UNITED STATES V. RIO GRANDE DAM & IRRIGATION CO., 1900-NMSC-042, 10 N.M. 617, 65 P. 276 (S. Ct. 1900)
CASE HISTORY ALERT: affected by 184 U.S. 416

UNITED STATES OF AMERICA, Appellant,
vs.
THE RIO GRANDE DAM & IRRIGATION CO. et al., Appellees

No. 879

SUPREME COURT OF NEW MEXICO

1900-NMSC-042, 10 N.M. 617, 65 P. 276

August 24, 1900

Appeal from Decree in Favor of Defendants from Third Judicial District.

Facts will appear sufficiently in opinion.

SYLLABUS

1. Assignment of Error -- When Too General. An assignment of error which is directed against all the findings of fact made by the trial court is too general, and will be disregarded.

2. Trial Practice -- Rehearing -- When Properly Denied. Where, after adverse findings by the trial court, a party asks for a rehearing in order that he may secure new evidence by making new experiments, and no satisfactory showing is made why the proposed experiments had not been made previously, such ground for rehearing is properly overruled.

COUNSEL

William B. Childers for appellant.

W. A. Hawkins, A. B. Fall, John Franklin and S. B. Newcomb for appellees.

JUDGES

Mills, C. J. McFie and Crumpacker, JJ., concur; Parker, J., having tried the case below did not participate in this decision; Leland, J., absent.

AUTHOR: MILLS

OPINION

*{*618}* **{1}** The bill of complaint in this suit was originally filed on May 24, 1897, on behalf of the United States, by their attorney-general, in the district court of the Third Judicial District of New Mexico, against the Rio Grande Dam and Irrigation Company, the purpose of which was to restrain the defendant from constructing a dam across the Rio Grande, in the Territory of New Mexico, and appropriating the waters of that stream for the purpose of irrigation. The cause was tried before the judge of said court, and a decree entered dismissing the bill. The United States appealed to this court, where the judgment of the district court was affirmed (9th N.M. p. 392). Thereupon the United States appealed to the Supreme Court of the United States, where the decree of this court was reversed and the cause remanded with instructions to set aside the decree of dismissal and to order an inquiry into the question whether the intended acts of defendants in the construction of a dam and appropriating the waters of the Rio Grande would substantially diminish the navigability of that stream within the limits of present navigability, and if so to enter a decree restraining those acts to the extent that they will so diminish. (U.S. v. Rio Grande Dam & Irrigation Co., 174 U.S. 690, 43 L. Ed. 1136, 19 S. Ct. 770.)

{2} In accordance with the judgment and mandate of the Supreme Court of the United States the cause was remanded to the district court of the Third Judicial District of the Territory and beginning on December 12, 1899, the cause was heard before the judge of said court. At the conclusion of said hearing, on the first day of January, A. D. 1900, the judge of said court made his findings of fact and ordered that a decree be prepared and entered dismissing the bill of complaint. Thereafter a motion for rehearing was filed and *{*619}* overruled, and on the ninth day of January, A. D. 1900, a final decree was made and entered dismissing the bill. Thereupon the appellant prayed an appeal to this court, which was granted.

{3} The appellant filed the following assignments of error:

1. The court erred in its seventh finding of fact to the effect that between San Marcial and El Paso, a distance of three hundred miles measured by the sinuosities of the river, the percentage of loss is about one-third of the entire volume of such water, and at various other points in New Mexico such losses, more or less, equal in percentage, are also shown to occur. The evidence in this case failed to show that any such loss occurred between San Marcial and El Paso in any year, except that of 1897, and there being no evidence upon which to predicate the general conclusion drawn by the court by its said finding.

2. The court erred in its eighth finding of fact, there being no evidence upon which to base the general and particular conclusions contained therein.

3. The court erred in its ninth finding of fact, there being no evidence upon which to base the general and particular conclusions contained therein.

4. The court erred in its tenth finding of fact to the effect that the Rio Conchos is a perennial stream and at all times contributes a considerable quantity of water to the Rio Grande, such finding not being sustained by any evidence in the case, and the rest of the finding being a mere statement of a probative and not an ultimate fact.

5. The court erred in its eleventh finding of fact to the effect that the evidence fails to show that at the period mentioned therein, the waters flowing by the mouth of the Conchos affected the height of the river at Laredo, Texas, to a considerable extent; said conclusion being uncertain, ambiguous, and misleading, incomplete, and contrary to the evidence in the case, and is wholly immaterial, and because the particular facts found do not justify the general conclusion stated therein.

6. The court erred in its seventeenth finding of fact, the same is not based upon any evidence in the case, and is misleading, ambiguous, and the mere expression of opinion. If the conclusion reached by said finding is based upon any evidence at all, it is upon the absence of evidence, and while affirmative *{*620}* in form, it is a negative conclusion, and furnishes neither in whole nor in part any basis for the decree and finding dismissing the bill in said cause.

7. The court erred in its twenty-eighth finding of fact:

(a) The first paragraph of said finding is based upon the measurement of one flood flow in the year 1897, and that, only between San Marcial and El Paso, and, therefore, is not a reasonable deduction from the evidence in the case.

(b) Because the second paragraph of said finding of fact, twenty-eight, is not a finding of fact drawn from the evidence in the case, but is purely the result of speculation, and not a fair deduction from the evidence.

(c) Because the third paragraph of said finding of fact 28, is not a finding of fact drawn from the evidence in the case, but is purely the result of speculation and not a fair deduction from the evidence.

(d) Because in the fourth paragraph of said finding of fact 28 the court is not justified in assuming an arbitrary percentage of loss by evaporation and seepage between Presidio del Norte and Rio Grande City, Texas, but such assumption must be based upon evidence in the case, and there is no evidence in the case from which such arbitrary percentage of loss can be determined.

(e) Because the assumptions and presumptions contained in paragraphs 1 to 6 of said finding 28, are not based upon or sustained by any evidence in the case.

(f) Because the table (page 13 1/2 of said findings of fact) made a part of said finding 28 is based upon the assumptions, presumptions and speculative conclusions contained in the preceding six paragraphs of said finding 28, and said assumptions can not be made

the basis of a conclusion by the court nor said table, said assumptions being wholly unwarranted by any evidence in the case.

(g) The appellant assigns as error the remainder of said finding of fact 28, explanatory of said statement, as being merely a theoretical and speculative discussion of the conditions of the river, and probable results which might flow from given conditions, not based on any evidence in the case, and because said finding is not properly a finding of fact but a mere speculative opinion or theory.

*{*621}* 8. The court erred in its thirtieth finding of fact, because it is based upon statements of fact not sustained by the evidence, and, second, the court erred in said statement of fact, in this, that the statement of facts contained in said finding does not justify the court in finding as a matter of fact and concluding therefrom that the amount of water proposed to be appropriated and empounded at Elephant Butte by the defendant, will not substantially diminish the navigable capacity of the Rio Grande within the present limits of navigability.

9. The court erred in finding as a matter of law that the plaintiff's bill should be dismissed.

10. The court erred in this, that none of the facts found by the court are sustained by the evidence in the case.

11. The court erred in refusing to reopen the case upon the application of the plaintiff and to permit the plaintiff to obtain additional evidence to establish facts which the court itself found not to have been established, and without which no proper determination of the issues could be had, and the absence of such evidence and the possibility of procuring the same not having been apparent until the trial of the case.

12. The court erred in refusing to grant a rehearing of said case upon the offer of newly discovered evidence in said cause.

13. The court erred in refusing to grant a rehearing of said case upon the offer of the plaintiff to procure the evidence mentioned in assignment of error 11, together with the newly discovered evidence presented to the court by the affidavit of the proposed witness, Clark, and others; it being certain that the investigation which the plaintiff offered to have made together with the newly discovered evidence might and probably would change the result of the determination of the court as to the facts in the case.

14. The court erred in refusing to make findings of fact asked for by the plaintiff numbered 1, 2 and 21.

{4} The Judge of the District Court, who tried this case, made the following findings of fact:

1. The Rio Grande is navigable only between the American points of Rio Grande City, and the mouth of such river, a distance of 262 miles, measured by the sinuosities of the stream. *{*622}* It is navigated only between Rio Grande City and Brownsville, Texas, a distance of 177 miles, by such sinuosities.

2. That such navigation began to decline on account of scarcity of water in such river in 1888, and has continued to so decline until at the present time the same consists of occasional trips of one small vessel of about 100 tons capacity. Such trips are irregular and uncertain, and so spasmodic as to time, as to render such navigation of small benefit to commerce between points reached thereby.

3. That the decline of such navigation has been occasioned by a gradual decline of the navigable capacity of such river, and the increased difficulty of navigating the same on account of scarcity of water, compelling the substitution from time to time of boats of less capacity.

4. The scarcity of water in said river when it is navigable is due largely to a drought of great severity, which has continued with only occasional interruptions since about 1887, and has extended over a vast area of country several hundred miles in width and length along the general course of said river from its mouth up, and which has both affected portions of Texas and Mexico, and to the drying up of the following named tributaries of such river, lying either in Texas or Mexico, to wit: Elm creek, Las Moras, Piedras Pintas, Sycamore, San Felipe, Escondido, San Diego, Las Bacas, Trientauno, Santa Carlo, Cienegas and Salado, all referred to in the report of Major Emory, as well as described by the witnesses in this case, and all of which were from ten to eighteen years ago bold running streams.

5. There is no evidence from which the court can estimate the extent of the diminution of such rainfall or from which it can determine that there has been any permanent change in the amount of rainfall in said region, or the amount or effect of which such diminution of rainfall and drying up of streams, has had upon the navigable capacity of said river since the commencement of this suit in May, 1897.

6. At the measuring station at San Marcial, forty miles above Elephant Butte, the Rio Grande is shown from the evidence and measurements filed in this case, to be largely a torrential stream, varying from a dry bed to floods of considerable *{*623}* size and duration, and this torrential flow characterizes its entire course through New Mexico.

7. In its course, both in Colorado and New Mexico, a large percentage of its waters are constantly lost by causes not accurately determined, but generally classed as seepage and evaporation, and between San Marcial, New Mexico, and El Paso, Texas, a distance of three hundred miles, measured by the sinuosities of the river, it is shown that the percentage of loss from such causes is about one-third of the entire volume of such water, and at various other points in New Mexico, such losses, more or less equal in percentage, are also shown to occur.

8. While there are no measurements from which the percentage of loss by evaporation from the volume of water after the same passes El Paso, Texas, can be definitely determined, yet the general character of the bed, bank, formation and soil, is shown to be the same general character as that portion of such stream lying between San Marcial and El Paso, where such large losses in volume have been accurately determined, and that for a distance of four hundred miles below El Paso, Texas, measured by the sinuosities of the river, to Presidio del Norte, such seepage and evaporation continues to diminish the volume of such water.

9. Between Elephant Butte, the point where defendants propose to divert the waters of such stream, and Presidio del Norte, a distance of six hundred and forty miles, by the sinuosities of the stream, there are no living tributaries to said Rio Grande, and the waters of such stream are not reinforced substantially between such points by any regular flow or tributary and there is no perennial flow of the Rio Grande at Presidio del Norte.

10. The first perennial tributary of the Rio Grande below Elephant Butte, is the Conchos, which comes into the Rio Grande at Presidio del Norte. The Conchos is a perennial stream, rising in the mountains of northern Mexico, and flowing several hundred miles northerly into the Rio Grande. In season it is a torrential stream of great magnitude and at all times carries a considerable quantity of water. A cross-section of the Rio Grande, near and just below where the Conchos joins it, shows an area at least twenty-five times as great as the *{*624}* area of a cross-section of the Rio Grande just above the mouth of the Conchos, measured to the highest water mark known, so far as disclosed by the evidence, in thirty-three years, the carrying capacity of the lower cross-section being variously estimated at from sixteen to twenty-five times as great as the upper cross-section.

11. It has only been shown by the evidence that the waters in the Rio Grande bed passed Presidio del Norte, the mouth of the Conchos, in considerable quantities upon one occasion, that is, during the month of May, 1897; but it is fairly inferable from the testimony that such waters have so passed such point on other occasions in such quantities. No evidence has been offered as to the amount then so passing the mouth of the Conchos, in the Rio Grande bed, except that of one witness to the effect that the height of the same over a ford some distance below the mouth of the Conchos (the dimensions of the river at that point not being shown) was increased about three feet, and the duration of its passage at such height, was for about eight or ten days, and except some estimates based upon the surface area of the cross-sections referred to showing the flow to be 3,250 cubic feet per second, and I find that the evidence fails to show that at the period mentioned, the waters so flowing by the mouth of the Conchos affected the height of the river at Laredo, Texas, to any considerable extent.

12. It appears from the evidence that the Rio Grande was navigated in a common row boat drawing about six inches of water, during the winter season of 1893-4, from El Paso, Texas, to the mouth of the Conchos, a distance estimated at 400 miles by the sinuosities of the stream, at a stage of water from three to three and one-half feet deep

at El Paso, Texas, at the time of starting, said trip occupying twenty-one days, and without finding any obstructions in said stream except scarcity of water for the last forty miles above the mouth of the Conchos. That after remaining a period of eighteen days in the vicinity of Presdio del Norte, the party making said trip embarked upon water said to have been furnished from the Rio Conchos and continued to Del Rio, Texas, a distance of 562 miles, by the sinuosities of the stream.

13. There is no evidence in the case tending to show that there is any obstruction to the free and uninterrupted flow of *{*625}* the Rio Grande from Del Rio, Texas, to Rio Grande City, Texas.

14. There is no evidence in the case tending to show that water which has reached Del Rio, Texas, would not uninterruptedly continue to flow to Rio Grande City, Texas, except such portions thereof as may be lost by seepage or evaporation.

15. The Conchos river enters the Rio Grande from the Mexican side at nearly right angles. On the lower or southerly side of the Conchos there is elevated ground, upon which is situated the village of Presidio del Norte. On the upper or northerly side of the Conchos, and on the westerly or Mexican bank of the Rio Grande, the land is low and subject to much overflow. On the American side of the Rio Grande, at the mouth of the Conchos, the banks are high, and not subject to overflow.

16. The distance by the sinuosities of the river between Presidio del Norte and Rio Grande City is something over 900 miles and the bed of the stream between such points appears to be practically a succession of basins or valleys of greater or less extent, and of the same character and affording the same facilities for absorbing the water as the valleys above El Paso, or those above the mouth of the Conchos, and I find that large amounts of water flowing between the Conchos and Rio Grande City are lost between said points, by evaporation and seepage.

17. The character of the formation in the basins or valleys of the Rio Grande, at the only point where the same has been sounded to any great depth, that is, by the boundary commission at El Paso, Texas, show the depth of sand and gravel to be at least sixty feet and I can see no reason why the other valleys and basins along the course of the Rio Grande should not show the same formation to at least the same depth, the surface indications and appearance being substantially the same throughout its length.

18. The water shed of the Rio Grande and its tributaries above Elephant Butte is approximately twenty-five thousand square miles in extent. The water shed between Elephant Butte and El Paso is approximately 5,700 square miles. The water shed from Elephant Butte to Rio Grande City, of the Rio Grande and its tributaries, after deducting the area of such *{*626}* basins as may not find an outlet into the stream, is approximately, 170,000 square miles. The source of supply of the water flowing past Rio Grande City at the head of navigation is largely this comparatively enormous water shed of 170,000 square miles below Elephant Butte, feeding with tropical rains the Conchos and San Juan particularly, rising far south in the mountains of Mexico, and

flowing north into the Rio Grande, and also affording a supply for the Pecos, Devils River, the Good Enough, and other perennial streams, as well as the decreased but still flowing waters of the San Felipe, and Salado, and at times filling with floods the now dry beds of the former perennial streams heretofore referred to as well as many smaller streams not named.

19. Records have been kept of the flow of the water passing El Paso, Texas, for the part of the year 1889 and for the years 1890, 1891, 1892, part of 1893, 1897, 1898 and part of 1899. No records were kept for any other years. These records so kept show the amount of water passing El Paso for said years respectively to be as follows, viz.:

From May 1 to December 31, 1899 370,000 acre feet
1890 971,000 acre feet
1891 1,943,000 acre feet
1892 941,000 acre feet
January 1 to July 1, 1893 329,000 acre feet
1897 1,369,000 acre feet
1898 689,000 acre feet
From January 1 to September 30, 1899 70,000 acre feet

The river after having been dry, commenced to run about December 10, 1899.

20. The evidence shows that certain cross-sections were taken by a member of the International (Water) Boundary Commission at a certain point one mile below Rio Grande City, Texas, which indicates the amount of water required to raise the river at that point, as appears from the following table:

Estimated flow of Rio Grande one mile below Rio Grande City, Texas. Conditions assumed. River at low water, sudden rise comes, rising 1 ft. in 4 hours at first, and going up to high-water: *{*627}*

Stage of river.	Cross Sect. Sq. ft.	Fall.	Current.	Flow Sect.
Low water	1226	1:7000	1.63	F.S. 1998
1 foot rise	1591	1:6950	1.90	F.S. 3023
2 foot rise	1971	1:6900	2.14	F.S. 4218
3 foot rise	2363	1:6850	2.40	F.S. 5671
4 foot rise	2765	1:6800	2.64	F.S. 7300
5 foot rise	3167	1:6750	2.88	F.S. 9121
6 foot rise	3594	1:6700	3.12	F.S. 11215
7 foot rise	4018	1:6650	3.33	F.S. 13380
8 foot rise	4448	1:6600	3.52	F.S. 15657
9 foot rise	4883	1:6550	3.73	F.S. 18214
10 foot rise	5324	1:6500	3.92	F.S. 20770
11 foot rise	5770	1:6500	4.10	F.S. 23675

12 foot rise 6222 1:6600 4.24 F.S. 26381
13 foot rise 6678 1:6700 4.39 F.S. 29316
14 foot rise 7139 1:6800 4.53 F.S. 32340
15 foot rise 7604 1:6900 4.66 F.S. 35435
16.1 foot rise 8123 1:7000 4.80 F.S. 38990

Add Max. Added
Stage of for pos- flow water
river. sible Sect. for
scour. ft. rise.
Low water 1998 343 S.F.
1 foot rise 1 pr ct. 3053 1398 S.F.
2 foot rise 2 pr ct. 4302 2647 S.F. 1655
3 foot rise 3 pr ct. 5841 4186 S.F. S.F.
4 foot rise 4 pr ct. 7592 5937 S.F. at low
5 foot rise 5 pr ct. 9597 7922 S.F. water.
6 foot rise 6 pr ct. 11886 10231 S.F.
7 foot rise 7 pr ct. 14316 12651 S.F.
8 foot rise 8 pr ct. 16809 15254 S.F.
9 foot rise 9 pr ct. 19853 18198 S.F.
10 foot rise 10 pr ct. 22957 21302 S.F.
11 foot rise 10 pr ct. 26023 24368 S.F.
12 foot rise 10 pr ct. 29019 27364 S.F.
13 foot rise 10 pr ct. 32248 30593 S.F.
14 foot rise 10 pr ct. 35574 33919 S.F.
15 foot rise 10 pr ct. 38878 37323 S.F.
16.1 foot rise 10 pr ct. 42889 41234 S.F.

After passing 11 ft. this does not show all of flood flow as water would begin at this height to leave river above cross section.

Flow at low
water 1226 1:10000 1.35 F.S. 1655
Flow Dec. 2,
1897,
1 ft.up. 2009 1:10000 1.84 F.S. 3697

21. The evidence shows that a cross-section was also taken twenty-one miles (by river) above Brownsville, Texas, and shows the capacity of the river at said point to be as follows:

Estimated flow of Rio Grande, 21 miles (by river) above Brownsville, Texas. Conditions assumed. River at low water. Sudden rise comes, rising 1 ft. in 4 hours at first, and going on up to high water. *{*628}*

Stage of Cross Flow
river. Sect. Fall. Current. Sect.
Sq. ft. ft.
Low water. 1198 1:6300 1.60 S.F. 1917
1 foot rise 1588 1:6200 1.92 S.F. Y304
2 foot rise 1989 1:6100 2.24 S.F. 4455
3 foot rise 2396 1:6000 2.55 S.F. 6110
4 foot rise 2808 1:5900 2.84 S.F. 7975
5 foot rise 3223 1:5800 3.11 S.F. 10023
6 foot rise 3641 1:5800 3.37 S.F. 12270
7 foot rise 4062 1:5750 3.60 S.F. 14623
8 foot rise 4485 1:5700 3.82 S.F. 17133
9 foot rise 4913 1:5700 4.03 S.F. 19800
10 foot rise 5344 1:5900 4.17 S.F. 22284
11 foot rise 5777 1:6100 4.28 S.F. 24725
12.1 foot rise 6257 1:6300 4.42 S.F. 27656
High water.

Add Max. Added
Stage of for pos- flow water
river. sible Sect. for
scour. ft. rise.
Low water. 1917 336 S.F. 1581
1 foot rise 1 pr ct. 3079 1498 S.F. S.F.
2 foot rise 2 pr ct. 4544 2963 S.F. at low
3 foot rise 4 pr ct. 6354 4773 S.F. water.
4 foot rise 5 pr ct. 8373 6792 S.F.
5 foot rise 7 pr ct. 10724 9143 S.F.
6 foot rise 8 pr ct. 13252 11671 S.F.
7 foot rise 9 pr ct. 15939 14358 S.F.
8 foot rise 10 pr ct. 18846 17265 S.F.
9 foot rise 10 pr ct. 21780 20199 S.F.
10 foot rise 10 pr ct. 24512 22931 S.F.
11 foot rise 10 pr ct. 27197 25616 S.F.
12.1 foot rise 10 pr ct. 30421 28840 S.F.
High water.

After passing 8 ft. or 9 ft. this does not show all of flood flow, as water would begin at this height to leave river channel above cross-section.

Flow at
low water
no rise. 1198 1.9000 1.32 F.S. 1581
Flow Mch.

24, 1898,
1.3 ft. up. 1700 1.9000 1.66 F.S. 2822

22. The testimony in the case shows the following table of distances, viz.:

Distances Along Rio Grande, Scaled From Map.

From	To	Distance by channel.	Distance along axis.
Headwaters	Del Norte	80 miles.	
Del Norte	Colorado State Line	65 miles.	
State Line	Embudo	65 miles.	
Embudo	White Rock Canon	30 miles.	
White Rock Canon	(Length)	15 miles.	
White Rock Canon	Albuquerque	50 miles.	
Albuquerque	San Marcial	105 miles.	
San Marcial	Elephant Butte	40 miles.	
Elephant Butte	Fort Seldon	65 miles.	
Fort Seldon	El Paso	60 miles.	
El Paso	Lower End El Paso Valley	80 miles.	
Lower End Valley	Mouth of Conchos River	125 miles.	
Mouth of Conchos	Mouth of Pecos	250 miles.	
Mouth of Pecos	Mouth Devil's River	35 miles.	
Mouth of Devil's River	Eagle Pass	65 miles.	
Eagle Pass	Laredo	110 miles.	
Laredo	Mouth Salado River	70 miles.	55 miles.
Mouth Salado	Mouth Alamo	50 miles.	35 miles.
Alamo	Roma	8 miles.	5 miles.
Roma	Mouth San Juan	12 miles.	10 miles.
Mouth San Juan	Rio Grande City	2 miles.	2 miles.
Rio Grande City	Brownsville	177 miles.	95 miles.
Brownsville	Mouth Rio Grande	85 miles.	30 miles.

*{*629}* 23. The proposed dam and reservoir of the defendants would contain 11,036,722,000 cubic feet of water, or 253,370 acre feet of water.

24. The defendants propose to irrigate 230,000 acres of valley, and 300,000 acres of mesa lands, in all 530,000 acres. In accordance with the amount of water used in Colorado and New Mexico for irrigating land it will require 954,000 acre feet of water to irrigate that quantity of land proposed to be irrigated by defendants, or from three to four times the capacity of the said reservoir.

25. The testimony shows the following to be the time it would have taken all the flow of the Rio Grande to have filled the Elephant Butte reservoir, supposing it to hold

253,000 acre feet during the maximum flow in each year, from El Paso gauging station, viz.:

1889. All of May flow, and 8 or 10 days of June flow 40 days
1890. From May 15 to June 3 19 days
1891. From May 12 to May 20 9 days
1892. From May 2 to May 17 16 days
1893. From April 25 to May 31 37 days
1897. From May 24 to June 3 11 days
1898. Two floods, April 22 to May 8 and July 17 to July 25 26 days
1899. No flood. Total flow for year only 70,000 acre feet at El Paso.

26. The testimony shows the time necessary each year to fill the proposed Elephant Butte reservoir of the defendants, supposing it to hold 253,000 acre feet, and starting at the beginning of spring flood and allowing enough water to pass proposed dam to supply all ditches below it (assuming this amount to be 500 second feet for the El Paso Valley), would be as follows, viz.:

1889. From record of El Paso gauging station, all surplus flow above 500 second feet, from May 1 to June 15 46 days
1890. Same condition, from April 17 to May 19 33 days
1891. Same condition, from April 12 to May 3 22 days
1892. Same condition, from April 15 to May 7 23 days
1893. All surplus flow above 500 second feet at El Paso gauging station for irrigation season, would lack 11,000 acre feet of filling reservoir.
1897. From record of El Paso gauging station, all surplus flow above 500 second feet, from April 13 to May 11 29 days
1898. Same condition, from April 17 to June 20 65 days
1899. During whole season only 6,500 acre feet passed El Paso gauging station above 500 second feet.

*{*630}* 27. That the evidence shows that cross-sections of the Rio Grande were taken by a member of the Boundary Commission to the extent of three or four per mile for the entire distance from Rio Grande City to Brownsville, Texas, and that the two cross-

sections hereinbefore referred to, were a fair indication of the contour of the Rio Grande between those points.

28. In attempting to arrive at a conclusion in this case, I have made some computations based partially upon known data, and partially upon probabilities arising from the evidence. In such computation I have assumed the following conditions:

(a) It appears by comparison of the tables of measurements at the gauging stations of San Marcial and El Paso, that there is no material flattening or tailing out of the floods in the Rio Grande. If this remains true throughout the entire course of the river, a body of water passing El Paso would reach Rio Grande City, if at all, in practically the same form as to length and height as at El Paso, less losses between those points.

(b) It seems probable from the conditions of the bed and banks of the stream, and the climate of the country through which it passes, that any flow of less than two thousand second feet at El Paso, or 3,000 second feet at San Marcial, can not possible have any effect on the river at the head of navigation. It also seems probable that only such flows as are above this amount and are sustained for a considerable period, could reach the head of navigation in substantial quantities.

(c) It seems probable that loss by seepage and evaporation will be as great between El Paso and Presidio del Norte as between San Marcial and El Paso, the loss may be greater owing to greater distance.

*{*631}* (d) From Presidio to Rio Grande City, flood waters from El Paso would encounter in the bed the perennial waters known to exist there. To what extent they furnish a water table for these flood waters to travel upon is unknown, but I have assumed in this computation that losses by seepage and evaporation are thereby lessened and have taken an arbitrary twenty per cent. as representing the probable loss from such causes.

(e) It seems probable that a flood passing El Paso would reach Rio Grande City, if at all, in from fifteen to twenty-five days, assuming the river to have comparatively a uniform fall between those points.

(f) It appears from the evidence that a rise of two feet above low water between Rio Grande City and Brownsville, is necessary to make navigation practicable, and these waters usually flowing down to that point, if at all, at a season when other supplies are low, I assume a rise of two feet to be necessary to be of any substantial benefit to navigation.

(g) Assuming these conditions, I have prepared the following table: *{*632}*

Acre feet
passing Pres

Year.	Duration of flood over i d i o del 2000 sec. ft. days (at El Paso.)	Acre feet passing El Paso Norte during time of flood.	33 1/3 percent supposing is lost
1890	April 7) to July 3) 76 days.	733,570	489,050
1891	April 12) to July 14) 94 days.	1,464,210	976,140
1892	April 15) to June 21) 68 days.	770,300	513,600
1893	April 29) to May 29) 31 days.	239,500	159,700
1894	No record, but was as dry as 1893, and possibly drier.		
1895	San Marcial, April 12) to June 30) 72 days (Paso.	634,700 at San Marcial, per cent off	33 1/3 423,100 at El 282,100
1896	San Marcial, April 13) to May 14) 31 days. (Paso.	236,200 at San Marcial, per cent off	33 1/3 157,500 at El 105,000
1897	April 21) to July 4) 75 days.	983,200	655,500
1898	April 20) to May 13) 24 days.	186,400	124,100
1899	No flood		

Year.	If 20 per cent is lost between Presidio and Rio Grande City, this would raise low water for time flood was pas river at Rio Grande City the following El Paso.	If 45 per cent is lost between El Paso and Presidio del Norte and 20 per cent between Presidio and City the following amounts above Rio Grande City, this would raise low water for time flood was pas river at Rio Grande City the following amounts above low water for time flood was passing El Paso.
1890	2.0 feet for 75 days	1.6 feet for 75 days
1891	3.0 feet for 94 days	2.5 feet for 94 days

1892 2.2 feet for 68 days 1.9 feet for 68 days
1893 1.5 feet for 32 days 1.3 feet for 32 days
1894
San
Marcial, 1.2 feet for 72 days 0.9 feet for 72 days
1895
San
Marcial, 1.0 feet for 30 days 0.8 feet for 30 days
1896
1897 2.6 feet for 75 days 2.1 feet for 75 days
1898 1.5 feet for 24 days 1.3 feet for 24 days
1899

*{*633}* Assuming the loss from seepage and evaporation between El Paso and Presidio del Norte to be 45 per cent. instead of thirty-three and one-third (which would be at the same rate of loss per mile as is shown to occur between San Marcial and El Paso), the result, assuming all other conditions to be as hereinbefore stated, would be as shown in the last column of the foregoing table.

It will be observed that the above results show a contribution from floods passing El Paso to the navigable capacity at Rio Grande City to the extent of a rise of two feet during four of the ten years mentioned when 33 1-3 per cent. is deducted for loss between El Paso and Presidio, and during three years out of the ten years, counting 1892, when 45 per cent. is deducted between the same points. It is to be further observed that no account is taken in above computation for variations in the height of floods at El Paso, but the results simply show the average height a given amount of water passing El Paso, less deductions for probable loss, would raise the river at Rio Grande City for the same number of days it was passing El Paso. If these variations continue from El Paso to Rio Grande City, the beneficial effect on navigability would be lessened owing to corresponding irregularity in the height of the rise at the latter point.

How reliable such results may be can not be determined from the evidence. Whether the loss is less or greater between the points named is unknown. There is some evidence in the case tending to disprove the correctness of such results; for example, the testimony of Daly to the effect that the 1897 flood only lasted eight or ten days at Presidio del Norte, and the testimony of Turpin that the same flood made no appreciable change in the river at Laredo, and the affidavit of Kelly to the effect that they have had no floods from the upper Rio Grande in recent years. On the whole, I am unable to say to how much credit the result of such computations is entitled in arriving at the ultimate fact in question in this case.

29. There is no direct testimony in this case showing that any given quantity of water in the Rio Grande passing El Paso reaches Rio Grande City, the head of navigation, and there accomplishes any certain effect upon the navigability of the stream.

*{*634}* 30. That the waters of the Rio Grande passing El Paso occasionally in seasons of high and protracted floods reach Rio Grande City, the head of navigation, in considerable quantities seems probable, but that they reach that point in quantities sufficient and in such form as to substantially add to the navigable capacity of the stream is not satisfactorily established by the evidence, nor can such a conclusion be satisfactorily deduced therefrom. I, therefore, find that the intended acts of the defendants in the construction of a dam or dams, or reservoir, and in appropriating the waters of the Rio Grande, will not substantially diminish the navigability of that stream within the limits of present navigability.

{5} We have examined the record, which is very voluminous and shows that the whole matter was thoroughly gone into, and we conclude that the facts as set forth in the findings of the learned judge below, are sustained by the evidence, and we adopt the same as the findings of this court.

{6} The first seven assignments of error by appellant, refer to the insufficiency of evidence to support the findings. As above stated, we think that these findings are amply supported by the evidence and clearly within the preponderance of the same.

{7} The eighth assignment of error is directed to the last finding of fact, which is the ultimate fact in the case. The court in this finding of fact found that the proposed acts of the defendants will not substantially diminish the navigable capacity of the Rio Grande, within the present limits of navigability. It seems clear to this court that the appellant utterly failed to establish the fact that the proposed acts of the defendants would have the alleged effect upon the Rio Grande. While it may be true as stated in the findings of fact by the trial judge that the flood waters of the Rio Grande passing El Paso, Texas do to some extent and under some circumstances add to the navigable capacity of the Rio Grande at Rio Grande City, the head of navigation, there is no evidence in this record from which a court can deduce what that effect may be, and consequently the appellant failed to establish its right to an injunction in this case. The burden of proof was upon the appellant. This was met by appellant by showing that certain given quantities of water passed El Paso at certain periods specified, *{*635}* the natural presumption and result of which would be that it continued on down the course of the channel of the river. But this proof was met by the appellees by showing that the bed of the Rio Grande is of a porous character and capable of absorbing immense quantities of water; also, that immense quantities of water are lost by evaporation. This state of facts being made to appear, the appellant in this case was again compelled to assume the burden of showing that after these losses had taken place between El Paso and the head of navigation, there still remained a given quantity of water which would effect certain results at the point of navigability. In this the appellant failed. In fact, so far as disclosed by this record, such evidence is not in existence, there having been at the time of the trial of this cause no gauging stations or other adequate means to measure the flow of the stream occasioned by waters passing El Paso.

{8} The ninth assignment of error is not well founded. It must follow as a natural consequence upon a finding that the proposed acts of the defendants would not impair

the navigable capacity of the Rio Grande, that the bill should be dismissed. The only purpose of the bill in the present condition of the case was to enjoin such acts of the defendants only so far as they might effect that result.

{9} The tenth assignment of error is general and is directed to all of the findings of fact by the court, and can not be sustained.

{10} The eleventh, twelfth, and thirteenth assignments of error relate to the application for a rehearing of the case.

{11} The application for rehearing is based upon two propositions:

1st. The discovery of new evidence between the time of the final submission of the cause to the court and the entry of the decree;

2nd. An undertaking on the part of the government to establish gauging stations along the Rio Grande below El Paso, for the purpose of accurately measuring the flow of that stream, so as to furnish reliable evidence not furnished upon the trial.

{12} The first proposition is supported by the affidavit of one Frank P. Clark, a resident of the city of El Paso, State of Texas, *{*636}* the affiant stating that in the spring of 1881 he, together with other persons, constructed in the city of El Paso a large row boat, twenty feet long and six feet wide; that they placed therein supplies for a prospecting trip, and that Clark and his companions, three in number, embarked in said boat at or near the ferry across the said Rio Grande, between El Paso and Paso del Norte, Mexico, now called Juarez; that the Rio Grande was not then at high flood stage, but was flowing a good volume of water, ample for their purposes; that they made very quick time and at the close of the fifth day, May 9, 1881, the party passed the mouth of the Conchos river; that the boat came the whole journey safely, having at all times on the way an ample supply of water, and that in the last stages the volume of water in the stream appeared to be even larger or deeper than when they left El Paso, Texas. No evidence or proposed evidence is submitted as to the flow of the river at El Paso subsequent to the departure of this party down the stream, whether the same remained stationary in height as it was upon their departure; whether there was a pronounced rise or fall therein. Consequently this proof, if submitted, could have no effect on the judgment in this case.

{13} As to the second proposition submitted in support of the application for a rehearing, it is a proposal not to produce evidence which already exists, but to create evidence not existing at the time of the trial of the application. We think no sufficient diligence has been shown by the government in this case in regard to this evidence. From the time of the issuing of the mandate by the Supreme Court of the United States remanding this cause for this investigation, the government took no steps whatever to furnish this evidence. It is not shown in the application why no such step had been taken. Even during the trial of this case it must have been as much apparent to counsel for the government that this testimony was required to support the bill, as it was after the

findings of fact came from the trial judge. No mention of the same was made nor any application presented to the court at that time. Again, it is not shown by this application, that the result of any such proposed investigation will change the conclusion reached in *{*637}* this case. The government simply asks that this case be reopened for the purpose of permitting it to make an experiment which it should have made before that time, and the result of which no one undertakes to foretell. It is true that the question of fact involved is one of difficulty and satisfactory evidence can be obtained only after extensive experiment; but the government has seen fit to try the case without taking any precautions in this regard, and must be held to the consequences of its neglect. We know of no rule, taking into account even the great public importance of this case, which would authorize this court or the court below, to reopen the case under such circumstances. (See Rogers v. Marshall, 3 McCrary's Cir. Ct. Rpts 87, 13 F. 59; Munson v. Mayor, 20 Blatchf. 358, 11 F. 72; Burrows v. Ween, 26 A. 890; Beach Mod. Eq. Prac. 837; Pittsburgh, etc., Co. v. Cowles, etc., Co., 64 F. 125). Burrows v. Ween, supra, was a case tried by the chancellor as this was, and a similar application was made and denied.

{14} The fourteenth and last assignment of error relates to the refusal of the court to make findings of fact as to the effect upon the navigability of the Rio Grande at the point of present navigability, of the diversion from the stream of waters for irrigation purposes in the State of Colorado and to the refusal of the court to find the ultimate fact in this case in favor of the government.

{15} We do not find in this record any sufficient evidence upon which to base a satisfactory finding as to the effect of the diversion of water from the stream in Colorado, upon the navigability of the stream at Rio Grande City, and we think the refusal of the trial court to make those findings was correct. The refusal of the court to find the ultimate fact in this case in favor of the government is as we have before stated in full accord with our view of the testimony in this case, and was, therefore, correct. We find no error in the record and the decree of the lower court will be affirmed, and it is so ordered.