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August 27, 1996



ORIGINAL

Ms. Christina Waddell  
Executive Director  
Arizona Navigable Stream Adjudication Commission  
1700 West Washington, Room 404  
Phoenix, AZ 85007

Re: Submission of Materials for "Initial Classification" of Salt River from Granite Reef Dam to Gila River Confluence

Dear Christina:

Enclosed are six copies of the Salt River Project's Motion to Dismiss the Salt River navigability proceedings, together with attachments. As you know, SRP filed this Motion with the prior version of the Commission in 1994. We have provided these six additional copies of the 1994 Motion for your convenience in distributing them to the Commission.

SRP is supplying these copies of its previous Motion simply to provide the Commission with additional information on the issues relating to the Salt River; SRP does not necessarily intend for the Commission to rule on this Motion at this time. SRP requests, however, that the Commission consider the issues raised therein, particularly in view of the statutory provision relating to a "determination of non-navigability in a public proceeding" under A.R.S. § 37-1128(B).

This information constitutes all of the documents that SRP will be submitting regarding the Salt River navigability issues at this time. SRP is in the process of preparing a detailed report on the navigability of the Salt River, but such report will not be available prior to the September 1st cut-off for information submitted for the September 24th "initial classification" hearing. SRP will submit this report prior to the deadline for submitting information to be considered at the final public hearing on the Salt River, if such a hearing is necessary.

Maricopa County, Lower Salt River  
03-005-NAV  
4/7/03  
Evidence Item No. 006

Ms. Christina Waddell  
August 27, 1996  
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If you have any questions or comments regarding this matter, please do not hesitate to call me at 801-9066.

Very truly yours,

Salmon, Lewis & Weldon, P.L.C.

By   
Mark A. McGinnis

MAM:pv

Encls

cc: Frederic L. Beeson, Esq. (w/o encls)  
cc: John B. Weldon, Jr., Esq. (w/o encls)

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RECEIVED  
8-27-96

6 Attorneys for Salt River Project Agricultural  
 Improvement and Power District and Salt  
 7 River Valley Water Users' Association

ORIGINAL

8 BEFORE THE

9 ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

10 IN THE MATTER OF THE )  
 NAVIGABILITY OF THE SALT ) MOTION TO DISMISS  
 11 RIVER (From Granite Reef Dam to )  
 the Gila River Confluence) )  
 12 \_\_\_\_\_ )

13 Pursuant to A.A.C. R12-17-107(C), the Salt River Project<sup>1</sup> hereby requests that  
 14 the Arizona Navigable Stream Adjudication Commission (the "Commission") find that it  
 15 has no jurisdiction to determine the navigability of the Salt River from Granite Reef  
 16 Dam to the Gila River confluence. The navigability of this reach of the Salt River was  
 17 determined by judicial actions long prior to the effective date of the act that established  
 18 the Commission. Therefore, pursuant to Section 1(F) of that act, the Commission lacks  
 19 authority to address the matters at issue in these proceedings. Furthermore, the legal  
 20 doctrine of res judicata also bars the State of Arizona from asserting any ownership  
 21 claims to lands lying in or near the bed of the Salt River. The Salt River Project  
 22 requests that the Commission immediately dismiss all pending and future proceedings  
 23 relating to any determination of navigability or any public trust values associated with this  
 24

25 \_\_\_\_\_  
 26 <sup>1</sup>As used in this Motion, the terms "Salt River Project" and the "Project" refer collectively to the Salt River Valley Water Users' Association and the Salt River Project Agricultural Improvement and Power District.

1 stretch of the Salt River. This Motion is supported by the attached Memorandum of  
2 Law.

3 MEMORANDUM OF LAW

4 The Salt River Project requests that the Commission dismiss all pending and  
5 future proceedings relating to any determination of navigability or any public trust values  
6 associated with that stretch of the Salt River from Granite Reef Dam to the Gila River  
7 confluence. The Commission has no authority to make a navigability determination for  
8 "reaches of watercourses where determinations have been made by judicial actions" prior  
9 to the effective date of the act that established the Commission. At least three Arizona  
10 court decisions, two of which were decided before statehood, have determined that this  
11 portion of the Salt River was not navigable. Therefore, the Commission should issue an  
12 Order stating that this matter has been previously determined in a judicial action and  
13 should immediately dismiss all proceedings relating to this reach of the river.

14 These proceedings involve important issues relating to the security of title for  
15 numerous Arizonans who own land along the Salt River. The United States Supreme  
16 Court, on many occasions, has stated that certainty of title is among the most important  
17 of legal issues:

18 "Where questions arise which affect titles to land it is  
19 of great importance to the public that when they are once  
20 decided they should no longer be considered open. Such  
21 decisions become rules of property, and many titles may be  
22 injuriously affected by their change. . . [W]here courts  
23 vacillate and overrule their own decisions . . . affecting the  
24 title to real property, their decisions are retrospective and  
25 may affect titles purchased on the faith of their stability. . . ."

26 Nevada v. United States, 463 U.S. 110, 130 n.12 (1983) (quoting Minnesota Co. v.  
National Co., 3 Wall. 332, 18 L. Ed. 42 (1865)). Abraham Lincoln recognized the  
importance of this issue long ago when he "described with scorn those who sat in the  
basements of courthouses combing property records to upset established titles." Arizona



1 v. California, 460 U.S. 605, 620 & n.10 (1983) (citing E. Kempf, Abraham Lincoln's  
2 Philosophy of Common Sense, Part 1, at 346 (1865)).

3 The Commission should adopt Mr. Lincoln's "philosophy of common sense" and  
4 dismiss these proceedings. The nonnavigability of this reach of the Salt River has been  
5 "determined" by courts on several occasions and has remained unquestioned for more  
6 than 100 years; no substantive issue remains within the Commission's limited jurisdiction  
7 to address. Based upon the prior judicial "determinations" of nonnavigability and the res  
8 judicata effect of the 1977 SRPMIC decision, the Commission must dismiss these  
9 proceedings immediately.

10 I. The Commission Has No Jurisdiction to Examine Navigability or Public Trust  
11 Values on Reaches of Watercourses for Which a Court Already Has Made Such a  
12 Determination.

13 The Commission was established by an act of the Arizona Legislature in 1992.  
14 See Ariz. Sess. Laws 1992, ch. 297 (hereinafter the "Commission Act"). This enactment,  
15 which was effective on July 1, 1992, has been codified in part at A.R.S. §§ 37-1101 to  
16 -1156. The Commission Act provides the sole authority for any and all activities  
17 undertaken by the Commission; the Commission has no statutory authority apart from  
18 this act to conduct hearings or to make determinations of navigability.

19 Section 1 of the Commission Act has not been codified into the Arizona Revised  
20 Statutes. This section, entitled "Purpose and Intent," sets forth the general purposes  
21 behind the act. In addition to the general purpose statement, however, this section also  
22 contains an important limitation on the Commission's authority under the act. Section  
23 1(F) provides as follows:

24 F. This act does not affect:

25 1. This state's title, or claims relating, to the bed of the  
26 Colorado River.

2. Reaches of watercourses where determinations have been  
made by judicial actions before the effective date of this act.

1           3.     Any existing public right to use the watercourses of this state  
2 as otherwise provided by law.

3 Commission Act, supra, § 1(F).

4           By including Section 1(F) in the Commission's enabling legislation, the Legislature  
5 expressly limited the Commission's authority to address certain issues. The Legislature  
6 passed the Commission Act to avoid expensive and time-consuming litigation over the  
7 navigability of certain streams:

8           . . . A review of the experience of other states having similar claims  
9 indicated that, in the absence of legislation, protracted, difficult, expensive  
10 and disruptive fact-finding processes and litigation may be needed to  
11 resolve the claims. . . . The purpose of this act is to establish an  
administrative procedure for the necessary fact-finding efforts and the  
determination of the extent of this state's ownership of the beds of  
watercourses located in this state. . . .

12 Id. § 1(D), (E).

13           In including this language, the Legislature recognized that a determination of  
14 navigability could properly be made in a court of law. The Legislature also recognized,  
15 however, that making this determination for many streams or portions thereof in the  
16 state could impose a significant burden and delay on the judicial system and on individual  
17 litigants. Therefore, the Legislature established the Commission to provide an efficient  
18 and "systematic" forum to resolve the important issues for the streams that have not  
19 already been addressed judicially. Id. § 1(C), (F).

20           Section 1(F) expressly states that the Commission Act "does not affect" portions of  
21 streams for which a determination of navigability had been made prior to the effective  
22 date of the act. The Legislature was interested in fairness and efficiency in establishing  
23 the Commission. It was toward that goal that the Legislature withheld from the  
24 Commission the authority to re-examine reaches of streams for which the issue of  
25 navigability already had been determined by a court.

1 In prohibiting the Commission from revisiting issues that have previously been  
2 determined by a court of law, the Arizona Legislature was acting consistently with long-  
3 established legal principles of title. American courts have long held that "questions  
4 affecting titles to land, once decided, should no longer be considered open." Arizona v.  
5 California, 460 U.S. at 620. Our courts and the Legislature have agreed with Abraham  
6 Lincoln and have recognized the importance of the security of title. Id. at 620 n.10  
7 (citing E. Kempf, supra). Based upon the prior judicial determinations that the Salt  
8 River is not and was not navigable, the Commission should dismiss these proceedings.

9  
10 **II. At Least Three Courts Previously Have Determined that the Salt River Was Not**  
**Navigable On or Before February 14, 1912.**

11 The Commission has no authority to examine navigability for "[r]eaches of  
12 watercourses where determinations have been made by judicial action prior to" July 1,  
13 1992. Id. The portion of the Salt River that is the subject of this action is just such a  
14 reach of a watercourse. At least three courts have determined that this portion of the  
15 Salt River is not navigable. Salt River Pima-Maricopa Indian Community v. Arizona  
16 Sand & Rock Co., D. Ariz. (April 13, 1977) (Cause No. CIV 72-376 PHX) ("SRPMIC");  
17 Hurley v. Abbott, No. 4564, Third Judicial District, Territory of Arizona, County of  
18 Maricopa (March 1, 1910) (the "Kent Decree"); Wormser v. Salt River Valley Canal Co.,  
19 No. 708, Second Judicial District, Territory of Arizona, County of Maricopa (March 31,  
20 1892) (the "Kibbey Decree").<sup>2</sup> The Kent Decree and the Kibbey Decree were entered  
21  
22  
23  
24

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25 <sup>2</sup>Copies of the Kibbey and Kent Decrees are attached to this Motion. The Salt River  
26 Project understands that the Commission already has been provided with the relevant  
documents from the SRPMIC decision.

1 prior to February 14, 1912, the date Arizona became a state. Both of these decisions,  
2 and the SRPMIC decision,<sup>3</sup> determined the navigability of this portion of the Salt River.

3 A. The Kibbey Decree in 1892 Held that the Salt River was Not Navigable.

4 The first decision regarding the navigability of the Lower Salt River was issued by  
5 Judge Joseph H. Kibbey of the Territorial District Court in the 1892 "Kibbey Decree."  
6 That case was a suit instituted by downstream water users and canal companies against  
7 upstream appropriators. See generally Kibbey Decree, supra, at 1-5. The court  
8 characterized the plaintiffs' complaint as follows: "[The plaintiffs] filed their complaint in  
9 this court against the Arizona canal company, alleging that the Salt River is a natural  
10 **unnavigable** stream rising in the mountains in the eastern part of the territory and  
11 running thence in a westerly direction to its junction with the Gila River in Maricopa  
12 County." Id. at 4-5.

13 When addressing the issue of what law to apply in the case, Judge Kibbey first  
14 reviewed the 1864 codification of the laws of the Territory of Arizona, commonly known  
15 as the "Howell Code." Id. at 21. The Howell Code adopted the system of prior  
16 appropriation of water rights and rejected the riparian system that was common in the  
17 eastern United States. Id.

18 In addition to examining the territorial laws, however, Judge Kibbey also analyzed  
19 the relevant federal law on the subject. Id. at 24. In particular, the Judge relied upon  
20 the Desert Land Act of 1877. Act of March 3, 1877, 19 Stat. 377 ("An Act to Provide  
21 for the Sale of Desert Lands in Certain States and Territories"). The Desert Land Act  
22 provides, in pertinent part:

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23  
24 <sup>3</sup>Logic requires that, if this portion of the Salt River was not navigable in 1892 and  
25 1910, it also was not navigable on February 14, 1912. The Salt River Project knows of  
26 no fact or event that could have occurred between March 10, 1910, and February 14,  
1912, that could have changed the status of the Salt River from a nonnavigable river into  
a navigable river.

1 . . . [T]he right to the use of water by the person so conducting the same,  
2 on or to any tract of desert land of six hundred and forty acres shall  
3 depend upon a bona fide appropriation: and all surplus water over and  
4 above such actual appropriation and use, together with the water of all,  
5 lakes, rivers and other sources of water supply upon the public lands and  
6 **not navigable**, shall remain and be held free for the appropriation and use  
7 of the public for irrigation, mining and manufacturing purposes, subject to  
8 existing rights.

9 Id. (emphasis added).

10 Judge Kibbey reasoned that the territorial laws could grant a person the right to  
11 appropriate water, but that such right of appropriation was subject to some restrictions  
12 imposed by federal law:

13 . . . [T]he Territory of Arizona is only a temporary government erected by  
14 the national government. We possess none of the attributes of sovereignty  
15 --those all inhere in the United States. . . . We can look alone, then, to the  
16 legislation of Congress and to our own legislation within the limits  
17 prescribed by our own organic act, to ascertain the rights that may be  
18 acquired to divert and use water.

19 Kibbey Decree, supra, at 37. After deciding that territorial appropriation law applied  
20 because the Salt River was not navigable, Judge Kibbey went on to apply such law to  
21 decide the dispute.

22 **B. The Determination of Nonnavigability Was Necessary to the Decision in**  
23 **the 1892 Kibbey Decree.**

24 Based upon the law as it existed in 1892, a finding of nonnavigability was  
25 necessary for Judge Kibbey's decision in the case. Given the historical setting in which  
26 Judge Kibbey entered his decree, his determination might have been different had he  
found the Lower Salt River to be navigable.

Prior to 1866, water in the western states and territories "generally was fixed and  
regulated by local rules and customs." California Oregon Power Co. v. Beaver Portland  
Cement Co., 295 U.S. 142, 154 (1935). Most states and territories in the arid West  
(including Arizona) adopted the prior appropriation system, which was much different

1 from the riparian system in place in the Eastern states. See, e.g., Howell Code, supra.  
2 The Federal Government silently acquiesced in this practice until 1866, when it formally  
3 confirmed rights recognized by local customs and laws. Act of July 26, 1866, ch. 262, 14  
4 Stat. 251.

5 In 1877, Congress passed additional legislation to promote development in the  
6 West. Desert Land Act, supra. This act provided for a bifurcation of the methods of  
7 acquiring land and water rights. Land rights were to be purchased or otherwise acquired  
8 from the Federal Government; water rights were to be regulated under state and  
9 territorial appropriation systems. California v. United States, 438 U.S. 645, 658 (1978);  
10 State v. Dority, 55 N.M. 12, 18, 225 P.2d 1007, 1013 (1950), appeal dismissed, 341 U.S.  
11 924 (1951). Therefore, the Desert Land Act granted the states the power to regulate the  
12 appropriation and use of water from most rivers and streams.

13 Under the Desert Land Act, the state's right to regulate water matters were  
14 subject only to two limitations:

15 First, in the absence of any specific authority from Congress, that a state  
16 could not by its legislation destroy the right of the United States as the  
17 owner of lands bordering on a stream to the continued flow, so far, at least,  
18 and, second, that **its power was limited by that of the general government  
to secure the uninterrupted navigability of all navigable streams within the  
limits of the United States.**

19 California Oregon Power Co., 295 U.S. at 159 (emphasis added); see also, e.g., California  
20 v. United States, 438 U.S. at 663. Therefore, in passing the Desert Land Act, the United  
21 States relinquished complete control of only nonnavigable waters; all navigable streams  
22 remained subject to Congress' plenary power over commerce. U.S. Const. art. 1, § 8.

23 When the Kibbey Decree was decided in 1892, the United States retained control  
24 over all navigable streams. See generally Federal Power Comm'n v. Oregon, 349 U.S.  
25 435, 454 n.2 (1955) ("If this were a navigable stream, the authority of the United States  
26 in the water power would be complete without reference to state law."); United States v.

1 Fallbrook Pub. Util. Dist., 165 F. Supp. 806, 837 (S.D. Cal. 1958). Although it is now  
2 somewhat uncertain exactly what law Judge Kibbey would have applied had he found this  
3 portion of the Salt River to be navigable, it is possible that a quite different body of law  
4 would have developed had he determined that the Salt River was subject to the  
5 navigation servitude of the United States. Judge Kibbey found that, because the Salt  
6 River was not navigable, the territorial law of prior appropriation applied.<sup>4</sup> As such, his  
7 finding of nonnavigability was necessary to his decision in the case.

8 C. The Kent Decree in 1910 Held that the Salt River Was Not Navigable.

9 The Kibbey Decree set forth the rights to water from the Salt River as between  
10 the various canal companies that were parties to that action. Kibbey Decree, supra, at  
11 74. Judge Kibbey did not "attempt to define the rights of individual irrigators." Id.  
12 Events subsequent to the issuance of the Kibbey Decree, including the pending  
13 development of the Salt River Federal Reclamation Project, made it necessary that rights  
14 be established as between individual appropriators and not just between the canal  
15 companies. The determination of these rights was set forth in 1910 in the Kent Decree,  
16 supra.

17 In determining the rights of individual appropriators, Judge Kent relied heavily  
18 upon the legal rules set forth in the Kibbey Decree. Id. at 5-6. Judge Kent did not  
19 specifically examine the issue of whether the territorial prior appropriation law applied  
20

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21 <sup>4</sup>At this time, it is somewhat uncertain as to what law would have applied if the Salt  
22 River had been found to be navigable in 1892. If the river was navigable, it would have  
23 been subject to the federal power to protect navigation. For example, Congress passed  
24 an act in 1890 that prohibited "[t]he creation of any obstruction, not affirmatively  
25 authorized by law, to the navigable capacity of any waters. . . ." Act of September 19,  
26 1890, 26 Stat. 454, § 10. This particular act would not have applied, however, to the  
dams subsequently constructed on the Salt River because they were "affirmatively  
authorized by federal law." Although it is possible that Judge Kibbey might have applied  
federal common law and reached a similar result in the case as to the relative rights of  
the parties, any determination at this time of what law he would have applied if the river  
was found to be navigable would be pure speculation.

1 because that issue had been decided by Judge Kibbey. Judge Kent found that the  
2 relevant portion of the Salt River was "a non-navigable stream," and, therefore, applied  
3 territorial law. Id. at 3.

4 The legal determination of nonnavigability was important to the determination of  
5 rights in the Kent Decree, as it was in the Kibbey decision. If Judge Kent would have  
6 found the Lower Salt River to be navigable, he might have applied something other than  
7 territorial prior appropriation law. See Section II(B), supra.

8  
9 **D. The SRPMIC Decision Also Found that the Salt River Was  
Not Navigable.**

10 A more recent court also addressed the navigability of this reach of the Salt River.  
11 In 1972, the Salt River Pima-Maricopa Indian Community filed an action in federal court  
12 to eject certain defendants from lands claimed to be part of the Salt River Indian  
13 Reservation. A portion of the lands in dispute were situated within the banks of the Salt  
14 River below Granite Reef Dam.

15 The State of Arizona, which was a defendant in this action, argued that it held  
16 title to the disputed lands because the river was navigable and the State owned its bed.  
17 In its final judgment, the court held that title to the lands was vested in the United  
18 States, not the State of Arizona. The court based its finding upon its conclusion of law  
19 that "[t]he Salt River is not now [1977] and **never has been a navigable river.**" Judgment,  
20 SRPMIC, at "1063" and "1068" (April 13, 1977) (emphasis added).

21 Because the SRPMIC litigation involved title as between the United States and  
22 the State of Arizona, the issue of navigability as of February 14, 1912, was central to the  
23 court's decision. The legal question in the dispute was identical to the question that the  
24 Commission now is proposing to revisit. As in the Kibbey Decree and the Kent Decree,  
25 the SRPMIC court made a judicial "determination" that the Lower Salt River is not and  
26 was not navigable.



1 **III. The Commission Has No Jurisdiction to Examine the Navigability or Public Trust**  
2 **Values of the Salt River from Granite Reef Dam to the Gila River Confluence.**

3 The Commission's jurisdiction is limited by Section 1(F) of the 1992 Commission  
4 Act. As such, the Commission has no authority to examine or make determinations of  
5 navigability regarding "[r]eaches of watercourses where determinations have been made  
6 by judicial actions before" July 1, 1992. Commission Act, supra, § 1(F).

7 The 1892 Kibbey Decree, the 1910 Kent Decree, and the 1977 SRPMIC decision  
8 determined that this stretch of the Salt River was **not** navigable. Based upon the law as  
9 it existed in 1892 and 1910, the determination of nonnavigability was necessary to the  
10 court's decision in the Kibbey and Kent Decrees. The navigability issue also was  
11 necessary to the SRPMIC decision. Because these prior judicial actions have found the  
12 stream **not** to be navigable, the Commission has no authority to conduct these  
13 proceedings to determine the navigability of the Salt River from Granite Reef Dam to  
14 the Gila River confluence or to examine public trust values associated with this stretch of  
15 the river.

16 **IV. The SRPMIC Decision is Res Judicata as to the State of Arizona.**

17 In addition to being a judicial "determination" of nonnavigability under Section  
18 1(F) of the Commission Act, the SRPMIC decision also acts as a bar against the State  
19 under the legal doctrine of res judicata. Under this legal rule, when a court has entered  
20 a final judgment on the merits of a case,

21 [i]t is a finality as to the claim or demand in controversy, concluding parties  
22 and those in privity with them, not only as to every matter which was  
23 offered and received to sustain or defeat the claim or demand, but as to  
24 any other admissible matter which might have been offered for that  
25 purpose.

26 Nevada v. United States, 463 U.S. at 129-30 (quoting Cromwell v. County of Sac, 94 U.S.  
351, 352 (1877)). If a subsequent action involves the same cause of action between the  
same parties, the parties are precluded from asserting the claim in the subsequent

1 lawsuit. See Gilbert v. Board of Medical Examiners, 155 Ariz. 169, 745 P.2d 607 (App.  
2 1987). The doctrine also precludes the parties or their privies from subsequently  
3 asserting a claim that they could have asserted in the first action, even if they did not  
4 assert that claim in the first action. Id.

5 Because the State of Arizona, acting through the Arizona State Highway  
6 Commission and represented by the Attorney General, was a party to the SRPMIC  
7 litigation, the court's final judgment in that case is entitled to res judicata effect against  
8 the State. The State asserted its claims to title based upon the navigability of the Salt  
9 River in that litigation. Because that case determined that the Lower Salt River was not  
10 navigable, the State is now precluded from asserting any ownership claims to land lying  
11 in or near the river. Res judicata can apply to government entities as well as private  
12 parties. See generally Arizona v. California, 460 U.S. at 617, 626.

13 The SRPMIC case was an action to quiet title in certain disputed lands lying in or  
14 near the bed of the Salt River. If the State is not now precluded from reopening the  
15 navigability issue, each of the issues decided in that suit might also be subject to review.  
16 See id. at 625 ("... the urge to relitigate, once loosened will not be easily cabined.").  
17 Such a result would adversely affect the certainty of title associated with this completed  
18 judicial action.

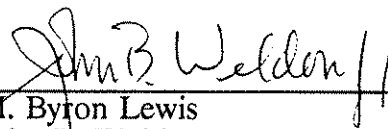
#### 19 **V. Summary and Requested Action.**

20 The Salt River Project requests that the Commission adopt the "philosophy of  
21 common sense" and refrain from disturbing long-established titles to lands near the Salt  
22 River. The Commission should find that a judicial determination previously has been  
23 made that the Salt River from Granite Reef Dam to the Gila River confluence was **not**  
24 navigable at or before February 14, 1912. Both the Kibbey and Kent Decrees clearly  
25 made this determination, and such determination was essential to their holdings at the  
26 time. Likewise, the SRPMIC court found this reach of the river **not** to be navigable.

1 Because this reach of the Salt River has been judicially determined to be  
2 nonnavigable, the Commission lacks statutory jurisdiction to now examine this issue.  
3 Furthermore, the 1977 SRPMIC decision precludes the State from asserting its ownership  
4 claims based upon navigability. Therefore, the Salt River Project requests that the  
5 Commission issue an Order stating that this matter has been previously determined in a  
6 judicial action. The Commission should immediately dismiss all pending and future  
7 proceedings relating to a determination of navigability or any public trust values  
8 associated with this reach the Salt River.

9 RESPECTFULLY SUBMITTED this 14<sup>th</sup> day of January, 1994.

10 JENNINGS, STROUSS & SALMON, P.L.C.

11  
12 By   
13 M. Byron Lewis  
14 John B. Weldon, Jr.  
15 Mark A. McGinnis  
16 One Renaissance Square  
17 Two North Central Avenue  
18 Phoenix, Arizona 85004-2393  
19 Attorneys for the Salt River  
20 Project

21 Original filed this 14<sup>th</sup> day of  
22 January, 1994, with:

23 Rebecca Good, Secretary  
24 Arizona Navigable Stream Adjudication Commission  
25 1616 West Adams Street, Third Floor  
26 Phoenix, AZ 85007

Copies of the foregoing hand-delivered this  
14<sup>th</sup> day of January, 1994, to:

Curtis A. Jennings, Chairman  
Arizona Navigable Stream Adjudication Commission  
1616 West Adams Street, Third Floor  
Phoenix, AZ 85007

1 Jay Brashear, Vice-Chairman  
Arizona Navigable Stream Adjudication Commission  
2 1616 West Adams Street, Third Floor  
Phoenix, AZ 85007

3 Margaret S. Petersen, Commissioner  
4 Arizona Navigable Stream Adjudication Commission  
1616 West Adams Street, Third Floor  
5 Phoenix, AZ 85007

6 Dr. Troy L. Pewe, Commissioner  
Arizona Navigable Stream Adjudication Commission  
7 1616 West Adams Street, Third Floor  
Phoenix, AZ 85007

8 Copy of the foregoing mailed  
9 this 14<sup>th</sup> day of January, 1994, to:

10 Shirley S. Simpson,  
Assistant Attorney General  
11 Civil Division  
12 1275 West Washington  
Phoenix, AZ 85007  
Attorneys for Arizona State Land Department

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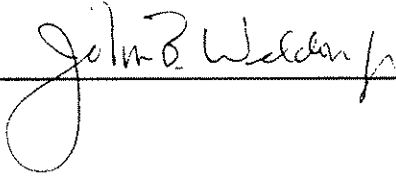
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IN THE DISTRICT COURT  
of the  
Second Judicial District  
Of the Territory of Arizona,  
in and for the County of Maricopa.

M. WORMSER, et al, )  
 )  
Plaintiffs, )  
 )  
vs. ) No. 708.  
 )  
THE SALT RIVER VALLEY )  
CANAL CO., et al, )  
 )  
Defendants. )

DECISION

Joseph H. Kibbey, Judge

March 31, 1892

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DECISION

Joseph H. Kibbey, Judge

March 31, 1892

HISTORICAL RESEARCH & ARCHIVES  
SALT RIVER PROJECT  
Phoenix, Arizona  
1977

IN THE DISTRICT COURT  
of the  
Second Judicial District  
Of the Territory of Arizona,  
in and for the County of Maricopa.

M. WORMSER, et al, )  
Plaintiffs, )

vs. )

No. 708 )

THE SALT RIVER VALLEY )  
CANAL CO., et al, )  
Defendants. )

This is a suit instituted for the purpose of enjoining certain parties to it from the diversion of water from the Salt River in derogation of the rights of plaintiffs. Historically the facts out of which the present litigation has grown are briefly as follows:

The Salt River enters the County of Maricopa from the east, and after flowing some distance through a mountainous country, at a point about a mile below its confluence with the Verde, its valley broadens rapidly into a level alluvial plain, the soil of which when supplied with sufficient water is extremely fertile. The climate in the valley is extremely arid, the average annual rainfall not exceeding seven and a half inches, most of which is precipitated in the winter months. No crop of any agricultural product can be produced in the valley without the artificial application of water to the land. The water-shed of Salt River is extensive, and the river is consequently subjected to very great variations in the volume of water which it carries. During the winter months of December, January, February, and until the middle of May, there is a large volume flowing in the river, more than adequate for the irrigation of all the lands in the valley. The Salt River valley spoken of, is that part of the valley of Salt River extending from the mouth of the Verde river westerly to the Agua Fria.



In 1867, attracted by the fertile plain and the then superabundance of water in the Salt River, and by the demand for hay, grain and other agricultural products necessary to supply the neighboring military posts, Jack Swilling and some of his associates began the construction of a ditch for the diversion of the water of the Salt River for the purpose of irrigating fields for the cultivation of those products. This ditch, then known as the Swilling ditch, and very frequently so designated at the trial of this cause, was taken out on the north side of the river, heading about four miles east of the present site of Phoenix. The Swilling ditch is now claimed by various mesne conveyances by the Salt River valley and the Maricopa Canal companies, corporations, parties to this suit, and as incident to their ownership of the ditch they claim a right to divert certain definite quantities of the water of Salt River.

In the year 1870, certain other persons attracted by the natural advantages of the location, began the construction of a ditch for the diversion of the water of Salt River for the purpose of irrigation, beginning at a point on the south side of the river about seven miles above the point whence the Swilling makes its diversion. This ditch was constructed and has been maintained until now, and is and has been operated as a community ditch, the water diverted by it being chiefly claimed by shareholders who are also the owners of land irrigated by the waters of the ditch. The shareholders are unincorporated, but their association is known by the name of the "Tempe Irrigating canal," and its affairs are managed after the manner of those of a corporation. The owners of the shares of this ditch are the plaintiffs in this action.

Some time after the construction of the original Swilling ditch, it was extended and a branch was taken from it at a point about three miles below its divergence from the river, and constructed northwardly, and became known as the "Maricopa canal."

In 1874 and '75 the construction of a ditch on the south side of the river emerging therefrom about a mile above the head of the Salt River valley canal, and about six and a half miles below the head of the Tempe canal, was begun, and since that time has been constructed, repaired and probably enlarged, which ditch has become known as the San Francisco canal and is, with its alleged incidental rights to divert water from Salt River, claimed by M. Wormser, who is also a plaintiff in this case.

In 1877, the construction of another ditch for the diversion of water for irrigation was begun on the south side of the river, emerging at a point about five miles above the head (the point of diversion) of the Tempe canal, which ditch is now known as the "Utah Canal," and is so designated in the pleadings in this case. The Utah canal was constructed and is now maintained and operated by the owners of and occupants of lands which are irrigated by water conveyed by it, who have associated themselves together and entrust the actual administration of their affairs to officers after the manner of a corporation. The several interests of the associates are evidenced by certificates reciting the ownership of definite shares, which certificates are transferable. The associate owners of the Utah canal are parties defendant to this suit.

In 1878, the construction of another ditch was begun on the north side of the river, emerging therefrom at a point about two miles and a half above the head of the Swilling canal, by a corporation known as the Grand canal company, which company is a party to this suit.

In 1879, there was begun by the Mesa canal company, a corporation, the construction of a ditch upon the south side of the river emerging therefrom about two miles and a half above the head of the Utah canal, being above the head of all the canals or ditches before mentioned. This last ditch is known and designated in the proceedings in this case as the "Mesa Canal", and the Mesa canal company is made a party to this suit.

In 1882, certain persons posted a written notice on the north bank of the Salt River at a point a short distance below its confluence with the Verde, of their intention to divert 50,000 inches (miner's measurement) of water from Salt River at that point, for the purpose of irrigation, and a copy of this notice was filed in the recorder's office of Maricopa county. Any rights that may have been acquired or initiated by the posting of that notice, were conveyed to the Arizona canal company, a defendant in this case.

In 1883, the Arizona canal company, a corporation duly organized under the laws of this territory, began the construction of and with reasonable diligence prosecuted work until the completion of its canal, beginning the diversion of water at the point where the notice before mentioned was posted, and claiming the right thereunder to divert the water. The head of this canal (its point of divergence from the river) is above that of all the other canals or ditches in

the suit instituted by him should be consolidated and tried with this, and his rights determined in the consolidated suits.

The earlier efforts of the settlers under these older ditches toward cultivation was confined to the production of hay and grain, and a few garden vegetables, the cultivation of which was confined to that period of the year when the water in the river was very abundant. As the settlement became older and its population increased, a more extended cultivation began to be undertaken. Instead of confining themselves to hay and grain, as above mentioned, the ranchers gradually began the planting of alfalfa, fruits and vines which required water during the entire year. Under the conditions as they originally existed, and as is usual in such cases, there were many usurpations and concessions of rights to the diversion of water, unnoticed at the time, or if noticed, tacitly and without objection acquiesced in because of the then abundance of water. As the population increased and with it the more extended form of cultivation, a deficiency in water began to be noticed. While the river during the months in which hay and grain and the ordinary agricultural crops are being grown had in it a vast volume of water, this volume diminished with the advance of the season, from thousands of cubic feet per second to about, at a minimum of, three hundred cubic feet per second, and as both the increase of population and the different products to which the land was cultivated increased, the demand for water in the summer months when the supply is the least, aggravated by an unnecessary and very considerable waste of water, exceeded the supply. This deficiency of supply made at once the question of priority of the right to appropriate water, important, and that question is the subject matter of this suit.

On the 7th day of February, 1887, the Salt River Valley canal company, a corporation; the Maricopa canal company, a corporation; M. Wormser, alleging himself to be the owner of the San Francisco ditch; the Mesa canal company, a corporation; and C. T. Hayden, M. Wormser and forty-nine others alleging themselves to be the owners of the Tempe irrigating canal and constituent members of the Tempe Irrigating Co., and Henry C. Rogers and forty-five others alleging themselves to be owners of the Utah canal and the constituent members of the Utah canal company, and the Grand canal company, a corporation, filed their complaint in this court against the Arizona canal company, alleging that the Salt

River is a natural unnavigable stream rising in the mountains in the eastern part of the territory and running thence in a westerly direction to its junction with the Gila river in Maricopa county. That the said river during its course in its natural channel flows in and through a tract of country situated in Maricopa county known and called the "Salt River valley," and that the river at and before the times hereafter mentioned flowed through land that belonged to the domain of the United States. The Salt River valley begins at a point about twenty miles east of the city of Phoenix, and continues on both sides of the river to its junction with the Gila river, and includes in its area 150,000 acres of land fit for cultivation and the production of crops, when irrigated. That the climate of the valley is dry and arid, and the said lands are only capable of cultivation when irrigated, and without irrigation they are unfit for cultivation and will not produce any crops. That through the dry season of the year the volume of water in that river is reduced to a very great extent, so that at times during the dry season the amount of water flowing in the river does not exceed 13,000 inches of water. (A "miner's inch" as used in these proceedings is a unit of measurement of water, and while varying in different states and territories on the coast, here is held to be an amount equal to the fortieth part of a cubic foot flow per second.)

That during the year 1867 a number of persons owning and possessing lands in the valley, desiring to cultivate the same, associated themselves together under the name of the "Swilling Irrigating Canal Company," and did locate, appropriate and claim for the purpose aforesaid, 12,000 inches of water of said river; and constructed at great expense a dam over and across the river, and two ditches commencing on the north bank of the river in the vicinity of each other, at points about five miles southeast of Phoenix, running thence in a northwesterly direction over and across lands then being a part of the public domain, each of which ditches were capable of carrying 6,000 inches of water, for the irrigation and cultivation of such lands. That afterwards, in 1875, the Salt River Valley canal company by divers mesne conveyances succeeded to all and every right, title and interest of the said association the Swilling Irrigating Canal company, in the lower or westerly of the two aforesaid ditches and to the water and water-rights appropriated by said ditch, and the plaintiff, the Salt

River Valley canal company, has since that time been, and is now, the lawful owner and in the possession of that ditch, and to all the rights appurtenant thereto. That the Salt River Valley canal company was incorporated by the owners of the lands theretofore irrigated by means of that ditch, and was organized for the purpose of and has been continuously at all times engaged and employed in carrying and conducting the water of said river in and by that ditch to the land for which said ditch was designed and intended to irrigate, and which has been irrigated by it, and the stockholders of the said Salt River Valley canal company have at all times been and are now owners of the land irrigated by means of the water conveyed by the said ditch, and assert a claim to 6,000 inches of water.

That in the year 1875, the plaintiff, the Maricopa canal company, by divers mesne conveyances succeeded to all the rights of the Swilling irrigating canal company in the upper or easterly of the two aforesaid ditches, and to all the rights appurtenant thereto, and since that time has been and is now the lawful owner, entitled to have and enjoy all the rights and privileges of the Swilling Irrigating canal company in and to the waters of the river carried and used in and by the upper or easterly of the two ditches aforesaid. That the Maricopa canal company was incorporated by the owners of the lands theretofore irrigated by the waters conveyed through said upper or easterly of said ditches, and was organized for the purpose and has at all times been engaged and employed in carrying and conveying the water for the purpose of irrigating said land; and its stockholders are the owners of the lands irrigated by waters conveyed through the ditch. That for the purpose of protecting themselves against damage by freshets the said two corporations the Salt River valley canal company and the Maricopa canal company have combined the heads of their ditches and take the water used by each of them from one point on river.

That on or about the sixth day of December, 1870, the grantors and predecessors in interest of the plaintiffs, C. T. Hayden and others, alleging themselves to be constituent members of the Tempe irrigating canal company being then the owners or occupants of certain lands in the Salt River valley and intending to cultivate the same, associated themselves together by the name of the Tempe irrigating canal company, and located and appropriated of the waters of said river 11,000 inches, and did thereupon proceed to

and did construct at great expense, a dam across the river and an irrigating ditch commencing at the south bank of the river at a point about sixteen miles east of the city of Phoenix and running thence in a southwesterly direction over and across lands then being a part of the public domain, said ditch being capable of carrying said 11,000 inches of water, and they thereafter did continuously appropriate, use and employ said 11,000 inches of water for the irrigation of lands so owned and possessed by them. That the plaintiffs now composing the said association the Tempe irrigating canal company have succeeded by divers mesne convenances to all the rights of the original claimants of said 11,000 inches of water diverted and carried by said Tempe canal, and of the lands irrigated thereby.

That in 1877, the grantors, in interest of the plaintiff, Henry C. Rogers, and others constituting the Utah canal company, formed and associated themselves together by that name and took up, located and claimed of the waters of the Salt River, 2,500 inches of water, and proceeded to and did construct at great expense, a dam over and across the river, and a ditch commencing on the south bank of Salt River at a point about twenty miles east of Phoenix, and running thence in a southwesterly direction across land then being a part of the public domain, the ditch being capable of carrying said 2,500 inches, and that the persons composing said association thereafter by means of said ditch did continuously appropriate, use and employ 2,500 inches of water for the cultivation of the land owned and actually cultivated by them. That the plaintiffs last named now constitute the Utah canal company, and have succeeded by divers mesne conveyances to all and every the rights of the original locators and claimants of the said 2,500 inches used by means of the ditch of the Utah canal company, and the land irrigated thereby, and have so continuously used the said water.

That about the middle of December, 1870, divers persons the grantors and predecessors in interest of the plaintiff, M. Wormser, being the owners and possessed of land in Salt River valley, desiring to cultivate the same, appropriated 4,500 inches of water and constructed at great expense a dam across the river, and an irrigating ditch known as the San Francisco ditch commencing on the south bank of the river at a point about nine miles east of Phoenix, and running thence in a southwesterly direction across land then being a part of the public domain, the ditch being capable

of carrying the 4,500 inches of water so appropriated, and such persons did thereafter by means of that ditch continuously use and employ 4,500 inches of water in the cultivation of said lands. The plaintiff, M. Wormser, heretofore and more than five years before the commencement of this suit, by divers mesne conveyances succeeded to all the rights of the owners of said San Francisco ditch, and is now the owner and possessor of the same and has been continuously using the same.

That during the month of July 1870, divers persons being the owners and possessors of land in the Salt River valley, desiring to cultivate the same appropriated 1,500 inches of water of said river and constructed at great expense a dam across the river, and an irrigating ditch called and known as the Griffin ditch, commencing on the north bank of Salt River at a point about a mile and a half south of the city of Phoenix, and running thence in a northwesterly direction across land then being a part of the public domain and capable of carrying 1,500 inches of water, and the persons so mentioned by means of that ditch continuously diverted and appropriated and used said 1,500 inches of water for the cultivation of the land owned and possessed by them. The plaintiff, M. Wormser, thereafter and more than five years before the commencement of this suit, by divers mesne conveyances succeeded to all the rights of said persons, and continues now to be the owner of the same.

That on or about the 24th day of June, 1878, divers persons being the owners and possessors of land in the Salt River valley and desiring to cultivate the same, formed and caused to be created a corporation known as the Grand canal company, and thereupon the said company appropriated 10,000 inches of the water of said river, and thereafter constructed at great expense a dam across the river, and an irrigating canal commencing at a point about twelve miles east of the city of Phoenix, running thence in a northwesterly direction and through and across land then being a part of the public domain, capable of carrying 10,000 inches of water, and used the waters of said river in and about the cultivation of the lands of the persons forming such corporation and owning its capital stock, and for their use and benefit, using the said 10,000 inches of water.

That on or about the second day of March, 1878, divers persons being the owners and possessors of land in Salt River valley and desiring to cultivate the same, organized the Mesa canal company and appropriated 10,000 inches of the water of said river for the purpose of the irrigation

of said lands, and constructed at great expense a dam across the river, and an irrigating ditch commencing on the south bank of the river at a point about twenty-five miles east of Phoenix, and running thence in a southwesterly direction over and across the land then being a part of the public domain, capable of carrying 10,000 inches of water, and by means of that ditch did thereafter appropriate, use and employ for the purpose of cultivation of said lands of the persons forming the corporation and owning its capital stock, said 10,000 inches of water.

The plaintiffs further allege that the aggregate quantity of water which they had appropriated and used for the purposes aforementioned, is 62,500 inches of water, and that they and their predecessors in interest have expended in and about the construction of the several dams and ditches mentioned, a sum aggregating \$350,000 and upwards. They further allege that the then present season was dry and that the quantity of water in the river was then insufficient to supply the plaintiffs with the several quantities to which they were then entitled. And the plaintiffs allege that at the then present time a great portion of the crops in the valley had been planted and that the water was required for their irrigation, and that but for the wrongful acts of the defendants hereinafter alleged, all the water flowing in the natural channel of the river would have flowed down and through their several ditches, and then would have been able to secure whatever water there was in the river, and that by a judicious and economical use of it preserved portions of their crops planted as aforesaid. The plaintiffs further allege that on or about the 1st day of January, 1887, being long subsequent to the appropriation and use by them and their grantors of the several quantities of water hereinbefore mentioned, the Arizona canal company, defendant in violation of the plaintiff's rights entered upon the river at a point above any of the dams and ditches of plaintiffs and about twenty-eight miles east of the city of Phoenix, and by means of a dam constructed by it across the river, there, capable of holding all of the waters flowing in the river, and by means of a canal commencing at the dam and running thence northwesterly, of a size sufficient to carry all the waters flowing in the river during a dry season at a time when the water is needed by the plaintiffs, diverted and turned out of the river a large quantity of the water of the river, and by such diversion prevented the water from reaching the ditches of the plaintiffs, and had diminished the quantity of water to such an extent that the



plaintiffs and each of them was prevented from procuring a sufficient supply of water for their crops aforesaid, whereby such crops are now suffering and are in immediate danger of actual destruction.

That without the use of the water naturally flowing in the river the plaintiffs cannot receive and take the amounts of water to which they are severally entitled and of which they are actually in need, and that the continued diversion of the waters by the defendants as aforesaid would prevent the cultivation of the lands under the ditches of plaintiffs, and work irreparable damage to them. That the defendant, the Arizona Canal company, threatens to continue its diversion of said water and threatens to divert all the water flowing in the river and thereby to deprive the plaintiffs of procuring any water from the river. The plaintiffs further allege that the defendant does not divert any water for any useful or beneficial purpose. That of the water so diverted, and carried away by the defendant, a small quantity not exceeding 1,000 inches is being sold and being disposed of by defendant for the purpose of irrigation, and that the remaining portion of the water so diverted by the defendant is carried away and allowed to run to waste and wholly lost, and is not thereafter restored to the river. Wherefore the plaintiffs pray that pending the action the defendant be enjoined from in any way or by any means interfering with or obstructing the present flow of water in the river or the waters to flow therein at any times hereafter, whereby the plaintiffs or any of them shall be impeded in their right to the use thereof. That defendant may be ordered to remove from the river its dam and any other obstructions placed in the river by it whereby the flow of the water in the river is impeded or obstructed, and that it be required at all times to permit the water of the river to so flow in its natural channel that the plaintiffs and each of them can receive the several quantities of water to which they allege themselves in this complaint to be entitled.

This complaint was sworn to by the president of the Salt River Valley canal company, the president of the Maricopa canal company, the president of the Mesa canal company, the president of the Grand canal company, and by M. Wormser, Winchester Miller and E. R. Jones, constituent members of the San Francisco, Tempe, and Utah canal companies. The complaint was presented on the 4th day of February, 1887, to J. W. Crenshaw, the then court commissioner of this court,

who ordered that the defendant show cause on or before the 14th day of February, 1887, why an injunction pendente lite should not be granted, and further ordered that upon the plaintiffs giving an undertaking in the sum of \$10,000, the defendant in the meantime be restrained from in any manner interfering with or obstructing the flow of water in the river and suffer all the water therein flowing to flow through its natural channel.

On the 17th of December, 1888, an amended complaint was filed by those plaintiffs in the original complaint who constituted the Tempe Irrigation canal company and the Utah canal company, making the Salt River valley canal company, the Maricopa canal company, the Grand canal company, the Arizona canal company and the Mesa canal company, defendants. This complaint, after alleging the manner in which they acquired their right to divert and to appropriate the water from the Salt River alleges that during the year 1867, divers persons owning and possessing lands in Salt River valley, associated themselves together under the name of the Swilling Irrigating canal company, and located, appropriated and claimed for the purpose of irrigating lands, 1,500 inches of water of the river, and constructed a dam across the river, and thereafter constructed two certain ditches over and across the lands which they desired to irrigate, each capable of carrying 750 inches, and that the said Swilling Irrigating canal company and the persons composing the same became thereafter entitled to and continued to appropriate, use and employ 750 inches of water and no more. And that during the year 1875 the defendant, the Salt River valley canal company, by divers mesne conveyances succeeded to all and every the right, title and interest of the said association, the Swilling Irrigating canal company, and of the persons composing the same, in the lower or westerly of the two aforementioned ditches. And that during the year 1875, the Maricopa canal company, defendant by divers mesne conveyances succeeded to all and every the right, title and interest of the Swilling Irrigation canal company, in and to the upper or easterly of the two aforesaid ditches, and since that time has been and is now the lawful owner and possessor of all and every rights, privileges, and franchises of the Swilling irrigation canal company, in and to said upper or eastern ditch. And that while said Salt River valley canal company and the Maricopa canal company have been using said water, they have for certain purposes connected the heads of their two ditches, and for some time heretofore the two ditches have been and now are taken out

at one head at one point on the river. That hereafter the defendants, the Maricopa canal company and the Salt River valley canal company in violation of the rights of the plaintiffs have diverted from the river quantities of water in excess of the rights that the plaintiffs had to divert, depriving the plaintiffs of water to which they were entitled. That the defendants, the Maricopa canal company and the Salt River valley canal company threaten to continue to claim, assert and exercise their alleged right each to take out of the river 6,000 inches by means of the canal of the defendant, the Arizona canal company, and that the Arizona canal company permits and consents to it, and threatens to continue to permit, and consent to the use of its canal by each of the aforementioned defendants for the purpose of diverting such excessive quantities of the water from the river for the use and benefit of the aforementioned defendants at a point upon said river above the place where the plaintiffs take their water from said river, when in fact the places where each of the said defendants, the Salt River valley canal company and the Maricopa canal company, originally took the water from the river into their ditches at the time the plaintiffs first acquired their rights to the quantities of water herein alleged, were below the place on the river where the plaintiffs then took and now take their water. That such proposed diversion through and by means of the Arizona canal will diminish the quantity of the water in the river out of which plaintiffs may obtain the supply to which they allege themselves to be entitled.

And plaintiffs further allege that the Grand canal company on or about the 24th of June, 1878, did without right and in violation of the rights of the plaintiffs, take up, locate, appropriate, and claim, 10,000 inches of the water of the Salt River, and constructed a dam across the river, and an irrigating ditch commencing at a point about twelve miles east of Phoenix, and running thence in a northwesterly direction over and across the land being a part of the public domain, capable of carrying 10,000 inches of water, and by means of such ditch and dam thereafter diverted 10,000 inches of water, thereby diminishing the quantity of water in the river so that plaintiffs could not supply themselves.

That the point at the river where the Grand canal company first took out the water into its ditch is below the point in the river where the head of the ditch of the Tempe irrigating canal company originally was taken out and now is situated, and below that of the Utah canal company, and is above the point on said river where the head of the San

Francisco ditch was originally taken out and is now situated. That the said defendant has, subsequent to the appropriation of the plaintiffs above set forth, diverted the water and threatens to continue to do so, by means of the Arizona canal company's canal.

That the Mesa canal company has made appropriation of the water of Salt River long subsequent to the appropriation made by the plaintiffs, and that its point of diversion is above the place where the plaintiffs take the water into their respective ditches. That the quantity of water that the Mesa canal company claims and asserts the right to divert, is 10,000 inches, and that when that defendant made its appropriation of water the plaintiffs were in the peaceful and undisturbed possession of their right to use and employ the waters of the river which they had theretofore appropriated.

That the defendant, the Mesa canal company, wrongfully prevents the waters of the river flowing down the ditches of the plaintiffs and threatens to continue to do so. That such diversion lessens and diminishes the quantity of water flowing in the river so such an extent that the plaintiffs cannot obtain the supply to which they are entitled by their prior appropriation.

Plaintiffs further allege that long subsequent to the appropriation by them, their grantors and predecessors in interest, namely on or about the 1st of January, 1887, the Arizona canal company, without right and in violation of the rights of the plaintiff to use the waters of the Salt River at a point about 28 miles east of Phoenix by means of a dam across the river and a canal commencing at said dam capable of carrying all the waters flowing in the river during the dry or rainless seasons, diverted and turned out of the river a large quantity of waters flowing therein, thereby preventing the water from flowing to or reaching the ditches of the plaintiffs, and thereby lessens the quantity of water in the river to such an extent that the plaintiffs are prevented from receiving in their ditches or any of them, a sufficient quantity of water for the purposes to which they allege themselves to be entitled to use it. That without the use of all the water now flowing in the river the plaintiffs cannot take or receive therefrom the several quantities thereof to which they are entitled and of which they have actual need.

That the defendant, the Arizona canal company does not divert the said water for any useful or beneficial purpose. That of the said waters so diverted and carried away by the

Arizona canal company, a small quantity not exceeding a thousand inches is sold and disposed of by that company for the purpose of irrigation, and that the remaining portion of the water except what is being carried through the canal as before-mentioned, is allowed to run to waste and be wholly lost, and no part thereof is ever restored to the river.

That the defendant is insolvent and unable to respond in damages.

Plaintiffs further allege that the aggregate quantity of the water of the river which they have appropriated and used is 20,000 inches of water. That they have expended large sums of money in and about the construction of their several dams and ditches.

Plaintiffs further allege that during the dry and rainless season of the year the quantity of water in the river is greatly diminished; that the entire amount thereof is insufficient to supply the plaintiffs with the quantities to which they are entitled after first making an allowance therefrom of the quantity of 750 inches due each of the defendants, the Maricopa and the Salt River valley canal companies.

The plaintiffs further allege that the defendants, the Salt River valley canal company, the Maricopa canal company and the Grand canal company, have since the filing of the original complaint, by means of a transfer of a certain share of the stock of those companies to divers persons acting in concert with the Arizona canal company in order to aid that company in its efforts to wrongfully continue its alleged appropriation of the waters of the river against the rights of the plaintiffs, combined with the Arizona canal company to injure the plaintiffs and prevent the plaintiffs from proceeding with this action. That the persons who have received the said transfers of stock of the above companies respectively, are now holding control of the management of the said respective companies, and subordinating the claims and rights and interests thereof in such a manner as to seriously impair the rights of the plaintiffs by collusively permitting the said transfers of the stocks to the said Arizona canal company in order to enable it to secure an undue and wrongful advantage over the plaintiff, and to control the diversion of the water of the river; in violation of the rights of the plaintiffs.

This complaint is sworn to by Winchester Miller, one of the plaintiffs, and by M. Wormser and others.

On the 28th of January, 1889, a third amended complaint was filed, wherein an addition to the allegations of the foregoing complaint, the amendment consisted in the substitution of the Utah canal company as a party defendant instead of a party plaintiff; and on the 11th of June, 1889, by a still further amendment, the Highland land and water company, a corporation, was made a defendant. It is alleged that the Highland land and water company was a corporation, and that in January 1889, it diverted waters of Salt River by means of its canal, beginning at a point on the river about twenty-seven miles east of Phoenix, and above the point of diversion by the plaintiff, whereby they deprived the plaintiffs of the ability to divert to the uses to which they were entitled, as before alleged.

On the 14th of July, 1890, an amended complaint was filed wherein the alleged owner of the San Francisco ditch and the alleged owner and constituent members of the Tempe canal company were plaintiffs and the Salt River valley canal company, the Maricopa canal company, the Grand canal company, and Arizona canal company, and Mesa canal company, the Highland land and water company and the constituent members of the Utah canal company were defendants. In addition to the allegations made in the original complaint, it is alleged in this amended complaint that the defendants, the Salt River valley canal company, and the Maricopa canal company, and the Grand canal company, original plaintiffs, have since the filing of the original complaint by means of the transfer of certain shares of stock of those companies to divers persons acting, and designing and intending, to aid in concert with the Arizona canal company, and to aid that company in its effort to wrongfully maintain its alleged appropriation and use of water against the rights of plaintiffs, combined with the Arizona canal company to injure the plaintiffs and to prevent plaintiffs from proceeding with its suit and obtaining the relief sought.

That the persons who received the said transfers of stock above mentioned, are now holding control of the same and subordinating the claim and rights and interests of those companies so as to seriously impair the rights of the plaintiffs. That the above named companies have collusively permitted and acquiesced in such transfer of stock to the Arizona canal company in order to enable that company to secure and enjoy a wrongful advantage over the plaintiffs and to control the diversion of the water of the river in violation of the rights of the plaintiffs. It is also

alleged in the amended complaint that in January, 1889, the Highland land and water company, a corporation, entered upon the said river above and east of the dams and ditches of the plaintiffs at a point about twenty-seven miles east of Phoenix, and there by means of a dam which it constructed across the river and a canal beginning at said point and running thence in a southwesterly direction, capable of carrying 6,000 inches of water, diverted and turned out of the river a large quantity of water, and has by such diversion prevented the water from flowing through or reaching the ditches of the plaintiffs, thereby diminishing the quantity to which they were entitled, and the crops and orchards and the vineyards planted by the plaintiffs have become thereby endangered. To the last amended complaint the Arizona canal company, the Grand canal company, the Maricopa canal company and the Salt River valley canal company filed their several answers; first, demurring to the complaint upon the ground that it does not state facts sufficient to constitute a cause of action against them or either of them.

Second. That the several defendants have each of them separately been severally and in the peaceable and adverse, open and notorious and actual possession and use and enjoyment of the waters and of the rights and franchises described and referred to in the amended complaint, and every part thereof, under color of title for more than three years next preceding the commencement of the action and before the filing of the amended complaint.

Third. Alleging that the cause of action set out in the amended complaint had not accrued within two years before the commencement of the action or the filing of the complaint.

Fourth. That neither the plaintiffs nor their grantors or predecessors have been in the possession of the franchises or rights they claim, wherein five years next preceding the commencement of the action and filing of the amended complaint.

Fifth. Denying specifically the allegations of the plaintiffs that they had in 1870, or at any time, appropriated any water of Salt River in a quantity exceeding 300 inches, except that sometime in the year 1871, certain persons constructed a small temporary dam across Salt River, and a very small irrigating ditch in the vicinity of the place where it is alleged plaintiffs predecessors constructed a dam and ditch in the complaint described. That by means of that dam and ditch, water was taken out of the

river during said year after the construction of the said dam and ditch, in sufficient quantities to irrigate small patches of summer crops covering not to exceed a small number of acres of land. That thereafter and sometime about the year 1871, the said ditch was from time to time enlarged and increased in its capacity to some extent, but the total amount of water diverted therefor did not at any time exceed 300 inches of water, miner's measurement, until the year 1873. That thereafter and up to the month of January, 1877, the ditch was enlarged from time to time to enable it to carry water for irrigating purposes to such an extent that on or about that date the ditch was capable of carrying about a thousand inches of water in addition to the water carried for mechanical purposes, as hereinafter mentioned. That sometime in the year 1873, one of the plaintiffs, Charles T. Hayden, having constructed a flouring mill on the ditch with a water wheel whereby the same was intended to be driven, by some arrangement the details whereof are unknown to the defendants, enlarged the ditch and increased its carrying capacity sufficient to enable it to carry about 1,500 inches of water in addition to the said quantity it was capable of carrying before that. And that thereafter from time to time while said mill was running, the ditch was used to carry about not exceeding 1,000 inches of water, miner's measurement, for irrigating purposes, and not exceeding 1,500 inches of water for said mechanical purpose of driving said water wheel.

That all of said water which was diverted and used to run the mill except such part as was lost by evaporation and seepage was by means of a tail race below the mill immediately after passing through and over the water wheel of said mill, permitted to flow and did flow back into the river at a point above the dam and head of the canal of the defendants, the Salt River valley canal company and the Maricopa canal company, and the same and every part thereof except what was lost by evaporation and seepage flowed to said dam and ditches of said defendants and was available to them and each of them for the purposes of irrigation. That thereafter from time to time said ditch was enlarged in capacity. That up to the year 1883, it was not capable of and did not carry for any purpose, more than 3,000 inches of water, miner's measurement. That not more than 1,500 inches of said water was at any time diverted for the purpose of being used by any person or persons, by means of the ditch and dam for any purpose except the driving of the



mill. That thereafter from time to time the ditch was enlarged to such an extent that in January, 1886, it was capable of carrying about 3,500 inches of water calculating said 3,500 inches of water by miner's measurement, diverted by means thereof for the propulsion of the mill.

That no more than 2,000 inches of water was used for any other purpose than the driving of said mill, and that the proper irrigation of the lands could and ought to have been had with the use of at least twenty-five per cent less than the quantity the ditch was capable of carrying, after deducting from its total capacity the 1,500 inches it carried for the propulsion of the mill.

And further answering, those defendants deny that the predecessors in interest of the plaintiff, M. Wormser, appropriated 5,000 inches, or any other quantity of the water of Salt River in December, 1870, or at any other time, or that he or they ever applied 5,000 inches to the irrigation of any lands, or that he ever acquired by any conveyance the interest of any person who had any such right to appropriate water, but allege that sometime in the year 1872, some person or persons to the defendants unknown constructed a small irrigation ditch at or near the place where the alleged San Francisco ditch is alleged to have been excavated, but it was not capable of carrying more than fifty inches of water. That thereafter that ditch or some other one constructed near by the place where that one had been made, was from time to time enlarged to some extent, but that up to and in the year 1877 and '78 it was capable of carrying not more than one hundred and fifty inches of water. That thereafter the said ditch was enlarged from time to time until in 1883 it was capable of carrying not more than 200 inches of water. That the ditch was again enlarged from time to time to some extent, but that up to the present time it has not been nor is it now, capable of carrying more than 400 inches of water.

The answer further denies that the water of the river in dry and rainless seasons is ever diminished to a quantity not exceeding 13,000 miner's inches. They further allege that the amount of water appropriated by the Swilling irrigation canal company was, instead of 1,500 inches, 12,000 inches, and the two ditches constructed by the Swilling canal company were each capable of carrying 6,000 inches instead of 750 inches as alleged in the complaint, and that the whole amount thereof was and has been continuously used

in good faith in the irrigation of lands by the owners of lands under those ditches, and asserts their right to divert the same.

It is further averred that on or about the 24th day of June, 1878, divers persons being then the owners and possessors of land in Salt River valley and desirous of irrigating the same and requiring water for that purpose, formed and caused to be created the Grand canal company, and thereupon appropriated 10,000 inches of water of the river for that purpose, and proceeded to and did construct a dam over and across Salt River, and an irrigating ditch commencing at a point about twelve miles east of the city of Phoenix and running thence in a northwesterly direction over and across the lands then being a part of the public domain, the ditch being capable of carrying 10,000 inches of water and that thereafter they applied the said 10,000 inches of water for the purpose of the irrigation of those lands. And they make a similar allegation as to the Arizona canal company, and deny that since the filing of the original complaint that by means of any transfer of stock in any of the companies to any person or persons whatsoever that they sought to act in concert or in collusion whereby the rights of the plaintiffs should anyway be injured, or to prevent the plaintiffs or any of them from proceeding with their action.

The answers of the other defendants raise substantially the same issues, asserting in themselves the rights to divert and appropriate water of the river in the order suggested in the original complaint.

During the pendency of this action the court has attempted as best it could be means of commissioners appointed for that purpose, to control the distribution of water among the various claimants in accordance with the rights of the consumers as nearly as that could be ascertained on preliminary hearings, and the waters of the Salt River are now being distributed under the supervision of such a commissioner.

The final trial of this cause was begun in March, 1890, the evidence being adduced before a commissioner appointed for that purpose, and before whom about 3,000 pages of evidence were taken and reported to the court. The continuation of the trial was begun before the court in July, 1890, and continued until its conclusion in August of that year. The amount of evidence taken in the case is very voluminous, consisting of 6,000 pages of typewritten matter. Counsel

desiring to argue the case and their engagements and the business of the court being such that it could not be heard then, the further trial of the case was continued till February 1891, at which time the cause was fully and ably argued, the argument occupying 15 days.

This resume of the origin and progress of this case as brief as the multiplicity of the issue involved would permit, suggests at once its importance. From the time of the construction of the first ditch in 1867 until now, there has been expended in the construction, operation and maintenance of irrigating ditches in the Salt River valley a sum exceeding a million of dollars. The population of the valley has grown from 200 or 300 to 10,000 people. Its products from being simply barley and hay, now range through all the long list of grain, fruits and vines, to the production of which the soil and climate are peculiarly adapted. From a valueless desert, lands have been reclaimed, aggregating millions of dollars in value. The city of Phoenix itself began its existence since the Swilling ditch was constructed. Without water the Salt River valley would still be a desert uninhabited save by the jack rabbit, coyote, and the rattlesnake, and devoid of vegetation except the sage brush and the cactus. Water is just as essential to the maintenance of the population now there, and the production of the means of its subsistence, as the air itself.

Before proceeding to the finding of facts I shall to some extent discuss the law as I have found it and believe it to be, relevant to the issues of the cause to illustrate the import of the facts the finding of which will follow.

That part of Arizona in which the Salt River valley is situated, from the time of the Spanish conquest until the establishment of the republic of Mexico was under the dominion of Spain, and thence until 1847 under the dominion of the republic of Mexico, and was subject, of course, during those periods, to the laws of Spain and the republic of Mexico, respectively.

It might be interesting and instructing to study the laws and customs which prevailed under those governments concerning the appropriation and use of water, but it would here be out of place to discuss or even cite them, further than to state that the common law doctrine of rights of riparian proprietors did not there prevail, because, as disclosed by the evidence in this case, no rights whatsoever

were acquired until at least twenty years after the acquisition of that territory by the United States under the treaty of Guadalupe Hidalgo.

In 1848, and from that time to 1863, that part of the territory of Arizona within which is the Salt River valley was a part of the territory of New Mexico, and there were expressly enacted by that territory laws governing the appropriation and use of water for irrigation. In 1863 a part of the then territory of New Mexico was erected into a temporary government by the name of the territory of Arizona, and the laws of New Mexico were by the act of congress establishing the territory of Arizona, made applicable to that territory. In 1864, the first legislative assembly of the territory convened and enacted the code of laws commonly known and cited as the Howell code. By article 22 of an act of that legislature, known and designated as the "bill of rights," it was provided that "all streams, lakes, and ponds of water capable of being used for the purposes of navigation or irrigation are hereby declared to be public property, and no individual or corporation shall have the right to appropriate them exclusively to their own private use except under such equitable regulations and restrictions as the legislature shall provide for that purpose." This act went into force on the first day of January, 1865.

This provision has been incorporated in the successive revisions of our code, and is still a part of our statutory law. At the same session of the legislature and by a law taking effect at the same time, an act governing acequias and irrigating canals was adopted. The first section of that act provides that "all rivers, creeks and streams of running water in the territory of Arizona are hereby declared to be public and applicable to the purposes of irrigation and mining," as afterwards provided. Section 2 saves all vested rights. Section 3 provides that "all inhabitants of this territory who own or possess arable or irrigable lands shall have the right to construct public or private acequias and obtain the necessary water for the same from any convenient river, creek, or stream of running water." Section 4 provides for the assessment of damages resulting from the construction of ditches across private property of individuals. Section 5 provides that no inhabitant of this territory shall have the right to erect any dam, or build a mill, or place any machinery, or open any sluice, or make any dyke, except such as are used for mining purposes or the reduction of metals, as provided for in section six and

and seven of the act that may impede or obstruct the irrigation of any lands or fields, as the right to irrigate the fields and arable lands shall be preferable to all others; and the justices of the respective precincts shall hear and determine in a summary manner, and cause the removal of the same by order directed to a constable of the precinct or sheriff of the county who shall proceed to execute the same without delay.

By section 7 it is provided that when any ditch or acequia shall be taken out for agricultural purposes, the person or persons so taking out such ditch or acequia shall have the exclusive right to the water, or so much thereof as shall be necessary for the said purposes, and if at any time the water so required shall be taken for mining operations, the person or persons owning said water shall be entitled to damages to be assessed in the manner provided in section six of this chapter. Section 8 prohibits the construction or maintenance of by-paths and foot-paths across cultivated fields. Section 9 provides that all owners and proprietors of arable and irrigable land bordering on, or irrigable by, any public acequia, shall labor on such public acequia, whether such owners or proprietors cultivate the land or not. Section 10 provides that persons interested in a public acequia, whether owners or lessees of land, shall labor thereon in proportion to the amount of land owned or held by them, which may be irrigated by the ditch. Section 11 provides that animals shall be herded to prevent trespass upon cultivated fields. Section 12 provides that in case a community desire to construct an acequia and the persons desiring to construct the same are the owners or proprietors of the land upon which they design constructing the acequia, no one shall be bound to pay damages for the land taken. Section 13 provides for the election of overseers of public acequias. Section 14 prescribes the manner of the election of overseers. Section 15 provides for the payment for services of the overseers. Section 16 prescribes the duty of the overseers, which, among others, is enumerated his duty to distribute and apportion the water in proportion to the quantity to which each one is entitled according to the land cultivated by him; and that in making such apportionment he shall take into consideration the nature of the seed sown or planted, and the crops and plants cultivated.

Section 17 provides that "during years when a scarcity of water shall exist, owners of fields shall have precedence

of the water for irrigation, according to the dates of their respective titles or their occupation of their lands, either by themselves or their grantors. The oldest titles shall have the precedence always." Section 18 provides for the contribution of labor by irrigators, to the maintenance of the acequia. Section 19 prescribes penalties for malfeasance or nonfeasance of the overseer in discharging his duties, and provides for his removal in certain events. Section 20 provides for the filling of a vacancy occasioned by the removal of an overseer. Section 21 imposes a penalty upon the owner or proprietor of land irrigated by an acequia for neglect or refusal to furnish the number of laborers required by the overseer for the maintenance and repair of the acequia. Section 22 prescribes the penalties against any person who shall in any manner interfere with, impede or obstruct any such acequia, or use the water from it without the consent of the overseer. Section 23 provides that the fines and forfeitures recovered under the provisions of the act shall be applied by the overseers to the improvement, excavation and repair of the acequia, and for the construction of bridges at points where they may be crossed by public streets or roads. Section 24 provides for the appeal from judgment of conviction under any of the provisions of the act.

Section 25 is, "The regulation of acequias" which have been worked according to the laws and customs of Sonora and the usages of the people of Arizona, shall remain as they were made and used, up to this day, and the provisions of this chapter shall be enforced and observed from the day of its publication." Section 26 provides that plants and trees growing on the banks of any acequia shall belong to the owners of the land through which the acequia runs. Section 27 provides that any person owning lands which may include a spring or stream of running water, or owning lands upon a river where there is not population sufficient to form a public acequia, may construct a private acequia for his own uses, subject to his own regulations, provided he does not interfere with the rights of others.

In the year 1866, the national congress enacted a law for the disposal of its lands containing valuable minerals, and among the provisions of that act, with some subsequent slight verbal changes not affecting the substance or meaning, is the following:

(Section 2339, revised statutes of the United States.)

"Whenever by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws and decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right-of-way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed: but whenever any person, in the construction of a ditch or canal injures or damages the possession of any settler upon the public land, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

Section 2340 provides that all patents granted or preemption or homestead allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights as may have been acquired under or recognized by the preceding section." This provision of the act of congress has been held by the supreme courts of the United States and of some of the states not only to confirm rights that have been initiated or had vested prior to the passage of the act, but that it was continuous in its operation and was the license of the government to persons to thereafter appropriate water on the public domain for agricultural, mining, manufacturing or other purposes.

98 United States 453.

13 Oregon 596.

On the 3rd of March 1877, there went into effect an act of congress providing that any citizen of the United States, or any who had declared his intention to become such, upon the payment of twenty-five cents per acre may file a declaration with the register and receiver of the land district in which any desert land is situated, of his intent to reclaim a tract of land not exceeding one section, by conducting water thereon within the period of three years thereafter. It provides that the right to the use of the water by the person so conducting the same on or to any tract of desert land of 640 acres "shall depend upon bona fide prior appropriation: and such rights shall not exceed the amount of water actually appropriated, and necessarily used for the purposes of irrigation and

reclamation: and all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes, subject to existing rights."

By an act of the legislative assembly of the territory of Arizona, approved February 19th, 1877, all the laws of the territory then in force were directed to be recompiled, which was done; and the compilation is known and cited as the "Compiled laws of 1877" among which are the section of Bill of Rights and the various provisions governing the constructions of private and public acequias, and the appropriation and use of water for irrigation, that we have above quoted from the Howell Code. The same laws have been carried forward into the revision of 1887. In 1887, the acequia law was not re-enacted, but not having been repealed, it is still in force, and the editors of the revision of 1887 have incorporated in that revision:

Sections 3199-3226 R. W. 1887 Arizona.

In 1887, the legislative assembly enacted a law providing that the common law doctrine of riparian rights shall not obtain or be of any force or effect in this territory:

Sections 3198 R. S. 1887, Arizona.

#### CUSTOM AS A SOURCE OF WATER-RIGHTS.

There has during the argument of this case been much reference to customs prevailing in this territory and in the Pacific slope states and territories as a guide to determine the rights of parties to the appropriation of water. I am of the opinion that we cannot refer to customs, because we have covering the subject, express statutory law. There is no evidence in this case of any customs prevailing, and if the court may revert to its judicial knowledge of what customs have prevailed, resorting to whatsoever means it may to ascertain them, the court would have to say that there are as many customs



prevailing as there are persons who have enunciated them. In short, there has been no custom; there has on the contrary been an entire want of uniformity of practice among appropriators, and no two attorneys in this case who have agreed upon what has been the custom. There has until recently been no two canal companies or associations who have concurred in their practice of either appropriation, distribution, or application of water. It may be noted here that there seems to have prevailed a practice of posting a notice of intention to appropriate water, this notice being posted at the point whence they expected to divert it from the river, and thereafter to record that notice in the recorder's office. This practice has been imported from California where by express statutory provision a person who seeks to appropriate water may initiate a right by posting such a notice, but it is there further provided that such posting must be followed within sixty days by actual work of construction of means of diversion. This practice has prevailed to such an extent in the Salt River valley that notices of intention to appropriate many times more water than ever did flow down the Salt River, have been given; and so in the Gila River valley. It has been an impression quite commonly prevailing, that by posting such a notice some rights were acquired. Yet in the argument of this case none of counsel refer to it as a source of right, or a means of initiating one.

I am unable to understand how such a notice can vest in the person who posted it, any right whatsoever. On the contrary, it does not, and the most that can be said of it is, that it is a mere expression of intention, and may serve to limit the person who thereafter appropriates the water, to the amount of water which it was his declared intention to appropriate. So far as I am able to determine after a careful and continuous study of this subject for more than three years among those among whom it would be supposed customs would prevail if any existed, or from the evidence in this case, that any customs exist in this territory relative to the appropriation and use of water. Until after the organization of the Territory the use of water for irrigation was almost unknown here. There is no evidence that there was any use of it in Salt River Valley prior to that time. Our Bill of Rights says, that the water can only be

appropriated under regulations prescribed by legislature, and at the same session of the legislature that body did prescribe regulations for the appropriation of this water for the purpose of irrigation, and to those statutes we must resort to determine the rights of those who seek to appropriate water for that purpose.

With all due respect to the very able opinion of Judge Silent in the case of Kelsey vs. McAteer before him in the District Court, and the opinion of our own Supreme Court in the case of Clough against Wing, I cannot accede to the doctrine that any of the rights of the appropriators of water in this Territory may have their origin in any local customs or the decisions of the courts: they are statutory, purely and simply. Even if there had prevailed any customs, they must yield to the express statutory enactments.

87 U. S. 684.

And a careful review of the cases elsewhere, of which there are at least one hundred and fifty in California alone, discloses that there as well as elsewhere, the right does not rest in custom. It was there held that the right was by the implied license of the state and national government--that upon public lands the riparian proprietor was the national government, and that as between mere possessors of public lands the old maxim, "Qui prior est in tempore, potior est in jure," controlled and defined their rights as among themselves--that the first possessor could not avail himself of the riparian rights of the true owner against subsequent occupants of the public domain.

It is true that in most of the cases something is said about custom of the country and about local conditions making the old rules inapplicable, but I think that as a source of right to appropriate water mere custom cannot be referred to. Custom might in some cases regulate the use of it; the right to appropriate it in this Territory at least, emanates clearly from congressional and legislative grant. The conditions existing on this coast making impracticable the strict application of rules of right prevalent elsewhere may have been and no doubt did suggest the legislation on the subject to which we refer for the right to appropriate water.

## RIPARIAN RIGHTS.

The diversion of water and its proper application to the irrigation of lands necessarily results in an entire consumption of the water so applied, so that the amount of water taken from a natural water-course for irrigation, to the extent, diminishes the quantity left in the stream. In the Salt River Valley where there has been at least an attempted appropriation of the entire amount of water flowing in Salt River, there is an entire consumption of the water of that stream. Naturally there occurs to the mind of anyone whose knowledge of the rules governing the rights of property has been derived from the study of the common law of England as it exists there and in the United States, in considering the subject of appropriation of water for irrigation, the question of the effect of the common law doctrine of riparian rights, and whether that doctrine exists in Arizona.

The United States at the time of the cession by the Republic of Mexico, to it of the territory which now constitutes the Territory of Arizona, became possessed of all the rights of a proprietor of the lands the title to which had not been theretofore vested in private ownership by grant from the Mexican or Spanish governments, and as incident thereto acquired those rights relative to water in streams running over its land which are denominated "riparian rights" at Common Law, notwithstanding the non-prevalence of that doctrine in that particular territory prior to such cession. The first legislature of the territory enacted (1864) the law concerning public and private acequias which we have heretofore recited, which law was and is utterly inconsistent with the assertion by a riparian proprietor of his "Common Law rights" to have the water run as it was wont to run, undiminished in quantity and undeteriorated in quality. From the time of the enactment of that law to the time of the act of Congress of 1866, the United States was the only proprietor of the lands in the Salt River Valley. There is no evidence of any private ownership, and as a matter of fact the United States had not granted to any individual any part of the lands in the Salt River Valley of which it was the primary owner. By the act of Congress of 1866, the United States being then the riparian proprietor of all the lands in Salt River Valley, expressly acknowledged the right of occupants and owners of land on the streams

of the territory to appropriate water, inter alia, for the purpose of irrigation, and thereby acquiesced in the implied abrogation of the Common Law doctrine of riparian rights; for the use of water for irrigation does diminish the quantity of water in the stream whence it is taken even to its entire and exclusive consumption by another than a riparian owner. The difficulties attending the use by a riparian proprietor of the water of Salt River render the right under the rules of the Common Law valueless. Under the homestead, the pre-emption and the timber culture laws providing for the acquisition of public lands by citizens, only a quarter section could be acquired. Under the Desert Land Act, 640 acres could be acquired. The surface of the water of Salt River at ordinary stages is at least twenty feet below the surface of the lands not subject to annual inundation through which it flows, and as the river itself has a fall of only eight or ten feet to the mile, it is impossible for any such owner to divert the water to his own land unless he should begin his diversion at the river at a point more than two miles above his own boundary, necessarily thereby trespassing upon the rights of some other riparian owner. There is not an owner of land in the Salt River Valley, whether that land be bordering upon or be crossed by Salt River or not, who can irrigate his land without constructing a greater part of his works therefor on the lands of others. It cannot be maintained that the doctrine of riparian rights gives the right to trespass upon the rights of others. To apply the doctrine of riparian rights would at once render valueless every foot of arable land in the Salt River Valley. During the entire progress of this case, it was conceded, practically, by all the counsel, that the Common Law doctrine of riparian rights had no place in the policy of our law, and to it no one has referred for any right he claims; nor has any person directly or indirectly asserted that the doctrine of the right of prior appropriation of water for the purposes of irrigation has been in derogation of any rights that he might have as a riparian proprietor, except in the one instance of C. T. Hayden, to which we will hereafter refer.

Mr. Pomeroy, in his work on riparian rights, deprecates an attempt to inject into American institutions practices or customs in derogation of common law; but as

the conditions which give rise to the common law are entirely different from those existing here which give rise to the doctrine of exclusive appropriation of water for irrigation, mining, or manufacturing purposes, the rule and practice themselves must necessarily differ. It has been said by courts in repeated cases, that the conditions in an arid country like that of Arizona where the artificial application of water to the soil is necessary to make it productive are so radically different from those in a humid country, like England, where arose the common law doctrine, and where instead of the artificial application of water to the soil to make it productive, there is required a constant effort to remove from it a superabundance of water, that it would not be strange that we should require different rules and different regulations governing the rights of persons to water running in the streams, than those prevailing in England: and if there is anything anomalous in the doctrines of our local law it is an anomaly arising from conditions over which we have no control. It is unnecessary for us here to note or discuss those cases arising chiefly in California, Nevada and Oregon, which maintain the existence of the common law rule. The result there has not been happy, and we fortunately are relieved of any effort to reconcile the rights of riparian owners with those of irrigators or other appropriators of water. The conditions which gave rise to the celebrated case of Lux vs. Haggin in 69th California, do not and cannot exist in the Salt River Valley--had Arizona in 1866 or in 1877 been a state and had a constitution like that of California, we might now have been confronted with this difficulty. It has been distinctly enunciated by our Supreme Court that the common law doctrine of riparian rights does not exist in this Territory.

Clough vs. Wing, 17th Pac. Rep. 453.

In California the doctrine of riparian rights is held to obtain:

Lux vs. Haggin, 69th Cal.

In Colorado it is as positively denied application there:

Coffin vs. Ditch Co., 6th Colo. 443.

Hammond vs. Rose, 11th Colo. 524.

In Nevada, the Common Law doctrine of riparian rights prevails. And for an able and elaborate decision of that question and as well the power of territorial

legislatures relative to these rights, see the leading case of "Vansickle vs. Haines, 7th Nev. 249.

The common law doctrine prevails in Oregon:

Weiss vs. Oregon & Co., 13th Ore., 496.

As I have before said, we have been relieved of the difficult task of reconciling this apparent conflict, by the abrogation of the doctrine necessarily implied from congressional legislation, supplementing our local legislation.

#### THE APPROPRIATION OF WATER.

As appropriation of water consists of the actual diversion of it from its natural course and its application to a useful purpose, as irrigation, mining, or manufacturing. Until there has been this actual diversion and application of the water, there can be no valid right of appropriation. The extent of the right of appropriation depends upon and is limited by the intention of the person making the appropriation. So, although intent is not a necessary element of appropriation, yet it is important to be taken into consideration in determining the extent of the right of appropriation. Water may be taken and used one single season for a purpose which may be accomplished during that season, and the appropriation would have been simply for that season, and its extent would be limited by the expiration of that season. In other words, the purpose having been accomplished for which the water was appropriated, the right of appropriation ceases. It has been decided by a number of courts, that water may be appropriated for the irrigation of a crop the maturing of which requires only a portion of a year, and that the water thereafter running in the stream from whence it was taken, may be subject to appropriation by other persons for other purposes, at a time different from that at which it was used by the original appropriator.

Smith vs. O'Harra, 43 Calif., 371.

Barnes vs. Sabron, 10 Nevada, 217.

Edgar vs. Stevenson (Calif.), 11th Pac. Rep. 704.

And so, if of two persons on a stream of water carrying a volume sufficient only for the irrigation of a hundred acres of land, one may have made a valid appropriation for the cultivation from year to year of one hundred

acres of barley, which matures and is harvested by the middle of May, while another and different person upon another and different piece of land may use the water in that stream at a period of time in each year beginning with the middle of May and ending with the time for replanting barley. We have, then, two appropriations, and so long as the appropriators continue the same use for which they appropriated, there cannot be any conflict of right. But assuming that the first settler appropriated all of the water and for a number of years has used it for the irrigation of barley, which as we have said, matures and is harvested by the middle of May, and that during the remainder of the year water is allowed to flow down the stream unused and is wasted, and that later a settler comes, and seeing the unused water running down the stream to waste during a part of each year, appropriates it and begins the use of it after the middle of May in each year for the cultivation of crops that may be grown during that period. Then if the first settler should conclude even after a series of years of cropping during only a portion of each year, to attempt the cultivation of a crop that requires irrigation for the entire year, there would be, as between himself and the subsequent settler, a conflict of claims to the use of water, and this conflict can only be determined by ascertaining as a matter of fact for what purpose the first settler did appropriate the water, and, consequently the extent of his right of appropriation. The earlier settlers in this valley confined their efforts to the cultivation of crops during only a portion of the year-- that portion, which under the natural conditions existing here, the water was the most plentiful. By the middle of May more than nineteen-twentieths of the land which was under actual cultivation, did not need irrigation because the crop that was grown upon it was harvested. There ran down the river after that date in each year and until a succeeding crop for the next year had been planted a large quantity of water which was permitted to flow upon its way to the sea unused and unappropriated. But as time went on, new settlers came in and began the cultivation finding the products they had theretofore raised were less profitable, or that the cultivation of different and other products was more profitable, and from time to time gradually adopted a culture that required for its successful prosecution, irrigation for the entire year.

We think that it might be safely assumed that when a man enters upon a piece of government land and has conformed to the requirements imposed by the national government as conditions to the acquisition of the title to that land, makes improvements upon it and finally becomes the owner of it, that he intended from the time of the initiation of such proceedings to make that land produce all that it could to his profit; that if he discovered that it was adapted to a more profitable production though requiring more extended cultivation and irrigation he would have the right to avail himself of those possibilities. But he could not do this unless he had the water for such new culture, at a time he had not theretofore used it, and we are again reverted to the extent of the appropriation. It is a question of fact to be determined as any other question of fact is. If, as a matter of fact, the settlement upon the land was with an intention to appropriate water simply for the raising of hay and grain, the settler could not by virtue of that appropriation use it for any other purpose, as against subsequent appropriators. The question is one of great practical difficulty. As before noted, the first cultivation in the valley was to grain. Subsequent settlers finding the water flowing down the river unappropriated and being wasted after the harvesting of the grain crops, settled upon lands, reclaimed them and planted therein alfalfa, and orchards and vineyards. So long as the earlier settler continued the use of the water as he had theretofore, so long there was no dispute as to the right to use the water, for there was an abundance for both, but as the earlier settler in the pursuance of his right, if such right he had, planted his field which he had formerly cultivated only to barley, to alfalfa and trees, the supply of water was insufficient.

Public policy requires that this question should be determined in such a way as shall conduce to the greatest good of the greatest number, or that the question of the appropriation, use, and distribution of water shall be determined in such a manner as to encourage the highest development of the lands and increase their products to the greatest extent. It may be that the earlier settler intended only to plant barley. It may be that if he did change the cultivation of his land to a culture that required water for the greater period of the year, that



he was induced to do so by the example of the newer settler, and that had it not been for the newer settler the older settler would not have attempted the new culture. It is desirable that the new culture be encouraged. But to say that while that is desirable, and that while the water was wasting at a definite period of the year no one could appropriate it for the purpose of a cultivation resulting in a greater public benefit than that which had theretofore followed unless the new settler made his appropriation subject to the right of the earlier settler and made possible, by the exercise of the earlier settler of his right, his deprivation of water necessary for this culture, and the consequent loss of immense labor is, to say, practically, that there shall not be an advancement in the methods of cultivation and improvement in the character of the products of the valley. Yet, as we have just noted, the first settler may be presumed to have taken his land and appropriated the water for the irrigation thereof, with a view and intent then formed, to make that land produce the most profitably that it can. There would seem to me to be but one solution of the difficulty--the difficulty arising from want of specific evidence as to the actual intent of the first appropriator other than that which may be afforded by his use of the water, and that is to presume that the first proprietor of land intended to and in fact did acquire the right to appropriate water for any culture of his land that inured best to his benefit and profit.

As before stated, having determined the extent of appropriation, by which we mean the determination of the purpose for which the appropriation was made, we determine the superiority of right of several appropriations by determining the question of fact: Who first appropriated? As we have said, appropriation of water consists in the actual diversion of it from its natural course and its application to a beneficial use, and that that appropriator's rights are superior to those of others in the order of time in which their several appropriations were made, the first in time being superior. To determine the question of the time when an appropriation is made, we are not confined to the point of time at which an actual application of the water was made in the accomplishment of the purpose for which it was appropriated, but we may go back to a time when the first efforts were made

to make an appropriation that were followed with reasonable diligence and resulted in the actual appropriation, and that point of time will be deemed the time of the actual appropriation, by relation back thereto. In the case before us, large works were undertaken occupying years in their completion before the water could be actually appropriated. But if the construction of these works was prosecuted with reasonable diligence to completion, the right to appropriate water, if the right existed at all, dates from the beginning of the work. So it may have happened that persons may have made appropriations intermediate to the time of the beginning and completion of such works, yet their appropriation must be deemed subsequent to the appropriation accomplished by the former. The question of what constitutes reasonable diligence is not one of peculiar difficulty; the natural conditions and the difficulties of the work must be taken into consideration: and it is not the policy of the law to presume abandonments.

#### THE RELATION OF CANAL COMPANIES TO CONSUMERS.

Among the parties to this case are a number of corporations organized under the laws of this Territory, which claim the right to divert water from Salt River. The law of the Territory under which they were organized is not one especially providing for the creation of irrigating companies, but is a general incorporation law. These irrigating companies so incorporated have simply by virtue of their incorporation, the rights generally incident to corporations. Some of them were organized as disclosed by their constating instruments, for the purpose of constructing ditches, diverting the water from the river and selling it for consumption in irrigation to the occupants of land lying under the lines of their respective canals.

The question has arisen in this case, as to the right of a corporation to thus appropriate the water; whether it can make a valid appropriation of water, and whether it can appropriate water for sale. The water in the streams in Arizona is public, subject to be appropriated "for a beneficial use." It seems to me that this means the actual use of the water in irrigation,

mining, milling and domestic uses; that that is what is meant by "useful purposes," and that water cannot be appropriated for sale. Indeed, it seems to me that in this Territory there is no private property in water. It is public property subject to the uses that we have before defined. If in that use it is entirely consumed, it does not matter, for consumption is not an incident to ownership of water any more than the consumption of the amount of air that we breathe into the lungs and vitiate and destroy as air, thereby makes the air our property. We have a right to use it, and if the use results in its destruction or vitiation, the right is none the less nor greater. It then becomes important to consider what rights, if any, corporations which have constructed at large expense these irrigating canals, have. It is a familiar principle governing dealings among men, that whatever one may do himself he may do by another, as by an agent. There is not doubt that a community may by joining together and contributing labor or money, or both, to the construction of a ditch of sufficient capacity to divert and carry water necessary for the irrigation of their lands, accomplish the result more cheaply, better, with less waste and more promptly, than if each attempted by a separate ditch to divert and appropriate the water which he himself needed, and it seems to me that there can be no doubt of the right of a community or an association of valid appropriators to thus combine. It is but a step further and in the same direction to say that this community can select or appoint an agency to construct their works and do the actual work of diversion and delivery of water for their use; and there is nothing in the law of this territory that prevents a corporation from sustaining just this relation to the water appropriators. Many of these corporations claim the absolute right of appropriation; and their business affairs are conducted on the theory that they as corporations are the owners of the water. There are many cases reported in the books wherein the courts refer to a sale of water by corporations as a business, seemingly thereby to recognize the right of a corporation to acquire by diversion a property in water. My attention has not been called, however to a case that expressly decides that either an individual or a corporation can acquire such a right. In applying the rules laid down in California by her courts, a distinction which is often

lost sight of should be observed. California is a state, sovereign in all matters not expressly of national concern, and may regulate and define the tenure upon which property may be held within its territory. It may declare or abrogate the Common Law doctrine of riparian rights. It may declare ownership in water running in the streams and water-courses of the state in others than riparian proprietors, and may allow such ownership for purposes other than that of immediate beneficial use. It may declare the diversion of water for sale to be for a beneficial use; and the constitution of that state taking effect January 1, 1880, Art. 14, Sec. 1, prescribes:

"Art. 14, Sec. 1. The use of all water now appropriated or that may hereafter be appropriated for sale, rental or distribution; is hereby declared to be a public use." \* \* \*

(And we may add here, *passim*, that the same article provides that such use shall be subject to the regulation, and control of the state.) On the other hand, the Territory of Arizona is only a temporary government erected by the national government. We possess none of the attributes of sovereignty--those all inhere in the United States. The legislative power conferred by Congress upon this territory to legislate upon all rightful subjects of legislation, does not vest the territory with sovereignty, any more than does the charter of the city of Phoenix by conferring upon its Common Council certain legislative power--as of taxation--make the city of Phoenix a sovereignty. Indeed the political status of our territory to the United States government is almost if not quite strictly analogous to that of a subordinate municipal corporation to the sovereignty that creates it. We can look alone, then, to the legislation of Congress and to our own legislation within the limits prescribed by our own organic act, to ascertain the rights that may be acquired to divert and use water. We cannot go further than Congress has expressly and impliedly authorized it, for the doctrine of appropriation of water is in derogation of the common law rights of the United States as proprietor, and of the rights of its grantees. Reference to the acts of Congress, the one of 1866 and of 1877, (the Desert Land

Act), \* will disclose the purposes for which Congress has authorized an appropriation of water. The act of 1866 defines those uses to be mining, agricultural, manufacturing, or other purposes. I do not think that a sale of water is a use of water, any more than a sale of wheat or any other commodity is a use of it; and that that was the intent of Congress we derive from its subsequent legislation of 1877 wherein it is provided that the water \* \* \*

"shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes." But whether the act of 1866 authorized an appropriation of water for sale it is hardly necessary here to determine, for it is not claimed by any party to this suit that it acquired or initiated any right to divert water for sale, prior to the act of 1877. \*\* The act of our own legislature, providing for the appropriation of water which was in effect at the time of the adoption of the act of 1866, recognized the appropriation of water for mining, agricultural and mechanical purposes, and suggests no others, and that law is a "local law" which by the act of 1866 is made a measure of the right of appropriation. It would seem to me under this state of our law, even prior to the act of Congress of 1877, that neither a corporation nor an individual can by the construction of a canal and of a dam, no matter how elaborate or expensive, become the owners of an amount of water equal to the capacity of its or his canal, nor become vested with a right to divert any greater quantity of water than may be necessary to supply its or his needs as an irrigator, miner or manufacturer, and as a

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\* The provisions of the act of Congress of March 3, 1891, amendatory of the desert land act of 1877 are elsewhere noted.

\*\* The professed purpose of the organization of the Salt River Valley and the Maricopa Canal Companies as disclosed by their constating instruments and their practice relative to distribution of water will be noted in the finding of facts which is to follow. These were the only corporations in the Salt River Valley organized for the purpose of diversion of water prior to the act of Congress of 1877 known as the desert land act.

quasi-agent to supply them sufficient for their needs, irrigators, miners or manufacturers. To say otherwise is to say that they may divert water and refuse to deliver it to those who may have use for it. If they are the owners of it they may store and impound it, or waste it and discharge it upon the desert, to the advantage of nobody. To say that they are the owners of it is to say that they have the right to control it, and they are at once a monopoly which it seems to me to be against the public policy to permit to be created. So, in my opinion, a canal company whether it be a mere association of persons who may or may not be land owners, or may consist indifferently of both, whether it be a corporation or whether it be an individual, cannot become the owner of water. The total amount of water that a canal company, as well as either an individual or an association of land owners may divert from a stream in this territory, is the amount they devote immediately and not mediately to a useful purpose. In other words, the amount of water needed by those to whom water can be supplied through such canal and to whom such water is actually supplied and no more.

The Constitution of Colorado provides:

"Art. XVI. Sec. 5. The water of every natural stream not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided." A comparison of this language with that employed in the Desert Land Act, while there appears a difference in phraseology, discloses no difference in substance. The language of the Desert Land Act is. \* \* \* "and all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining and manufacturing purposes, subject to existing rights."

"See act of Congress entitled "An Act to Provide for the Sale of Desert Lands in certain States and Territories," approved March 3, 1877.)

U. S. Stat. 2d Sess. 44th Cong. p. 377.

Sec. 8. Art. 14 of the Colorado statutes provides that the general assembly of the state shall provide \* \* \*

to establish reasonable maximum rates to be charged for the use of water, whether furnished by individuals or corporations. Certain of the statutes of that state contain provisions for the regulation of the purchase and sale of water.

In the case of Wheeler vs. Northern & Co., 10th Colo. 582, the Supreme Court of that state discusses at some length the power of a corporation to acquire property in water. After noticing the provisions of the Constitution, and thereafter the statutes which seem to recognize such a right, Helm, C. J., speaking for the Court, says: "But giving these rights all due significance, I cannot consent to the proposition that the carrier becomes a proprietor of the water diverted."

#### QUANTITY OF WATER THAT MAY BE APPROPRIATED.

The quantity of water to which a person may be entitled for irrigation is necessarily an indefinite quantity. Definite quantities of water have been spoken of throughout the proceedings in this case; the Tempe Canal Company, for instance, claiming 11,000 inches of water, etc. An inch of water is a definite quantity of water, as before stated, and is a unit of measurement in this valley. The law is, that water may be appropriated for a useful purpose, and a valid appropriation is necessarily limited to the accomplishment of that purpose, and there can be no definite appropriation of any amount of water over and above that which the necessity requires. The amount of water necessary for irrigation even on the same identical piece of land and for the same crop, may not be constant. It varies with the season, varies with the rain-fall, varies with the temperature, varies with the manner of cultivation.

The amount of water necessary for irrigation in this valley varies between very wide extremes, being affected by the character of the soil, which varies greatly, by its location, by the length of time during which it has been irrigated and cultivated, by the character of the crop, by the method of its irrigation, by temperature, by amount of rain-fall, and by the prevalence of the winds. It cannot be determined in advance what amount of land an inch of water will irrigate. If an inch of water

is too small for a given quantity of land and the appropriator is limited to that amount, though he may have a valid right of appropriation of an amount sufficient for the irrigation of the land, he is deprived of his right; and on the other hand, if an inch of water is too much for the irrigation of the given extent of land, then the amount taken by an appropriator who takes an inch for such land exceeds that to which he is entitled, and others are deprived of its use. While it is to be desired to limit to the smallest possible quantity the amount of water that may be used by the land owners in this valley consistent with the proper cultivation of the soil, yet, as I have before said, the conditions are so varied that it cannot be done by fixing any definite quantity in advance of its use. The best that can be said is, that the extent of a man's appropriation must be measured by the necessity as it exists at the time it is attempted to be measured. It is in evidence in this case that there are lands which produce a full crop of alfalfa throughout the year with the use of not more than one inch of water to ten acres. It is also in evidence, as to other lands planted to alfalfa, that it requires for the production of a full crop on them, the use of half an inch to the acre. To fix a definite quantity to which the respective owners of lands might be entitled, we must resort to an average of the requirements of all the lands; so in the cases we just mentioned, taking them for the purpose of illustration an average between half an inch per acre and the tenth of an inch per acre would be three-tenths of an inch per acre, and in that event he whose land was irrigated with one-tenth of an inch per acre would have two-tenths of an inch per acre too much water, while the alfalfa on the land requiring one-half an inch per acre, if limited to the average found, would for the lack of water be destroyed. An average is never right, except accidentally; it is always too much or too little for any particular case.

#### PRO-RATING AND OTHER AGREEMENTS.

It appears from the evidence in this case that the owners of lands under a number of the canals, have entered into contracts with the corporations who claimed



to be owners of those canals, for the delivery of water to them for the purposes of irrigation. These contracts in general terms, between the Arizona Canal Company, the Grand Canal Company, the Maricopa Canal Company, the Salt River Valley Canal Company, and the Highland Land and Water Company, are similar. It is provided in those contracts that in the event of an insufficiency of the water in the river to supply all who may need it, those companies may respectively distribute the water among their customers, pro rata. This presents a question somewhat novel in this Territory, and one of very considerable importance. Its importance is suggested by what has elsewhere been said, that the right of a canal or ditch company or owner to divert water is dependent upon the needs of those whom it supplies who have a valid right of appropriation. It is always the policy of the law to declare that principle governing the dealings among men, which shall conduce to the greatest public good and as will best accomplish the result contemplated by the law makers--the observance of the public good being really the purpose of the law makers. The law of this Territory is, as before stated, that he who is first in point of time in the matter of the appropriation of water for the purpose of irrigation, is first in right to take that water. These pro-rating agreements render this provision of law practically nugatory, for it places all who are under these canals upon an equality so far as priority is concerned. There is no limit to the extent of land to which these canal companies may agree to furnish water, and therefore he who was first in the valley and took from Salt River the first water that was applied to the cultivation of the soil, may by these agreements be required to submit to a distribution of the water among the owners of such an extent of land that the water applicable thereto will not produce a crop. The carrying out of these agreements, then, may result in the deprivation of some who are entitled to water sufficient for the cultivation of their crops, and in the attempt to irrigate so considerable an extent of land none of them may be properly irrigated and thereby crops may be lost. This is a direct public injury and, as I think is hereafter shown, directly contravenes the policy of Congress as found outlined in its acts relative to that subject, and of our own local legislation, and the courts should not give countenance to that which so results. I shall discuss later, when

considering the question whether a right to appropriate water for irrigation is appurtenant to the land for which the water was actually first appropriated, the policy of the national government in authorizing the appropriation of water. If I am correct in the conclusion reached (hereafter discussed), that the right to appropriate water for irrigation is appurtenant to the lands for which the water was originally appropriated (of course subject to forfeiture by abandonment), the same policy that forbids a segregation of the right of appropriation from the land, equally prohibits a diminution by agreement of the right to appropriate the quantity of water an appropriator has the right to take for the proper irrigation of his land--otherwise he might do indirectly that which he cannot do directly.

If he may by means of these pro-rating agreements consent to a diminution of his right to any extent, however slight, I see no reason why it may not be continued to an absolute destruction of the right itself. We are then confronted with the question: If these contracts be against the policy of the law and therefore invalid, what is the situation of these companies who are the real as well as the nominal parties in this proceeding? If what I have said as to the right of appropriation being simply a right to take and apply water to a useful purpose be true, then the right of a canal company to divert water from the river depends upon the right of those who have acquired a right of appropriation and who by agreement or otherwise have the right to have the water diverted through and carried by that canal for the purpose of irrigation, and if any agreement between such consumers and the canal companies is invalid because of being against public policy, we have presented for our consideration this further question as to the right of the consumer to water at all whether they have abandoned their right to the use of water, or whether their agreement with the company is simply invalid to the extent that it violates, if it does violate, the public policy outlined in the course of Congressional legislation, and that in that event they are entitled to the use of the water just in that order of time and priority as if the agreements had not been made. It appears that those persons who are now the owners of the lands originally irrigated by water taken by and carried through the Swilling Ditch, have entered into these agreements with

some one or more of these corporations. They have accepted from such corporations what purports on its face to be a grant of the right to the use of the water of the corporation. Have they then abandoned the right which had inured to the owners of these lands under that old ditch? And when I speak of the Swilling, I do so merely for illustration, for the same question applies to nearly all if not all of the canals in the valley. If there has been an abandonment by this acceptance by the land owners of the grant to the use of water, then the priority that the owners of these lands which were first irrigated had, has been lost.

The law does not favor abandonments or forfeitures. It can hardly be said, considering the evidence in the case, that these persons intended to abandon their rights, nor has there been an abandonment through laches, for the evidence discloses that there has been a continuous use by these persons of the water formerly appropriated by them or their grantors. Nor would a declaration of a forfeiture or abandonment now by the courts subserve that policy which we have conceived to be the one that prompted our congressional legislation.

I am then, of the opinion that these agreements to pro rate are void because in violation of our express statutory provision that he who is first in point of time, shall be first in right supplemented by the act of Congress of 1866, and of the express provisions of the act of Congress known as the Desert Land Act, and the amendments thereto of 1891, and of the policy of the government there outlined.

In Colorado the Supreme Court announced a doctrine relative to agreements among appropriators to pro rate apparently in conflict with the conclusion to which I have come:

Schilling v. Rominger, 4th Colo., 100.

In that case, however, which was decided in 1878, the particular agreement which was under consideration was made and had been acted upon before the enactment of the Desert Land Act. In that state there is a statute providing for a pro rating among consumers in certain cases, and the question came up again in the case of:

Farmer's Highline & Co. vs. Southworth, 21 Pac. Rep., 1028.

Each of the three justices delivered an opinion. The case is instructive and emphasises the difficulty of

the question. Justice Hayt declined to give an opinion upon that particular question, stating that it would be time enough to do so when it was properly presented by the pleadings. Justice Elliott very vigorously assails the constitutionality of the statute, and among other things, says:

"A single illustration will suffice to show the disastrous consequences which would ensue if the pro rating statute should be made the rule for the distribution of water for irrigation, instead of the rule of priority:

"An irrigating ditch is constructed, the first and only one taking water from a small and natural stream. The first year, five consumers applied for and received, each, one hundred inches of water for the irrigation of their lands. The next year, the ditch being enlarged, five more apply and receive the like quantity. The third year, five more, and so on successively until thirty or forty consumers are located under the ditch. Perhaps the first five might be required to pro rate with each other in times of scarcity and their appropriation being practically equal in point of time. But under the statute the first five would also be compelled to pro rate with all subsequent consumers until the amount of water that each would receive would become so infinitesimally small as to be of no practical value, and would eventually be entirely wasted before it could be applied. It requires volume or head of water to irrigate successfully. Under circumstances like these, what mockery to pretend that the pro rating statute is a reasonable regulation provided for the distribution of water for the early settlers and prior appropriators who bought and improved their lands and expended their money, relying upon the doctrine that priority of appropriation shall give the better right as between those using water for the same purpose.

"It may be said that the foregoing illustration is founded upon an extreme and unusual case; but extreme cases are often necessary to test the correctness of a general rule."

Chief Justice Helm, on the contrary, maintains the constitutionality of the statute upon the grounds, first, that it would be wholly impractical to apply the rule of prior right among a large number of consumers, and second, the view that that statute be unconstitutional, rendered

other legislation delusive; that other provisions beside the pro-rating section must fall.

The second reason assigned by Chief Justice Helm does not concern us, because the result he anticipates is one dependent upon their statute, and would be inapplicable here. I cannot concede that his first reason is valid-- that it is difficult to ascertain facts upon which rights are predicated is not a reason why a court should refuse to administer justice. In a dispute between two the question of priority is ordinarily easily ascertained, and the Court will restrain an infringement by one upon the rights of the other. Why the Court should decline so to do when the right of the first is infringed by twenty or by five thousand persons I cannot understand. The mere difficulty of ascertaining the fact cannot and ought not to change the rule of law.

The distinction between the Colorado case and the one at bar, in that that was based upon a statute compelling pro rating, and this involves the right to effect the same by voluntary agreement of the parties affected, is noted; but I, as stated before, am of the opinion that parties cannot by their agreements thwart the whole scheme of Congress devised for the reclamation and cultivation of the desert lands.

While the relations existing between the several corporations and their customers cannot in this proceeding be directly adjudicated and the judgment of the Court cannot bind those customers, nevertheless, as I have before said, the determination of the right of these corporations to divert water must depend upon the right of their customers to have water supplied to them--hence the consideration of the validity of these contracts.

It might be suggested that there is a limit to the extent of lands for which canal companies might contract to deliver water; that the canal companies themselves have fixed a limit; the Tempe, for instance claiming a right to divert 11,000 inches of water, the Salt River Valley Canal Company 6,000 inches, the Maricopa 6,000, the San Francisco 4,500, the Grand 10,000, the Utah 2,500, the Mesa 6,000, the Highland 6,000 and the Arizona 50,000-- this makes an aggregate of 96,000 inches. It may be argued that none of them would attempt to contract to deliver water in excess of their carrying capacity. But this statement of their claim shows a capacity seven or eight times as great as the volume of water in the river

at its lowest stages. So the limit to which they should be confined is already passed--were it not this suit would not be pending.

There is another provision of some of these contracts, which has been the subject of much discussion among counsel in this case, that requires the attention of the Court. The contract into which some of the purchasers entered with certain incorporated companies, parties to this proceeding, for what have been termed "water rights," provides that neither the selling of water to the purchaser nor the fact that the purchaser uses water out of the canal, or that the water sold by the canal company shall be used to irrigate any particular tract of land, shall give any right to the purchaser or to the owner of the land to the continuance of the supply, or give to the purchaser any claim to the use of water for any other time or times than that mentioned in the contract, nor shall such use be construed into a custom or usage or precedent for the use of water for any other year or time than that mentioned in the contract, nor shall such use be construed into a custom or usage or precedent for the use of water for any other year or time than that mentioned in the contract; and it is further provided in those contracts that the purchaser waives any and all right or claim which he may have by virtue of any statute, custom or law, of the use of water from the canal after the expiration of the period of time limited by the contract.

It is argued by the plaintiffs that the provisions of this contract constitute an express waiver by the purchaser, of any right of appropriation of water which he may theretofore have had. It will be noted that the waiver is a waiver of any right which the purchaser may have by virtue of any statute, custom or law to the use of water from that particular canal after the expiration of the period of time limited by the contract.

Counsel for the defendants very ingeniously and plausibly argue that this does not constitute a waiver or abandonment by the purchaser of any right he may have acquired before entering into the contract to appropriate water from the river, but that it only defines his rights as against the canal company. It seems improbable that owners of land the cultivation of which depends upon the use of water, should voluntarily abandon a right, once acquired, of appropriation of water--there is nothing in the evidence indicating that there was any consideration

for an abandonment. On the contrary it appears that the owners of these lands continued the use of water for their cultivation and made improvements, and planted trees and vines for the enjoyment and maintenance of which the right to use water for a time extending far beyond the period limited by the contract is necessary. By their acts, by their conduct, they evinced anything but a purpose to abandon a right, the possession of which was so essential.

In the case of South Boulder vs. Marfell, reported in 25th Pacific Reporter, at page 504, the Supreme Court of Colorado, in discussing the rights of a consumer who had entered into an agreement with a canal company, in which agreement there was a provision that upon the failure of the consumer to pay a certain annual rent or delivery charge, he should forfeit and relinquish all rights and claims whatsoever, both against the company and in and to the use of water from the ditch of the company. It appeared that the consumer had refused to pay the water rental, and litigation arose. Chief Justice Helm, speaking for the Court, says:

"Whether appellees could by contract forever relinquish rights relating to the water conferred upon them by the Constitution and statutes, we need not determine. The instrument itself in our judgment does not indicate any such intent. It contains no declaration that upon a failure to accept the annual proposition and make the annual contract the consumer abandons all right to obtain in any manner water from the carrier's canal. In the absence of an express declaration or clear implication to the effect that such omission or failure should produce a forfeiture of constitutional and statutory rights collaterally provided for in the agreement, such collateral rights would in any event, unquestionably remain. The simple and obvious meaning of the provision is, that the rights and claims intended to be forfeited are those mentioned by the instrument itself."

The canal company is but a carrier, and I know of no principle of law in the absence of statutory provisions that compels it to carry against its consent or will.

That one has a valid prior right of appropriation of water from Salt River, in itself gives him no right to have that water conveyed to him through the works constructed by another whether that other be an individual or a corporation. He can only do that by and with the

consent of the carrier. Nor is there, it seems to me, any reason why the carrier may not limit the period of time during which he or it will consent to carry the water that another has appropriated. But however that may be, it is only necessary to decide for the purpose of this case, that these agreements do not operate to deprive the consumer of his right of appropriation.

As has been before said, the right of a canal owner, whether a corporation or not, to divert water, depends upon the fact that there are persons, the owners or occupants of land having the right of appropriation of water for their irrigation, whom they supply with the water for that purpose. If, then, a canal company have agreements with its customers or any of them limiting the time during which it will carry water to such of those who have a valid right of appropriation, it would after the expiration of that time have no right to divert the water to which such persons are entitled.

#### RIGHT TO APPROPRIATE WATER APPURTENANT TO THE LAND.

It appears from the evidence that some of the canals, the owners of which are parties to this proceeding, were constructed by associations of individuals without any attempt at corporate organization. The associations have a nominal capital stock, and certificates of the ownership of that stock were issued to persons who were the constituent members of the organizations, and by the practice of the association there was incident to the ownership of each of these certificates or shares of the stock, the right to the use of a proportionate part of the water diverted by and conducted through the association's ditch. In the first place not all of the shares were issued, but have from time to time been issued, so that the whole amount of the capital stock is now outstanding. These shares were transferable much as shares of the capital stock of a corporation are, by assignment and transfer thereof on the books of the association. Most, if not all of the shares of this association have in that manner changed hands, and persons now the owners of such shares by such transfers, claim as incident to their ownership, certain rights to the use of water. It is urged by some of the defendants in this case that the right to use water



is a right lying in grant, and that it cannot be transferred by parol, but that it must be done by deed, and that the attempt to pass such rights by assignment of the shares of the stock in the manner adopted, results in an abandonment by the original appropriator of his appropriation of the water, and that the grantee or transferee of the stock becomes simply an appropriator himself, his right to take it dating from a time subsequent to the time such share was transferred to him. Of these associations the Tempe Canal is one. If this be the true construction of the law, then from the evidence it would appear that the rights of most of those who claim the right to the use of water diverted by and conducted through the Tempe Canal, would be subsequent to that of those who obtained the right to use the water diverted by and through canals and ditches constructed long since the Tempe Canal. It is and must continue to be until finally determined, a question of very great interest and importance to the citizens of the Territory, whether a right to divert and use water for the irrigation of land is an appurtenant to that land, or whether the right can be a distinct right to take water, independent of any ownership or occupation of any land whatsoever; and a solution of that question affords us the means of the determination and definition of the rights of such shareholders. If what we have said before relative to the appropriation of water in this Territory be true, it follows, I think, that a man cannot be the owner of a right to appropriate water from a river in this Territory, unless he has for it some beneficial use. It is in evidence in this case that there are owners of the capital stock of some of these associations, who have not any lands and who have never used any water whatsoever for the irrigation of land, or for any other purpose, but have from year to year and from time to time let out, leased, or attempted to lease their right to the use of water to some other persons who were the owners or occupants of land.

It further appears that some of the owners of shares to which by the practice of the company there were incident the right to use water from the canal while they have been the owners of land for ten years or more capable of being irrigated by the water taken from that canal, have not cultivated the same or applied water to it nor permitted any one else to use the same or apply water to it, but have leased their alleged right to use water to others to

take and use the water diverted and conveyed by the canal. There is one specific instance wherein it appeared that a man entered a section of government land under the provisions of the Desert Land Act, reclaimed the same by means of his right to the use of the water, derived from his ownership of certain shares in the capital stock of the canal association, who has never since cultivated that land or any part of it, or permitted any one else to do so, but has allowed or attempted to allow others to use the water to the permanent right to which, in his proof required under the Desert Land Law to entitle him to a conveyance of the land, he adduced evidence.

There is now a scarcity of water; were there not, this suit would not be pending. What can be the right of this man who claims to be the grantee of the government, of land under the provisions of the law which required that he should have the right to the permanent use of the water for its cultivation, as between himself and those whom he has permitted to use that water? There is not enough for both. Either the lessees of this right who have used the water and thereby made productive lands in the valley, or the lessor who has not used the water, is the owner of the right to such use--and this is an important question, which sooner or later must be determined. While some of the owners of lands claiming the right to use the water for the irrigation thereof, are parties to this suit, there are other parties to this suit, viz: the corporations, who have constructed, operated and maintained the canals, who are not the owners of land. Nevertheless, under our view of the law, it is the individual ownership of the land and the right to use water therefor, to which we must look to determine the rights of the parties to this proceeding. If one of these corporations or associations, having constructed, maintained and operated a canal, does not apply the water to some beneficial use and has no customers who do apply the water that they divert, to some beneficial use, it has no right to divert the water at all. Permanence of ownership of land, and, under the conditions in this country, of right to appropriate water necessary to cultivate it, are necessary to the best development and highest degree of production of that land, and a course of dealing between individuals themselves or between individuals and corporations, whereby the right to the use of water is abridged and made less than permanent, is directly injurious to

the general good, and consequently against public policy. While one who has the right to divert and use the water may abandon that right, or may forego the use of the water for a time without abandonment, yet there cannot, it seems to me, be a course of dealing between persons who claim a right to the diversion of water whereby such use of water may be a mere matter of barter and sale.

The greater portion of the cases that have been decided by the various courts of the Pacific Coast states and territories, involve questions concerning the rights to the use of water for mining purposes. The doctrine of the right of appropriation of water and principles governing its use was first announced in cases involving the right to such use of water, and to those cases the courts have latterly looked for the principles that should obtain in the determination of the rights to the use of water for irrigation. This, I think, has led to some confusion, because the analogy between the use of water for mining and its use for irrigation is not complete. In using water for mining, the use is strictly a mechanical one; it is needed for no other purpose than that its mechanical power shall be applied to the separation of gold from the earth that contains it. Hydraulic mining is a California invention and the tremendous mechanical effects produced by the use of water in mining under that system has excited the admiration, and almost the wonder of engineers. But in no sense is its use for that purpose similar to its use for irrigation. The water is not consumed in the process of mining. It is true that the water was often lost because of the fact that it had been used in mining, and that it was often so deteriorated that it was unfitted for any other use, but this was merely incident to its use as a mechanical power; and not necessarily incident. It is a use as distinctly mechanical as if it had been used for the propulsion of machinery. The force of the water by its direct impact of the particles of earth containing the precious metals, separates the earth from the minerals. The fact that there might not have been intervening between the water itself and the object of the mechanical operation any machinery or mechanical appliance, makes no difference. Upon the other hand, water for irrigation is not in any sense a mechanical use. The element of force or power does not concern the irrigator of land, except to the mere extent that it serves to convey the

water to him; that is, by the force of gravity, water will deliver itself from a source higher in elevation than the point at which its use is desired, to that point. No amount of rain would help the miner in his operations except indirectly by storing for his use a source of power. On the other hand, rainfall renders the use of water unnecessary, temporarily, to the irrigator. The requirements of mining, just as of the miller, demand a constant, uniform and definite supply of water. The requirements of the irrigator varies both in time and quantity. If a miner or a miller has acquired the right by grant, license, prescription or otherwise to the use of water for a given mechanical purpose, he has acquired the right to a definite quantity of water that is commensurable. And again the analogy fails when we come to consider whether the use to which water may be put may be changed, or whether the locus of its use shall remain as at first. In mining, the use of water cannot be confined for any considerable length of time to a particular locality, because as the process of mining proceeds, the earth is exhausted of its minerals and the water must be used elsewhere--and hence it was the policy of the government that it should be so used, because mining operations could not be carried on otherwise.

As each cubic yard of gravel containing mineral is subjected to the mechanical process of hydraulic mining, the purpose of that process has been served and the mechanical power of the water is applied to the next cubic yard of earth, and so on until the entire field has been subjected to the process, and the use of water to that particular purpose in that particular locality has ceased to be beneficial; while with irrigation, the application of water to any particular square yard of earth does not render unnecessary the future application of water to it; in fact the application must be continuous. So that in considering the cases, we must not lose sight of this distinction between the use of water for mining, which is a mechanical use of the water or a use of water for its mechanical power, which is accomplished by one application to any locality, and the use for irrigation which is continuous from year to year. It is, no doubt, a failure to note these distinctions that has led to the belief by some that the use of water for irrigation may be changed from place to place at the will of the appropriator.

It has been the policy of the general government during all that period of time covered by the events that we are discussing, to induce the rapid settlement upon and development of public lands, and to that end it has proposed to bona fide settlers, liberal terms, upon compliance with which they can obtain title. The Desert Land Act, for instance, provided prior to its recent amendment (and that is the law under which title to most of the lands in this valley was acquired), that a citizen of the United States might settle upon and acquire the title to 640 acres of land upon the condition that he would reclaim it from its desert character by the application to it of water. The price of the land was fixed at a dollar and a quarter an acre, and express license was given by the act to appropriate any waters of the public streams for the purpose of reclamation and cultivation.

The desire of the general government to have these lands settled upon and thereafter cultivated to the highest degree attainable, is what prompted it to this liberality in its terms. To say that the water so appropriated for the reclamation and cultivation of that land is not appurtenant to it, is to make possible a direct fraud upon the government and the defeat of its evident purpose. To illustrate, we may assume a case. Suppose that in a stream in the Territory there is a volume of water flowing sufficient to irrigate 640 acres of land and no more. A, locates 640 acres of land under the Desert Land Act, and diverts this water and appropriates it for the reclamation of that 640 acres. He then in due course prescribed by the statute, makes proof of his reclamation and appropriation of the water and pays his dollar and a quarter an acre and obtains from the government the title. The government expects of him thereafter, and has the right to expect of him, no less than that he shall diligently and in good husband-like manner cultivate that land. If however, he has the right to segregate from that land his water right, we may further suppose that B settles upon the same stream upon another 640 acres, and purchases of A his right to appropriate water and he, (B) may then in the same manner as did A, acquire a title from the government. And so we may repeat the process until we have an indefinite quantity of land the title to which has been acquired from the government in direct violence of the intention of the government-- for upon our hypothesis there is not sufficient water

to irrigate more than 640 acres. It is a direct fraud upon the government and a direct perversion of its bounty which could not have been intended.

So, in my opinion, when one under the Desert Land Act has appropriated water for the reclamation and cultivation of desert land, he cannot segregate it, as it is appurtenant to the land. And what is said here of lands acquired under the Desert Land Act applies equally to land acquired under any of the provisions for the sale of public lands. The United States government did not propose to sell its land to private owners for speculative purposes--on the other hand, stringent regulations have been prescribed to prevent mere speculators from acquiring the title. The whole purpose has been to induce bona fide settlers who will cultivate the lands, to take them up. What a perversion of such intent if he who took up a timber claim, for instance, and should, after fairly starting the growth of timber, the very object the government had in view in giving him the land, be permitted to segregate from that land the right so generously given him to appropriate water, and make of it a subject of barter, sale and speculation--and by such segregation destroy that the existence of which was a condition to his title.

And in strict consonance with the view expressed that our territorial and national legislation contemplates permanency of right to use water upon land reclaimed is the amendment of March 3, 1891. That act was approved after the trial of this case, but it makes no change in the law as I understand it so far as the right of appropriation and use of water is concerned. It requires that at the time of filing the declaration required by the desert land act of an intention to reclaim desert land the declarant shall also file a map of the land which shall exhibit a plan showing the mode of contemplated irrigation, which plan shall be sufficient to thoroughly irrigate and reclaim said land and prepare it to raise ordinary agricultural crops, and shall also show the source whence the water is to be obtained:

26 U. S. St. 1096. ch 561 Sec. 4.

Can it be imagined that any plan for irrigation contemplating or disclosing a right to the use of water temporarily would be accepted by the government under this provision? Or a right less than a permanent one? It

cannot be conceived that the "reclamation" meant by that act, and by the desert land act of which it is amendatory, is a mere temporary one. And if the right is severable from the land is not the right, at the will of the land owner, merely temporary--if the right is segregated does not the land relapse into its desert character? If by some casualty, as a flood, his lands were destroyed or rendered useless for agriculture it is possible that he might settle upon another piece of land and apply his original appropriation of water to it, but by any voluntary act of his own, we do not think he can effect the segregation.

It is true that one who has acquired land and the right to appropriate water for its cultivation, may abandon that right and by his own neglect, laches, or expressed intention, forfeit it, but in so doing he exhibits a want of good faith toward the government by whose bounty he obtained title, and he should not be permitted to designate the beneficiary, by granting to some particular person not the grantee of the land itself, such right--if he has lost his right to appropriate, the common stock of water for public use is increased to that extent and can only inure to the next comer, who may appropriate anew, dating his appropriation from the date he actually makes it--a pretended grantee cannot "tack," if that term can be so applied to the process, his pretended grantor's right to his own.

I have come to the conclusion, then, that the right of appropriation of water for the cultivation of land becomes permanently appurtenant to that land, for without it the land is worthless; without the land the appropriation could not have been made.

It would follow, then, from what I have said as to appurtenance of the right to appropriate water to the land for which the appropriation was made, that a conveyance of lands under the Tempe Canal operates as a transfer with it of the water-right appurtenant to it, whether there be a transfer of the stock representing that right or not--the transfer of the stock being merely a convenient mode of making known to the Canal Company the fact of the purchase of land and the right to the use of water therefor. I am of the opinion that the transfer of stock cannot operate per se to transfer the water right. And so it must be said of those corporations whose stock is supposed to represent water-rights.

For the purposes of this suit it is not necessary here to decide what is the status of any shareholder who may have neglected to himself use the water the right to which is evidenced by his ownership of shares in the canal. If he shall have leased or attempted to lease his right to another and permit that other to assert by reason of such lease a right to the use of water, the right of that other is subordinate in point of time to that of any appropriator who made his appropriation prior to the time of the attempted lease. In other words such lessee's rights, if he has any at all (as against others than the alleged lessor), are those of an independent appropriator dating from the time of his first actual use of the water. He cannot acquire any priority against others by virtue of any transfer or lease from the owner of the shares, or by his consent. The owner of such shares, unless he himself be the owner or occupant of land upon which he uses the water, or of a mill which is propelled by the water, has not by reason of his ownership of stock, any right of appropriation, and of course he can transfer none. And when an owner of stock who is also the owner of land for the irrigation of which the water, the right to which is evidenced by his certificates of stock, was appropriated, and who has leased the same and failed and neglected to cultivate his own land for a long period time, seeks to obtain water, the question of his abandonment will arise. In the meantime he cannot claim for himself; and the rights of his lessee are subordinate to others in point of time, in the order of first actual use.

And as a necessary conclusion it must be decided that the owners of shares who have not a beneficial use for the water, have no right to divert it.

#### PRIORITY OF APPROPRIATION AMONG CONSUMERS UNDER THE SAME CANAL.

It has been frequently decided by the courts of last resort in most of the states and territories on the Pacific Slope, that the time to which is to be referred the vesting of a right of appropriation of water is not necessarily that time at which an actual diversion and appropriation of the water to the contemplated use, is made; it may



antedate that time. It is to be referred, in this Territory, to the time when the appropriator begins the construction of the means of diversion of the water and its conveyance to the point of use, if he shall have thereafter prosecuted the work of such construction, with reasonable diligence to completion, and made an actual application of the water to the contemplated use. What constitutes reasonable diligence, has upon particular facts, been the subject of frequent judicial decision. From these decisions it may be deduced that in determining what constitutes reasonable diligence in such cases, there must be taken into consideration the difficulties inherent in the natural conditions attending the enterprise, the magnitude of the work, the difficulty of obtaining labor, and material, etc. Mere want of pecuniary ability will not warrant delay, nor, it has been decided in one case, illness of the projector of the enterprise. So long as we have to determine only the rights of successive appropriators who have each provided his own means of diversion and conveyance of water, the rules are of each application.

The actual application of water to the contemplated purpose and its diversion from the original stream are two elements that must concur to constitute a valid appropriation. It is not necessary, however, that each of those concurrent acts should be performed by the same person: One may divert and another may make the application of water so diverted, and their combined acts would constitute a valid appropriation. And so, if a number should combine who are the owners of land, desiring to appropriate water for its irrigation, may agree with another, either an individual or a corporation, that that other shall provide the means of the actual diversion of the water, and thereafter their application of it to the purposes of irrigation would constitute a valid appropriation; but the right of appropriation is vested in those who make the actual application of the water to the useful purpose.

As has been before suggested, most of the consumers of water in the Salt River Valley obtain their water from ditches and canals constructed by others than themselves. The act of diversion, however, as we have said, and the application of it to the purposes of irrigation, constitute a valid appropriation. As, however, between those who take from the same canal or ditch, it has been suggested

that those in whom is vested the right to appropriate water in the aggregate equal to the capacity of the canal, are equal in point of priority, and further than that they are all prior as appropriators to any one who may have appropriated by means of some other ditch and canal, even though such other ditch and canal may have been begun and completed before the completion of the first after, but that actual appropriation may have been made under such other canal before some of the appropriations under the first if the Grand Canal through which the former take, was first commenced, and work thereon prosecuted with reasonable diligence to completion. It is argued that where, for instance, a corporation undertakes the construction of a canal of a capacity sufficient to carry water for the irrigation of say a hundred thousand acres of land, that a reasonable time shall be allowed from the initiation of the enterprise in which to complete it, and that all who take water by means of that canal may date their appropriations from the time of the commencement of the canal. From what has been said before, this doctrine cannot prevail. The right to appropriate has its origin, as we have before said, in our express statutory provisions upon that subject, and they all contemplate that he who is first in point of time, shall be first in right. It can be readily seen by assuming a case, how unjust any other rule would be. Let it be supposed that a large canal enterprise is undertaken. A canal is surveyed and its construction undertaken of sufficient capacity to irrigate a hundred thousand acres of land, and to divert from a natural water-course for that purpose the entire quantity of water flowing in that course. It can be easily supposed that the projectors of a canal might impose such terms either as to the use of water or the cost of its delivery as to deter the owners or occupants of land from taking water from that source. It is, then, obviously unjust that the public should be delayed by the want of agreement between a canal company and its proposed customers, and as equally unjust to say that the public should wait until such disagreement shall have been adjusted. The true rule, it seems to me, should be, that when a canal enterprise is undertaken, that those who being the occupants or owners of land have, relying upon their agreements then contemplated with the canal company or owner have gone about the reclamation of their lands

and the preparation of them for irrigation by that means, should be deemed to be appropriators of water dating their appropriation from the commencement of such canal provided that it shall have been completed with reasonable diligence. All others should be postponed as between themselves and appropriators by other means of diversion just in the order of the actual time of their application of the water. There can be no doubt, it seems to me, from a consideration of the evidence in this case, that the San Francisco Canal, the Tempe Canal, the Salt River Canal, the Maricopa Canal, the Utah Canal and the Mesa Canal have been enlarged so that their capacity to divert water has been from time to time increased; and I am of the opinion that the order of the priority of the consumers of those several canals, should take precedence in the order in which they actually completed their appropriation by the actual application of the water to the irrigation of the soil. The Tempe Canal did not divert in 1870, 11,000 inches of water, nor did it do so for a very considerable length of time after that date; nor did the Salt River Valley or the Maricopa Canals for a long time after the commencement of their construction, divert such an amount of water. But each and all of them have gradually increased the capacity to meet the increased demand of new irrigators. And it may be said of the Arizona Canal and the Highland Canal, that while they are now of the capacity originally designed, that nevertheless their appropriation cannot be measured by that capacity. Their right of diversion must be measured by the rights of those who have valid rights of appropriation of the water of Salt River, who have also, by agreement or otherwise, a right to divert the water through the Arizona and the Highland Canals.

Reviewing the entire doctrine of the right of appropriation of water, taking into consideration the fact that the water is public property subject to the use of the public, I cannot accede to the proposition that any canal company can by the beginning of the construction of a canal of large capacity, acquire the right to divert a quantity of water equal to the capacity of its canal, independent of the rights of actual appropriators. It must be admitted that if the Arizona Canal or the Highland Land and Water Company have no customers who have need for water and a right of appropriation of water, that neither of those companies

could divert any water at all. And it cannot, it seems to me, be said that either of those canal companies or any canal company or association, has a right to divert water as against one who has actually appropriated water by the concurrence of the acts of diversion and application to the purposes of irrigation, even though such company may not then have customers whose needs require an amount of water equal to the capacity of such canal.

It has been before said that it is my opinion that pro rating agreements are void; and yet, where a number have actually appropriated at one and the same time, their rights are equal. If they should have attempted to appropriate more water than was left for appropriation, they have perpetrated somewhere a fraud upon the government. As between them, however, nothing remains for the Court to do but to compel them to pro rate. As long as there is water enough for all, no difficulty arises.

#### USE OF WATER FOR MILLING.

Charles T. Hayden is the owner of a flouring mill in Tempe, the water for the propulsion of which has since 1874 been obtained from Salt River by means of the Tempe Canal, being diverted in the first instance by the Tempe Canal, and thence conducted to the mill through what is known as the Kirkland and McKinney Ditch, whence, after propelling the mill, it is discharged into the river. He claims that the defendants have by the diversion of the water above him, deprived him of the water which he had appropriated for the propulsion of his mill, and the use of which he had enjoyed before the construction of the Arizona Canal and the Cross-Cut Canal.

As before stated, Hayden instituted a suit subsequent to the commencement of this, seeking an injunction against certain of the defendants in this case to restrain them from diverting the water from his mill. A plea, in abatement, that this suit was pending was filed, and it was urged that the plea in abatement should be sustained and the Hayden's separate suit be dismissed. Practically it would make no difference whether the plea should be sustained or overruled, for Hayden's right must be determined. If I am right in the statement elsewhere made that the constituent members of the Tempe Irrigating Canal Company, of whom Hayden is one, are here not as individuals

seeking the enforcement of their several rights, but that they are here as co-owners of a canal asserting the right to divert by means of that canal a definite quantity of water from Salt River, then the pendency of this suit will not sustain a plea in abatement to Hayden's individual suit. If the contrary be true, then the plea should be sustained. But in that event Hayden's rights remain a part of the subject matter of this suit. The only question on the plea, of any importance, that could arise, is one of costs--that can be settled on a motion to tax.

Upon the evidence in the case, the court now finds against the defendants in the suit of Hayden vs. the Arizona Canal, et al, on the plea in abatement.

The evidence discloses that until 1888 the water to supply irrigators under the Salt River Valley, the Maricopa and the Grand Canals was diverted from the river at a point below the point whence the Tempe Canal makes its diversion. That since that time the Cross-Cut Canal has been constructed, so that water may be and has been diverted through the Arizona Canal at a point above the head of the Tempe Canal into the Cross-Cut and thence to the Salt River Valley, the Maricopa and the Grand Canals. Prior to the construction of the Cross-Cut Canal, the water necessary for the needs of irrigators under the Salt River Valley and the Maricopa Canals was diverted from the river at a point below that at which the water used in the propulsion of Hayden's mill was returned to the river, and their diversion by the means theretofore used could not in the nature of things interfere with the use of water for the mill.

The point whence the diversion by the Tempe Canal was made is above the point where the Grand Canal, prior to the construction of the Cross-Cut, made its diversion--the head of the Grand Canal, however, is above the point at which the water used by Hayden's mill is returned to the river.

It is urged by counsel for defendants that under our statutes the right to appropriate water for irrigation is preferred to its use for mechanical purposes, and Sec. 3203 R. S. 1887 (a re-enactment of Howell Code p. 501) is cited, wherein it is declared that "the right to irrigate the fields and arable lands shall be preferable to all others," and that therefore the right of an appropriator of water for mechanical purposes must yield to that of an irrigator

even though the appropriation by the irrigator be subsequent in point of time to that of him who uses water for mechanical purposes.

The question is a new one, it seems, as counsel have not cited any decisions involving the exact question.

In California there was a statute (1852) giving the right of action to any one who had settled upon public lands for the purpose of grazing or cultivation against trespassers, but provided that "if the lands so occupied and possessed contain mines of any of the precious metals, the possession or claim of the person occupying the same for the purposes aforesaid shall not preclude the working of such mines by any person or persons desiring to do so, as freely and unreservedly as they might or could do had no possession or claim been made for grazing or agricultural purposes." This act distinctly gave to miners the preference over agriculturalists on the public lands in the state. Disputes between miners and agriculturalists upon public lands frequently arose, and this act became the subject of judicial consideration.

Stokes vs. Barrett & Co., 5 Cal., 37

McClintock vs. Bryden, 5 Calif. 97.

Martin vs. Browner, 11 Calif. 13.

5th Cal., 308.

6th Cal., 45.

15th Cal., 100.

16th Calif., 153.

23rd Calif., 452.

The court in those cases seemed to place the preferred right of the miner as much upon the policy of the national government in reserving mineral lands from occupation and sale as upon their own local statute. The mere possessor of government public lands would individually acquire no right thereto--could not maintain an action for ejection or for trespass, ordinarily. However, certain rights are given to such possessors in most of the western states and territories, as the right of possession and undisturbed enjoyment as against all but the United States; and it is being the early policy of California to encourage mining, deeming it paramount to every other industry, the legislature withheld these possessory rights in favor of the miner. But it was distinctly held in that state that miners could not invade

the possession of a private owner of land, whether such owner was an agriculturalist or not. It was only where neither the miner nor the agriculturalist had title to the soil that this preference was given to the miner.

The act of Congress of 1866 confirms rights to the use of water for mining, agricultural, manufacturing or other purposes that shall have vested and are recognized by the local customs, laws and decisions of the Courts. This act, as I have aforesaid, vitalized the acts of our legislature, embodied in the Howell Code, the use of water for milling was made distinctly subordinate to its use for agriculture--so that he who made an appropriation of water after 1864, and before the Desert Land Act of 1877, made it subject to the preferred use of irrigators.

But whether the use by Hayden of the water of Salt River in the manner in which it is used does interfere with the use of it for irrigation, need now I think, be decided, for I am of the opinion that the act of 1877, the Desert Land Act, gave the right to appropriate water not theretofore appropriated, for milling purposes as well as for irrigation. The grant is there distinctly given for the appropriation of water for irrigation, mining and manufacturing. I do not think any preference was intended to be implied from the order in which the uses are named--wherever a preference is intended it is expressed.

So from 1877, at least, Charles T. Hayden has been a valid appropriator of water for the propulsion of his mill.

It is urged in the argument that Mr. Hayden has lost his priority by reason of the transfers of his stock at various times.

The history of the ownership of the shares claimed by Mr. Hayden need not be followed--that he has continuously used the water is sufficient evidence that his appropriation has been continuous and uninterrupted, and that there was no actual abandonment--that there may have been an intermediate grantee of the mill and of the appurtenant water-right does not alter the matter. It does appear that the mill and the shares of stock were at one time--and during the pendency of this suit--conveyed and assigned to one J. A. Ford; but it also appears that Ford was really but a trustee, and that conveyance and transfer cannot operate to defeat Mr. Hayden's rights.

## REASONABLE USE OF WATER.

Incident to the right of the inhabitants of this Territory to appropriate water for irrigation or other uses, is the restriction that such use, including the means and manner of diversion, distribution and application, shall be reasonable.

That the means of diversion shall be reasonably adapted to the purpose, to the end that the water that is made free to the public shall not be diminished beyond the quantity sufficient to supply the actual needs of the appropriator. That the methods of application of the water to the purposes for which it is appropriated shall be of a character to insure as small a consumption of water as is reasonably consistent with the accomplishment of that purpose.

No man has a right to waste a drop of water--any excess of water that he diverts and wastes by carelessness, negligence or ignorance of economic methods of cultivation or irrigation, or failure to adopt them, he unlawfully diverts.

It appears in the evidence in this case that large quantities of water is allowed to flow in the various canals and ditches to supply stock with water. This necessarily involves a great waste of water--at a small estimate I should think the evidence discloses an amount of water wasted thus sufficient, if properly applied to irrigation, to make productive 10,000 acres of land. The amount of water actually consumed by the stock is insignificant--the loss is that due to evaporation and seepage in its long passage through the various canals and the miles of subsidiary ditches. This, it seems to me, to be an unreasonable use of water. I do not mean to deny the right to the use of water for stock, for it has always been a recognized use, like that for domestic purposes. But it cannot, I think, be diverted from its original course for that purpose. It has always been the law that stock and the public could drink from a water course--but not to impede its flow or materially diminish its quantity for that purpose. Instead, I consider the law to be, of bringing the water diverted from a natural water course a long distance by means necessarily involving an enormous proportionate waste, to water stock, the stock must be taken to the natural water course to drink, or otherwise provided for.



If the water be in the ditches on a man's ranch in the course of application directly to irrigation, it might be permitted to allow stock to drink of it--but it is an unreasonable use of it to permit water to be in the ditches for that purpose alone.

Another matter for our consideration in this connection, is the right of the appropriator of water to the exclusive possession, maintenance, operation and use of the conduit, as he has prepared it, for the diversion of the water; whether or not, having constructed such a conduit, he thereby has the right to have the water flow in the river to that conduit and thence to the point where he desires to use it, or whether his right is limited to the actual delivery of water to his lands, with or without increased expense to himself, whether it be by means therefor provided by himself or by means provided by someone else. To illustrate: If those who operate the Highland Canal should divert from the river the water to which the consumers under the Tempe, the Mesa, the Utah and the San Francisco are entitled, and yet should that company deliver the water so diverted through its own canal to and upon the lands of those under the other canals named, in the quantities to which they are entitled to it, would those who constructed and since have operated and maintained the Tempe Canal, the Utah Canal, the Mesa Canal and the San Francisco Canal, have any just cause of complaint? Or have the owners of those last mentioned canals a vested right not only to the use of the water for the purpose of irrigation, but also to have it conveyed by means of their own conduits?

Following out to their sequence the propositions I have advanced as to the ownership of water and the right of appropriation, I am of the opinion that the entire right of the appropriator for irrigation is limited to the delivery of water, sufficient for the purpose, upon his land at a point whence he can use it for irrigation, and that so long as such water is so delivered he may be indifferent to any acts of diversion or obstruction of the flow of water in the natural water course, and has no just cause of complaint therefor. He might be compelled to adopt a more expensive means of delivery of the water to his lands if the means that he has already adopted are such as would result in a loss of water; for, as we have repeatedly affirmed, the water is public property; it is a common stock to which all may go, and no man has

any right by faulty construction of his conduits, or by their deficient construction, or by a desire to appropriate more than his share of the water, to diminish that common stock of the water to any greater extent than his necessities require.

This brings us to the question whether or not it is the duty of a prior appropriator to make use of such new means as may result in the more economical conveyance of water than those which he had theretofore provided for himself. Whether or not it would be his duty, if, for instance, he was an irrigator under the Tempe Canal, to construct a new conduit from the Highland Canal to his lands and thereby conduct his water at a considerable saving of the common stock of water, assuming, of course, that the Highland Canal is capable of carrying in addition to that which it is already under obligation to carry, the quantity sufficient for his use.

The variety of means adopted for the diversion of water, vary under different conditions. The person who first appropriates usually finds in the natural water course a volume of water in excess of that which he himself needs, and to divert the comparatively small proportion of the whole volume which he may need, would be inexpensive and easy of accomplishment. It is usually unnecessary for the first appropriator to construct a dam, or that he should excavate a ditch to the bottom of the water course whence he diverts his water, because of the superabundance in the natural water course, enough for his purpose may be diverted by less expensive means. As, however, others seek, subsequently, to appropriate a portion of the same stream above the point of diversion by the first, a diminution of the quantity of the water going down to the first appropriator, results in such a reduction of the volume of water that the means adopted by the first appropriator will not enable him to continue his diversion, and he must in order to get the water, either construct a dam so as to divert the water, or, excavate his ditch deeper so as to reach and divert the water from the diminished quantity flowing in the natural water course. This would, of course, entail an additional expense upon the first appropriator. To illustrate the question, let us suppose that upon a water course there is an average flow of water of four feet in depth: That the construction by the first appropriator of a ditch, the bottom of which is two feet below the surface of the

water, enables him thereby to divert all the water that he needs. Suppose that thereafter another appropriator constructs above the point of diversion by the first, a ditch which appropriates two feet in depth of the water, and diminishes it so in volume that instead of flowing by the point of diversion by the first, four feet in depth, it now flows only two feet in depth. Still the quantity there flowing is sufficient to supply the needs of the first appropriator. It will be seen that the first appropriator cannot by the means he then had, divert his amount of water, and there is necessarily entailed upon him an expense of either further excavation of the ditch or the erection of a dam in order to raise the surface of the water to a point at which it can be diverted into his ditch; and this additional expense is entailed by the act of the subsequent appropriator. It is not a question, as I have put it, of a deficiency in the supply of water, but it is merely a question of the right of a subsequent appropriator to diminish the volume of water flowing, to such an extent that it cannot be diverted by a prior appropriator by the means he then had. We think that it certainly cannot be said that the first appropriator has the right to have the water flow in such a way that by his first means of diversion he can still continue his appropriation of the water. The whole policy of the law is, that all of the waters in the streams in this Territory should be used for mining, agriculture, and milling, and that there shall be no appropriation by any one in a manner that shall prohibit subsequent appropriation by others, unless that subsequent appropriation leaves an insufficient quantity of water. The difficulty, however, on this subject, may be illustrated by the case, for instance, of the Tempe Irrigating Canal. It is in evidence in this case that a considerable quantity of the water of the river even at its lowest stages, escapes below the dam of the Tempe Canal. It is contended by appropriators above, that inasmuch as they have permitted a sufficient quantity to go down to the dam, that it is the fault of the Tempe Canal if by means of its dam or by means of a dam not calculated for the purpose, it fails to capture and divert this quantity of water. It is the duty of the Tempe Canal if there is a quantity of water left unappropriated by those who attempted to appropriate above, sufficient for their use, to erect a dam sufficient to stop and divert the water, no matter at what expense. Or

have the owners of that canal the right to have the water of Salt River flow down the river in a volume equal to that necessary for their actual use plus the amount wasted through their dam? The evidence discloses that the construction of a dam sufficient to prevent the escape of any water below it, at any point along the Salt River, involves a vast expenditure of money so great that it might practically be prohibitory.

The late Professor Pomeroy in his work on riparian rights seems to announce the doctrine that an appropriator of water has a right to the natural flow of water at the head of his ditch:

Pomeroy Rip. Rights, Sec. 60.

A careful examination of the authorities he cites in support of his proposition will disclose that they do not warrant his deduction. The statement by Mr. Pomeroy is indefinite. If he means that if an appropriator is entitled to 100 inches of water, that there must be left by subsequent appropriators 100 inches for his use, we accede to his proposition. If, however, he means that if an appropriator is entitled to 100 inches, subsequent appropriators must leave a volume of water in the water-course sufficient under the conditions existing at the time of his appropriation to enable him to take his 100 inches by his then existing means of diversion, even if that volume be 10,000 inches, we cannot accede to it. We cannot consent to a doctrine that involves in its practical application a possible waste of ninety-nine per cent of the water to which the public is entitled.

I have been unable, after diligent search, to find any adjudicated cases, the consideration of which would assist in the solution of this question. The cases cited by Prof. Pomeroy, as I have before said, do not in my opinion sustain the doctrine announced by him. The first case that he cites is the Lower King's River &c. Company vs. the King's River &c. Company, 60th California, 408. The facts in that case disclose that the injury complained of there was an attempted appropriation by one situated along the water course above the complainants, and the Court simply says: "Granting that the plaintiff does not own the corpus of the water until it shall enter its ditch, yet the right to have it flow into the ditch appertains to the ditch." This it was not necessary to

decide in the case, as the suit was an action for the diversion of water, and there was an application for a change of venue by the defendant upon the ground that the suit was one in personam and therefore transitory, and not one relating to real estate. And all necessary to decide was that the right to appropriate water was appurtenant to the land; and that is all it did decide. The next case that he cites is, Parks Canal & M. Co. vs. Hoyt, 57 California, 44. That was an action by one ditch appropriator against another for a diversion of water and the deprivation by him of its use. The suit was in the nature of assumpsit. The Court held that the right that an appropriator may have in water in the natural course above the point where he actually diverts it, is not personal property and is not subject to the particular kind of a suit there brought. It was unnecessary to decide and the Court did not decide, that the appropriator was entitled to have the water flow in its natural and accustomed course to the land of the appropriator's ditch. The next case that he cites is the case of Reynolds against Hosmer, 51 California, 205. In that case that question did not arise, and was not decided. The next case that he cites is in the 29th California, page 200. That was an action restraining defendants from erecting a dam across Bear River whereby as alleged the water of the river would be set back from a wheel of the plaintiffs' flouring mill. This was the question that was involved in that case, and is the one decided, and we think it is not analogous to the announcement in the text. The next case that he cites is in 23 California, 281. That was an action to recover damages and for an injunction to restrain defendants who were the owners of a saw mill upon a stream the waters of which the plaintiffs claimed by a prior appropriation, for mining purposes, from interfering with the regular flow of the water of the plaintiff's ditch, and from throwing saw-dust and other refuse into the water and thereby deteriorating it for the purpose for which the plaintiffs had appropriated it. This is not the question announced in the text in support of which the case is cited. The next case that the author cites is the case of Barnes against Sabron, 10th Nevada, 217. The Court in that case says: "It logically follows from the legal principles we have announced, that the plaintiff, as the first appropriator of the waters of Currant Creek, has the right

to insist that the water flowing therein shall, during the irrigating season, be subject to his reasonable use and enjoyment to the full extent of his original appropriation and beneficial use. To this extent his rights go, but no farther, for in subordination to such rights the defendants, in the order and to the extent of their original appropriation and use had the unquestionable right to appropriate the remainder of the water running in said stream."

I do not think these cases warrant the announcement in as broad terms as those used by that author, that the party who has perfected an appropriation has the right to have the water flow in its natural manner to the head of his ditch; indeed, it seems to me that the last case cited (10th Nev.) expressly limits it.

In a recent case in Colorado---

Mack vs. Jackson, 13 Pac. Rep. 542, which was an action upon an injunction bond, the Supreme Court approved a charge given by the lower court to the jury which was as follows:

"In passing upon the question of damages \* \* \* you may consider whether or not the plaintiff might have obtained water through another ditch readily and at slight expense, and if he could have obtained sufficient water through some other source to have prevented the injury, he is not, it seems to me, entitled to recover a greater sum than it would have reasonably required for him to have expended in procuring the water from some other source \* \* \*."

Applying this rule, although I have no hesitancy in saying that it is a novel application of it, to the question we are considering it suggests the solution.

If a subsequent appropriator should by his diversion deprive a prior appropriator of his ability to divert the water he needs, yet should he supply or offer to supply such prior appropriator an amount of water at a place and in quantity and time commensurate with the first's right of appropriation at a cost not exceeding that attendant upon the manner of diversion theretofore employed by the first, such prior appropriator has no just cause for complaint.

So if the Arizona Canal Company and the Highland Canal Company (and I name these because they are those diverting water at points above all the irrigators in the valley) should supply or offer to supply in good faith water to irrigators on either side of the river

under canals making their diversion below those points, and at no greater cost than theretofore attending their appropriation, such irrigators should be required to accept it.

This would result directly in a saving of water--a saving under the actual conditions existing in the Salt River Valley as disclosed by the evidence, sufficient to properly irrigate several thousand acres of land. No injury is done to those former irrigators and a public good is accomplished.

I appreciate the difficulties attending a practical application of this rule, but I am confident that its application is just and equitable; that it would result beneficially to every legitimate interest in the valley.

To say that every appropriator of water in the Salt River Valley may be supplied to the full extent of his just right, at no increased cost to him, even though it by means not of his own providing and thereby affecting a great saving of water, compels the conclusion that it ought to be done.

It is possible that the application of this rule might result in the abandonment of some of the earlier canals and ditches--but that this is an evil cannot be conceded.

In the argument of this case both orally and upon brief it is urged that canal companies have a status relative to water that is distinct and that insures to it the right to divert water.

It is unnecessary again to repeat that unless the canal company has customers it cannot divert water--and that a canal company may be deprived of its customers by the construction of new and better conduits for water is not an incident peculiar to canal companies; a railroad may be paralleled and its business by cheaper facilities offered by a newer railroad diminished or destroyed. No one is hardy enough to argue that this could not and ought not to be done; that a railroad company may not be subject to competition.

It further appears that there are other considerable causes of waste in the valley due to improper methods of irrigation as well as cultivation--that the duty of water, that is, its capacity to irrigate properly a given extent of land, can by the adoption of improved methods of cultivation and irrigation in Salt River Valley be very materially increased; and it is the duty of every

irrigator to adopt and practice the best practical system of cultivation and irrigation; if we will not do so voluntarily, then some system of control of the distribution of water should be devised to enforce its adoption.

I am of the opinion that this control can only be properly exercised by some one who himself experienced in the matter of irrigation is appointed to supervise the diversion of water from the river--not to limit any one's rights but to see that each receives that justly due him and no more.

The adoption of these precautions against waste of water will, I think, demonstrate that there is enough water in the valley for all.

The parties to this suit, as is disclosed by their pleadings, proceeded upon the theory that an association of individuals and a corporation, and as well as an individual, might become to divert from a natural water course a definite quantity of water, and that this depended not upon the fact that the constituent members of an association or corporation had for the water a beneficial use and applied it to that use, but that the right to divert depended upon the amount that they had actually been accustomed to divert. The evidence in the case before the Commissioner, and at the trial before the Court, proceeded upon this theory. There is, accordingly, an omission to make that particular proof of the rights of individual appropriators, upon which, as we have before said, the right of diversion necessarily depends. In the consideration of the evidence, the Court in this case, will have to indulge in some presumptions because of the absence of that testimony. I think it is fair to presume, for the purposes of this case, that when there has been proof that any particular piece of land was reclaimed and cultivated, that it was done so by the owner or legal possessor, that that particular piece of land has since then, been in ownership or legal possession, and that the right to appropriate water for its cultivation, being appurtenant to it, has been continuous from the time of its first cultivation.

It appears in the evidence that many of the earlier cultivators of the soil in the valley were, in the language of the witnesses, mere "squatters" upon the public domain. However that may be, for the purposes of this suit they



may be deemed to have had at least a possessory interest in the land and a consequent right to appropriate water. It will be impossible as well as unfair to attempt in this proceeding to define the rights of individual appropriators, because they are not parties, except in the case of M. Wormser and Charles T. Hayden, and their rights can only be defined as against the corporations and associations, the parties hereto. The Tempe Irrigating Canal Company, while its constituent members are parties here, yet they, I conceive, are not appearing here in their individual capacity, but in their joint capacity, representing the association known as the "Tempe Irrigating Canal Company." So that the attempt will not be made to define the right of the individual appropriators under the Tempe Irrigating Canal Company, except so far, as we have before said, it may be necessary to determine the rights of the association itself to divert water. There cannot be an adjudication of their several rights.

As was said in the case of Clough vs. Wing, by the Supreme Court of this Territory, the association itself or corporation, might neglect to either prosecute or defend its rights in which are involved those of its customers or constituent members, because of a disinclination upon their part to engage in expensive litigation, or because of collusion for the accomplishment of purposes adverse to the interests of such customers. Those consumers may have certain rights as against those corporations and as among themselves which we have not here discussed. It is not the purpose in this case to lay down rules that will hereafter govern this Court in the determination of the rights of those consumers as against the corporations and associations from whom they may derive their water supply. It might be that a Court could in a direct proceeding between a consumer and a canal company, hold that the canal company was acting as a quasi public agent, and therefore amenable to the orders and judgements of the courts to secure to the consumers reasonable regulations for the distribution and cost of distribution of water to them, and as well to protect these corporations and associations in their rights, but that is not necessary here to decide.

It would be futile in this case to attempt to define the rights of individual irrigators--it would not operate as an adjudication of their rights.

Accordingly I shall find as matters of fact the quantity of land for which water was from time to time appropriated under the various canals as the only means under the pleadings and evidence in this case to measure the right of the several canal companies to divert water.

This particular litigation should end at some time, and while the Court might retain the case for the purpose of making the individual irrigators parties to it, the same result can be accomplished so readily by the voluntary action of the parties themselves that I shall not do so.

Of course under my views of the law the decree cannot determine the ultimate rights of the parties; conditions may not, and it is hard to conceive that they will, remain as they are now--and any change in the relation of the parties among themselves, or of those who while not parties are directly concerned, must render the decree to that extent at least nugatory.

In the case at bar only the right to divert water in the immediate present can be determined upon the facts disclosed by the evidence--what the future rights of the parties may be, depending as they do upon their conduct and their agreements, upon a vast number of conditions varying constantly, cannot even be surmised, much less adjudicated.

In conclusion I wish here to express my thanks to all of counsel engaged in this case for their uniform courtesy displayed throughout and for their assistance in determining the questions present.

There has been exhibited by all a desire to assist in proper determination of the disputes existing between the parties to this action and a settlement of their respective rights.

#### FINDING OF FACTS.

The subjoined finding of facts will be confined to a determination from the evidence of the amount of land from time to time brought under cultivation and supplied by the several canals and ditches. The quarter section (160 acres) is for convenience used as the unit of measurement. The right of a canal or ditch company to divert water from a public stream being solely dependent upon the amount actually applied to useful purpose, the finding will be confined to that determination alone.

And it should be here understood that these findings are for the determination of the rights of the several canal companies and not for the determination of the rights of individuals who may be customers of such canal companies. The court cannot undertake in this case to settle the rights of individual consumers.

From the evidence I find the several amounts of water which the parties of this suit were in each year entitled to divert from Salt River by means of their several canals and dams to be the amounts necessary under proper methods of irrigation and cultivation to irrigate the quantity of land shown in the following table:

1889		
Amt.	Inc.	
117		
123½		
139		
31		
48½		
55		
82		
350	16-3/4	
1100		

The figures in the foregoing table in the columns headed "Inc" denote the time and extent of the several appropriations.

There will be a decree declaring the rights of the several parties in their order as shown by this finding as of July 14, 1890, and an injunction against the parties severally restraining their acts in violation of prior rights.

The commissioner heretofore appointed will be continued with powers as now conferred upon him until the District Court in and for Maricopa County shall order otherwise.

Counsel will prepare the form of the decretal order.

I find as a matter of law that  
C. T. Hayden's appropriation  
for his mill dates from 1877.

Joseph H. Kibbey  
Judge  
March 31, 1892

Filed April 2nd 1892 at  
2:30 O'clock P.M.  
C. H. Knapp  
Clerk

Note: See Arizona Daily Gazette, April 3, 1892, page 5, for chart of allocations of water to the various canals and for specific years. Also comment on Kibbey decision and statement by Judge Kibbey.

(State Archives)

Year	CANALS.																				
	Tempe.....		Salt River....		Maricopa.....		Wormser.....		Grand.....		Utah.....		Mesa.....		Arizona.....		Highland.....		Hayden Mill....		
	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	Amt	In	
1868			12	12½	1	1															
1869			22	9½	6	5															
1870			31½	9½	14½	8½															
1871	5	5	48	16½	24½	10	8	8													
1872	49	44	8½	33½	28½	4	8														
1873	57	12	90½	9	29	½	12	4													
1874	57		90½		31	2	12														*1100
1875	57		90½		32	1	12														1100
1876	57		92½	2	36	4	12														1100
1877	57		95½	3	41	5	22	10		7	7										1100 1100
1878	67	10	102	6½	53	12	22		2	2	24	14	23	23							1100
1879	70		104	2	65½	12½	22		15	13	24		30	7							1100
1880	70		109		84½	19	24	2	17½	2½	24		35	5							1100
1881	72	2	116½	7½	102	17½	24		18½	1	24		43	8							1100
1882	90	18	117½	1	117½	15½	27	3	33½	5	26	2	50	7							1100
1883	90		118½	1	124½	7	28	1	43½	20	38	12	59	9							1100
1884	95	5	119½	1	128½	4	28		45½	2	38		62	3							1100
1885	98	3	120½	1	133	4½	28		46½	1	38		73	11	43½	43½					1100
1886	105	7	121½	1	135	2	29	1	47½	1	38		75	2	105½	61½					1100
1887	113	8	122½	1	137	2	31	2	47½		40	2	82	7	192½	87½					1100
1888	8	117	123½	1	139	2	31		48½	1	55	15	82		333½	140½					1100
1889	4	117	123½		239		31		48½		55		82		350	16½					1100

\*Note the appropriation by C. T. Hayden for the propulsion of his mill is here measured in inches, the inch used as the unit being one fortieth part of a cubic foot flow of water per second.

(This chart was found on page 5 of the April 3, 1892, issue of the Arizona Daily Gazette and appears to belong to the Kibbey Decision. P.G. Weimann)

IN THE DISTRICT COURT OF THE THIRD JUDICIAL DISTRICT  
OF THE TERRITORY OF ARIZONA, IN AND  
FOR THE COUNTY OF MARICOPA.

---

PATRICK T. HURLEY,	<i>Plaintiff,</i>
THE UNITED STATES OF AMERICA,	<i>Intervenor,</i>
Against	
CHARLES F. ABBOTT and Four	
Thousand Eight Hundred Others,	
	<i>Defendants.</i>

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ORIGINAL

No. 4564

DECREE

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Before CHIEF JUSTICE KENT,  
Sitting as DISTRICT JUDGE.

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## Decision and Decree

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Filed March 10, 1910  
at 9:35 A.M.  
Elias F. Dunleavy, Clerk  
By E. S. Curtis, Deputy Clerk

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Kent

IN THE DISTRICT COURT OF THE THIRD JUDICIAL DISTRICT  
OF THE TERRITORY OF ARIZONA, IN AND  
FOR THE COUNTY OF MARICOPA

PATRICK T. HURLEY,

*Plaintiff,*

THE UNITED STATES OF AMERICA,

*Intervenor,*

Against

CHARLES F. ABBOTT and Four

Thousand Eight Hundred Others,

*Defendants.*

No. 4564

DECREE

This cause having come on regularly to be heard upon the complaint of the Plaintiff, the Petition in Intervention and Cross Complaint of the United States of America, and upon the Pleas and Answers of various defendants herein, and upon the default of certain defendants in appearing and answering; the Plaintiff appearing herein by Messrs. Joseph H. Kibbey, and Roy S. Goodrich, his attorneys, The United States of America by Mr. J. L. B. Alexander, United States Attorney for the Territory of Arizona, and various defendants by Messrs. Anderson & Anderson, C. F. Ainsworth, Thomas Armstrong, Jr., A. C. Baker, Walter Bennett, Alexander Buck, Lysander Cassidy, Chalmers & Wilkinson, Christy & Lewis, E. S. Clark, Frank Cox, J. W. Crenshaw, J. K. Doolittle, E. B. Goodwin, P. H. Hayes, J. M. Jamison, W. J. Kingsbury, J. H. Langston, A. D. Leyhe, Reese M. Ling, Frank H. Lyman, B. E. Marks, O'Neill & McKean, J. C. Phillips, Thomas J. Prescott, C. H. Rutherford, G. W. Silverthorn, and Charles Woolf, their attorneys, and the Court having heard the evidence and the proofs, and having duly considered the same and being fully advised in the premises and having filed its decision in writing herein, with accompanying tables,

IT IS ORDERED, ADJUDGED AND DECREED, That the various parties hereto, and their successors in interest be, and they hereby are, entitled to divert or to have diverted from the water flowing in the Salt River to and upon the land owned or possessed by them as their interest may appear, for beneficial use upon such land, such amount of water as may be necessary and proper for the economical and successful irrigation and cultivation of such land, in area and extent, and in duration, and according to the relative rights in priority of appropriation, and in the amount, manner and form as shown, set forth and determined in the following decision herein of this date, and the tables annexed thereto, which decision and accompanying tables are hereby made a part of, and are to be considered as incorporated in, this Decree and to which reference is hereby made for exact and particular description and provision,

AND IT IS FURTHER ORDERED, ADJUDGED AND DECREED, That Frank P. Trott, be and he hereby is appointed Commissioner of this Court to execute and to carry out the provisions of the decision and decree herein, with the powers and duties as in said decision more fully set forth,

subject at all times to the control and supervision of the Court, and the said Commissioner shall be paid as compensation for his services by the owners of the land, through the canal agencies serving them, the amount and in the manner as in said decision specified.

The Plaintiff and the United States of America, intervenor, shall each recover as against the defendants their costs to be taxed.

The Court retains jurisdiction of the cause and of the issues embraced herein and, upon good cause shown, may from time to time modify, enlarge, or abrogate any portion or feature of this decree, or of the decision and tables filed herewith as a part hereof, by order or supplemental judgment or decree to be entered at the foot hereof.

This Decree, and the Provisions of the Decision herein, shall become effective on and after April 1st, A. D. 1910.

Dated, Phoenix, March 1, 1910.

EDWARD KENT,  
Judge.



IN THE DISTRICT COURT OF THE THIRD JUDICIAL DISTRICT  
OF THE TERRITORY OF ARIZONA, IN AND  
FOR THE COUNTY OF MARICOPA

PATRICK T. HURLEY,

*Plaintiff,*

THE UNITED STATES OF AMERICA,

*Intervenor,*

Against

CHARLES F. ABBOTT and Four

Thousand Eight Hundred Others,

*Defendants.*

**DECISION**

The Salt River Valley, so-called, is an alluvial plain, nearly level, lying in the central portion of the Territory of Arizona, the soil of which, when supplied with sufficient water, is extremely fertile. Its approximate length from east to west as far as the Agua Fria river is thirty-five miles; its average width fifteen miles. The climate is arid with but a slight rainfall, and artificial application of water to the land is necessary in order for the successful growth of agricultural products. Entering the valley from the northeast is the Salt river, a non-navigable stream. Into the Salt river and just before its entrance into the valley, flows the Verde river; the Salt river, after such conflux, empties into the Gila river in the southwestern part of the valley. In the valley are located the city of Phoenix and the towns of Tempe, Mesa, Lehi, Scottsdale, Peoria, Glendale and Alhambra; and these places and the farming country lying east of the Agua Fria river tributary to them are irrigated by water diverted from the Salt river by means of canals. The river is subject to very great variations in the amount of water flowing in it; from time to time there is a large volume of water in the river, more than adequate for the irrigation of all the land hitherto attempted to be cultivated; for the greater part of the year the supply is inadequate for such cultivation.

The land shows evidence of cultivation in prehistoric times by irrigation from the same source as at present. Cultivation in recent times began about the year 1869. From the cultivation of a few hundred acres in 1869, the area of such cultivation in the valley has increased until at the present time there are approximately 151,000 acres attempted to be cultivated from water diverted from the Salt river at various points of diversion on the river at or above the "Joint Head" hereinafter described. Although all the water flowing in the Salt river is, in the lower stages of the water in the river, diverted by canals which have their heads at such points in the river, nevertheless additional land lying to the westward, not covered by the ditches aforesaid, is irrigated by means of ditches which have their heads in the river below the Joint Head. This is made possible by the peculiar conditions which obtain in the river whereby, though dry above, water rises in the channel of the river below, forming a new source of supply independent of that diverted above. Such additional land and the relative rights of such land or the owners thereof to water for irrigation purposes are not included within the issues of this suit.

The canals serving the land embraced in this suit lying to the north of the river are the Salt River Valley Canal, the Maricopa, the Grand, and the Arizona; those serving land embraced in this suit lying to the south of the river are the Tempe, the Broadway, the San Francisco, the Utah, the Mesa, the Highland, and the Consolidated. A general map showing the river, the land in question, and the means of diversion thereto of the water supply, is attached hereto, marked Map No. I.

Of the canals on the north side, the canal now known as the Salt River Valley Canal is the oldest of those now in service; it was commenced in the year 1867 and was originally known as the Swilling ditch. Its head was at a point about five miles east of the present site of the city of Phoenix. The slope of the land on the north side of the river being generally to the southwest, this canal in general serves the land lying to the south and west of its course—approximately 19,000 acres.

Some time after the construction of the original Swilling ditch, it was extended and a branch was taken from it at a point about two miles below its divergence from the river, and constructed to the north and west, and became known as the Maricopa canal, serving in general land lying between it and the Salt River Valley canal, approximately 18,000 acres; the head of this canal in the river is the same as that of the Salt River Valley canal, and is known as the "Joint Head."

In 1878 construction was begun of the Grand canal, which had its head on the river at a point about three miles above the Joint Head, serving land lying between it and the Salt River Valley canal, approximately 17,000 acres. After the great flood of the year 1891, the head of the Grand canal was discontinued and the Grand canal thereafter received its water from the Arizona canal by means of a cross-cut therefrom.

In 1883 the construction of the Arizona canal was begun. The head of this canal was above that of all the other canals in the valley at a point some twenty-eight miles east of the city of Phoenix. The Arizona canal is the most northerly of all the canals and serves land lying between it and the Maricopa canal, and also some land on the north side of the river east of the Grand, Maricopa, and Salt River Valley canals, in all approximately 38,000 acres.

Water is also diverted from the river by means of the Arizona canal and conveyed through the cross-cut to the Maricopa and Salt River Valley canals, thus adding to the supply of the two latter canals over and above that taken by them from the river at the Joint Head.

On the south side of the river the first canal constructed was the Tempe irrigating canal, begun in the year 1870, its head being at a point on the south side of the river about nine miles above the Joint Head. This canal serves the land lying under it and its various branches, approximately 24,400 acres.

A small ditch called the Broadway was taken out about 1870, with its head originally about four miles west of the Joint Head. The head, however, was abandoned about twelve years ago, and since then the land for which the canal was originally built, approximately 450 acres, has been served partly by an extension of the original Broadway ditch, receiving a part of the water through the Tempe canal (which water for more than the year last past, however, has been carried by the San Francisco canal), and partly through the Marmonier or French ditch, which latter ditch has its head below the Joint Head.

About that time a canal known as the San Francisco canal was also constructed, with a head about a mile and one-half above the Joint Head, serving land under it similarly situated, approximately 4,000 acres. An independent head for this canal has long since been discontinued and it receives its water through the Tempe canal.

In 1877 the Utah canal was constructed, with a head about five miles above the head of the Tempe canal, and it, together with the extension thereof afterwards built, serves land under it, approximately 11,200 acres.

In 1878 the construction of the Mesa canal was begun, which had a head in the river about two and one-half miles above the head of the Utah canal, and it serves land under it, approximately 16,400 acres.

In 1888 the construction of the Highland canal was begun, with a head about three miles above the head of the Mesa canal, and it serves land lying under it similarly situated, approximately 425 acres.

In 1891 the construction of the Consolidated canal was begun, with a head about three miles above the head of the Utah. It serves land under it approximately 2,300 acres.

In the year 1874 C. T. Hayden, a shareholder in the Tempe Canal Company, erected a flour mill at Tempe on the banks of the Tempe canal, and by an arrangement with the other shareholders of the Tempe Canal Company, had supplied to him through that canal water sufficient to operate his mill, being a maximum amount of water equal to a flow of 1,100 miners' inches. Since that date this mill has been continuously so served.

In the year 1887 a suit was begun in this Court entitled M. Wormser and others against the Salt River Valley Canal Company and others. It was a suit instituted for the purpose of enjoining certain parties to it, owners of the canal systems, from the diversion of the water from the Salt river in derogation of the rights of the plaintiffs. The purpose of such suit and the reasons for it, historically applicable to this present suit, are set forth in the following extract from the opinion of Judge Kibbey rendered therein in the year 1892:

"The earlier efforts of the settlers under these older ditches toward cultivation was confined to the production of hay and grain, and a few garden vegetables, the cultivation of which was confined to that period of the year when the water in the river was very abundant. As the settlement became older and its population increased, a more extended cultivation began to be undertaken. Instead of confining themselves to hay and grain, as above mentioned, the ranchers gradually began the planting and cultivation of alfalfa, fruits and vines, which required water during the entire year. Under the conditions as they originally existed, and as is usual in such cases, there were many usurpations and concessions of rights to the diversion of water, unnoticed at the time, or, if noticed, tacitly and without objection acquiesced in because of the then abundance of water. As the population increased and with it the more extended form of cultivation, a deficiency in water began to be noticed. While the river during the months in which hay and grain and the ordinary agricultural crops are being grown had in it a vast volume of water, this volume diminished with the advance of the season, from thousands of cubic feet per second to about, at a minimum of, three hundred cubic feet per second, and as both the increase of population and the different products to which the land was cultivated increased, the demand for water in the summer months, when the supply is the least, aggravated by an unnecessary and very considerable waste of water, exceeded the supply. This deficiency of supply made at once the question of priority of right to ap-

propriate water, important, and that question is the subject matter of this suit."

In that case Judge Kibbey, after setting forth at length the facts in the case, in an exhaustive and able opinion covering the questions of law that arose therein, held that, as the parties to the suit, as was disclosed by their pleadings, had proceeded on the theory that an association of individuals or a corporation may become entitled to divert from a natural water course a definite quantity of water, and that this right depended, not on the fact that the constituent members of an association or corporation had for the water a beneficial use, and applied it to that use, but that the right and title to divert depended on the amount that they had been actually accustomed to divert, there was an omission to make that particular proof of the rights of individual appropriators upon which the right of diversion necessarily depended; and that under the pleadings and evidence in the case no attempt could be made to define the rights of individual appropriators, since an attempt to define in such suit the rights of individual irrigators would not operate as an adjudication thereof. The findings of fact in the case were therefore confined to a determination of the amount of land from time to time brought under cultivation and supplied by the various canals and ditches, and a table was prepared showing the number of quarter sections of land brought into cultivation under the various canals from time to time from the year 1868 to and including the year 1889, the determination in the case being expressly confined to the rights of the several owners of the canals and not to a determination of the rights of individual customers of such canal companies. The Court decreed that the amount of water which the various canal companies were entitled in each year to divert from the Salt river by means of their several canals and dams, was the amounts necessary under proper methods of irrigation to cultivate and irrigate the number of quarter sections set forth in such table, but did not find the amount of water actually necessary for such cultivation.

Whatever may have been the legal effect of the decree entered in the Wormser suit, there was no effective attempt to enforce it or to distribute water according to its terms. Even prior to its rendition an agreement was entered into by the various canal companies whereby the parcels of land as found by such decree to be entitled to water lying under the Tempe and San Francisco canals should receive water for their irrigation to be diverted from the river by the Tempe canal according to the dates of the reclamation thereof, and in the amount of sixty-four miners' inches to the quarter section measured at the head of the canal. The balance of the normal flow of water in the river at its various stages was divided among the various canal companies in accordance with the terms of the agreement entered into by them independent of the various dates of reclamation of the land lying under the canals as such dates were found in the Wormser decree. Since such agreement the water in the river at its various stages up to 60,000 miners' inches has been distributed theoretically under the provisions of this decree, but practically and actually under the agreement entered into by the canal companies as just stated.

To this agreement and to this distribution of the water protest has been made from time to time since the rendition of the Wormser decree, by individual land owners not content with the action of the canal company serving them with water in that regard, and various suits have been instituted from time to time in this Court to test the validity of such distribution of the water under such arrangement, none of which suits have ever come to final judgment, and one of which, at least, is still pending awaiting the determination of this proceeding.

In the year 1903 the United States Government, acting by the authority of Congress under what is known as the reclamation act, commenced the construction of an impounding dam, known as the Roosevelt dam, upon the Salt river just below the conflux of Tonto creek with the Salt river, at a point about seventy-five miles east of the city of Phoenix, for the purpose of storing the waters of the Salt river in a reservoir at that point. This dam, now rapidly approaching its completion, will be approximately 280 feet in height above bedrock, will create a reservoir lake of some twenty-five miles in length and an average of more than one mile in width, and will impound approximately 1,300,000 acre feet of water. The height of the dam is already sufficient to impound at present a large body of water, and its completion is expected within the next few months. The object of the dam and the purpose of the Government in its erection is to store in the reservoir the surplus water in the Salt river over and above the amount of the normal flow of the river appropriated and used. The Government also finished the construction in the year 1908 of a permanent diversion dam across the Salt river known as the Granite Reef dam at a point about twenty-five miles east of Phoenix, three miles below the conflux of the Verde river, from which dam water is now being diverted into the Arizona canal for the use of the land lying on the north side of the river, and which now diverts a large portion and which is capable of diverting all of the water necessary for the land on the south side of the river.

An association of land owners known as the Salt River Valley Water Users Association was formed, comprising nearly all the owners of the land lying on the north side of the river embraced in this suit, capable of irrigation, and the owners of a large majority of the land lying under the Tempe and San Francisco canals, however, have not joined the association. By contracts between the Government and the members of the water users association, the latter will be entitled to receive for their land their proportionate share of the surplus water that may be stored by the Government in its impounding reservoir. Those not in the association will have no contractual rights with the Government with respect to the water thus impounded.

In the year 1905 this suit was instituted by the plaintiff, P. T. Hurley, he claiming to be an early appropriator of water, and asking to have his title quieted to the use of an amount of water sufficient to cultivate the land owned by him. He made as defendants in the suit a large number of other individual land owners in the valley. After the commencement of the suit, the United States, having acquired the possession and ownership of the canals on the north side of the river, and being interested in its capacity as guardian of a number of Indian settlers on the reservations situated in the valley, by leave of Court first obtained, intervened as a party in the suit and filed its answer and cross complaint, and sought and obtained process to make party defendants to its cross complaint all land owners in the district in the valley irrigated by the canals above mentioned, and prayed for a judgment establishing the rights of each individual defendant and each parcel of land to the water in the river, and the establishment of the various dates of appropriation of water by each individual land owner. These various individual land owners, some four thousand eight hundred in all, were served with process in the suit, and evidence has been taken before the Court respecting the duty of water and the dates of reclamation of the various parcels of land in the irrigable district in the valley in question from the year 1869 to and including the year 1909, the testimony being taken intermittently during a period of two and one-half years. The case is now before the Court for adjudication.

The purpose of this suit is to obtain a judicial determination and definition of the rights of the various parcels of land and the owners thereof under the various canals above mentioned in and to the use of the water flowing in the Salt and Verde rivers. For a complete and effective adjudication of such rights it is necessary not only to determine the date of appropriation of the water to each parcel of land, but also the amount of the water appropriated and the relative right of each parcel to the other.

The doctrine of riparian rights does not obtain in Arizona. The right of the owner of land to divert from a natural non-navigable stream the flow of the water therein and to apply the same to beneficial use upon such land, is and always has been recognized in this Territory. Such diversion and use is termed an appropriation of water. Whatever may be the steps necessary to take to initiate such a right or to evidence the intent to initiate it, the appropriation itself only becomes complete and vested when the water is actually diverted from the stream and placed to a beneficial use upon the land. The right given by such an appropriation is strictly not a right to the water itself, but a right to the use of the water. Its application to a beneficial use upon the land is as necessary in order to complete the right as is the diversion thereof from the stream. An appropriation of water, therefore, for the purpose of the irrigation of a parcel of land may not be established and completed by means merely of a declaration of intention or by the posting of notices of appropriation, nor may it be made by a canal owner or by a canal company as such alone, independent of its ownership of the land; but as application to a beneficial use upon the land is necessary to complete the appropriation, it follows that such appropriator must be an owner of land or have a possessory right thereto. Furthermore, since the land to which the water is to be applied is a necessary integral part of the appropriation and a factor by which the amount of the water appropriated for use is measured, it follows that when the water is no longer applied to the land for which it was diverted, the right of appropriation of such water for such land ceases. The right of appropriation further depends upon a supply of water that is unappropriated. It follows, therefore, that the first in time of appropriation is the first in right to appropriate, since water previously appropriated by another is no longer available for a subsequent appropriator. The extent of the appropriation is limited by the beneficial use to which the water can be applied. The actual amount of water that may be appropriated for irrigation, therefore, is the amount that the land owner can and does actually use in the necessary and economical irrigation of his land for cultivation. This much and no more may he have; and this much he may only have when there is sufficient water available to supply first those prior in date of appropriation. The fundamental principle in the doctrine of appropriation of the normal flow of water in a stream for irrigation is its application by the land owner to the land for a beneficial use. The right to appropriate is a right that belongs to the land owner, but the water appropriated is appropriated for the land, and when so appropriated its use belongs to the land and not to the appropriator. The method of diversion from the river and the means of carriage of the water to the land is immaterial in the establishment or maintenance of the right; it may be done by the individual appropriator or by an association of individual appropriators, or by a canal company, or by any person or corporation; and the means of carriage or the point of diversion from the river may be changed from time to time to suit altered conditions without impairing the right of appropriation already made, provided prior rights of others are not interfered with. There being in this Territory no private property in water, but water being a public property subject to the uses before defined, in so diverting and carrying the water such person, association or corporation acts

merely as the agent of the appropriator and acquires no right of appropriation to the water itself, and no rights as against the appropriation made to the land, except a right to proper compensation for such diversion and carriage.

Applying these general principles to the case in hand, it follows that the dates of the reclamation of the land and its first cultivation by the means of water diverted to the land by the land owner, must determine the date of the appropriation in each instance; that each appropriator in turn and prior to the one next succeeding him is entitled to have diverted and applied on his land a quantity of water sufficient for the economical cultivation thereof and no more, until the supply available shall have been exhausted, provided the use of such water on his land shall have been reasonably continuous.

The various dates of the application of water to the land, the amount of water necessary for the economical cultivation thereof, the duration of such cultivation, and the supply of water available, are therefore interstitial facts affecting all questions arising in the case.

A great amount of testimony has been taken as to the dates of application of water to the various subdivisions of land lying under the canals, and the results obtained have been checked in such ways as were possible. The results showing the years in which each piece of land was brought into cultivation have been tabulated, and it is believed are as accurate as is practicably possible in a history which covers so great a period of time and so great an acreage. In each instance where a land owner has brought into cultivation in a given year a portion only of a section or subdivision of a section of land owned by him, but with the intention of speedily reclaiming the balance, and he or his successors in interest subsequently and within a reasonable time have brought the balance of such land into cultivation by irrigation, and such cultivation has been kept up, I have under the doctrine of relation fixed as the date of the appropriation for the whole tract the date of the first cultivation of the part.

Testimony has also in each instance been given as to the duration of cultivation. While in the main correct and accurate, it is my belief that in a number of instances the facts as to the duration and extent of the cultivation of the land have been exaggerated. So far as possible the testimony given has been compared with other reliable data and in a few of such instances the testimony given has been disregarded as undoubted error.

The amount of water flowing in the river varies greatly in each month in the year, in each year, and in a given month in each year. No accurate or probable estimate of the amount of water that will be available either by the month or by the year can be predicted. A table compiled from the records that have been kept by the water commissioner for the past fourteen years, showing the monthly average and the annual precipitation of rain and the daily average amount of water by months and by years that has been received by the canals from the river, is hereby made a part of this decision and filed herewith, and designated as Table No. I.

By the "normal flow of the river," as that expression is used in this decision, is meant the flow of water in the river at its varying stages available for appropriation. The maximum normal flow is the total amount to be diverted from the river for the cultivation of all the parcels of land to which water has been appropriated. By "flood water" is meant water flowing in the river over and above the maximum normal flow. By "surplus water" is meant the flow of the river, both normal and flood, not needed or used. By "stored water" is meant the water impounded in the Roosevelt reservoir.

The actual maximum normal flow is the total amount to which the land is entitled, as shown by the table hereinafter referred to, plus the estimated loss in carriage, and amounts in all to approximately 58,000 miners' inches. The total practicable carrying capacity of all the various canals is roughly 87,000 miners' inches. The practical carrying capacity of the Tempe canal, through which is diverted the water supplying the parcels of land generally not in the water users' association, and therefore not to be entitled by contractual relations with the Government to the benefits of the stored water, is roughly 16,000 miners' inches.

The amount of water necessary for proper and economical irrigation and cultivation of a given amount of land is perhaps the most difficult of satisfactory solution of all the numerous questions arising in the case. The views expressed by the various witnesses are widely divergent. Theoretically for many years last past, under the agreement as to diversion, the land entitled to water under the Tempe and San Francisco canals has been supplied therewith upon a basis of 64 miners' inches constant flow to each quarter section, measured at the head of the Tempe canal. In reality the land has not had any such fixed quantity nor its equivalent. At times it has had more, at times less. For the greater part of the time more land in the valley has been attempted to be cultivated than the water available would supply. Under the distributing agreement before referred to, land older in cultivation and prior in right shared with later land the supply of water available during the low stages of the river, and each had diverted for large portions of many years less than the equivalent of the 64 miners' inches. No record extending over any appreciable period of time has ever been kept as to the effect of a given amount of water on a given amount of land, nor has the amount of water required for a given amount of land been determined by any series of experiments with any constant or varying quantity of water. The character of the soil differs in different parts of the valley, some land requiring more water by reason of its character than other land of a different soil. These differences in soil are not in land lying in defined boundaries and thus perhaps susceptible of differentiation, but are found all over the valley in such position and placement as to make it impracticable to segregate them. The amount of water necessary successfully and economically to cultivate a given product, such as alfalfa, is greater than that necessary for another, such as grain; and so through a long list of various products. These products are likewise scattered throughout the valley and are not embraced each within its own separate confines. The duty of water, by which expression I mean the amount of water necessary for the successful and economical cultivation of the land, in reality, therefore, differs with the different crops and with the different soils to be found in the valley under the conditions as they exist. But one standard, however, can be taken, since the variations as to crops and soil cannot practically be followed by a varying standard as to the duty of water dependent upon such variations of crop and soil; nor can the matter of the amount required be left to the judgment and demand of the individual land owner dependent upon the crop he may plant. To avoid confusion and to promote a certainty of division and distribution of the water, the standard to be taken must be determined by the Court, and must be such as will apply to all land and all crops, and which, while it will permit by economical use of sufficient water for the cultivation of the land in great part at least to the crop requiring the most water, will still be not too much for the land owner who intends to cultivate a portion of his land to the crop requiring a less amount of water. Such a standard, while perhaps not permitting of a precise conformity with existing conditions, can for the present at least experimentally be tried, and hereafter changed as it may be found



to be inadequate or too great. I believe that 48 miners' inches constant flow to the quarter section of land, measured and delivered at the land, is sufficient under ordinary conditions for the proper, economical and successful irrigation of the average product as grown in the district. I therefore fix upon and determine such to be the duty of water for the purposes of this case, subject, however, to an increase or decrease of such standard upon application to the Court in this suit hereafter as conditions may require and develop after due trial of such amount as such standard.

When practicable, measurement of the water to be delivered should be made at the entrance of the lateral to each quarter section. When such measurement cannot be so made, and until so made, the measurement shall be made at or near the point of diversion of the water from the river, except as hereinafter provided. When the water is not measured at the land, there must be added to the 48 miners' inches constant flow found to be the amount necessary for the cultivation of a quarter section of land, an amount necessary to cover the loss from evaporation and seepage from the point of diversion from the river to the land. Like the duty of water, this estimated loss by evaporation and seepage has not been determined in this valley by any series of experiments or otherwise. In fixing upon an amount to be added to supply such loss by evaporation and seepage, I am guided by the testimony as to the use of water in the valley in the past, by expert testimony, and by testimony as to experiments made elsewhere. Taking into consideration the average flow in the canal, the different seasons of the year, the wasteful ordinary open earth channel now in use, the extent of the area exposed to evaporation and the greater loss by seepage in the laterals, and the fact that the loss also applies to the water to be added, it is believed that one per centum added for each mile of carriage from the point of diversion from the river at the head of the canal to the termination of such canal in its main course, will approximately supply the loss by evaporation and seepage in the volume of the water so delivered for general distribution. Until the further order of the Court, and until such amount which is hereby fixed upon shall be found to be inadequate or too great, to the water to be diverted to each canal for use upon the land under it entitled thereto when measured at the head of the canal, there shall be added for loss by evaporation and seepage one per centum of the amount of water diverted for each mile of such canal length in its main course.

The main course of a canal as here used is defined to be its course from its head to the point where the canal ceases to be a main canal and becomes in effect a distributing lateral.

The water for the land on the north side of the river is supplied through the Arizona canal and the Joint Head, and the land so supplied forms one system. The length of the Arizona canal in its main course is 36 miles, and this is also approximately the length in main course of the canals of the Grand, the Maricopa, and the Salt, measured from the head of the Arizona canal. To ascertain the amount of water to be delivered for this system, therefore, when measured at the head of the Arizona canal, there shall be added one per cent of such amount for each mile of such length of canal, to-wit, 36 per cent. The length of the Maricopa and Salt River Valley canals from the Joint Head to the end of their main course is 6 miles. For water diverted at the Joint Head there shall be added one per cent for each mile of such carriage, to-wit, 6 per cent.

On the south side of the river the land lying under the various canals is served by the canals independent of each other. The land, therefore, does not form one general system, but there are several systems, each under separate canals. The Utah, the Mesa, the Consolidated and the Highland

canals no longer maintain independent heads. The water for these canals is diverted from the river at the Granite Reef dam. The water for these canals, to which the land lying under them is entitled, is to be measured at the Granite Reef dam until a system of measuring at the land is adopted. The amount to be added to the water diverted and measured to these canals for loss is therefore to be determined by the distance from the Granite Reef dam to the end of the main canal of each of these systems. This distance is found to be for these canals as follows:

The Utah, 15 miles. Amount to be added, 15 per cent.

The Mesa, 14 miles. Amount to be added, 14 per cent.

The Consolidated, 21 miles. Amount to be added, 21 per cent.

The Highland, 7 miles. Amount to be added, 7 per cent.

The Tempe canal maintains an independent head and diverts a portion of the water it carries through such head. The water so diverted is to be measured under present conditions at the present place of measurement, to-wit, a point about three hundred yards below its present head gates. To the water so diverted and measured the amount to be added for loss in subsequent carriage is to be determined by the distance from such place of measurement to the end of the main canal. This distance is hereby fixed upon as 11 miles, and the amount is, therefore, 11 per cent. A portion of the water for the Tempe canal, by a determination of Court heretofore had, has been diverted in the past at the Consolidated Head (and recently at the Granite Reef dam) and carried to the Tempe canal through the Tempe cross-cut from the Consolidated canal. So long as this method of diversion and carriage is maintained the portion of the water for the Tempe canal so diverted and carried shall be measured in such cross-cut at the place of measurement heretofore maintained, to-wit, a point about one-third mile above its junction with the Tempe canal. The amount to be added to such water for loss in subsequent carriage is to be determined by the distance from such measuring station to the end of the main canal. This distance is hereby fixed upon as 11 miles, and the amount is, therefore, 11 per cent.

The Broadway and San Francisco canals receive their water from the Tempe canal. The amount of water these canals are entitled to receive for the land lying under them is to be measured at the point of delivery to the San Francisco canal just below the Hayden mill. The amount to be added for loss to such water in subsequent carriage is to be determined by the distance from such point of measurement to the end of each of their main canals, respectively. Such distance is found to be, for the San Francisco canal, 8 miles; for the Broadway canal, 10 miles, and the amount is therefore 8 per cent and 10 per cent, respectively.

One of the essentials to the establishment of a continuing right to the use of water is a reasonably constant use. The evidence in the case shows that with respect to a large body of the land in question cultivation by irrigation has been continuous year by year from the various dates of the first reclamation of the several parcels down either to the present time or to a time sufficiently near to the present as will permit of a determination with reasonable certainty as to the intention of the land owner with respect to a continuing cultivation. In many other instances the evidence shows that though such cultivation may not have been carried on in each and every year, the cultivation has been reasonably constant to such time, and there has been no intent to discontinue definitely such cultivation. No distinction as to right of present use of the normal flow, except that of priority, is perceived between such various parcels of land. They are entitled

according to their relative dates of reclamation, and by years, to the use of the normal flow of the water in the river to the extent necessary for their economical cultivation. They form a distinct class preferred in their rights to the use of such water over and above the other parcels of land in the suit. For the purposes of this suit they may be designated as land in class A. A description of these parcels of land listed by years of date of appropriation appears in tabulated form in the tables designated 2 and 3 hereto attached, being tables for the land on the North Side and South Side respectively; they include all land now being cultivated or upon which cultivation was continued to as late a date as during the year of 1903. Where land has been cultivated in the past, but such cultivation discontinued prior to the new date of appropriation under which it appears in the table, the dates of such prior cultivation will be found in the table under the column entitled "Remarks." This column also gives the last date of cultivation, so far as the proof before the Court shows, when such cultivation, though not to the year 1909, is later than the year of 1902.

The evidence shows that with respect to a large amount of land, water in the past was applied thereto and the land cultivated in some instances for one or two years and in other instances for a longer period of time, in some instances constantly, in others intermittently, but in all such instances cultivation of the land had entirely ceased for a number of years, and in every instance more than five years, prior to the beginning of the taking of testimony in this suit. A large portion of the land with this history was first brought into cultivation on the north side of the river shortly after the completion of the Arizona canal, and on the south side shortly after the completion of the Highland and Consolidated canals; some land with a similar history is also found under the older canals. Generally speaking, the cultivation of such land was begun during times of plenty and discontinued during times of scarcity of the flow in the river. The hope of a sufficient continuous supply of water was followed by the realization of the fact of insufficient supply. A financial loss was the certain result of an attempt to cultivate with insufficient uncertain supply of water for irrigation, and one by one, the supply of water failing to equal the necessary demand, cultivation of these parcels of land was discontinued. The failure of these land owners to continue after such appropriation to make a reasonably constant diversion and application of water so appropriated to their land came about, not of their wish to discontinue cultivation nor because there was not at certain seasons of the year plenty of water available for such cultivation, but because no certainty of supply could be counted upon at times when such supply was essential. Such appropriation of water by these land owners as was made was, speaking broadly, an appropriation, not of the flow of the river in its lower stages, for such flow had already been appropriated by others, but of the flow in the higher stages of the water in the river over and above the flow necessary for the cultivation of the land in class A, unavailable in the past to such land owners for practical and efficient continued use because of the lack of storage facilities, but now shortly to be available by means of the impounding dam constructed by the Government. Such parcels of land to which water has hitherto been applied for the purpose of cultivation, but upon which the use of water was definitely discontinued before the year 1903, and has not been since resumed, may be designated as land in class B, and appear in the descriptive lists of such parcels showing the duration of cultivation, hereto attached, marked 4 and 5, embracing the land on the North Side and South Side respectively. These parcels of land in class B having discontinued in the past use of the water to which otherwise they might now be entitled by reason of the appropriation made for them, no new appropriation of later date having

been made by a new and continued use of water upon the land, have no right that can now be established to the normal flow of water in the river appropriated by the land in class A. Their attempted appropriation, however, of the surplus water, discontinued because of lack hitherto of storage facilities, gives them equitably a preferential right over the land in class C (hereinafter described) in a right of application to the Government for stored water, where the owners of such land in class B are members of the water users' association, and by reason thereof may enter into contractual relations with the Government with respect thereto.

The third class of land is that which may be known as land in class C. It is such land as is situated within the irrigable district lying under the canals above mentioned, or their possible extensions, not included in classes A or B, upon which no cultivation has been had or as to which no appropriation or attempt at appropriation of the flow in the river at or above the Joint Head, has been made in the past. They are not entitled to the establishment of any right of appropriation in this suit.

The land in these three classes may be found upon the map hereto attached, marked Map No. 2, in colors as thereon designated.

By agreement entered into between the United States and the Water Users Association, the members of the latter, whether owners of land in classes A, B or C, are to be entitled to the benefits of the stored water in the Roosevelt reservoir, in such extent of acreage as the project shall serve. These benefits are to be formally obtained by those entitled thereto after the completion of the dam and upon the formal opening thereafter by the Government of this reclamation project, by contractual obligations then to be entered into by the members of the Water Users' Association with the Government. The stored water is to be distributed to those who shall have the right thereto, proportionally according to the acreage of the land, and irrespective of any priority of irrigation or cultivation of such land. Under the decision herein the owners of land in class A and in class B, because of the cultivation in the past of their land, and the facts as found, have a preferential right over the owners of land in class C to apply for and obtain from the Government a right to their proportionate share of the stored water needed by them. This preferential right to the owners of land in classes A and B is not a right to the water itself, nor does it give to those applying for and obtaining such right a priority in use or in extent of use to the stored water over owners of land in class C who may also apply and receive a similar right to the water. The preference given is merely and only that of a right to make application and have listed as sharers in the stored water the land in classes A and B before the owners of land in class C, whose land, if listed, will be listed subject to such prior right of application. Such priority of application, in order to be effective, must be availed of and be asserted both as to the owners of land in class A and the owners of land in class B within a reasonable time in order that certainty as to existing rights of all the land in the valley, as well to the surplus and stored as to the normal supply of water, may be speedily and definitely ascertained and determined. Such reasonable time is hereby fixed as one year from the formal opening by the United States Government of this reclamation project. Within such time all the owners of the land in classes A and B, in order to avail themselves of such prior right, must apply therefor to the United States Government or its reclamation officials in charge of this project, under such rules and regulations governing such application as shall be promulgated by such officials; and on and after such date all the parcels of land in classes A and B for which application for such stored water shall not have been made, or which for good cause shall not have had such appli-

cation therefor granted, shall cease to have any such preferential right of application over and above the land in class C.

Attached hereto and made a part of this decision are a number of tables, the contents and purposes of which are as follows:

Table 6 is a table showing the acreage of land in classes A and B by townships and sections, followed by summaries thereof.

Table 7 is a table showing the acreage of land in class A on the North Side by townships and years of first cultivation under present appropriation.

Table 8 is a table similar to table 7, but for the South Side land.

Table 9 is a table showing the amount of the acreage of land in class A brought into cultivation year by year from 1869 to 1909, inclusive. In this table the first column shows the year of first cultivation, the second column the total acreage to such date and the increase in cultivation in that year, the third column similarly the acreage on the North Side, the fourth on the South Side, and the remaining columns such acreage under each of the various canals on the South Side.

Table 10 is a table showing the amount of water upon the basis established as the duty of water herein to which the parcels of land in class A lying on the North Side of the river, and the parcels of land in such class lying on the South Side of the river, and such parcels in such class under each of the canals lying on the South Side of the river, are entitled at the various stages of the river up to 45,325 miners' inches, the maximum amount necessary under such standard for the total acreage thereof. Such water in the river at its various stages of flow will be diverted for distribution to this land according to this table, subject to such graduation and interpolation thereof by the Commissioner as may be necessary, in the varying increase of the water, to give the various parcels of land entitled to the increase their proportionate share thereof. When the flow in the river equals the maximum amount necessary for the irrigation of the total acreage of the land in class A, plus the loss for carriage, all such land, of course, can be supplied. When the flow in the river is less than the maximum amount, the amount available shall be distributed to the various canals for those parcels of land first entitled thereto according to their relative dates of priority by years as shown in the table. All flood and stored water shall be shared by those entitled to it, and who can avail of it, irrespective of dates of priority.

The amount of water in the river available for distribution is to be computed by taking the daily flow in the Verde river and adding thereto the amount of the daily flow in the Salt river. The daily flow in the Salt river shall not be impounded by the Government, by means of the Roosevelt dam, in the reservoir, except when the total intake in such reservoir, including the estimated loss thereto by seepage and evaporation between such intake and the conflux with the Verde river, added to the flow of the Verde river shall exceed the amount called for in table 10, plus the amount to be added thereto for loss by evaporation and seepage in the canals, unless at the request or with the assent of the users of such water whose land is entitled thereto; and no water user entitled thereto shall be deprived against his consent of his proportionate share of the normal flow of the river by reason of such impounding dam. The Government, in times of flood water, shall not by impounding water in the reservoir lessen the proportionate share of such flood water of any individual land owner not a member of the water users' association, and against his consent, nor shall it lessen the proportionate share of the Tempe and San Francisco canals, or of either of

them, to such flood water available to such canals, so as to deprive such canals of such proportion of such flood water desired when the land lying under such canals is in need of such water or any portion thereof, and can avail of it, and when such canal company shall notify the Commissioner of its desire to divert such water or any portion thereof. The various parcels of land in the valley in cultivation are entitled to share equally, according to acreage, in the use of the flood water available; the proportionate share in the flood water of the Tempe and San Francisco canals is therefore to be measured by their relative acreage under cultivation, since the share of the land under the other canals, listed in the association, in the flood water in the Salt river can now be stored for them in the Roosevelt reservoir. The acreage under the Tempe canal is found to be approximately 16 per cent of the total acreage in cultivation. The acreage under the San Francisco canal is found to be approximately 3 per cent of the total acreage in cultivation. The amount of flood water to which the Tempe and San Francisco canals shall be entitled to receive, as above stated, is, therefore, 16 per cent and 3 per cent, respectively, of the total amount of flood water available.

The officials of the United States Government in charge of the reclamation project, the reservoir, and the impounding and diversion dams hereinbefore mentioned, shall be at all times under the direction and control of the Court with respect to the impounding, diversion and distribution of the flow of the water in the river, and they shall make such reports, daily and otherwise, of existing conditions as shall reasonably be required by the Commissioner and as shall show the amount of the flow into the reservoir and in the river, and shall cause to be diverted into the various canals or otherwise such amount or proportion of the water as the Commissioner shall direct.

Frank P. Trott, Esq., long the efficient Water Commissioner of this Court, is hereby selected and designated as the Water Commissioner to execute and carry out the provisions of the decree herein. In the exercise of such duty the Commissioner is authorized to enter upon the reservoir and the impounding and diversion dams constructed by the Government, and their gates and appliances, and also upon the canals herein mentioned, their dams, gates, laterals, and other structures and appliances whenever necessary to ascertain existing conditions, or to control, supervise, or regulate the proper delivery, carriage, or distribution of the water to be diverted by the canals under the decision and decree herein, and is authorized to establish such measuring boxes, and to make such rules and regulations as may be expedient and proper to ensure the delivery, carriage, and distribution of the water in accordance with the rights of the persons entitled thereto, as found by the decision and decree herein. The managements of the various canals shall cause to be made to the Commissioner, daily or otherwise as he shall direct, such reports and information as shall show the amount of water in their various canals, and shall cause such measurements of such amounts to be made at such places as the Commissioner shall direct, as may be necessary to obtain such information, and shall make such changes in the measurement, carriage and distribution of the water as the Commissioner shall direct. The Commissioner shall report from time to time to the Court as directed, as to his action, and shall apply to the Judge of the Court for such further or specific directions as to his powers or duties whenever such directions shall be necessary or proper for the effective carrying out of the provisions of the decree herein. At any time any party to this suit, or any canal company acting as the carrier of the water distributed, may apply to the Court or the Judge thereof for an interpretation, modification, enlargement, or annulment of any order, direction, or action of the Commissioner in the carrying out of the provisions of the decree. The Commissioner shall receive for his services a salary in the sum of Three Thousand Dollars

(\$3,000.00) per annum, to be paid monthly on the first of each and every month on behalf of the parcels of land entitled to the regular flow of the river, by the owners of the canals, the carriers of such water to such land, or their successors in interest, and proportionately to the acreage served, as follows:

From the United States for the land on the North Side of the river.....	.608 thereof, to-wit....	\$152.00
From the Tempe canal for land served by it....	.161 thereof, to-wit....	40.25
From the San Francisco canal.....	.027 thereof, to-wit....	6.75
From the Broadway canal.....	.003 thereof, to-wit....	.75
From the Utah canal.....	.074 thereof, to-wit....	18.50
From the Mesa canal.....	.109 thereof, to-wit....	27.25
From the Highland canal.....	.003 thereof, to-wit....	.75
From the Consolidated canal.....	.015 thereof, to-wit....	3.75
<b>Total .....</b>	<b>1.000</b>	<b>\$250.00</b>

The Commissioner shall keep an account of the necessary expenditures made by him in the proper exercise of his duty, and shall make a report of the same to the Court from time to time, and such expenditures, when allowed and approved by the Court, shall be paid by the various canal companies in the same relative proportion as the salary of the commissioner is paid by them.

Until the further order of the Court or the Judge thereof, the Commissioner, in the execution of the decision and decree herein, shall not see to the actual application of the water to the various parcels of land entitled to it. He shall from day to day ascertain the amount of water available for distribution and the land entitled to it, according to the right thereto of the various parcels in the order of their priority as shown by table 10, and shall order and supervise the diversion to the various canals supplying such parcels of land, at such points in the river, and in such manner as shall most economically subserve, and as shall be expedient, the various amounts to which such parcels of land are entitled to have diverted at the various stages of the water available, as shown in the table. The actual application of the water to the various parcels of land entitled thereto shall be made by the management of the various canals in such manner and under such reasonable rules and regulations as to rotation and delivery as they shall establish, subject always, however, to the control and regulation of the Court. The Commissioner shall also, when necessary, similarly supervise and direct the diversion and distribution to the Tempe, San Francisco and Broadway canals of the flood water to which they are entitled.

All users of water and the agency by which such water is diverted and delivered for use, are restricted in the diversion, carriage, and use of the water to methods reasonably adapted to its conservation to the end that the water made free of use to the public shall not be wasted. The methods of application of the water to the purpose for which it is appropriated shall be of such a character as to insure as small a consumption of water as is reasonably consistent with the accomplishment of such purpose. Under the present method of diversion, distribution, and use of the water, there is in some instances an unnecessary loss of water. Whenever and wherever practicable, the Commissioner is directed to decrease such loss by causing more economical methods or means of diversion, carriage, distribution, and use to be adopted.

Whenever, for the economical conservation, diversion, or distribution of the water, it shall be desirable and expedient that the water to be delivered

to any canal system for distribution to the land under it entitled thereto, be carried thereto from the point of diversion in the river for such delivery by another canal, or by a number of other canals, such canal or canals, upon a written order by the Commissioner, shall carry such water in its or their canals and deliver the same to the canal entitled to receive it for distribution, subject, however, to a payment by such latter canal of such proper charges for such diversion and carriage as may be agreed upon, or as shall be determined by the Court or Judge, but no such order upon any such canal company for such carriage shall be made by the Commissioner without the signed approval thereon of the Judge.

The Hayden mill has established a right to the use of water for power purposes only, dating from the year 1874, in a maximum amount of eleven hundred (1,100) miners' inches. The method of diversion and carriage of the water shall be such as will enable the mill, when the supply is sufficient, to make use of such water as it is entitled to.

For more than forty years the Indians living on the reservation on the north side of the river, known as the Salt River Reservation, in township two north, range five east, have had delivered to them from the river for the cultivation of their land 500 miners' inches of water, irrespective of the amount of water in the river, whether scarce or plenty, and such water has been measured and delivered to them for the last twenty years before the segregation and division of any water to other water users. This land has acquired a prior right over and above all others to this amount of 500 inches. The amount of land to which this water has been applied is about 2,500 acres. This amount of water is insufficient properly to cultivate this amount of land. The evidence shows that for the cultivation thereof at least 700 miners' inches is necessary. Strictly, the additional 200 inches necessary could be decreed to these lands only after others prior in right had received the water to which they are entitled. In consideration, however, of the fact that the 500 inches to which the land at low stages is entitled is not increased, even when at the higher stages of the river the land by its acreage and early date of reclamation might be entitled to more than such 500 inches, and in order to avoid the practical difficulty of a method of distribution which would combine a definite fixed quantity at all stages with a varying quantity given according to priority, by consent of all parties in the suit, 700 miners' inches of water is to be given the Indians for use upon these lands at all stages in the river, and prior to the distribution and diversion of the remaining water in the river, such water to be measured at the lateral ditch or ditches to such land at their point of diversion from the Arizona canal. Certain other parcels of land in this reservation not embraced in the area above mentioned, have also been put in cultivation from time to time by these Indians, but these parcels are not included in the area for which the 700 inches are appropriated, but form a part of the land in class B entitled only to the right to obtain water appertaining to the land in that class, and are found in the tabulated statement of such land.

For many years last past a number of Indians living on land within the Camp McDowell Indian Reservation, situated along the Verde river above its conflux with Salt river, have cultivated such land by means of water diverted from the Verde river. The extent of such cultivation is approximately 1,300 acres. The maximum amount of water to which this land is entitled is 390 miners' inches constant flow. As a matter of fact, for some years last past, because of the insufficient means of diversion of the water from the river, and for other causes, these Indians have not been able to divert from the river the amount of water necessary for the proper irrigation of the land. It is the expressed purpose and intention of the Government



within the next year to remove these Indians from this reservation to the Salt River Reservation, and to have them settle upon land within that reservation to be irrigated by means of the proportionate share in the stored water in the Roosevelt reservoir, to which such land, as land in class B or class C may acquire the right to share. In the expectation of this change of domicile and discontinuance of use of water as at present made from the Verde river by these Indians, and until the further order of the Court upon application with respect thereto in this suit, if hereafter necessary, the present diversion and use of water upon the said land in the Camp McDowell reservation by these Indians may be maintained.

Evidence has been given in the suit with respect to the cultivation of land on the south side of the river in sections 25, 26, 27, 28, 29 and 35, township 1 north, range 2 east, and 30 acres in section 30, township 1 north, range 3 east. The facts show that the cultivation of these various parcels of land was either by independent ditches from the river not embraced in this suit or by waste water. There is no such evidence of appropriation of water to these parcels of land as will permit of an establishment of their right to water diverted from the river in the canals that have their heads at or above the Joint Head, to which the issues in this suit are confined. This land, as likewise other land in the western portion of the valley not embraced in this suit, has had, and may still be entitled to have, for its source of supply the water rising in the river below the Joint Head, which supply is not within the issues here. These parcels of land, however, while not, under the testimony, entitled to a decree establishing their proportionate right of water under class A, or their right to a preferred application under class B, where they have been or shall be listed in the water users' association and become thereby privileged to enter into contractual relations with the Government with respect to the stored water, are entitled to the rights appertaining to land in class C.

Water has been applied for a number of years upon several tracts of land otherwise uncultivated for rows of ornamental and shade trees growing thereon. Such an appropriation is a valid one. The evidence shows that under ordinary conditions of planting, water sufficient for five acres of land is sufficient for one mile of such rows of trees. In determining the amount of water to be delivered to such trees, such standard of measurement has been taken.

Proof has been given in this case and the fact established of an appropriation of water to the land described as southeast quarter of section 23, township 1 north, range 3 east, by means of a subterranean flow of water, independent of the water in the river, through a ditch leading from the source of such supply in section 20, township 1 north, range 4 east. The issues in this case being confined to the right to the use of the flow in the Salt river, no decree herein as to the right of this land to an appropriation of this independent subterranean flow can be given.

In addition to the owners of the parcels of land situated in the Salt River valley under these canals, there have been made parties defendant to this suit owners of parcels of land lying in the Verde valley, along the Verde river and irrigated by water from it, some fifty miles above its conflux with the Salt river. The demurrers and pleas to the jurisdiction interposed by these defendants have been overruled. No testimony, however, as to the exact extent of cultivation of the land in the Verde valley owned by these defendants or the dates of the reclamation of the various parcels of such land and the application of water thereto has been given. It is not possible, therefore, in this decree to establish the rights of such land owners and such land to the use of the water in the Verde river in relation to the

rights to such water of the land in the Salt River valley. From the general testimony in respect to the cultivation in the Verde valley, it seems that such cultivation, though in actual point of time and relative date of priority, in some instances later than that of land in the Salt River valley, is not of sufficient area and acreage at the present time to interfere seriously with the prior rights, if any, of the land in the Salt River valley. Such being the case, it does not seem desirable to delay the promulgation of the decree herein to await such testimony, nor at the present time under existing conditions does there seem to be a necessity for a determination of such relative priorities, if any, of rights between the two widely separated areas of land. The owners of the land in the Verde valley are party defendants to this suit, and it is conceived that if hereafter conditions shall arise by increased cultivation or otherwise, which shall make it necessary for a determination of the rights of the land in the Verde valley to the water in the Verde river as against the rights of the land to which water is by the decree herein shown to be entitled, the necessary steps for such determination can hereafter be taken, and such rights and their relation to those hereby decreed may be established by a supplemental decree hereafter to be entered in this suit.

Evidence has been given of the existence of a number of pumping plants by means of which the supply of water from the river to which the land is entitled in times of scarcity is supplemented by an underground supply thus made available. In other instances water so pumped is the only means of supply. As there is no evidence that the water so pumped materially lessens the flow in the river, such rights as the land and the owners of such plants may have in the water so pumped will not be interfered with by this decree, but as the establishment of such rights, if any, is not within the issues herein, no finding will be made with respect thereto.

At the date of this decision the Highland canal has been definitely discontinued as a carrying canal, its place as such carrier having been taken by the Eastern canal, serving the land heretofore served by the Highland.

The unit of measurement of a miners' inch, as the expression is used herein, is defined to be one-fortieth part of one cubic foot of water flowing per second of time.

The standard of a given number of miners' inches constant flow as the duty of water is taken because of the familiarity therewith of the water users in the valley, and because I know of no other well-known adaptable standard of measurement. In practical and economical use of water for irrigation and cultivation, however, no parcel of land is given a constant flow, but the water for a number of parcels is given to each in rotation, thus giving a larger, a more serviceable and a more economical head of water.

The various tables and maps attached hereto have been prepared under my direction by the Water Commissioner, Frank P. Trott, Esq., who in many ways has been of material assistance to me in the preparation of this decision.

The decision and decree in this case, from the nature thereof, is of necessity a continuing one. The Court retains jurisdiction of the case and of the issues embraced therein. From time to time, as conditions may require an enlargement or modification of the decision and decree, application for such modification or enlargement may be made to the Court, and if granted, the same shall be entered at the foot of the decree herein.

In order to afford an opportunity to make such changes and such preparation as may be necessary to carry out and conform to the provisions of this decision and decree, the same shall not be effective as of this date, but the same shall be effective on and after April 1st, 1910.

Dated, Phoenix, March 1, 1910.

EDWARD KENT,  
Judge.

TABLE No. 1

A table showing the monthly average precipitation in Phoenix for fourteen years (from 1896 to 1909, inclusive) and the monthly daily average amount of water in miners' inches that was received from Salt River by the canals of Salt River Valley for the same periods of time.

MONTHS	Precipitation.....	Tempe, San Francisco and Broadway.....	Mesa and Consolidated.....	Utah.....	Mesa, Consolidated and Utah.....	Highland.....	Arizona and appropriators.....	Joint Head.....	Total, less 500 for Indians.....	Total on the South Side.....	Total on the North Side.....
January .....	0.98	6,531	3,576	1,860	5,436	109	8,458	3,017	23,551	12,076	11,475
February ..	0.83	7,372	5,025	2,950	7,975	189	11,185	4,243	30,964	15,536	15,428
March .....	0.54	8,779	5,380	3,508	8,888	265	12,917	4,407	35,256	17,932	17,324
April .....	0.44	7,866	5,546	3,095	8,641	192	15,107	4,769	36,575	16,699	19,876
May .....	0.04	6,634	4,445	2,275	6,720	88	9,911	3,603	26,956	13,442	13,514
June .....	0.09	4,963	2,164	1,539	3,703		6,308	2,523	17,497	8,666	8,831
July .....	1.25	4,708	2,577	1,700	4,277	62	7,741	2,662	19,450	9,047	10,403
August .....	1.10	7,539	4,477	2,756	7,233	86	14,934	4,311	34,103	14,858	19,245
September ..	0.96	6,640	3,995	2,234	6,229	52	11,559	3,579	28,059	12,921	15,138
October .....	0.35	5,699	2,645	2,046	4,691	48	8,056	2,678	21,172	10,438	10,734
November ..	0.83	6,186	2,933	2,362	5,295	59	10,925	2,780	25,245	11,540	13,705
December ..	0.74	6,216	2,832	1,951	4,783	16	8,116	2,607	21,738	11,015	10,723
Average ....	0.68	6,594	3,800	2,356	6,156	97	10,435	3,432	26,714	12,847	13,867

TABLE No. 1 A

A table showing the annual precipitation in Phoenix for fourteen years (from 1896 to 1909, inclusive) and the annual daily average amount of water in miners' inches that was received from Salt River by the canals of Salt River Valley for the same periods of time.

YEAR	Precipitation.....	Tempe, San Francisco and Broadway.....	Mesa and Consolidated.....	Utah.....	Mesa, Consolidated and Utah.....	Highland.....	Arizona and appropriators.....	Joint Head.....	Total, less 500 for Indians.....	Total on the South Side.....	Total on the North Side.....
1896 .....	10.48	7,318	4,715	3,106	7,821	201	14,927	3,557	33,824	15,340	18,484
1897 .....	9.87	7,100	5,625	2,680	8,305	428	12,272	4,881	32,986	15,833	17,153
1898 .....	5.95	7,065	4,386	2,322	6,708	178	11,486	3,491	28,928	13,951	14,977
1899 .....	5.19	6,050	2,481	1,968	4,449	43	8,958	2,800	22,300	10,542	11,758
1900 .....	5.39	4,237	1,462	1,240	2,702	14	5,848	1,855	14,656	6,953	7,703
1901 .....	4.87	6,580	3,871	2,695	6,566	175	12,411	2,559	28,291	13,321	14,970
1902 .....	6.87	4,471	1,787	1,507	3,294	31	7,413	1,442	16,651	7,796	8,855
1903 .....	6.61	5,441	2,419	2,110	4,529	33	10,094	1,723	21,820	10,003	11,817
1904 .....	5.57	4,476	1,830	1,319	3,149	3	7,647	1,482	16,757	7,628	9,129
1905 .....	19.73	6,498	4,035	2,040	6,075	33	7,109	3,035	22,750	12,606	10,144
1906 .....	8.55	9,092	5,000	2,726	7,726	177	6,783	5,971	29,749	16,995	12,754
1907 .....	8.17	7,881	5,125	2,883	8,008		10,291	5,895	32,075	15,889	16,186
1908 .....	10.68	7,827	5,159	2,815	7,974		13,691	5,626	35,118	15,801	19,317
1909 .....	6.17	8,286	5,297	3,579	8,876	45	17,154	3,727	38,088	17,207	20,881
Average .....	8.15	6,594	3,800	2,356	6,156	97	10,435	3,432	26,714	12,847	13,867

TABLE No. 2

A descriptive list of Class A land on north side of Salt River.

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Indian Land—</b>				
SE ¼ .....	20	2 NR 5 E	160	
S ½ of N ½ .....	21		160	
S ½ of .....	21		320	
SW ¼ .....	22		160	
W ½ of .....	27		320	
N ½ of .....	28		320	
N ½ of NE ¼ .....	29		80	
E 13 a. of SE ¼ of SE ¼ .....	29		13	
NE ¼ .....	31		160	
S ½ of .....	31		320	
N ½ of .....	32		320	
Total acreage of the Indian land .....			2333	
<b>Year 1869—</b>				
N ½ of NW ¼ .....	3	1 NR 3 E	80	
E ½ of .....	4		320	
SW ¼ of .....	4		160	
S ½ of .....	8		320	
E ½ .....	9		320	
NW ¼ .....	9		160	
S 120 a. of SW ¼ .....	9		120	
E ½ of .....	10		320	
N ½ of NW ¼ .....	10		160	
SW ¼ .....	10		80	
All of .....	11		640	
60 a. in SW cor. of NW ¼ .....	12		60	
S ½ of NW ¼ .....	14		80	
NE ¼ .....	17		160	
70 a. N of River in SE ¼ .....	17		70	
NE ¼ .....	33	2 NR 3 E	160	
Total .....			3210	
<b>Year 1870—</b>				
SE ¼ .....	1	1 NR 2 E	160	
E ½ of NE ¼ .....	13		80	
SW ¼ .....	14		160	
SW ¼ .....	5	1 NR 3 E	160	
SE ¼ .....	7		160	
E ½ of SW ¼ and SW ¼ of SW ¼ .....	7		120	
15 a. in NW cor. of NE ¼ .....	16		15	
NW ¼ .....	17		160	
NE ¼ .....	18		160	
N ½ of SE ¼ .....	18		80	
N ½ of NW ¼ and SE ¼ of NW ¼ .....	18		120	
N ½ of SW ¼ .....	18		80	
Total .....			1455	
<b>Year 1871—</b>				
S 50 a. of SW ¼ .....	11	1 NR 2 E	50	
E ½ .....	12		320	
NW ¼ .....	12		160	
SE ¼ except 40 a. in River .....	13		120	
NE ¼ of NW ¼ and NE ¼ of NW ¼ of NW ¼ .....	13		50	
SW ¼ .....	13		160	
N 100 a. of NE ¼ .....	14		100	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1871—(Continued)—</b>				
SE ¼ .....	14	1 N R 2 E	160	
NW ¼ .....	14		160	
SE ¼ except 30 a. in NE corner .....	2	1 N R 3 E	130	
130 a. S of S. R. V. Canal in SW ¼ .....	2		130	
NW ¼ .....	4		160	
E ½ .....	5		320	
NW ¼ .....	5		160	
E ½ .....	6		320	
80 a. N of Grand Ave in NW ¼ .....	6		80	
5 a. S of Grand Ave. in NW ¼ of NW ¼ .....	6		5	
20 a. S of Grand Ave. in SE ¼ of NW ¼ .....	6		20	
20 a. in E part of N. Capitol Addition .....	6		20	
N ½ .....	7		320	
NW ¼ .....	16		160	
30 a. N of River in SW ¼ .....	16		30	
SW ¼ .....	34	2 N R 3 E	160	
Total .....			3295	
<b>Year 1872—</b>				
S 70 a. of NE ¼ .....	11	1 N R 2 E	70	
SW ¼ .....	12		160	
SE ¼ .....	16		160	
SE ¼ .....	17		160	
NE ¼ .....	20		160	
E ½ of NE ¼ .....	3	1 N R 3 E	80	
SE ¼ .....	31	2 N R 3 E	160	
E ½ .....	32		320	
NW ¼ .....	32		160	
E ½ of SW ¼ and NW ¼ of SW ¼ .....	32		120	
S ½ .....	33		320	
Total .....			1870	
<b>Year 1873—</b>				
E 60 a. N of River in NE ¼ .....	25	1 N R 1 E	60	
E ½ of NW ¼ .....	20	1 N R 2 E	80	
N ½ .....	8	1 N R 3 E	320	
Total .....			460	
<b>Year 1874—</b>				
SE ¼ .....	11	1 N R 2 E	160	
S 100 a. of NE ¼ .....	16		100	
SW ¼ except 15 a. rough .....	17	1 N R 3 E	145	
Total .....			405	
<b>Year 1875—</b>				
60 a. S of Maricopa Canal in SE ¼ .....	34	2 N R 3 E	60	
Total .....			60	
<b>Year 1876—</b>				
W ½ of SE ¼ .....	2	1 N R 2 E	80	
SW ¼ .....	2		160	
SW ¼ .....	9		160	
NE ¼ .....	10		160	
N 120 a. of NW ¼ .....	10		120	
NW ¼ .....	11		160	
SW ¼ except 10 a. rough .....	15		150	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1876—(Continued)—</b>				
NW ¼ except 10 a. in SW cor. ....	17	1 N R 2 E	150	
N ½ of SE ¼ .....	20		80	
NW ¼ .....	22		160	
NE ¼ .....	14	1 N R 3 E	160	
N ½ of SE ¼ .....	14		80	
N ½ of SW ¼ .....	14		80	
Total .....			1700	
<b>Year 1877—</b>				
NE ¼ .....	1	1 N R 2 E	160	
N ½ .....	2		320	
NE ¼ .....	9		160	
W ½ .....	16		320	
NE ¼ .....	18		160	
SE ¼ .....	29	2 N R 3 E	160	
N ½ .....	31		320	
SW ¼ .....	31		160	
Total .....			1760	
<b>Year 1878—</b>				
SW ¼ .....	1	1 N R 2 E	160	
All of .....	3		640	
NE ¼ .....	4		160	
All of .....	6		640	
N 110 a. of SW ¼ .....	11		110	
NW ¼ .....	18		160	
NW ¼ of NE ¼ .....	22		40	
Lots 1, 2, 7 and 8, Montezuma Place, in				
SE ¼ of SW ¼ .....	3	1 N R 3 E	30	
NW ¼ of SW ¼ .....	3		40	
NW ¼ except 60 a. in SW Cor. ....	12		100	
NE ¼ of NW ¼ .....	14		40	
N ½ of NE ¼ .....	15		80	
NE ¼ except 15 a. in NW cor. ....	16		145	
E ½ .....	25	2 N R 2 E	320	
SW ¼ .....	25		160	
S ½ .....	26		320	
S ½ .....	35		320	
SW ¼ of SW ¼ .....	29	2 N R 3 E	40	
S ½ of SE ¼ .....	30		80	
SW ¼ .....	30		160	
NW ¼ .....	33		160	
Total .....			3905	
<b>Year 1879—</b>				
NW ¼ .....	1	1 N R 2 E	160	
NW ¼ .....	4		160	
NE ¼ .....	7		160	
N ½ .....	8		320	
NW ¼ .....	9		160	
30 a. N of Maricopa Canal in NE cor. of				
SE ¼ .....	2	1 N R 3 E	30	
NW ¼ .....	2		160	
30 a. N of S. R. V. Canal in SW ¼ .....	2		30	
50 a. N of River in SW ¼ .....	13		50	
S ½ .....	27	2 N R 2 E	320	
SE ¼ .....	34		160	
SE ¼ .....	36		160	
SE ¼ except 10 a. in NW cor. ....	19	2 N R 3 E	150	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks	
<b>Year 1897—(Continued)—</b>					
S ½	20	2 NR 3 E	320	(Erratum, obviously should read 1879)	
25 a. in SW cor. of SE ¼	27		25		
E ½	28		320		
NW ¼ except 50 a. in SW cor.	28		110		
SW ¼	28		160		
N ½	29		320		
NE ¼	30		160		
Total			3435		
<b>Year 1880—</b>					
All of	1	1 NR 1 E	640		
All of	12		640		
NE ¼	13		160		
S ½ of NE ¼	2	1 NR 2 E	80		
S ½	4		320		
W ½	7		320		
SW ¼	8		160		
SW ¼	17		160		
W ½ of NW ¼	20		80		
60 a. N of River in N ½ of NE ¼	21		60		
120 a. N of River in NW ¼	21		120		
SW ¼	1	1 NR 3 E	160		
45 a. in SW cor. of NW ¼	1		45		
NW ¼ of NW ¼	14		40		
SW ¼	22	2 NR 1 E	160		
S ½ of NE ¼	26		80		
SE ¼	26		160		
W ½	26		320		
All of	35		640		
All of	36		640		
20 a. S of Grand Canal in NW ¼	26	2 NR 2 E	20		
S ½ of	28		320		
SE ¼	29		160		
55 a. S of Grand Canal in NW ¼	29		55		
SW ¼	29		160		
E ½ of	32		320		
NW ¼	32		160		
E ½	33		320		
NE ¼	34		160		
N ½	35		320		
W ½	36		320		
140 a. S of Grand Canal in SW ¼	19	2 NR 3 E	140		
SW ¼ except 10 a. in NE cor.	21		150		
SW ¼ except 30 a. in NE cor.	27		130		
NW ¼	30		160		
NE ¼ except 15 a. in NE cor.	34		145		
Total			8025		
<b>Year 1881—</b>					
E ½	11	1 NR 1 E	320		
NW ¼	11		160		
SW ¼ except S ½ of SW ¼ of SW ¼	11		140		
NE ¼	5	1 NR 2 E	160		
SW ¼	5		160		
NE ¼	12	1 NR 3 E	160		
N 120 a. of SE ¼	12		120		
S ½ of NE ¼	25	2 NR 1 E	80		
SE ¼	25		160		
NW ¼ except 50 a. in NE Cor.	25		110		

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
SW ¼ .....	25	2 NR 1 E	160	
All of .....	28		640	
All of .....	33		640	
E ½ of .....	34		320	
NW ¼ .....	34		160	
SW ¼ .....	34		160	
All of .....	31	2 NR 2 E	640	
NW ¼ .....	33		160	
W ½ of .....	34		320	
NE ¼ .....	36		160	
SW ¼ of NW ¼ except 5 a. in NE cor. ....	27	2 NR 3 E	35	
Total .....			4965	
<b>Year 1882—</b>				
E ½ of NE ¼ .....	2	1 NR 1 E	80	
W ½ of NE ¼ .....	2		80	82-04
SE ¼ .....	2		160	
W ½ of .....	2		320	82-04
All of .....	3		640	
N ½ of .....	10		320	
SE ¼ .....	5	1 NR 2 E	160	
NW ¼ .....	5		160	
NW ¼ of SW ¼ .....	7	1 NR 3 E	40	
90 a. S of Grand Canal in SE ¼ .....	14	2 NR 1 E	90	
100 a. S of Grand Canal in NW ¼ .....	14		100	
SW ¼ .....	14		160	
All of .....	15		640	
E ½ of .....	20		320	
SW ¼ .....	20		160	
E ½ of .....	21		320	
W ½ of .....	21		320	82-04
E ½ of .....	22		320	
NW ¼ .....	22		160	
NE ¼ .....	23		160	
SW ¼ .....	23		160	
SE ¼ except 40 a. in NE cor. ....	24		120	
SW ¼ .....	24		160	
N ½ of NE ¼ .....	25		80	
50 a. in NE cor. of NW ¼ .....	25		50	
All of .....	27		640	
E ½ of .....	29		320	
SW ¼ .....	29		160	
E ½ of .....	32		320	
S ½ of NE ¼ .....	30	2 NR 2 E	80	
SE ¼ .....	30		160	
NW ¼ except 15 a. in NE cor. ....	30		145	
SW ¼ .....	30		160	
SW ¼ .....	32		160	
SW ¼ .....	33		160	
NW ¼ .....	34	2 NR 3 E	160	
Total .....			7745	
<b>Year 1883—</b>				
N ½ of NE ¼ .....	9	1 NR 1 E	80	
S ½ of NE ¼ .....	9		80	83-05
SE ¼ .....	9		160	
NE ¼ .....	19	1 NR 2 E	160	
SW ¼ .....	12	1 NR 3 E	160	



TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1883—(Continued)—</b>				
NE ¼ of NW ¼ .....	15	1 N R 3 E	40	
NW ¼ of NW ¼ .....	15		40	
SW ¼ of NW ¼ .....	15		40	
NW ¼ of SW ¼ .....	15		40	
5 a. in NW cor. of SW ¼ of SW ¼ .....	15		5	
SE ¼ .....	23	2 N R 1 E	160	
NW ¼ .....	23		160	
N ½ of NE ¼ .....	26		80	
50 a. in SW cor. of NW ¼ .....	28	2 N R 3 E	50	
Total .....			1255	
<b>Year 1884—</b>				
N ½ .....	5	1 N R 1 E	320	
E ½ .....	6		320	
W ½ .....	6		320	84-04
NE ¼ .....	14		160	
SE ¼ .....	18	1 N R 2 E	160	
SE ¼ except 15 a. in NW cor. of SW ¼ .....	3	1 N R 3 E	145	
25 a. in NE cor. of SW ¼ .....	3		25	
40 a. S of Grand Canal in NW ¼ .....	20	2 N R 3 E	40	
Total .....			1490	
<b>Year 1885—</b>				
N 90 a. of NE ¼ .....	11	1 N R 2 E	90	
N 60 a. of NE ¼ .....	16		60	
S ½ of SE ¼ .....	18	2 N R 1 E	80	
SW ¼ .....	31		160	
N ½ of N ½ of SE ¼ .....	30	2 N R 3 E	40	
SW ¼ except 20 a. in NE cor. ....	35		140	
Total .....			570	
<b>Year 1886—</b>				
S ½ .....	7	1 N R 1 E	320	
N ½ of SE ¼ .....	19	1 N R 2 E	80	
E ½ of SE ¼ .....	9	2 N R 1 E	80	
SW ¼ of SE ¼ .....	9		40	
S ½ .....	16		320	
95 a. on E side of NE ¼ .....	19		95	
SE ¼ except 20 a. on W side .....	19		140	
SE ¼ .....	31		160	
All of .....	21	2 N R 2 E	640	
40 a. S of Grand Canal in NE ¼ .....	26		40	
SW ¼ of SE ¼ .....	16	2 N R 3 E	40	
NE ¼ .....	17		160	
N 60 a. of SE ¼ .....	17		60	
E ½ of SW ¼ .....	17		80	
NE ¼ except 20 a. in SW cor. ....	20		140	
W 20 a. N of Grand Canal in SW ¼ of NW ¼ .....	20		20	
45 a. S of Grand Canal in W ½ of SE ¼ .....	21		45	
NW ¼ of SW ¼ .....	29		40	
Total .....			2500	
<b>Year 1887—</b>				
20 a. in SE ¼ of NW ¼ and W ½ of NW ¼ .....	13	1 N R 3 E	100	
S ½ of NE ¼ .....	15		80	
N ½ of SE ¼ .....	15		80	
NW ¼ .....	15	2 N R 2 E	160	
SW ¼ .....	19		160	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
Year 1887—(Continued)—				
S ½ of NW ¼	23	2 NR 2 E	80	
N ½ of SW ¼	23		80	
S 30 a. of SE ¼ of NW ¼	17	2 NR 3 E	30	
S ½ of NW ¼	25		80	
S ½ of N ½ of SE ¼	30		40	
10 a. for Trees	29	2 NR 4 E	10	
NE ¼ of NE ¼	25	3 NR 1 E	40	
S ½ of NE ¼	25		80	
E ½ of SE ¼	25		80	
W ½ of SE ¼	25		80	87-05
E ½ of SW ¼	25		80	
50 a. N of Grand Ave. in E ½ of SE ¼	36		50	
N ½ of NW ¼ of NE ¼	30	3 NR 2 E	20	
S 10 a. of SE ¼ of NE ¼	30		10	
E ½ of NE ¼ of SE ¼ & S ½ of SE ¼ except 5 a. in NW cor.	30		95	
E ½	34		320	
NE ¼ of NE ¼	36		40	
E ½ of SE ¼	36		80	
NE ¼ of NE ¼	31	3 NR 3 E	40	
NW ¼	31		160	87-03
Total			2075	
Year 1888—				
N ½ of SE ¼ except 10 a. in SE cor.	10	1 NR 2 E	70	
S ½ of SE ¼	10		80	
SW ¼	10		160	
E ½	15		320	
NW ¼	15		160	
SE ¼ of SE ¼ of SW ¼	6	1 NR 3 E	10	
SE ¼ of NW ¼ of SE ¼	7	1 NR 4 E	10	
40 a. N of River in E ½ of SW ¼	7		40	
50 a. N of River in W ½ of SW ¼	7		50	88-03
W ½ of NE ¼	4	2 NR 2 E	80	
W 30 a. of SW ¼ of SE ¼	4		30	
W ½	4		320	
N ½	5		320	
W ½ of SW ¼	5		80	
E ½	6		320	
80 a. N of Grand Ave. in NW ¼	6		80	
20 a. S of Grand Ave. in SE ¼ of NW ¼	6		20	
SW ¼	6		160	
NW ¼ of NW ¼	8		40	
E ½	9		320	
NW ¼ of NW ¼ of NW ¼	9		10	
N ½ of SW ¼	9		80	
NW ¼ of NE ¼	10		40	
E 60 a. of S ½ of NW ¼	10		60	
NW ¼ of NE ¼	11		40	
W ½ of NW ¼ of NW ¼	13		20	
N ½ of NW ¼ of NE ¼	14		20	
SW ¼	14		160	
NW ¼ of NW ¼ and NW ¼ of NE ¼ of NW ¼	23		50	
W ½ of NW ¼	6	2 NR 3 E	80	
W ½ of SW ¼	6		80	
SE ¼ of SE ¼	35		40	
5 a. in NE cor. of SW ¼ of SE ¼	35		5	
S ½ of NE ¼	36		80	
S ½ of NW ¼	36		80	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
Year 1888—(Continued)—				
S ½ .....	23	2 N R 4 E	320	
E ½ of SE ¼ and NW ¼ of SE ¼ .....	27		120	
NE ¼ of NE ¼ of SW ¼ of SE ¼ .....	27		5	
W ½ .....	34	3 N R 2 E	320	
Total .....			4280	
Year 1889—				
N ½ of SE ¼ .....	10	1 N R 1 E	80	
N ½ of SW ¼ .....	10		80	
50 a. N of River in NE ¼ .....	23	1 N R 2 E	50	
NE ¼ of NW ¼ and NW ¼ of NW ¼ .....	23		60	
10 a. in NE cor. of SE ¼ of SE ¼ and 30 a. N of River in S ½ of SE ¼ .....	14	1 N R 3 E	40	
N ½ of NE ¼ & W ½ of SW ¼ of NE ¼ ..	1	2 N R 1 E	100	
SE ¼ .....	1		160	
NE ¼ of SE ¼ .....	2		40	
NE ¼ of NE ¼ .....	11		40	
S ½ of NE ¼ .....	11		80	
NE ¼ of NE ¼ .....	13		40	
SW ¼ of NE ¼ .....	13		40	
NE ¼ of NE ¼ .....	14		40	
W ½ of NE ¼ .....	2	2 N R 2 E	80	
SE ¼ of SE ¼ .....	2		40	
W ½ of SE ¼ .....	2		80	
W ½ of NW ¼ .....	2		80	
W ½ of SW ¼ .....	2		80	
E ½ .....	3		320	
SW ¼ .....	3		160	
W ½ of NE ¼ .....	7		80	
NW ¼ .....	7		160	
NE ¼ of NE ¼ of SW ¼ .....	7		10	
SE ¼ of SW ¼ .....	7		40	
SW ¼ of NW ¼ of SW ¼ .....	7		10	
S ½ of NE ¼ of SE ¼ .....	8		20	
10 a. N of Grand Ave. in NW cor. of SE ¼ ..	8		10	
W ½ of NW ¼ .....	11		80	
All of .....	16		640	
E 100 a. of NE ¼ .....	17		100	
SE ¼ .....	17		160	
SW ¼ of NW ¼ .....	17		40	
N ½ .....	20		320	
W ½ of SW ¼ .....	20		80	
N ½ of NE ¼ .....	22		80	
NW ¼ of SW ¼ .....	22		40	
5 a. for Trees in Alhambra .....	26		5	
NE ¼ except 20 a. on N side .....	27		140	
35 a. S of Grand Canal in NW ¼ .....	27		35	
W ½ of NW ¼ .....	19	2 N R 3 E	80	
N ½ of NW ¼ of SE ¼ .....	36		20	
SW ¼ of SE ¼ .....	36		40	
N ½ of SW ¼ .....	36		80	
50 a. S of Ariz. Canal in NE ¼ .....	28	2 N R 4 E	50	
W 55 a. in N ½ of SE ¼ .....	28		55	
30 a. S of Ariz. Canal in SE ¼ of NW ¼ ..	28		30	
15 a. in NE cor. of SW ¼ .....	28		15	
NE ¼ of SE ¼ .....	30		40	
SE ¼ of SE ¼ .....	30		40	
NE ¼ except 10 a. rough .....	22	3 N R 1 E	150	
NE ¼ of SE ¼ .....	22		40	
80 a. S of Grand Ave. in SE ¼ .....	22		80	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1889—(Continued)—</b>				
5 a. for trees in NW ¼ of NW ¼ .....	26	3 NR 1 E	5	Peoria
5 a. for trees in NE ¼ of NE ¼ .....	27		5	Peoria
SE ¼ of NE ¼ .....	27		40	
SW ¼ of SW ¼ .....	7	3 NR 2 E	40	
S 60 a. of E ½ of SE ¼ .....	31		60	
NW ¼ of SE ¼ .....	31		40	
N ½ of SW ¼ .....	31		80	
NW ¼ of SW ¼ of SW ¼ .....	31		10	
NE ¼ .....	32		160	
SE ¼ .....	33		160	
S 40 a. of SW ¼ .....	33		40	
E ½ of NW ¼ .....	35		80	
W ½ of SW ¼ .....	36		80	
Total .....			5260	
<b>Year 1890—</b>				
S 40 a. of NW ¼ .....	10	1 NR 2 E	40	
S ½ of SW ¼ of SE ¼ .....	12	1 NR 3 E	20	
E ½ of NE ¼ .....	2	1 NR 4 E	80	
10 a. in NW cor. of NE ¼ of NE ¼ .....	6		10	
NW ¼ of NE ¼ .....	6		40	
W ½ of SW ¼ .....	6		80	
S ½ of SE ¼ .....	2	2 NR 1 E	80	
E ½ of NE ¼ .....	7	2 NR 2 E	80	
N ½ of SE ¼ .....	10		80	
E ½ of NW ¼ of NW ¼ .....	13		20	
S ½ of SE ¼ .....	14		80	
E ½ of SE ¼ .....	15		80	
NW ¼ .....	28		160	
N 60 a. of W ½ of SW ¼ .....	4	2 NR 3 E	60	
S ½ of SE ¼ .....	15		80	
SW ¼ of SW ¼ .....	15		40	
NE ¼ of NE ¼ and S ½ of NE ¼ .....	22		120	90-04
NW ¼ of NE ¼ .....	22		40	
NE ¼ of SE ¼ .....	22		40	
NW ¼ of SE ¼ and S ½ of SE ¼ .....	22		120	90-05
NW ¼ of NW ¼ .....	22		40	
E ¼ of SE ¼ .....	27		80	
15 a. in NE cor. of SW ¼ of SE ¼ .....	27		15	
NE ¼ of SW ¼ .....	29		40	
SE ¼ of SW ¼ .....	29		40	
5 a. in SW cor. of NE ¼ of SE ¼ .....	19	2 NR 4 E	5	
S ½ of SE ¼ except 5 a. in NE cor. ....	19		75	
SW ¼ .....	22	3 NR 1 E	160	
5 a. in SE cor. of NE ¼ .....	26		5	
50 a. S of Ariz. Canal in E ½ of SE ¼ .....	25	3 NR 2 E	50	
S 60 a. of E ½ of SE ¼ and S ½ of SW ¼ of SE ¼ .....	32		80	90-04
N ½ of NE ¼ of SE ¼ and N 60 a. of W ½ of SE ¼ .....	32		80	90-03
NE ¼ .....	35		160	
W ½ of NW ¼ .....	36		80	
N ½ of NE ¼ .....	13	1 NR 1 W	80	
Total .....			2340	
<b>Year 1981—</b>				
SE ¼ of NW ¼ .....	15	1 NR 3 E	40	
N ½ of SE ¼ .....	14	2 NR 2 E	80	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1891—(Continued)—</b>				
SE ¼	19	2 NR 2 E	160	
N ½ of SE ¼ of NE ¼	35	2 NR 3 E	20	
NE ¼ of NE ¼	36		40	
SE ¼ of SE ¼	36		40	
S ½ of SE ¼ of SW ¼ and SW ¼ of SW ¼	36		60	
SW ¼	26	3 NR 1 E	160	
SE ¼ of SE ¼	27		40	
E ½ of SE ¼	35	3 NR 2 E	80	
SE ¼ of NE ¼ and W ½ of NE ¼	31	3 NR 3 E	120	
NE ¼ of NW ¼ of SW ¼ and W ½ of W ½ of SW ¼	32		50	
Total			890	
<b>Year 1892—</b>				
N ½ of SE ¼	13	1 NR 1 E	80	
W ½ of SW ¼ of SE ¼	13		20	
E ½ of NW ¼ and NW ¼ of NW ¼	13		120	
NE ¼	1	1 NR 3 E	160	
NE ¼ except 10 a. in SE cor.	2		150	
E ½ of NE ¼ of SE ¼	11	2 NR 1 E	20	
S ½ of SE ¼	11		80	
E ½	12		320	
N 60 a. of W ½ of NW ¼	12		60	
NE ¼ of SW ¼	12		40	
NW ¼	32		160	
SW ¼	32		160	
NW ¼ of SW ¼ and W ½ of SW ¼ of SW ¼	12	2 NR 2 E	60	
NW ¼ of NE ¼ of NW ¼ and NW ¼ of NW ¼	14		60	
E ½ of SW ¼ and SW ¼ of SW ¼	17		120	
NE ¼ of NE ¼	18		40	92-04
SE ¼ of NE ¼	18		40	92-04
W ½ of NE ¼	18		80	
E 60 a. of N ½ of SE ¼	18		60	
SE ¼ of SE ¼	18		40	
S ½ of SW ¼ of NW ¼ of SE ¼	18		5	
NE ¼	19		160	
N ½ of NE ¼	30		80	
15 a. in NE cor. of NW ¼	30		15	
W ½ of NW ¼	23	2 NR 3 E	80	
100 a. N of Maricopa Canal in SE ¼	34		100	
S ½ of NE ¼	24	2 NR 4 E	80	
N ½ of N ½ of SE ¼	24		40	
S ½ of NW ¼	14	3 NR 1 E	80	
N ½ of SW ¼	14		80	
50 a. in E part of N ½ of NW ¼ and SE ¼ of NW ¼	22		90	
S 30 a. of NW ¼ of NE ¼ and N 10 a. of SW ¼ of NE ¼	27		40	
N 25 a. of SE ¼ of NE ¼	36		25	
SW ¼ of NE ¼	36		40	
80 a. strip running SW through center of SW ¼	30	3 NR 2 E	80	
W ½	32		320	
Total			3185	
<b>Year 1893—</b>				
SW ¼ of NE ¼	6	1 NR 4 E	40	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1893—(Continued)—</b>				
100 a. S of Grand Canal in NW ¼ .....	7	1 NR 4 E	100	
SE ¼ of SE ¼ .....	16	2 NR 3 E	40	
NW ¼ of SE ¼ .....	16		40	
W 30 a. of NW ¼ of NW ¼ .....	27		30	
E ½ of NW ¼ .....	35		80	
NW ¼ of NE ¼ .....	36		40	
NE ¼ of SE ¼ & S ½ of NW ¼ of SE ¼ .....	36		60	
S ½ of N ½ of NW ¼ .....	36		40	
NW ¼ of SE ¼ .....	30	2 NR 4 E	40	
W ½ of NW ¼ of NE ¼ .....	36		20	
W ½ of NW ¼ of SE ¼ .....	36		20	
NW ¼ .....	36		160	
N ½ of SW ¼ .....	36		80	
SW ¼ of SW ¼ .....	36		40	
N ½ of SW ¼ .....	36	3 NR 1 E	80	
N 60 a. of E ½ of NE ¼ & W ½ of NE ¼ .....	31	3 NR 2 E	140	
S ½ of NW ¼ .....	31		80	
Total .....			1130	
<b>Year 1894—</b>				
50 a. N of Grand Canal in W part of NW ¼ .....	1	1 NR 3 E	50	
W ½ of NE ¼ .....	3		80	
S ½ of NW ¼ .....	3		80	
Blk. 5, Montezuma Place, in SW ¼ .....	3		10	
W ½ of NW ¼ .....	6	1 NR 4 E	80	94-04
N ½ of NE ¼ of SW ¼ .....	15	2 NR 3 E	20	
N ½ of SE ¼ of NE ¼ of SW ¼ .....	15		5	
NW ¼ of SW ¼ .....	15		40	
NE ¼ of NE ¼ of NE ¼ .....	23		10	
NW ¼ of SE ¼ of NW ¼ .....	23		10	
NW ¼ except 10 a. in SE cor. ....	24	2 NR 3 E	150	
N 60 a. of E ½ of SW ¼ .....	34	3 NR 1 E	60	
N ½ of NW ¼ & E 30 a. of S ½ of NW ¼ .....	35		110	
N ½ of SW ¼ .....	20	3 NR 2 E	80	
W ½ of NW ¼ .....	35		80	
30 a. in SW cor. of SW ¼ .....	33	3 NR 3 E	30	
Total .....			895	
<b>Year 1895—</b>				
S 60 a. of NE ¼ .....	14	1 NR 2 E	60	
NW ¼ of SE ¼ .....	2	2 NR 1 E	40	
N 25 a. of SE ¼ of NW ¼ .....	16		25	
NE ¼ .....	24		160	
S ½ of SE ¼ of NW ¼ .....	5	2 NR 3 E	20	
E ½ of SW ¼ .....	5		80	
S 60 a. of W ½ of SW ¼ .....	5		60	
10 a. for trees along Central Avenue .....	5		10	
All of .....	18		640	
NW ¼ of NE ¼ of NE ¼, S ½ of NE ¼ of NE ¼ and SE ¼ of NE ¼ .....	23		70	95-05
NE ¼ of SE ¼ and S ½ of SE ¼ .....	23		120	
SW ¼ .....	23		160	
NW ¼ of NE ¼ of SW ¼ .....	24		10	
NW ¼ of NW ¼ of SW ¼ and S ½ of NW ¼ of SW ¼ .....	24		30	
5 a. in NW cor. of SW ¼ of SW ¼ .....	24		5	
SE ¼ of NW ¼ .....	27		40	
35 a. S of Ariz. Canal in S ½ of SE ¼ .....	22	2 NR 4 E	35	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1895—(Continued)—</b>				
E ½ of NE ¼ .....	35	3 NR 1 E	80	
S ½ of SE ¼ of SW ¼ .....	35		20	
W 15 a. of N ½ of SW ¼ of NW ¼ .....	36		15	
SW ¼ of SW ¼ of SW ¼ .....	30	3 NR 3 E	10	
Total .....			1690	
<b>Year 1896—</b>				
NE ¼ .....	4	2 NR 1 E	160	
SE ¼ of NW ¼ .....	13		40	
S ½ of NE ¼ .....	7	2 NR 3 E	80	
SW ¼ of NE ¼ of SW ¼ .....	15		10	
S ½ of NW ¼ .....	26	2 NR 4 E	80	
10 a. for trees in NW ¼ of NW ¼ .....	26		10	Scottsdale Cemetery
NE ¼ of NW ¼ of SW ¼ .....	32		10	96-04
NE ¼ of SW ¼ .....	31	3 NR 3 E	40	96-04
SW ¼ of SW ¼ .....	31		40	
Total .....			470	
<b>Year 1897—</b>				
SE ¼ .....	7	1 NR 2 E	160	80-87, 97-09
SE ¼ .....	9		160	73-74-76-80, 97-09
N 15 a. of W ½ of NW ¼ of NE ¼ .....	8	2 NR 3 E	15	
S ½ of S ½ of NW ¼ of NE ¼ .....	8		10	
NE ¼ except 30 a. in NE ¼ .....	16		130	
NW ¼ of NE ¼ of NW ¼ and NW ¼ of NW ¼ .....	16		50	
S ½ of NW ¼ .....	16		80	
W ½ of SE ¼ of SW ¼ .....	16		20	
W ½ of SW ¼ .....	16		80	
25 a. in SW cor. of SE ¼ .....	35		25	
SE ¼ of SW ¼ .....	19	2 NR 4 E	40	
NE ½ of NW ¼ of NE ¼ .....	26		10	
N ½ of SW ¼ of SE ¼ .....	30		20	
NE ¼ of NE ¼ of NE ¼ .....	36	3 NR 1 E	10	
Total .....			810	
<b>Year 1898—</b>				
SW ¼ of NW ¼ .....	18	2 NR 2 E	40	
S ½ of SW ¼ of SW ¼ .....	4	2 NR 3 E	20	
W ½ of SE ¼ of SW ¼ .....	15		20	
30 a. in central part of SW ¼ of NE ¼ .....	23		30	98-04
N ½ of SE ¼ of SW ¼ .....	36		20	
W ½ of SE ¼ .....	35	3 NR 2 E	80	
W ½ of SE ¼ of SW ¼ of SW ¼ .....	30	3 NR 3 E	5	
Total .....			215	
<b>Year 1899—</b>				
E ½ of NE ¼ .....	22	1 NR 2 E	80	
30 a. N of river in SW ¼ of SE ¼ .....	22		30	
SW ¼ of SE ¼ of NW ¼ .....	23	2 NR 3 E	10	
E ½ of NE ¼ of NE ¼ .....	35		20	
NE ¼ of NW ¼ .....	26	3 NR 1 E	40	
W ½ of SE ¼ of SW ¼ .....	7	3 NR 2 E	20	
Total .....			200	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1900—</b>				
NW ¼ of NE ¼ .....	8	1 NR 1 E	40	
E ½ of SE ¼ of SW ¼ .....	8	2 NR 3 E	20	
15 a. in W part of SW ¼ of SW ¼ .....	10		15	
N ½ of NW ¼ of SE ¼ .....	23		20	00-04
NE ¼ of NE ¼ of NE ¼ .....	25		10	
E ½ of SW ¼ of SW ¼ .....	19	2 NR 4 E	20	
10 a. in SW cor. of SW ¼ .....	20		10	
SW ¼ .....	30		160	
SE ¼ of SE ¼ except 5 a. in SE Cor. ....	31		35	
SW ¼ of NW ¼ .....	26	3 NR 1 E	40	
Total .....			370	
<b>Year 1901—</b>				
N ½ of SW ¼ .....	18	1 NR 2 E	80	
50 a. N of river in E part of NE ¼ .....	21		50	
N 60 a. of E ½ of NW ¼ .....	8	2 NR 3 E	60	
SE ¼ of SE ¼ of NW ¼ .....	8		10	
W ½ of SE ¼ of NW ¼ .....	15		20	
E ½ of SE ¼ .....	21		80	
10 a. in NE cor. of NE ¼ of SE ¼ .....	28	2 NR 4 E	10	
SE ¼ .....	28	3 NR 2 E	160	91-92, 01-09
NE ¼ of SW ¼ .....	28		40	89-90, 01-09
W ½ of NW ¼ of NE ¼ .....	36		20	
Total .....			530	
<b>Year 1902—</b>				
E ½ of SW ¼ .....	13	1 NR 1 E	80	
NW ¼ of SW ¼ .....	13		40	
70 a. in N ½ of SE ¼ .....	16	1 NR 3 E	70	
30 a. S of Ariz. Canal in SE ¼ .....	4	2 NR 3 E	30	
E ½ of NW ¼ .....	19		80	
W ½ of NW ¼ of NW ¼ .....	21		20	
NE ¼ of SE ¼ .....	35		40	
E ½ of SE ¼ of NE ¼ .....	36	3 NR 2 E	20	
Total .....			380	
<b>Year 1903—</b>				
5 a. in SE cor. of SE ¼ of NW ¼ .....	10	1 NR 3 E	5	
15 a. N of river in S ½ of SW ¼ .....	14		15	
E ½ of NE ¼ .....	24	2 NR 2 E	80	
SE ¼ .....	24		160	
E ½ of SE ¼ of SE ¼ .....	6	2 NR 3 E	20	
Total .....			280	
<b>Year 1904—</b>				
NE ¼ .....	16	2 NR 1 E	160	90-94-04-07
S ½ of SW ¼ .....	15	2 NR 2 E	80	91-95-04-09
NW ¼ .....	19		160	
W ½ of NE ¼ of SE ¼ .....	16	2 NR 3 E	20	
N ½ of NE ¼ of NW ¼ and SE ¼ of NE ¼ of SW ¼ .....	16		30	
SE ¼ of SE ¼ of SW ¼ .....	16		10	
NW ¼ of NE ¼ of NE ¼ and NE ¼ of NW ¼ of NE ¼ .....	26		20	86-87-04-09
S ½ of NW ¼ of NE ¼ .....	27		20	



TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1904—(Continued)—</b>				
15 a. in SE cor. of NE ¼ of SE ¼ .....	28	2 NR 4 E	15	04-05
N ½ of NW ¼ .....	14	3 NR 1 E	80	
Total .....			595	
<b>Year 1905—</b>				
S ½ of NW ¼ of NE ¼ and N ½ of SW ¼ of NE ¼ .....	13	1 NR 3 E	40	
S ½ of NW ¼ of NE ¼ .....	26	2 NR 3 E	20	
W ½ of NW ¼ .....	26		80	
N ½ of NW ¼ of SW ¼ .....	26		20	
S ½ of SW ¼ .....	14	3 NR 1 E	80	
W ½ of SW ¼ of SW ¼ .....	20	3 NR 2 E	20	
SE ¼ of SW ¼ .....	36		40	
Total .....			300	
<b>Year 1906—</b>				
SE ¼ .....	4	1 NR 1 E	160	
40 a. bet. Grand & Aprs. Canals in NE ¼ NW ¼ of SW ¼ .....	24		70	
S ½ of SW ¼ of NE ¼ .....	13	1 NR 2 E	20	
SE ¼ .....	1	1 NR 3 E	160	
65 a. in NE part of NW ¼ .....	1		65	
SW ¼ of SW ¼ of SW ¼ .....	1	2 NR 1 E	10	92-99
S ½ of NE ¼ of NE ¼ & NW ¼ of NE ¼ .....	15	2 NR 2 E	60	92-93
SW ¼ of SE ¼ .....	18		40	92-97
40 a. bet. Grand and Aprs. Canals in NE ¼ SE ¼ of SW ¼ .....	26		40	
E ½ of SW ¼ of NW ¼ .....	4	2 NR 3 E	40	
NW ¼ of NW ¼ of SE ¼ .....	15		20	
E ½ of SE ¼ .....	21		10	
E ½ of SE ¼ .....	31	3 NR 3 E	80	
Total .....			775	
<b>Year 1907—</b>				
All of .....	16	1 NR 1 E	640	84-85
N ½ of NE ¼ of NE ¼ .....	17		20	84-87
E ½ of NE ¼ of SE ¼ .....	17		20	
W ½ of NW ¼ .....	17		80	
S ½ of SW ¼ of SW ¼ .....	21		20	
NE ¼ of NE ¼ .....	17	1 NR 2 E	40	72-74, 90-91
E ½ of NW ¼ .....	6	1 NR 4 E	80	94-01
NW ¼ of NW ¼ of SW ¼ .....	1	2 NR 1 E	10	
25 a. in SE cor. of SW ¼ .....	8		25	
W ½ of NE ¼ of SE ¼ .....	11		20	92-00
SW ¼ of NW ¼ .....	16		40	
N ½ of SE ¼ .....	18		80	
NW ¼ .....	20		160	
NW ¼ .....	29		160	
W ½ of NE ¼ .....	31		80	
NW ¼ .....	3	2 NR 2 E	160	89-00
NW ¼ of NE ¼ of SW ¼ and S ½ of NE ¼ of SW ¼ .....	7		30	89-97
E 10 a. N of Grand Ave. in NW ¼ of SE ¼ .....	8		10	89-97
NE ¼ of NW ¼ of NW ¼ and S ½ of NW ¼ of NW ¼ .....	9		30	88-01
NE ¼ of NW ¼ and S ½ of NW ¼ .....	9		120	88-99
S ½ of SW ¼ .....	9		80	88-96
E ½ of NE ¼ .....	13		80	93-98

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1907—(Continued)—</b>				
N ½ of SW ¼	15	2 NR 2 E	80	92-97
N 15 a. of W ½ of NW ¼ of SE ¼	18		15	
40 a. bet. Grand and Aprs. Canals in W ½ of NW ¼	25		40	
60 a. S of Grand Canal in S ½ of NW ¼	25		60	86-90
50 a. S of Grand Ave. and N of Grand Canal in W ½ of NW ¼	26		50	
NE ¼ of NW ¼	27		40	
W ½ of NE ¼	5	2 NR 3 E	80	
W ½ of SE ¼	5		80	
N 60 a. of E ½ of NW ¼	5		60	
E ½ of NE ¼ of SW ¼	8		20	92-93
5 a. in SW cor. of SE ¼ of NW ¼ and 5 a. in SE cor. of SW ¼ of NW ¼	14		10	
SW ¼ of SW ¼ of NW ¼	15		10	
SE ¼ of NE ¼ of NE ¼	16		10	
SW ¼ of NE ¼ of SW ¼	16		10	97-98
10 a. N of Grand Canal in SE ¼	19		10	
20 a. N of Grand Canal in SW ¼	19		20	
N ½ of NE ¼ of NW ¼	20		20	
E 10 a. N of Grand Can. in SW ¼ of NW ¼	20		10	
N ½ of NE ¼ of NW ¼	27		20	
S ½ of NW ¼ of SE ¼ and N ½ of SW ¼ of SE ¼	24	2 NR 4 E	40	92-99
S ½ of NE ¼ of NE ¼	36	3 NR 1 E	20	
25 a. N of Grand Ave. in NW part of SE ¼	36		25	
W ½ of SE ¼	36	3 NR 2 E	80	87-93
E ½ of NW ¼	36		80	
W ½ of SE ¼	31	3 NR 3 E	80	
SE ¼ of SW ¼	31		40	
E ½ of SW ¼ and 30 a. in E ½ of W ½ of SW ¼	32		110	
SE ¼ of SE ¼	32		40	
E ½ of E ½	1	1 NR 1 W	160	
NW ¼ of NW ¼	1		40	
S ½ of NE ¼	13		80	
SE ¼	13		160	
N ½ of NE ¼	24		80	
Total			3665	
<b>Year 1908—</b>				
NE ¼ of NE ¼ and S ½ of NE ¼	8	1 NR 1 E	120	83-88
NW ¼ of SW ¼ of NW ¼	13		10	
All of	18		640	86-96
N ½ of NE ¼ of NE ¼	20		20	
NW ¼ of NE ¼ and S ½ of NE ¼	17	1 NR 2 E	120	72-74, 90-91
SE ¼ of SW ¼	18		40	01-02
SW ¼ of SW ¼	19		40	86-02
SE ¼ of SE ¼ of NE ¼	2	1 NR 3 E	10	
NE ¼ of SW ¼ of SW ¼	3		10	
E ½ of SW ¼ of NE ¼	1	2 NR 1 E	20	89-97
N ½ of NW ¼ of NW ¼	3		20	93-94
E ½ of SE ¼	10		80	86-91
NW ¼ of NE ¼	11		40	00-01
NW ¼ of SW ¼	13		40	92-96
E ½ of NE ¼ of NE ¼	18		20	
NW ¼ of SE ¼ of SW ¼ and S ½ of SE ¼ of SW ¼	18		30	94-02
30 a. N of Grand Canal in SE ¼	24		30	98-99

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
Year 1908—(Continued)—				
E ½ of .....	30	2 N R 1 E	320	84-93
E ½ of NW ¼ .....	2	2 N R 2 E	80	89-99
E ½ of SW ¼ .....	2		80	89-00
E ½ of NE ¼ .....	4		80	88-02
W 25 a. of SE ¼ of SE ¼ .....	4		25	88-02
SE ¼ .....	5		160	88-99
E ½ of SW ¼ .....	5		80	88-99
SE ¼ .....	7		160	89-97
SE ¼ of SE ¼ .....	8		40	89-99
20 a. S of Grand Ave. in NW ¼ of SE ¼ .....	8		20	89-99
SW ¼ of SE ¼ .....	8		40	89-99
S 10 a. S of Grand Ave. in S ½ of NW ¼ .....	8		10	89-99
SW ¼ .....	8		160	89-99
NE ¼ of NE ¼ .....	10		40	99-01
SE ¼ of NE ¼ .....	10		40	88-92
N ½ of SW ¼ of NE ¼ .....	10		20	88-92
N ½ of NW ¼ and W ½ of SW ¼ of NW ¼ .....	10		100	88-00
SW ¼ .....	10		160	88-92
E ½ of .....	12		320	88-92
NW ¼ .....	12		160	88-90
E ½ of SW ¼ of SW ¼ .....	12		20	92-00
SW ¼ of NW ¼ .....	13		40	90-93
NE ¼ of NE ¼ and S ½ of NW ¼ of NE ¼ .....	14		60	88-00
S ½ of NE ¼ .....	14		80	92-98
S ½ of NW ¼ .....	14		80	92-98
W 60 a. of NE ¼ .....	17		60	89-97
E ½ of NW ¼ and E ½ of NW ¼ of NW ¼ .....	17		100	89-97
NW ¼ of SW ¼ .....	17		40	92-97
NE ¼ of SW ¼ .....	18		40	92-01
E ½ of SW ¼ .....	20		80	89-02
W 60 a. of NW ¼ .....	24		60	96-98
W 60 a. of SW ¼ .....	24		60	96-98
NW ¼ of NE ¼ .....	26		40	89-93
NE ¼ of NE ¼ of NW ¼ .....	26		10	
20 a. in NW cor. of NW ¼ .....	4	2 N R 3 E	20	
E ½ of NW ¼ .....	6		80	88-92
E ½ of SW ¼ .....	6		80	88-92
NE ¼ of NE ¼ .....	7		40	96-97
S 10 a. of NE ¼ of NE ¼ and S ½ of NE ¼ .....	8		90	92-93
W ½ of W ½ of SE ¼ .....	8		40	92-93
SW ¼ of SE ¼ of NW ¼ .....	8		10	92-93
N ½ of NW ¼ of NW ¼ .....	8		20	92-93
SW ¼ of SE ¼ of SW ¼ .....	8		10	92-93
SE ¼ .....	9		160	92-93-94-96
S ½ of SE ¼ of NE ¼ of SW ¼ and E ½ of SE ¼ of SW ¼ .....	15		25	98-00
E ½ of NE ¼ of SE ¼ .....	16		20	
S 100 a. of SE ¼ .....	17		100	86-96
N ½ of NE ¼ of NW ¼ .....	17		20	
S ½ of N ½ of SW ¼ of NW ¼ and SE ¼ of SW ¼ of NW ¼ .....	17		20	
SW ¼ of SW ¼ .....	17		40	86-96
S ½ of NW ¼ of SE ¼ .....	23		20	00-02
E ½ of SE ¼ of NW ¼ .....	23		20	
E 30 a. of SE ¼ of SE ¼ .....	25		30	90-95
S ½ of NE ¼ of NE ¼ .....	26		20	86-87
5 a. in SW cor. of SE ¼ of NW ¼ and 5 a. in NW cor. of NE ¼ of SW ¼ .....	26		10	

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
<b>Year 1908—(Continued)—</b>				
E ½ of SE ¼ of NE ¼	27	2 NR 3 E	20	00-02
N ½ of N ½ of NW ¼	36		40	93-00
10 a. in NW cor. of SE ¼ of SE ¼	22	2 NR 4 E	10	
NE ¼ of NE ¼	24		40	91-92
NW ¼ of NE ¼	24		40	92-96
S ½ of NE ¼	27		80	91-92
S ½ of SW ¼ of SE ¼	30		20	97-98
SE ¼ of SW ¼	36		40	93-00
SE ¼	12	3 NR 1 E	160	
SE ¼ of NE ¼	15		40	90-91
E ¼ of SE ¼ & S ¼ of SW ¼ of SE ¼	15	3 NR 1 E	100	88-98
N 60 a. of W ½ of SE ¼	15		60	90-91
SW ¼ of NW ¼	22		40	92-97
SW ¼ of SW ¼	23		40	
NW ¼ of NE ¼	25		40	87-88
NE ¼ of SE ¼	33		40	
S 15 a. of E ½ of NW ¼ of NW ¼	33		15	92-00
15 a. in center of SW ¼	33		15	92-95
NW ¼ of NE ¼	36		40	90-91
N 120 a. of NE ¼ except N ½ of NW ¼	30	3 NR 2 E	100	87-93
SE ¼ of SE ¼ of NE ¼	31		10	95-98
W ½ of NE ¼ of NW ¼	31		20	95-98
S 15 a. of NE ¼ of SW ¼ and N 10 a. of SE ¼ of SW ¼	33		25	89-98
SW ¼	35		160	91-02
W ½ of SE ¼ of NE ¼	36		20	91-02
NE ¼ of SW ¼	36		40	87-93
All S of Ariz. Canal in SW ¼ except W 15 a. of S ½ of SW ¼ of SW ¼	30	3 NR 3 E	50	92-94
E ½	12	1 NR 1 W	320	90-93
S ½ of NE ¼	24		80	
Total			6735	
<b>Year 1909—</b>				
SE ¼	5	1 NR 1 E	160	85-89
N 50 a. of SE ¼	8		50	86-87
N 25 a. of NW ¼ of NE ¼	17		25	84-87
SE ¼	8	1 NR 2 E	160	78-99
N 60 a. of W ½ of NE ¼	13		60	70-89
SE ¼ of SW ¼	19		40	
NE ¼ of SW ¼	15	1 NR 3 E	40	95-00
SE ¼ of NE ¼	2	2 NR 1 E	40	92-95
S ½ of NW ¼ of NW ¼	3		20	93-94
N ½ of SE ¼	4		80	96-02
NW ¼ of NW ¼ of NW ¼	4		10	99-00
NE ½ of NE ¼ of NE ¼	5		10	90-93
E ½ of NW ¼	12		80	92-00
S ½ of SW ¼	12		80	92-02
SE ¼ of NE ¼ and W ½ of NE ¼	14		120	82-02
70 a. N of Grand Canal in SE ¼	14		70	82-02
60 a. N of Grand Canal in NW ¼	14		60	82-02
NE ¼ of SW ¼ and NE ¼ of SE ¼ of SW ¼	18		50	
45 a. strip N and S thru W ½ of NE ¼	19		45	86-90
20 a. on W side of SE ¼	19		20	
E ½ of E ½ of SW ¼	19		40	
E ½ of NE ¼	31		80	
N ½	1	2 NR 2 E	320	92-94, 00-01
E ½ of NE ¼	2		80	89-99

TABLE No. 2—(Continued)

DESCRIPTION	Sec.	Township	Acres	Remarks
Year 1909—(Continued)—				
NE ¼ of SE ¼ .....	2	2 NR 2 E	40	89-99
E 60 a. of N ½ of SE ¼, E 15 a. of SE ¼ of SE ¼ and E 10 a. of SW ¼ of SE ¼ .....	4		85	88-02
20 a. S of Grand Ave. in NW ¼ of NW ¼ .....	6		20	92-01
SW ¼ of NW ¼ .....	6		40	92-01
S ½ of SE ¼ .....	10		80	89-90, 00-01
E ½ of NW ¼ .....	11		80	89-98
SW ¼ of NE ¼ .....	11		40	88-01
SE ¼ of SE ¼ and W ½ of SE ¼ .....	11		120	88-91
N ½ of SW ¼ .....	11		80	88-97
E ¼ of SW ¼ .....	12		80	88-90
N ½ of N ½ of NE ¼ of NE ¼ .....	15		10	92-96
W ½ of SE ¼ except 40 a. in central part .....	15		40	93-96
SE ¼ of SW ¼ and W ½ of SW ¼ .....	18		120	92-01
N ½ of SE ¼ .....	20		80	89-02
20 a. in SW cor. of NE ¼ .....	22		20	89-95
80 a. N of Grand Ave. in SE ¼ .....	22		80	89-95
65 a. N of Grand Ave. in NW ¼ .....	22		65	89-95
40 a. S of Grand Ave. in NW ¼ .....	22		40	89-95
N ½ of SW ¼ of SW ¼ .....	22		20	89-95
NE ¼ .....	23		160	87-92
SE ¼ .....	23		160	87-95
SE ¼ of NE ¼ of NW ¼ and W ½ of NE ¼ of NW ¼ .....	26		30	88-92
W ½ of SE ¼ of SE ¼ and W ½ of SE ¼ .....	6	2 NR 3 E	100	92-93
N 30 a. of W ½ of E ½ of SW ¼ .....	8		30	
SW ¼ of SW ¼ of NW ¼ .....	17		10	
NW ¼ of SW ¼ .....	17		40	
E ½ of NE ¼ .....	19		80	95-99
SE ¼ of SE ¼ of NW ¼ .....	21		10	91-93
SE ¼ of SW ¼ .....	24		40	00-01
NW ¼ of NW ¼ of NE ¼ .....	26		10	86-87
SE ¼ of NE ¼ of NW ¼ .....	27		10	
SW ¼ of SW ¼ .....	32		40	72-95
S 60 a. of E ½ of SE ¼ and S ½ of SW ¼ of SE ¼ .....	24	2 NR 4 E	80	92-93
SW ¼ of SW ¼ of NE ¼ .....	26	3 NR 1 E	10	
SE ¼ of SW ¼ .....	27		40	91-97
S ½ of SW ¼ of SW ¼ .....	35		20	
10 a. S of Grand Ave. in NW cor. of SE ¼ .....	36		10	90-91
10 a. N of Grand Ave. in SE cor. of NW ¼ .....	36		10	
All S of Arizona Canal in .....	27	3 NR 2 E	320	87-88
SE ¼ of SW ¼ and W ½ of SW ¼ .....	28		120	89-90
N 25 a. of NE ¼ of SW ¼ .....	33		25	89-98
N 60 a. of W ½ of SW ¼ .....	33		60	89-98
S ½ of N ½ of SE ¼ of SW ¼ .....	33		10	89-98
Total .....			4305	
Total acreage of Northside Class A land..			91,813	

**TABLE No. 3.**

A descriptive list of Class A land on south side of Salt River.

**BROADWAY CANAL.**

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1870—				
S ½ of NE ¼.....	25	1 N R 2 E	80	
N 140 a. of NE ¼.....	30	1 N R 3 E	140	
NW ¼ except 15 a. in NW cor.....	30		145	
Total .....			365	
Year 1883—				
S ½ of N ½ of NE ¼.....	25	1 N R 2 E	40	
Total .....			40	
Year 1896—				
N ½ of N ½ of NE ¼.....	25	1 N R 2 E	40	
Total .....			40	
Year 1905—				
S 20 a. of NE ¼.....	30	1 N R 3 E	20	
Total .....			20	
Total acreage under Broadway Canal.....			465	

**SAN FRANCISCO CANAL.**

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1873—				
70 a. S of river in SE ¼.....	19	1 N R 3 E	70	
20 a. S of river in NE ¼.....	20		20	
SE ¼ .....	20		160	
130 a. S of river in SW ¼.....	20		130	
SE ¼ .....	21		160	
10 a. S of river in NW ¼.....	21		10	
SW ¼ .....	21		160	
S 90 a. of the SE ¼.....	22		90	
S 110 a. of the SW ¼.....	22		110	
75 a. S of river in SW ¼.....	23		75	
N ½ of .....	27		320	
N ½ of .....	28		320	
Total .....			1625	
Year 1875—				
N ½ of .....	29	1 N R 3 E	320	
Total .....			320	
Year 1878—				
SE ¼ .....	24	1 N R 3 E	160	
S 150 a. of SW ¼.....	24		150	
N 145 a. of SE ¼.....	27		145	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1878—(Continued)—				
N 150 a. of the SW ¼.....	27	1 N R 3 E	150	
SE ¼ .....	28		160	
Total .....			765	
Year 1879—				
70 a. S of river in NE ¼.....	24	1 N R 3 E	70	
25 a. S of river in NW ¼.....	24		25	
Total .....			95	
Year 1880—				
W ½ of NW ¼.....	19	1 N R 4 E	80	
Total .....			80	
Year 1883—				
NW ¼ except 5 a. rough land.....	25	1 N R 3 E	155	
70 a. N of Canal in SW ¼.....	25		70	
S ½ of NW ¼ of NE ¼ and S ½ of NE ¼	26		100	
N 125 a. of the SE ¼.....	26		125	
S 150 a. of the NW ¼.....	26		150	
N 140 a. of the SW ¼.....	26		140	
Total .....			740	
Year 1887—				
95 a. W of Canal in NE¼.....	25	1 N R 3 E	95	
Total .....			95	
Year 1903—				
SE ¼ .....	29	1 N R 3 E	160	
40 a. in northern part of NE ¼.....	32		40	
Total .....			200	
Year 1904—				
N ½ of SW ¼.....	28	1 N R 3 E	80	
E 30 a. of SW¼.....	29		30	
Total .....			110	
Total acreage under San Francisco Canal			4030	

TEMPE CANAL.

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1871—				
110 a. S of river in SE ¼.....	8	1 N R 5 E	110	
60 a. S of river in SW ¼.....	8		60	
60 a. S of Wallace ditch in SW ¼.....	9		60	
80 a. N and W of Tempe Canal in NE ¼....	17		80	
NW ¼ .....	17		160	
60 a. N and W of Tempe Canal in SW ¼....	17		60	
110 a. S of river in NE ¼.....	18		110	
20 a. S of river in NW ¼.....	18		20	
SW ¼ .....	18		160	
Total .....			820	

TABLE No. 3—(Continued—

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1872—				
140 a. S of river in SE ¼.....	13	1 N R 4 E	140	
70 a. S of river in SW ¼.....	13		70	
145 a. S of river in SE ¼.....	14		145	
110 a. S of river in SW ¼.....	14		110	
25 a. N of Hayden ditch in SE ¼.....	15		25	
SW ¼ of SE ¼.....	15		40	
20 a. S of river in NW ¼.....	15		20	
50 a. in NW part of SW ¼.....	15		50	
S ½ of SW ¼.....	15		80	
SE ¼.....	17		160	
125 a. S of river in SW ¼.....	17		125	
N ½ of NE ¼.....	20		80	
N ½ of NW ¼.....	20		80	
NE ¼.....	21		160	
NE ¼.....	22		160	
SE ¼ except 15 a. in SE cor.....	22		145	
NW ¼.....	22		160	
SW ¼ except 15 a. in SE cor.....	22		145	
W ½ of.....	23		320	
NE ¼.....	24		160	
N ½ of SE ¼.....	24		80	
S ½ of.....	26		320	
W ½ of.....	27		320	
SE ¼.....	28		160	
W ½ of.....	28		320	
SE ¼.....	29		160	
NE ¼.....	33		160	
N ½ of.....	34		320	
N ½ of.....	35		320	
50 a. in NW cor. of NE ¼.....	19	1 N R 5 E	50	
NW ¼.....	19		160	
85 a. W of Tempe Canal in SW ¼.....	19		85	
Total .....			4830	
Year 1873—				
SW ¼.....	24	1 N R 4 E	160	
SE ¼ except 10 a. in SE cor.....	18	1 N R 5 E	150	
Total .....			310	
Year 1875—				
20 a. S of river in NE ¼.....	16	1 N R 4 E	20	
SE ¼.....	16		160	
SW ¼.....	25		160	
SE ¼.....	34		160	
Total .....			500	
Year 1876—				
SW ¼.....	16	1 N R 4 E	160	
SE ¼.....	20		160	
NE ¼.....	23		160	
S ½ of SE ¼.....	24		80	
S ½ of NW ¼.....	24		80	
NE ¼.....	27		160	
SW ¼.....	35		160	
Total .....			960	



TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1877—</b>				
10 a E of San Francisco Canal in NE cor of NE ¼ .....	19	1 N R 4 E	10	
SE ¼ .....	23		160	
E ½ of .....	25		320	
NW ¼ .....	25		160	
N ½ .....	26		320	
SE ¼ .....	27		160	
S ½ of NE ¼ .....	28		80	
All of .....	11	1 S R 4 E	640	
<b>Total</b> .....			<b>1850</b>	
<b>Year 1878—</b>				
SW ¼ .....	20	1 N R 4 E	160	
E ½ of SE ¼ of SW ¼ .....	21		20	
NE ¼ except 40 a. in NW cor. ....	29		120	
NW ¼ except 10 a. in SW cor. ....	33		150	
SW ¼ .....	34		160	
SE ¼ .....	35		160	
N ½ of NW ¼ of NE ¼ .....	36		20	
NW ¼ .....	36		160	
W ½ of SW ¼ .....	36		80	
<b>Total</b> .....			<b>1030</b>	
<b>Year 1879—</b>				
15 a. S of river in NW ¼ .....	16	1 N R 4 E	15	
N ½ of .....	2	1 S R 4 E	320	
NE ¼ .....	14		160	
W ½ of .....	14		320	
<b>Total</b> .....			<b>815</b>	
<b>Year 1880—</b>				
NE ¼ of NE ¼ except 10 a. in NE cor. ....	19	1 N R 4 E	30	
NW ¼ of NE ¼ except 10 a. in NW cor. ....	19		30	
<b>Total</b> .....			<b>60</b>	
<b>Year 1881—</b>				
N ½ of NW ¼ .....	24	1 N R 4 E	80	
70 a. in W part of NW ¼ .....	29		70	
SW ¼ .....	29		160	
100 a. N of Tempe Canal in SE ¼ .....	33		100	
W ½ of NW ¼ .....	1	1 S R 4 E	80	
NE ¼ .....	3		160	
80 a. E of Tempe Canal in NW ¼ .....	3		80	
40 a. in NE cor. of SW ¼ .....	3		40	
E ½ .....	15		320	
<b>Total</b> .....			<b>1090</b>	
<b>Year 1883—</b>				
N ½ of NE ¼ and SW ¼ of NE ¼ .....	30	1 N R 4 E	120	
NW ¼ .....	30		160	
NE ¼ .....	22	1 S R 4 E	160	
<b>Total</b> .....			<b>440</b>	
<b>Year 1884—</b>				
SW ¼ .....	19	1 N R 4 E	160	
N ½ of SE ¼ .....	21		80	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1884—(Continued)—</b>				
N ½ of SW ¼.....	21	1 N R 4 E	80	
20 a. in SW cor. of SE ¼.....	30	1 N R 5 E	20	
100 a. W of Tempe Canal in NW ¼.....	30		100	
SW ¼ except 5 a. in NE cor.....	30		155	
S ½ .....	2	1 S R 4 E	320	
120 a. E of Kyrene ditch in NW ¼.....	22		120	
Total .....			1035	
<b>Year 1885—</b>				
NW ¼ .....	31	1 N R 5 E	160	
All of .....	23	1 S R 4 E	640	
Total .....			800	
<b>Year 1886—</b>				
45 a. N of Tempe Canal in SW ¼.....	31	1 N R 5 E	45	
E ½ of .....	1	1 S R 4 E	320	
E ½ of NW ¼.....	1		80	
SW ¼ .....	1		160	
SE ¼ except 5 a. in SW cor.....	3		155	
Total .....			760	
<b>Year 1887—</b>				
65 a. E of S. F. Canal in NE ¼.....	25	1 N R 3 E	65	
SE ¼ .....	25		160	
90 a. S of S. F. Canal in SW ¼.....	25		90	
15 a. in SE cor. of SE ¼.....	22	1 N R 4 E	15	
15 a. in SE cor. of SW ¼.....	22		15	
120 a. N of Tempe Canal in NE ¼.....	32		120	
120 a. N of Tempe Canal in NW ¼.....	32		120	
SE ¼ .....	36		160	
E ½ of SW ¼.....	36		80	
20 a. in SW cor of SW ¼.....	31	1 N R 5 E	20	
E ½ of NE ¼.....	10	1 S R 4 E	80	
E ½ of SE ¼.....	10		80	
All of .....	24		640	
All of .....	26		640	
Total .....			2285	
<b>Year 1888—</b>				
SE ¼ of NE ¼.....	30	1 N R 4 E	40	
S ½ .....	30		320	
N ½ of NE ¼.....	31		80	
N ½ of NW ¼.....	31		80	
10 a. in NE cor. of SW ¼.....	33		10	
NE ¼ except N ½ of NW ¼.....	36		140	
All of .....	13	1 S R 4 E	640	
SE ¼ .....	22		160	
NW ¼ .....	25		160	
SW ¼ except 10 a. in SE cor.....	25		150	
NE ¼ .....	27		160	
Total .....			1940	
<b>Year 1889—</b>				
N ½ of .....	35	1 N R 3 E	320	
NE ¼ .....	34	1 S R 4 E	160	
Total .....			480	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1884—(Continued)—</b>				
N ½ of SW ¼	21	1 N R 4 E	80	
20 a. in SW cor. of SE ¼	30	1 N R 5 E	20	
100 a. W of Tempe Canal in NW ¼	30		100	
SW ¼ except 5 a. in NE cor.	30		155	
S ½	2	1 S R 4 E	320	
120 a. E of Kyrene ditch in NW ¼	22		120	
Total			1035	
<b>Year 1885—</b>				
NW ¼	31	1 N R 5 E	160	
All of	23	1 S R 4 E	640	
Total			800	
<b>Year 1886—</b>				
45 a. N of Tempe Canal in SW ¼	31	1 N R 5 E	45	
E ½ of	1	1 S R 4 E	320	
E ½ of NW ¼	1		80	
SW ¼	1		160	
SE ¼ except 5 a. in SW cor.	3		155	
Total			760	
<b>Year 1887—</b>				
65 a. E of S. F. Canal in NE ¼	25	1 N R 3 E	65	
SE ¼	25		160	
90 a. S of S. F. Canal in SW ¼	25		90	
15 a. in SE cor. of SE ¼	22	1 N R 4 E	15	
15 a. in SE cor. of SW ¼	22		15	
120 a. N of Tempe Canal in NE ¼	32		120	
120 a. N of Tempe Canal in NW ¼	32		120	
SE ¼	36		160	
E ½ of SW ¼	36		80	
20 a. in SW cor of SW ¼	31	1 N R 5 E	20	
E ½ of NE ¼	10	1 S R 4 E	80	
E ½ of SE ¼	10		80	
All of	24		640	
All of	26		640	
Total			2285	
<b>Year 1888—</b>				
SE ¼ of NE ¼	30	1 N R 4 E	40	
S ½	30		320	
N ½ of NE ¼	31		80	
N ½ of NW ¼	31		80	
10 a. in NE cor. of SW ¼	33		10	
NE ¼ except N ½ of NW ¼	36		140	
All of	13	1 S R 4 E	640	
SE ¼	22		160	
NW ¼	25		160	
SW ¼ except 10 a. in SE cor.	25		150	
NE ¼	27		160	
Total			1940	
<b>Year 1889—</b>				
N ½ of	35	1 N R 3 E	320	
NE ¼	34	1 S R 4 E	160	
Total			480	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1907—(Continued)—				
SE ¼ .....	32	1 S R 4 E	160	
NW ¼ .....	33		160	
Total .....			640	
Total acreage under Tempe Canal.....			24,380	

UTAH CANAL.

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1874—				
50 a. N of Wallace ditch in SW ¼.....	9	1 N R 5 E	50	
Total .....			50	
Year 1877—				
NE ¼ .....	2	1 N R 5 E	160	
SE ¼ except 40 a. in SE cor.....	2		120	
W ½ .....	2		320	
100 a. S of river in NE ¼.....	3		100	
SE ¼ .....	3		160	
110 a. S of river in SW ¼.....	3		110	
NE ¼ .....	10		160	
40 a. N of Utah Canal in SE ¼.....	10		40	
NW ¼ .....	10		160	
70 a. N of Utah Canal in SW ¼.....	10		70	
NW ¼ except 40 a. in SE cor.....	11		120	
20 a. in NW cor. of NE ¼.....	11		20	
Total .....			1540	
Year 1878—				
35 a. in NW cor. of NE ¼.....	1	1 N R 5 E	35	
N ½ of NW ¼.....	1		80	
S ½ of NW ¼ except 20 a. in SE cor.....	1		60	
20 a. in NW cor. of SW ¼.....	1		20	
Indian Reservation south of river in.....	35 & 36	2 N R 5 E	1115	
Total .....			1310	
Year 1879—				
W 55 a. of SW ¼.....	33	1 N R 5 E	55	
Total .....			55	
Year 1880—				
40 a. E of Tempe Canal in NE part of NE ¼	9	1 N R 5 E	40	
Total .....			40	
Year 1882—				
SW ¼ .....	20	1 N R 5 E	160	
NW ¼ .....	29		160	
Total .....			320	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1884—</b>				
S ½ .....	32	1 N R 5 E	320	
Total .....			320	
<b>Year 1885—</b>				
40 a. in SE cor. of SE ¼ .....	4	1 N R 5 E	40	
90 a. W of Tempe Canal in NE ¼ .....	9		90	
100 a. S of river in NW ¼ .....	9		100	
SE ¼ .....	19		160	
NW ¼ .....	20		160	
NE ¼ .....	31		160	
SW ¼ of SE ¼ .....	31		40	
Total .....			750	
<b>Year 1886—</b>				
NE ¼ .....	30	1 N R 5 E	160	
SE ¼ except 20 a. in SW cor. ....	30		140	
60 a. E of Tempe Canal in NW ¼ .....	30		60	
5 a. in NE cor. of SW ¼ .....	30		5	
Total .....			365	
<b>Year 1887—</b>				
NE ¼ except 50 a. in NW cor. ....	19	1 N R 5 E	110	
75 a. E of Tempe Canal in SW ¼ .....	19		75	
SE ¼ of SE ¼ .....	31		40	
95 a. E of Tempe Canal in SW ¼ .....	31		95	
N ½ of .....	5	1 S R 5 E	320	
Total .....			640	
<b>Year 1888—</b>				
W ½ of NW ¼ .....	3	1 S R 5 E	80	
W ½ .....	4		320	
S ½ .....	5		320	
N ½ .....	6		320	
All of .....	7		640	
All of .....	8		640	
NE ¼ .....	17		160	
SE ¼ except 15 a. in SE cor. ....	17		145	
W ½ .....	17		320	
NE ¼ .....	18		160	
SE ¼ except 20 a. in SE cor. ....	18		140	
W ½ .....	18		320	
Total .....			3565	
<b>Year 1889—</b>				
S ½ of .....	6	1 S R 5 E	320	
Total .....			320	
<b>Year 1890—</b>				
15 a. in SE cor. of NE ¼ .....	8	1 N R 5 E	15	
N ½ of SE ¼ .....	31		80	
SE ¼ .....	4	1 S R 5 E	160	
Total .....			255	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1892—</b>				
NE ¼ .....	4	1 S R 5 E	160	
NE ¼ except 50 a. in eastern part.....	16		110	
NW ¼ .....	16		160	
<b>Total</b> .....			<b>430</b>	
<b>Year 1893—</b>				
W ½ of SW ¼.....	3	1 S R 5 E	80	
NE ¼ .....	9		160	
SE ¼ except 35 a. in SE cor.....	9		125	
W ½ .....	9		320	
<b>Total</b> .....			<b>685</b>	
<b>Year 1894—</b>				
20 a. in NW cor. of SE ¼.....	16	1 S R 5 E	20	
N 100 a. of SW ¼.....	16		100	
<b>Total</b> .....			<b>120</b>	
<b>Year 1898—</b>				
25 a. in SE part of NE ¼.....	9	1 N R 5 E	25	
10 a. in SE cor. of SE ¼.....	34	2 N R 5 E	10	
<b>Total</b> .....			<b>35</b>	
<b>Year 1900—</b>				
65 a. E of Tempe Canal in N ½ of SE ¼.....	9	1 N R 5 E	65	
<b>Total</b> .....			<b>65</b>	
<b>Year 1905—</b>				
NE ¼ except 50 a. in eastern part.....	19	1 S R 5 E	110	
NW ¼ .....	19		160	
<b>Total</b> .....			<b>270</b>	
<b>Year 1909—</b>				
30 a. S of river in SW ¼.....	30	2 N R 6 E	30	
<b>Total</b> .....			<b>30</b>	
<b>Total acreage under Utah Canal.....</b>			<b>11,165</b>	

MESA CANAL.

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1878—</b>				
SW ¼ .....	14	1 N R 5 E	160	
120 a. S of Mesa Canal in SE ¼.....	15		120	
S ½ .....	21		320	
All of .....	22		640	
N ½ .....	27		320	
SW ¼ .....	27		160	
NE ¼ .....	28		160	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1878—(Continued)—</b>				
NE ¼ except 20 a. in SE cor.....	31	2 N R 6 E	140	
NW ¼ except 10 a. in NW cor.....	31		150	
SW ¼ except 5 a. in SE cor.....	31		155	
<b>Total</b> .....			<b>2325</b>	
<b>Year 1879—</b>				
80 a. E of Mesa Canal in NW ¼.....	14	1 N R 5 E	80	
NE ¼ .....	21		160	
W ½ .....	23		320	
NW ¼ .....	25		160	
E ½ .....	33		320	
E 105 a. of SW ¼.....	33		105	
All of .....	34		640	
<b>Total</b> .....			<b>1785</b>	
<b>Year 1880—</b>				
S 60 a. of NE ¼.....	14	1 N R 5 E	60	
SE ¼ .....	14		160	
20 a. in SE cor. of SW ¼.....	15		20	
E ½ .....	20		320	
NW ¼ .....	21		160	
NW ¼ of SE ¼ and S ½ of SE ¼.....	24		120	
S ½ of NW ¼ of NW ¼.....	24		20	
E ½ of SW ¼.....	24		80	
E ½ .....	26		320	
SW ¼ .....	26		160	
SE ¼ .....	27		160	
SE ¼ .....	28		160	
W ½ .....	28		320	
NW ¼ .....	33		160	
<b>Total</b> .....			<b>2220</b>	
<b>Year 1881—</b>				
S ½ of SW ¼ except 20 a. in SE cor.....	15	1 N R 5 E	60	
SW ¼ .....	25		160	
NW ¼ .....	26		160	
N ½ of NE ¼.....	29		80	
SE ¼ .....	29		160	
<b>Total</b> .....			<b>620</b>	
<b>Year 1882—</b>				
15 a. in SW cor. of SW ¼.....	13	1 N R 5 E	15	
SW ¼ .....	16		160	
SE ¼ .....	17		160	
NW ¼ of NE ¼.....	25		40	
NW ¼ .....	35		160	
<b>Total</b> .....			<b>535</b>	
<b>Year 1883—</b>				
SE ¼ .....	16	1 N R 5 E	160	
S ½ of NE ¼.....	29		80	
N ½ .....	32		320	
NE ¼ .....	35		160	
<b>Total</b> .....			<b>720</b>	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1884—</b>				
SW ¼ .....	29	1 N R 5 E	160	
SW ¼ .....	35		160	
Total .....			320	
<b>Year 1885—</b>				
NE ¼ .....	23	1 N R 5 E	160	
W ½ of SW ¼.....	24		80	
NE ¼ of NE ¼.....	25		40	
Total .....			280	
<b>Year 1886—</b>				
NE ¼ except 40 a. in NE cor.....	24	1 N R 5 E	120	
S ½ of NE ¼.....	25		80	
W ½ of SE ¼.....	25		80	
Total .....			280	
<b>Year 1887—</b>				
S 145 a. of NE ¼.....	16	1 N R 5 E	145	
NW ¼ .....	16		160	
SE ¼ .....	23		160	
E ½ .....	3	1 S R 5 E	320	
Total .....			785	
<b>Year 1888—</b>				
E ½ of SE ¼.....	25	1 N R 5 E	80	
NW ¼ .....	36		160	
E ½ of NW ¼.....	3	1 S R 5 E	80	
Total .....			320	
<b>Year 1889—</b>				
S 70 a. W of canal in SW ¼.....	11	1 N R 5 E	70	
NE ¼ .....	36		160	
NW ¼ of SE ¼.....	36		40	
W ½ of NE ¼.....	30	1 N R 6 E	80	
SE ¼ .....	30		160	
NW ¼ .....	30		160	
All of .....	31		640	
NE ¼ .....	12	1 S R 5 E	160	
Total .....			1470	
<b>Year 1890—</b>				
SW ¼ .....	36	1 N R 5 E	160	
S ½ .....	6	1 S R 6 E	320	
Total .....			480	
<b>Year 1891—</b>				
N ½ of SW ¼.....	15	1 N R 5 E	80	
W ½ of NE ¼.....	1	1 S R 5 E	80	
10 a. in NW cor. of SE ¼.....	1		10	
W ½ .....	1		320	
Total .....			490	
<b>Year 1892—</b>				
80 a. W of Mesa Canal in NW ¼.....	14	1 N R 5 E	80	



TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
<b>Year 1892—(Continued)—</b>				
SE ¼ .....	35	1 N R 5 E	160	
SW ¼ of SE ¼ .....	36		40	
20 a. in SW cor. of SE ¼ .....	19	1 N R 6 E	20	
15 a. in SW cor. of NW ¼ .....	19		15	
SW ¼ except 20 a. in NE cor. ....	19		140	
SW ¼ .....	30		160	
S ½ .....	2	1 S R 5 E	320	
E ½ of SW ¼ .....	3		80	
NE ¼ of SE ¼ .....	10		40	
N ½ .....	11		320	
NW ¼ .....	12		160	
NE ¼ of NE ¼ .....	6	1 S R 6 E	40	
N ½ of SW ¼ .....	7		80	
<b>Total</b> .....			<b>1655</b>	
<b>Year 1893—</b>				
S 60 a. of the SE ¼ .....	10	1 N R 5 E	60	
Cemetery in SE ¼ of SW ¼ .....	10		20	
40 a. N of Mesa Canal in SE ¼ .....	15		40	
E ½ of NW ¼ .....	24		80	
N ½ of NW ¼ of NW ¼ .....	24		20	
SW ¼ of NW ¼ .....	24		40	
<b>Total</b> .....			<b>260</b>	
<b>Year 1894—</b>				
15 a. in NE cor. of NE ¼ .....	1	1 N R 5 E	15	
<b>Total</b> .....			<b>15</b>	
<b>Year 1896—</b>				
W ½ of NW ¼ .....	2	1 S R 5 E	80	
<b>Total</b> .....			<b>80</b>	
<b>Year 1897—</b>				
S ½ of SW ¼ except 15 a. in SW cor. ....	13	1 N R 5 E	65	
NE ¼ of SE ¼ .....	24		40	
<b>Total</b> .....			<b>105</b>	
<b>Year 1898—</b>				
NE ¼ except 20 a. in NW cor. ....	15	1 N R 5 E	140	
NW ¼ except 10 a. in NE cor. ....	15		150	
40 a. in NW part of NW ¼ .....	32	1 N R 6 E	40	
<b>Total</b> .....			<b>330</b>	
<b>Year 1900—</b>				
30 a. in SW cor. of SW ¼ .....	29	1 N R 6 E	30	
S ½ of NE ¼ .....	10	1 S R 5 E	80	
NW ¼ .....	10		160	
<b>Total</b> .....			<b>270</b>	
<b>Year 1905—</b>				
NE ¼ .....	2	1 S R 5 E	160	
W ½ of SE ¼ .....	10		80	
S ½ .....	11		320	

TABLE No. 3—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.	
<b>Year 1905—(Continued—)</b>					
NW ¼ of NE ¼.....	7	1 S R 6 E	40	97-00	
NW ¼ .....	7		160		
Total .....			760		
<b>Year 1906—</b>					
N ½ of NE ¼ of SE ¼.....	12	1 S R 5 E	20		
Total .....			20		
<b>Year 1907—</b>					
E ½ of SE ¼ of SW ¼.....	17	1 N R 5 E	20		
N ½ of SW ¼ and SE ¼ of SW ¼.....	10	1 S R 5 E	120		
SW ¼ of SW ¼.....	10		40		
Total .....			180		
<b>Year 1908—</b>					
50 aS of canal in N ½ of NE ¼.....	14	1 N R 5 E	50		
W ½ of SE ¼ of SW ¼ and E ½ of SW ¼ of SW ¼.....	17		40		
N ½ of NE ¼.....	10	1 S R 5 E	80		
Total .....			170		
Total acreage under Mesa Canal.....			16,475		

CONSOLIDATED CANAL.

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.	
<b>Year 1892—</b>					
All of .....	21	1 S R 5 E	640		
SW ¼ .....	27		160		
E ½ .....	28		320		
SW ¼ .....	28		160		
Total .....			1280		
<b>Year 1893—</b>					
W ½ of .....	10	2 S R 5 E	320		
W ½ .....	15		320		
Total .....			640		
<b>Year 1897—</b>					
NE ¼ .....	33	1 S R 5 E	160		
NE ¼ of NW ¼ and S ½ of NW ¼.....	33		120		
Total .....			280		
<b>Year 1907—</b>					
N 90 a. of SW ¼.....	15	1 S R 5 E	90		
10 a. in SW cor of SW ¼.....	15		10		
10 a. in NW cor. of NW ¼.....	23		10		
Total .....			110		

TABLE No. 3—(Continued)—

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1908—				
20 a. W of canal in NE ¼.....	27	2 S R 5 E	20	
Total .....			20	
Total acreage under Consolidated Canal....			2330	

HIGHLAND CANAL.

DESCRIPTION.	Sec.	Township.	Acres.	Remarks.
Year 1892—				
SE ¼ .....	12	1 N R 5 E	160	
E ½ of SW ¼.....	12		80	
Total .....			240	
Year 1901—				
NE ¼ .....	12	1 N R 5 E	160	
Total .....			160	
Year 1905—				
25 a. in SW ¼ of NW ¼.....	7	1 N R 6 E	25	
Total .....			25	
Total acreage under Highland Canal.....			425	

Summary of Class A land on the Southside under the following named canals:

Broadway Canal.....	465	acres
San Francisco Canal.....	4,030	"
Tempe Canal .....	24,380	"
Utah Canal .....	11,165	"
Mesa Canal .....	16,475	"
Consolidated Canal .....	2,330	"
Highland Canal .....	425	"
Total .....	59,270	acres

**TABLE No. 4.**

A descriptive list of Class B land on North Side of Salt River.

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.
NE ¼ and W ½.....	4	1 N R 1 E	480	83-89
S 30 a. of N ½ of SE ¼.....	8		30	86-87
NW ¼.....	9		160	83-85
SW ¼.....	9		160	84-85
SW ¼ of SW ¼.....	10		40	89-02
NE ¼ of SW ¼ of NW ¼ and S ½ of SW ¼ of NW ¼.....	13		30	92-00
S 60 a. of E ½ of NE ¼ and S 55 a. of W ½ of NE ¼.....	17		115	84-87
E ½ of NW ¼.....	17		80	84-87
SE ¼ of NE ¼ of SE ¼.....	10	1 N R 2 E	10	88-90
NW ¼.....	19		160	90-91
NE ¼ of SW ¼.....	19		40	88-92
SW ¼.....	20		160	80-85
125 a. N of river in NW ¼.....	30		125	72-99
S ½ of SW ¼ of SW ¼.....	3	1 N R 3 E	20	76-85
55 a. S of Grand Ave. in W ½ of NW ¼.....	6		55	71-88
SW ¼ except 20 a. in E part of NE ¼ and 10 a. in SE cor.....	6		130	71-88
N 40 a. of SW ¼.....	9		40	69-89
S ½ of NW ¼ except 5 a. in SE cor.....	10		75	69-94
NE ¼ of NW ¼.....	13		40	87-91
S ½ of SE ¼.....	18		80	70-98
SW ¼ of NW ¼.....	18		40	70-98
E ½ of SE ¼.....	2	1 N R 4 E	80	90-95
Indian Reservation—				
200 a. unlocated in.....	12		200	
200 a. unlocated in.....	4	1 N R 5 E	200	
400 a. unlocated in.....	5		400	
200 a. unlocated in.....	6		200	
200 a. unlocated in.....	7		200	
SE ¼ of NE ¼.....	1	2 N R 1 E	40	89-97
NW ¼.....	1		160	89-90
SW ¼ except 10 a. in NW cor. and 10 a. in SW cor.....	1		140	92-99
SW ¼ of NE ¼.....	2		40	00-01
S 40 a. of SE ¼.....	3		40	95-96 CR
SW ¼ of SW ¼.....	3		40	93-94 CR
60 a. in E ½ of NW ¼.....	4		60	98-99 CR
50 a. in W part of NW ¼.....	4		50	99-00 CR
75 a. in E part of SW ¼.....	4		75	99-00 CR
E ½ of E ½ of NE ¼.....	8		40	96-98 CR
W ½ of E ½ of NE ¼.....	8		40	98-99 CR
NW ¼ of SE ¼.....	9		40	86-87
NE ¼.....	10		160	92-93 CR
NW ¼ of SE ¼.....	11		40	92-02
130 a. in SW ¼.....	11		130	92-93 CR
S ½ of SW ¼ of NW ¼.....	12		20	92-00
NW ¼ of SW ¼.....	12		40	92-02
SE ¼ of NE ¼.....	13		40	89-98
NW ¼ of NE ¼.....	13		40	89-98
SE ¼.....	13		160	92-96
NE ¼ of NW ¼ and W ½ of NW ¼.....	13		120	96-99
NE ¼ of SW ¼ and S ½ of SW ¼.....	13		120	92-96
10 a. in SW cor. of NE ¼ of SE ¼.....	24		10	98-99
NE ¼ of NW ¼.....	24		40	91-92 CR
S 20 a. of the NW ¼.....	24		20	82-84
E ½ of NW ¼.....	30		80	84-93
NW ¼.....	31		160	86-91
W ½ of NW ¼ of SE ¼.....	4	2 N R 2 E	20	88-02

TABLE No. 4—(Continued)

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.	
N ½ of NW ¼ of SW ¼, SE ¼ of NW ¼ of SW ¼ and SW ¼ of SW ¼.....	7	2 N R 2 E	70	89-97	
E ½ of NE ¼.....	8		80	91-01	
W ½ of NE ¼.....	8		80	89-99	
N ½ of NE ¼ of SE ¼.....	8		20	89-99	
60 a. N of Grand Ave. in E ½ of NW ¼.....	8		60	89-99	
N 50 a. S of Grand Ave. in S ½ of NW ¼.....	8		50	89-99	
S ½ of SW ¼ of NE ¼.....	10		20	88-92	
E ½ of NE ¼.....	11		80	88-01	
NE ¼ of SE ¼.....	11		40	88-91	
S ½ of SW ¼.....	11		80	88-97	
W ½ of NE ¼.....	13		80	89-80	
SE ¼.....	13		160	89-90	
E ½ of NW ¼.....	13		80	90-93	
SW ¼.....	13		160	89-90	
S ½ of N ½ of NE ¼ of NE ¼.....	15		10	92-96	
S ½ of NE ¼.....	15		80	97-02 CR	
W ½ of NW ¼ of NW ¼.....	17		20	87-97	
E ½ of NW ¼ and NW ¼ of NW ¼.....	18		120	92-01	
S ½ of SE ¼.....	20		80	89-02	
S ½ of NE ¼ except 20 a. in SW cor.....	22		60	89-95	
80 a. S of Grand Ave. in SE ¼.....	22		80	89-95	
15 a. N of Grand Ave. in NW ¼ of NW ¼.....	22		15	89-98	
W 40 a. S of Grand Ave. in W ½ of NW ¼.....	22		40	89-98	
E ½ of SW ¼ and S ½ of SW ¼ of SW ¼.....	22		100	89-95	
NE ¼ of NE ¼ of NW ¼ and S ½ of NE ¼ of NW ¼.....	23		30	88-91	
S ½ of SW ¼.....	23		80	87-91	
NE ¼ of NE ¼.....	26		40	89-93	
25 a. N of Grand Canal in SE ¼ of NW ¼.....	26		25	89-93	
20 a. N of Grand Ave. in NW ¼ of NW ¼.....	26		20	89-95	
20 a. N of Appropriators Canal in NE ¼.....	27		20	89-95	
All N of Grand Canal in NW ¼ except 40 a. S of Appropriators Canal in E ½.....	27		85	89-99	
NE ¼.....	28		160	90-00	
150 a. N of Grand Canal in NE ¼.....	29		150	92-02	
NE ¼ of NW ¼.....	29		40	92-02	
NE ¼.....	6		2 N R 3 E	160	88-92
NE ¼ of SE ¼.....	6			40	88-92
NW ¼ of NE ¼.....	7			40	96-97
SE ¼.....	7			160	89-92
E 45a. of N 60 a. of NE ¼.....	8			45	92-93
E 120 a. of SE ¼.....	8			120	92-93-99
S 60 a. of W ½ of NW ¼.....	8			60	92-93
W ½ of SW ¼.....	8	80		92-93	
NW ¼ of NW ¼ of NW ¼.....	9	10		92-93	
S ½ of SE ¼ of SW ¼.....	13	20		99-02	
W ½ of NE ¼.....	19	80		95-99	
20 a. S of Grand Canal in SW cor. of NE ¼.....	20	20		86-90	
NE ¼.....	21	160		91-93	
25 a. N of Grand Canal in E part of NW ¼ of SE ¼.....	21	25		91-93	
E 60 a. of N ½ of NW ¼.....	21	60		91-93	
SE ¼ of NW ¼ except 10 a. in SE cor.....	21	30		91-93	
SW ¼ of NW ¼ except 5 a. in SW cor.....	21	35		91-93	
E ½ of NW ¼ and SW ¼ of NW ¼.....	22	120		90-02	
SW ¼.....	22	160		90-02	
20 a. in E part of NW ¼ of NE ¼.....	23	20		98-02	
E ½ of NE ¼ except 10 a. in the NE cor.....	25	70	00-02		
SW ¼ of NE ¼.....	25	40	00-02		
N ½ of NW ¼ of SW ¼.....	25	20	95-96		
NE ¼ of NE ¼ of NE ¼.....	26	10	86-87		

TABLE No. 4—(Continued)—

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.
S 1/2 of NE 1/4.....	26	2 N R 3 E	80	86-87
SE 1/4.....	26		160	86-88
E 1/2 of NW 1/4 except 5 a. in SW cor.....	26		75	86-87
E 1/2 of SW 1/4 except 5 a. in NW cor.....	26		75	86-87
S 60 a. of W 1/2 of SW 1/4.....	26		60	86-87
NE 1/4 of NE 1/4.....	27		40	88-95
N 1/2 of NW 1/4 of NE 1/4.....	27		20	88-95
W 60 a. of S 1/2 of NE 1/4.....	27		60	88-95
NW 1/4 of SE 1/4.....	27		40	88-95
W 1/2 of NE 1/4 of NE 1/4 and E 1/2 of E 1/2 of NW 1/4 of NE 1/4.....	35		30	99-00
S 1/2 of SE 1/4 of NE 1/4.....	35		20	91-92
W 30 a. of NW 1/4 of NE 1/4 and SW 1/4 of NE 1/4.....	35		70	97-98
W 30 a. of SE 1/4 of SE 1/4 and W 1/2 of SE 1/4.....	12	2 N R 4 E	110	91-95
SE 1/4 of SW 1/4.....	12		40	91-95
15 a. in SE 1/4 of NW 1/4.....	19		15	98-99
SW 1/4 of SW 1/4 of SW 1/4.....	19		10	95-96 CR
NE 1/4 of NW 1/4 of NE 1/4.....	23		10	95-96 CR
SW 1/4 of NW 1/4.....	24		40	97-98 CR
W 1/2 of SW 1/4.....	24		80	96-97 CR
E 1/2 of SW 1/4 of NE 1/4.....	26		20	96-98
E 1/2 of NW 1/4 of SE 1/4.....	26		20	96-97
30 a. in NW 1/4 of NW 1/4.....	26		30	94-95 CR
E 1/2 of NW 1/4 of SW 1/4.....	26		20	96-97
N 1/2 of NE 1/4.....	27		80	91-92 CR
SW 1/4 of SE 1/4 except 5 a. in NE cor.....	27		35	96-98
N 1/2 of NW 1/4 of SW 1/4.....	27		20	92-94
N 1/2 of SW 1/4.....	29		80	98-99
N 1/2 of.....	30		320	94-97
NW 1/4 of NW 1/4 of SW 1/4.....	32		10	96-97 CR
SW 1/4 of NW 1/4 of SW 1/4.....	32		10	93-96 CR
NE 1/4.....	34		160	93-94 CR
W 1/2 of SE 1/4.....	34		80	93-94 CR
E 1/2 of NW 1/4 of NE 1/4 and SW 1/4 of NE 1/4.....	36		60	93-99
S 1/2 of.....	28	2 N R 5 E	320	
W 67 a. of S 1/2 of NE 1/4.....	29		67	} Indian Reservation.
S 1/2 of SE 1/4.....	29		80	
120 a. in W 1/2 of.....	29		120	
S 1/2 of.....	32		320	
70 a. S of Arizona Canal in SW 1/4.....	1	3 N R 1 E	70	92-99
10 a. in SE cor. of NE 1/4.....	2		10	93-95 CR
N 1/2 of SE 1/4.....	2		80	90-98 CR
NW 1/4 of NW 1/4.....	2		40	94-95 CR
10 a. in SE cor. of SW 1/4.....	2		10	90-91 CR
20 a. in SE 1/4 of SE 1/4.....	16		20	94-97 CR
20 a. N of Grand Ave. in NW 1/4 of SE 1/4.....	22		20	89-96
NW 1/4.....	24		160	94-97 CR
30 a. in SE cor. of NW 1/4.....	25		30	95-96 CR
SW 1/4 of SW 1/4 of SW 1/4.....	25		10	96-98 CR
E 1/2 of NE 1/4 except 5 a. in SE cor.....	26		75	94-97 CR
SE 1/4.....	26		160	96-97 CR
NW 1/4 of NW 1/4 except 5 a. for trees.....	26		35	89-90
NE 1/4 of NE 1/4 except 5 a. for trees.....	27		35	89-90
S 1/2 of N 1/2 of SW 1/4 of NE 1/4 and N 1/2 of S 1/2 of SW 1/4 of NE 1/4.....	27		20	92-00
N 10 a. of NE 1/4 of SE 1/4.....	27		10	99-00
NW 1/4 of NW 1/4 of NW 1/4.....	27		10	98-99 CR
NE 1/4 of NW 1/4.....	34		40	98-99 CR
NE 1/4 of NW 1/4 of NW 1/4.....	34		10	90-99 CR

TABLE No. 4—(Continued)—

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.
S 15 a. of SE ¼ of NE ¼.....	36	3 N R 1 E	15	92-00 CR
S 70 a. W of railroad in SE ¼.....	36		70	90-91
NE ¼ of NW ¼.....	36		40	90-91
E ½ .....	20	3 N R 2 E	320	90-92
50 a. S of Arizona Canal in W ½ of SE ¼	25		50	90-92
45 a. S of Arizona Canal in SW ¼.....	25		45	90-92
All of .....	29		640	87-90 SW ¼ to 98
N ½ of S ½ of SE ¼ of NE ¼ and S ½ of SW ¼ of NE ¼.....	30		30	87-93
W 60 a. of N ½ of SE ¼.....	30		60	87-93
5 a. in NW cor. of SW ¼ of SE ¼.....	30		5	87-93
NE ¼ of NE ¼ of NW ¼.....	30		10	98-99
SW ¼ of SE ¼ of NE ¼.....	31		10	95-98 CR
N ½ of NE ¼ of SE ¼.....	31		20	95-98 CR
SW ¼ of SE ¼.....	31		40	95-98
E ½ of NE ¼ of NW ¼.....	31		20	95-98
NW ¼ of NW ¼.....	31		40	95-98
SE ¼ of SW ¼.....	31		40	91-96 CR
SW ¼ of SW ¼ except 10 a. in NW cor.....	31		30	91-96
N ½ .....	33		320	89-95
NW ¼ of SW ¼.....	31	3 N R 3 E	40	90-93
Total acreage of Class B land on the North Side .....			14,792	

N. B. —“C. R.” means canal company's records showing cultivation in the years specified.

**TABLE No. 5.**

A descriptive list of Class B land on South Side of Salt River.

**SAN FRANCISCO CANAL.**

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.
130 a. S of river in SE ¼.....	23	1 N R 3 E	130	73-98
Total .....			130	

Since 1898 this land has been irrigated by water from a subterranean ditch having its head in SE ¼ of Sec. 20, T. 1 N., R. 4 E.

**TEMPE CANAL.**

DESCRIPTION.	Sec.	Township.	Acres.	Years cultivated.
40 a. S of river in S ½.....	18	1 N R 4 E	40	82-02
N 60 a. of E ½ of NW ¼.....	19		60	82-02
N ½ of NE ¼.....	28		80	77-88
10 a. E of Kyrene ditch in the SE cor. of NW ¼ .....	15	1 S R 4 E	10	92-95
10 a. E of Kyrene ditch in the NE cor. of SW ¼ .....	15		10	92-95
SW ¼ .....	22		160	89-94
15 a. in NW cor. of SE ¼.....	25		15	96-98
NW ¼ .....	27		160	89-92
50 a. in eastern part of NE ¼.....	28		50	91-93
E ½ of SE ¼.....	28		80	91-93
S ½ of NW ¼.....	34		80	96-97
NE ¼ except 20 a. in SE cor.....	35		140	89-00
NW ¼ .....	35		160	89-00
Total .....			1040	

**UTAH CANAL.**

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
20 a. in NW cor. of NE ¼.....	20	1 S R 5 E	20	89-90
20 a. in SE cor. of SE ¼.....	20		20	89-90
NE ¼ of NW ¼.....	20		40	90-92
NW ¼ of NW ¼ except 10 a. in NW cor....	20		30	89-90
S ½ of NW ¼ except 10 a. in SE cor.....	20		70	89-90
20 a. in NW cor. of SW ¼.....	20		20	89-90
Total .....			200	

**MESA CANAL.**

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
40 a. in SW cor. of NW ¼.....	13	1 N R 5 E	40	87-00
N ½ of SW ¼.....	13		80	87-99
30 a. E of Tempe Canal in N ½ of SW ¼	17		30	87-91
10 a. in SW cor. of SW ¼.....	17		10	87-91
E ½ of SE ¼.....	36		80	89-02



TABLE No. 5—(Continued)

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
35 a. in NW cor. of SE ¼.....	31	2 N R 6 E	35	89-98
40 a. in NW cor. of NW ¼.....	32		40	87-00
SE ¼ except 10 a. in NW cor.....	1	1 S R 5 E	150	95-98
SE ¼ of NE ¼.....	6	1 S R 6 E	40	92-96
S ½ of SW ¼.....	7		80	92-98
Total .....			585	

CONSOLIDATED CANAL.

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
100 a. unlocated in SW ¼.....	12	1 S R 5 E	100	93-94
NW ¼ .....	13		160	96-97
E ½ of NW ¼.....	15		80	92-00
W ½ of NW ¼.....	15		80	92-95
W 60 a. of S ½ of SE ¼.....	15		60	97-98
E ½ of .....	22		320	92-00
W ½ of W ½.....	22		160	92-00
NE ¼ .....	26		160	90-99
W ½ .....	26		320	90-99
E ½ .....	27		320	92-97
W ½ of NW ¼.....	27		80	92-97
NW ¼ .....	28		160	92-98
S ½ of NW ¼.....	31		80	93-97
S ½ of .....	31		320	93-97
S ½ of .....	32		320	93-97
N ½ of NW ¼.....	34		80	97-01
All of .....	9	2 S R 5 E	640	95-98
W ½ of NE ¼.....	10		80	95-01
SE ¼ .....	10		160	95-01
E ½ except 15 a. in SE ¼.....	15		305	93-01
Total .....			3985	

HIGHLAND CANAL.

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
Unlocated 30 a. in E ½ of SW ¼.....	1	1 N R 5 E	30	95-00
N ½ of SE ¼ of NE ¼.....	11		20	99-00
W ½ of SW ¼.....	12		80	92-98
NE ¼ .....	13		160	93-01
30 a. in SW cor. of SE ¼.....	13		30	90-91
NW ¼ except 40 a. in SW cor.....	13		120	93-95
15 a. W of canal in S part of SE ¼.....	7	1 N R 6 E	15	95-96
20 a. in NW cor. of SW ¼.....	7		20	93-95
NE ¼ except 5 a. in NE cor.....	18		155	95-96
NW ¼ .....	18		160	95-00
E ½ of SW ¼.....	18		80	92-93
W ½ of SW ¼.....	18		80	97-98
NE ¼ .....	19		160	95-99
SE ¼ except 20 a. in SW cor.....	19		140	95-99
NW ¼ except 15 a. in SW cor.....	19		145	95-99
20 a. in W part of NE ¼.....	20		20	92-02
E ½ of NW ¼.....	20		80	92-02
W ½ of NW ¼.....	20		80	92-96

TABLE No. 5—(Continued)

DESCRIPTION	Sec.	Township.	Acres.	Years cultivated.
E ½ of SW ¼.....	20	1 N R 6 E	80	96-97
70 a. W of canal in NW ¼.....	28		70	91-99
E ½ of NE ¼.....	30		80	89-96
N ½ of NE ¼.....	32		80	89-92
S ½ of NE ¼.....	32		80	89-99
SE ¼.....	32		160	89-02
NW ¼ of SE ¼.....	33		40	90-99
W ½ of .....	33		320	89-99
20 a. W of canal in SW ¼ of SW ¼.....	28	2 N R 6 E	20	90-95
60 a. in S ½ of SE ¼.....	29		60	90-95
20 a. in SE cor. of SW ¼.....	29		20	90-95
95 a. W of canal in NE ¼.....	32		95	90-95
90 a. E of Consolidated in NW ¼.....	32		90	90-95
40 a. N of Highland in SW ¼.....	32		40	90-95
N ½ of SE ¼ of SE ¼.....	24	1 S R 5 E	20	95-96
Unlocated 60 a. in NW ¼.....	25		60	90-96
W ½.....	4	1 S R 6 E	320	89-99
NE ¼ of NE ¼.....	5		40	99-02
SE ¼.....	5		160	89-99
W 100 a. in NW ¼.....	5		100	93-99
10 a. in E part of SW ¼.....	5		10	90-96
All of .....	8		640	89-99
S 35 a. of NE ¼ of NE ¼ and N 15 a. of SE ¼ of SE ¼.....	9		50	99-00
Unlocated 30 a. in NE ¼.....	16		30	90-93
Unlocated 10 a. in SE ¼.....	16		10	90-93
W ½.....	16		320	90-93
All of .....	17		640	89-99
All of .....	18		640	89-99
All of .....	20		640	89-99
40 a. W of canal in SW ¼.....	21		40	89-96
NW ¼.....	29		160	89-99
SW ¼.....	29		160	90-92
E ½ of .....	30		320	89-99
NW ¼.....	30		160	90-92
E ½ of .....	31		320	89-99
NW ¼.....	31		160	89-99
SW ¼.....	31		160	89-92
Unlocated 40 a. in SE ¼.....	1	2 S R 5 E	40	90-96
N ½ of NW ¼.....	1		80	92-94
Unlocated 60 a. in SW ¼.....	6	2 S R 6 E	60	90-96
Total .....			8150	

Summary of Class "B" land on the South Side that has been irrigated by means of the following named canals:

San Francisco canal.....	130	acres
Tempe canal .....	1,045	"
Utah canal .....	200	"
Mesa canal .....	585	"
Consolidated canal .....	3,985	"
Highland canal .....	8,150	"
Total .....	14,095	acres

**TABLE No. 6.**

A table showing acreage of Class A and Class B land by Townships and Sections.  
T. 1 N., R. 1 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	640	640		640	640				
2	640	640		640	640				
3	640	640		640	640				
4	640	160	480	640	160	480			
5	480	480		480	480				
6	640	640		640	640				
7	320	320		320	320				
8	240	210	30	240	210	30			
9	640	320	320	640	320	320			
10	520	480	40	520	480	40			
11	620	620		620	620				
12	640	640		640	640				
13	540	510	30	540	510	30			
14	160	160		160	160				
16	640	640		640	640				
17	340	145	195	340	145	195			
18	640	640		640	640				
20	20	20		20	20				
21	20	20		20	20				
24	70	70		70	70				
25	60	60		60	60				
Total..	9,150	8,055	1,095	9,150	8,055	1,095			

T. 1 N., R. 2 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	640	640		640	640				
2	640	640		640	640				
3	640	640		640	640				
4	640	640		640	640				
5	640	640		640	640				
6	640	640		640	640				
7	640	640		640	640				
8	640	640		640	640				
9	640	640		640	640				
10	640	630	10	640	630	10			
11	640	640		640	640				
12	640	640		640	640				
13	490	490		490	490				
14	640	640		640	640				
15	630	630		630	630				
16	640	640		640	640				
17	630	630		630	630				
18	600	600		600	600				
19	520	320	200	520	320	200			
20	560	400	160	560	400	160			
21	230	230		230	230				
22	310	310		310	310				

TABLE No. 6—(Continued)

T. 1 N., R. 2 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
23 .....	110	110		110	110				
25 .....	160	160					160	160	
30 .....	125		125			125			
Total..	13,325	12,830	495	13,165	12,670	495	160	160	

T. 1 N., R. 3 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1 .....	640	640		640	640				
2 .....	640	640		640	640				
3 .....	600	580	20	600	580	20			
4 .....	640	640		640	640				
5 .....	640	640		640	640				
6 .....	640	455	185	640	455	185			
7 .....	640	640		640	640				
8 .....	640	640		640	640				
9 .....	640	600	40	640	600	40			
10 .....	640	565	75	640	565	75			
11 .....	640	640		640	640				
12 .....	620	620		620	620				
13 .....	230	190	40	230	190	40			
14 .....	535	535		535	535				
15 .....	485	485		485	485				
16 .....	420	420		420	420				
17 .....	535	535		535	535				
18 .....	560	440	120	560	440	120			
19 .....	70	70					70	70	
20 .....	310	310					310	310	
21 .....	330	330					330	330	
22 .....	200	200					200	200	
23 .....	205	75	130				205	75	130
24 .....	405	405					405	405	
25 .....	635	635					635	635	
26 .....	570	570					570	570	
27 .....	640	640					640	640	
28 .....	560	560					560	560	
29 .....	510	510					510	510	
30 .....	305	305					305	305	
32 .....	40	40					40	40	
34 .....	540	540					540	540	
35 .....	560	560					560	560	
36 .....	300	300					300	300	
Total..	16,565	15,955	610	10,385	9,905	480	6,180	6,050	130

TABLE No. 6—T. 1 N., R. 4. E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
2	160	80	80	160	80	80			
6	330	330		330	330				
7	200	200		200	200				
12	200		200	200		200			
13	210	210					210	210	
14	255	255					255	255	
15	215	215					215	215	
16	355	355					355	355	
17	285	285					285	285	
18	40		40				40		40
19	530	470	60				530	470	60
20	480	480					480	480	
21	560	560					560	560	
22	640	640					640	640	
23	640	640					640	640	
24	640	640					640	640	
25	640	640					640	640	
26	640	640					640	640	
27	640	640					640	640	
28	640	560	80				640	560	80
29	525	525					525	525	
30	640	640					640	640	
31	320	320					320	320	
32	240	240					240	240	
33	420	420					420	420	
34	640	640					640	640	
35	640	640					640	640	
36	640	640					640	640	
Total	12,365	11,905	460	890	610	280	11,475	11,295	180

T. 1 N., R. 5 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	240	210	30				240	210	30
2	600	600					600	600	
3	370	370					370	370	
4	240	40	200	200		200	40	40	
5	400		400	400		400			
6	200		200	200		200			
7	200		200	200		200			
8	185	185					185	185	
9	430	430					430	430	
10	510	510					510	510	
11	230	210	20				230	210	20
12	480	400	80				480	400	80
13	510	80	430				510	80	430
14	590	590					590	590	
15	610	610					610	610	
16	625	625					625	625	
17	560	520	40				560	520	40
18	440	440					440	440	

TABLE No. 6—T. 1. N., R. 5 E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
19	640	640					640	640	
20	640	640					640	640	
21	640	640					640	640	
22	640	640					640	640	
23	640	640					640	640	
24	640	640					640	640	
25	640	640					640	640	
26	640	640					640	640	
27	640	640					640	640	
28	640	640					640	640	
29	640	640					640	640	
30	640	640					640	640	
31	640	640					640	640	
32	640	640					640	640	
33	640	640					640	640	
34	640	640					640	640	
35	640	640					640	640	
36	640	560	80				640	560	80
Total	18,900	17,220	1,680	1,000		1,000	17,900	17,220	680

T. 1. N., R. 6 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
7	60	25	35				60	25	35
17									
18	475		475				475		475
19	620	175	445				620	175	445
20	260		260				260		260
28	70		70				70		70
29	30	30					30	30	
30	640	560	80				640	560	80
31	640	640					640	640	
32	360	40	320				360	40	320
33	360		360				360		360
Total	3,515	1,470	2,045				3,515	1,470	2,045

T. 2 N., R. 1. E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	640	300	340	640	300	340			
2	240	200	40	240	200	40			
3	120	40	80	120	40	80			
4	435	250	185	435	250	185			
5	10	10		10	10				
8	105	25	80	105	25	80			
9	160	120	40	160	120	40			

TABLE No. 6—T. 2. N., R. 1 E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
10	240	80	160	240	80	160			
11	450	280	170	450	280	170			
12	640	580	60	640	580	60			
13	640	160	480	640	160	480			
14	640	640		640	640				
15	640	640		640	640				
16	545	545		545	545				
17									
18	260	260		260	260				
19	340	340		340	340				
20	640	640		640	640				
21	640	640		640	640				
22	640	640		640	640				
23	640	640		640	640				
24	540	470	70	540	470	70			
25	640	640		640	640				
26	640	640		640	640				
27	640	640		640	640				
28	640	640		640	640				
29	640	640		640	640				
30	400	320	80	400	320	80			
31	640	480	160	640	480	160			
32	640	640		640	640				
33	640	640		640	640				
34	640	640		640	640				
35	640	640		640	640				
36	640	640		640	640				
Total.	16,645	14,700	1,945	16,645	14,700	1,945			

T. 2 N., R. 2 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	320	320		320	320				
2	640	640		640	640				
3	640	640		640	640				
4	640	620	20	640	620	20			
5	640	640		640	640				
6	640	640		640	640				
7	640	570	70	640	570	70			
8	640	350	290	640	350	290			
9	640	640		640	640				
10	640	620	20	640	620	20			
11	640	440	200	640	440	200			
12	640	640		640	640				
13	640	160	480	640	160	480			
14	620	620		620	620				
15	600	510	90	600	510	90			
16	640	640		640	640				
17	640	620	20	640	620	20			
18	640	520	120	640	520	120			
19	640	640		640	640				
20	640	560	80	640	560	80			
21	640	640		640	640				

TABLE No. 6—T. 2 N., R. 2 E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
22	640	345	295	640	345	295			
23	640	530	110	640	530	110			
24	360	360		360	360				
25	580	580		580	580				
26	640	555	85	640	555	85			
27	640	535	105	640	535	105			
28	640	480	160	640	480	160			
29	565	375	190	565	375	190			
30	640	640		640	640				
31	640	640		640	640				
32	640	640		640	640				
33	640	640		640	640				
34	640	640		640	640				
35	640	640		640	640				
36	640	640		640	640				
Total.	22,245	19,910	2,335	22,245	19,910	2,335			

T. 2 N., R 3 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
4	170	170		170	170				
5	390	390		390	390				
6	640	440	200	640	440	200			
7	320	120	200	320	120	200			
8	640	335	305	640	335	305			
9	170	160	10	170	160	10			
10	15	15		15	15				
13	20		20	20		20			
14	10	10		10	10				
15	290	290		290	290				
16	580	580		580	580				
17	560	560		560	560				
18	640	640		640	640				
19	640	560	80	640	560	80			
20	570	550	20	570	550	20			
21	625	315	310	625	315	310			
22	640	360	280	640	360	280			
23	570	550	20	570	550	20			
24	235	235		235	235				
25	250	120	130	250	120	130			
26	640	180	460	640	180	460			
27	585	425	160	585	425	160			
28	640	640		640	640				
29	640	640		640	640				
30	640	640		640	640				
31	640	640		640	640				
32	640	640		640	640				
33	640	640		640	640				
34	625	625		625	625				
35	490	370	120	490	370	120			
36	640	640		640	640				
Total.	14,795	12,480	2,315	14,795	12,480	2,315			



TABLE No. 6—(Continued)—T. 2 N., R 4 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
12	150		150	150		150			
19	165	140	25	165	140	25			
20	10			10					
22	45	45		45	45				
23	330	320	10	330	320	10			
24	440	320	120	440	320	120			
25									
26	190	100	90	190	100	90			
27	340	205	135	340	205	135			
28	175			175					
29	90	10	80	90	10	80			
30	640	320	320	640	320	320			
31	35	35		35	35				
32	30	10	20	30	10	20			
34	240		240	240		240			
36	420	360	60	420	360	60			
Total.	3,300	2,050	1,250	3,300	2,050	1,250			

T. 2 N., R. 5 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
20	160	160		160	160				
21	480	480		480	480				
22	160	160		160	160				
25									
26									
27	320	320		320	320				
28	640	320	320	640	320	320			
29	360	93	267	360	93	267			
31	480	480		480	480				
32	640	320	320	640	320	320			
34	10	10					10	10	
35 & 36.	1,115	1,115					1,115	1,115	
Total.	4,365	3,458	907	3,240	2,333	907	1,125	1,125	

T. 2 N., R. 6 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
28	20		20				20		20
29	80		80				80		80
30	30	30					30	30	
31	480	445	35				480	445	35
32	265		265				265		265
Total.	875	475	400				875	475	400

TABLE No. 6—(Continued)—R. 3 N., R. 1 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	70		70	70		70			
2	140		140	140		140			
12	160	160		160	160				
14	320	320		320	320				
15	200	200		200	200				
16	20		20	20		20			
22	580	560	20	580	560	20			
23	40	40		40	40				
24	160		160	160		160			
25	440	400	40	440	400	40			
26	530	260	270	530	260	270			
27	240	165	75	240	165	75			
33	70	70		70	70				
34	110	60	50	110	60	50			
35	230	230		230	230				
36	450	325	125	450	325	125			
Total.	3,760	2,790	970	3,760	2,790	970			

T. 3 N., R. 2 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
7	60	60		60	60				
20	420	100	320	420	100	320			
25	145	50	95	145	50	95			
27	320	320		320	320				
28	320	320		320	320				
29	640		640	640		640			
30	410	305	105	410	305	105			
31	640	440	200	640	440	200			
32	640	640		640	640				
33	640	320	320	640	320	320			
34	640	640		640	640				
35	640	640		640	640				
36	580	580		580	580				
Total.	6,095	4,415	1,680	6,095	4,415	1,680			

T. 3 N., R. 3 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
30	65	65		65	65				
31	640	600	40	640	600	40			
32	200	200		200	200				
33	30	30		30	30				
Total.	935	895	40	935	895	40			

TABLE No. 6—(Continued)—T. 1 N., R. 1 W.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	200	200		200	200				
12	320	320		320	320				
13	320	320		320	320				
24	160	160		160	160				
Total..	1,000	1,000		1,000	1,000				

T. 1 S., R. 4 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	640	640					640	640	
2	640	640					640	640	
3	435	435					435	435	
10	320	320					320	320	
11	640	640					640	640	
12	640	640					640	640	
13	640	640					640	640	
14	640	640					340	320	20
15	340	320	20				000	440	160
22	600	440	160				640	640	
23	640	640					640	640	
24	640	640					425	410	15
25	425	410	15				640	640	
26	640	640					640	480	160
27	640	480	160				340	210	130
28	340	210	130				270	270	
32	270	270					320	320	
33	320	320					560	480	80
34	560	480	80				460	160	300
35	460	160	300						
Total..	10,470	9,605	865				10,470	9,605	865

T. 1 S., R. 5 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	560	410	150				560	410	150
2	560	560					640	640	
3	640	640					640	640	
4	640	640					640	640	
5	640	640					640	640	
6	640	640					640	640	
7	640	640					640	640	
8	640	640					605	605	
9	605	605					600	600	
10	600	600					640	640	
11	640	640					440	340	100
12	440	340	100						

TABLE No. 6—T. 1 S., R. 5 E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
13	160		160				160		160
15	320	100	220				320	100	220
16	390	390					390	390	
17	625	625					625	625	
18	620	620					620	620	
19	270	270					270	270	
20	200		200				200		200
21	640	640					640	640	
22	480		480				480		480
23	10	10					10	10	
24	20		20				20		20
25	60		60				60		60
26	480		480				480		480
27	560	160	400				560	160	400
28	640	480	160				640	480	160
31	400		400				400		400
32	320		320				320		320
33	280	280					280	280	
34	80		80				80		80
Total.	13,800	10,570	3,230				13,800	10,570	3,230

T. 1 S., R. 6 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
4	320		320				320		320
5	310		310				310		310
6	400	360	40				400	360	40
7	360	280	80				360	280	80
8	640		640				640		640
9	50		50				50		50
16	360		360				360		360
17	640		640				640		640
18	640		640				640		640
20	640		640				640		640
21	40		40				40		40
29	320		320				320		320
30	480		480				480		480
31	640		640				640		640
Total.	5,840	640	5,200				5,840	640	5,200

T. 2 S., R. 5 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
1	120		120				120		120
9	640		640				640		640

TABLE No. 6—T. 2 S., R. 5 E.—(Continued)

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
10 .....	560	320	240	.....	.....	.....	560	320	240
15 .....	625	320	305	.....	.....	.....	625	320	305
27 .....	20	20	.....	.....	.....	.....	20	20	.....
Total..	1,965	660	1,305	.....	.....	.....	1,965	660	1,305

T. 2 S., R. 6 E.

Sections	Acreage.			North Side Acreage.			South Side Acreage.		
	Total	Class A	Class B	Total	Class A	Class B	Total	Class A	Class B
6 .....	60	.....	60	.....	.....	.....	60	.....	60
Total..	60	.....	60	.....	.....	.....	60	.....	60

Summary of Class A land, showing the total acreage, the total acreage on the North Side and the total acreage on the South Side.

TOWNSHIPS.	ACREAGE.		
	Total	North Side	South Side
1 N R 1 E.....	8,055	8,055	.....
1 N R 2 E.....	12,830	12,670	160
1 N R 3 E.....	15,955	9,905	6,050
1 N R 4 E.....	11,905	610	11,295
1 N R 5 E.....	17,220	.....	17,220
1 N R 6 E.....	1,470	.....	1,470
2 N R 1 E.....	14,700	14,700	.....
2 N R 2 E.....	19,910	19,910	.....
2 N R 3 E.....	12,480	12,480	.....
2 N R 4 E.....	2,050	2,050	.....
2 N R 5 E.....	3,458	2,333	1,125
2 N R 6 E.....	475	.....	475
3 N R 1 E.....	2,790	2,790	.....
3 N R 2 E.....	4,415	4,415	.....
3 N R 3 E.....	895	895	.....
1 N R 1 W.....	1,000	1,000	.....
1 S R 4 E.....	9,605	.....	9,605
1 S R 5 E.....	10,570	.....	10,570
1 S R 6 E.....	640	.....	640
2 S R 5 E.....	660	.....	660
2 S R 6 E.....	.....	.....	.....
Total .....	151,083	91,813	59,270

TABLE No. 6—(Continued)

Summary of Class B land, showing the total acreage, the total acreage on the North Side and the total acreage on the South Side.

December 31, 1909.	ACREAGE.			
	TOWNSHIPS.	Total	North Side	South Side
1 N R 1 E.....	1,095	1,095		
1 N R 2 E.....	495	495		
1 N R 3 E.....	610	480		130
1 N R 4 E.....	460	280		180
1 N R 5 E.....	1,680	1,000		680
1 N R 6 E.....	2,045			2,045
2 N R 1 E.....	1,945	1,945		
2 N R 2 E.....	2,335	2,335		
2 N R 3 E.....	2,315	2,315		
2 N R 4 E.....	1,250	1,250		
2 N R 5 E.....	907	907		
2 N R 6 E.....	400			400
3 N R 1 E.....	970	970		
3 N R 2 E.....	1,680	1,680		
3 N R 3 E.....	40	40		
1 N R 1 W.....				
1 S R 4 E.....	865			865
1 S R 5 E.....	3,230			3,230
1 S R 6 E.....	5,200			5,200
2 S R 5 E.....	1,305			1,305
2 S R 6 E.....	60			60
Total .....	28,887	14,792		14,095

Table of summaries of Class A and B land by Townships and Sections.

December 31, 1909	Cultivation Total Acreage of			North Side Acreage			South Side Acreage			
	TOWNSHIPS	Total.....	Class A.....	Class B.....	Total.....	Class A.....	Class B.....	Total.....	Class A.....	Class B.....
T 1 N R 1 E.....	9,150	8,055	1,095	9,150	8,055	1,095				
T 1 N R 2 E.....	12,325	12,830	495	13,165	12,670	495	160	160		
T 1 N R 3 E.....	16,565	15,955	610	10,385	9,905	480	6,180	6,050	130	
T 1 N R 4 E.....	12,365	11,905	460	890	610	280	11,475	11,295	180	
T 1 N R 5 E.....	18,900	17,220	1,680	1,000		1,000	17,900	17,220	680	
T 1 N R 6 E.....	3,515	1,470	2,045				3,515	1,470	2,045	
T 2 N R 1 E.....	16,645	14,700	1,945	16,645	14,700	1,945				
T 2 N R 2 E.....	22,245	19,910	2,335	22,245	19,910	2,335				
T 2 N R 3 E.....	14,795	12,480	2,315	14,795	12,480	2,315				
T 2 N R 4 E.....	3,300	2,050	1,250	3,300	2,050	1,250				
T 2 N R 5 E.....	4,365	3,458	907	3,240	2,333	907	1,125	1,125		
T 2 N R 6 E.....	875	475	400				875	475	400	
T 3 N R 1 E.....	3,760	2,790	970	3,760	2,790	970				
T 3 N R 2 E.....	6,095	4,415	1,680	6,095	4,415	1,680				
T 3 N R 3 E.....	935	895	40	935	895	40				
T 1 N R 1 W.....	1,000	1,000		1,000	1,000					
T 1 S R 4 E.....	10,470	9,605	865				10,470	9,605	865	
T 1 S R 5 E.....	13,800	10,570	3,230				13,800	10,570	3,230	
T 1 S R 6 E.....	5,840	640	5,200				5,840	640	5,200	
T 2 S R 5 E.....	1,965	660	1,305				1,965	660	1,305	
T 2 S R 6 E.....	60		60				60		60	
Total.....	179,970	151,083	28,887	106,605	91,813	14,792	73,365	59,270	14,095	

TABLE No. 6—(Continued)

Summary of Class B land, showing the total acreage, the total acreage on the North Side and the total acreage on the South Side.

December 31, 1909.	ACREAGE.			
	TOWNSHIPS.	Total	North Side	South Side
1 N R 1 E.....	1,095	1,095		
1 N R 2 E.....	495	495		
1 N R 3 E.....	610	480		130
1 N R 4 E.....	460	280		180
1 N R 5 E.....	1,680	1,000		680
1 N R 6 E.....	2,045			2,045
2 N R 1 E.....	1,945	1,945		
2 N R 2 E.....	2,335	2,335		
2 N R 3 E.....	2,315	2,315		
2 N R 4 E.....	1,250	1,250		
2 N R 5 E.....	907	907		
2 N R 6 E.....	400			400
3 N R 1 E.....	970	970		
3 N R 2 E.....	1,680	1,680		
3 N R 3 E.....	40	40		
1 N R 1 W.....				
1 S R 4 E.....	865			865
1 S R 5 E.....	3,230			3,230
1 S R 6 E.....	5,200			5,200
2 S R 5 E.....	1,305			1,305
2 S R 6 E.....	60			60
Total .....	28,887	14,792		14,095

Table of summaries of Class A and B land by Townships and Sections.

December 31, 1909	Cultivation Total Acreage of			North Side Acreage			South Side Acreage			
	TOWNSHIPS	Total.....	Class A.....	Class B.....	Total.....	Class A.....	Class B.....	Total.....	Class A.....	Class B.....
T 1 N R 1 E.....	9,150	8,055	1,095	9,150	8,055	1,095				
T 1 N R 2 E.....	13,325	12,830	495	13,165	12,670	495	160	160		
T 1 N R 3 E.....	16,565	15,955	610	10,385	9,905	480	6,180	6,050	130	
T 1 N R 4 E.....	12,365	11,905	460	890	610	280	11,475	11,295	180	
T 1 N R 5 E.....	18,900	17,220	1,680	1,000		1,000	17,900	17,220	680	
T 1 N R 6 E.....	3,515	1,470	2,045				3,515	1,470	2,045	
T 2 N R 1 E.....	16,645	14,700	1,945	16,645	14,700	1,945				
T 2 N R 2 E.....	22,245	19,910	2,335	22,245	19,910	2,335				
T 2 N R 3 E.....	14,795	12,480	2,315	14,795	12,480	2,315				
T 2 N R 4 E.....	3,300	2,050	1,250	3,300	2,050	1,250				
T 2 N R 5 E.....	4,365	3,458	907	3,240	2,333	907	1,125	1,125		
T 2 N R 6 E.....	875	475	400				875	475	400	
T 3 N R 1 E.....	3,760	2,790	970	3,760	2,790	970				
T 3 N R 2 E.....	6,095	4,415	1,680	6,095	4,415	1,680				
T 3 N R 3 E.....	935	895	40	935	895	40				
T 1 N R 1 W.....	1,000	1,000		1,000	1,000					
T 1 S R 4 E.....	10,470	9,605	865				10,470	9,605	865	
T 1 S R 5 E.....	13,800	10,570	3,230				13,800	10,570	3,230	
T 1 S R 6 E.....	5,840	640	5,200				5,840	640	5,200	
T 2 S R 5 E.....	1,965	660	1,305				1,965	660	1,305	
T 2 S R 6 E.....	60		60				60		60	
Total.....	179,970	151,083	28,887	106,605	91,813	14,792	73,365	59,270	14,095	

**TABLE No. 7.**

A table showing the acreage of the North Side Class A land by Townships and years.

YEARS	T 1 N R 1 E...	T 1 N R 2 E...	T 1 N R 3 E...	T 1 N R 4 E...	T 2 N R 1 E...	T 2 N R 2 E...	T 2 N R 3 E...	T 2 N R 4 E...	T 2 N R 5 E...	T 3 N R 1 E...	T 3 N R 2 E...	T 3 N R 3 E...	T 1 N R 1 W.	Totals.....
Indian									2333					2333
1869			3050				160							3210
1870		400	1055											1455
1871		1280	1855				160							3295
1872		710	80				1080							1870
1873	60	80	320											460
1874		260	145											405
1875							60							60
1876		1380	320											1700
1877		1120					640							1760
1878		1910	435			1120	440							3905
1879		960	270			640	1565							3435
1880	1440	1300	245		2000	2315	725							8025
1881	620	320	280		2430	1280	35							4965
1882	1600	320	40		4760	865	160							7745
1883	320	160	325		400		50							1255
1884	1120	160	170				40							1490
1885		150			240		180							570
1886	320	80			835	680	585							2500
1887			260			480	150	10		410	565	200		2075
1888		790	10	100		2250	365	445		320	320			4280
1889	160	110	40		540	2890	220	230		320	750			5260
1890		40	20	210	80	500	715	80		165	450		80	2340
1891			40			240	160			200	80	170		890
1892	220		310		840	760	180	120		355	400			3185
1893				140			330	360		80	220			1130
1894			220	80			235			170	160	30		895
1895		60			225		1245	35		115		10		1690
1896					200		90	100				80		470
1897		320					410	70		10				810
1898						40	90			80	5			215
1899		110					30			40	20			200
1900	40						65	225		40				370
1901		130					170	10			220			530
1902	120		70				170				20			380
1903			20			240	20							280
1904					160	240	100	15		80				595
1905			40				120			80	60			300
1906	230	20	225		10	140	70					80		775
1907	780	40		80	575	795	360	40		45	160	270	620	3665
1908	790	200	20		600	2545	935	230		590	375	50	400	6735
1909	235	260	40		805	1890	370	80		90	535			4305
Total.....	8055	12,670	9905	610	14,700	19,910	12,480	2050	2333	2790	4415	895	1000	91,813



**TABLE No. 8.**

A table showing the acreage of the South Side Class A land by Township and years.

YEARS	T1NR2E..	T1NR3E..	T1NR4E..	T1NR5E..	T1NR6E..	T2NR5E..	T2NR6E..	T1SR4E..	T1SR5E..	T1SR6E..	T2SR5E..	Totals.....
1870.....	80	285										365
1871.....				870								870
1872.....			4535	295								4830
1873.....		1625	160	150								1935
1874.....												
1875.....		320	500									820
1876.....			960									960
1877.....			1210	1540			640					3390
1878.....		765	1030	2075		1115	445					5430
1879.....		95	15	1840			800					2750
1880.....			140	2260								2400
1881.....			410	620			680					1710
1882.....				855								855
1883.....	40	740	280	720			160					1940
1884.....			320	915			440					1675
1885.....				1190			640					1830
1886.....				690			715					1405
1887.....		410	510	805			1440	640				3805
1888.....			670	240			1270	3645				5825
1889.....		320		270	1040		160	480				2270
1890.....		55	15	255			1220	160	320			2025
1891.....		345	320	80			480	410				1635
1892.....		300		520	335			2630	120			3905
1893.....				260				685		640		1585
1894.....				15				120				135
1895.....		240										240
1896.....	40	220					160	80				500
1897.....				105			160	280				545
1898.....				315	40	10						365
1899.....												
1900.....				65	30			240				335
1901.....				160								160
1902.....												
1903.....		200										200
1904.....		110										110
1905.....		20					25	830	200			1075
1906.....			220					20				240
1907.....				20			640	270				930
1908.....				90				80		20		190
1909.....							36					30
Total.....	160	6050	11,295	17,220	1445	1125	500	9605	10,570	640	660	59,270

**TABLE No. 9.**

A table of the acreage of Class A land, showing the year of first cultivation, the acreage for that year and the total acreage year by year up to and including the year 1909.

YEARS.	Total acreage...	Total on North Side...	Total on South Side...	Broadway Canal.....	San Francisco Canal.....	Tempe Canal.....	Utah Canal.....	Mesa Canal.....	Consolidated Canal.....	Highland Canal.....
Indian .....	2,333	2,333								
1869 .....	2,333 3,210	2,333 3,210								
1870 .....	5,543 1,820	5,543	365	365						
1871 .....	7,363 4,165	6,998	365	365						
1872 .....	11,528 6,700	10,293	1,235	365		820	50			
1873 .....	18,228 2,395	12,163	6,065	365		5,650	50			
1874 .....	20,623 405	12,623	8,000	365	1,625	5,960	50			
1875 .....	21,028 880	13,028	8,000	365	1,625	5,960	50			
1876 .....	21,908 2,660	13,088	8,820	365	1,945	6,460	50			
1877 .....	24,568 5,150	14,788	9,780	365	1,945	7,420	50			
1878 .....	29,718 9,335	16,548	13,170	365	1,945	9,270	1,590			
1879 .....	39,053 6,185	20,453	18,600	365	2,710	10,300	2,900	2,325		
1880 .....	45,238 10,425	23,888	21,350	365	2,805	11,115	2,955	4,110		
1881 .....	55,663 6,675	31,913	23,750	365	2,885	11,175	2,995	6,330		
1882 .....	62,338 8,600	36,878	25,460	365	2,885	12,265	2,995	6,950		
1883 .....	70,938 3,195	44,623	26,315	365	2,885	12,265	3,315	7,485		
1884 .....	74,133 3,165	45,878	28,255	405	3,625	12,705	3,315	8,205		
1885 .....	77,298 2,400	47,368	29,930	405	3,625	13,740	3,635	8,525		
1886 .....	79,698 3,905	47,938	31,760	405	3,625	14,540	4,385	8,805		
1887 .....	83,603 5,880	50,438	33,165	405	3,625	15,300	4,750	9,085		
1888 .....	89,483 10,105	52,513	36,970	405	3,720	17,585	5,390	9,870		
1889 .....	99,588 7,530	56,793	42,795	405	3,720	19,525	8,955	10,190		
1890 .....	107,118 4,365	62,053	45,065	405	3,720	20,005	9,275	11,660		
	111,483	64,393	47,090	405	3,720	21,295	9,530	12,140		

TABLE No. 9—(Continued)

YEARS.	Total acreage.	Total on North Side.	Total on South Side.	Broadway Canal.	San Francisco Canal.	Tempe Canal.	Utah Canal.	Mesa Canal.	Consolidated Canal.	Highland Canal.
1891	111,483 2,525	64,393 890	47,090 1,635	405	3,720	21,295 1,145	9,530	12,140 490		
1892	114,008 7,090	65,283 3,185	48,725 3,905	405	3,720	22,440 300	9,530 430	12,630 1,655	1,280	240
1893	121,098 2,715	68,468 1,130	52,630 1,585	405	3,720	22,740	9,960 685	14,285 260	1,280 640	240
1894	123,813 1,030	69,598 895	54,215 135	405	3,720	22,740	10,645 120	14,545 15	1,920	240
1895	124,843 1,930	70,493 1,690	54,350 240	405	3,720	22,740 240	10,765	14,560	1,920	240
1896	126,773 970	72,183 470	54,590 500	405	3,720	22,980 380	10,765	14,560 80	1,920	240
1897	127,743 1,355	72,653 810	55,090 545	445	3,720	23,360 160	10,765	14,640 105	1,920 280	240
1898	129,098 580	73,463 215	55,635 365	445	3,720	23,520	10,765 35	14,745 330	2,200	240
1899	129,678 200	73,678 200	56,000	445	3,720	23,520	10,800	15,075	2,200	240
1900	129,878 705	73,878 370	56,000 335	445	3,720	23,520	10,800 65	15,075 270	2,200	240
1901	130,583 690	74,248 530	56,335 160	445	3,720	23,520	10,865	15,345	2,200	240
1902	131,273 380	74,778 380	56,495	445	3,720	23,520	10,865	15,345	2,200	400
1903	131,653 480	75,158 280	56,495 200	445	3,720 200	23,520	10,865	15,345	2,200	400
1904	132,133 705	75,438 595	56,695 110	445	3,920 110	23,520	10,865	15,345	2,200	400
1905	132,838 1,375	76,033 300	56,805 1,075	445 20	4,030	23,520	10,865 270	15,345 760	2,200	400 25
1906	134,213 1,015	76,333 775	57,880 240	465	4,030	23,520 220	11,135	16,105 20	2,200	425
1907	135,228 4,595	77,108 3,665	58,120 930	465	4,030	23,740 640	11,135	16,125 180	2,200 110	425
1908	139,823 6,925	80,773 6,735	59,050 190	465	4,030	24,380	11,135	16,305 170	2,310 20	425
1909	146,748 4,335	87,508 4,305	59,240 30	465	4,030	24,380	11,135 30	16,475	2,330	425
Total acreage	151,083	91,813	59,270	465	4,030	24,380	11,165	16,475	2,330	425

TABLE No. 10.

A table of acres and miners' inches for Class A land, showing the total acreage year by year and water for the same at 48 miners' inches per quarter section or one miners' inch for every three and one-third acres.

YEARS	Total acreage and miners' inches.....	Total on North Side.....	Total on South Side.....	Broadway Canal.....	San Francisco Canal.....	Tempe Canal.....	Utah Canal.....	Mesa Canal.....	Consolidated Canal.....	Highland Canal.....
Indian .....	2,333 700	2,333 700								
1869 .....	5,543 1,663	5,543 1,663								
1870 .....	7,363 2,209	6,998 2,099	365 110	365 110						
1871 .....	11,528 3,459	10,293 3,088	1,235 371	365 110		820 246	50 15			
1872 .....	18,228 5,469	12,163 3,649	6,065 1,820	365 110		5,650 1,695	50 15			
1873 .....	20,623 6,187	12,623 3,787	8,000 2,400	365 110	1,625 487	5,960 1,788	50 15			
1874 .....	21,028 6,308	13,028 3,908	8,000 2,400	365 110	1,625 487	5,960 1,788	50 15			
1875 .....	21,908 6,572	13,088 3,926	8,820 2,646	365 110	1,945 583	6,460 1,938	50 15			
1876 .....	24,568 7,370	14,788 4,436	9,780 2,934	365 110	1,945 583	7,420 2,226	50 15			
1877 .....	29,718 8,915	16,548 4,964	13,170 3,951	365 110	1,945 583	9,270 2,781	1,590 477			
1878 .....	39,053 11,716	20,453 6,136	18,600 5,580	365 110	2,710 813	10,300 3,090	2,900 870	2,325 697		
1879 .....	45,238 13,571	23,888 7,166	21,350 6,405	365 110	2,805 842	11,115 3,334	2,955 886	4,110 1,233		
1880 .....	55,663 16,699	31,913 9,574	23,750 7,125	365 110	2,885 866	11,175 3,352	2,995 898	6,330 1,899		
1881 .....	62,338 18,701	36,878 11,063	25,460 7,638	365 110	2,885 866	12,265 3,679	2,995 898	6,950 2,085		
1882 .....	70,938 21,282	44,623 13,387	26,315 7,895	365 110	2,885 866	12,265 3,679	3,315 995	7,485 2,245		
1883 .....	74,133 22,240	45,878 13,763	28,255 8,477	405 122	3,625 1,087	12,705 3,812	3,315 995	8,205 2,461		
1884 .....	77,298 23,189	47,368 14,210	29,930 8,979	405 122	3,625 1,087	13,740 4,122	3,635 1,091	8,525 2,557		
1885 .....	79,698 23,909	47,938 14,381	31,760 9,528	405 122	3,625 1,087	14,540 4,362	4,385 1,316	8,805 2,641		
1886 .....	83,603 25,081	50,438 15,131	33,165 9,950	405 122	3,625 1,087	15,300 4,590	4,750 1,425	9,085 2,726		
1887 .....	89,483 26,845	52,513 15,754	36,970 11,091	405 122	3,720 1,116	17,585 5,275	5,390 1,617	9,870 2,961		
1888 .....	99,588 29,877	56,793 17,038	42,795 12,839	405 122	3,720 1,116	19,525 5,857	8,955 2,687	10,190 3,057		
1889 .....	167,118 32,136	62,053 18,616	45,065 13,520	405 122	3,720 1,116	20,005 6,002	9,275 2,782	11,660 3,498		
1890 .....	111,483 33,445	64,393 19,318	47,090 14,127	405 122	3,720 1,116	21,295 6,388	9,530 2,859	12,140 3,642		

TABLE No. 10—(Continued)

YEARS	Total acreage and miners inches.....	Total on North Side.....	Total on South Side.....	Broadway Canal.....	San Francisco Canal.....	Tempe Canal.....	Utah Canal.....	Mesa Canal.....	Consolidated Canal.....	Highland Canal.....
1891	114,008 34,203	65,283 19,585	48,725 14,618	405 122	3,720 1,116	22,440 6,732	9,530 2,859	12,630 3,789		
1892	121,098 36,329	68,468 20,540	52,630 15,789	405 122	3,720 1,116	22,740 6,822	9,960 2,988	14,285 4,285	1,280 384	240 72
1893	123,813 37,144	69,598 20,879	54,215 16,265	405 122	3,720 1,116	22,740 6,822	10,645 3,193	14,545 4,364	1,920 576	240 72
1894	124,843 37,453	70,493 21,148	54,350 16,305	405 122	3,720 1,116	22,740 6,822	10,765 3,229	14,560 4,368	1,920 576	240 72
1895	126,773 38,032	72,183 21,655	54,590 16,377	405 122	3,720 1,116	22,980 6,894	10,765 3,229	14,560 4,368	1,920 576	240 72
1896	127,743 38,323	72,653 21,796	55,090 16,527	445 134	3,720 1,116	23,360 7,008	10,765 3,229	14,640 4,392	1,920 576	240 72
1897	129,098 38,730	73,463 22,039	55,635 16,691	445 134	3,720 1,116	23,520 7,056	10,765 3,229	14,745 4,424	2,200 660	240 72
1898	129,678 38,903	73,678 22,103	56,000 16,800	445 134	3,720 1,116	23,520 7,056	10,800 3,240	15,075 4,522	2,200 660	240 72
1899	129,878 38,963	73,878 22,163	56,000 16,800	445 134	3,720 1,116	23,520 7,056	10,800 3,240	15,075 4,522	2,200 660	240 72
1900	130,583 39,175	74,248 22,274	56,335 16,901	445 134	3,720 1,116	23,520 7,056	10,865 3,260	15,345 4,603	2,200 660	240 72
1901	131,273 39,382	74,778 22,433	56,495 16,949	445 134	3,720 1,116	23,520 7,056	10,865 3,260	15,345 4,603	2,200 660	400 120
1902	131,653 39,496	75,158 22,547	56,495 16,949	445 134	3,720 1,116	23,520 7,056	10,865 3,260	15,345 4,603	2,200 660	400 120
1903	132,133 39,640	75,438 22,631	56,695 17,009	445 134	3,920 1,176	23,520 7,056	10,865 3,260	15,345 4,603	2,200 660	400 120
1904	132,838 39,852	76,033 22,810	56,805 17,042	445 134	4,030 1,209	23,520 7,056	10,865 3,240	15,345 4,603	2,200 660	400 120
1905	134,213 40,264	76,333 22,900	57,880 17,364	465 140	4,030 1,209	23,520 7,056	11,135 3,340	16,105 4,832	2,200 660	425 127
1906	135,228 40,568	77,108 23,132	58,120 17,436	465 140	4,030 1,209	23,740 7,122	11,135 3,340	16,125 4,838	2,200 660	425 127
1907	139,823 41,947	80,773 24,232	59,050 17,715	465 140	4,030 1,209	24,380 7,314	11,135 3,340	16,305 4,892	2,310 693	425 127
1908	146,748 44,024	87,508 26,252	59,240 17,772	465 140	4,030 1,209	24,380 7,314	11,135 3,340	16,475 4,943	2,330 699	425 127
1909	151,083 45,325	91,813 27,544	59,270 17,781	465 140	4,030 1,209	24,380 7,314	11,165 3,349	16,475 4,943	2,330 699	425 127

IN THE SUPERIOR COURT OF THE STATE OF ARIZONA  
IN AND FOR THE COUNTY OF MARICOPA

PATRICK T. HURLEY

*Plaintiff,*

THE UNITED STATES OF AMERICA,

*Intervenor*

Against

CHARLES F. ABBOTT and Four  
Thousand Eight Hundred Others,

*Defendants.*

**No. 4564**

STATE OF ARIZONA }  
County of Maricopa } ss.

I, WALTER S. WILSON, Clerk of the Superior Court of Maricopa County, State of Arizona, hereby certify the foregoing to be a true and complete copy of the ORIGINAL DECREE, filed March 10, 1910, in the District Court of the Third Judicial District of the Territory of Arizona, in and for the County of Maricopa, as the same remains of record in my office.

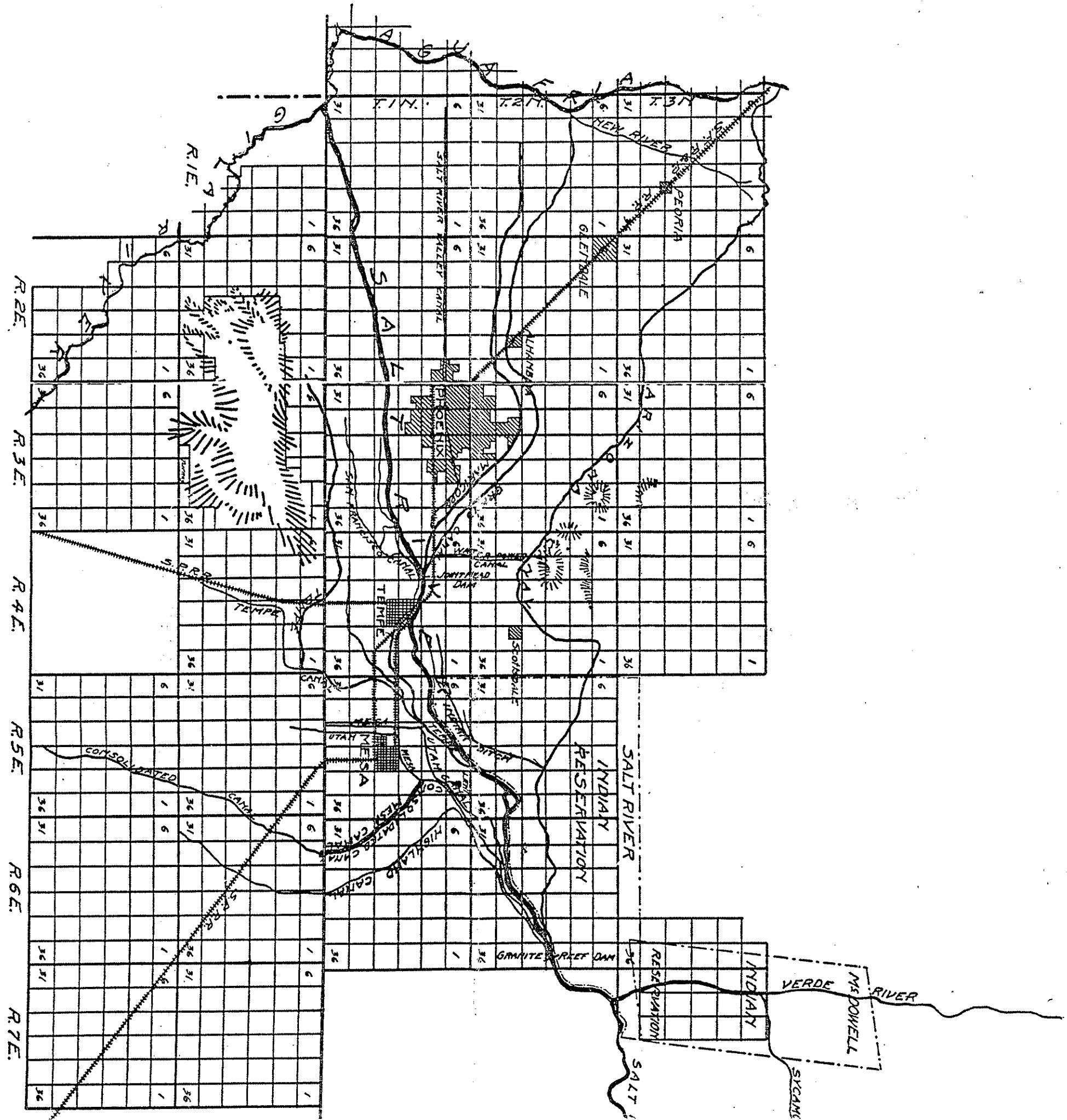
IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Superior Court of Maricopa County, State of Arizona, this 11th day of October, 1954.

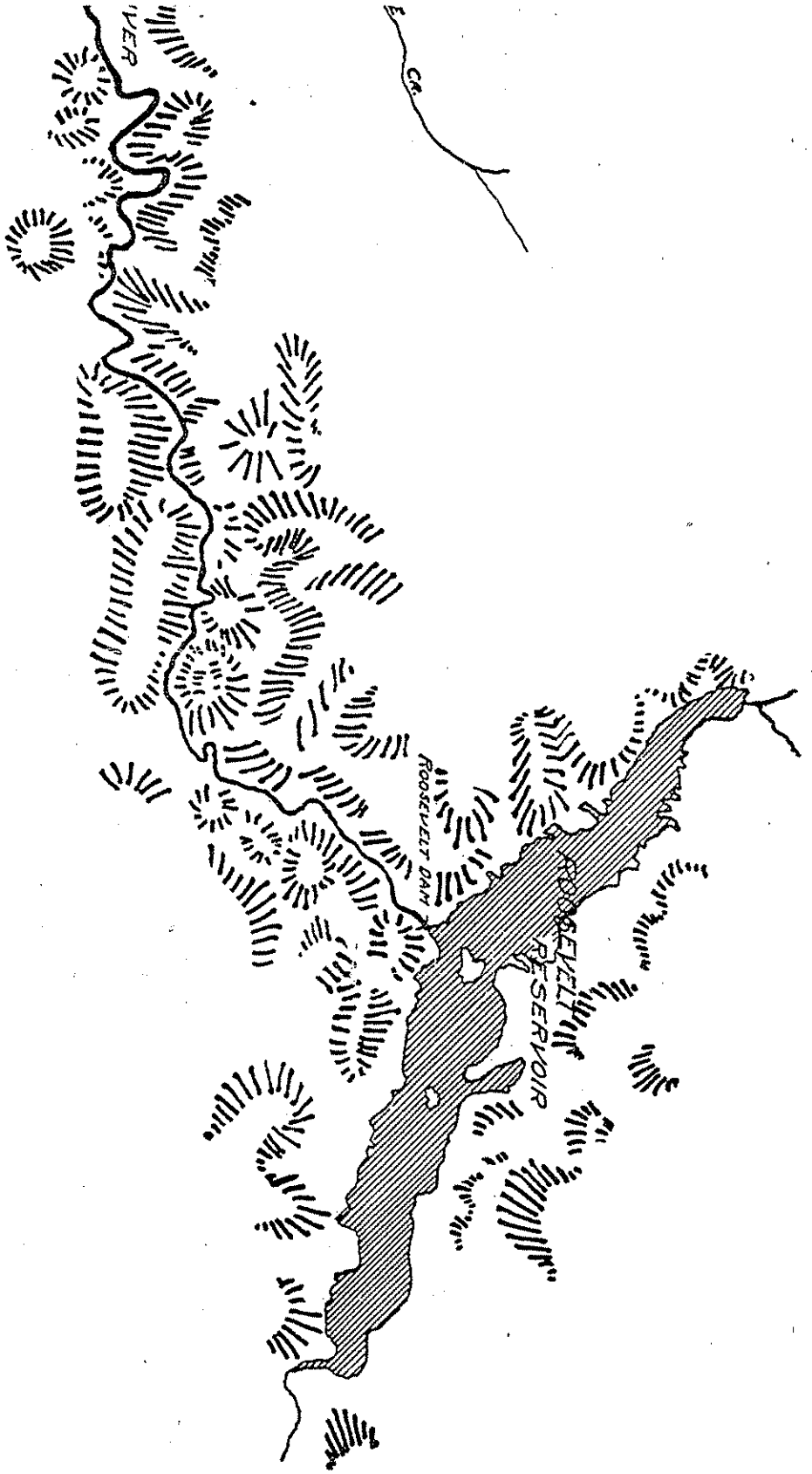
(SEAL)

WALTER S. WILSON

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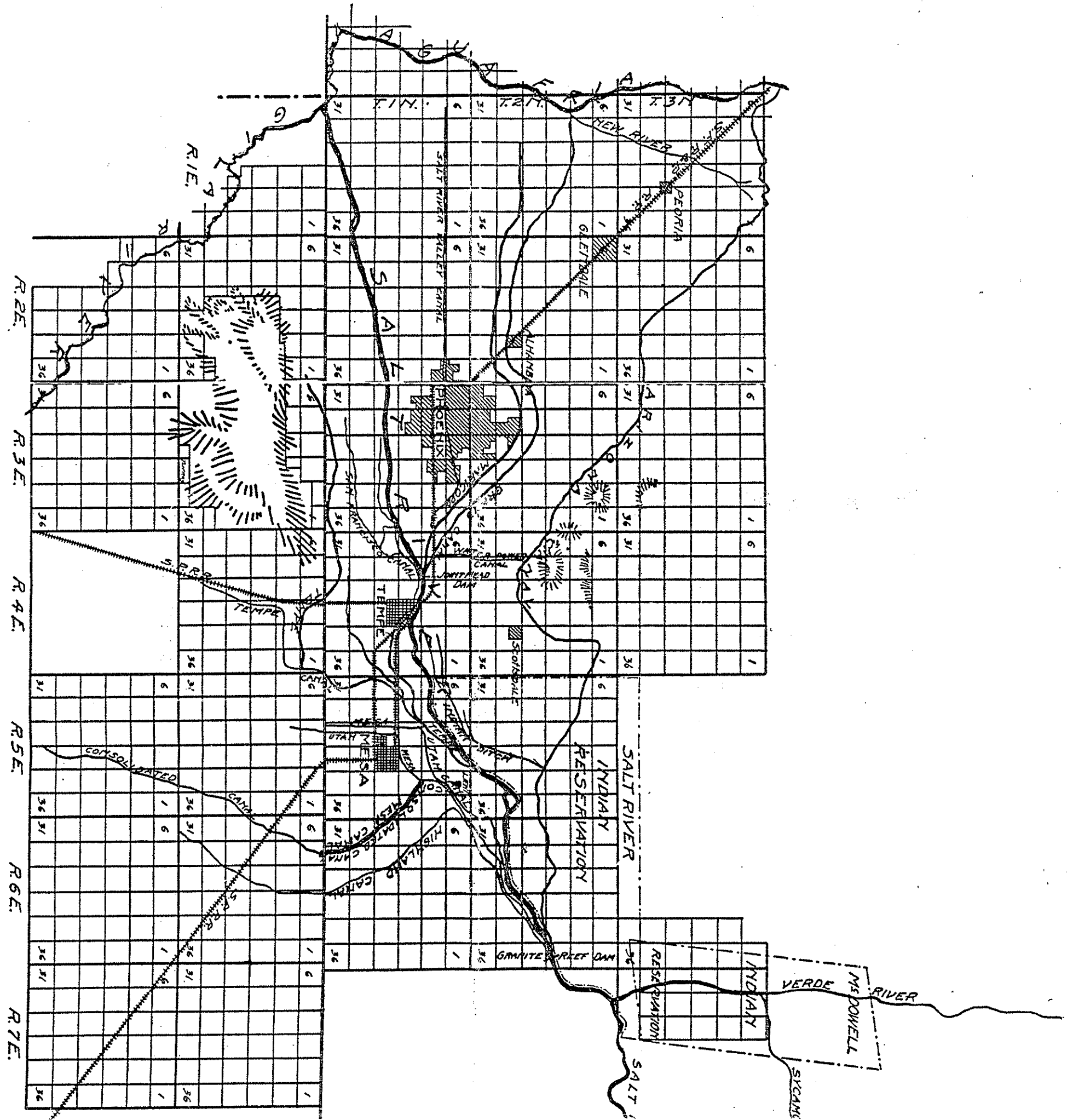
WALTER S. WILSON, Clerk of the Superior Court,  
Maricopa County, Arizona





**MAP No. 1.**  
SKETCH OF THE  
ROOSEVELT RESERVOIR  
AND THE  
SALT RIVER VALLEY  
SHOWING THE  
PRESENT CANAL SYSTEMS.  
JAN. 1, 1910.





R. 25.E.

R. 35.E.

R. 45.E.

R. 55.E.

R. 65.E.

R. 75.E.

71.W.

72.W.

73.W.

R.I.E.

S

A

L

T

UTAH

MESA

GRANITE REEF DAM

SALT RIVER

SALT RIVER CANAL

INDIAN RESERVATION

TEMPERANCE

TEMPERANCE

UTAH

MESA

GRANITE REEF DAM

SALT RIVER

OLETHALE

ARIZONA

TEMPERANCE

INDIAN RESERVATION

INDIAN RESERVATION

SALT RIVER

SALT RIVER

INDIAN RESERVATION

SALT RIVER

VERDE RIVER

MC DOWELL

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

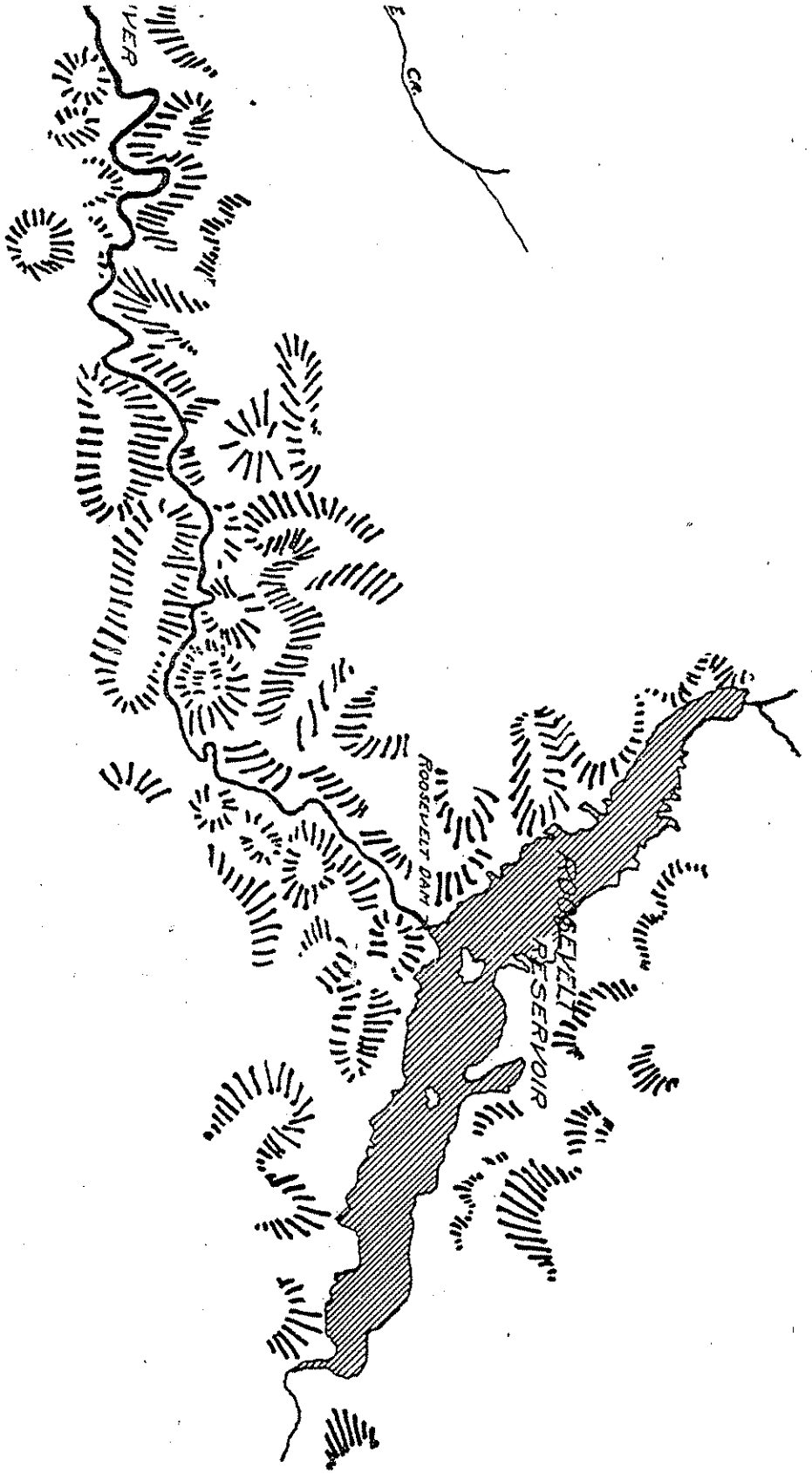
VERDE RIVER

INDIAN RESERVATION

VERDE RIVER

INDIAN RESERVATION

VERDE RIVER



**MAP No. 1.**  
SKETCH OF THE  
ROOSEVELT RESERVOIR  
AND THE  
SALT RIVER VALLEY  
SHOWING THE  
PRESENT CANAL SYSTEMS.  
JAN. 1, 1910.

# MAP No 2.

SHOWING LAND IN SALT RIVER VALLEY

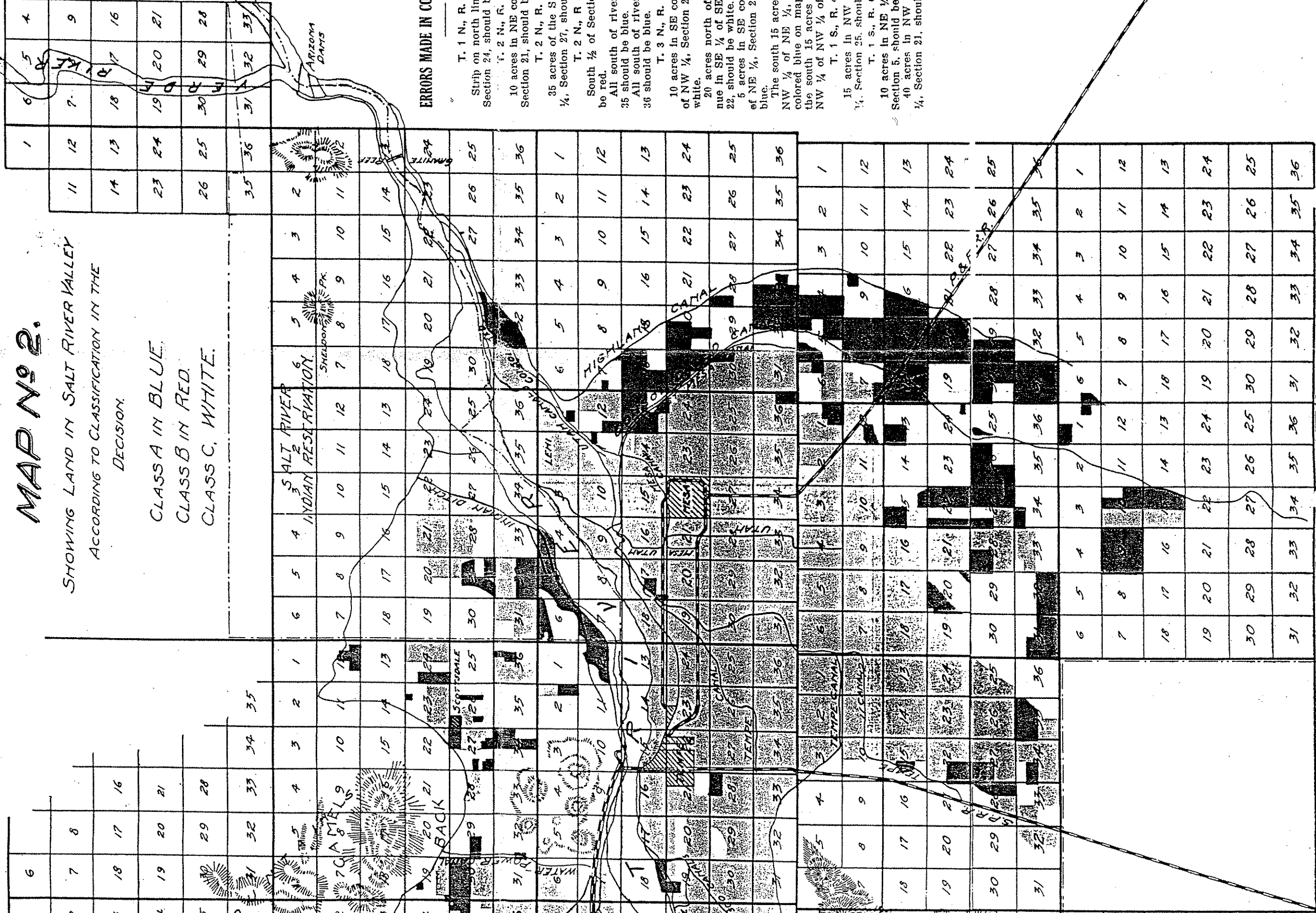
ACCORDING TO CLASSIFICATION IN THE

DECISION.

CLASS A IN BLUE.

CLASS B IN RED.

CLASS C, WHITE.



### ERRORS MADE IN COLORING MAP

- T. 1 N., R. 2 E.  
Strip on north line of NW ¼, Section 24, should be white.
- T. 2 N., R. 3 E.  
10 acres in NE cor. of SW ¼, Section 21, should be white.
- T. 2 N., R. 4 E.  
35 acres of the SW ¼ of SW ¼, Section 27, should be white.
- T. 2 N., R. 5 E.  
South ½ of Section 28 should be red.  
All south of river in Section 35 should be blue.  
All south of river in Section 36 should be blue.
- T. 3 N., R. 1 E.  
10 acres in SE cor. of SW ¼ of NW ¼, Section 22, should be white.  
20 acres north of Grand avenue in SE ¼ of SE ¼, Section 22, should be white.  
5 acres in SE cor. of SE ¼ of NE ¼, Section 26, should be blue.  
The south 15 acres of E ½ of NW ¼ of NE ¼, Section 33, colored blue on map, should be the south 15 acres of E ½ of NW ¼ of NW ¼ of Section 33.
- T. 1 S., R. 4 E.  
15 acres in NW cor. of NE ¼, Section 25, should be red.
- T. 1 S., R. 6 E.  
10 acres in NE ¼ of SW ¼, Section 5, should be red.  
40 acres in NW cor. of SW ¼, Section 21, should be red.

R. 4 E.

R. 5 E.

R. 6 E.

