their ERCOT system,
5 they had a serious failure of some of their
6 generators, a lot of their generators, so they ended
7 up having a lot of blackouts, et cetera. And so, you
8 know, we're -- you know, I'm not going to say that's
9 never happened here in the WECC, but it's just --
10 that's an indication of what could happen. And you
11 can see that, you know, PNM and El Paso Electric are,
12 you know, part of the same system and so that's why,
13 you know, I say this -- Afton is a very important part
14 of our system. It provides over 10 percent of our
15 power, and it also provides a lot of support to the
16 transmission system, you know, and we and El Paso
17 Electric, you know, rely on each other to -- to keep
18 this same amount of electricity in the -- in the grid.

19 **Q. And then looking over at the next page, Page**
20 **3 at the very top, the first paragraph, first sentence**
21 **says, "While evaluating potential sites for new**
22 **generation facilities, several factors were deemed**
23 **critical to the successful development of the**
24 **project." Do you see that paragraph?**

25 **A. Yes, uh-huh.**

1 **Q. And since you were part of the team that**
2 **acquired Afton, what were some of the critical factors**
3 **to the success of this particular station?**

4 A. Well, the first thing you do in site
5 development is look for fuel supply and transmission,
6 and so this -- you know, back in the picture, El Paso
7 Natural Gas pipeline was right next to Afton, so that
8 had fuel, and there was significant transmission
9 sources available right adjacent to the -- to the
10 site. And the next thing on the list is if you
11 require water to operate, is there water available,
12 both physical water, and also the right to use it.
13 And so that -- the availability of water will trump
14 any -- you know, you may have a great site, but if you
15 can't get water to cool it, then -- then you've got to
16 move on.

17 **Q. And how much did PNM invest in this**
18 **particular Afton site?**

19 A. \$240 million.

20 **Q. And what would be the impact to PNM if it**
21 **wasn't able to utilize its water rights and couldn't**
22 **utilize this station?**

23 A. Well, the real impact would actually be on
24 our customers. The -- you know, this -- this plant
25 has been in our customers' rate based since 2004. Out

1 of the \$240 million that, you know, was put in --
2 approved to be put in the rate base, the customers
3 paid about 80 million of that. So there's another
4 \$160 million left of -- of rate base. If Afton were
5 to go away because the water issues, then they'd still
6 be on the hook for -- for that 180 million, plus then
7 we'd have to build another power plant in its place.

8 **Q.** So just to make sure that I understand your
9 testimony then, what would be the -- the total
10 financial impact then to PNM for losing the Afton
11 plant?

12 **MS. BARFIELD:** Your Honor, I'm going to
13 object on relevance. I -- this has gone way beyond
14 the scope of anything appropriate for this litigation.

15 **MS. THOMPSON:** Your Honor, may I
16 respond? Oh, you're on mute, Your Honor.

17 **JUDGE MELLOY:** Go ahead.

18 **MS. THOMPSON:** Your Honor, we're just
19 asking a very few simple questions about financial
20 impact. There's long-term reliance on groundwater in
21 this basin. Many of the water users have already
22 explained their testimony on this. We have claims
23 against use of groundwater in New Mexico. We also
24 have affirmative defenses of estoppel and laches, and
25 the idea that our water users wouldn't be able to

1 testify not only to the impacts to them as the ag and
2 municipal community, but in the industrial community
3 is critical, we feel like, to Mexico's positions in
4 this case, as well as its defenses.

5 **JUDGE MELLOY:** All right. Go ahead.
6 You may answer.

7 **MS. THOMPSON:** Thank you, Your Honor.

8 A. So I asked our integrated resource planning
9 group if Afton were not available or if there was no
10 water available to run Afton, you know, what -- what
11 would we likely do, and what they proposed, and I
12 think there's a chart about that a little bit later,
13 but what they said is that, you know, the solar
14 voltaic and battery resources, which we are beginning
15 to install, would probably -- would likely be, you
16 know, what we would use to generate that -- that much
17 electricity in -- in this area. So the solar -- the
18 solar voltaic is non-dispatchable so you have to --
19 you know, in other words you can't tell the sun when
20 the shine. So that's why you couple it with the
21 batteries so that you can tell the battery, discharge
22 the energy that the grid needs right now. So, you
23 know, their estimate of that came up to around \$330
24 million.

25 **Q. (BY MS. THOMPSON)** And if we look at the

1 bottom of the page, I believe you referenced a table.
2 We'll just pull that up quickly to show that the Afton
3 replacement cost estimates here, I think you pointed
4 out the \$330 million number plus this increased annual
5 cross at the bottom. Would you just describe for the
6 Court, please, what that last number is, the 2 -- I
7 think that's 2,217,000?

8 A. Yes. So the -- you see the label replacement
9 operating cost. That's how much it would cost to
10 operate the solar voltaic battery facility, and then
11 -- but you're not going to have to run Afton because
12 Afton is no longer there so you subtract those out,
13 and so the net is around \$2.2 million additional
14 operating costs that our customers would -- would also
15 have to bear.

16 Q. So am I correct in that you would lose the
17 cost of your investment in Afton; you'd also have the
18 cost of the new plant, plus the increased operation
19 and maintenance cost?

20 A. Yeah, again, it's not me. It's not PNM.
21 It's our customers would lose the original investment.
22 They would have to pay for the -- the replacement, and
23 they would have to pay the additional operating costs.

24 Q. Moving on then past the finances, what's the
25 timing then, you know, if you had to replace a plant

1 **like Afton?**

2 A. Well, that's a really loaded question, but
3 three to five years, if everything goes great.

4 Q. So then the -- the last area I want to cover
5 on this particular exhibit and before we move onto
6 another exhibit is the plant's conservation of water.
7 There's a reference back on Page 2, the second
8 paragraph, that, "To conserve water, Afton employs a
9 hybrid cooling system to utilize air-cooling
10 technology to augment the water-cooling system."
11 Would you just describe for me what that means? What
12 does the plant do to conserve water?

13 A. Right. Well, can we go back to the picture
14 that was on the -- I don't know if it's the next page
15 or not, but with the --

16 Q. Sure. Page 4, please.

17 A. There.

18 Q. Okay.

19 A. So you see the very large radiator in the sky
20 is an air-cooled -- air-cooled condenser. So like I
21 said, it works just like a radiator in your car.
22 There is cooling water recirculated throughout that
23 enclosed system. Air is drawn through, and that cools
24 the steam back into water, and then that goes back
25 into the steam turbine. And so we -- we can operate

1 this plant almost all year without using any water,
2 but during the summer months when our load is high and
3 the heat is high and relative humidity is high, we
4 need to use the water-cooling towers, which -- so --
5 so this is what is called a hybrid system. It uses
6 both air-cooling and water-cooling.

7 **Q. How does the water use at the Afton plant**
8 **compare to other similar water-cooled, gas-fired**
9 **plants?**

10 A. Well, so I look at different studies.
11 Similar combined cycle plants, you know, they have
12 data points, they do studies at the National Electric
13 Reliability Institute and so they show 200 gallons per
14 megawatt hour. That's how you measure how efficient
15 your plant is, how many gallons do you need to -- to
16 create one megawatt hour of electricity. So 200 to
17 300 gallons per megawatt hour is typical in a plant
18 like this. We have very -- we have some plants in our
19 system very old that consume quite a bit more. Afton
20 uses only 99. It averages 99 so let's round it to a
21 hundred.

22 **Q. And if you look --**

23 A. So it's two to three times more efficient.

24 **Q. Okay. Thank you. And then on this same**
25 **page, if we look at the single-line table, it**

1 says, "Historical water use at AGS," which is the
2 Afton plant. This is showing over the years it looks
3 like, and then there's an average at the end. Would
4 you describe for me what the average number there is?

5 A. It's 177 acre-feet used per year.

6 Q. And based on that, just so that we all
7 understand then, why does the Afton plant need the 556
8 that you mentioned earlier?

9 A. Right now, we -- we run Afton between 30 and
10 40 percent of the time. As we are stepping back from
11 coal-fired resources, we're going to be running Afton
12 a lot more, and we actually -- you know, because of
13 our interconnection in the WECC, we need to be able to
14 run that plant a hundred percent of the time. If
15 there was some failure, for instance, well, in El Paso
16 or, you know, Palo Verde or whatever, we need to be
17 able to run it a hundred percent of the time. That's
18 why you -- you get enough water rights to support the
19 plant a hundred percent of the time.

20 Q. Thank you. We're going to move on then to
21 the next exhibit, New Mexico Exhibit 873, please.

22 MS. THOMPSON: And, again, Your Honor,
23 this one has been admitted, as well.

24 Q. (BY MS. THOMPSON) Mr. Greene, do you
25 recognize this exhibit?

1 A. Yeah. It's from the state engineer's water
2 rights database.

3 **MS. THOMPSON:** Ms. Ferguson, if you
4 could just pull on to the whole document for a minute,
5 that'd be great. Thank you.

6 **Q. (BY MS. THOMPSON) Just describe for me what**
7 **this water rights summary is, please.**

8 A. Well, it basically is the story of our water
9 rights at Afton if you -- you can see -- you know, it
10 takes a little while to learn all the acronyms and
11 whatnot, but you can see that, you know, we have a
12 permit that we changed, you know, that we were allowed
13 to change the location. You can see right in the
14 middle there is one, "DEN." That was one that we
15 submitted an application to transfer, and it was
16 denied. All the way at the bottom, there's some that
17 we submitted for transfer, and they were -- we later
18 decided to withdraw them. And so if you click on
19 those links, then it takes you to, you know, the
20 relevant documents.

21 **Q. And is this water rights summary database**
22 **that we're showing here, is that available to the**
23 **public?**

24 A. Yes.

25 **Q. And do you use these types of summaries as**

1 part of your work?

2 A. Yeah. All the time.

3 Q. And you mentioned that there was denial of
4 one of your water rights that you -- excuse me -- one
5 of the water rights you've requested to transfer; is
6 that right?

7 A. Right.

8 MS. THOMPSON: And if we could pull up
9 Texas Demonstrative No. 1, I believe, the Texas cross
10 exhibits. Greene demonstrative.

11 Q. (BY MS. THOMPSON) While we're pulling that
12 up, Mr. Greene, would you just describe your
13 understanding of why that particular request was
14 denied?

15 A. Well, it basically came down to the fact that
16 they didn't have as good a record of beneficial use as
17 -- as it was going to be required by the state
18 engineer. They had claimed, you know -- I guess I
19 would say they had over claimed the amount of water.
20 I think they -- they had claimed a thousand acre-feet
21 for a subdivision or something, and so -- so, you
22 know, it was just one of those lessons learned that
23 they aren't -- they aren't all what you think they are
24 going in. So here's the application. You can see in
25 November of 2006, I guess.

1 Q. So this application, was this one reviewed
2 like the others by the state engineer's office?

3 A. Yes, ma'am.

4 Q. And then did the state engineer's office do a
5 detailed evaluation of this request for transfer?

6 A. Right. Yeah. Somewhere in here, I think
7 there's a memo that the -- you know, one of the water
8 rights folks writes to the water master or to the
9 division chief about that and so, you know, you'll see
10 the specific reason why they were denying this
11 encapsulated in that.

12 Q. But as far as you know, it was denied,
13 though, by the state engineer --

14 A. Oh, yeah.

15 Q. -- so couldn't transfer this one?

16 A. It was definitely denied.

17 Q. Then going back then to the water rights
18 summary, New Mexico 873, Page 2, there's a priority
19 summary list on Page 2. Is that the list of the seven
20 transferred water rights, Mr. Greene?

21 A. Yes, ma'am.

22 Q. And we won't do it right now, but, you know,
23 the hyperlinks there you mentioned before can lead you
24 to additional information. Have you ever clicked on
25 these hyperlinks, and if so, what do they take you to?

1 A. They take you to a list of the documents that
2 are relevant to that water right. So, like, if you
3 did LRG 11409 POD2, which is a point of diversion,
4 that's our second well there, you'd see a
5 well-drilling record, how many -- you know, how many
6 feet, what kind of casing, all that kind of stuff.
7 You'll see the water -- you know, the history of the
8 water right that was transferred into 11409.

9 Q. So POD and POD2, those are just references to
10 your two wells; is that right?

11 A. Yeah. Point Of Diversion 1, Point Of
12 Diversion 2.

13 Q. Through these hyperlinks, can you access all
14 of your meter readings for those two points of
15 diversion?

16 A. Yes.

17 Q. And, again, those are all public, those meter
18 readings?

19 A. Yes.

20 Q. And does the state engineer track your PNM
21 specific use of water from those two points of
22 diversion?

23 A. Yeah. One of the conditions of approval was
24 that we would report our water use to the state
25 engineer's office every month.

1 Q. And is there a separate permit file for each
2 one of the transferred water rights just like this
3 one, details with hyperlinks showing meter reads?

4 A. Yes.

5 Q. So I'm going to ask you now to look at --
6 excuse me. I -- we are not going to go through all
7 seven of those permit files. There's no reason to.
8 It would take too long. But I do want to just look at
9 one briefly as an example so if we could pull up 0864,
10 New Mexico Exhibit 0864, which, again, has already
11 been admitted. And, Mr. Greene, do you recognize this
12 document?

13 A. Yes, I do.

14 Q. And you've seen this document before,
15 correct?

16 A. Uh-huh.

17 Q. And then just for background purposes, this
18 is a fairly lengthy permit file; is that right?

19 A. Yeah. There's over 50 pages, I think.

20 Q. Just on the very beginning here, and since --
21 you've looked at all the pages, though, right?

22 A. Yes, uh-huh.

23 Q. Just describe for me what would be included
24 in this type of permit file, just kind of the general
25 categories, please.

1 A. Well, so this is the application. You would
2 find the memorandum, you know, like I said, the
3 specialist who's advising the section chief or
4 division chief, whether or not the water right should
5 be -- the transfer of that water right should be
6 approved, you know, that's usually in there, and
7 there's also some surveys like some aerial surveys
8 showing where the land is. There's extensions of
9 time. You know, in some cases, you will find the --
10 the well record, you know, for the -- for those water
11 rights.

12 **Q. And would this file include, in addition to**
13 **the original application, the ultimate approval from**
14 **the state engineer?**

15 A. Yes. Which includes the conditions for
16 approval.

17 **Q. Would --**

18 A. I have yet to see one approved that doesn't
19 have conditions.

20 **Q. Would it also include the detailed memorandum**
21 **where the state engineer has evaluated the request?**

22 A. Uh-huh, yes, ma'am.

23 **Q. And are these files also available online**
24 **through that same database?**

25 A. Right. Yes, they are.

1 Q. So looking at the first page here, Page 1, at
2 the top there it says, "Application for permit to
3 change the location." So this is the actual
4 application that PNM filed with the state engineer's
5 office; is that right?

6 A. Yes.

7 Q. And what year do you recall this one was
8 filed?

9 A. 2007. Looks like I see the -- they stamp it
10 in the lower right-hand corner.

11 Q. It's a little hard to read but --

12 A. Yeah. I know.

13 Q. Yeah.

14 A. But they stamp it -- I think it's 2007.

15 Q. Would you please describe what water right
16 this is seeking to transfer? It says here at the top
17 the current owner is the Bess owners, but describe for
18 us what they were using the right for and how you
19 transferred this.

20 A. Well, this was an agricultural right. This
21 first Section 2, you know, talks about, you know,
22 where -- where those wells were located. You see this
23 one refers you to Attachment A. That means there's
24 not enough space on this application to provide all
25 the information so you include an attachment, and so

1 it gives the details of where -- you know, where those
2 water rights currently reside and, you know -- you
3 know, some details about -- about the transfer, et
4 cetera.

5 **Q. If we could go to Page 41, please. What is**
6 **this memorandum from the state engineer's office?**

7 A. So this is -- like I said, this is -- so this
8 is, you can see water resources specialist Cheryl
9 Thacker is writing to Erek Fuchs, who at that time was
10 the water resource master. So she's done an analysis.
11 You know, I was looking at this. This doesn't happen
12 right away. It takes them, like, three or four,
13 sometimes six months to go through all of the
14 analysis, looking at the models and -- and, you know,
15 the -- the -- you know, whatever the proof of
16 beneficial use of that water right, and so this is --
17 you know, it talks about the application, summarizes,
18 you know, what we were asking for. You see this one
19 was submitted in January of 2007, and this is dated in
20 June of two thousand -- yeah, June of 2007. So took
21 them around six months to do this analysis. So then,
22 you know, after that, it shows the existing wells,
23 where they're from, how big they are, what dates they
24 were drilled, et cetera, and then on the next --

25 **Q. And then --**

1 A. I'm sorry.

2 **Q. Oh, no, I was going to say, and then Page 2.**
3 **It seemed like you were going into the next page.**

4 A. Yeah. So there's more information about what
5 those wells were and then what they were used for and
6 how many acre-feet of water were associated with that
7 right, and then what were they -- you know, what was
8 going to happen to those moved-from wells. So in this
9 case, they were going to keep those wells in use, but
10 they were going to use them for other rights. And
11 then there's information about where are you going to
12 move them to and then what are -- you know, what are
13 you going to do -- what's the purpose of use at, you
14 know, where you're going to move those rights to. So
15 it just tells the story of where they were, what they
16 were used for and where they're going and what they'll
17 be used for there.

18 **Q. And if we could go to the next page, please.**

19 A. So this is where -- yeah.

20 **Q. Go ahead.**

21 A. Yeah, this is where they -- this is an
22 analysis of the hydrographic survey. So that is
23 basically the evidence that they had of -- of that
24 water right. You know, we -- we looked at quite a few
25 of their hydrographic surveys over some of these water

1 rights. They're quite exhaustive, including aerial
2 photographs from decades ago. But any rate, this one
3 describes the sub-file order in the adjudication case
4 so it basically -- there is -- it describes the water
5 right, the amount, and then -- then this section
6 LRG-11409 describes, you know, the move-to location.
7 So it's kind of a story of -- of our wells, and, in
8 fact, you know, it also will alert, you know, the
9 water master to, you know, what other rights have been
10 transferred into those wells.

11 Q. And if we could go to the next page.

12 A. So -- yeah.

13 Q. Sorry, Mr. Greene. Let me just ask a quick
14 question here. So then on this page, you see after
15 that history, it is recognized there is pumping
16 effects on the nearest well and then there's also
17 surface water depletion effects. Would you describe
18 what the state engineer is evaluating there?

19 A. Right. So, you know, looking at their models
20 and whatnot, they have -- so in the location that
21 you're going to move this water right to, they analyze
22 whether or not our pumping of this water is -- would
23 harm them and -- and their conclusion was that they
24 are -- you know, that was going to be negligible, and
25 then since we were -- they were moving from 4 miles

1 east of the Rio Grande to 12 -- I'm sorry -- 10 miles
2 west of the Rio Grande, that the effects on the river
3 would be assumed to be negligible.

4 Q. Excuse me. For transferring the consumptive
5 use amount; is that right?

6 A. Yes.

7 Q. And so location is a relevant factor that the
8 state engineer evaluates; is that right?

9 A. Yeah. So like I said, we had water rights
10 that, you know, you can see we had to cobble together
11 these seven different rights to get up to 555. We did
12 look at other water rights that were in greater
13 amounts, but moving -- they were moving closer to the
14 river and so they ended up -- we wouldn't be able to
15 transfer all of that water.

16 Q. There's also wells, if I understood you right
17 early on in your testimony, that the original wells
18 were located near the river and then where are the PNM
19 wells located?

20 A. Ten miles west of the river.

21 Q. Is it up on the Mesa?

22 A. Yeah.

23 Q. So all of these --

24 A. 400 or so feet above.

25 Q. So all of those factors are relevant to the

1 state engineer's analysis; is that right?

2 A. Yes.

3 Q. Then do these water rights have any offset
4 requirements?

5 A. None.

6 Q. And why is that?

7 A. Because, well, they were pre-basin rights,
8 and we -- we weren't going to have -- we weren't going
9 to have any negligible impact on the river.

10 Q. And then just real quickly at the bottom of
11 this page, there's the notice in the protest, and
12 that's just confirming, right, what you, I think,
13 already testified to about notice and protest,
14 correct?

15 A. Right.

16 Q. That there is required --

17 A. In fact, there were no protests, and another
18 part of the file, I don't know if it's in this one,
19 but, you know, you'll see the actual advertisement and
20 an affidavit from the publication that ran them that
21 they were actually ran on those days, and you can see
22 the text.

23 Q. Over on the last page then that we'll look
24 at, there's the first paragraph, and the very first
25 paragraph is making a recommendation in this

1 evaluation memorandum. What's that recommendation?

2 A. That they be approved to move into our 11409.

3 Q. And then on the same page, there's Paragraphs
4 2 through 8 -- excuse me. Sorry. On the next page
5 over. I apologize. There's Paragraphs 2 through 8,
6 and what is your understanding about what these
7 paragraphs are in the memorandum -- the evaluation
8 memorandum from the state engineer's office?

9 A. So the water --

10 MS. BARFIELD: Your Honor, Texas is
11 going to assert another relevance objection. None of
12 this discussion in the last 15 minutes has been
13 relevant to Compact issues or to New Mexico's
14 defenses. I'm attempting not to be an obstructionist
15 as it goes to this question-and-answer session,
16 however, I want the record to be clear that we object
17 to this entire line of testimony.

18 MS. THOMPSON: May I, Your Honor?

19 JUDGE MELLOY: Go ahead. Well, let's
20 not go too much farther. I think we're -- I hope
21 you're getting close to the end.

22 MS. THOMPSON: We are. But could I
23 respond to that comment from Ms. Barfield, please?

24 JUDGE MELLOY: Go ahead.

25 MS. THOMPSON: I just wanted to make

1 sure that it was clear that the United States has
2 filed a motion in this place specifically targeting
3 and claiming lack of administration in New Mexico and
4 from the state engineer's office, in addition to a
5 number of other assertions, and so this is, in our
6 opinion, incredibly relevant to the positions of the
7 parties.

8 JUDGE MELLOY: Go ahead.

9 Q. (BY MS. THOMPSON) So then for these
10 conditions here, Mr. Greene, starting at Paragraph 2,
11 what are some of the conditions that are required when
12 you do a transfer of water right?

13 A. Well, these are -- I mean, these are very
14 typical that you're not going to harm existing water
15 users. That's in 2. 3 says that we're going to put
16 in totalizing meters of the type that's acceptable to
17 the state engineer and that -- and then 4, we're going
18 to report those meter readings to the state engineer's
19 office every month and then, you know, 5 is we're
20 going to be using as, you know, highest and best
21 technology to conserve water. So we're not going to
22 waste water. And then 6, you know, they don't want us
23 just to transfer water and not prove it up, so they're
24 asking us to be able to file proof of beneficial use,
25 and then the 7 is pretty typical that wherever you

1 move them from, those lands or that -- those 30 acres
2 would not be irrigated from any source. And then --
3 and then an acceptable survey plat identifying the
4 acres, I don't see that in all of them, but sometimes
5 they just want to have that survey done so that it is
6 clear when people are doing field checks, the exact
7 property that they're going to go look at and make
8 sure it's not irrigated any more.

9 Q. Okay. I just wanted to highlight one of
10 those conditions in Paragraph 7. Would you just
11 explain why it's important to not irrigate the
12 original lands when you transfer the water rights?

13 A. Well, they're trying to keep this -- you
14 know, the system in balance, zero sum gain, so that
15 you can't move it to a new location and pump it and
16 keep pumping it in the old location.

17 Q. And then on Page 47, there's an aerial photo
18 and a survey. What's your understanding about how the
19 state engineer's office uses this original aerial
20 photo survey to track whether or not it's been
21 irrigated, the original lands?

22 A. Well, like I say -- I don't know if you want
23 to go to it, but anyways, there's -- it is a survey
24 which very clearly describes the location of those
25 areas, those fields that the water rights were moved

1 from. So, again, in enforcing, you know, the -- you
2 know, no continued irrigation clause, you know, their
3 water masters or whoever they have can go to those
4 exact locations and -- and verify that they are no
5 longer being irrigated.

6 Q. And then on the next page, the -- the notice,
7 is this the official notice that you mentioned before?

8 A. Yes, uh-huh.

9 Q. And then did the state engineer ultimately
10 issue a permit approving the transfers for PNM 7
11 transfer requests?

12 A. Yes.

13 Q. And is that approval on this exhibit, as
14 well?

15 A. Yeah.

16 Q. Okay. If we go back to Page 8, it's on 8 and
17 9, I believe, is this what the approval looks like
18 from the state engineer's office?

19 A. Yeah. Well, I -- I would -- these are --
20 these are the conditions of approval, and so, you
21 know, what you'll get is the original application
22 with, you know, a statement at the end of it that
23 says, you know, action taken by the state engineer
24 approved and then these are the conditions of the
25 approval. So it summarizes, again, you know, priority

1 date, source, you know, where it's going to be used
2 and how much you can use, and then you can see those
3 -- those recommended conditions from the specialist
4 were incorporated into the permit. So these are part
5 of the permit.

6 Q. Okay. And is PNM in compliance with its
7 permit conditions?

8 A. Yes, ma'am.

9 Q. And then just to wrap up, PNM is not an amici
10 in this case, correct?

11 A. That is true.

12 Q. But is PNM closely following this case?

13 A. Yes, we are.

14 Q. And why are you closely tracking this case?

15 A. Well, like I said, bad things happen when
16 states sue each other over water, and so I just want
17 to make sure that we're prepared for anything that
18 happens that could hurt our customers in critical ways
19 and the western grid.

20 Q. And then last question, I think you mentioned
21 this before, but if some of the parties are arguing
22 for reduction or elimination of groundwater use in New
23 Mexico, how would that affect PNM at the Afton plant?

24 A. Well, it would shut this particular plant
25 down. Like I said, we'd have to go to -- you know, if

1 we could -- I don't know -- you know, that's part of,
2 you know, what scenario is going to happen, you know,
3 what's going to happen, do I need to get back in line
4 and sign a federal contract. I have no idea what's
5 going to happen and so that's why we're concerned. So
6 -- but without water, we would close this plant down.

7 **Q. How would that affect your customers?**

8 A. Well, it would lose reliable fairly cheap
9 electricity and so the reliability of the grid would
10 be harmed and our customers would -- their bills would
11 go up.

12 **MS. THOMPSON:** Your Honor, we have no
13 further questions for Mr. Greene.

14 **JUDGE MELLOY:** All right. Who's going
15 to go first, Ms. Barfield or Mr. Dubois?

16 **MR. DUBOIS:** Mr. Dubois is, Your Honor.
17 Good afternoon.

18 **CROSS-EXAMINATION**

19 **BY MR. DUBOIS:**

20 **Q. Mr. Greene, my name is Jim Dubois. I'm an**
21 **attorney with the United States Department of Justice**
22 **representing the United States in this case. I'd like**
23 **to clarify a couple things. You're the water**
24 **operations manager for PNM in New Mexico. That is --**
25 **that is not something that is specific to the Afton**

1 **plant, is it?**

2 A. No. I'm the water resource manager for the
3 company.

4 Q. Okay. And so are you familiar with the
5 operation and finances of the Afton plant?

6 A. Operation and finances?

7 Q. Yeah. Like, the annual -- the annual budget,
8 so to speak?

9 A. I am not.

10 Q. Okay. Then I'll skip those questions. So
11 Afton was built in about 2004; is that right?

12 A. Yeah. I mean, that's when it went online.

13 Q. Okay. And then it was upgraded in 2007?

14 A. Uh-huh.

15 Q. Okay. When were the wells drilled for Afton?

16 A. Before 2004. You know, I think in one of
17 those records, it'll tell you when those wells were
18 drilled.

19 Q. All right. And you testified that you've got
20 seven different water rights there and at least five
21 of them were converted from irrigation rights; is that
22 right?

23 A. Yes.

24 Q. And did you acquire the surface estate when
25 you acquired those well rights?

1 A. No. These were groundwater rights.

2 Q. Okay. And were those water rights all within
3 EBID? The irrigation -- let me rephrase that. Were
4 all the irrigation rights within EBID?

5 A. I believe so. One of the rights was
6 partially approved because part of the land was in
7 EBID and so it was not approved for all of the water
8 that we wanted to move.

9 Q. All right. And you did not acquire the --
10 were there any surface water rights used on those
11 lands, as well?

12 A. Not that I was aware of.

13 Q. All right. So they were -- they were lands
14 that were irrigated groundwater only?

15 A. That's my understanding.

16 Q. All right. And as I understood what your
17 testimony was, those lands are no longer able to be
18 irrigated at all?

19 A. I think all of those conditions said that
20 they would not be used -- they would not be irrigated
21 by any other source.

22 Q. Okay. And if I recall your discussion with
23 Ms. Thompson, the water rights that you acquired range
24 between 1949 and 1972 ; is that right?

25 A. Yes.

1 Q. And so those are all considered valid
2 existing water rights?

3 A. Yes.

4 Q. The Rio Grande Project also has valid
5 existing water rights, doesn't it?

6 A. That's -- that's not my --

7 Q. Okay. So the Rio Grande Project was
8 diverting and using water long before the water rights
9 that were purchased for the Afton plant, right?

10 A. That's --

11 Q. You don't know whether the Rio Grande -- you
12 don't know whether the Rio Grande Project was
13 operating before 1949?

14 A. I have friends who are farmers. Yeah, they
15 --

16 Q. They? You were saying?

17 A. They say the Project was built.

18 Q. Okay. So you're not familiar with any of
19 that?

20 A. I really -- no.

21 Q. Okay. I'm eliminating questions in my mind
22 here that you've already talked about with Ms.
23 Thompson. So six of the changes that were granted
24 from the Office of the New Mexico State Engineer
25 occurred in 2007; is that correct?

1 A. Yes.

2 Q. And you discussed the fact that the changed
3 permits were granted with conditions; is that right?

4 A. Yes.

5 Q. Okay. I'm going to show you New Mexico 684
6 that you were just talking about with Ms. Thompson at
7 Page 9. Next page. Do you remember discussing this
8 with Ms. Thompson?

9 A. 1177, yes.

10 Q. Okay. And I'd like you to focus on Condition
11 No. 2. Do you see that?

12 A. Yes.

13 Q. And it says, "This permit shall not be
14 exercised to the detriment of valid existing water
15 rights." Is that correct?

16 A. That's what it says, yes.

17 Q. Okay. And, in fact, all of the permits that
18 allow the changes from irrigation to industrial use
19 contain that same condition, don't they?

20 A. I've seen it on every one that I've looked
21 at.

22 Q. Okay. Now, would you consider taking water
23 away from farmers, the senior water rights to be
24 detrimental to those water rights?

25 MS. THOMPSON: Objection; foundation.

1 That calls for a technical analysis, Your Honor.

2 JUDGE MELLOY: Overruled. The witness
3 can answer.

4 A. Okay. You're going to have to --

5 Q. (BY MR. DUBOIS) Sure.

6 A. -- explain it to me.

7 Q. Sure. Can we agree Condition No. 2 states
8 that the permit shall not be exercised to the
9 detriment of valid existing water rights?

10 A. Yep.

11 Q. Okay.

12 A. I can agree to that.

13 Q. Would you consider taking water away from
14 farmers with senior water rights to be detrimental to
15 those water rights?

16 A. I don't see how those two things are
17 connected, but I -- yeah, I just don't see the
18 connection.

19 Q. Well, it wasn't a question. The question is:
20 Would taking water away from the senior water rights
21 be detrimental to those water rights?

22 A. In the abstract, yes.

23 Q. Okay. And how about if you were taking water
24 away from those farmers when they were short of water
25 for their senior rights, would that be detrimental?

1 **MS. THOMPSON:** Objection, Your Honor.
2 Same objection. This calls for technical analysis.

3 **JUDGE MELLOY:** All right. You may
4 answer.

5 A. Yes. In the abstract, yes.

6 **Q. (BY MR. DUBOIS)** Okay. I'd like to go to New
7 Mexico 874, please, at Page 3. Mr. Greene, I think
8 you said that the cost for the -- the cost for the
9 Afton plant is about \$240 million; is that correct?

10 A. Yes.

11 **Q. Okay.** And 874 at 3. Oh, there it is. I
12 think that in talking with Ms. Thompson, you focused
13 on this page and stated that the replacement cost for
14 the Afton plant would be roughly \$330 million; is that
15 correct?

16 A. Yeah. That's what my integrated resource
17 planning group advised me.

18 **Q. Okay.** You prepared this document, right?

19 A. Yes.

20 **Q. And so you think that these figures are**
21 **reasonable, correct?**

22 A. Yeah. I mean, I am familiar with their work,
23 and I trust this.

24 **Q. Okay.** So as -- as the water resources
25 manager, is it your opinion that PNM would close down

1 the Afton plant if it were necessary to purchase or
2 lease sufficient water to offset any impact to senior
3 water users that were ultimately determined to be
4 caused by PNM's groundwater pumping?

5 A. No, I don't think necessarily. I mean, we
6 would have to look at, you know, the economics of it.

7 Q. Well, let's just say, what was the original
8 cost for the water rights for Afton?

9 A. I don't know. I think they're in there,
10 like, a couple million bucks, I think.

11 Q. 1.8 million or so?

12 A. Yeah.

13 Q. So let's say it even costs another 1.8
14 million to acquire additional water rights to provide
15 a permanent source if any were needed to offset
16 depletions caused by pumping. You got that?

17 A. Uh-huh.

18 Q. Was that clear? Okay. If -- if PNM were
19 faced with that kind of an additional cost, would it
20 shut down effectually a \$330 million facility rather
21 than --

22 A. You were breaking up there a lot there at the
23 end.

24 Q. Sorry.

25 A. I'm sorry.

1 Q. I said -- all right. That's all right. One
2 of the quirks of technology is every once in a while,
3 there are little glitches.

4 So my question was, so in your opinion as the
5 water resources manager for PNM, assuming even that it
6 costs an additional 1.8 million to acquire sufficient
7 water rights to provide a permanent source to offset
8 depletions to the Rio Grande, would PNM shut down
9 effectively a \$330 million facility rather than
10 acquire those additional water rights?

11 A. Well, my opinion as a water resource manager
12 doesn't really make any decisions about assets, but I
13 would -- I would say that, you know, there's a couple
14 of things. One, I don't believe you could get those
15 water rights at that same price today, but, you know,
16 there has to be -- you know, that's part of, you know,
17 the calculus that I assume our company would make is
18 so what's it going to take to keep this open as-is and
19 then, you know, we would make a decision based on --
20 on that.

21 Q. But in your opinion as a water resources
22 manager, would PNM shut down a multimillion-dollar
23 facility over the acquisition of an additional amount
24 of water?

25 A. Well, like I said, my opinion as the water

1 resources manager would not matter to anybody making
2 those decisions.

3 Q. And the cost of any such water acquisition
4 could also be passed along to the customers, would it
5 not?

6 A. That would be typical.

7 MR. DUBOIS: Okay. All right. Nothing
8 further from this witness. Thank you, Your Honor.

9 JUDGE MELLOY: Ms. Barfield?

10 MS. BARFIELD: I have one question, Your
11 Honor.

12 JUDGE MELLOY: Go ahead.

13 CROSS-EXAMINATION

14 BY MS. BARFIELD:

15 Q. Mr. Greene, isn't it true that PNM will
16 assert whatever water rights that it has under state
17 law regardless of what happens with this litigation?

18 A. I don't know. That sounds like a legal
19 question to me, and I'm not a lawyer.

20 Q. I'm certainly not asking you the question as
21 a lawyer, and I don't seek a legal opinion. I'm
22 asking for the intent of PNM, and it's yes or no,
23 isn't it true that PNM would assert whatever rights
24 that it has under state law, regardless of what
25 happens here in this litigation?

1 **MS. THOMPSON:** I'm going to object, Your
2 Honor. It does call for a legal conclusion.

3 **JUDGE MELLOY:** I'll sustain that.

4 **MS. BARFIELD:** Okay. No further
5 questions.

6 **JUDGE MELLOY:** Any redirect?

7 **MS. THOMPSON:** Yes, Your Honor. Just
8 two quick questions.

9 REDIRECT EXAMINATION

10 BY MS. THOMPSON:

11 **Q.** Mr. Greene, PNM has relied upon its pre-1980
12 groundwater rights to run the Afton plant, correct?

13 A. Yes.

14 **Q.** And it invested heavily in those groundwater
15 rights and the PNM plant, correct?

16 A. Yes.

17 **Q.** And PNM is actively administered by the
18 Office of the State Engineer in New Mexico for its
19 groundwater rights, correct?

20 A. Very actively.

21 **MS. THOMPSON:** No further questions,
22 Your Honor.

23 **JUDGE MELLOY:** Let me ask something
24 here. We've had a lot of discussion about the 2008
25 Operating Agreement, and I think if I understand the

1 way the operating agreement works, one of the benefits
2 to New Mexico water users is that the use of
3 groundwater was grandfathered in to the agreement. So
4 do I understand, since PNM does not use surface water,
5 that they would have been one of the biggest
6 beneficiaries of the operating agreement.

7 **MR. DUBOIS:** That's not necessarily
8 accurate, Your Honor.

9 **JUDGE MELLOY:** Why is that?

10 **MR. DUBOIS:** Because -- how far do I go
11 into legal argument? Your Honor is asking so I will
12 -- I will give you my -- my sense of this, is that the
13 notion of a grandfathering is not accurate. What the
14 operating agreement does is have an agreement
15 regarding the amount of water that EP1 is willing to
16 accept in fulfillment of this -- of its contracts as
17 part of an overall settlement. The operating
18 agreement does not grandfather in particular rights.
19 If anything, that it is -- it is tied to the
20 groundwater pumping within EBID by EBID farmers. It
21 is not an agreement by either Texas or E P1 that
22 certain individual water rights are entitled to
23 continue pumping. There will be testimony, I believe
24 in the spring, that will relate to some of this and
25 what entities are or are not entitled to sort of use

1 water from the Rio Grande Project and are, therefore,
2 beneficiaries under the -- the programmatic
3 apportionment, if you will. And that does not include
4 non-irrigation, and there will, I believe, be
5 testimony, including from New Mexico witnesses to that
6 effect. So it is not quite accurate to make the
7 assumption of individual water users or individual
8 types of water users being subject to, quote,
9 grandfathering. That is not what the -- that is not
10 what the OA does.

11 **MS. THOMPSON:** May I respond, Your
12 Honor?

13 **JUDGE MELLOY:** You may.

14 **MS. THOMPSON:** I just wanted to make
15 clear that New Mexico strongly disagrees with the
16 United States' characterization that you just heard
17 from the 2008 Operating Agreement, and, in fact, is
18 contrary both to prior testimony, and certainly a
19 number of U.S. experts that you're going to hear in
20 the spring, the 2008 Operating Agreement does
21 grandfather in groundwater pumping, and it has a basis
22 in the D2 curve, which is groundwater pumping from
23 1951 to 1978, which is the amount of groundwater
24 pumping that had occurred historically and was
25 continued to allow by Reclamation and recognized as

1 the amount that was allowed to continue to operate the
2 Project. So we do strongly disagree with the
3 characterization of the United States.

4 **JUDGE MELLOY:** All right. Well, I
5 didn't mean to open up a can of worms. It just seemed
6 to me --

7 **MR. DUBOIS:** That's why I was reluctant
8 to get into the argument in the first place, Your
9 Honor, because I knew we would be opening a can of
10 worms, so I apologize.

11 **JUDGE MELLOY:** I just -- I just -- I
12 just wanted to make this comment that -- that a number
13 of the witnesses have characterized it as
14 grandfathering. That may have been an incorrect
15 assumption by those witnesses or that may have been
16 how it was sold to them, but it wasn't correctly
17 characterized. I don't know. But if one assumes that
18 groundwater pumping was grandfathered under the
19 operating agreement, then it would seem that PNM would
20 be the big winner in -- in any -- in the operating
21 agreement, but that -- I'll leave it at that.

22 **MS. THOMPSON:** We'd love to respond if
23 you'd like.

24 **JUDGE MELLOY:** Go ahead. I would like
25 to know why -- why somebody who only had groundwater

1 pumping, assuming that they're guaranteed to allow to
2 be continued to do that, would not have been the big
3 winner in the operating agreement.

4 **MS. THOMPSON:** So under New Mexico state
5 administration, of course, the basin was declared in
6 1980, and the grandfathering in of the groundwater
7 pumping from '51 to '78, they closely match up, and so
8 you're correct that pre-80 groundwater pumping does
9 not require offsets and so there is a benefit in New
10 Mexico for being pre-1980, which matches up with the
11 D2 curve, absolutely. So there are some components of
12 an operating agreement like the D2 curve that New
13 Mexico supports, and so there's -- there's no one that
14 you're going to hear from New Mexico that says there's
15 not components of it that we don't support, but there
16 are a number of components that we don't, that we
17 think over allocated to Texas, and allowed for an
18 illegal carryover.

19 **JUDGE MELLOY:** Well, I understand all
20 that. All I'm saying is -- and -- and probably
21 shouldn't have said anything, but all I am saying is
22 that -- is that not everybody's going to be treated
23 the same under the operating agreement. Some entities
24 in New Mexico, and it just seems to me that PNM is one
25 of them, are going to probably be greatly benefitted

1 by the operating agreement, even as it's currently
2 written; others may not be, but this is probably one
3 entity that is -- would -- if -- if grandfathering is
4 correct, would -- would probably just as soon see the
5 operating agreement remain in effect. But I'll just
6 leave it at that. Everybody is going to be different.
7 Some will be -- some will be hurt more than others, I
8 guess is all I can say, and some will be benefitted
9 more than others, and that probably is true in Texas
10 as well as New Mexico. It's -- the operating
11 agreement is a compromise, and in any compromise, some
12 people make out better than others. I guess that's --
13 that's -- I'll leave it at that. All right. So,
14 Mr. Greene, I'm sorry you had to sit through all that,
15 but you're done. You're excused for the evening. We
16 thank you for your testimony.

17 THE WITNESS: I do appreciate the
18 opportunity.

19 JUDGE MELLOY: Thank you. All right.
20 Well, it looks like we're at about 5:00 so we'll break
21 for the evening.

22 Well, looking at the schedule, though,
23 we probably won't get much past Mr. Westmoreland on
24 Friday, and that would leave us with Longworth,
25 Serrano, Garay, and Stahmann-Solis, which I would

1 think we should be able to get through in about three
2 days next week, don't you? I would hope we'd be done
3 by Wednesday?

4 **MS. THOMPSON:** I agree, Your Honor. I
5 think we will definitely be done early next week. We
6 do have one witness, Mr. Westmoreland, who is not
7 available until Monday, so we'll work on what your
8 request was, whether or not we could for this week, if
9 we end early on Friday, if there's anyone we can
10 shift, but Mr. Westmoreland isn't available until
11 Monday morning.

12 **JUDGE MELLOY:** Let me ask this of Texas
13 and United States. Of these witnesses who are listed
14 as hostile witnesses, Chavez, Mills, and French, do
15 you anticipate that you'll be examining them very
16 extensively?

17 **MS. BARFIELD:** Your Honor, regarding the
18 two Texas agency witnesses, I do have some examination
19 for them. It's not extensive. Approximately half an
20 hour for each, depending on what's raised in the
21 direct examination, of course.

22 **JUDGE MELLOY:** Which are your two
23 witnesses?

24 **MS. BARFIELD:** Mr. French and Mr. Mills.

25 **JUDGE MELLOY:** Okay. Then Chavez is the

1 U.S. witness? Do you expect much?

2 **MR. DUBOIS:** No, Your Honor. I would
3 think that would be Ms. Klahn for Texas.

4 **MS. BARFIELD:** That one is actually
5 related. That's a Hudspeth witness so it is under the
6 Texas umbrella. Ms. Klahn is handling that and she
7 may have some examination, but I don't think it's
8 extensive.

9 **JUDGE MELLODY:** What I'm getting at,
10 assuming these one-hour estimates are correct, and
11 you've been pretty right on so far, Ms. Thompson, we
12 probably will be through those three witnesses by the
13 end of the day tomorrow and maybe through Stomp. So I
14 really would like to get one more witness on, on
15 Friday, at least. So see what you can -- see what you
16 can do. All right?

17 **MS. THOMPSON:** Will do.

18 **MS. BARFIELD:** If I could comment on
19 that, Your Honor, I will say that on -- from Texas'
20 perspective, as well, the document exchange issue,
21 we're willing to waive the five days for all of the
22 witnesses if they can advance them with the exception
23 of Mr. Serrano. That could be a little more document
24 intensive, which would need the five days. But, for
25 example, if they want to make Mr. Longworth available

1 on Friday, we'll do the document exchange on an
2 expedited basis, and we'll do it.

3 **JUDGE MELLOY:** Is that all right with
4 you, Mr. Dubois?

5 **MR. DUBOIS:** I'm not handling
6 Mr. Longworth. I think that that would probably be
7 okay.

8 **JUDGE MELLOY:** All right. Well, let's
9 see where we are, what you can get put together, and
10 we'll talk in the morning. All right. We'll be
11 recessed then until 9:00 a.m. -- excuse me -- I guess
12 9:00 a.m. Ms. Barfield's time, 11:00 our time. Thank
13 you.

14 **MS. BARFIELD:** Thank you, Your Honor.

15 **MR. DUBOIS:** Thank you, Your Honor.

16 **MS. THOMPSON:** Thank you.

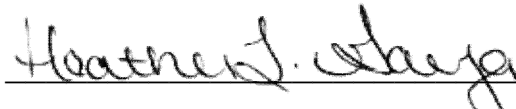
17 (The proceedings adjourned at 5:01 p.m.)
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1 CERTIFICATE

2
3 I, HEATHER L. GARZA, a Certified
4 Shorthand Reporter in and for the State of Texas, do
5 hereby certify that the facts as stated by me in the
6 caption hereto are true; that the foregoing pages
7 comprise a true, complete and correct transcript of
8 the proceedings had at the time of the hearing.

9 I further certify that I am not, in any
10 capacity, a regular employee of any of the parties in
11 whose behalf this status hearing is taken, nor in the
12 regular employ of any of the attorneys; and I certify
13 that I am not interested in the cause, nor of kin or
14 counsel to any of the parties.
15
16

17 GIVEN UNDER MY HAND AND SEAL OF OFFICE,
18 on this, the 13th day of December, 2021.

19 

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a.m 1:12 222:11	108:17,24	166:7 175:8,20	additional 25:22	109:10 114:16
222:12	109:5 110:11	175:21,21	35:17 50:7	140:19
abandon 65:6	achieve 105:21	178:7 186:5	70:4,11 73:11	admit 68:2,22
abandoned	167:1	188:20 195:6	88:11 99:24	104:20,21
71:25 72:1	acquire 50:7	acre-foot 27:15	108:6,8 138:11	110:14 120:18
ability 86:8	90:8 159:18	27:18 39:1	138:21 183:13	129:13 132:20
143:17	205:24 206:9	acreages 46:6	183:23 189:24	133:1
able 28:10 30:6	211:14 212:6	48:12	211:14,19	admitted 68:1
30:9 31:24	212:10	acres 47:8,10,12	212:6,10,23	68:20 94:14,17
50:17 68:19	acquired 9:7,10	47:15 48:15	additionally	116:5 132:9
71:16 75:5	19:21 24:5	71:8 89:2	115:1,10	141:8 155:21
113:10 119:15	25:5,7 29:3	112:6 128:16	117:15 149:14	155:22 156:1,2
129:15 173:13	87:17 180:2	128:17,18	address 66:11	167:11 186:23
173:18 175:8	205:25 206:23	129:4 133:21	90:20 143:4	191:11
175:23 178:23	acquiring 88:17	136:5 201:1,4	addresses 41:17	adopted 7:11
180:21 181:25	161:25	acronyms	110:23	66:20 79:12
186:13,17	acquisition 9:10	187:10	addressing	adopts 78:6
197:14 200:24	27:24 44:8	act 159:23	43:11	advance 111:4
206:17 220:1	161:24 212:23	action 33:16	adequate 75:5	221:22
above-entitled	213:3	34:4 42:20	adjacent 58:25	advanced 29:25
1:11	acre 39:1 52:14	58:3,4 64:24	125:18 133:18	30:5
absolutely	84:2 85:22	76:9,11,15	135:12 180:9	adverse 156:8
218:11	86:6 112:2	77:17 202:23	adjourned	166:4
abstract 209:22	128:20 133:17	actions 42:14	222:17	advertise 35:25
210:5	137:4	76:12 111:1	adjudicated	advertisement
academic	acre-feet 8:24	active 7:25 27:2	82:8,14 118:15	35:19 198:19
103:11 108:17	9:2,5,12,15	actively 214:17	151:2,3	advisable
academics 105:4	12:8,17,21	214:20	adjudication	127:12
accept 34:12	14:14,15 16:25	activities 50:10	11:2,12 67:13	advise 93:22
215:16	17:3,8,19	97:6 101:25	79:7 141:2,13	155:11
acceptable	18:24 19:22	107:13 151:15	151:4,8,22	advised 210:17
200:16 201:3	24:10,10,14	159:17	196:3	advising 192:3
access 40:22	25:3,18 27:7	activity 31:12	adjudications	aerial 192:7
119:18,20	27:13 33:10,19	117:16	63:11 64:2	196:1 201:17
190:13	33:23 34:7	actual 15:13	151:19	201:19
account 32:5,5	38:25 39:8	16:8 23:7	administered	affect 65:6
accounting 27:8	41:21 56:4,9	24:22,23,24	214:17	203:23 204:7
72:16	56:17 69:2	26:8 193:3	administration	affidavit 36:10
accreditation	70:11,19,22	198:19	101:7 145:7	198:20
99:25	73:18 74:6	adapted 127:20	200:3 218:5	affirm 93:9
accuracy 31:10	79:20 80:8	add 94:14 118:7	administrative	154:21
accurate 31:4	84:2 85:2,4,5	118:13	34:3,14 42:21	affirmative
215:8,13 216:6	85:15,22,25	added 25:6 66:5	63:10 64:2	181:24
ACES 103:24	86:6,20 87:10	addition 9:12	160:2 172:3	afford 136:8
105:3,20	87:14 88:11	71:18 76:10	administrator	afternoon 92:12
	128:21,25	138:11 192:12	140:3	92:23 98:13,14

147:23 154:2,3 154:14 156:8 157:19,20 204:17 Afton 162:1,3,4 162:5 164:9 165:21 167:14 168:14,15 170:19,23 171:7 179:13 180:2,7,18 181:4,10 182:9 182:10 183:2 183:11,12,17 184:1,8 185:7 185:19 186:2,7 186:9,11 187:9 203:23 204:25 205:5,11,15 207:9 210:9,14 211:1,8 214:12 ag 102:3 106:13 106:14 111:20 119:10 135:11 138:4 143:6 175:16 182:1 agencies 63:10 64:2 agency 23:11 220:18 Aggie 98:23 99:5,6,7,11 100:10 101:13 101:14 ago 9:11 16:3 72:23 73:14 99:9 101:8 130:7 132:9 196:2 agree 40:5 50:9 59:14,21 61:22 62:1,13 69:25 80:8 148:10 209:7,12 220:4 agreement 31:7 62:20,24 63:8 63:22,24 65:17	66:2 70:18,20 70:21 71:12,14 71:21 72:6,6 73:10 77:20 79:12 90:22,24 95:11 137:12 140:13 143:21 144:10,12,18 162:20 214:25 215:1,3,6,14 215:14,18,21 216:17,20 217:19,21 218:3,12,23 219:1,5,11 agreements 139:19,20 agricultural 64:14 89:8 103:25 104:1 105:13 106:23 107:3 108:1,23 111:10 113:11 113:21 119:11 119:22 122:24 124:21 129:11 135:4 136:11 136:15 159:7 163:5 175:13 193:20 agriculture 95:9 96:24 101:18 103:13,14 105:6,24 106:2 106:6,9 109:21 110:3,9 111:6 113:13,16 124:5 agriculture-re... 103:4 AGS 186:1 ahead 30:2 34:5 41:12 49:12,17 51:21 53:4,21 53:22 60:16 75:16 88:19 90:15 94:25	98:7 107:17 110:17 116:24 117:7 118:4,5 118:18 121:7 126:8 127:3 129:16,18 130:5,10,18 133:2 140:16 144:8 145:22 150:17 156:24 158:5 181:17 182:5 195:20 199:19,24 200:8 213:12 217:24 air 170:8 184:23 air-cooled 170:7 184:20,20 air-cooling 184:9 185:6 airport 57:8 Albuquerque 2:16 163:22 164:14 alert 196:8 alfalfa 136:6,12 136:21 alive 178:24 allocated 218:17 allocation 111:12 allotment 12:20 12:21 39:7 74:6 84:2 85:22,24 137:5 137:20 allow 96:16 140:16 208:18 216:25 218:1 allowed 43:3 70:18 93:23 116:14 155:11 178:6 187:12 217:1 218:17 allowing 113:13 allows 30:5,8 alternative 34:9	48:4 57:6 111:5 121:14 145:6 alternatives 54:23 57:11,11 57:22,25 58:23 83:4 amended 34:4 amici 203:9 amicus 143:12 amount 8:21 9:5 9:12,15,16,17 9:18,19 12:7 13:4 14:19 16:23,24 17:2 17:5,5,17,18 17:19 19:22 33:21,25 38:24 39:6 40:20 53:3,5 56:19 69:1,3,23 70:4 73:4,16,18 75:2 79:20 80:5,9 85:1 86:7 130:7 137:25 138:7 142:6 168:1 175:6,10 178:6 179:18 188:19 196:5 197:5 212:23 215:15 216:23 217:1 amounts 24:7,21 24:22,23,24,25 25:2,10 26:8 26:16 32:11 41:9 197:13 analyses 67:2 analysis 14:16 67:4 80:17 104:14 194:10 194:14,21 195:22 198:1 209:1 210:2 analyze 196:21 analyzed 37:23 ANAYA 2:15	ancient 129:21 130:8 and- 2:13,18 3:11 annual 15:11 20:10 22:23 31:9 42:8 183:4 205:7,7 annually 107:1 annum 17:3 70:11 answer 43:24 59:5 60:18 68:7 74:21 88:16 117:21 120:19,19 146:14,20,21 146:24 151:9 182:6 209:3 210:4 answers 50:18 anticipate 66:17 131:5 220:15 anticipated 95:5 127:9 anybody 213:1 anymore 57:9 anyway 13:3 169:7 175:6 anyways 201:23 apart 179:2 Apologies 140:6 apologize 83:19 199:5 217:10 apparent 122:17 appear 65:10,12 94:6 appearances 92:9 153:25 appears 10:21 21:21 22:15 23:6 26:25 49:25 126:21 128:19 144:13 appendices 22:14 appendix 10:17
--	---	--	---	--

10:18 13:22,24 18:15 22:15 44:18 application 35:5 36:21 37:9,20 37:23 38:7 56:17 85:5 176:6,8 187:15 188:24 189:1 192:1,13 193:2 193:4,24 194:17 202:21 applications 14:11,12,14 160:1 applied 17:8 18:22 39:10 apportionment 75:6 216:3 Appraisal 100:1 appraiser 100:2 100:16 appraising 100:20 appreciate 59:4 91:22 153:9 219:17 approach 43:7 82:15 110:25 appropriate 16:17 58:19 60:2 181:14 appropriated 89:22,25 90:1 appropriation 139:5 appropriations 171:13,16 approval 16:4 18:23,24 19:7 23:10 37:25 38:6,14 88:22 190:23 192:13 192:16 202:13 202:17,20,25 approvals 139:7 approve 37:19	approved 14:11 14:12,18 181:2 192:6,18 199:2 202:24 206:6,7 approving 202:10 approximate 10:2 21:10 53:5 approximately 8:2 25:7 41:21 44:7 46:25 48:6 56:2 70:18 137:17 220:19 appurtenant 46:19 April 81:25 82:7 105:9 141:22 142:21 aquifer 50:6 59:17 60:20 61:24 62:14 66:18 163:7 area 6:12 14:23 38:24 46:7 60:1 61:24 123:14 125:4 134:15,16,18 136:1,4,24 161:16,18,20 163:23 164:2,3 164:15,25 165:15 173:7 176:17 178:22 182:17 184:4 areas 64:22 103:2,7 125:18 134:8 201:25 arguing 203:21 argument 215:11 217:8 arises 32:22 arrives 13:7 arrows 22:5,7 Art 116:8,18 arts 103:14	as-is 212:18 asked 74:18 90:19 91:2 126:11 161:16 182:8 asking 60:5 69:21 71:2 72:11 75:9 77:18 80:11 86:22 87:3 88:14 121:5 150:9 181:19 194:18 200:24 213:20,22 215:11 aspect 19:8 assert 49:5 94:22 120:5 146:6,13 199:11 213:16 213:23 asserted 143:24 assertion 60:6 assertions 150:14 200:5 assessment 46:23 assets 99:3,4 212:12 assign 28:13 assist 53:25 152:24 assistant 98:21 99:2 100:9 101:2,6 160:18 assisted 70:15 associated 74:2 89:13 105:13 105:24 138:12 138:21 144:16 167:3 169:18 170:25 176:12 195:6 assume 58:22 69:7,8 81:21 88:20 101:3 212:17	assumed 197:3 assumes 217:17 assuming 82:4 212:5 218:1 221:10 assumption 216:7 217:15 assuring 105:16 attached 16:5 36:2 38:6 attachment 193:23,25 attempt 33:24 47:16 95:22 96:3,3 attempting 126:22 199:14 attention 18:13 39:15 44:15 45:9 104:23 105:19 121:21 attest 107:10 attorney 77:13 77:13 78:4 87:4 204:21 attorney's 78:19 78:24 79:3 attorneys 78:23 79:2 81:7 146:1 154:1 165:24 223:12 audit 31:8 audits 43:1 augment 184:10 author 148:20 authored 114:25 131:21 authorization 170:12 authors 131:19 automatically 28:15 32:16 availability 71:13 111:8 112:24 113:12 180:13 available 93:20	93:24 113:3 119:25 137:13 155:12 156:8,9 157:1 163:18 165:20 171:16 172:3 180:9,11 182:9,10 187:22 192:23 220:7,10 221:25 Avenue 2:15 134:13,23 average 15:19 24:9 25:1,2 186:3,4 averages 185:20 avoidance 31:3 award 79:17 awarded 11:12 79:11 aware 48:18,22 49:2 53:17,18 55:7,17 67:4 79:8 80:23 82:9,11,17,22 86:15,17 90:22 91:4 151:18 156:7,12,12 164:21 165:18 206:12
B				
B 13:20,24 back 11:8 13:12 17:10 24:5 29:3 35:16 42:6 44:12 64:6 73:24 79:16 83:6 84:11 86:21 92:8 97:12 114:7 118:23 126:14 136:3 139:17,18 145:16 157:10 159:2 160:9,20 164:12 168:14				

169:5,25 178:4 180:6 184:7,13 184:24,24 186:10 189:17 202:16 204:3 background 99:17,17 102:14 160:12 160:13 161:10 191:17 backup 26:7 bad 74:18 165:25 203:15 balance 201:14 Balliew 40:3 Barela 2:14 4:7 4:8 92:15,15 93:1,2 94:13 94:18,19 95:25 96:2 97:11,16 98:7,8,12,19 104:7,22,23 105:8,18 107:18,19,21 109:9,19 110:7 110:18,19 114:14 116:2,3 116:23,25 118:6,19,20 120:21,23 121:18 125:11 125:13 126:8,9 126:11 127:4,5 128:15 129:12 129:17,19 130:6,19,20 131:11 132:5,7 133:4 134:25 135:1 140:17 140:22 141:7 141:11 143:2,9 143:11 144:20 144:23 145:10 152:2,4,7 153:2,14,18,22 154:5 Barfield 2:4 4:4	4:11 49:4 51:19,20,22,24 56:14 60:4,17 60:25 67:25 68:10,13,23,24 69:19,20 71:7 75:17 76:2 81:9 91:16,18 133:3 154:2,3 154:4 181:12 199:10,23 204:15 213:9 213:10,14 214:4 220:17 220:24 221:4 221:18 222:14 Barfield's 222:12 base 40:22 48:9 181:2,4 based 28:13 50:21 60:14 78:16,17 79:22 79:23 80:5,17 85:4 86:20 87:18 95:19 105:11 118:16 120:16 122:14 129:21 140:4 149:7 152:21 180:25 186:6 212:19 basic 12:19 19:8 26:4 40:8 basically 17:15 22:2 33:17 37:7 46:2 97:3 99:13 105:2 106:25 108:2 122:8 132:23 137:23 139:21 159:3 163:4 167:19 170:9 171:17 172:16 176:7 178:19 187:8 188:15 195:23 196:4	basin 5:24 6:15 6:23,24 8:20 8:24 9:2 11:18 11:21 13:19 14:21,22 17:2 17:16,22,25 18:1 20:1 21:6 23:24 24:1 33:22 51:2,12 51:13 57:7 61:9,9,14 62:2 62:5,11,12 80:1 81:20 89:20 90:9 102:1,13 113:4 123:10,13 133:14 134:19 142:10 143:7 160:5 171:15 181:21 218:5 basins 5:23 58:16,25 59:10 89:24 basis 15:11 20:10 28:1,11 29:7 31:9 58:10 121:6 216:21 222:2 batteries 182:21 battery 182:14 182:21 183:10 bear 183:15 bed 24:12 began 121:13 beginning 29:13 36:13 38:6 52:2 54:24 110:19 141:16 182:14 191:20 begins 18:15 behalf 78:22 147:24 223:11 Belen 163:22 believe 6:1,21 7:6 13:21 15:17,20 17:14 19:7 21:22	31:14 33:7,23 34:4 40:3,12 40:21 42:9 44:13 51:4 56:6,24 58:3 58:12 62:21 64:4,11,20 69:9 78:17 79:15,23 80:7 81:15,17 82:21 84:4,16,19 85:16 90:3,3 91:10 104:20 124:16,17 125:6 126:11 156:10 176:15 183:1 188:9 202:17 206:5 212:14 215:23 216:4 believed 127:16 beneficial 69:3 69:12 70:6,10 172:23 176:11 177:25 188:16 194:16 200:24 beneficially 69:24 172:19 172:21 173:19 beneficiaries 215:6 216:2 benefit 218:9 benefits 43:8 215:1 benefitted 218:25 219:8 Bess 193:17 best 172:14 200:20 better 63:24 66:19,19 147:18 172:13 175:1 219:12 beyond 80:13,13 86:24,24 87:2 95:16 110:24 181:13	big 138:2 194:23 217:20 218:2 biggest 215:5 bill 42:23 bills 204:10 bit 7:24 22:3 25:5 39:3 40:19 52:3 54:15 72:3 76:1 83:10 99:16,18 102:11 118:2 134:23 150:7 156:24 166:9 170:10 174:23 178:9 182:12 185:19 black 6:19 blackouts 179:7 block 6:14 40:2 40:6,17 41:6 blocks 21:9 blow-off 27:8,9 blue 6:15,16,18 21:8 22:7 board 48:13 57:13 99:15,15 101:14,15,16 101:17,21 102:5 Bobby 116:8,18 Bolson 9:4 11:19 14:24 17:16 18:4,5 19:12 32:20 51:13 59:19,21 61:24 62:6 book 155:8 books 93:20 bottom 11:16 12:9 17:13 24:9 26:11 36:9 39:5 105:9 141:17 175:15 178:8 183:1,5 187:16 198:10
---	--	--	--	--

bought 125:24 126:3	114:12 115:4 116:5,14	capabilities 155:14	cattle 134:2,3	chair 92:10 101:15
boundaries 6:23 142:13	117:13,20 131:8 132:10	capability 94:1	cause 223:13	chairs 153:19
bounded 134:11	132:18	capacity 52:7 55:20 60:25	caused 90:21 113:1 128:4	challenge 63:9 63:25 64:8
box 3:14 169:5	Butte 46:23	61:2 78:20	138:19 211:4	137:11 138:13
box-looking 169:1	52:17 112:16	79:24 101:12	211:16	144:11,19
brackish 54:18 54:22	127:15 137:13	168:3 223:10	causes 66:3	151:6
break 83:11,11 107:15 145:15	buy 40:21	capita 15:18 44:11,23	cell 170:5	challenged 129:23
147:8,10	C	capital 45:23 55:4 76:7	cellphone 32:3	challenges 105:15 139:22
157:11 219:20	C 2:1,4 18:15	Capitol 2:5	center 112:2,10 123:7 133:16	144:14 151:19
breaking 145:14 211:22	calculated 17:18	caption 223:6	133:25 134:10	challenging 90:24 118:17
breakout 83:18	calculation 22:20	captured 169:12	centers 106:13 106:14 111:20	chamber 169:9
Brent 156:21	calculations 22:22	car 184:21	138:4	chance 91:12 157:6
brief 156:22 167:9	calculator 168:12	care 159:24 160:17	central 75:13	chancellor 101:9 101:11,11,15
briefly 22:17 38:5 39:22	calculus 212:17	carefully 61:21	certain 15:7 32:16 40:20	change 28:14 35:6,10,11
160:12 161:10	calibrated 28:5	Carrasco 97:1,4	41:17,17 59:5	41:5 57:4
163:9 168:18	California 2:6	carry 105:6	69:11,22,23	101:7 149:25
173:25 191:9	call 7:5 18:4 23:13 43:3	carryover 218:18	70:23 73:16	187:13 193:3
bring 43:23	93:1 154:15	case 19:11 27:8 33:17 35:20	91:5 215:22	changed 142:11 149:21 187:12
bringing 58:24	158:18 214:2	37:4 40:21	certainly 68:17 83:2 97:5	208:2
Broadway 3:3	called 10:9 12:1 21:13 42:2	42:5 47:11	138:16 140:14	changes 39:24 56:25 61:4
broke 5:4	46:15 71:18	75:14 80:3	143:18 213:20	65:23 207:23
brought 7:14 35:22 46:16	163:25 169:14	97:24 106:20	216:18	208:18
51:4	185:5	107:9 110:16	CERTIFICATE 223:1	channel 158:24
bucks 211:10	calling 97:13	117:2 125:22	Certification 4:13 223:20	characterizati... 50:10 216:16
budget 138:4 205:7	calls 93:3 154:17 209:1 210:2	126:24 127:13	certified 1:13 100:2 223:3	217:3
build 47:17 181:7	Calvin 114:2,23 131:20 148:11	129:24 130:12	certify 81:22 223:5,9,12	characterize 111:6
building 123:5,8	148:13	143:13,15	CES 101:20	characterized 217:13,17
built 167:21 205:11 207:17	campus 112:3,4 112:8 113:20	146:2,23	cetera 16:18 41:18 155:13	charge 40:22,22
bullet 41:13 105:9	128:17 133:18	148:22 149:24	160:2,2 179:7	charged 72:8,9 72:12,16
bulletin 121:17	133:22 134:6	165:17,18	194:4,24	charges 40:6
bunch 178:19	134:11,14,20	182:4 195:9	CFO 101:17	chart 182:12
Bureau 54:4,13	135:5,12,13,24	196:3 203:10	CH2M 47:23	Chavez 156:7 220:14,25
business 103:14 104:5,21 109:7	141:20 142:9	203:12,14	52:24	
	142:10	204:22	Chad 3:2	
	canal 128:20,23	cases 166:1 192:9	chad.wallace... 3:5	
	cap 38:25 139:5	casing 139:3 190:6		
		categories 191:25		

cheap 204:8	52:15,16 53:9	204:23	127:22 128:13	199:13
check 26:21 32:6	53:12 54:7,10	classrooms	128:15 136:23	company 9:11
92:22 157:9,11	54:15,17 55:2	119:9	Colorado 1:6	24:5 25:6 29:2
checked 28:5	55:7,11,18	clause 202:2	2:20 3:1,3,4,9	44:8 157:24
checking 32:1	56:7,21 57:17	Clayton 163:25	5:3 92:22	158:8,11,16
checks 201:6	57:18 58:8,8	CLC 79:12	154:13	160:24 164:16
Cheryl 194:8	58:14,14,22	clean 7:24	colored 178:16	165:22 166:13
chief 189:9	59:6,14 60:11	clear 35:18 52:2	column 8:18,20	205:3 212:17
192:3,4	61:1,11 64:16	130:12 160:4	8:21 9:14	compare 185:8
Chihuahuan	64:24 65:4	165:15 169:21	13:17 23:21,23	compared 107:9
112:2 133:16	66:10,25 67:13	199:16 200:1	24:4,8,10,15	compile 28:2
133:24	67:22 68:17,18	201:6 211:18	25:17 26:3	complete 47:25
chile 136:20	70:14,17,24	216:15	27:12,13 44:22	129:3 223:7
chronologically	71:7 72:13,14	clearly 201:24	45:1 174:9,11	completed 86:15
122:4	73:6,15 74:2	click 187:18	178:5	86:16
circa 122:13	74:14,23 77:7	clicked 189:24	columns 8:18	completely
123:6,17,22	77:11,12 78:7	climate 119:17	23:25 174:21	130:1 179:1
129:8	78:22,24 79:2	close 50:16	combine 35:1	compliance
circle 6:19	79:11,12 82:4	52:20 53:3	combined	159:24 203:6
circled 133:15	82:15,19 84:9	134:22,24	167:24 185:11	complying 32:9
circles 22:4	84:15 88:9,10	139:6 158:2	come 35:16	components
circulation	88:13,16,20,25	199:21 204:6	66:18 120:14	108:10 218:11
36:16	89:1 90:8,19	210:25	145:16 160:9	218:15,16
circumstances	90:23 117:25	closed 62:12	165:25	comprehensive
13:9	125:1,3 135:6	171:15	comes 137:2	81:18
citation 150:14	139:11,19	closely 203:12	143:16	comprise 223:7
citations 120:8	140:13 142:1	203:14 218:7	comfortable	compromise
cities 39:11	142:12,14	closer 98:17	176:4	219:11,11
city 5:21 6:12	163:23	158:1 197:13	coming 100:15	computer 29:17
7:23 8:1 9:7,25	city's 5:17 8:17	closest 39:4	commencing	computer-based
10:23 11:5,9	9:23 10:3	coal-fired	1:12	29:11
15:2,22 16:25	25:14 29:21	186:11	comment 199:23	computers 147:8
17:25 19:20	43:20 45:14	cobble 172:14	217:12 221:18	concern 63:1,3
20:15 22:12,18	50:10 54:16	197:10	comments	63:13 65:16
23:8 24:6	61:23 62:18	Coleman 3:12	118:10	66:1 75:13
25:12 26:13,25	63:6,17 73:23	4:5 51:19	commercial 30:4	172:24
28:22 29:8,14	79:16 82:25	75:19,21,23	163:14	concerned
30:17,25 31:13	88:2	83:8,13,16,17	common 66:22	117:22,23
32:8,10 33:16	claim 117:24	83:20 87:5,7	communication	143:20 165:21
35:2 40:2	claimed 96:7	88:23 90:11	33:24 93:23	166:5 172:16
41:19,23,23	188:18,19,20	91:19,20	155:12,14	204:5
42:12 45:10,11	claiming 200:3	college 99:18	communities	concerns 53:25
46:6,12,20,22	claims 115:21	101:18 103:24	164:1	61:3 62:17
46:25 47:15,19	126:20 149:2	105:3,5 108:23	community	63:5,18,21
47:20 48:11,14	181:22	109:4 121:12	101:20 102:25	64:10 65:19
50:5,14 51:1,3	clarify 46:17	121:13 126:4,5	103:2 182:2,2	83:5 145:2
51:5,8,11	80:19 150:4	126:7 127:11	Compact 126:20	156:23

conclusion 71:2 87:2,3 88:14 196:23 214:2	45:17 54:16,16 55:14 66:16,18 76:17 77:2,4	16:6 41:16 148:17,18,24	cooling 159:3 169:23 170:2 184:9,22	148:12 149:18 149:23 150:3,6 151:3 152:20
conclusions 44:3 115:10	89:18 90:4 110:24 111:2 111:12 177:10	contents 107:11 132:1	cools 184:23	160:5 164:8 165:4 174:12
condenser 170:8 184:20	conserve 31:13 184:8,12 200:21	contiguous 142:8	cooperative 43:11 104:2	183:16 191:15 198:14 203:10
condition 12:19 15:5,24 19:14 20:10,14 84:8 208:10,19 209:7	consider 11:5 52:16 62:10 134:11 208:22 209:13	continual 143:14	coordinates 12:2 81:5	207:25 208:15 210:9,15,21 214:12,15,19
conditions 8:10 15:7,7,8,14 16:4,6 19:6,25 26:15 38:4,6 38:14,22 125:17 190:23 192:15,19 200:10,11 201:10 202:20 202:24 203:3,7 206:19 208:3	consideration 55:2	continue 50:6 58:15 59:9 103:9 113:10 125:25 127:2 129:14 143:17 146:5,12 170:16 215:23 217:1	cope 127:25 core 105:6,22,23 corner 168:21 168:22,25 169:20 170:4 193:10	218:8 219:4 221:10 223:7
conduct 51:8 conducted 51:11 confirm 174:10 confirming 34:21 198:12	considered 82:19 127:12 139:8 207:1	continued 119:14 163:7 202:2 216:25 218:2	Corralitos 57:7 correct 7:3,11 7:18 8:9 10:11 11:14 13:1,10 13:16 16:10 17:23 19:5,10 19:19 20:3,9 20:23 21:22 26:10 34:23 35:25 36:23 38:8 46:8 50:7 52:8,11 54:1 54:13,14 55:14 55:15 56:19 57:16,20 58:11 58:12 59:6,12 59:16,24 61:6 61:24 62:2,7 63:2,11,16 64:3,4,20 66:3 66:4,8 67:9 69:4,13 73:24 73:25 74:17,25 78:12 84:9 85:2 86:10 87:13,15,16,25 88:4 90:10 91:1,8 92:1,2 94:8,11,13 101:4 146:18 146:19 148:6,9	corrective 33:16 34:4 42:19 correctly 66:24 217:16
confusing 174:23	considering 65:15	continues 12:6 48:11 127:6	cost 30:25 31:2 48:6 50:16 52:25 53:9,12 53:23 58:10 59:8 138:8,9 144:16 183:3,9 183:9,17,18,19 210:8,8,13 211:8,19 213:3	correspond 7:22
confusion 150:1	consistent 141:24 142:25	continuing 110:20 142:15	costing 48:1 50:20 57:11,22	costs 40:9 41:2 53:6 138:12 183:14,23 211:13 212:6
connected 20:3 27:23 59:16 60:20 209:17	consists 22:18	continuous 30:11 43:5 129:2	cotton 128:18 136:20	council 48:14 178:14
connecting 109:25	construction 120:24 121:10	contract 29:25 31:6 54:4,13 71:17 77:14 78:23 79:2 204:4	counsel 121:4 172:2 223:14	country 66:22
connection 60:21 209:18	consultant 57:2 77:6,12	contracts 54:8 215:16	county 102:25	couple 10:13 15:1 24:19 90:13 93:14 125:9 148:2 155:1 163:1 169:1 182:20 204:23 211:10
Conover 125:16 125:21	consultants 67:1	contrary 216:18		
conservation 15:6,12,23 20:10,16 25:9 30:22 39:20,25 39:25 40:1,5 40:11,14 41:25 43:21 44:4	consulting 77:9 consume 175:4 185:19 consumer 101:19 108:23 consumption 30:7 31:14 175:2,22 176:21 consumptive 175:10 197:4 consumptively 83:25 85:21 contact 33:1 contain 208:19 contained 17:14 contains 13:21	contributor 51:6 control 27:24 28:7,8,12,21 29:12,17 169:6 controls 28:13 40:9 conversion 27:7 converted 165:12 205:21 cool 159:1 169:24 170:9 180:15		

212:13	140:12	30:8,10 32:1	172:9,15 174:6	decline 62:25
course 24:14	crosses 6:18	42:19,23 43:4	174:7,11,22	63:1,3
27:4 28:4	CRR 223:19	48:8	203:1 223:20	declined 95:1
29:14 31:23	Cruces 6:13	customer's	dated 33:4	declines 61:10
37:10 38:24	39:11 48:24	29:21	103:20 114:2	64:18 90:21
41:24 42:17	49:23 50:6	customers 18:2	131:18 148:4	declining 61:4,8
104:4 109:6	52:15,16 54:7	18:2 25:7,8,9	194:19	61:23,25 62:2
114:12 116:13	54:10,17 55:3	30:4 40:8	dates 118:14,18	62:4,5,17 63:6
118:16 131:8	55:11,19 56:7	42:25 43:18	122:1,1,18	decommission...
132:18 218:5	56:22 58:8,9	44:7 48:9	174:11 194:23	72:5
220:21	58:14 59:6,15	58:21,21 59:3	dating 11:8	decrease 44:24
court 1:1 10:22	60:11 61:1	124:23 159:15	149:14	65:13,13
11:3,12 43:14	64:17 66:11,25	163:15,19	David 97:22	decreased
69:16 79:12	67:22 68:17,18	172:11 180:24	day 41:18 44:11	127:14
86:23 90:25	70:15,17,24	181:2 183:14	44:13,23 48:8	deemed 179:22
141:14 146:4	71:7 72:13,14	183:21 203:18	55:21 73:2	deep 54:21
146:11 166:1	73:6,15 74:14	204:7,10 213:4	103:9 129:2	56:17
170:21 174:24	74:23 78:8	customers'	221:13 223:17	deeper 65:22
183:6 223:23	79:13 82:15	30:24 180:25	day-to-day	66:5
cover 20:8 23:6	83:24 98:25	cut 17:10	99:13 151:15	defend 117:24
44:19 152:21	100:17 112:1	cycle 167:22,24	days 41:18	149:1
184:4	125:4 128:22	169:13 185:11	122:16 129:1,3	DEFENDANT
create 169:15	132:8 133:17		198:21 220:2	2:9 3:1
185:16	135:6 139:11	D	221:21,24	Defendants 1:7
created 108:7	142:2,13,14	D2 216:22	DC 3:14	defending
148:25 149:25	160:14 162:7	218:11,12	De 2:11	115:23
criteria 172:7	164:2 167:18	damages 98:1,3	deal 159:20	defenses 181:24
critical 96:11	Cruces' 57:17	Dana 97:21	dealing 132:22	182:4 199:14
106:4 110:23	67:13 74:3	dark 6:15	dean 101:18	deferred 138:6
113:15 172:9	CSR 223:19	darker 21:8	decades 196:2	define 74:8
179:23 180:2	cumulative	dashed 6:22	December 27:3	defines 74:1
182:3 203:18	174:22	data 26:4,5	69:4 223:17	definitely
crop 127:17	cured 131:23	27:20,24 44:1	decide 110:5	189:16 220:5
crops 136:18	current 56:22	51:2 61:18	120:18	degree 60:21
175:20	57:18 59:7	78:25 80:17,18	decided 7:23	75:11 103:14
cross 6:18 91:2	98:20 101:25	80:19,19 81:1	160:19,24	103:14,16
134:8,14 183:5	157:21 164:16	81:1,6,6	161:3 187:18	160:20,22
188:9	193:17	185:12	decision 48:13	degrees 99:20
cross-examina...	currently 76:24	database 28:1,7	72:5 79:17	Deitchman 2:4
4:4,5,7,8,10,11	77:7 86:12,14	187:2,21	129:16 145:1	4:7 92:11,12
48:19 51:23	88:2 170:19	192:24	212:19	92:13 94:11
75:22 90:19	194:2 219:1	date 19:1,4	decisions 212:12	95:20 96:19
118:17 145:23	curtailed 14:17	78:14 79:10,18	213:2	97:19 104:12
147:4,21	17:1	82:4,8,13,14	deck 156:15	107:2 109:12
155:23 204:18	curve 216:22	82:18 86:20,21	declaration 80:1	115:13 116:17
213:13	218:11,12	122:5 129:21	declared 218:5	120:11 121:3
cross-examined	customer 30:1,6	141:21 142:20	declares 39:5	126:18 130:11

132:3 143:23 144:3,6 145:18 145:24 146:1,8 147:1 153:5,6 Del 5:24 6:15,24 8:24 9:1 13:19 13:25 16:16 17:15 20:1 21:5 23:24 delay 83:19 deliver 108:20 delivery 70:20 70:20,21 demonstrate 19:21 36:10 demonstration 42:6 demonstrative 5:16,19 6:9 8:14 10:8 13:13 21:1,2 39:16,18 41:11 73:17 74:15,20 87:9 156:1 188:9,10 DEN 187:14 denial 188:3 denied 14:12 61:15 187:16 188:14 189:12 189:16 Denver 2:20 3:4 3:9 denying 189:10 department 3:3 3:8,13 64:12 103:13 114:25 118:9 123:23 148:14 149:10 204:21 depending 37:12 220:20 depends 41:6 146:22 depletion 196:17 depletions 63:14 66:2 74:2	211:16 212:8 depletive 67:2 deposition 57:15 61:7 62:22 64:6,7 68:6 69:10 71:14 72:22,23 73:9 Depth 65:23 deputy 33:8 derived 12:22 83:25 desalination 54:22 55:4,8 55:12,20 56:23 58:9 59:7 describe 22:17 33:5 44:20 98:3 133:8,14 139:13 142:4 161:11 162:4 163:3,10 167:14 168:18 173:25 174:24 178:12 183:5 184:11 186:4 187:6 188:12 191:23 193:15 193:17 196:17 described 16:25 29:10 41:13 44:6 50:15 65:18 66:12,15 73:22 84:3 95:4 141:18 142:16 145:2 150:25 describes 10:23 12:7 132:11 196:3,4,6 201:24 describing 132:12 description 12:6 41:11 Desert 112:2 133:16,24 design 27:10	designation 13:15 designs 40:12 despite 52:5 55:1 63:5,21 detail 16:4 25:23 44:2 58:1 detailed 59:4 64:21 177:23 189:5 192:20 details 191:3 194:1,3 detected 43:6 detection 30:12 41:14 43:2 detections 30:17 determine 58:18 108:1 determined 60:22 173:6 211:3 determines 173:5 detriment 208:14 209:9 detrimental 208:24 209:14 209:21,25 develop 159:20 developed 42:5 65:21,22 82:3 115:10 128:6 developer 172:4 developing 64:24 99:9 121:14 161:25 development 7:9 7:12 21:24 22:13 44:16 45:13 58:7 76:2 96:15 98:23 99:5,6,7 99:12 100:10 101:13,14 114:1,9,23 115:19,25 116:12 118:24	132:16 133:7 152:22 161:18 161:24 162:9 179:23 180:5 devices 93:23 155:12 diagram 104:25 105:2 106:21 106:22 107:20 108:13,14 124:8,9 diagrams 119:4 Diego 160:16,19 difference 65:24 178:24 different 8:18 19:24 40:11,13 47:24 57:5,22 69:20 76:16,24 87:22 132:11 136:22 161:11 162:2 163:21 172:25 173:2 178:20 185:10 197:11 205:20 219:6 difficult 69:15 122:14 149:19 150:15 diligence 50:12 50:13 direct 4:4,7,10 5:11 49:6 86:24 98:11 108:14 155:20 156:11,22 157:17 158:20 160:11 220:21 direction 56:23 57:4,19 directly 6:7 director 23:9 33:8,8 57:18 61:1 68:18 70:3 77:25 78:20 88:16 90:6	directors 80:24 99:15 101:14 disagree 217:2 disagrees 216:15 disappears 31:20 discharge 22:25 23:7,11 24:11 39:7 44:2 45:2 86:4 175:2 182:21 discharged 6:6 18:6,7 84:6,7 84:14 85:8 discharges 26:9 26:10 discharging 85:13 disclaimer 148:17,18 disclose 95:2 disclosed 52:9 95:23 97:9,14 97:20 disclosure 156:25 disconnected 61:9 discover 111:8 discovered 173:4 discovers 32:23 discuss 33:2 49:8 82:15 140:22 163:9 discussed 44:2 208:2 discussing 132:25 208:7 discussion 61:7 62:21 72:21,23 199:12 206:22 214:24 discussions 173:11 176:3 dispatch 28:17 disregarded
---	--	--	--	---

118:4 distribution 30:13 district 10:22 46:23 47:13 52:17 90:25 112:16 127:16 137:14 diversion 8:21 9:15 12:1,16 16:14,17 17:7 18:24 19:12,13 23:22 24:22,23 24:24 25:2,10 27:2 29:6,7 34:17,18 38:16 38:18 44:14 142:5 174:6,22 174:23,25 175:17,22 190:3,11,12,15 190:22 diversions 10:3 10:5 23:20 24:9 26:8 27:22 44:2,9 176:21 divert 175:4,19 diverted 175:20 diverting 207:8 division 189:9 192:4 Docket 95:6 Doctor 5:18 6:9 7:17 8:15 10:20 16:2,20 21:1 22:1 23:5 23:17 25:24 35:8 36:7 39:4 39:18 40:16 51:1,14 document 10:20 11:6 16:6 22:21,21 38:19 45:15 54:24 55:23 56:1 67:8 68:1,8,14	68:16,21 69:25 78:18 89:16 103:21 109:1 110:11 114:3 115:6 116:5 119:5 121:5 128:9 129:20 129:21 130:8 130:21,24 131:2,17 132:2 133:7 141:13 149:5 150:13 150:13,21,22 152:11,18 153:1 166:20 167:1,7,13 187:4 191:12 191:14 210:18 221:20,23 222:1 documenting 115:24 documents 77:17 93:19 149:8,14,20 155:6 187:20 190:1 doing 38:1 77:15 81:10 148:1 159:25 166:2 166:12 201:6 dollar 42:22 dollars 50:16 52:25 108:19 domestic 124:6 129:10 135:3 domestically 105:17 domestics 39:13 dormitories 119:9 dot 171:7 dots 109:25 170:22,23 171:13 Dr 5:4,13 51:25 60:19 90:18	91:22 94:15 97:21,22 131:24 132:9 141:9 drafts 77:16 Draper 2:10,10 2:10 4:4,5 5:5 5:6,12 49:10 49:13,18,19,20 51:14 56:21 59:25 68:3 71:1 75:8 79:10 80:11 86:22 88:12 89:19 90:12,13 90:17 91:9 92:2,5 drastic 45:7 65:23 66:6 draw 44:3,15 drawdown 61:14 drawn 184:23 drill 119:18 139:6 drilled 73:12 84:24 128:5 194:24 205:15 205:18 drilling 59:1 71:23 119:18 126:13 drive 169:16 drop 61:18 dropped 31:16 50:12 dropping 61:16 61:20 63:18 drops 61:16 65:3 drought 12:20 76:14 84:1,14 127:13,20,22 128:4 137:9 Dubois 3:8 4:10 154:13,14 166:15 204:15 204:16,16,19	204:20 209:5 210:6 213:7 215:7,10 217:7 221:2 222:4,5 222:15 due 33:18 50:12 50:13 59:8 112:24 duly 5:9 98:10 157:16 DUNN 2:5 duties 101:8 <hr/> E E 2:1,1,1,1 3:12 215:21 e-mail 93:25 155:14 earlier 13:13 16:25 38:9 44:1,3,6,25 46:20 66:15 84:3 91:6 157:3 162:16 174:14 186:8 earliest 86:21 early 29:12 47:16 119:2 122:16,19 145:13 149:15 157:6 197:17 220:5,9 earn 99:20 easier 58:20 east 5:23 6:2 9:1 10:13 13:4,12 13:15,23,25 14:20,22,24 17:1 19:25 21:6,11 32:17 61:8 75:2 84:11,17 86:3 86:9 134:12 163:24 197:1 EBID 12:20 46:7 47:1,9 84:1 89:2	112:17 113:4 137:15 206:3,4 206:7 215:20 215:20 economic 95:8,9 95:13 96:23 97:15,17 103:19,25 104:14 108:4 108:11 161:18 163:17 economics 211:6 economist 97:14 97:20 ecosystem 111:14 education 42:1 52:5 102:20 103:16 105:23 106:12 136:16 educational 52:4 103:6 119:15 135:18 160:13 effect 63:8 85:19 85:23 86:4 216:6 219:5 effective 43:21 effectively 212:9 effectiveness 44:4 effects 66:7 67:2 75:12 143:20 196:16,17 197:2 effectually 211:20 effectuating 35:23 efficient 185:14 185:23 efficiently 59:1 effluent 12:21 12:24 13:5 17:24 24:11 73:22 74:5,9 83:25 84:6,6 84:13 85:7,21
---	---	---	---	--

66:23 172:22 efforts 32:8 43:21 44:4 54:16,17 77:10 82:20,25 eight 51:10 163:25 either 5:25 31:22 63:10 64:1 130:2 215:21 El 40:13 55:7,11 55:19 58:14 100:16 115:21 117:25 149:2 164:6,18,21,25 165:3 166:13 171:8 175:14 179:11,16 180:6 186:15 elaborate 28:21 47:25 53:8 electric 158:13 164:6,18,21 165:3 166:13 168:24 178:13 178:20 179:2 179:11,17 185:12 electricity 158:21,25 159:12,15 163:8 164:19 165:16 168:23 169:11,16 179:18 182:17 185:16 204:9 elements 39:19 39:21 41:16,19 57:12 77:16 105:6,22 142:4 Elephant 46:23 52:17 112:16 127:15 137:13 elicit 95:6,22 eliminating 207:21	elimination 23:8 203:22 emergency 70:19 71:15 127:13 emphasis 41:25 employ 223:12 employed 108:19 employee 223:10 employment 100:13 102:8 148:7 employs 184:8 encapsulated 189:11 enclosed 184:23 endangered 159:23 ended 74:19 173:1 179:6 197:14 energy 138:10 163:16 182:22 enforcement 42:14 enforcing 202:1 engineer 8:4,6 8:11,19 9:19 14:3,9,15,17 15:2,10,17,21 20:20,22 22:23 26:14,17 27:1 32:24,25 34:2 34:12 35:4,10 35:14,15,18 36:2,13,20 37:6,11,14,17 37:24 38:7 39:11 78:7,19 79:13,14,15 81:2 82:14 86:19 88:21 139:7 151:14 170:12 172:18 176:4 188:18 189:13 190:20	192:14,21 196:18 197:8 200:17 202:9 202:23 207:24 214:18 engineer's 151:5 165:8 173:4,12 174:4 176:1,10 177:22 187:1 189:2,4 190:25 193:4 194:6 198:1 199:8 200:4,18 201:19 202:18 engineering 47:22,24 48:3 50:17,18,21 52:5 103:16 119:22 engineers 77:15 enhance 105:12 enrolled 148:13 ensuring 111:14 enter 92:8 153:25 entered 141:13 entire 72:24 95:14 129:4 199:17 entirely 96:6 entities 215:25 218:23 entitled 60:9 69:24 70:5 103:19 108:23 113:25 121:22 128:9 130:22 148:24 215:22 215:25 entity 139:21,23 219:3 environment 111:9 environmental 23:10 101:19 104:1 105:25 108:24 159:22	EP1 215:15 equals 108:15 equipment 138:22 160:25 ERCOT 179:4 erected 123:18 Erek 194:9 erratic 119:13 ES-1 107:23 ES-2 106:20 ES-5 108:10 Eschenbrenner 4:6 92:1,4 93:3 93:4,6,13 95:2 95:7,18 96:5 96:17 97:4 98:9,13,16,19 99:24 102:22 107:19 108:25 110:8 111:22 115:1 116:9 118:20 120:23 123:21 125:3 127:7,22 131:19,25 132:13 133:23 135:25 141:11 143:12 145:11 145:25 146:3 147:23 150:20 152:1,8 153:9 164:12 Eschenbrenne... 94:6,23 96:13 especially 63:7 85:24 115:20 essence 33:21 essentially 17:21 30:3 53:24 establish 69:14 70:6 120:9 established 68:15 99:8 107:5,6 120:1 120:3 125:7 establishing 115:23	estate 99:3 100:2,16 134:9 205:24 estimate 182:23 estimated 25:6 128:24 129:2 estimates 45:18 56:8 183:3 221:10 estoppel 181:24 et 16:18 41:18 155:13 160:2,2 179:7 194:3,24 evaluate 177:4 evaluated 192:21 evaluates 35:15 197:8 evaluating 57:12 58:22 172:7 179:21 196:18 evaluation 37:17 177:23 189:5 199:1,7 evaluations 95:13 evaporation 170:4 evening 5:4 219:15,21 everybody 91:24 219:6 everybody's 218:22 evidence 80:14 97:18,25 131:13 172:17 195:23 evident 121:11 exact 27:17 36:14 201:6 202:4 exactly 40:17 61:11 64:20,23 72:17 170:22 examination 4:4 4:5,7,8,10,11
---	---	---	--	---

5:5,11 49:7 90:16 94:5 98:11 152:6 155:18,20 157:17 214:9 220:18,21 221:7 examinations 156:22 examining 220:15 example 47:4 62:15 76:13 81:3 108:17 162:19 191:9 221:25 examples 76:15 106:23 exceedance 33:9 33:17 exceeded 32:10 33:22,23 exception 221:22 excess 128:25 excessive 42:18 exchange 221:20 222:1 exclude 97:25 excuse 98:15 154:9 155:24 188:4 191:6 197:4 199:4 222:11 excused 91:22 153:8 219:15 executed 45:24 executive 104:25 107:24 exercise 19:23 exercised 208:14 209:8 exhaust 169:3,8 exhaustive 196:1 exhibit 6:9,11 7:16 10:19	11:24 13:20,22 14:2 16:1,2 18:16,21 19:8 20:6 21:1,25 23:2,17,18 25:21 26:1,6 26:19,21,24 27:21 33:3 34:20 35:7,23 36:5 38:5,21 43:23,25 44:17 46:5,10,11 47:3,6 49:1,6 49:15 68:4,5 83:7,21 87:8 89:17 93:20 103:18,19 104:9,24 108:21,22,22 110:12 113:24 114:15 116:12 118:5 123:2 129:13 130:14 130:21,22 131:12,21 133:5,11 140:19 141:5,6 141:8 143:3,10 155:8 156:1 166:11,19 173:22 184:5,6 186:21,21,25 191:10 202:13 exhibits 23:5 73:17 94:7,7 155:18,19,20 155:22,25 156:25,25 188:10 exist 119:21 existence 143:15 existent 11:25 existing 6:19 7:5 38:17 79:24 81:17,23 86:17 194:22 200:14 207:2,5 208:14	209:9 expand 102:22 expands 158:24 169:10 expect 137:19 156:20 159:15 221:1 expected 157:3 expedited 222:2 Expenditures 108:11 expensive 53:14 experience 65:24 80:14 experiment 102:3 104:2 108:18 119:10 121:13,16 127:11 135:11 143:6 experimental 111:24 112:20 113:6 123:4 expert 52:8,10 60:1,7,8,15 95:2,3,3,12,22 95:24 96:4,6,6 96:25 97:9,22 97:23 98:2 107:7 116:10 131:25 132:14 150:5 experts 60:22,23 75:13 97:20 216:19 Expiration 223:20 explain 72:9 170:21 201:11 209:6 explained 66:4 76:4 181:22 explanation 59:4 explicitly 82:21 explored 54:18 exploring 57:10	expressed 148:19 extension 102:21,23,23 102:24 104:2 105:4 106:16 108:18 136:17 extensions 192:8 extensive 220:19 221:8 extensively 140:12 220:16 extent 104:13 115:3 127:15 131:23 132:25 extracted 8:16 14:20 extremely 96:25 <hr/> F <hr/> Fabian 112:4 133:19,20 134:15 135:9 face 95:12 faced 211:19 facilities 27:10 28:9,19 29:18 111:24 112:11 112:20 179:22 facility 5:25 6:1 6:3 18:10 21:12,13,14,18 23:2 24:18 41:21 84:10 112:5 133:17 134:3 135:14 135:19 164:9 169:18,23 170:6 175:3 183:10 211:20 212:9,23 fact 11:10 32:5 33:18 40:3 46:4,5 50:3 52:20 54:12 55:1,10 60:5 62:4 70:9	95:23 96:3,4,7 104:14 107:8 117:23 120:8 164:25 176:23 188:15 196:8 198:17 208:2 208:17 216:17 factor 54:2 82:18 197:7 factored 82:25 factors 179:22 180:2 197:25 facts 223:5 factual 96:16 faculty 113:20 119:9 124:19 failure 139:2 178:22 179:5 186:15 failures 138:25 fair 45:11 88:18 fairly 156:22 158:2 191:18 204:8 fall 88:5 179:2 familiar 68:5,14 136:1,4 205:4 207:18 210:22 family 106:1 far 9:14 30:21 94:8 97:19 123:11,12 159:4 189:12 215:10 221:11 farm 112:5,6,7,9 113:17 126:14 128:13,15,24 133:19,20,20 133:22,22 134:16,17 135:10,17,19 135:20 136:5 farmers 207:14 208:23 209:14 209:24 215:20 farming 111:24 112:11 136:7
--	---	--	---	---

farms 111:15 113:6 136:18 138:14	figures 210:20 file 8:19 35:5 37:5 165:7 174:2,4 191:1 191:18,24 192:12 198:18 200:24	121:14,17 122:4,12 123:8 134:5 135:9,11 136:4 141:16 142:16 145:17 145:19 155:2 157:16 160:12 161:2 164:10 164:11 165:18 167:13 168:13 168:15 169:4,7 169:8 170:17 175:8 179:20 179:20 180:4 193:1,21 198:24,24 204:15 217:8	50:2 98:10 157:16 food 105:17,24 111:13 foot 61:19 62:9 foray 136:4 foregoing 223:6 form 21:5 35:9 35:12 145:1 format 38:9,13 former 24:4 formulate 164:15 forth 13:9 forward 132:21 found 43:10 119:16 149:13 149:15 161:5	221:15 222:1 friends 207:14 frozen 93:8 Fuchs 194:9 fuel 180:5,8 fulfill 119:11,17 fulfillment 215:16 full 34:2,14 137:5,20 142:16 179:1 full-time 108:20 fully 89:22,25 function 145:8 functional 103:20 105:20 functionality 29:9 functions 103:6 funding 71:16 71:20 139:5 further 4:4 5:9 5:11 34:25 46:15 57:21 58:1 75:17 91:9,17 104:13 129:2 145:11 147:1 151:25 152:3 153:2,4 153:6 160:11 169:5 173:18 204:13 213:8 214:4,21 223:9
February 14:4 64:7 federal 90:24 204:4 feedback 92:21 feeding 159:25 feel 137:10 144:18 182:3 feels 116:4 feet 38:2 128:20 190:6 197:24 fence 169:20 170:7 Ferguson 121:22 128:13 134:25 187:3 festival 42:8 festivals 42:11 fiber 105:24 field 5:23 6:14 6:16,17 7:1 9:5 10:9 20:4 21:6 21:7,9 61:10 61:20 65:11 66:15 71:17 128:18,24 201:6 fields 5:22 6:17 10:16 23:23 28:17 84:21 201:25 figure 6:21 7:11 7:13,16 9:21 21:21,22,23 46:14 105:19 106:20 108:10 122:10 125:10	filed 14:14 97:25 193:4,8 200:2 files 191:7 192:23 filing 19:4 95:4 160:1 fill 35:10 176:6 filling 32:16 fills 176:7 final 25:17 27:13 34:19 finalized 151:5 finally 155:10 finances 48:7,10 183:24 205:5,6 financial 181:10 181:19 financially 31:4 50:24 find 115:9 139:4 171:21 174:4 192:2,9 fine 148:1 168:13 finer 42:17 finish 69:15,18 135:8 finishing 157:2 Firm 223:23 first 8:18,22 10:7,17 13:17 14:6 16:20 23:4,21 24:20 26:1,1 32:22 32:25 44:24 51:19 67:19 76:3 93:15 96:3 98:10 100:4 103:18 105:1 118:8	five 14:19 23:19 45:24 91:24 92:3 101:16 153:21 184:3 205:20 221:21 221:24 five-year 45:23 55:3 flags 32:25 Floor 3:3 flow 22:11,17,19 27:25 43:5 45:7 59:23 flows 6:2 19:21 22:9,20,24 25:18 119:14 175:18 fluctuation 44:9 focus 68:25 105:23 208:10 focused 102:20 105:3 106:17 210:12 folks 138:3 159:22 162:22 172:3 189:8 following 34:6 34:24 44:19 203:12 follows 5:10	founded 102:16 102:18 164:11 founding 105:3 119:3 four 9:11 101:20 111:4 122:21 160:16 194:12 fourth 44:22 fragile 111:9 framework 22:19 frankly 117:21 free 91:23 153:10 French 156:21 220:14,24 frequency 178:18 freshwater 55:21 Friday 157:2,6 219:24 220:9	future 45:11,14 48:17 56:24 66:17 77:19 <hr/> G <hr/> gain 201:14 gallons 27:6,12 27:14,17 40:23 40:25 41:2,3,4 41:4 43:6 44:11,12,23 48:8 55:21 185:13,15,17 game 88:18

Garay 157:7 219:25	generators 178:23 179:6,6	145:22 150:17 153:10,25	178:2,3 179:8 181:12 183:11	95:10,14 100:24 102:1,9
Garcia 4:3 5:4,8 5:13 51:25	geographic 95:14	155:1 158:5 160:11 171:11	186:11,20 188:17,24	102:12,13 106:6 107:5,15
60:19 75:24	geothermal 143:8	171:19 172:7 176:1,21	189:17 191:5,6 195:2,3,8,9,10	109:18 111:24 113:4,14
90:18 91:22	getting 60:1	177:14 181:5 181:17 182:5	195:11,13,14 195:16 196:21	119:13 120:4 121:11 133:14
112:4 132:9	92:20 137:7	184:13 191:6 194:5,13	196:24 198:8,8 199:11 200:14	137:3,16 141:3 142:10 143:6
133:19,20	138:9 199:21	195:18,20 196:11 199:19	200:15,17,20 200:21 201:7	144:24 151:7 159:6 160:5
134:15 135:9	221:9	199:20,24 200:8 201:7,23	203:1 204:2,3 204:5,14 208:5	162:6,23,23 167:17 197:1,2
141:9	give 5:19 7:6	202:3,16 203:25 204:11	209:4 212:18 214:1 216:19	207:4,7,11,12 212:8 216:1
Garcia's 94:15	87:12 91:11	204:15 210:6 213:12 215:10	218:14,22,25 219:6	grandfather 215:18 216:21
garden 42:6	93:10 154:22	217:24 goes 5:25 6:4	golf 41:24 good 5:7,13,14	grandfathered 215:3 217:18
GARZA 223:3	215:12	18:1 73:23,24 84:11 86:7	8:13 9:23 20:25 22:25	grandfathering 215:13 216:9
223:19	given 28:2 32:13	96:7 121:2 125:25 139:17	25:17 30:23 31:20 36:6	217:14 218:6 219:3
gas 161:14,16	223:16	184:3,24 199:15	39:9 41:8,15 42:25 51:14,25	grant 79:17,18 110:1
169:9,9 171:9	gives 40:22	going 12:15 22:6 22:8 34:23	52:1 53:16 71:20 75:24,25	granted 16:24 107:14 207:23
175:14 180:7	194:1	43:8 48:5 49:8 51:18 56:25	83:9,10 92:12 92:23 98:13,14	208:3 granting 10:22
gas-fired 167:23	glad 53:15	57:4 65:22 66:6 71:5 73:9	145:14 147:23 154:3,14	graph 6:14 gray 6:12
185:8	Gladly 146:9	75:15 83:20 97:3,17 98:6	157:19,20 172:12,15,15	great 180:14 184:3 187:5
gasoline-driven	glitches 212:3	111:19 117:5 117:17,18	172:23 177:10 188:16 204:17	greater 173:15 197:12
124:13	go 6:2 10:18	126:18 129:14 129:15 130:5,5	GPCD 44:23 graders 42:9	greatly 218:25 green 6:14 21:9
gathered 168:23	12:4 13:12	131:5 132:21 132:21 133:1	graduate 99:22 103:17 114:6	22:5 171:7 Greene 4:9
gathering 51:1	14:1 17:12	140:1,21 143:2 145:16,19	graduated 160:14	153:15,21 154:18,19,25
gears 150:7	18:20 19:17	156:6 160:9,20 166:9 168:20	Grande 6:7 10:25 11:18,20	156:1,10,17 157:13,15,19
general 11:2	22:22 27:9	168:25 173:13 175:4 176:19	16:16 48:21 53:18 59:16,23	157:21,25 158:6 167:12
87:4 100:2	28:1 34:5 35:3	177:6,6,9	67:12 89:20	169:17 178:12
134:24 191:24	39:14,17 40:25			
generally 96:20	41:2,12 49:12			
107:13,16	49:17 51:19,21			
159:12	53:4,21,22			
generate 158:25	60:16 68:25			
159:15 169:16	75:16 83:6,16			
182:16	87:7 88:18			
generated 26:5	89:19 90:15			
27:21 30:16	91:23 93:14			
108:5	94:25 98:7			
generating	99:17,18			
158:21,22	107:17 110:17			
162:5 164:7,24	116:24 117:7			
166:10 167:15	118:4,5,18			
169:11 171:8	121:7 126:8			
generation	127:2 129:16			
159:19 161:23	129:18 130:5			
179:22	130:10,18			
generator	133:2 140:16			
168:23 169:4,8	144:2,8 145:19			
169:14 170:1				

186:24 188:10	203:22 206:1	179:10 194:11	held 1:12 116:13	119:19 122:8
188:12 189:20	206:14 211:4	195:8 203:15	131:8 132:17	127:24 131:2
191:11 196:13	214:12,14,19	204:2,3,5	Hello 98:14	132:16,23,24
200:10 204:13	215:3,20	happened 32:17	help 39:4 103:4	139:11,16,17
204:20 210:7	216:21,22,23	72:21 179:9	115:23 117:24	139:18 140:9
213:15 214:11	217:18,25	happens 27:2	139:24 145:1	148:14 149:20
219:14	218:6,8	32:22 33:14	149:1 161:16	152:22,22
grew 136:5	group 59:16	35:13 37:8	helpful 147:8	190:7 196:15
grid 165:23	102:10 145:1,4	139:2 203:18	helping 161:18	hit 42:10
168:24 172:11	145:5,9 161:23	213:17,25	helps 170:10	Hoag 97:21
178:18,20,21	162:24 163:2,3	happy 147:6,7	hereto 223:6	hobby 136:5
179:2,18	163:4 182:9	hard 193:11	high 40:9 41:23	hold 48:11
182:22 203:19	210:17	harm 176:19	44:24 87:23	114:17 162:13
204:9	growing 127:11	177:9,9 196:23	160:14,15	holds 52:16
ground 89:12	grown 42:7	200:14	185:2,3,3	homes 168:8,11
93:14 111:11	136:18	harmed 204:10	higher 40:7,15	Honor 5:6 49:4
172:2	growth 45:5,21	Hartman 3:2	highest 200:20	49:10,19 51:16
groundwater	119:14	91:12,14	highlight 14:6	51:20 60:1,4
9:25 10:3,4	guaranteed	154:12	105:8 111:3,3	60:17 68:1,3
51:2,11 54:18	218:1	hatch 134:8	201:9	68:11 71:1
56:18,18 58:15	guess 109:16,25	hatched 134:15	highlighting	75:9,18 80:11
58:16 59:10,10	110:4,14	heading 9:15	128:14	86:22 90:13
59:22 60:10	118:16 188:18	89:20	highly 75:9	91:10,14,18,20
61:12 63:9,13	188:25 219:8	headings 121:23	Hill 47:23 52:24	92:2,16,24
64:1,9,21 65:3	219:12 222:11	health 106:1	Hiram 121:15	93:2,18,21
65:18 66:1	guidance 45:16	hear 52:3 80:2	hired 161:13	94:3,10,12,13
87:11 89:12,21		93:6,7 144:1	historian 78:18	94:18,21 95:20
90:20 111:7	H	147:17 216:19	116:9 131:25	96:2,15,19
112:13,14,19	H 2:10	218:14	132:14 150:5	97:16,19 98:8
112:21,22,24	Hadley 121:15	heard 97:1	historic 116:20	104:7,18,22
113:2,6,8,13	half 33:18 50:16	117:3 140:3	116:21 119:4	107:2,18 109:9
113:18 114:2,9	52:25 168:6	143:25 159:4	133:7 142:1	109:19 110:7
115:20,22	220:19	163:1 216:16	143:1	110:18 114:14
118:24 119:6	hall 122:12	hearing 1:11	historical 78:17	115:17 116:3
119:18 121:16	123:18	37:14 177:12	79:15 80:12,22	116:17,23
121:20 122:9	hand 93:6	223:8,11	81:19,22 119:6	117:6 118:6,10
123:1 125:16	154:21 223:16	hearsay 114:19	186:1	118:19 120:2
128:6 129:23	handful 147:6	115:6,6 117:22	historically	120:21 121:3,9
130:3 134:1	handles 151:15	120:7 129:20	216:24	125:13,23
136:8,10 137:1	handling 97:3	131:16,22,22	histories 139:12	126:10,18
140:25 141:19	221:6 222:5	166:16	history 52:4	127:4 129:12
142:18,21	Hands 5:25 6:6	heat 158:23	96:14 113:23	129:17,19
144:15 145:7	18:8 21:13	169:12,14	113:25 114:8	130:6,11,19
149:3 152:23	23:1,20 24:17	185:3	114:22,24	131:11,15
165:10,13	45:3 73:24	HEATHER	115:19,25	132:5,7 133:3
166:6,8 170:13	happen 32:12,14	223:3,19	116:6,11,15,20	139:25 140:10
181:20,23	56:25 113:5	heavily 214:14	118:22,23	140:17 141:7

143:23 144:11	168:3,5	108:11,16	inaccurate	indicated 11:16
144:22 145:18	Houston 223:24	173:7,8,15	31:22 65:14	13:17 82:21
147:2,5,16	Hudspeth 221:5	176:15 177:6	inception 51:6	83:23
150:12 151:24	human 28:16	178:2,3 180:20	inches 137:23	indicates 17:20
152:5 153:3,11	humanities	180:23 181:10	inclining 40:2,6	18:23 170:24
153:15,18	119:22	181:20 198:9	40:17	indicating 14:10
154:4,14 156:5	humidity 185:3	211:2	include 23:22	indication
156:19 157:9	hundred 17:19	impacts 95:8,9	96:12 106:5	179:10
166:15 167:10	38:2 128:5	95:10 96:23	163:14 192:12	indicator 76:14
181:12,15,16	185:21 186:14	97:15 105:20	192:20 193:25	indicators 61:13
181:18 182:7	186:17,19	106:23 107:4	216:3	64:25 65:1
186:22 199:10	hundred-year	108:14,15,15	included 138:24	76:14
199:18 204:12	114:8 118:23	111:5 182:1	191:23	indirect 108:15
204:16 209:1	hurt 203:18	impaired 65:4	includes 26:7	individual 17:6
210:1 213:8,11	219:7	implementation	67:21,22 68:16	30:23 35:1
214:2,7,22	hybrid 184:9	29:25	74:1 192:15	80:23 103:7
215:8,11	185:5	implemented	including 93:24	215:22 216:7,7
216:12 217:9	hydrographic	40:2	100:23 111:11	individually
220:4,17 221:2	172:16 176:13	implementing	142:1 155:12	79:9 134:5
221:19 222:14	195:22,25	105:21	159:6 196:1	induced 108:15
222:15	hydrologic 60:2	importance	216:5	industrial
Honor's 96:8	95:13	16:22 109:21	income 108:5	105:14 159:9
HONORABLE	hydrology 60:15	110:9 119:6	inconsistencies	160:25 161:19
1:11	hyperlinks	178:10,10	150:1	163:5,15 182:2
honors 103:17	189:23,25	important 11:5	incorporated	208:18
hook 181:6	190:13 191:3	11:9 40:4,4,11	98:23 99:6	industries
hope 137:20		106:2 115:21	203:4	105:24
199:20 220:2	I	116:25 159:13	incorrect 217:14	industry 105:16
hopefully 157:10	IBM 160:22	167:4 172:10	increase 33:25	161:19
176:4 178:22	idea 181:25	179:13 201:11	34:17 44:7	inform 30:10
horse 112:6	204:4	importation	108:1,3,6	information
133:20 134:17	ideas 145:7	57:6	increased 25:5	22:3 35:17
135:17,19	identified 42:20	imported 18:4	45:4 64:13	37:2 42:1 47:9
horses 135:18	96:5 105:15	importing 58:16	65:18,25	53:16 78:4,5
horticultural	172:20	59:9	138:18 144:16	78:25 79:16
126:14 133:19	identify 115:9	imposed 8:11	183:4,18	102:4 103:1,3
135:10	117:1 159:19	42:22 74:14	increases 45:6	106:15 174:5
horticulture	171:17	imposing 15:2	increasing 25:9	177:1,4 189:24
112:5,7 134:15	identifying	improper	65:12,16	193:25 195:4
135:20	171:24 201:3	114:20 131:17	incredibly 200:6	195:11
hostile 220:14	ignited 169:10	131:23 140:5	increments	informed 125:24
hour 43:6	illegal 218:18	144:4	45:24	infrastructure
185:14,16,17	immediately	improved 29:15	INDEX 4:1	30:1 45:21
220:20	33:1 121:10	improvement	Indian 163:25	133:8
hours 129:1,1	impact 103:20	45:23 76:7	indicate 21:10	initial 18:17
house 43:4	103:25 105:20	improvements	94:5 110:22	31:2
households	107:14 108:4	66:16	170:17	initiated 57:21

initiation 62:19	186:13	irrigated 100:20	194:19	93:8,13,19,22
innovations	interest 72:25	111:6 201:2,8	Jennifer 3:13	94:4,16,19,25
105:12	143:18 144:17	201:21 202:5	92:18 147:24	95:25 97:2
input 80:18	164:23 165:16	206:14,18,20	jennifer.najja...	98:5,15 104:10
inserts 46:14	interested 163:6	irrigating	3:16	104:16,19
inspection 61:17	223:13	128:17	jeopardize	107:12 109:11
install 127:12	interface 28:16	irrigation 6:4	143:16	109:16,23
182:15	28:16 30:8	46:23 52:17	JHWWTF	110:13 114:17
installation	32:4	112:16 123:23	24:16	115:15 116:1
30:12	interpret 90:7	123:23 126:16	Jim 204:20	116:24 117:5,7
installed 66:21	interpretation	127:10,14	job 160:24	117:10,17
instance 122:20	86:23	128:2,4,6,9,22	jobs 108:7	118:12 120:13
186:15	interrelation	129:4 137:13	John 2:10	121:7 125:11
Institute 100:1	60:10	137:23 202:2	156:21	125:14 126:2,6
118:8 148:21	interrupt 111:23	205:21 206:3,4	john.draper@...	127:2 129:14
152:12,13	125:12 140:1	208:18	2:12	129:18,25
185:13	interstate	irrigators	join 95:24	130:9,18
institution 62:19	126:20 134:11	127:24	130:16	131:14 132:6
Institutional	134:12	isolated 17:16	joined 90:23	132:19 140:8
108:11	introduce	issue 37:3 49:9	160:15,22	140:11,20
institutions	116:19	50:25 96:9,21	joins 95:21	141:10 144:8
119:21	intrusion 28:20	110:16 126:21	104:12 109:14	145:13,22
instructions	intrusive 53:9	202:10 221:20	115:13 120:11	147:3,9,14,18
37:6	53:12	issued 77:23	126:25 132:3	150:8,17 152:2
insufficient	invest 180:17	81:25	144:6	153:4,8,12,16
127:17	invested 214:14	issues 26:13	Jorge 4:3 5:4,8	153:20,24
integrated 182:8	investigation	37:18 59:8	Jornada 5:24	154:5,9,12,15
210:16	47:21	78:22 103:5	6:15,24 8:24	154:19,25
intending 177:3	investigator	109:24 110:5	9:1,9 13:19,25	155:6,10,17
intends 59:9	114:23 148:11	110:24 138:22	14:23,24 16:16	156:14 157:4
intensive 160:17	investment 31:3	181:5 199:13	17:15 20:1	157:12,25
221:24	106:25 183:17	it'll 137:20 179:2	21:5 23:24	158:5 165:25
intent 176:24	183:21	205:17	24:4 29:2	166:17 181:17
213:22	involved 78:1,5	item 46:3	32:20 51:12	182:5 199:19
intention 56:22	78:24 81:13	Ivey 116:8,18,19	62:1,5	199:24 200:8
59:7 99:9	89:14 102:6		Juan 162:21,21	204:14 209:2
inter 151:21	141:2 161:24	J	judge 5:1 49:12	210:3 213:9,12
interaction	166:2 171:23	J 3:8	49:16 51:18,21	214:3,6,23
43:18	172:4	Jacob 5:25 6:6	60:13,18 68:12	215:9 216:13
interchangeable	involvement	18:8 21:13	68:22 69:18	217:4,11,24
175:5	106:24	23:1,20 24:17	71:5 75:15,19	218:19 219:19
interconnect	Iowa 110:2	45:2 73:23	80:16 83:8,15	220:12,22,25
135:6,7 139:14	iPads 93:25	Jacobs 47:23	87:1 88:15	221:9 222:3,8
interconnected	155:13	James 3:8	90:12,15 91:11	judgment 78:7
59:21,22	iPhones 93:25	james.dubois...	91:16,19,21	86:19
178:11,17	155:13	3:10	92:3,7,14,17	Judicial 10:22
interconnection	irrigate 201:11	January 142:22	92:20,25 93:4	Judith 3:12

judith.colema... 3:15 July 114:2 148:4 June 100:6 131:18 137:24 194:20,20 Justice 3:8,13 204:21 justification 115:18 148:24 justifications 118:13 Justin 56:14 JWC 24:4	117:21 118:21 119:21 123:25 125:18,19,20 125:21 130:9 137:7,15 146:14,24 150:10 151:9 159:12,21,23 160:1 161:15 162:21 163:15 163:19,21,22 164:15 165:6 165:19,24,24 166:2 167:9,17 168:12 169:4 169:15 171:16 172:12,24,24 173:1,3,4,9,11 173:12,13,17 174:4,8 175:4 175:6,19 176:5 176:15,18,23 176:24,25 177:1,8,9 178:1,15,25 179:8,8,11,12 179:13,16,17 180:6,14,24 181:1 182:10 182:13,16,19 182:23 183:25 184:14 185:11 186:12,16 187:9,11,12,19 188:18,22 189:7,9,12,22 190:5,7 192:2 192:6,9,10 193:12,21,21 194:1,2,3,11 194:14,15,17 194:18,22 195:7,12,14,24 196:6,8,8,9,19 196:24 197:10 198:18,19 200:19,20,22	201:14,22 202:1,2,2,21 202:22,23,25 203:1,25 204:1 204:1,2,2 205:16 207:11 207:12 211:6,9 212:13,15,16 212:16,19 213:18 217:17 217:25 knowing 68:20 71:12 knowledge 68:8 91:3 95:16 97:7,7 knows 94:9	166:13 170:6,6 170:9 184:19 larger 175:17 largest 158:13 Larry 156:21 Las 6:13 39:10 48:24 49:23 50:5 52:15,16 54:7,10,17 55:2,11,18 56:7,21 57:17 58:8,9,14 59:6 59:15 60:11 61:1 64:16 66:10,25 67:13 67:22 68:17,18 70:15,17,24 71:7 72:13,14 73:6,15 74:2 74:14,23 78:8 79:13 82:15 83:24 98:25 100:17 112:1 125:4 128:22 132:8 133:17 135:6 139:11 142:2,12,14 160:14 162:7 163:22 164:2 167:18 Lashway 114:2 114:24 115:6 131:20 139:12 148:11,13 lasted 122:20 lasting 122:19 latch 42:2 latches 181:24 lateral 128:23 latest 31:15 64:25 law 3:3 142:12 146:6,13 213:17,24 lawsuit 90:23 107:6 lawyer 213:19	213:21 lay 96:13 109:20 114:20 116:10 131:17,23 132:15 140:5 144:4 layer 58:7 layers 46:1 76:4 laying 110:8 lead 189:23 leadership 102:4 leads 156:23 leak 30:10,12,16 30:19,20 31:3 41:14 43:2,4 leaks 30:18 31:22 43:12 lean 42:2 learn 99:16 187:10 learned 188:22 lease 211:2 leased 89:5,7,8 leases 89:15 leave 83:18 217:21 219:6 219:13,24 led 78:1 left 5:15 21:15 36:12 57:23,24 134:13 170:6 181:4 left-hand 18:18 18:19 123:7,7 168:25 169:20 legal 13:8 16:8 71:2,4 86:23 87:2,3 88:12 88:14 146:15 151:10 213:18 213:21 214:2 215:11 legally 88:14 175:7 Leininger 48:20 48:23 lengthy 156:11
--	--	--	--	---

191:18	licensing 52:5	39:3 40:19	logged 32:5	looking 5:16,18
lessons 188:22	lieu 34:17	41:1 42:7,13	logging 28:6	57:25 123:5
let's 6:8 8:13	light 6:16 64:9	52:3 54:15	long 29:8 119:1	125:14 135:8
10:17 12:4	115:21 149:2	72:4 73:14	122:8,20	141:17 162:1
13:20 14:1,25	Limine 97:24	83:10 88:7	129:22 166:24	166:19 167:12
15:25 16:19	limit 33:11 35:2	92:20 98:17,17	191:8 207:8	167:14 168:14
18:13 21:23	41:8	99:16,18	long-term 65:2	172:22 177:25
22:25 23:16	limited 95:18	109:17,25	181:20	177:25 178:11
25:22 26:19	113:9 120:7	118:1,2 134:23	longer 50:4 57:2	179:19 193:1
35:7 38:4	limits 40:8 125:1	137:8 145:13	183:12 202:5	194:11,14
56:13 68:25	Lincoln 2:20	150:7 156:24	206:17	196:19 219:22
83:6 87:7	line 12:14 49:2	158:1 163:24	Longworth	looks 92:7,9
89:16,19 99:17	110:15 120:16	166:9 169:5	219:24 221:25	153:24 174:11
122:10 123:2	169:20 170:7	170:5 171:7	222:6	186:2 193:9
123:15,20	199:17 204:3	174:23 178:9	look 8:13 11:10	202:17 219:20
124:7 125:9	lined 92:4	182:12 187:10	11:23 12:14	lose 183:16,21
134:5 135:8,15	lines 6:22 14:7,8	193:11 212:3	13:20 14:25	204:8
140:21 147:10	16:20 30:14,18	221:23	15:13,15 20:6	losing 181:10
148:17,23	65:9 139:14	little-known	21:23 22:25	loss 113:7
149:6 150:7	links 187:19	36:22	25:23 33:3	lot 40:10 41:25
153:20,25	Lisa 2:19	live 116:21	35:7 36:4,5	53:16,23 66:17
155:18 157:12	list 8:17 11:25	livestock 136:6	38:4,20 43:24	73:1,2 78:4
163:9 166:10	26:2 49:7	LLC 2:10	44:17 46:4	81:6 125:20
175:19 178:8	58:10 84:20	load 185:2	55:23 56:1,13	137:12 138:3
179:3 185:20	97:12 180:10	loaded 184:2	56:13 58:2,2	160:2 162:2,22
199:19 211:7	189:19,19	local 172:1	67:7,19 68:24	172:2,22,25
211:13 222:8	190:1	located 9:1,8,9	81:19 89:16,17	173:2 176:3,25
letter 14:2,7,9	listed 9:7 10:8	48:5 98:24,25	110:21 122:17	179:6,7,15
14:16 15:1,3	17:7 24:21	134:9 164:22	123:15 125:9	186:12 211:22
16:5,5,9 20:8	47:8 54:23	167:15 193:22	125:10 129:6	214:24
23:6 33:1,4,7	55:1 96:22	197:18,19	145:6 170:16	louder 39:3
34:5,8,19	155:19 156:17	location 7:7 12:2	173:5,9 174:3	love 217:22
35:23 36:3	220:13	12:2 21:4 27:4	176:10,14,16	loved 160:23
letting 43:5	listing 38:19	46:21 121:25	178:8 180:5	low 71:18 87:23
level 25:4 52:10	174:1	134:24 170:18	182:25 185:10	88:7,8
64:18 65:14	lists 16:13,17	170:24 176:20	185:22,25	lower 9:21 10:24
76:3	19:10,12	187:13 193:3	191:5,8 197:12	11:10,17 16:15
levels 28:13,14	131:18	196:6,20 197:7	198:23 201:7	48:20 67:12
40:15 51:9	litigation 78:21	201:15,16,24	211:6	89:20 95:10,14
61:4,8,17,23	79:4,7,9 82:24	locations 6:20	looked 13:13	100:23 102:1,9
61:25 62:2,5	82:25 83:5	6:22 16:18	18:17 26:12	102:11,13
62:18,25 63:6	115:11,16,16	19:13 21:10	43:25 81:21	106:6 107:5,15
63:19 65:3,12	126:21 146:5	46:9,12 47:24	123:13 131:21	109:18 111:23
65:16,25	146:12 181:14	80:20 81:3	165:7,7 172:6	113:4,14
Leyendecker	213:17,25	129:8 177:3	172:25 173:2	133:13 141:2
112:9 133:21	little 7:24 22:3	202:4	191:21 195:24	142:10 143:6
135:23	22:10 25:5	log 27:25 32:4	208:20	144:23 151:7

159:5 160:5 162:6,23,23 168:20,22 193:10 lowest 58:10 LRG 8:22 9:3 10:5 27:4 73:21 96:24 106:10,17 141:20,20 163:2 164:3,8 164:19 165:15 190:3 LRG-11409 196:6 LRG-15 175:13 LRG-3275 84:20 LRG-35 70:16 70:21 LRG-430 10:8 10:12,22 12:22 12:25 24:1 25:13 38:11,12 59:15 67:2,14 73:15,18 74:1 74:4 77:22 78:13 81:4 82:16 83:24 85:20 LRG-8740 175:14 lthompson@t... 2:21 lumber 164:14 Lunas 163:22	magnitude 45:5 95:13 main 11:18 18:2 21:17 45:15 54:2 103:5 112:3,4,8 113:20 128:13 128:15,24 133:18 134:6 134:11,14,20 135:4,12,13 141:19 maintain 52:21 maintenance 138:7,12 183:19 major 45:12 162:20 majority 10:15 27:22 28:4 30:3 making 107:22 118:2 165:20 167:4 198:25 213:1 Mall 2:5 manage 30:7 64:17 66:11,24 90:20 99:3 146:16 151:11 managed 29:7 61:15 management 111:13 145:8 162:10,12 167:2,9 manager 60:11 60:14 157:23 158:7 159:11 204:24 205:2 210:25 212:5 212:11,22 213:1 managing 66:19 158:7 map 6:20,25 7:8 7:13,15,20,24	8:8 18:19 21:3 21:12,16,19 22:2 46:16 133:12,13 134:5,6 135:9 135:23 167:14 167:16 170:17 170:17 178:11 178:13 maps 18:17 46:20 135:9 marginal 104:19 marked 7:4 market 136:13 marketing 161:16,23 markings 6:18 marks 26:21 Marquette 2:15 massive 25:25 master 1:11 6:1 7:6 18:11 21:18 23:12 33:5 45:20,22 116:14 134:18 189:8 194:10 196:9 masters 202:3 match 218:7 matches 218:10 math 168:6 matter 1:11 33:15 52:7 71:3 75:13 213:1 matters 120:10 maximum 9:2,5 9:18 12:7,16 16:23 17:4,5,5 Mayfield 160:15 mayor 14:4,10 mean 40:18 56:11 57:20 90:7 96:19 107:9 110:1 111:23 115:15 139:25 162:4	162:17 172:25 174:25 200:13 205:12 210:22 211:5 217:5 meaning 19:20 31:6 72:16 means 58:16 79:11 89:23,24 177:5 184:11 193:23 meant 130:8 measure 40:23 185:14 measured 41:20 measurement 15:6 30:4 31:4 31:23 measurements 24:14 medium 87:23 meet 45:14 85:7 119:15 121:12 145:25 159:21 162:16,18,22 meeting 45:10 megawatt 168:5 168:11 185:14 185:16,17 megawatts 167:23,25 MELLOY 1:11 5:1 49:12,16 51:18,21 60:13 60:18 68:12,22 69:18 71:5 75:15,19 80:16 83:8,15 87:1 88:15 90:12,15 91:11,16,19,21 92:3,7,14,17 92:20,25 93:4 93:8,13,19,22 94:4,16,19,25 95:25 97:2 98:5,15 104:10 104:16,19 107:12 109:11	109:16,23 110:13 114:17 115:15 116:1 116:24 117:5,7 117:10,17 118:12 120:13 121:7 125:11 125:14 126:2,6 127:2 129:14 129:18,25 130:9,18 131:14 132:6 132:19 140:8 140:11,20 141:10 144:8 145:13,22 147:3,9,14,18 150:8,17 152:2 153:4,8,12,16 153:20,24 154:5,9,12,15 154:19,25 155:6,10,17 156:14 157:4 157:12,25 158:5 166:17 181:17 182:5 199:19,24 200:8 204:14 209:2 210:3 213:9,12 214:3 214:6,23 215:9 216:13 217:4 217:11,24 218:19 219:19 220:12,22,25 221:9 222:3,8 member 52:17 100:1 144:23 members 101:17 101:20 103:2 113:4,17 137:14 memo 189:7 memorandum 192:2,20 194:6 199:1,7,8
M M 2:1,19 ma'am 158:10 160:6 161:7 162:11 164:4 170:20 172:1 174:13 189:3 189:21 192:22 203:8 Machine 1:13				

mention 26:20 165:11	66:23 190:14 190:17 191:3	107:1,4 108:22 109:7,10,10	mic 140:1 147:7 147:11 158:3	92:3 135:8 145:16 153:17
mentioned 13:11 16:3 18:14 22:11 29:23 34:9,25 35:24 42:12 44:25 53:21,23 64:5 72:22 76:13 99:5 116:18 144:14 162:16 164:18 186:8 188:3 189:23 202:7 203:20	200:18 metered 10:4 20:21 metering 20:23 29:19,22 30:1 41:14 43:2 66:17,21 meters 27:23,25 28:5 30:2,16 30:24 163:13 163:14 200:16 methodology 115:7 149:6 150:10 methods 170:1 Mexicans 108:5 158:15 159:13 163:13 Mexico 1:6 2:9 2:11,16 5:2 8:4 8:19 13:22 21:25 22:15 23:2,17 26:19 33:4 35:7 43:25 44:17 46:5 49:6 52:10 56:13 63:10,16 64:1 64:9 67:7,11 68:2 69:10,22 70:4,9,15 72:12,25 83:7 83:21 87:8 89:17 92:14,16 92:25 93:3 94:14,15 95:1 95:6,7,10,15 95:22 96:5,10 96:17,21,24 97:21 98:1,22 98:24,25 100:3 100:5,24 102:8 103:1,19 104:24 106:7 106:18,24	110:24 111:16 111:21 113:14 113:25 114:1 114:15,15,22 116:4 117:1,3 118:7,8,9 119:12 125:18 126:22 129:19 129:22 130:2 130:14,21,22 131:12,12,24 139:20 140:18 140:19 141:3,6 141:12 142:9 144:19 146:5 146:12,17 148:3 149:1 150:19 151:11 151:14,19 152:14,20,25 153:13,14 154:6,17 155:19,21,23 155:24,24 157:24 158:9 158:12,14,16 159:5 160:21 161:1,14,15 163:9,11 164:11,13 165:1,4,8 167:11 171:3 177:10 181:23 186:21 189:18 191:10 200:3 203:23 204:24 207:24 208:5 210:7 214:18 215:2 216:5,15 218:4,10,13,14 218:24 219:10 Mexico's 95:4 104:8 114:8 129:13 182:3 199:13	MICHAEL 1:11 microphone 39:4 92:21 98:16 117:11 158:1 middle 6:15,25 21:14,19 41:10 128:8 167:19 187:14 Mike 4:9 153:14 157:15 mile 33:19 112:7 135:19 miles 57:7 112:8 133:22 135:24 136:3 162:7 167:18,18 196:25 197:1 197:20 military 163:15 million 31:2 48:6,8,8 50:16 52:25 106:25 108:4,6,19 138:6 158:14 163:12 168:7 180:19 181:1,3 181:4,6 182:24 183:4,13 210:9 210:14 211:10 211:11,14,20 212:6,9 millions 55:21 mills 156:20 164:14 220:14 220:24 mind 207:21 minimize 42:24 minimum 20:17 minor 75:2 84:17 minute 16:3 72:23 83:19 155:19 187:4 minutes 91:24	153:21 199:12 mirroring 105:2 miscellaneous 9:6 mishap 140:7 mission 102:19 102:20 103:9 106:3,4,5 108:20 109:21 110:3,10 113:10 141:25 143:1,17 misspeak 130:7 mistaken 120:20 mitigate 167:5 model 81:17,23 modeled 81:21 81:22 modeling 81:13 81:15,18,19 176:14 models 178:1 194:14 196:19 modified 14:13 142:11 moment 124:10 125:12 moments 132:9 Monday 49:22 157:1 220:7,11 money 54:11 58:13 monitor 30:6 65:2 66:14 101:24 monitored 27:23 31:9 61:15,21 63:4 monitoring 26:16 28:18 29:17,20 30:11 30:16 32:9,13 51:5,9,11 61:12 64:21 66:12,14 67:6
mentions 49:14 143:7				
merely 97:21 98:3 116:21 121:5				
Mesa 5:22,23 6:2,5,17 9:1,3 9:4 10:13,13 13:4,12,15,23 13:25 18:14,16 18:25 20:1 21:6,9,11,16 32:17 61:9,11 75:2 84:11,17 84:21 86:3,9 124:9 167:19 197:21				
Mesilla 5:23 6:23 7:1 8:23 9:4,9 11:18 17:16 18:4,5 19:11 23:25 24:1,8 51:12 59:17,19,20 61:24 62:6 65:11 90:9 115:22,24 125:17 127:10 128:3 149:3				
met 16:7 123:13 162:22,24				
meter 27:5,6				

143:7	20:1 21:5	117:22	96:5 160:20	146:5,12,16
month 28:2	23:24	Navy 160:15,18	177:13 179:9	148:3 149:1
32:14 137:24	multimillion-d...	near 134:21	new 1:6 2:9,11	150:19 151:11
190:25 200:19	212:22	170:7 197:18	2:16 5:2 8:3,18	151:14,17,19
months 185:2	multitude	nearest 196:16	13:22 21:24	152:14,20,25
194:13,21	136:19	necessarily	22:15 23:2,9	153:13,14
morning 5:7,13	municipal 43:14	148:20 211:5	23:16 26:19	154:5,17
5:14 18:18	53:25 54:5	215:7	29:4 33:3 35:7	155:19,21,23
32:6 51:25	113:19 142:13	necessary 35:1	43:25 44:17	155:24,24
52:1 75:24,25	159:6 163:5	42:14 43:16	46:5 49:6	157:24 158:8
157:1 220:11	182:2	45:14 211:1	52:10 56:13	158:11,14,14
222:10	municipalities	need 20:17	63:10,16 64:1	158:16 159:5
motion 97:24,25	163:21	43:13 49:4	64:9 67:7,11	159:13,18
130:17 200:2	mute 91:10	50:18 56:1	68:2 69:10,22	160:21 161:14
motor 124:14	181:16	59:25 64:22	70:4,9,15	161:15 163:9
mounted 28:25	mutual 39:13	69:14 71:8,11	72:12,25 77:4	163:11,12
move 68:1 87:6		73:2 75:8	83:7,21 87:7	164:11,13
104:8 108:21	N	76:13 78:25	89:17 92:14,16	165:1,4,8
108:22 130:13	N 2:1	93:4,13,22	92:25 93:2	166:24 167:2
140:21 141:5	Najjar 3:13 4:8	98:17 120:5	94:14,15 95:1	167:11 171:3
162:9 166:17	92:18,18,21	121:15 122:9	95:4,6,7,10,15	171:13,13,16
173:19 176:24	94:10,21 95:1	153:16 154:19	95:22 96:4,10	171:20 177:10
177:1,3 180:16	96:22 104:11	155:1,10 158:2	96:17,21,24	179:21 181:23
184:5 186:20	104:18 107:8	159:14 185:4	97:20 98:1,21	183:18 186:21
195:12,14	109:14 114:18	185:15 186:7	98:24,25 100:3	189:18 191:10
196:21 199:2	114:19 115:17	186:13,16	100:4,24 102:8	199:13 200:3
201:1,15 206:8	117:6,8,11,12	204:3 221:24	103:1,19 104:8	201:15 203:22
move-to 196:6	120:2,5 125:23	needed 45:21	104:24 106:7	204:24 207:24
moved 171:1,2	126:4,25	56:24 70:5	106:18,24	208:5 210:6
173:17 201:25	130:16 131:15	73:11 81:2	107:1,4 108:5	214:18 215:2
moved-from	139:25 140:10	139:22 211:15	108:22 109:7	216:5,15 218:4
195:8	143:23 144:1,4	needs 9:24 45:10	109:10,10	218:9,12,14,24
movement	144:20 145:17	45:14 56:8	110:24 111:15	219:10
140:19	147:3,5,16,20	63:3 85:18	111:21 113:14	newest 174:8
moves 18:3	147:22,24	119:16,17	113:24,25	newspaper
109:10 114:15	150:9,12,18,20	121:12 133:9	114:8,15,15,22	36:22 177:16
131:12	151:24 152:8	182:22	116:3,25 117:3	newspapers
moving 38:2	153:5,7	negligible	118:7,8,9	36:14
129:13 142:3	name 27:4	196:24 197:3	119:12 125:18	nice 145:25
143:11 173:16	121:25 145:25	198:9	126:16,22	nine 42:10 51:10
176:20 177:11	147:23 204:20	negotiation	129:13,19,22	61:19
183:24 196:25	National 23:7	78:10	130:2,14,21,22	NM-0616 49:1
197:13,13	185:12	net 183:13	131:12,12,24	NM-0847
Muerto 5:24	natural 105:25	network 30:15	139:6,8,20	131:12
6:15,24 8:24	171:9 175:14	30:16	140:18,19	NM-0857 104:9
9:1 13:19,25	180:7	never 61:15 63:9	141:3,5,12	NM-0946 47:3
16:16 17:15	nature 94:1	63:25 95:23	142:8 144:19	NM-1027

115:17 131:21 148:18 NMSU 70:24 72:10 73:3 100:13 101:3 102:15 108:2 113:18 115:1,2 115:5 117:14 119:20 121:22 129:7 131:9,18 133:6,13 135:1 136:14 137:25 142:1 143:1,12 143:14,20 144:23 148:7 148:14 NMSU's 67:16 118:24 119:14 122:8 134:9 138:3 142:18 145:1 152:22 nodes 178:20 non-dispatcha... 182:18 non-expert 60:3 non-irrigation 216:4 non-revenue 31:16 noncontiguous 142:8 nonretained 95:3 96:6 normally 12:24 23:13 north 46:16 112:1 124:24 124:25 133:17 134:13 163:23 northeast 163:24 notable 12:17 noted 118:10 128:16 notes 55:19 notice 25:3 36:8 36:15 37:1,25	49:8 83:18 177:16 198:11 198:13 202:6,7 notification 140:2 notifications 30:9 notion 215:13 November 1:12 141:15 188:25 NPDES 23:13 NPDS 23:7 nuclear 164:24 number 7:1 8:19 13:16 14:10 27:4,14 31:15 44:13 45:3 79:22,23 85:4 138:2 159:5 176:9 183:4,6 186:4 200:5 216:19 217:12 218:16 numbering 149:21,25 numbers 7:22 7:23 8:6,7 9:14 16:14 19:10 38:10 174:3 numerous 150:14 nutrition 103:6 Nutt-Hockett 57:8 NW 2:15 <hr/> O <hr/> O 2:1 OA 216:10 object 59:25 64:13 75:8 80:12 114:19 126:19 170:7 181:13 199:16 214:1 objected 94:8 96:20	objecting 120:16 objection 49:5 68:4 71:1 88:12 94:23 95:21,24 104:10,13 107:2 109:11 109:15 120:6,6 120:12 121:4 127:1 130:15 131:14 132:4 143:24 144:2,7 166:15 199:11 208:25 210:1,2 objections 115:12,14 140:4 objective 40:14 110:20,22,23 objects 109:12 131:16 obligated 163:18 obligation 13:8 observation 62:23 observed 62:24 62:25 obstructionist 199:14 obtain 122:15 122:23 obtained 122:25 152:11 obtaining 48:3 obviously 75:13 106:11 125:20 133:15 167:11 occasion 158:20 occasionally 32:17 occurred 207:25 216:24 occurring 80:10 odd/even 41:17 offer 78:6 96:4 98:2 103:12,13 offered 97:21	offering 52:6 97:17 office 3:14 8:19 26:17 78:19,24 79:3 81:8 102:25 151:5 173:5,12 176:1 176:10 177:22 189:2,4 190:25 193:5 194:6 199:8 200:4,19 201:19 202:18 207:24 214:18 223:16 official 114:10 131:6 132:10 152:10 202:7 officials 127:16 offset 19:20,24 74:4,7,9,12 75:11 82:15 84:3,15,17,18 85:6,15,18 86:8 198:3 211:2,15 212:7 offsets 17:17 19:15 20:5 25:8 74:1,13 74:22 75:3,5 75:11 218:9 Oh 126:6 138:16 159:18 181:16 189:14 195:2 210:11 okay 8:10 9:23 13:8,11 14:25 17:12 18:20 20:25 23:16 25:17,21 27:20 40:16 52:9,13 52:20,23 53:7 53:17,21 54:3 54:7 55:7,10 55:18 56:4,7 56:21 58:13 61:22 62:1,4,8 62:10 63:5,15	63:21 64:5 66:8,10 67:11 67:16,19 69:6 69:19 70:2,9 70:22 73:14,21 74:8,13,18 75:1,4 77:6,21 77:25 78:10,13 78:16 79:19 81:9,24 82:7 82:11,24 83:6 83:13,20,21 84:5 85:6 86:11 87:5,9 87:17,21 88:1 88:5,9,23 89:1 89:16,19 92:25 93:9 126:6,7,8 145:22 147:1 147:11 149:6 153:16 154:11 156:14 157:12 158:19 160:7,9 168:13,18 174:18 184:18 185:24 201:9 202:16 203:6 205:4,10,13,15 206:2,22 207:7 207:18,21 208:5,10,17,22 209:4,11,23 210:6,11,18,24 211:18 213:7 214:4 220:25 222:7 old 38:2,12 139:5 185:19 201:16 oldest 174:8 once 50:20 72:5 212:2 one-hour 156:18 221:10 one-to-one 19:20 20:4 ones 18:17 38:9
--	--	---	--	---

ongoing 11:2	optimize 111:10	output 108:1,4,8	106:19 107:23	paragraph
onions 136:20	option 50:22,23	113:21 124:22	108:9,9 110:19	12:12,16,18
online 27:9	58:19	135:4 136:11	110:20 115:18	13:9 15:8,15
166:12 167:22	options 54:21	outreach 102:24	118:8 119:5,24	17:13,13,14,20
192:23 205:12	57:5,13	outside 84:14	121:2,21,24	19:18 20:7,14
open 212:18	opts 58:14	104:14 125:1,6	122:10 123:2	20:14 36:25
217:5	order 10:21 12:1	outstanding	123:15,20,24	83:4,23 86:11
opening 217:9	12:5,18,19	117:4	123:24 124:7	86:13 120:24
operate 111:15	39:2,6 45:4	overall 215:17	125:15 126:12	121:1 142:16
138:4 180:11	67:12 77:22,23	Overruled 209:2	127:6,6,6,21	179:20,24
183:10 184:25	78:2,6 79:5,9	oversee 99:13	128:8 129:5	184:8 198:24
217:1	79:19 81:2,3,4	151:13	133:4,11 134:6	198:25 200:10
operated 100:18	81:6 83:24	overseeing 102:2	135:10,15,21	201:10
124:1	86:23 95:5	Owing 127:9	141:16,17	paragraphs
operates 84:15	141:12 150:22	owned 24:6	142:3,3,15	20:19 199:3,5
operating 28:23	151:6 157:5,8	161:13	148:18,23	199:7
62:19,23 63:8	176:12 196:3	owner 176:7	149:7 150:9	parameters
63:22,23 65:17	ordered 122:3	193:17	167:13 168:13	22:22
66:2 90:22,24	ordinance 41:19	owners 193:17	170:17 173:21	parcels 46:10,12
95:11 137:11	42:12,16 43:15	owns 46:13 89:1	173:22 178:8	48:15 89:6,11
143:21 144:9	ordinary 95:16		179:19,19	89:13
144:12,16,18	organization	P	183:1 184:7,14	park 165:1,4
183:9,14,23	99:14	P 2:1,1 44:18	184:16 185:25	175:15,16
207:13 214:25	organizations	P.C 2:15	189:18,19	parks 41:23
215:1,6,14,17	102:7	p.m 222:17	193:1,1 194:5	part 11:10 15:23
216:17,20	origin 139:13	P1 215:21	195:2,3,18	16:11 22:12
217:19,20	original 1:1 5:2	page 4:3 7:15	196:11,14	24:15 25:22
218:3,12,23	7:15 11:8	10:19 11:11,15	198:11,23	26:23 30:11
219:1,5,10	90:23 105:2	11:23 12:4,5	199:3,4 201:17	35:24 36:25
operation 129:1	170:18,25	12:10,15,15	202:6,16 208:7	38:11 43:19
129:3 167:24	171:5,12,24	13:22 14:1	208:7 210:7,13	44:15,18 50:1
183:18 205:5,6	172:6 174:2	15:25 16:1,12	pages 25:22 26:6	52:13 58:4
operations	175:11 176:2,6	16:19,21 17:13	49:1 121:23	60:23 63:19,24
99:13 163:10	183:21 192:13	18:16,20 19:7	191:19,21	67:5 90:7
163:10 204:24	197:17 201:12	19:17 20:6	223:6	96:12 115:11
opine 114:21	201:19,21	21:25 22:16,16	paid 52:20 72:10	115:16 119:19
120:10 131:24	202:21 211:7	22:16 23:4,17	137:17 181:3	125:19,22
opined 115:2	Originally 14:13	25:23,24 26:1	pains 36:20	132:20 134:10
opinion 71:4	OSE 174:2	33:4 34:8,20	Palo 164:23	137:10 148:25
74:11 95:12	outcome 144:17	35:7,22 36:4,5	186:16	152:13 163:23
131:24 200:6	146:4,11,22	36:6,24 38:5	pandemic 42:4	172:5 177:7,15
210:25 212:4	166:4	38:20,21 43:25	42:10	179:12,13
212:11,21,25	outline 39:19	44:17,19 49:21	paper 117:19	180:1 188:1
213:21	outlined 26:10	67:19 68:25	176:23	198:18 203:4
opportunity	47:24	83:21 89:19	papers 36:16	204:1 206:6
71:15,20 161:5	outlines 22:19	95:6 104:24	paperwork	212:16 215:17
166:24 219:18	27:3 45:20	105:1,19,19	160:1	partially 87:20

206:6 participated 51:3 participating 154:1 particular 7:5 32:18 33:12,17 33:22 35:11 47:11 49:14 125:19 139:14 161:17 180:3 180:18 184:5 188:13 203:24 215:18 particularly 49:1 59:15 61:8 63:22 65:20 66:4 parties 5:3 151:7 200:7 203:21 223:10,14 partly 137:9 parts 161:19 party 102:9 141:1 143:12 143:19 Paseo 2:11 Paso 55:7,11,19 58:14 100:16 115:21 117:25 149:2 164:6,18 164:21,25 165:3 166:13 171:9 175:14 179:11,16 180:6 186:15 Paso's 40:13 passed 213:4 pastureland 136:12 pay 31:5,5 41:1 41:4 46:22 138:1 183:22 183:23 paying 138:7 payments 47:4 pays 46:25	137:15 PC 2:5 pecans 136:19 penalties 42:21 43:15 people 27:16 119:12 160:23 201:6 219:12 Peralta 2:11 perceive 62:4 percent 10:6 29:5,6 31:17 31:17 108:3,6 108:7 179:14 186:10,14,17 186:19 percentage 10:3 10:4 perception 176:5 perfect 70:23 perfection 71:3 perform 50:13 performance 29:25 31:6,8 performed 67:1 115:18 148:25 peril 159:19 period 25:6 85:25 122:21 128:5 periodically 28:6 periods 65:8 84:1,14 permanent 211:15 212:7 permit 9:1,3 10:9 13:15,25 15:9 16:14,23 18:22 19:10,15 19:23 23:8,14 38:10,18 39:5 85:17 187:12 191:1,7,18,24 193:2 202:10 203:4,5,7	208:13 209:8 permits 8:4 15:4 15:7 17:1 19:19 20:9,12 20:24 23:1 26:12,13 32:9 74:15,15,19,23 87:11 208:3,17 permitted 6:20 9:17,18,19 24:21 32:10 33:19 85:1 87:15 165:8 166:8 person 44:12 69:1 95:16 person's 32:3 personal 97:7 personally 135:25 171:23 personnel 108:20 perspective 145:20 221:20 phase 151:22 phases 151:18 photo 123:3,15 123:16,21,22 129:6 201:17 201:20 photograph 168:14,16,19 photographs 196:2 photos 119:4 125:9 physical 149:10 149:19 180:12 physician's 160:17 pick 5:15 178:23 picture 122:12 123:6,8,12,25 128:19 134:10 180:6 184:13 pipeline 178:25 179:1 180:7	place 30:12 34:18 38:23 70:10 122:18 139:21 142:5,7 144:12 181:7 200:2 217:8 placed 20:14 69:3 places 66:21 plainly 95:15 96:25 Plaintiff 1:4 2:3 plan 7:9,12,15 8:17 10:18 13:21,24 18:15 20:16,17 21:21 21:24 22:12,13 22:17,19 40:1 44:16,18,24 45:13,13,15,19 45:20,22 47:17 48:21,25 50:5 54:21 55:1,2,3 55:4,10,15,18 56:8 57:5,20 58:2,3,4,7 59:13 64:24,25 65:1,21 76:2,6 76:7,7,9,11,12 76:15,17,19 77:2,5,17 81:10,13,24 82:3,22 83:3,7 83:22 87:22 89:18 90:2,4,7 108:24,25 109:4 121:19 130:23 131:3 132:8 133:5,6 139:13 152:25 planned 73:4 planning 45:10 45:16 46:1 58:8 76:3,4 77:9 82:19,25 88:9 152:17 182:8 210:17	plans 45:23 57:18 76:24 77:18,19 86:1 132:21 167:4 plant 6:5 13:4 18:3,9 21:16 21:17,17 23:12 23:21 45:3 47:18,19 48:1 48:5 55:4,8,12 55:16,16,17,20 56:23 58:9,20 59:2,8 73:24 86:2,3,7 112:9 123:9,9 124:9 133:21 135:23 149:10,19 162:5 164:7 165:3 167:15 167:21 168:15 168:16 170:2 170:19,23 171:6 172:10 173:10,14 180:24 181:7 181:11 183:18 183:25 184:12 185:1,7,15,17 186:2,7,14,19 203:23,24 204:6 205:1,5 207:9 210:9,14 211:1 214:12 214:15 plant's 184:6 plants 21:4,11 22:7 42:7 127:12 136:23 161:25,25 164:22,24 170:11 185:9 185:11,18 plat 201:3 play 63:24 101:22 113:13 Plays 113:15 please 5:19 8:14
--	---	--	--	---

14:2 15:1 16:1 16:19 21:1 23:1,17 26:20 38:21 39:16 49:5 56:15 67:7 68:25 93:6 108:9 110:20 113:24 121:1 124:7 127:7,21 128:12 129:5,5 133:11 135:9 135:21 148:3 150:18 154:21 160:13 163:11 166:11 170:21 174:24 178:9 183:6 184:16 186:21 187:7 191:25 193:15 194:5 195:18 199:23 210:7 plots 112:3 plugging 38:1 plus 108:15 181:6 183:4,18 PNM 158:17,18 158:20,21 159:8 160:4 161:2,5,6,12 161:13 162:12 163:10 164:2 164:10 165:15 166:5,10 170:12 171:6 171:11,25 176:2 177:15 178:10 179:11 180:17,20 181:10 183:20 190:20 193:4 197:18 202:10 203:6,9,12,23 204:24 210:25 211:18 212:5,8 212:22 213:15 213:22,23	214:11,15,17 215:4 217:19 218:24 PNM's 163:8 177:15 211:4 POD 190:9 POD2 190:3,9 point 17:6 50:19 58:5 69:22 97:10 131:4 145:15 190:3 190:11,11 pointed 183:3 pointer 168:21 points 12:1 16:13,17 19:12 19:13 27:2,5 30:24 38:16,17 105:9 142:5 185:12 190:14 190:21 policy 48:13 Pollutant 23:7 pond 170:3,5 popular 42:8 population 43:10 45:18 87:18,22,23 88:2,6 portion 70:23 123:7 128:12 132:22 133:2 position 98:20 114:18 157:22 162:8,13 positions 100:11 161:12 182:3 200:6 positive 43:19 106:25 possession 126:5 possibilities 58:24 possibility 37:12 47:21 48:16 possible 157:2 possibly 118:3	Post 3:14 post-1903 96:11 potential 37:3 62:14 179:21 potentially 47:17 57:8 power 158:15 161:22,25 162:5 172:10 178:18 179:15 181:7 powered 124:12 124:13,14 169:9 practical 85:19 85:23 86:4 practice 100:17 105:12 practices 15:6 pre-1980 174:15 214:11 218:10 pre-80 218:8 pre-basin 8:23 25:14 171:21 174:15,19 198:7 pre-Compact 117:1 pre-project 91:5 96:9,10 117:2 preferred 48:4 preliminary 47:22 48:3 50:17 prepare 133:5 144:21 prepared 36:2 47:23 115:16 117:24 118:21 118:22 167:6 203:17 210:18 preparing 115:12 152:25 present 128:19 133:8 presented 57:13 president 98:21	98:22 99:2,11 100:9,10 101:2 101:3,6,9,12 121:15 pressure 71:18 Preston 3:2 preston.hartm... 3:5 pretty 25:4,10 29:16 97:3 140:12 175:5 200:25 221:11 previous 7:19 123:6 140:4 previously 5:9 132:8 141:8 price 72:10 212:15 pricing 40:5 primarily 14:23 101:24 102:3 102:20 112:24 134:1 primary 58:7 115:8 145:8 149:7 principal 114:23 148:10 printed 26:23 prior 61:3 80:1 80:21,23 86:16 86:18 100:13 140:12 163:1 216:18 priorities 91:6 110:21 prioritizes 59:8 priority 10:23 11:11,12 16:11 16:14 19:1,11 38:11 59:11,13 78:13 82:4,13 82:18,23 86:20 118:14,18 141:21 142:20 172:9,15 174:6 174:7,10,11,22	189:18 202:25 private 9:10 31:7 39:13 proactive 43:7 43:19 64:22 145:6 probably 11:7 74:18 90:4 106:23 113:9 136:22 138:5 139:18 146:15 151:10 175:1 182:15 218:20 218:25 219:2,4 219:9,23 221:12 222:6 problem 42:20 66:11,12 158:2 problems 33:20 38:13 43:11 105:15 138:19 138:20,24 144:9 procedure 35:4 proceed 57:19 71:22 83:16 94:20 147:15 156:4 157:13 proceeding 56:22 77:12 proceedings 1:9 1:13 222:17 223:8 process 34:3,14 34:15,25 35:24 39:9,10,14 43:16 76:25 78:1 88:22 151:4 171:19 175:25 176:22 177:12,24 processes 176:10 produce 29:20 55:20 produced 105:17 producers
---	--	--	--	--

105:15 produces 168:1 production 27:6 27:12 65:8 72:2 113:11 127:18 productivity 105:13 profession 95:19 professional 98:20 157:21 proffered 95:18 profit 99:7 program 15:23 39:20 41:16,25 42:3 43:1 44:10 61:13,21 64:21 67:6 103:17,17 programmatic 216:2 programs 103:5 103:11 108:17 progress 15:11 progressed 29:14 prohibiting 42:13 project 31:1,2 48:24 49:23 50:4,20 51:6,7 53:18 54:5 75:6 82:8,13 91:4,5,6 137:3 137:16 157:23 162:11 179:24 207:4,7,12,17 216:1 217:2 Project's 82:4 projected 88:5 projection 87:22 projections 45:18 79:25 87:18,24 88:6 133:9 projects 29:11 29:24	promote 106:9 110:3 promoting 106:6 proof 55:12 194:15 200:24 proper 116:4 properties 47:7 47:8 122:24 133:13 134:5 136:15 142:9 142:11 property 38:3 46:15,17 126:5 126:7 201:7 proposal 35:18 37:18 propose 33:16 proposed 14:18 37:4 182:11 proposing 34:16 35:20 prospect 58:9 protect 75:6 Protection 23:10 protest 37:5,9 37:10,12,13,15 37:16 88:22 177:11 198:11 198:13 protestant 37:3 protested 37:21 177:20 protests 177:12 177:14,18,21 198:17 prove 126:22 200:23 proven 173:20 provide 8:1 47:18 73:10 102:4 103:1,2 103:6 106:16 111:13 119:15 125:4 127:13 133:9 139:24 177:16 193:24	211:14 212:7 provided 17:25 53:16 77:16 78:4,18 79:16 80:17,20,25 81:1,5,7,7 97:22 124:16 provider 102:14 158:13 163:9 provides 45:16 45:17 104:13 179:14,15 providing 41:15 45:13 78:25,25 96:22 105:11 107:3 119:21 124:15 164:10 provision 20:11 85:20 provisions 42:16 proximity 134:24 139:6 public 34:15,16 35:19 42:1,1 141:25 142:25 157:24 158:8 158:11,16 177:16 187:23 190:17 publication 36:9 36:17 198:20 publicize 176:23 publish 36:21 published 36:15 publisher 36:8 pueblos 164:1 pull 56:14 83:21 98:16 113:24 148:3 150:18 158:1 183:2 187:4 188:8 191:9 pulling 188:11 pulsometer 123:9 pump 50:6 65:24 71:8	72:7 73:15 113:6 124:3 138:10,14,17 201:15 pumped 9:16 17:3,6 18:1 24:6,7 26:8,16 33:21 pumping 23:22 23:23 24:1,2 34:6,24 59:22 62:24 63:9,13 64:1,9,14 65:4 65:18 66:1 70:16,24 72:3 72:4,12,14 73:7,8,9,23 74:2 75:12 79:24,25 80:5 80:9,21 81:20 112:21 123:9,9 124:9 127:12 138:18 196:15 196:22 201:16 211:4,16 215:20,23 216:21,22,24 217:18 218:1,7 218:8 pumps 59:15 89:10,14 purchase 171:11 172:8 211:1 purchased 46:6 47:15 207:9 purchasing 136:12 purple 170:22 170:22 171:12 purports 114:21 purpose 26:22 38:23 40:14 45:12 67:21 106:13 109:19 115:11 116:10 124:4 126:16 132:15 133:6	136:14 141:23 142:23 145:4 195:13 purposes 54:5 68:15 69:1 70:19 118:2 128:7 129:9 141:24 142:24 152:16 155:23 191:17 pursuant 74:23 142:12 pursue 50:22 54:11 55:4 pursuing 53:24 59:7 put 6:3 15:9 30:12 58:20 86:2 103:24 122:1,18 136:8 139:21 167:1 168:24 169:9 181:1,2 200:15 222:9 putting 30:14 59:2 putty 178:16
Q				
qualifications 120:9 qualified 107:10 132:1 qualifies 117:20 quality 61:4,14 65:6 76:14 138:22 question 43:24 45:8 49:17 50:8 59:6 60:6 63:12,20 69:15 69:18,21 74:18 74:22 88:13 96:8 144:10 145:20 146:2,7 146:14,15,21 146:24 151:10				

184:2 196:14 203:20 209:19 209:19 212:4 213:10,19,20 question-and-... 199:15 questionable 115:5 117:12 questioning 49:2 60:2 80:13 questions 24:19 60:5 68:7 75:18 90:14 91:10,13,15 101:1 102:15 110:11 117:18 120:14 144:21 145:11 147:2,6 148:2 151:25 152:3 153:2 181:19 204:13 205:10 207:21 214:5,8,21 quick 25:23 156:6 196:13 214:8 quickly 149:7 183:2 198:10 quirks 212:2 quite 19:24 72:2 117:21 165:2 170:10 185:19 195:24 196:1 216:6 quote 79:11 127:5,8 216:8 quoted 128:12 quoting 49:13	raised 220:20 raising 49:5 RALEY 2:19 ramp 15:23 ran 198:20,21 Ranch 126:5,7 range 16:18 45:8 112:2 206:23 Rangeland 133:16,24 ranked 174:7 ranking 57:22 58:1,23 ranks 58:9 rate 40:2,6,7,12 40:17 41:5,5,7 62:8 68:20 180:25 181:2,4 196:2 rationally 95:19 raw 26:5 rdeitchman@... 2:7 reaches 24:12 react 43:17 read 120:8 121:1 121:5,7 127:7 128:12 146:10 148:22 149:17 149:23 150:2 193:11 reading 68:9 readings 20:21 28:3,3 190:14 190:18 200:18 reads 191:3 ready 83:15 147:14 153:17 153:25 real 98:17 99:3 100:2,15 134:9 156:6 180:23 198:10 really 15:23 17:18 31:1 40:9,10,13 43:7 44:23	108:16 110:14 169:3 184:2 207:20 212:12 221:14 realtime 28:1,4 28:6,11 29:7 30:4 reason 189:10 191:7 reasonable 41:9 210:21 reasons 53:24 130:15 rebuttal 97:22 98:3 recall 53:3 62:22 150:22 166:12 193:7 206:22 receive 30:9 112:12,13,15 136:25 170:12 177:18 received 137:4 recess 83:14 92:6 145:14 147:13 153:23 recessed 222:11 recirculated 184:22 reclaimed 41:22 reclamation 6:2 21:11 41:20,21 54:4,13 84:10 86:7 216:25 recognize 10:19 103:21 108:25 114:3 130:23 166:20 173:23 186:25 191:11 recognized 196:15 216:25 recommendati... 198:25 199:1 recommendati... 105:12 recommended 203:3	record 49:22 68:9 80:15,22 94:24 96:12 104:21 114:10 115:4 116:6 117:13,14,15 117:20 118:3 121:6 125:20 125:22 130:13 131:6 132:10 140:6 165:14 176:11 188:16 190:5 192:10 199:16 recorded 27:21 recording 151:15 records 149:10 172:23 205:17 recovery 62:14 169:14 recruit 161:19 recycled 13:4 recycling 6:3 redirect 4:5,8,11 90:12,16 152:6 214:6,9 redrilled 122:22 reduce 31:24 34:6,23 40:7 reduced 14:19 15:19 31:14 72:2 reduction 44:11 203:22 refer 15:16 101:19 106:19 112:17 119:3 150:24 158:19 178:4 reference 7:6 26:22 49:21,23 50:9 184:7 referenced 48:25 150:10 183:1 references	125:15 128:8 190:9 referred 14:8 16:9 20:8 48:20,23 71:9 112:9 153:1 158:17 referring 7:17 13:23 47:5 48:25 49:21 50:3 56:16,20 79:6 126:7 133:4 152:19 155:7 refers 55:11,12 55:15 193:23 reflect 80:9 119:5 148:20 regard 19:25 44:16 regarding 39:6 61:3 62:17 65:17 95:5 96:20 107:3 215:15 220:17 regardless 84:8 146:4,11 213:17,24 regeneration 132:24 regents 101:17 102:5 region 95:8 regional 48:21 48:25 50:4 Registration 223:23 regular 104:4 109:6 114:12 116:13 131:8 132:18 223:10 223:12 regularly-con... 117:16 relate 62:17 111:1 145:2 170:23 215:24
--	--	---	--	---

related 63:22 66:2 126:20 141:24 142:24 156:24 221:5	remedied 33:2 remember 78:14 208:7 reminds 39:1 REMOTELY 1:12 remove 7:24 35:1 59:2 removed 14:17 22:9 renew 97:24 120:6 129:13 renews 140:18 repair 71:22 repaired 71:19 repairing 73:12 repairs 30:18 repeat 53:11 146:7 rephrase 206:3 replace 35:3,12 71:16 126:14 183:25 replaced 30:2 92:10 replacement 37:4 123:18 139:9 183:3,8 183:22 210:13 replacing 30:23 35:20 38:1,12 report 26:25 28:2 47:23 48:3 50:17,21 52:24 65:10 97:22 98:4 101:3,10,13 103:24 114:7 114:21 115:10 115:22 116:13 116:20 118:21 119:1,5 120:9 120:14,17,18 122:5,14 125:15,16,19 125:21 126:1 128:1 132:17	132:20 133:2 138:6 139:12 148:4,4,17,18 148:23,25 149:7,11,16 150:10 152:8 152:10,16,21 190:24 200:18 reported 1:13 32:24 72:19 115:7 118:23 reporter 1:13 69:16 223:4 REPORTER'S 4:13 Reporters 223:23 reporting 15:10 20:10 22:23,23 26:16 99:15 103:25 114:7 119:7 represent 29:5 representative 96:17 140:15 representing 204:22 request 17:10 37:19 188:13 189:5 192:21 220:8 requested 15:18 188:5 requesting 80:14 requests 95:17 202:11 require 19:19 26:15 128:25 129:3 180:11 218:9 required 17:17 43:15 74:22 75:3 158:20 163:17 188:17 198:16 200:11 requirement	15:10 20:5,7 36:17 39:2,7 82:16 85:6 requirements 16:8 20:20,23 74:4,7 84:18 111:8 198:4 requires 73:21 95:12,15 requiring 19:14 research 78:18 97:8 102:21 103:3 105:4 106:13,14,14 106:15 108:2 111:20 112:2,3 112:5,9,10 113:10,22 118:7 119:10 119:11 124:21 129:11 133:16 133:25 135:13 135:24 136:16 136:20,21,23 138:4 141:25 142:25 148:21 152:12,13 reserve 117:19 129:15 132:22 133:1 140:21 Reservoir 127:15 reside 194:2 residence 136:2 residences 124:25 resident 161:15 residential 15:18 30:3 41:8 124:23 163:14 residents 125:2 resituated 91:25 resolve 33:14 37:13 resolved 34:21 resolving 37:12 resource 66:20	111:9 119:15 133:7 158:7 159:11,13 162:10 163:17 165:22,23 182:8 194:10 205:2 210:16 212:11 resources 58:15 99:10 105:25 105:25 111:7 111:11 115:8 115:20 118:7 148:21 157:23 158:8,22 162:2 162:12 167:2 182:14 186:11 194:8 210:24 212:5,21 213:1 respect 11:6 29:22 44:3 68:8 71:2 75:10 101:22 respective 22:7 respond 68:10 129:17 132:5 181:16 199:23 216:11 217:22 responding 43:1 response 34:1 75:10 96:1 116:1 responsibilities 99:1 119:12 159:10 responsibility 78:21 101:24 responsible 99:14 102:1 158:7 161:23 165:19 rest 13:5 102:2 107:9 143:3,3 175:16 restrictions 41:16 result 78:10
--	---	---	--	---

results 27:11 41:15	19:14,18 20:2 20:13,19 21:6	135:12 140:11 141:10,17,19	168:21,22 170:4 193:10	192:11 194:2 195:10,14
resume 5:5 42:11 52:4	21:12,20,23 22:11 23:16	142:4,15,16 144:8 147:12	rights 8:17,20 9:6,9,13,24,25	196:1,9 197:9 197:11,12
retained 95:2	24:16 25:14,15	147:14 148:5	11:6 19:8 24:2	198:3,7 201:12
retire 85:18	25:19,21 26:7	148:21 149:3,8	25:11 45:17	201:25 205:20
retired 61:2	26:12 27:13,14	149:12,22	46:13,18 47:1	205:21,25
retirement 61:3 64:8	32:7 33:11,12 34:8,10,13	150:7,17,25,25 151:3,24	47:2,11 48:16 50:7 52:15,21	206:1,2,4,5,10 206:23 207:2,5
retrofitted 29:4	35:6,11 36:4	153:12,20,24	67:17 69:11	207:8 208:15
return 12:24 19:21 22:11,17	36:18,24 37:8 37:15,20,24	154:6,15,20,25 155:17 156:3	70:24 73:1,5 77:13 78:3,22	208:23,24 209:9,14,15,20
22:19,20,24 25:18 73:22	38:4,15,20 39:15 41:10	156:19 157:12 157:14 158:5	85:10,11,13,18 87:11,15,18	209:21,25 211:8,14 212:7
74:8 175:18,21	42:12 43:20	159:25 162:14	88:11,13,17,21	212:10,15
returned 12:22 18:23	45:1,9,25 46:7 46:22 47:14	165:1,5 166:13 167:7 171:8,21	89:13 90:8 91:5,6 96:9,11	213:16,23 214:12,15,19
returning 74:5	48:2,12,18	172:13,20	96:11 101:23	215:18,22
returns 23:20	51:18,21 52:7	173:5 174:16	101:25 115:24	rigorous 171:19
reuse 86:2 159:2	52:18 53:10,13	174:21 175:7,9	117:2 126:23	Rincon 46:15
reused 41:22	53:19,23 54:8	177:16,24	140:23,24,25	125:17
reutilize 139:4	55:5,6,22 56:2	180:7,9,12	141:2 142:19	Rio 6:7 10:24
review 77:19 81:10 117:25	56:9,23 57:19 60:16 61:5	182:5,22 184:13 186:9	143:17 146:6 146:13,16	11:18,20 16:15 48:20 53:18
150:13 156:25 166:12	62:6,11 64:18 65:3 67:14,23	187:13 188:6,7 189:6,22 190:2	149:2 151:11 151:13 159:18	59:16,23 67:12 89:20 95:10,14
reviewed 90:2,3 90:5 93:15	69:2 70:6,7 71:3 72:15	190:8,10 191:18,21	159:20 160:5,8 160:10 165:6,9	100:23 102:1,9 102:12,13
155:2 189:1	73:2,7,19 74:3	192:4,5,25	165:10 166:6,8	106:6 107:5,15
reviewing 15:5	74:16,24 75:7	193:5,15,18,20	170:13,15,18	109:18 111:24
Rich 92:13 146:1	76:4,7,10,20 77:7,23 78:8	194:12,16 195:7,24 196:5	170:23,25 171:3,5,12,14	113:4,14 119:13 120:4
Richard 2:4	78:11 79:13,20	196:19,21	171:17,20,21	121:11 133:14
rig 126:13	80:10 81:11,14	197:5,8,16	171:24 172:6,7	137:3,16 141:2
right 5:1,15 6:13 6:25 7:8,10,14	81:20 82:1,5 83:12,15 84:8	198:1,12,15 200:12 204:14	172:14,17,23 172:25 173:3	142:10 143:6 144:24 151:7
7:25 8:23 9:14 9:20,21,21	84:18,19,23,24 85:9,20 86:5,9	205:11,19,22 206:9,13,16,24	173:10,14,17 173:19 174:15	159:5 160:5 162:6,23,23
10:7,7,14,17 10:23 11:8,13	87:7,12,19,21 87:23,24 88:3	207:9 208:3 210:3,18 212:1	174:18,19 175:11,16,17	167:17 197:1,2 207:4,7,11,12
11:15,20,21,23 12:4,14,19	89:3,7 90:2 91:16,21 92:7	212:1 213:7 217:4 219:13	176:2,5,9,18 176:25 177:2	212:8 216:1
13:2,11,18,20 14:1,3,6,22,23	93:5 94:4,16 94:19 110:13	219:19 221:11 221:16 222:3,8	177:11 180:21 186:18 187:2,7	risks 159:19 167:3,5
14:25 15:13,25 16:11 17:12,22	110:14 114:18 118:18 123:12	222:10 right-hand	187:9,21 188:4 188:5 189:8,17	river 11:21 13:7 18:6,7 20:3
18:13 19:1,4,6	126:8 134:16	34:19 123:12	189:20 191:2	21:8 22:20 23:11 24:13

25:18 26:9 60:21 74:9 84:7,12 86:4 91:3,7 119:14 162:21 165:1 167:17 173:8 173:15,18 197:2,14,18,20 198:9 road 161:3 ROBLES 2:15 role 81:9 99:11 100:10 101:22 102:13 113:12 113:15 159:17 161:11 162:9 162:10 163:8 room 83:18 93:16 155:3 rough 49:14,20 roughly 210:14 round 22:4 185:20 row 8:22,25 9:8 13:14 176:24 RPR 223:19 Ruben 14:4 rudimentary 29:14 Ruidoso 163:24 Rule 129:20 130:7,8 rules 93:14 ruling 117:19 129:15 132:22 133:1 140:21 run 101:9 136:17 169:25 182:10 183:11 186:9,14,17 214:12 running 42:18 138:12 186:11 RV 175:15	136:21 140:23 162:23 Sacramento 2:6 safe 105:17 111:13 sale 70:21 saline 56:18 salt 59:2 San 160:16,19 162:21,21 Santa 2:11 46:17,21 48:5 161:17 163:21 save 170:10 saw 18:17 19:25 20:8 21:7 38:9 78:13 79:19 84:20 138:5 saying 34:5 84:5 88:24 207:16 218:20,21 says 14:16 50:5 65:21 69:2,5 70:9 85:17 148:19 149:9 149:13 174:22 179:21 186:1 193:2,16 200:15 202:23 208:13,16 218:14 SCADA 27:25 scenario 204:2 scenarios 87:23 schedule 156:24 219:22 schematic 21:5 22:9 Schmidt-Peter... 48:19 51:4 school 41:23 160:14,15 science 101:19 111:20 133:21 138:4 science-based 110:25	sciences 103:15 104:1 108:24 scope 77:18,20 81:17 86:24 87:2 95:14 104:14 181:14 Scott 4:6 92:1 93:3 98:9 scratching 136:22 screen 33:20 34:20 35:8,22 36:12 67:20 93:8 screens 28:19 scroll 121:23 se 151:21 SEAL 223:16 season 127:11 second 8:25 13:14 15:14 41:13 63:19 68:24 86:11 93:9 95:22 96:3 98:15 114:17 150:8 173:21 184:7 190:4 secondary 86:3 115:8 149:8 section 15:3 55:24 92:9 148:24,24 192:3 193:21 196:5 sector 31:7 secure 105:17 111:13 121:19 see 7:21 11:11 16:1,11,21 17:9 19:8,17 20:11 21:2,7,8 21:8,25 22:10 25:8 27:11 28:19 30:18,19 31:18 32:6,19 33:25 34:19	35:13 36:12 37:18 38:8,15 44:8 45:3 49:17 50:2 52:4 65:23 66:6 67:20,20 70:11 77:2 83:23 86:11,13 87:9 89:20 92:22 104:24 108:10 120:23 123:8 126:6 127:21 128:10 134:14 150:2 157:11 160:15 167:16 168:25 169:4 170:3 171:12 173:17 176:11,14,16 179:11,24 183:8 184:19 187:9,11,13 188:24 189:9 190:4,7 192:18 193:9,22 194:8 194:18 196:14 197:10 198:19 198:21 201:4 203:2 208:11 209:16,17 219:4 221:15 221:15 222:9 seeing 11:24 168:19 seek 105:21 116:19 171:20 213:21 seeking 171:13 193:16 seeks 95:6 seen 31:15 67:8 191:14 208:20 sell 88:10,13,20 selling 88:18 160:24 semi-arid 111:10 119:17	seminars 42:2 send 18:2 32:25 35:19 sends 14:9 senior 102:4 172:13 208:23 209:14,20,25 211:2 sense 215:12 sensors 30:14 sent 23:8 34:5 65:2 sentence 15:15 89:23 150:11 179:20 sentences 15:1 separate 17:16 17:22 74:7 77:14 101:8 191:1 September 95:4 103:20 series 8:25 9:3,8 13:16,17 16:6 42:2 61:13 84:20 serious 43:17 160:21 179:5 Serrano 219:25 221:23 serve 129:9 158:15 163:12 163:19,25 164:2 165:15 168:4 served 31:12 129:10 serves 164:19 service 6:12 38:24 46:7 86:12,14 122:1 122:2,19 125:7 141:25 143:1 157:24 158:8 158:11,16 163:20 services 103:15
--	---	---	---	--

104:3 106:16 111:14 136:17 164:10 serving 164:14 session 92:9 154:2 199:15 set 13:9 19:9 147:11 sets 22:21 settle 161:4 settlement 215:17 seven 14:18 19:12,13 99:8 171:7 173:2 174:18 189:19 191:7 197:11 205:20 severe 65:5 128:3 shading 6:12 shared 64:10 sharing 139:11 139:19 140:13 159:23 sheep 134:2 sheet 44:19 shift 150:7 220:10 shine 182:20 Shomaker 81:15 short 209:24 shortage 127:9 128:2,4 159:23 shortage-shari... 162:20 Shorthand 1:13 223:4 Shorthand/Co... 1:13 shortly 57:23,24 119:2 show 6:10 7:19 7:20 8:15 24:3 42:6 46:20 65:11,12,15 94:16 96:14	105:1 106:21 107:24 108:13 109:20 116:11 118:14,22 122:11 123:3 123:16,21 126:12 129:6 129:22 132:16 133:12 134:7 135:10,16,22 183:2 185:13 208:5 showed 6:21 29:1,2 31:4 46:20 68:6 73:17 showing 22:6,8 44:20 47:3 50:1 106:22 108:3,14 122:7 122:8 123:17 129:7 130:22 142:5 143:5 178:12 186:2 187:22 191:3 192:8 shown 8:7 9:14 23:18 25:11,24 26:5,23 27:20 39:17 46:10 74:15,19 150:21 shows 6:11,22 8:22 17:2,18 21:5 22:3,9 24:8 27:7 38:17 44:24 45:2 46:11 57:5 61:18 133:13 135:23 178:14 194:22 shut 32:15 33:20 65:8 72:4 203:24 211:20 212:8,22 side 14:21,22,24 17:2 18:18,19	21:15,15 29:21 30:1 34:20 48:5 123:7,12 sign 204:4 signed 78:6 significant 108:16 137:25 139:3 180:8 Silver 163:23 similar 6:21 38:9 67:13 96:25 110:11 132:7 185:8,11 Similarly 108:9 SIMMONS 2:5 simple 167:22 181:19 simpler 22:10 simplified 7:12 21:3,20 simply 34:15 115:3 131:25 single 27:15 177:17 single-line 185:25 sit 75:4 219:14 site 175:24 176:2,9 180:4 180:10,14,18 sites 179:21 situation 31:24 32:21 33:2 72:24 127:14 128:9 situations 137:10 six 106:22 173:17 194:13 194:21 207:23 skip 205:10 sky 184:19 slightly 80:2 Sloan 116:8,18 small 13:4 17:18 86:6,8 136:5 170:5	smaller 9:6 24:2 42:22 Smith 14:4 smokestacks 169:2,3 so-called 50:22 social 103:15,15 software 28:16 solar 182:13,17 182:18 183:10 sold 41:23 217:16 solving 105:14 SOMACH 2:5 somebody 36:21 37:8 217:25 somewhat 104:19 soon 219:4 sophisticated 61:12 sorry 39:16 53:4 59:18 69:14 83:17 111:19 111:22 117:12 117:15 126:2 141:20 146:7 147:20 154:10 167:6 168:7,8 168:10 169:6 177:7 195:1 196:13 197:1 199:4 211:24 211:25 219:14 sort 76:11 215:25 sorting 177:13 sound 50:11 56:2 sounds 213:18 source 11:16 16:15 19:11 38:10,16 59:11 128:21 172:12 201:2 203:1 206:21 211:15 212:7	sources 5:21 10:24 111:6 121:14 150:16 180:9 south 33:19 112:7,8 133:22 134:12,23 135:19,24 southern 161:14 161:15,16 southwest 46:19 167:18 southwestern 15:19 space 60:21 193:24 speak 39:3 56:25 77:3 88:25 89:14 117:10 132:1 205:8 speaking 152:9 special 1:11 18:10 98:21 99:1 101:2,6 116:14 134:18 specialist 192:3 194:8 203:3 specialized 95:15 species 159:23 specific 20:7 67:4 76:12 105:14 159:10 159:17 170:18 189:10 190:21 204:25 specifically 48:23 96:8 160:10 165:16 166:6 169:22 170:16 174:15 200:2 specifics 140:23 166:10 specified 12:9 16:21 38:21 specifies 38:15
---	---	---	--	---

specifying 36:14	121:2 127:5	163:20 164:1	stating 131:2	110:21
spend 54:11	128:13	164:13 165:8	station 104:2	strategies
spending 58:13	state 1:3,6,6 2:3	170:12 172:18	108:18 121:13	159:20
spent 58:14	2:9 3:1 8:4,6	173:4,12 174:4	121:16 123:4	stream 11:2
108:19 160:16	8:11,19 9:19	176:1,10	127:11 128:18	12:23 13:2
spoke 53:4 54:15	11:3,11 14:2,9	177:22 187:1	128:24 135:11	38:13 71:19
spreadsheet	14:15,16 15:2	188:17 189:2,4	162:5 164:24	85:8,14
25:25 47:7	15:10,17,20	189:13 190:20	166:10 167:23	street 2:20 3:9
spring 97:13,15	20:20,22 22:23	190:24 192:14	171:8 180:3,22	30:19,20
97:18 98:6	26:14,17 27:1	192:21 193:4	stations 102:3	streets 42:19
127:16 215:24	32:24,25 34:2	194:6 196:18	119:11 143:6	stricken 118:4
216:20	34:12 35:4,10	197:8 198:1	status 8:20	strike 130:13,17
squares 22:4	35:14,15,18	199:8 200:4,17	102:13 223:11	strong 143:18
stable 25:10	36:2,13,20	200:18 201:19	steam 158:23	strongly 216:15
stack 169:8	37:5,10,14,16	202:9,18,23	159:2 169:13	217:2
stacks 169:3	37:24 38:7	207:24 213:16	169:14,15,24	structure 40:2
staff 29:24 33:8	39:11 52:10	213:24 214:18	169:25 184:24	40:12,17 41:7
33:24 37:24	67:11 68:5	218:4 223:4	184:25	student 114:25
43:3,18 81:5	69:11,22 70:4	state-of-the-art	steam-driven	117:19 131:20
81:12 113:20	70:10,15 71:16	29:16 30:21	158:23	148:14
119:9 124:20	71:20 72:12,25	stated 63:23	steam-powered	student's 114:7
Stahmann-Solis	78:7,19 79:13	69:24 111:1	124:2,3	students 106:12
157:7 219:25	79:14,15 81:2	115:9 117:8	steep 41:7	113:21 119:8
stakeholders	82:14 86:19	118:8 119:7	step 39:21 48:2	119:23 124:20
105:16 159:21	87:4 88:21	130:15 150:16	57:21 66:10	studied 97:12
162:17,17	92:15 94:24	210:13 223:5	176:22	studies 106:20
stamp 193:9,14	95:8,15,21	statement 50:3	stepped 39:10	185:10,12
stand 24:16	96:10,18,21	66:8 73:3 83:3	stepping 186:10	study 47:25,25
standalone 77:4	98:1,22,24	140:9 202:22	steps 63:9,25	50:16 51:5
standard 20:20	99:19 100:3,5	statements	64:8,13,17	53:6,8,15 97:8
35:9	102:2,8 103:1	140:4	90:20	107:9,25 110:3
standing 94:23	103:8 106:18	states 1:1 3:7	Stevens 131:24	stuff 190:6
stands 24:4	107:4,14 108:7	16:24 92:17,19	stewardship	sub-basin 16:15
start 23:3 28:15	109:7 110:2	94:22 95:17	106:1	sub-file 10:21
39:23 92:11	111:19,21	109:14 115:7	Stomp 156:21	12:5 39:2,6
94:5 115:2	114:1,22 117:1	115:18 118:16	221:13	73:21 77:22,22
153:21 155:18	118:9 126:22	119:13 120:6	stop 28:15	78:1,6 79:4,19
160:12 161:2	129:22 130:3	120:15 126:25	123:10	81:2 83:24
164:10 168:20	130:22 138:5	128:1 129:20	stopped 41:10	141:12 143:4
started 57:23,24	139:7,20 140:6	130:16 131:16	42:4	150:21 151:6
60:5 94:22	141:1,12 142:9	147:25 149:4	stops 86:5	176:12 196:3
100:17,18	144:19 146:5,6	178:15 200:1	storage 62:14	subdivision
120:24 164:14	146:12,13,17	203:16 204:21	66:19	188:21
starting 6:13	149:1 151:5,12	204:22 209:7	story 57:3 187:8	subject 8:3
27:5 29:11	151:14 152:14	217:3 220:13	195:15 196:7	88:21 118:3
164:13 200:10	158:14 160:8	States' 132:4	strategic 108:24	120:17 151:6
starts 12:16	160:19,21	216:16	108:25 109:4	216:8

subjects 83:9	185:2	supports 218:13	surveys 192:7,7	T
submissions	sun 182:19	Supreme 1:1	195:25	T 2:1
80:24	Sunding 97:23	146:4,11	Susan 2:14	table 8:16,22,25
submit 35:13	Sunland 165:1,3	sure 15:4 32:8	92:15	17:2,7 24:20
submits 27:1	supervising	36:21 39:13	susan@robles...	26:5 54:23
submittal 35:16	78:21 81:10	57:12 74:21	2:17	107:23,24,25
90:5	supervisors	82:6 87:2	sustain 71:5	121:21 122:3,7
submitted 15:20	166:25	107:22 116:19	75:15 87:1	173:22,23
20:22 35:12	supervisory	117:19 126:19	166:17 214:3	174:1,8 178:5
187:15,17	27:24 28:7,8	126:23 129:15	sustainability	183:1 185:25
194:19	28:12,21 29:12	130:1,12	111:2,9 163:6	tables 26:11
submitting	29:17	132:25 156:7	sustainable	tabs 28:10
151:16	supplement	156:11 158:4	48:24 49:23	tabulation 44:5
subsequent	71:21 138:10	160:14 165:14	50:22	take 21:23 25:22
15:21,21	138:17	165:20 166:2,3	swear 93:5,9	30:21 33:3
subsequently	supplemental	167:4,16	154:20,21	36:20 43:14
171:1	112:14 121:16	168:20 169:21	switch 147:7	56:12 64:8
subset 76:11	123:1 139:22	176:19 178:1,1	153:19 168:22	67:7 71:20
substance 74:21	139:23	178:2 181:8	switching 83:9	72:24 83:11
substation 169:6	supplied 124:19	184:16 200:1	sworn 5:9 98:10	87:12 91:24
subtract 183:12	124:20,21	201:8 203:17	157:16	92:3 98:5
success 180:3	125:1 142:13	209:5,7	synchronized	106:15 110:21
successful	supplies 41:22	surface 30:14	178:17,19	143:9 145:14
124:15 179:23	54:18	46:13,18 47:17	system 6:13	147:10 153:20
sue 203:16	supply 9:24 22:5	47:18,19 50:7	12:23 22:8	157:4,7 160:24
sufficient 211:2	47:19 50:23	50:22 52:15	23:8 27:24	165:24 175:3
212:6	57:6 59:3,11	53:24 54:11	28:7,8,12,18	189:25 190:1
sufficiently	66:18 67:22	56:10 59:23	28:21 29:9,12	191:8 212:18
121:12	68:16 70:20	60:10 89:21	30:11,13,13,15	taken 7:8 57:15
suggests 34:9	71:21 73:11	95:11 111:7,11	31:5,8,9,11,21	63:25 64:13,17
Suite 2:5,15,20	89:21,22 95:11	112:13,15,22	41:14 43:3,7,9	66:11 76:13
3:9 223:24	105:17 112:11	112:25 113:7,9	60:20 72:7	122:2,18
sum 201:14	112:16 113:7,9	120:3 122:25	77:14 78:5	202:23 223:11
summaries	119:25 121:19	127:25 128:4	81:1 101:10	takes 173:5
187:25	122:15 124:15	136:7,10,22	104:2 149:22	187:10,19
summarizes	124:18,23	137:1,2,8	173:9 175:18	194:12
194:17 202:25	125:4,8 127:14	138:11,17	175:21 176:16	talk 68:20 69:16
summarizing	128:25 137:2	140:25 142:18	178:2,11,24	140:15 155:18
15:8	142:1 159:14	142:22 144:13	179:4,12,14,16	159:22 166:9
summary 5:19	163:18 180:5	150:24 165:12	184:9,10,23	222:10
23:19 26:1,5	support 51:1	196:17 205:24	185:5,19	talked 32:7 69:9
29:1 47:6	79:1 179:15	206:10 215:4	201:14	89:2 125:20
104:25 107:24	186:18 218:15	surgical 160:17	systems 5:18,20	207:22
187:7,21	supported	survey 172:16	22:5,6 29:13	talking 29:19
189:18,19	161:17	176:13 195:22	29:15 39:14	44:22 52:14,23
summed 174:9	supporting	201:3,5,18,20	111:10,13	56:10 76:25
summer 73:7	178:20	201:23		

81:25 89:18	33:25 34:17	140:16 144:5	147:12,19	189:6 191:19
97:15 130:10	ten 20:18 44:25	153:9 154:22	148:1 152:1	193:14 198:12
140:8 208:6	76:21 197:20	155:4,7 159:4	153:10,11	199:20 203:20
210:12	ten-year 64:24	181:9,22	156:5 182:7	205:16 206:19
talks 132:20	77:17	197:17 199:17	185:24 186:20	210:7,12,20
174:2 193:21	tenths 61:18,19	206:17 215:23	187:5 213:8	211:5,9,10
194:17	Teresa 161:17	216:5,18	219:16,19	214:25 218:17
tank 28:13,14	term 56:12	219:16	222:12,14,15	220:1,5 221:3
32:16	171:2	Texas 1:3 2:3	222:16	221:7 222:6
Taos 163:22	terms 30:22 32:1	5:2 68:6 92:11	Thanks 153:22	third 9:2 16:20
targeted 103:7	43:11 159:25	92:13 95:21	that'd 187:5	27:12
targeting 174:15	territory 125:7	97:23,24 99:19	Theresa 2:4	Thompson 2:19
200:2	163:20,20	104:12 109:12	154:4	4:10,11 154:7
taught 42:3	tertiary 86:2	115:13,21	they'd 175:21	154:8,9,11,16
tax 47:1	testified 5:9	120:11,15	181:5	154:17 156:3,5
taxable 47:8	34:22 68:14	132:3 144:6	thing 97:11	156:19 157:9
tbarfield@so...	71:13 73:14	146:1 149:2	169:1 180:4,10	157:14,18
2:7	76:1 80:16	154:2,4 179:4	things 6:11 97:6	158:6 166:18
teaching 141:25	87:10 88:1,17	188:9,9 199:10	155:1 165:25	166:19 167:10
142:25	98:10 113:17	215:21 218:17	167:1 173:3	167:12 181:15
team 172:5	116:8 146:17	219:9 220:12	203:15 204:23	181:18 182:7
180:1	157:16 198:13	220:18 221:3,6	209:16 212:14	182:25 186:22
tear 138:21	205:19	223:4	think 7:16 9:20	186:24 187:3,6
tech 69:1 160:17	testify 60:13,23	Texas' 75:6 98:4	19:17 28:23	188:8,11
technical 37:17	80:18 97:5,5,9	221:19	29:10 30:20	199:18,22,25
55:13 75:9	107:12,16	text 198:22	41:14 42:25	200:9 204:12
114:21 116:20	182:1	texting 93:25	43:18 52:25	206:23 207:23
140:7 148:3	testifying 60:7	155:14	55:24 56:16,16	208:6,8,25
209:1 210:2	77:21 116:9	Thacker 194:9	56:18 58:22	210:1,12 214:1
technically 18:3	132:14 150:4	thank 5:6 6:8	61:6 63:7	214:7,10,21
79:2	testimony 46:4	47:14 49:19	65:20 67:25	216:11,14
technology	52:3,6,14 60:8	51:15,16,17	73:3,16 83:2	217:22 218:4
28:24 29:4,16	66:15 72:24	60:17 68:23	87:3 88:17	220:4 221:11
30:5,21 32:13	86:25 88:18	83:12,13 87:5	97:2 104:16	221:17 222:16
66:20 170:11	91:23 93:10,17	91:14,23 92:4	107:16,21	thorough 47:20
184:10 200:21	93:24 94:6,15	92:5 93:2	108:16 113:16	thought 87:4
212:2	94:23 95:7,12	94:18 98:8,18	118:1 120:19	90:21
tell 14:7 42:13	95:17,23 96:4	104:22 105:10	122:5,20	thousand 14:14
43:20 58:19	96:13,16,16,20	105:11 107:18	124:10,16	17:8 41:3,4
89:22 124:10	96:23,25	107:22 110:18	130:4,5,11	188:20 194:20
138:3 144:9,9	104:15 107:3	111:22 118:11	137:9 138:20	thousand-gallon
160:11 182:19	109:20 114:20	118:19 120:21	140:14 143:24	40:24
182:21 205:17	116:10,15,22	121:9 126:9	146:20,22	three 9:11 15:22
telling 57:2	118:3 120:16	127:4 130:6,19	156:23 157:5	16:20 21:10
tells 44:10	126:20 130:14	133:3 134:25	163:1,16 177:8	23:25 35:25
195:15	131:17,24	140:17 143:9	182:12 183:3,7	40:23 46:1
temporarily	132:15 140:5	145:10,12	188:20,23	57:1 61:18

71:16,23,24 73:12 76:4 105:6,9,21 106:17 155:19 155:22 176:24 184:3 185:23 194:12 220:1 221:12 three-and-a-h... 101:7 threshold 61:13 64:25 65:1 thrive 113:13 tied 215:19 time 11:25 15:17 57:14,16 59:9 60:21 65:8 69:16,22 72:21 73:11 80:2 82:3,7 83:9,10 84:7 85:25 88:8 104:7 109:9 114:14 114:24 125:3 131:4,11 140:18 142:11 142:12 147:11 161:13 162:2 165:20 166:25 166:25 186:10 186:14,17,19 188:2 192:9 194:9 222:12 222:12 223:8 times 12:20 29:15 41:18 64:6 168:11 185:23 timing 183:25 title 101:5 titled 125:16 150:21 today 15:5 52:6 60:5 75:4 76:2 76:3 115:2 119:21 129:16 140:24 150:5	156:13 162:13 168:1 212:15 told 97:17 130:4 Tomas 46:17,21 48:5 tomorrow 156:9 156:15 221:13 tool 40:11 41:8 tools 40:4 top 36:12 83:23 121:24 127:6 127:21 133:16 173:22 179:20 193:2,16 topic 143:11 total 9:20 10:4 17:5 23:21 24:8,11,25 26:4 33:21 44:13 47:12 108:3,16 171:5 178:5 181:9 totalizing 27:6 200:16 touched 46:3 tour 7:7 18:11 123:10,13 134:19 tower 170:3 towers 185:4 town 163:24 township 16:18 trace 149:20 track 190:20 201:20 tracking 203:14 trailer 175:16 train 166:24 training 77:15 105:23 106:12 transcript 1:9 49:14,20,22 50:2,9 223:7 Transcription 1:14 transfer 171:3,6 171:18 172:19	173:6,14 175:24 176:2,8 176:18 177:15 177:23 187:15 187:17 188:5 189:5,15 192:5 193:16 194:3 197:15 200:12 200:23 201:12 202:11 transferred 171:9 178:6 189:20 190:8 191:2 193:19 196:10 transferring 171:25 197:4 transfers 177:19 202:10 transmission 31:21 178:24 179:16 180:5,8 transmittal 36:13 treat 59:2 treated 5:24 6:5 12:24 17:24 18:5 24:12 25:18 83:25 85:21 218:22 treatment 6:5 18:8 21:4,13 21:14,16,18 24:18 48:7 160:25 tremendous 43:8 trial 60:24 98:1 140:2 144:17 triangle 134:10 triangles 6:20 trouble 109:17 109:25 110:15 117:11 147:7 TROUT 2:19 true 54:3,6 58:17 62:16	66:13 69:6,7 70:14 71:24 73:3 74:3 84:13 90:22 91:4 128:23 146:3,9,10 203:11 213:15 213:23 219:9 223:6,7 trump 180:13 trust 210:23 truth 93:10,11 93:11 154:22 154:23,23 try 47:18 103:1 139:4,6 151:16 159:19 172:19 trying 42:24 44:21 110:5 145:5,6 201:13 turbine 169:11 169:16 184:25 turbines 158:23 158:24,25 turn 6:8 10:17 15:25 16:19 18:13 19:6 20:25 23:16 26:19 39:15 45:9 50:25 103:18 105:18 106:19 107:23 108:9 113:23 119:4,24 122:10 123:2 123:20 124:7 126:12 127:21 129:5 130:20 133:11 134:5 135:9,15,21 148:17,23 149:6 158:25 166:10 169:12 173:21 turning 102:12 104:23 121:21 136:12 163:8	170:15 turns 169:10 two 14:7,8,17 31:19 42:16 46:14 57:1 72:3 76:15 80:24 89:6,13 101:16 127:12 137:17 151:18 167:1 169:19 170:1 174:21 175:13 185:23 190:10,14,21 194:20 209:16 214:8 220:18 220:22 TX 223:24 type 29:8 32:21 47:4 55:13 159:7 191:24 200:16 types 187:25 216:8 typical 185:17 200:14,25 213:6 <hr/> U <hr/> U.S 3:8,13 128:18,24 146:4,11 154:13 161:1 216:19 221:1 uh-huh 59:17 138:16 139:1 179:25 191:16 191:22 192:22 202:8 205:14 211:17 ultimate 192:13 ultimately 120:17 178:4 202:9 211:3 umbrella 221:6 unaccounted 31:16 unclear 150:12
---	--	---	--	--

undergraduate 99:20	132:3 147:24 200:1 204:21	160:21 164:13	142:6,7,12,23 143:1 149:19	80:24 88:16 90:6
underground 10:24 11:17 119:20 150:24	204:22 216:16 217:3 220:13	university's 95:8 101:23 106:3,5 110:10 113:5 113:23 114:1 114:22 115:19 119:3,19 121:18 129:22 130:3 132:13 134:21 135:17 139:10 149:1	152:23 158:22 159:1,7 163:7 167:8 169:24 170:1,8,19 172:23 175:2,8 175:10 176:11 177:25 180:12 181:23 182:16 185:4,7 186:1 187:25 188:16 190:21,24 194:16 195:9 195:10,13 197:5 200:24 203:2,22 208:18 215:2,4 215:25	utility 6:12 30:9 32:23 33:1 38:24 41:24 42:5,23,24 43:19 48:6 57:10,13 58:3 60:14 61:1 64:12 77:13,14 161:14
underlying 107:11	units 40:23,24 university 67:12 67:21 69:11,23 70:5,10,15 72:13,19,19,25 96:10,15,18,21 97:6,8 98:22 98:24 99:4,8 99:19 100:5,11 100:14,15,19 101:10,11,16 101:18 102:9 102:12,15,18 103:3,11 104:5 105:5,21 106:9 107:13,17 109:7,22 110:1 110:2,16 111:15,25 112:15,19 114:10 115:23 116:7,12,13 117:1,3,20,24 118:10 119:16 119:25 120:1 122:15,23 123:14 124:19 124:24,25 125:5 127:20 128:9 130:21 130:23 131:6 132:10,11,17 132:17 133:5 134:13,17,23 137:15 139:20 140:14,15,23 140:24 141:1 141:12 142:9 144:19 146:5 146:12,17 149:21 151:12 151:14 152:14 152:24 160:19	unused 87:14 update 167:2 updated 20:17 41:19 76:21,22 77:1,3 upgraded 167:24 205:13 upper 24:15,15 168:25 169:20 170:4 usage 72:20 use 27:16 29:21 30:6,24 32:2,6 38:23,23 40:6 40:8,10,24 41:8 42:7,25 47:17 54:4,18 65:9 67:21 68:16 69:3,24 70:5,6,10,18 70:22 71:21 72:6 79:16 83:25 85:17,21 86:5,8 87:11 89:8 96:14 101:23 106:13 109:18,21 110:24 113:19 113:22 114:2,8 114:9 115:19 116:6,15,21 118:25 119:2,6 122:9 129:10 131:3 132:13 132:21 133:8 133:25 141:23	useful 48:16 user 39:12 102:14 117:4 143:14 users 40:9 102:10,12 133:24 144:24 145:4,5 159:5 159:6,7,22 162:20,24 163:2,5 173:7 177:4 181:21 181:25 200:15 211:3 215:2 216:7,8 uses 40:8 67:21 96:12 124:6 132:12 142:1 185:5,20 201:19 USGS 51:4,5 150:10 usually 36:16 158:18 192:6 utilities 55:19 57:17 60:11 68:18 70:3 77:25 78:20	Utility's 55:12 utilize 106:12 170:13 180:21 180:22 184:9 utilized 65:1 utilizes 166:14
underneath 45:18				V
understand 30:17 42:10 59:20 63:12,19 69:6,10 77:3 91:25 94:2 110:4 111:7 118:13,14 120:15 121:3,4 129:25 130:2 130:18 132:23 150:15 155:15 178:9 181:8 186:7 214:25 215:4 218:19				V 3:2 valid 207:1,4 208:14 209:9 validity 107:10 valley 5:22 6:16 7:1 10:9,15 21:7 35:12 61:10,20 65:11 71:17 86:13,14 86:16 106:6 113:14 115:22 115:24 127:10 127:25 128:3 149:3 Valleys 125:17 valuable 165:22 165:23 value 95:9 96:23 value-chains 105:14 various 26:12 46:10 vast 27:22 Verde 164:23 Verdo 186:16 verify 202:4 version 7:20 8:8 21:20
understanding 11:1 18:12 43:13 49:24 57:9,10 60:9 60:14 61:2 63:23 70:2 74:10 80:5 110:15 111:5 139:17 148:16 151:21 188:13 199:6 201:18 206:15				
understood 197:16 206:16				
underutilized 99:10				
Unfortunately 42:3 136:9				
United 1:1 3:7 92:17,19 94:22 95:17 109:14 118:16 120:6 120:15 126:25 130:16 131:16				

versus 5:2 58:21 170:11 171:13	3:14 wasn't 148:14	45:19,19,22 46:13,18 47:1	115:24,25 116:6,11,15,21	165:6,9,12,20 166:13,14
vice 101:10	180:21 209:19	47:10,17,18,19	117:2,4 118:7	169:13,15,22
view 50:19	217:16	48:21,24,25	118:24 119:2,8	169:25 170:5,8
123:4 172:18	waste 5:24 42:13	49:23 50:4,7	119:13,20,25	170:10,10,15
views 148:19	43:11 169:12	50:22 51:9	120:3 121:11	170:18,23,25
visit 134:18	200:22	52:15 53:17,18	121:14,19	171:3,5,8,12
visited 6:1 7:7	wasted 172:22	53:24 54:5,11	122:9,15,23	171:14,17,20
18:11 21:18	wastewater 5:18	54:21 55:11,19	124:15,17,18	171:21,24
23:12 55:16	5:25 6:3,4,5,6	56:11 57:5	124:19,20,21	172:2,6,7,13
134:20	18:2,3,8 21:4	58:6,25 59:23	124:23 125:1,4	172:14,19,25
vital 119:19	21:11,12,14,16	60:10 61:4,4,8	126:22 127:10	173:2,5,7,10
163:17	21:17 22:6	61:14,16,17,23	127:13,14,17	173:17 176:2
voice 117:3	23:11,21 24:12	61:25 62:2,5	127:21,25	176:25 177:2,4
voltaic 182:14	24:12,17 45:2	62:18,25 63:6	128:2,4,20,23	178:6 180:11
182:18 183:10	45:7,20,22	63:19 64:17	130:21,23	180:11,12,13
volume 1:5	84:11 85:17	65:4,6,12,14	131:3,3 132:8	180:15,21
98:18	160:25	65:16,20 66:18	132:12,13,16	181:5,21,25
VS 1:5	watched 64:23	66:19 67:16	132:21 133:6,7	182:10 184:6,8
	65:7	68:17 69:1,3	133:8,9,24	184:12,22,24
W	water 5:17,21,24	69:23 70:4,16	135:3,5 136:7	185:1,7 186:1
W-R-I 152:10	6:2,13 7:9,12	70:19,20,21,23	136:10,25	186:18 187:1,7
waive 221:21	8:1,17,17,20	70:25 71:3,17	137:1,3,5,8,12	187:8,21 188:4
Wallace 3:2	9:6,9,11,24	72:7,8,9,10,16	137:16,18	188:5,19 189:7
92:22,23	10:7,23 11:6,8	72:18 73:2,5	138:8,10,11,17	189:8,17,20
want 42:23	11:16 12:7	73:16,23 75:6	138:22 139:11	190:2,7,8,21
46:16 60:7	14:19 15:6,12	76:2,12,14,16	139:12,14,19	190:24 191:2
69:8 74:20	16:15,24,24	77:2,4,13,14	139:23 140:23	192:4,5,10
91:12 92:21	17:17 18:1,4	78:3,22 79:16	140:24 141:2	193:15 194:2,8
117:25 118:1	19:8 20:16,17	81:24 83:3,6	141:17 142:4,6	194:10,16
127:19 130:12	21:11,21,24	85:10,11,13	142:13,16,18	195:6,24,25
156:11 176:8	22:4,5,8,8,13	86:2 87:15,18	142:22 143:14	196:4,9,17,21
178:9 184:4	24:4,7 25:5,8	88:11,13 89:18	143:16 144:14	196:22 197:9
191:8 199:16	25:11,15 27:8	89:21 90:4,8	144:24 145:4,5	197:12,15
200:22 201:5	27:9 29:2,20	91:3,4,6 95:11	146:6,13,16	198:3 199:9
201:22 203:16	30:6,22 31:13	96:9,14 99:4	148:21 149:1	200:12,14,21
221:25	31:16,20 32:2	101:23,23,25	150:25,25	200:22,23
wanted 54:10	32:6 33:8,9	102:10,12,13	151:3,11,13	201:12,25
156:6 161:4	35:6,11 38:25	105:25 109:18	152:12,13,25	202:3 203:16
166:1 174:3	39:6,12,12,13	109:21 110:9	157:23 158:6,8	204:6,23 205:2
199:25 201:9	39:20,24,25	110:23 111:2,5	158:20,23	205:20 206:2,7
206:8 216:14	40:1,10,14,20	111:7,8,8,10	159:1,2,5,6,7,7	206:10,23
217:12	40:23 41:22,24	111:11,12,12	159:11,14,18	207:2,5,8,8
wanting 143:18	42:7,8,18,18	111:12 112:11	159:20,22,25	208:14,22,23
176:18	43:1,8 44:16	112:13,15,25	160:4,8,10	208:24 209:9
wants 35:2 50:6	44:18 45:12,13	113:3,15,24	162:9,12,20,24	209:13,14,15
Washington	45:15,16,17,17	114:8 115:20	163:2,5,7	209:20,20,21

209:23,24	152:19 153:25	59:14 61:23	Westmoreland	156:18,20
210:24 211:2,3	156:24 157:6	62:18 63:6,17	156:21 157:1	157:5,8 158:2
211:8,14 212:5	166:9 168:19	65:2,7,9,10,21	219:23 220:6	163:2 216:5
212:7,10,11,15	169:15 173:13	66:5 67:3	220:10	217:13,15
212:21,24,25	175:4 178:17	71:16,23,25	whatnot 187:11	220:13,14,18
213:3,16 215:2	179:8 181:18	73:12,19 74:3	196:20	220:23 221:12
215:4,15,22	186:11,20	75:2 79:24,25	white 6:19 22:4	221:22
216:1,7,8	187:22 188:11	80:21,23 81:4	wholesale	wood 164:14
water-cooled	199:20 200:15	84:1,15 86:12	161:22	words 174:7
170:2 185:8	200:17,19,21	86:14,16,18,21	Widmer 33:9	175:3 182:19
water-cooling	203:17 204:5	119:18,19	willing 215:15	work 40:18
184:10 185:4,6	219:20 221:21	121:22,25	221:21	42:24 48:7,10
water-related	we've 26:12	122:18,19	windmill 122:13	67:5 78:23
102:6	29:19 31:14	128:5 129:7,9	123:18	79:2 81:17
water-righted	32:7 66:16	138:13,14,18	winner 217:20	100:20 101:2
47:10,12 48:15	68:14 76:25	138:22 139:8,9	218:3	108:2 115:18
52:14 89:2	81:24 93:15	143:5,7,8	wish 169:6	135:18 148:25
watering 41:16	101:6 125:20	151:16 169:17	withdraw 82:11	160:3 161:2
41:17,18	143:14 144:13	169:19 171:1	187:18	171:24 172:2
waters 10:24	144:14 158:1	176:17 177:1	witness 49:7,8	188:1 210:22
11:17 89:24	159:4 163:1	190:10 193:22	51:17 52:8	220:7
way 50:15 55:16	214:24	194:22 195:5,8	60:3,7,8,15	worked 68:19
67:25 71:14	wear 138:21	195:9 196:7,10	68:4,7,13	78:3 100:7
74:14 100:18	WECC 179:9	197:16,17,19	75:10,14 80:14	160:23 161:22
116:7 119:16	186:13	205:15,17	80:15 91:25	working 29:24
130:2 161:3	Wednesday	went 30:2 99:19	93:1,5,7,12,18	32:15 44:10
175:15 178:21	220:3	160:18,20	93:21 94:3	58:4 77:6,11
178:21 181:13	week 220:2,5,8	173:11 205:12	95:3,23 96:4,7	100:4,14
187:16 215:1	weeks 36:1	weren't 122:19	97:12 98:2	works 40:7
ways 203:18	176:24	171:16 177:21	107:7,8,16	178:21 184:21
we'll 15:4,13	well-drilling	198:8,8	114:21 118:5	215:1
26:22 49:17	190:5	Weslayan	120:8,18 121:9	world 160:16
87:5 91:24	wells 6:19 7:22	223:24	131:17 140:5	Worldwide
92:3 98:5	7:25 8:3,10,23	west 5:22 6:4,17	140:12 144:5	223:23
139:4 145:16	8:25 9:8 10:12	9:3,4 10:13	145:12,21	worms 217:5,10
147:10 153:19	10:12,13 11:25	18:14,16,24	153:11 154:16	wouldn't 113:9
153:21 156:10	12:3,7,22,25	21:8,15,15,16	154:20,24	181:25 197:14
183:2 198:23	13:12,23,25	61:11 84:21	155:5,9,16	wound 136:6
219:20 220:7	14:18 17:4	123:5 128:22	156:7,9,13	wrap 203:9
222:1,2,10,10	18:14,16 20:1	134:12,14	158:4 209:2	WRI 152:10
we're 26:21	20:21 24:6,8	135:13 167:17	213:8 219:17	writes 189:8
38:12 43:5	26:3 27:1,9	173:10 197:2	220:6 221:1,5	writing 194:9
44:25 49:5	28:1,4,5,11,13	197:20	221:14	written 219:2
50:1 83:20	28:14,17,19,22	western 161:1	witness' 104:15	wrote 40:3
97:2 98:25	29:2,3,20 32:9	165:23 172:11	witnesses 93:15	121:15
102:9 103:5	32:11 35:1,12	178:13,15	95:5 116:7,16	
110:5 145:6	39:13 54:22	203:19	155:2 156:17	

XIV 1:5	193:7	0857 103:19	11409 190:3,8	1888 102:17,18
Y	years 9:7,11	0857-0004	199:2	119:3,25
yard 168:22	15:22 17:19	104:24	1177 208:9	149:11 164:13
yeah 11:17	20:18 23:19	0864 191:9,10	12 14:11 63:7,25	164:17
16:13 24:17	24:2,5,13 26:2	0881 35:7	105:19 111:20	1890 121:13
29:23 38:17	26:3 29:3,15	09 22:21	112:23 119:5	122:13,13
39:5 46:11	31:5,10,19	0947 33:4	138:4 162:7	141:22 142:21
48:13,22 49:3	41:20 42:4,6	0949 26:19	197:1	1895 123:6
53:14 63:3,18	42:10 44:25	0956 44:17	122,000 46:25	1896 123:17
72:18 76:23	45:22,24 51:10	1	52:21	18th 3:9
78:12 79:7	57:1,1,3 60:12	1 6:21 22:16	13 15:25 38:20	19 126:3
85:12,15 86:10	63:7,25 68:19	23:17 34:20	38:21 121:21	190 106:25
87:20 124:11	76:21 86:6	35:8 43:25	133:4 163:20	1902 123:23
134:22 144:3	96:14 99:9	108:3,6,7	13,000 40:25	1903 82:8,14,18
164:9 165:5,7	101:8 103:4	121:21 123:23	13.60 40:21	1905 11:8,12
166:7,7 167:8	112:23 119:8	141:17 156:2	130 96:14	25:14 78:14
168:10 169:2,6	122:21 131:5	188:9 190:11	143:15	79:10,17 80:10
175:1,12	133:10 136:3	193:1	1300 3:3	86:20
177:24 178:7	137:17 138:15	1,355 47:12	13th 223:17	1906 82:5
183:20 187:1	143:15 149:20	1.8 211:11,13	14 14:13	142:22
188:2 189:6,14	160:16 161:8	212:6	14,000 14:15	1908 124:11
190:11,23	184:3 186:2	1:15 83:11	140 129:1	191 44:25
191:19 193:12	yellow 134:8	10 20:19 29:5	141 1:1 5:2	1917 164:16
193:13 194:20	Yep 161:9	108:10 110:20	145 4:7	1926 125:16,24
195:4,19,21	209:10	115:18 134:12	147 4:8	126:4
196:12 197:9	yesterday 5:3,16	148:23 167:17	15 145:16	1930 149:11
197:22 202:15	6:22 29:10,23	167:18 179:14	147:10 162:7	1930s 149:15
202:19 205:7	52:3,6 76:1	197:1	167:18 199:12	1935 126:15
205:12 207:14	88:1 97:1	10-year 58:3,4	15.2 108:5	127:10,16
209:17 210:16	youth 106:1	76:9,11,19	150 167:23	1940s 149:15
210:22 211:12	Z	10,000 40:25	152 4:8 48:6,8	1947 125:25
year 9:15 23:9,9	zero 175:2	41:2	157 4:10	1949 174:12
24:14 31:7	201:14	10,200 9:2 16:25	16 7:15 31:16	175:8 206:24
32:14 34:6,24	zeros 24:3	100 175:20,22	44:6 49:1	207:13
42:3 46:24	zone 71:18,18	1000 2:5	108:18 133:11	1950s 127:19
47:1 52:21	Zoom 1:12	1027 113:25	134:21 135:1	128:2
56:5,9 57:1	0	114:15 118:9	16,000 24:10	1951 128:3,10
61:19 62:9	04-30-22 223:20	130:15 148:3	16,400 24:10	128:19 216:23
65:7 69:2	0616 49:6	152:18,20	16.4 31:5	1953 86:15,16
71:22 73:18	0847 130:21	104 89:19	160 181:4	86:21 129:8
87:10,12 99:22	152:25	11 13:22 31:17	1600 2:20	1957 128:3
124:10 127:18	0853 94:14,15	131:18 149:7	17 18:16 49:1	1972 174:12
128:21 137:4	94:17 141:6	11:00 1:12	108:18	206:24
137:16,18,23	0854 108:22	222:12	173 44:13 45:1	1978 216:23
138:8 179:4	109:10	111,000 88:2	174 128:16,20	1980 80:6,22
185:1 186:5		1120 2:20	177 186:5	218:6
			180 181:6	1980s 171:15

1981 14:13	2005 15:21	213 4:11	300,000 160:23	13:21 18:15
1986 99:23	77:23	214 4:11	3000 223:24	20:17 21:21,24
100:16 122:6	2006 188:25	223 4:13 223:23	303 2:21 3:10	22:13 44:16,18
1988 114:2,7,24	2007 70:17	23,000 41:3	31 35:22	45:12,15,19
116:20 118:24	73:10 141:15	230 167:24	31,000 56:4	54:21 55:1,2
148:4,13	167:23 193:9	168:11	31st 33:5 69:4	55:10,18 56:8
1995 100:16,17	193:14 194:19	235 223:24	32 36:6	57:5 58:2,6
1997 161:3,5,20	194:20 205:13	23rd 95:4	325 2:11	65:20 76:6,12
<hr/> 2 <hr/>	207:25	24 119:24 129:1	325,851 27:16	81:10,24 83:3
2 12:21 14:12	2008 95:11	161:8	27:17	83:22 131:3
21:22,23 22:16	137:11 143:21	24/7 28:18	326,000 27:16	40,000 58:21
22:16 34:8	144:18 214:24	240 180:19	3275 9:3	400 197:24
39:1,8 41:1	216:17,20	181:1 210:9	33 36:6,24	40s 124:17
74:6 84:2	2010 162:11	242-2228 2:16	33,000 137:17	41 33:10 123:20
85:22,24 86:6	2012 40:1 47:23	2491 13:22	137:19,25	194:5
136:3 142:3	86:15	18:16	138:8	42 83:21 123:24
148:18 178:8	2015 70:14,17	2492 7:16 21:25	330 182:23	135:21
183:6 184:7	71:8,12,15,25	56:13 83:7,21	183:4 210:14	430 8:22
189:18,19	73:7,8,10	87:8	211:20 212:9	446-7979 2:6
190:12 193:21	100:6,7,18	2493 22:15	35 123:15	45 133:21
195:2 199:4,5	115:3 148:8	25 86:12,14	141:20,20	45-acre 112:5
200:10,15	2016 25:4	134:11 142:22	365 28:18	135:19
208:11 209:7	2017 33:5 48:20	255 44:12,24	37 87:8	47 112:6 201:17
2,217,000 183:7	54:20 81:25	264 129:4	37,000 30:2,15	47-acre 133:20
2,890 69:2	82:7,19 83:1	27 122:10 129:3	30:23 48:9	135:13
2.2 110:20,22,23	87:21	27.5 55:21	370 3:9	4H 103:5
183:13	2018 103:20	29 123:2 134:6	38 135:10	4th 42:9
20 19:7 31:2,9	2019 57:15 64:7	<hr/> 3 <hr/>	389 24:3	<hr/> 5 <hr/>
42:22 44:6	64:16 67:1	3 1:12 19:18	399 24:3	5 4:4 6:9 7:12,13
128:18	202 3:15	89:20 97:24	3rd 42:8	12:12,16 14:12
20-year 31:1	202-acre 112:8	137:6,20	<hr/> 4 <hr/>	21:25 43:6
45:19 76:6	133:22 135:23	142:15 179:20	4 5:16 17:13	48:7 105:19
200 185:13,16	2020 10:6 25:4	200:15 210:7	33:4 57:7 62:9	122:10 200:19
200,000 58:20	27:3 44:13	210:11	95:6 137:4,23	5-year 76:7
2000 44:12,23	61:18 64:25	3,000 40:22	184:16 196:25	5,000 56:9,17
161:20	65:10 109:5	3,360 129:1	200:17	5,961 9:12
2000s 47:16	2021 1:12 95:4	3,500 25:7	4-inch 137:4	5:00 219:20
2002 14:5 131:4	223:17	3:05 147:10	4,000 25:7 44:7	5:01 222:17
2002-2042	2022 42:11 77:4	30 57:3 68:19	70:18,22 71:8	50 42:22 191:19
130:23	2025 109:5	141:22 142:21	4,000-foot 59:1	500 2:5,15 41:21
2003 48:25 69:4	204 4:10	175:21 186:9	40 8:2 28:23	168:5,7,8,10
131:18	21,000 25:3	201:1	45:21 131:5	168:10,11,11
2004 167:22	38:25 87:12	30-odd 60:11	133:9 135:15	501C3 99:7
180:25 205:11	21,869 8:24 12:8	30,000 58:21	186:10	505 2:12,16
205:16	12:17 73:18	87:14 88:10	40-year 7:9,15	508-6281 3:4
20044 3:14	79:20 80:8	300 185:17	8:16 10:18	50s 139:18
	86:20			

51 4:4 218:7	734 128:21	166:11,19		
51,179 9:13	742 108:19	167:11 210:7		
87:10	75 4:5	210:11		
514-3553 3:15	7611 3:14	87501 2:11		
53 86:18	77027 223:24	89 129:5		
531 108:6	78 218:7			
54 108:4 124:7	7th 3:3	9		
540,000 163:13	8	9 20:19 107:23		
555 197:11	8 10:6 39:17	202:17 208:7		
555.756 178:7	41:11 110:19	9:00 222:11,12		
556 166:7 186:7	199:4,5 202:16	90 4:5 29:6		
560 128:25	202:16	90s 29:12		
570-4591 2:12	8,000 9:5 18:24	916 2:6		
58 125:15	19:22 85:1,4,5	943 46:5,5		
599 95:6	85:15	944 23:2		
6	8,564 70:11	947 34:20		
6 8:14 13:13	80 80:23 138:6	955 23:2		
20:7 39:16	181:3	956 89:17		
69:1 73:17	800 33:13,19	957 23:17 43:25		
74:16,20 87:9	800-745-1101	95814 2:6		
106:19 155:23	223:25	98 4:7		
200:22	80202 3:9	99 33:23 34:6		
60,000 112:2	80203 2:20 3:4	185:20,20		
133:17	803 129:21	99.66 33:10		
644 17:19	130:8	999 3:9		
65 127:6	803.16 130:8	9th 141:15		
66 126:12	803.6 117:16			
67.5 175:8	81 19:3 44:19			
684 208:5	8262 223:20			
69 127:7	844-1375 3:10			
7	847 140:19			
7 20:14 21:1	853 67:7 68:2,22			
38:5 112:7	150:19			
133:22 135:24	854 110:14			
136:5 200:25	857 104:20,21			
201:10 202:10	86 127:21			
70 7:1,6 106:23	861-1963 2:21			
128:17 175:20	864 155:21,24			
175:23	865 155:24			
70-year 139:18	867 155:24			
140:9	868 155:24			
700 2:15	870 155:25			
71 49:21 108:19	87102 2:16			
720 3:4	873 155:21			
73 44:17 89:17	186:21 189:18			
	874 155:22,25			