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BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN PIMA
COUNTY, ARIZONA, EXCLUDING
THE SAN PEDRO RIVER AND THE
SANTA CRUZ RIVER

No.: 04-003-NAV

REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN PIMA COUNTY, ARIZONA

BEFORE THE
ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN PIMA
COUNTY, ARIZONA, EXCLUDING
THE SAN PEDRO RIVER AND THE
SANTA CRUZ RIVER

No.: 04-003-NAV

**NOTICE OF FINDINGS AND DETERMINATION REGARDING
THE NONNAVIGABILITY OF SMALL AND MINOR WATERCOURSES
IN PIMA COUNTY, ARIZONA,
EXCLUDING THE SAN PEDRO RIVER AND THE SANTA CRUZ RIVER**

On September 15, 2005, after gathering evidence and holding public hearings, the Arizona Navigable Stream Adjudication Commission rendered its findings and determination that Small and Minor Watercourses in Pima County, Arizona, excluding the San Pedro River and the Santa Cruz River were nonnavigable and made and executed its Report, Findings and Determination in accordance with A.R.S. §37-1128 A and thereafter gave notice to the State Land Department of said determination. On May 3, 2006, the State Land Department gave the statutory notice of the determination of nonnavigability in accordance with A.R.S. §37-1128 D 2 and further stated that the Department will not seek judicial review of the Commission's determination.

The time for seeking judicial review of the Commission's determination having expired in accordance with A.R.S. §37-1129 A, the Arizona Navigable Stream Adjudication Commission has caused a record of its determination to be recorded pursuant to A.R.S.

§37-1128 E in the Office of the County Recorder of Pima County in which the watercourses affected by the determination are located. The Report, Findings and Determination of the Commission, together with the Notice of Determination of the State Land Department, are attached hereto and submitted for recording pursuant to law.

DATED this 24 day of October, 2007.

ARIZONA NAVIGABLE STREAM
ADJUDICATION COMMISSION

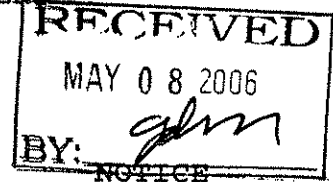
By 
Earl Eisenhower, Chairman

ATTEST:



George Mehnert
Executive Director

ARIZONA STATE LAND DEPARTMENT
STATE OF ARIZONA



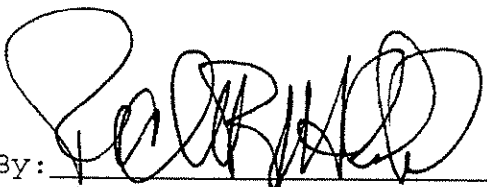
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4 IN THE MATTER OF THE)
5 NAVIGABILITY OF SMALL AND)
6 MINOR WATERCOURSES IN PIMA)
7 COUNTY, ARIZONA, EXCLUDING)
8 THE SAN PEDRO RIVER AND THE)
9 SANTA CRUZ RIVER)
10)

OF
DETERMINATION
(A.R.S. § 37-1128(D)(2))

11 Pursuant to A.R.S. § 37-1128(D)(2), you are hereby notified
12 that on November 17, 2005, the Arizona Navigable Stream
13 Adjudication Commission determined that the Small and Minor
14 Watercourses in Pima County were nonnavigable. The Department
15 will not seek judicial review of the Commission's
16 determination.

17 DATED: May 03 , 2006.

18
19 Mark Winkleman
20 State Land Commissioner
21 Arizona State Land Department

22
23
24 By: 
25 Richard Hubbard
26 Deputy Land Commissioner
27
28

Arizona
State Land Department
1616 WEST ADAMS
PHOENIX, ARIZONA 85007

1 A copy of this Notice was sent
2 by U.S. mail this 03 day
of May, 2006 to:

3 Arizona Navigable Streams
4 Adjudication Commission
1700 West Washington, Room 304
5 Phoenix, AZ 85007

6 Jon Fuller
Fuller/Hydrology & Geomorphology Inc.
7 8400 S. Kyrene Rd.; Suite 201
Tempe, AZ 85284

8
9 Laurie A. Hachtel
Arizona Attorney General's Office
10 1275 W. Washington
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23 Brad Woodford
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25 Phoenix, AZ 85012

26

27

28

By: Cheryl Weylo

PIMA COUNTY

BEFORE THE

ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE
NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN PIMA
COUNTY, ARIZONA, EXCLUDING
THE SAN PEDRO RIVER AND THE
SANTA CRUZ RIVER

No.: 04-003-NAV

**REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF SMALL AND
MINOR WATERCOURSES IN PIMA COUNTY, ARIZONA**

Pursuant to Title 37, Chapter 7, Arizona Revised Statutes, the Arizona Navigable Stream Adjudication Commission ("Commission") has undertaken to receive, compile, review and consider relevant historical and scientific data and information, documents and other evidence regarding the issue of whether any small and minor watercourse in Pima County, Arizona, excluding the San Pedro River and the Santa Cruz River, was navigable or nonnavigable for title purposes as of February 14, 1912. Proper and legal public notice was given in accordance with law and a hearing was held at which all parties were afforded the opportunity to present evidence, as well as their views, on this issue. The Commission having considered all of the historical and scientific data and information, documents and other evidence, including the oral and written

presentations made by persons appearing at the public hearing and being fully advised in the premises, hereby submits its report, findings and determination.

There are 3,190 documented small and minor watercourses in Pima County, of which 2,982 are unnamed. All of these watercourses, both named and unnamed, are the subject of and included in this report. Excluded from this report are the San Pedro River and the Santa Cruz River which are deemed to be major watercourses and are the the Santa Cruz River which are deemed to be major watercourses and are the subject of separate reports. Included in this report is a separate stream navigability study for Cienega Creek, which was not rejected at level three of the small and minor watercourses study and for which it was felt more detailed analysis and study was required. Attached hereto as Exhibit "A" is a list of all of the small and minor watercourses in Pima County, Arizona, both named and unnamed, covered by this report.

I. Procedure

On November 14, 2003, the Commission gave proper prior notice of its intent to consider the issue of whether small and minor watercourses in Pima County, Arizona, were navigable or nonnavigable for title purposes as of February 14, 1912, in accordance with A.R.S. § 37-1123B. A copy of the Notice of Intent to Study and Receive, Review and Consider Evidence on the issue of navigability of small and minor watercourses in Pima County is attached hereto as Exhibit "B."

After collecting and documenting all reasonably available evidence received pursuant to the Notice of Intent to Study and to Receive, Review and Consider Evidence, the Commission scheduled a public hearing to receive additional evidence and testimony regarding the navigability or nonnavigability of small and minor watercourses located in Pima County, Arizona. Public notice of this hearing was given by legal advertising on December 12, 2003, as required by law pursuant to A.R.S. § 37-1126 and, in addition, by mail to all those requesting individual notice and by means of the ANSAC website (azstreambeds.com). This hearing was held on January 22, 2004, in the City of Tucson, the county seat of Pima County, since the law requires that such hearings be held in the county in which the watercourses being studied are located. Attached hereto as Exhibit "C" is a copy of the notice of the public hearing.

All parties were advised that anyone who desired to appear and give testimony at the public hearing could do so and, in making its findings and determination as to navigability and nonnavigability, the Commission would consider all matters presented to it at the hearing, as well as other historical and scientific data, information, documents and evidence that had been submitted to the Commission at any time prior to the date of the hearing, including all data, information, documents, and evidence previously submitted to the Commission.

Following the public hearing held on January 22, 2004, all parties were advised that they could file post-hearing memoranda pursuant to Rule R12-17-108. A post-

hearing memorandum was filed by Salt River Project Agricultural Improvement and Power District and Salt River Valley Water Users' Association. On September 16, 2004, at a public hearing in Phoenix, Arizona, after considering all of the evidence and testimony submitted, and the post-hearing memorandum filed with the Commission, and the comments and oral argument presented by the parties, and being fully advised in the premises, the Commission, with a unanimous vote, found and determined in accordance with A.R.S. § 37-1128 that all small and minor watercourses in Pima County, Arizona, were nonnavigable as of February 14, 1912.

II. Pima County, Arizona

Pima County, Arizona, is located in the south central portion of the state and is approximately 9,183 square miles in land area, with a population of 866,125 as of July 1, 2000. It borders Cochise County to the east, the counties of Pinal and Graham to the north and northeast, respectively, Maricopa County to the northwest, Yuma County to the west, and Santa Cruz County and the state of Sonora, Mexico, to the south. Pima County lies within the following latitude and longitude ranges: 31° 25' 30" North to 32° 31' 00" North and 110° 27' 00" West to 113° 20' 00" West.

A.R.S. §11-112 describes the boundaries of Pima County as follows:

Pima county, the county seat of which is Tucson, is bounded as follows:

Commencing at the point where the meridian line one hundred thirteen degrees twenty minutes west longitude, as defined by the Atwood Survey of 1918, intersects the second standard parallel

south, being the southwest corner of Maricopa county; thence east on such parallel and along the southern boundaries of Maricopa and Pinal counties to the point where such parallel intersects the eastern line of range eighteen east, being the southeast corner of Pinal county; thence south on such range line and along the western boundaries of Graham and Cochise counties to a point six miles north of the point at which the fourth standard parallel south intersects such boundary line; thence due west forty-two miles to the intersection of the line between ranges eleven and twelve east, such point being near the Bustamante ranch as it existed in the year 1899 on Sopori creek; thence due south fourteen miles; thence due west twelve miles to a point; thence due south to the southern boundary line of Arizona; thence westerly and northerly on such boundary line to the point where such boundary line intersects the meridian line one hundred thirteen degrees twenty minutes West longitude, as defined by the Atwood Survey of 1918, being the southeast corner of Yuma county; thence north along such meridian line to the point where such meridian line intersects the second standard parallel south, the place of beginning.

The eastern portion of Pima County lies in the basin and range area of southeastern Arizona. The Santa Catalina and Santa Rita Mountains, known as island mountains, arise from the desert and contain pine trees and other mountain foliage and vegetation. The western portion of Pima County is desert in character, located almost entirely within the Sonoran Desert. It has some desert mountains, mostly rocky, with little foliage. The highest point in the County is Mount Lemmon, located in the Santa Catalina Mountains at 9,185 feet above sea level. The lowest point in the County is at Antelope Hills, at the border with Yuma County, at 900 feet above sea level. The Tohono O'odham Indian Reservation comprises the major portion of central Pima County, from the northern border with Maricopa and Pinal Counties to the southern

border with Mexico. The Organ Pipe National Monument, an area of distinctive and unique cactus growth, is located in the southwestern portion of the County, next to the Cabeza Prieta National Wildlife Refuge, which lies to the west. The geography of the County is varied, with high desert island mountains (the Santa Catalinas and Santa Ritas) lying on the eastern edge of the County. To the west of these mountains, the Santa Cruz River flows from Nogales in Santa Cruz County, through Tucson and northwest to the confluence with the Gila River. The balance of the County to the west is Sonoran desert with occasional desert mountains, mostly rock. This area is covered by numerous washes and arroyos which flow only during periods of precipitation.

The major population center of Pima County is the City of Tucson, Arizona, which is also the county seat. Small towns or settlements located in Pima County are Green Valley, Marana, Catalina, Oro Valley, Rillito, Arivaca, Silver Bell, Ajo, Why, Lukeville, Sasabe and Sells, as well as a number of settlements on the Indian Reservation. The major commercial industries of Pima County are farming, ranching, some manufacturing, and education since the University of Arizona is located in Tucson. Also important are industries related to tourism and retirement. Interstate 10 is the main east-west corridor of transportation, with Arizona Highway 86 forming a secondary east-west corridor. Interstate 19 from Nogales to Tucson is the primary north-south corridor. Arizona Highways 85, 83 and 286 are also secondary corridors of transportation running north and south. The main line of the Union Pacific, Southern

Pacific Railroad generally running parallel to Interstate 10, also traverses the County in an east-west direction, and the north-south line of the railroad runs parallel to Interstate 19 from Tucson to Nogales. Major areas of interest in Pima County are: the University of Arizona at Tucson, Kitt Peak Observatory, Davis-Monthan Air Force Base, Saguaro National Monument, Organ Pipe Cactus National Monument, Cabeza Prieta National Wildlife Refuge, Buenos Aires National Wildlife Refuge, and Tumacacori and San Xavier del Bac Missions.

III. Background and Historical Perspectives

A. Public Trust Doctrine and Equal Footing Doctrine

The reason for the legislative mandated study of navigability of watercourses within the state is to determine who holds title to the beds and banks of such rivers and watercourses. Under the public trust doctrine, as developed by common law over many years, the tidal lands and beds of navigable rivers and watercourses, as well as the banks up to the high water mark, are held by the sovereign in a special title or trust for the benefit of all the people. In quoting the U.S. Supreme Court, the Arizona Court of Appeals described the public trust doctrine in its decision in *The Center for Law v. Hassell*, 172 Ariz. 356, 837 P.2d 158 (App.1991), review denied October 6, 1992.

An ancient doctrine of common law restricts the sovereign's ability to dispose of resources held in public trust. This doctrine, integral to watercourse sovereignty, was explained by the Supreme Court in *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 13 S.Ct. 110, 36 L.Ed. 1018 (1892). A state's title to lands under navigable waters

is a title different in character from that which the State holds in lands intended for sale. . . . It is a title held in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties.

Id. at 452, 13 S.Ct. at 118; *see also Martin v. Waddell*, 41 U.S. (16 Pet.) at 413 (describing watercourse sovereignty as “a public trust for the benefit of the whole community, to be freely used by all for navigation and fishery, as well for shellfish as floating fish”).

Id., 172 Ariz. at 364, 837 P.2d at 166.

This doctrine is quite ancient and was first formally codified in the Code of the Roman Emperor Justinian between 529 and 534 A.D.¹ The provisions of this Code, however, were based, often verbatim, upon much earlier institutes and journals of Roman and Greek law. Some historians believe that the doctrine has even earlier progenitors in the rules of travel on rivers and waterways in ancient Egypt and Mesopotamia. This rule evolved through common law in England which established that the king as sovereign owned the beds of commercially navigable waterways in order to protect their accessibility for commerce, fishing and navigation for his subjects. In England the beds of nonnavigable waterways where transportation for commerce was not an issue were owned by the adjacent landowners.

This principle was well established by English common law long before the American Revolution and was a part of the law of the American colonies at the time of

¹ Putting the Public Trust Doctrine to Work, David C. Slade, Esq. (Nov. 1990), pp. xvii and 4.

the Revolution. Following the American Revolution, the rights, duties and responsibilities of the crown passed to the thirteen new independent states, thus making them the owners of the beds of commercially navigable streams, lakes and other waterways within their boundaries by virtue of their newly established sovereignty. The ownership of such trust lands by the thirteen original states was never ceded to the federal government. However, in exchange for the national government's agreeing to pay the debts of the thirteen original states incurred in financing the Revolutionary War, the states ceded to the national government their undeveloped western lands. In the Northwest Ordinance of 1787, adopted just prior to the ratification of the U. S. Constitution and subsequently reenacted by Congress on August 7, 1789, it was provided that new states could be carved out of this western territory and allowed to join the Union and that they "shall be admitted . . . on an equal footing with the original states, in all respects whatsoever." (Ordinance of 1787: The Northwest Territorial Government, § 14, Art. V, 1 stat. 50. See also U. S. Constitution, Art. IV, Section 3). This has been interpreted by the courts to mean that on admission to the Union, the sovereign power of ownership of the beds of navigable streams passes from the federal government to the new state. *Pollard's Lessee v. Hagan, et al.*, 44 U.S. (3 How.) 212 (1845), and *Utah Division of State Lands v. United States*, 482 U.S. 193 (1987).

In discussing the equal footing doctrine as it applies to the State's claim to title of beds and banks of navigable streams, the Court of Appeals stated in *Hassell*:

The state's claims originated in a common-law doctrine, dating back at least as far as Magna Charta, vesting title in the sovereign to lands affected by the ebb and flow of tides. See *Martin v. Waddell*, 41 U.S. (16 Pet.) 367, 412-13, 10 L.Ed. 997 (1842). The sovereign did not hold these lands for private usage, but as a "high prerogative trust . . . , a public trust for the benefit of the whole community." *Id.* at 413. In the American Revolution, "when the people . . . took into their own hands the powers of sovereignty, the prerogatives and regalities which before belong either to the crown or the Parliament, became immediately and rightfully vested in the state." *Id.* at 416.

Although watercourse sovereignty ran with the tidewaters in England, an island country, in America the doctrine was extended to navigable inland watercourses as well. See *Barney v. Keokuk*, 94 U.S. 324, 24 L.Ed. 224 (1877); *Illinois Cent. R.R. v. Illinois*, 146 U.S. 387, 434, 13 S.Ct. 110, 111, 36 L.Ed. 1018 (1892). Moreover, by the "equal footing" doctrine, announced in *Pollard's Lessee v. Hagan*, 44 U.S. (3 How.) 212, 11 L.Ed. 565 (1845), the Supreme Court attributed watercourse sovereignty to future, as well as then-existent, states. The Court reasoned that the United States government held lands under territorial navigable waters in trust for future states, which would accede to sovereignty on an "equal footing" with established states upon admission to the Union. *Id.* at 222-23, 229; accord *Montana v. United States*, 450 U.S. 544, 101 S.Ct. 1245, 67 L.Ed.2d 493 (1981); *Land Department v. O'Toole*, 154 Ariz. 43, 44, 739 P.2d 1360, 1361 (App. 1987).

The Supreme Court has grounded the states' watercourse sovereignty in the Constitution, observing that "[t]he shores of navigable waters, and the soils under them, were not granted by the Constitution to the United States, but were reserved to the states respectively." *Pollard's Lessee*, 44 U.S. (3 How.) at 230; see also *Oregon ex rel. State Land Board v. Corvallis Sand & Gravel Co.*, 429 U.S. 363, 374, 97 S.Ct. 582, 589, 50 L.Ed.2d 550 (1977) (states' "title to lands underlying navigable waters within [their] boundaries is conferred . . . by the [United States] constitution itself").

Id., 172 Ariz. 359-60, 837 P.2d at 161-162.

In the case of Arizona, the "equal footing" doctrine means that if any stream or watercourse within the State of Arizona was navigable on February 14, 1912, the date

Arizona was admitted to the Union, the title to its bed and banks up to the high water mark is held by the State of Arizona in a special title under the public trust doctrine. If the stream was not navigable on that date, ownership of the streambed remained in such ownership as it was prior to statehood--the United States if federal land, or some private party if it had previously been patented or disposed of by the federal government--and could later be sold or disposed of in the manner of other land since it had not been in a special or trust title under the public trust doctrine. Thus, in order to determine title to the beds of rivers, streams, and other watercourses within the State of Arizona, it must be determined whether or not they were navigable or nonnavigable as of the date of statehood.

B. Legal Precedent to Current State Statutes:

Until 1985, most Arizona residents assumed that all rivers and watercourses in Arizona, except for the Colorado River, were nonnavigable and accordingly there was no problem with the title to the beds and banks of any rivers, streams or other watercourses. However, in 1985 Arizona officials upset this long-standing assumption and took action to claim title to the bed of the Verde River. *Land Department v. O'Toole*, 154 Ariz. 43, 739 P.2d 1360 (App. 1987) Subsequently, various State officials alleged that the State might hold title to certain lands in or near other watercourses as well. *Id.*, 154 Ariz. at 44, 739 P.2d at 1361. In order to resolve the title questions to the beds of Arizona rivers and streams, the Legislature enacted a law in 1987 substantially

relinquishing the state's interest in any such lands.² With regard to the Gila, Verde and Salt Rivers, this statute provided that any record title holder of lands in or near the beds of those rivers could obtain a quitclaim deed from the State Land Commissioner for all of the interest the state might have in such lands by the payment of a quitclaim fee of \$25.00 per acre. The Arizona Center for Law in the Public Interest filed suit against Milo J. Hassell in his capacity as State Land Commissioner, claiming that the statute was unconstitutional under the public trust doctrine and gift clause of the Arizona Constitution as no determination had been made of what interest the state had in such lands and what was the reasonable value thereof so that it could be determined that the state was getting full value for the interests it was conveying. The Superior Court entered judgment in favor of the defendants and an appeal was taken. In its decision in *Hassell*, the Court of Appeals held that this statute violated the public trust doctrine and the Arizona Constitution and further set forth guidelines under which the state could set up a procedure for determining the navigability of rivers and watercourses in Arizona. In response to this decision, the Legislature established the Arizona Navigable Stream Adjudication Commission and enacted the statutes pertaining to its operation. 1992 Arizona Session Laws, Chapter 297 (1992 Act). The charge given to the Commission by the 1992 Act was to conduct full evidentiary public hearings across the

² Prior to the enactment of the 1987 statute, the Legislature made an attempt to pass such a law, but the same was vetoed by the Governor. The 1987 enactment was signed by the Governor and became law. 1987 Arizona Session Laws, Chapter 127.

state and to adjudicate the State's claims to ownership of lands in the beds of watercourses. See generally former A.R.S. §§ 37-1122 to 37-1128.

The 1992 Act provided that the Commission would make findings of navigability or nonnavigability for each watercourse. See former A.R.S. § 37-1128(A). Those findings were based upon the "federal test" of navigability in former A.R.S. § 37-1101(6). The Commission would examine the "public trust values" associated with a particular watercourse only if and when it determined that the watercourse was navigable. See former A.R.S. §§ 37-1123(A)(3), 37-1128(A).

The Commission began to take evidence on certain watercourses during the fall of 1993 and spring of 1994. In light of perceived difficulties with the 1992 Act, the Legislature revisited this issue during the 1994 session and amended the underlying legislation. See 1994 Arizona Session Laws, ch. 178 ("1994 Act"). Among other things, the 1994 Act provided that the Commission would make a recommendation to the Legislature, which would then hold additional hearings and make a final determination of navigability by passing a statute with respect to each watercourse. The 1994 Act also established certain presumptions of nonnavigability and exclusions of some types of evidence.

Based upon the 1994 Act, the Commission went forth with its job of compiling evidence and making a determination of whether each watercourse in the state was navigable as of February 14, 1912. The Arizona State Land Department issued technical

reports on each watercourse, and numerous private parties and public agencies submitted additional evidence in favor of or opposed to navigability for particular watercourses. See, *Defenders of Wildlife v. Hull*, 199 Ariz. 411, 416, 18 P.3d 722, 727 (App. 2001). The Commission reviewed the evidence and issued reports on each watercourse which were transmitted to the Legislature. The Legislature then enacted legislation relating to the navigability of each specific watercourse. The Court of Appeals struck down that legislation in its *Hull* decision, finding that the Legislature had not applied the proper standards of navigability. *Id.* 199 Ariz. at 427-28, 18 P.3d at 738-39.

In 2001, the Legislature again amended the underlying statute in another attempt to comply with the Court's pronouncements in *Hassell* and *Hull*. See, 2001 Arizona Session Laws, ch. 166, § 1. The 2001 legislation now governs the Commission in making its findings with respect to the small and minor watercourses in Pima County.

There may be court decisions involving the issue of navigability of various small and minor watercourses in Pima County, Arizona, but none have been brought to the attention of the Commissioners and, if such unreported decisions exists they would likely be fact specific and not considered as authority on the issue of navigability as covered by this report.

IV. Issues Presented

The applicable Arizona statutes state that the Commission has jurisdiction to determine which, if any, Arizona watercourses were "navigable" on February 14, 1912

and for any watercourses determined to be navigable, to identify the public trust values. A.R.S. § 37-1123. A.R.S. § 37-1123A provides as follows:

A. The commission shall receive, review and consider all relevant historical and other evidence presented to the commission by the state land department and by other persons regarding the navigability or nonnavigability of watercourses in this state as of February 14, 1912, together with associated public trust values, except for evidence with respect to the Colorado River and, after public hearings conducted pursuant to section 37-1126:

1. Based only on evidence of navigability or nonnavigability, determine what watercourses were not navigable as of February 14, 1912.
2. Based only on evidence of navigability or nonnavigability, determine whether watercourses were navigable as of February 14, 1912.
3. In a separate, subsequent proceeding pursuant to section 37-1128, subsection B, consider evidence of public trust values and then identify and make a public report of any public trust values that are now associated with the navigable watercourses.

A.R.S. §§ 37-1128A and B provide as follows:

A. After the commission completes the public hearing with respect to a watercourse, the commission shall again review all available evidence and render its determination as to whether the particular watercourse was navigable as of February 14, 1912. If the preponderance of the evidence establishes that the watercourse was navigable, the commission shall issue its determination confirming the watercourse was navigable. If the preponderance of the evidence fails to establish that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was nonnavigable.

B. With respect to those watercourses that the commission determines were navigable, the commission shall, in a separate, subsequent proceeding, identify and make a public report of any public trust values associated with the navigable watercourse.

Thus, in compliance with the statutes, the Commission is required to collect evidence, hold hearings, and determine which watercourses in existence on February 14, 1912, were navigable or nonnavigable. This report pertains to all of the small and minor watercourses in Pima County, Arizona, and excludes the San Pedro and Santa Cruz Rivers. In the hearings to which this report pertains, the Commission considered all of the available historical and scientific data and information, documents and other evidence relating to the issue of navigability of the small and minor watercourses in Pima County, Arizona, as of February 14, 1912.

Public trust values were not considered in these hearings but will be considered in separate, subsequent proceedings, if required. A.R.S. §§ 37-1123A3 and 37-1128B. In discussing the use of an administrative body such as the Commission on issues of navigability and public trust values, the Arizona Court of Appeals in its decision in *Hassell* found that the State must undertake a "particularized assessment" of its "public trust" claims but expressly recognized that such assessment need not take place in a "full blown judicial" proceeding.

We do not suggest that a full-blown judicial determination of historical navigability and present value must precede the relinquishment of any state claims to a particular parcel of riverbed land. An administrative process might reasonably permit the systematic investigation and evaluation of each of the state's claims. Under the present act, however, we cannot find that the gift clause requirement of equitable and reasonable consideration has been met.

Id., 172 Ariz. at 370, 837 P.2d at 172.

The 2001 *Hull* court, although finding certain defects in specific aspects of the statute then applicable, expressly recognized that a determination of “navigability” was essential to the State having any “public trust” ownership claims to lands in the bed of a particular watercourse:

The concept of navigability is “essentially intertwined” with public trust discussions and “[t]he navigability question often resolves whether any public trust interest exists in the resource at all.” Tracy Dickman Zobenica, *The Public Trust Doctrine in Arizona’s Streambeds*, 38 Ariz.L.Rev. 1053, 1058 (1996). In practical terms, this means that **before a state has a recognized public trust interest in its watercourse bedlands, it first must be determined whether the land was acquired through the equal footing doctrine. However, for bedlands to pass to a state on equal footing grounds, the watercourse overlying the land must have been “navigable” on the day that the state entered the union.**

199 Ariz. at 418, 18 P.3d at 729 (also citing *O’Toole*, 154 Ariz. at 45, 739 P.2d at 1362 (emphasis added)).

The Legislature and the Court of Appeals in *Hull* have recognized that, unless the watercourse was “navigable” at statehood, the State has no “public trust” ownership claim to lands along that watercourse. Using the language of *Hassell*, if the watercourse was not “navigable,” the “validity of the equal footing claims that [the State] relinquishes” is **zero**. *Hassell*, 172 Ariz. at 371, 837 P.2d at 173. Thus, if there is no claim to relinquish, there is no reason to waste public resources determining (1) the value of any lands the State **might** own if it had a claim to ownership, (2) “equitable and reasonable considerations” relating to claims it might relinquish without

compromising the "public trust," or (3) any conditions the State might want to impose on transfers of its ownership interest. See *id.*

V. Burden of Proof

The Commission in making its findings and determinations utilized the standard of the preponderance of the evidence as the burden of proof as to whether or not a stream was navigable or nonnavigable. A.R.S. § 37-1128A provides as follows:

After the commission completes the public hearing with respect to a watercourse, the commission shall again review all available evidence and render its determination as to whether the particular watercourse was navigable as of February 14, 1912. If the preponderance of the evidence establishes that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was navigable. If the preponderance of the evidence fails to establish that the watercourse was navigable, the commission shall issue its determination confirming that the watercourse was nonnavigable.

This statute is consistent with the decision of the Arizona courts that have considered the matter. *Hull*, 199 Ariz. at 420, 18 P.3d at 731 ("... a 'preponderance' of the evidence appears to be the standard used by the courts. See, e.g., *North Dakota v. United States*, 972 F.2d 235-38 (8th Cir. 1992)"); *Hassell*, 172 Ariz. at 363, n. 10, 837 P.2d at 165, n. 10 (The question of whether a watercourse is navigable is one of fact. The burden of proof rests on the party asserting navigability"); *O'Toole*, 154 Ariz. at 46, n. 2, 739 P.2d at 1363, n. 2.

The most commonly used legal dictionary contains the following definition of "preponderance of the evidence":

Evidence which is of greater weight or more convincing than the evidence which is offered in opposition to it; that is, evidence which as a whole shows that the fact sought to be proven is more probable than not. *Braud v. Kinchen*, La.App., 310 So.2d 657, 659. With respect to burden of proof in civil actions, means greater weight of evidence, or evidence which is more credible and convincing to the mind. That which best accords with reason and probability. The word "preponderance" means something more than "weight"; it denotes a superiority of weight, or outweighing. The words are not synonymous, but substantially different. There is generally a "weight" of evidence on each side in case of contested facts. But juries cannot properly act upon the weight of evidence, in favor of the one having the onus, unless it overbears, in some degree, the weight upon the other side.

Black's Law Dictionary, 1064 (5th ed. 1979).

The "preponderance of the evidence" standard is sometimes referred to as requiring "fifty percent plus one" in favor of the party with the burden of proof. One could imagine a set of scales. If the evidence on each side weighs exactly evenly, the party without the burden of proof must prevail. In order for the party with the burden to prevail, sufficient evidence must exist in order to tip the scales (even slightly) in its favor. See, generally, *United States v. Fatico*, 458 U.S. 388, 403-06 (E.D. N.Y. 1978), *aff'd* 603 F.2d 1053 (2nd Cir. 1979), *cert. denied* 444 U.S. 1073 (1980); *United States v. Schipani*, 289 F.Supp. 43, 56 (E.D. N.Y. 1968), *aff'd*, 414 F.2d 1262 (2nd Cir. 1969).³

³ In a recent Memorandum Decision of the Arizona Court of Appeals, the Defenders of Wildlife and others through their representative, Arizona Center for Law in the Public Interest, attacked the constitutionality of the burden of proof for navigability determination by the Commission specified in A.R.S. § 37-1128(A). In that case, the Defenders claimed that the burden of proof specified in the statute conflicts with federal law and should be declared invalid because it is contrary to a presumption favoring sovereign ownership of bedlands. In discussing and rejecting *Defenders* position the Court stated: "... In support of this argument, Defenders cite to our decision in *Defenders*, see 199 Ariz. At 426, ¶ 54, 18 P.3d at 737, and to *United States v. Oregon*, 295 U.S. 1, 14 (1935). But neither of these decisions held that the burden of proof in a navigability determination must be placed on the party opposing navigability. Moreover, this court has twice stated that the burden of proof rests on the party asserting navigability. *Hassell*, 172 Ariz. At 363 n. 10, 837 P.2d at 165 n. 10; *O'Toole*, 154 Ariz. At 46 n. 2, 739 P.2d at 1363 n. 2. We have also recognized that a 'preponderance' of the evidence appears to be the standard used by the courts" as the burden of proof. *Defenders*, 199 Ariz. At 420, ¶ 23, 18 P.3d at 731 (citing *North Dakota v. United States*, 972 F.2d 235, 237-38 (8th Cir.

VI. Standard for Determining Navigability

The statute defines a navigable watercourse as follows:

“Navigable” or “navigable watercourse” means a watercourse that was in existence on February 14, 1912, and at that time was used or was susceptible to being used, in its ordinary and natural condition, as a highway for commerce, over which trade and travel were or could have been conducted in the customary modes of trade and travel on water.

A.R.S. § 37-1101(5).

The foregoing statutory definition is taken almost verbatim from the U.S. Supreme Court decision in *The Daniel Ball*, 77 U.S. (10 Wall) 557, 19 L.Ed. 999 (1870), which is considered by most authorities as the best statement of navigability for title purposes. In its decision, the Supreme Court stated:

Those rivers must be regarded as public navigable rivers in law which are navigable in fact. And they are navigable in fact when they are used, or are susceptible of being used, in their ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the customary modes of trade and travel on water.

77 U.S. at 563.

In a later opinion in *U. S. v. Holt Bank*, 270 U.S. 46 (1926), the Supreme Court stated:

[Waters] which are navigable in fact must be regarded as navigable in law; that they are navigable in fact when they are used, or are susceptible of being used, in their natural and ordinary condition, as highways for commerce, over which trade and travel are or may be conducted in the

1992)). Defenders have not cited any persuasive authority suggesting that these provisions in § 37-1128(A) are unconstitutional or contrary to federal law. We agree with this court's prior statements and conclude that neither placing the burden of proof on the proponents of navigability nor specifying the burden as a preponderance of the evidence violates the State or Federal Constitutions or conflicts with federal law." *State of Arizona v. Honorable Edward O. Burke* 1 CA-SA 02-0268 and 1 CA-SA 02-0269 (Consolidated); Arizona Court of Appeals, Division One, (Memorandum Decision filed December 23, 2004).

customary modes of trade and travel on water; and further that navigability does not depend on the particular mode in which such use is or may be had—whether by steamboats, sailing vessels or flatboats—nor on an absence of occasional difficulties in navigation, but on the fact, if it be a fact, that the [water] in its natural and ordinary condition affords a channel for useful commerce.

270 U.S. at 55-56.

The Commission also considered the following definitions contained in A.R.S. § 37-1101 to assist it in determining whether small and minor watercourses in Pima County were navigable at statehood.

11. “Watercourse” means the main body or a portion or reach of any lake, river, creek, stream, wash, arroyo, channel or other body of water. Watercourse does not include a man-made water conveyance system described in paragraph 4 of this section, except to the extent that the system encompasses lands that were part of a natural watercourse as of February 14, 1912.

3. “Highway for commerce” means a corridor or conduit within which the exchange of goods, commodities or property or the transportation of persons may be conducted.

2. “Bed” means the land lying between the ordinary high watermarks of a watercourse.

6. “Ordinary high watermark” means the line on the banks of a watercourse established by fluctuations of water and indicated by physical characteristics, such as a clear natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation or the presence of litter and debris, or by other appropriate means that consider the characteristics of the surrounding areas. Ordinary high watermark does not mean the line reached by unusual floods.

8. “Public trust land” means the portion of the bed of a watercourse that is located in this state and that is determined to have

been a navigable watercourse as of February 14, 1912. Public trust land does not include land held by this state pursuant to any other trust.

Thus, the State of Arizona in its current statutes follows the federal test for determining navigability.

VII. Evidence Received and Considered by the Commission

Pursuant to A.R.S. § 37-1123, and other provisions of Title 37, Chapter 7, Arizona Revised Statutes, the Commission received, compiled, and reviewed evidence and records regarding the navigability and nonnavigability of small and minor watercourses located in Pima County, Arizona. Evidence consisting of studies, written documents, newspapers and other historical accounts, pictures and testimony were submitted. A comprehensive study entitled "Final Report - Small & Minor Watercourses Analysis for Pima County, Arizona" prepared by Stantec Consulting Inc., in association with JE Fuller/Hydrology & Geomorphology, Inc., under supervision of the Arizona State Land Department, dated August 1, 2000, was submitted. An earlier draft of the final report dated June, 9, 2000, was also considered by the Commission. The Commission also considered documents submitted by the Arizona Center for Law in the Public Interest, the Central Arizona Paddlers Club (Dorothy Riddle), Arizona Audubon Council, Friends of Arizona Rivers, and several individuals including, Richard Lee Duncan, Mark Larkin, James T. Brazelton, and Leonard C. Halpenny, most of which dealt with the navigability of the Santa Cruz River. Leonard C. Halpenny submitted a comprehensive review of the hydrology of the Santa Cruz basin in the

vicinity of the Santa Cruz/Pima County line, prepared by Water Development Corporation Consultants and Water Resources and further submitted a paper presented at the first annual conference of the Arizona Hydrological Society on September 16, 1988, regarding the hydrology of the Santa Cruz river basin. The list of evidence and records, together with a summarization is attached as Exhibit "D". The commission also heard testimony and received and considered evidence at the public hearing held in Tucson on January 22, 2004. The meeting minutes of this hearing are attached as Exhibit "E."

A. Small & Minor Watercourses Analysis for Pima County, Arizona

1. Analysis Methods.

Due to the large number of small and minor watercourses located in Pima County, Arizona (3,190 watercourses of which 2,982 are unnamed), it is impractical and unnecessary to consider each watercourse with the same detail that the Commission considered major watercourses. The study of small and minor watercourses developed by Stantec Consulting Inc. and its associates provided for an evaluation using a three-level process which contained criteria that would be necessarily present for a stream to be considered navigable. A master database listing all small and minor watercourses was developed from the Arizona Land Resource Information System (ALRIS), with input from the U. S. Geological Survey, the U. S. Environmental Protection Agency, and other agencies and sources. The final version of the master database called "Streams"

includes a hydrological unit code (HUC) segment number, mileage, watercourse type and watercourse name, if available. Thus, there is a hydrological unit code segment number for each of the segments of the 3,190 small and minor watercourses in Pima County, Arizona. In addition, the database locates each segment by section, township, and range. Some of the satellite databases discussed below also locate certain significant reference points by latitude and longitude.

Using the master database, the contractor also set up six satellite databases, each relating to a specific stream characteristic or criterion, which would normally be found in a watercourse considered to be navigable or susceptible of navigability. These stream criteria are as follows:

Perennial stream flow;

Dam located on stream;

Fish found in stream;

Historical record of boating;

Record of modern boating; and

Special status (other water related characteristics, including in-stream flow application and/or permit, unique waters, wild and scenic, riparian, and preserve).

All watercourses were evaluated at level one which is a binary (yes or no) sorting process as to whether or not these characteristics are present. For a stream or watercourse not to be rejected at level one, it must be shown that at least one of these characteristics is present. If none of these characteristics are present, the stream or

watercourse is determined to require no further study and is rejected at level one as having no characteristics of navigability.

All streams and watercourses surviving the level one sorting (*i.e.* determined to have one or more of the above characteristics) are evaluated at level two. The level two analysis is more qualitative than level one and its assessment requires a more in-depth analysis to verify and interpret the reasons which caused a particular stream to advance from level one. Each of the above characteristics on which there was an affirmative response at level one is analyzed individually at level two to determine whether the stream is potentially susceptible to navigation or not susceptible to navigation; for example, a watercourse that at first appears to be perennial in flow but upon further analysis is determined to have only a small flow from a spring for a short distance and therefore cannot be considered perennial for any substantial portion of the watercourse.

In addition, the level two analysis utilized a refinement with value engineering techniques analyzing watercourses with more than one affirmative response at level one and assigned values to each of the six categories mentioned above. Clearly, perennial flow, historical boating, and modern boating are more important to the issue of navigability than the categories of dam impacted, special status, or fish. Thus, for the purpose of the value engineering study, the following rough values were assigned to each of the six categories: historical boating-10, modern boating-8, perennial stream-7, dam impacted-4, fish-4, and special status-2. These values were arrived at after much

calculation, analysis and study of each stream having affirmative responses at level 1. This system is a recognized tool used in value engineering studies, and seven qualified engineers from the State Land Department and consulting staff of the contractor participated in determining the values used for each category. This system establishes that a value in excess of 13 is required for a stream to survive the level two evaluation and pass to level three for consideration.⁴ Thus, a stream having both perennial flow and historical boating (sum value of 17), or a combination of the values set for other criteria equaling more than 13, would require that the stream pass to evaluation at level three. If a stream does not have a sum value greater than 13, it is determined to require no further study and is rejected at level two as having insufficient characteristics of navigability.

If a stream survives the evaluation at level two, it passes to level three which uses quantitative hydrologic and hydraulic analysis procedures including any stream gauge data available, as well as engineering estimates of depth, width and velocity of water flow in the subject watercourse and compares the same to minimum standards required for different types of vessels. Also considered is the configuration of the channel and whether it contains rapids, boulders or other obstacles. If a stream or watercourse is not rejected or eliminated at level three, it is removed from this process and subjected to a

⁴ When this procedure was first developed, a cut off value of eleven (11) was established for a stream to survive level two and pass to level three for evaluation. As the present procedure was refined, the cut off value of thirteen (13) was substituted for eleven (11) as it was determined to be more accurate.

separate detailed study similar to that performed on a major watercourse, and a separate report is issued on that stream or watercourse.

2. Application of Analysis Methods to Small and Minor Watercourses in Pima County

The application of the level one analysis to the 3,190 small and minor watercourses located in Pima County resulted in 3,153 watercourses or 98.8% being determined as not having any of the six characteristics listed above, and these 3,153 were therefore rejected or eliminated and did not proceed to a further evaluation at level two. Attached as Exhibit "F" is a list of the watercourses in Pima County that were determined to have no characteristics of navigability or characteristics indicating susceptibility of navigability at level one.

Only 37 watercourses, approximately 1.2%, received an affirmative response to one or more of the above characteristics or criteria and were evaluated at level two. Attached as Exhibit E is a list of the 37 watercourses that received a positive response to one or more of the watercourses listed above. Thirty-one of these watercourses had only one affirmative response at level one and, after further analysis of that affirmative response, were rejected and determined not to have the characteristics of navigability requiring further study. Six of these watercourses received an affirmative response to more than one of the characteristics listed. In the value engineering analysis it was determined that of these six streams with more than one affirmative response at level one, three streams had a sum value of less than 11 and only three streams had a sum

value of more than 11 but less than 13 when analyzed pursuant to the value engineering techniques and therefore need not be advanced for further study at level three. However since three streams fell between the values of 11 under the earlier criteria and 13 under the refined system and the studies have already been made, it was determined that they should undergo analysis at level three. Accordingly it was determined that 34 of the streams analyzed at level two could not be considered as susceptible of navigability and were therefore rejected at level two. The three streams that had a value between 11 and 13 under the value engineering analysis and were considered at level 3 are Arivaca Creek, Sabino Creek and Cienega Creek. Attached as Exhibit "G" is a list of the 37 watercourses that received a positive response to one or more of the characteristics listed above and were evaluated at level two. The three streams that survived the value engineering analysis at level two and were considered at level three are Arivaca Creek, Sabino Creek and Cienega Creek.

3. Level Three Analysis of Arivaca Creek

Arivaca Creek is located in the south central portion of Pima County. It received three affirmative responses in the level one analysis, including perennial flow, fish, and special status.

Arivaca Creek's headwaters are near the unincorporated community of Oro Blanco and it flows in a south southeasterly direction to its confluence with Altar Wash. Its total drainage area is approximately 141 square miles and it is bounded by the San

Luis Mountains to the southwest, Las Guijas Mountains to the northeast and the Atascosa Mountains to the southeast. Vegetation within the watershed varies from Arizona Upland desert scrub to Upper Sonoran desert and grassland desert wash species such as palo verde and mesquite. Riparian species along the creek include cottonwood, sycamore, and Arizona walnut. Downstream of the town of Arivaca, the creek is an ephemeral stream with a sand bed channel. The reaches of Arivaca Creek upstream from the town of Arivaca contain small pools and wetlands with dense riparian vegetation. The channel width downstream of Arivaca varies from 15 to 40 feet with bank heights ranging from one to ten feet.

There is a U.S. Geological Survey flow station located near the settlement of Arivaca and just upstream from the station the creek flows through a cienega within which the stream has multiple, narrow, shallow-watered channels surrounded by thick grasses and wetlands. The channel downstream of Arivaca has a relatively wide shallow cross section and seasonal floods which fill the channel at high flow, but the channels are braided at lower flow rates. No evidence was identified that suggested the form or location of the stream varied significantly since the time of statehood. The flow channels are too narrow and lack sufficient water to be considered as navigable during ordinary flow. The mean annual flow in normal circumstances is 2.1 cubic feet per second ("cfs") with a depth of a few inches and a width of no more than 15 feet. During the summer monsoons of July, August and September, the flow will be much greater

and there have been occasional floods where the discharge rate approached 2,000 cfs. The normal flow, both in volume and depth, is not adequate for utilization by recreational craft, much less commercial craft. There is no history of boating on this stream and no history of commercial fishing.

In view of the foregoing, Arivaca Creek was considered as not being susceptible of navigability during its ordinary flow and was therefore rejected at level three.

4. Level Three Analysis of Sabino Creek

Sabino Creek is located in the northeastern portion of Pima County. It received three affirmative responses in the level one analysis, including perennial flow, fish, and special status.

Sabino Creek drains the front range of the Santa Catalina Mountains and flows into the Tanque Verde Wash north and east of Tucson. It is 13 miles in length and drains a watershed of 67.3 square miles. The watershed ranges in elevation from over 9,150 feet at Mt. Lemmon to 2,493 at the Tanque Verde Wash confluence. Vegetation within the watershed varies from oak-woodland and ponderosa pine in the upper elevations of the Santa Catalina Mountains to Arizona Upland desert scrub in its lower elevations. Vegetation along the creek includes cottonwood-willow and walnut riparian forests at some locations, as well as Upper Sonoran desert wash species such as palo verde and mesquite at lower elevations. The main channel of the creek is a braided sand and cobble bed channel approximately 100 feet wide in most places and has a

wide, shallow cross section with multiple channels. The lower section is intermittent and ephemeral with the frequency and duration of runoff decreasing dramatically downstream from the mountain front. The main channel in the mountain portion is clogged with large boulders and cobbles along a staircase descent, with some deep and large pools. The channel in the mountain reach is located at the bottom of a V-shaped deep canyon with a small to non-existent floodplain. The mountain reach does have a perennial flow. The average annual flow is between 15 and 30 cfs with a depth generally not exceeding four to six inches and a width not exceeding 40 feet. The flow is somewhat heavier during the winter-spring months when the snow melts in the mountains and again during the monsoon season of August and September.

The U. S. Geological Survey gauge indicates that the stream is perennial during average wet years but is dry during the periods of low precipitation. Comparing the hydrological data with approved boating criteria indicates that the stream cannot be boated even by low-draft canoes or kayaks and that boating by recreational craft during floods would be extremely hazardous due to the steep slope, high velocities, large boulders, waterfalls, and overhanging vegetation. Boating by larger commercial craft is not possible. There is no history of boating on this stream and no history of commercial fishing.

In view of the foregoing, Sabino Creek was considered as not being susceptible of navigability during its ordinary flow and was therefore rejected at level three.

5. Level Three Analysis of Cienega Creek

Cienega Creek is located in the southeastern portion of Pima County and the northeastern portion of Santa Cruz County. It received three affirmative responses in the level one analysis including perennial stream, fish in stream, and special status.

Cienega Creek originates in the Canelo Hills in Santa Cruz County and flows north, crossing the county line into Pima County to a point near Vail, Arizona, where the stream changes its name to Pantano Wash. It is 31.2 miles in length and has a drainage area or watershed of 457 square miles. The watershed is bounded by the Rincon Mountains to the north, the Whetstone Mountains to the east, the Canelo Hills to the south, and the Santa Rita Mountains to the west. Elevations within the watershed range from 9,400 feet at Mt. Wrightson in the Santa Rita Mountains to 3,200 feet at the Colossal Cave Road crossing. Vegetation in the watershed includes ponderosa pine in the upper elevations of the Santa Rita Mountains and oak, juniper, agave, and extensive grasslands in the lower elevations. The bed of the creek consists of a sand and gravel bedded channel and low banks lined with riparian vegetation or grassland. The main channel of Cienega Creek is straight to slightly sinuous and consists of single and braided channel reaches. Downstream or to the north of Interstate 10 Cienega Creek flows within a well-defined canyon, while upstream or south of Interstate 10 the stream is shallower with less well-defined transition to the surrounding grasslands. Historical data indicates that Cienega Creek experienced arroyo cutting during the late 1800's and

early 1900's when the area was overgrazed. Arroyo cutting appears to be continuing today in the upper reaches of Cienega Creek in Santa Cruz County.

U. S. Geological Survey stream gauges provide a historical record of stream flow at two sites on Cienega Creek. The stream gauge data indicates that Cienega Creek is a perennial stream at Vail and that its highest seasonal flow occurs during the summer monsoon months of July through September. The average annual flow is approximately 6.2 cfs, with a flow depth of two-tenths to one-half of a foot and a stream width of six to twenty feet. During unusual periods of high precipitation and flooding, the stream flow is much higher and has recently run as high as 2,600 cfs. Comparing the stream flow data with boating criteria, it would appear that the stream could be boated by low draft canoes or kayaks approximately 10% of the time and perhaps more during unpredictable high flows. Boating by larger commercial craft would be highly unlikely. Other than a small dam upstream from Vail, there are no obstacles in the creek that would inhibit boating. There is no history of boating on this stream and no history of commercial fishing. Even though Cienga Creek did not score higher than 13 on the value engineering analysis and could have been rejected at level two or three, due to the configuration of the stream and the concerns expressed by numerous private and public landowners and land managers along Cienega Creek, as well as the effect Cienga Creek had in the development of South Central Arizona and the cattle ranching industry, the contractors have recommended a more in-depth study of the potential or

susceptibility of navigability of Cienega Creek, and, accordingly, this watercourse was not rejected at level three and a separate detailed study was conducted. The results of this study are found in Section VIII of this report.

**6. Summary of Results of Small and Minor Watercourses
Analysis for Pima County, Arizona**

All of the 3,190 small and minor watercourses in Pima County were analyzed in the three-level process developed by the State Land Department and its contractors, Stantec and J.E. Fuller Hydrology. At level one 3,153 watercourses, or 98.8%, were determined as not having an affirmative response to any of the six characteristics utilized at level one and therefore were rejected and eliminated at level one. Thirty-seven watercourses, approximately 1.2%, received an affirmative response to one or more of the characteristics or criteria and were evaluated at level two. Thirty-one watercourses received only one affirmative response at level one and further analysis disclosed that they should be rejected as not having characteristics of navigability requiring further study. Of the remaining six watercourses that received more than one affirmative response at level one and were analyzed under the value engineering system described above, only three had a sum value of more than 11 but less than 13 when so analyzed and for the reasons described above passed on from level two and were analyzed at level three. Two of the three watercourses having a sum value of more than 11 but less than 13 were rejected at level three and determined not to have the characteristics of navigability requiring further study. Thus a total of 34

watercourses that passed to level two for analysis were determined not to be susceptible of navigability and were therefore rejected as not requiring further study beyond level two. The three watercourses that survived the value engineering analysis at level two and were considered at level three are Arivaca Creek, Cienega Creek and Sabino Creek. After in-depth analysis at level three, it was determined that only Cienega Creek should not be rejected at level three but a separate detailed study should be conducted.

B. Prehistoric and Historic Considerations Affecting Small and Minor Watercourses in Pima County, Arizona

In addition to the Small and Minor Watercourses Analysis and other evidence described above, the Commission also considered evidence of the prehistoric conditions and the historic development of Pima County as disclosed in part in the studies submitted in connection with hearings on navigability of the San Pedro and Santa Cruz Rivers.

1. Prehistory or Pre-Columbian Conditions

The Paleo-Indian tradition and early stages of the subsequent cultural tradition, the archaic period, are not as well represented along the Santa Cruz River or the desert of western Pima County as they are along the San Pedro River. Some Clovis points have been found in excavations along the Santa Cruz River, but the situation along the Santa Cruz contrasts sharply with the San Pedro River valley where varied Clovis kill sites have yielded evidence that continues to be remarkable in the context of new world prehistory. Since the weather and climate is very similar, the lack of Paleo-Indian sites

in the Santa Cruz River valley is probably due to the fact that they have not been discovered or, if they were present, have been destroyed by erosion or covered over by flood deposits.

The archaic period, sometimes known as the Cochise culture, is better represented by known sites in the Santa Cruz River valley but are also found in the San Pedro River Valley. These sites are mostly occasional camps indicating that the primary activity was to gather and prepare food. Some structures such as temporary brush shelters have been found. As is well documented in other sites in southern Arizona, the Archaic culture developed into the Hohokam culture some time between 300 B.C. and 300 A.D. Excavations in the Tucson basin area have lent support to the theory that the Hohokam culture developed, at least in this area, out of the archaic tradition. Others maintain that the Hohokam culture was greatly influenced by immigration from meso-america. In the Tucson basin the evidence shows a transition between archaic and Hohokam traditions that ultimately saw the development of crop dependency, new and better ceramic and lithic technologic and larger and more permanent houses. Burials during this period show a mixture of inhumations and cremations indicating the transition of culture. After 400 A.D. the prehistoric occupation along the lower Santa Cruz River greatly resembles the Hohokam cultural patterns and appears to be greatly influenced by the Hohokam culture developing along the Gila River to the north. There is some indication of Mogollon culture influence during this period in the middle Santa

Cruz River valley. The upper Santa Cruz River valley, primarily in Santa Cruz County, shows little, if any, settlement during this early period.

In the lower and middle Santa Cruz valley there is evidence of continuing village development after 750 A.D. and ball courts are found, which is indicative of meso-american influence. The population expanded somewhat between 750 and 950 A.D. and there is evidence of seasonal flood water farming using the natural runoff from gullies and arroyos in the Tucson basin and other areas of the middle Santa Cruz River valley. The population apparently continued to expand and villages or settlements became larger although fewer in number up through 1400 A.D. Platform mounds appeared and there was more extended use of non-riverine agricultural systems, as well as flood water farming. Probably due to lack of water there is not much evidence of irrigated farming, although in the middle and lower Santa Cruz River valley some canals have been found, but not nearly to the extent of their usage in the Gila and Salt River valley. By 1400 many of the prehistoric sites appear to have been abandoned. There appears to have been a large decline in population, and the few sites that remained occupied after 1400 have been tied into the upper Pima culture. During this prehistoric period, the river appears to have been intermittent and did flow periodically above ground, especially when fed by springs in the Canoa, San Xavier, and Tucson areas. These early indigenous inhabitants used the valley as a transportation corridor, but there is no evidence whatsoever of any use of the river for travel or navigation. It

was a source of water for people traveling through the area and sometimes in flood season could be used for irrigation.

There is little or no evidence of paleoindian activity in the western portion of Pima County which may be due to the fact that there has been little archaeological exploration performed in the area. There is some evidence of the Archaic or Cochise culture in the western part of the county which probably developed into what is sometimes called the desert Hohokam as opposed to the riverine Hohokam who lived near the major rivers and streams. Until modern times, the desert dwellers remained hunters and gatherers and did very little farming. West of the Santa Cruz River valley there are no major watercourses that could possibly have been considered for travel or navigation.

2. Historical Settlement in Pima County

The earliest Spanish or western explorers to enter southern Arizona was a party led by Alvaro Nunez Cabeza de Vaca who ventured through the southeastern portion of the state in 1536. Because of tales of rich Indian cities further north, "the Seven Cities of Cibola," the viceroy of New Spain sent Fray Marcos de Niza to explore the region in 1539. The following year de Niza returned with a full scale expedition led by Don Francisco de Coronado. There is no history of any Spanish travelers or settlers in the Santa Cruz valley or Pima County until 1691 when a Jesuit missionary, Father Eusebio Francisco Kino, came to the valley to establish missions and convert the indigenous

population to Christianity. The impact Father Kino had on eastern Pima County, either directly or indirectly, cannot be underestimated. The first large settlement in the area was the Jesuit mission of Santa Maria Soamca, later known as Santa Cruz (Mexico). Father Kino used the Santa Cruz valley extensively as a travel route into the northern portion of Pimeria Alta. His missionary efforts in the twenty years between 1691 and his death in 1711, led to the establishment of the Missions of San Xavier del Bac, Guevara, and Tumacacori. Some smaller missionary posts or visitas were also established at Tubac and San Augustin del Tucson. The greatest impact Kino and subsequent missionaries had in the Santa Cruz valley was the introduction of new technologies in crops and domestic animals. The new technology and crop species brought by the Spanish missionaries to the Pima Indians living in and near the Santa Cruz valley led to an expansion of farming. The crops of the missions relied on irrigation from the Santa Cruz River surface waters flowing through canals, some of which may have been originally dug by the Hohokam. The missionaries also brought cattle, sheep, and goats into the area from the herds maintained further south in Mexico.

A presidio was established at Tubac in 1751 and one was established at San Augustin del Tucson in 1757, although they were defended or manned only intermittently. In 1767, the Jesuits were expelled from New Spain and the Franciscans entered the area, taking their place and taking charge of a seriously deteriorated

mission system. The churches presently seen at San Xavier del Bac and Tumacacori were completed by them in 1797 and 1822, respectively, although prior to their construction they were centers of missionary activity. In 1775 Captain Juan Batista de Anza, with a troop of soldiers, came to the Santa Cruz valley where the missions were under pressure from marauding Apaches. His efforts resulted in a secure environment for settlers and missions for a number of years. Along with the salutary effects, Europeans brought disease which had a devastating effect on the Indian populations in the valley since they were not immune to western European diseases.

Although mining on a small scale had been practiced for centuries by Indians, primarily in small silver mines in the Santa Rita Mountains, the Spanish expanded the mining activity and attempted to establish silver and gold mines. They were not particularly successful in this endeavor, primarily due to the opposition of the Jesuit Order. In order to encourage settlement in Pimeria Alta, the Spanish government in the 17th and 18th centuries made certain land grants to individuals who would go into the area and live on them. After 1821, when Mexico became free of Spain, it continued this practice. At least eight claims of land grants were made in the Santa Cruz valley area, the oldest being Tumacacori/Calabasas which dated from 1806. In 1776 the Presidio at Tucson was officially established by de Anza and permanently manned after that date. Thus the town of Tucson grew up around the Presidio and since that time has been the center of population in southern Arizona.

In 1846 war broke out between the United States and Mexico, which was ended by the Treaty of Guadalupe Hidalgo, wherein Mexico ceded to the United States all of its northern territories north of the Gila River. Almost immediately after this treaty, gold was discovered in California and a large number of people traveled through Arizona on their way to the gold fields of California. Since one of the best routes was south of the Gila River, the United States undertook to buy from Mexico enough land to allow this southern transcontinental route, and this was accomplished in the Gadsden Purchase of 1853 whereby the United States annexed the land south of the Gila River to the present international boundary. Immediately thereafter, a survey was undertaken to locate a railroad route through southern Arizona to California. Also, the Butterfield Stage Line was established in 1857 from San Antonio through southern Arizona, stopping at Tucson on its way to San Diego and Los Angeles. Some military posts such as Ft. Lowell in Tucson were established in the 1850's, but the United States military presence in Arizona was curtailed by the occurrence of the Civil War. After that War, in 1865, a number of military posts were established in Arizona to quell the marauding Apaches.

The Southern Pacific Railroad was completed from California through Yuma as far as Tucson in the late 1870's and early 1880's and was also completed east to New Mexico. Other railroad lines were built, connecting Tucson with Nogales, which grew in size and importance because of the railroad. The railroad was also built from Tucson

north to Phoenix. With the capture of Geronimo in 1886, the Indian Wars were at an end. These two events allowed an expansion of commerce, mining, and ranching in southern Arizona. In the 1880's a large number of cattle were brought to Arizona and cattle ranches established. In the Santa Cruz valley, trees and wood were harvested for fuels and as material to build houses and other structures. Ditches and diversion dams were built to divert water for crops. Groundwater pumping was brought into the area in 1890, which expanded the number of crops grown and this, compounded with the need for water for mining activities and the need for additional water for the increasing population, eventually lowered the water table. Droughts followed by severe storms, coupled with the human activity, resulted in flooding which caused a great deal of erosion and arroyo cutting in southern Arizona, especially in the Santa Cruz River channel.

3. Conditions in Pima County During the Last Half of the 1800's up to Statehood in 1912 and Since Statehood

Early visitors to the Santa Cruz River valley had many descriptions of the Santa Cruz River. In the upper valley in Santa Cruz County, it was a low-flowing perennial stream with some marshy areas and cienegas. Near the Pima County line, the river generally went subsurface but surfaced again near San Xavier and Tucson. This was due to a geological change from high bedrock in Santa Cruz County to a deep alluvial system in Pima County. In those areas where the river flowed, the Indian population assisted by the missionaries conducted farming from the surface waters. There are

reports of fish having been caught in pools along the perennial flow areas of the river but not in commercial amounts. In the lower Santa Cruz River, from Marana northwest, the river only flowed intermittently and as a result of precipitation. There are no major rivers or watercourses in Pima County west of the Santa Cruz valley. The western area is desert, with washes and arroyos that flow only during heavy precipitation, normally during the summer monsoons in July, August and September.

The growing population created more wells and pumping of water in eastern Pima County, as well as wood cutting to the point where most of the trees near Tucson were cut down. Most of the riparian trees had been cut for use in building homes and other structures and for firewood. Mining activity in the late 1800's and since statehood has required a great deal of water which has resulted in a significant lowering of the water table. By 1910, the entire base flow of the Santa Cruz River at both Nogales and Tucson was diverted for agriculture, leaving the mines to pump subsurface water for their operations. Farming in the Avra Valley west of Tucson is supported by subsurface pumping. Copper mines were established at Ajo, Silver Bell, and Sahuarita which added greatly to the local economy but used a large amount of water. Population growth, mining and agriculture have led to the loss of perennial water, an increase in groundwater withdrawal, and an extensive change in the vegetation structure. These factors, combined with the alternate drought and flood conditions of the late 1880's and 1890's and the early part of this century, caused a great deal of erosion, channel cutting,

and arroyoization in the upper Santa Cruz River valley and other minor washes arroyos and watercourses in Pima County.

In the late 1800's the University of Arizona, the state's land grant college, was established in Tucson and has become one of the leading state supported universities in the entire country. Its astronomy program, in conjunction with the National Astronomical Observatory at Kitt Peak, has made southern Arizona the national center for astronomy.

None of the small and minor watercourses in Pima County was used for travel or commercial trade, and none was used for boating or commercial fishing. Likewise there is no evidence or history of successful or sustained flotation of logs on any of the small and minor watercourses in Pima County. There are no records of any persons traveling on any of the small and minor watercourses of Pima County, Arizona, although some trails may have followed these streams as corridors for travel. Prior to and at the time of statehood, travel in Pima County, Arizona, was by foot, horseback, mule, ox-drawn wagon and stagecoach and, after the 1880's, by train. At the time of statehood and immediately thereafter, trucks and automobiles were also used as the road system was expanded and improved. None of the streams in Pima County, Arizona, has been listed in the Rivers and Harbors Act of 1899 (33 U.S. Code § 401-467e).

B. Title Issues on Lands Covered by Mexican and Spanish Land Grants

In the course of a hearing on the Santa Cruz River, the owners of Rio Rico Properties, Inc., by and through their attorneys, filed a memorandum with the Commission claiming that the Commission and the State of Arizona had no jurisdiction to consider the navigability of that portion of the Santa Cruz River encompassed within their property. Rio Rico Properties, Inc. is the successor in interest to the heirs of Luis Maria Cabeza de Baca, who acquired a land grant from the Mexican government in 1821 known as the "Las Vegas Grandes" near Las Vegas, New Mexico. Since this grant was in conflict with another later grant, Congress passed an Act in June of 1860 (12 Stat. 71, c. 167) allowing the heirs of Cabeza de Baca to select an equal quantity of vacant land, not mineral, in the Territory of New Mexico, to be located by them in square bodies of approximately 100,000 acres such not exceeding five in number. In 1863, as one of the five parcels, the Baca heirs selected the tract known as Baca Float No. 3, which is the area encompassed by the property now owned by Rio Rico Properties, Inc.⁵

Although not specifically raised at the hearings involving small and minor watercourses in Pima County, since there are claims to a number of Spanish and Mexican Land Grants in Pima County, it is appropriate to deal with this issue in this report.

⁵ In American land law, particularly in the western states, a Float is a certificate authorizing the entry by the holder of a certain quantity of land not yet specifically selected or located. Black's Law Dictionary, 5th ed. 1979.

The position of the holders of what was formerly Spanish and are Mexican Land Grant land is that the original Land Grant was made prior to the Treaty of Guadalupe Hidalgo (9 U. S. Stat. 922, Feb. 2, 1848) ending the war between the United States and Mexico and also before the treaty formalizing the Gadsden Purchase (10 U.S. Stat. 1031, Dec. 30, 1853) whereby the United States bought from Mexico the area south of the Gila River to the present international border. Both of these treaties provided that the United States would honor property rights and titles in land held by Mexican citizens prior to the date of the treaties. Because there were no title restrictions under the Spanish or Mexican Land Grants and Spanish and Mexican law apparently did not recognize the Public Trust Doctrine as we know it (whereby the title to land under tidal waters and navigable rivers and the banks thereof was held by the sovereign for the benefit of all the people), it is their position that their title to the land covered by the Spanish or Mexican Land Grants should be absolute and not subject to the Public Trust Doctrine. In support of their position, they cite *City and County of San Francisco v. Le Roy*, 138 U.S. 656, 11 S.Ct. 364, 34 L.Ed. 1096 (1891); *Knight v. United Land Association*, 142 U.S. 161, 12 S.Ct. 258, 35 L.Ed. 974 (1891); *Shaw v. Kellogg*, 170 U.S. 312, 18 S.Ct. 632, 42 L.Ed. 1050 (1898); *United States v. Coronado Beach Co.*, 255 U.S. 472, 41 S.Ct. 378, 65 L.Ed. 735 (1921).

Based on the foregoing authority, it appears that this position has considerable merit. However, in view of our finding in this report, we need not make a specific finding as to jurisdiction over land encompassed in a land grant.

VIII. Separate Detailed Stream Navigability Study for Cienega Creek

For the reasons set forth above a separate detailed study and analysis of the potential or susceptibility of navigability of Cienega Creek were conducted. The separate detailed report on Cienega Creek is incorporated in this Report, Findings and Determination, although a portion of Cienega Creek is located in Santa Cruz County which is adjacent to Pima County to the south.

The headwaters of Cienega Creek are in the Canelo Hills in Santa Cruz County in the Southwest Quarter of Section 20, Township 21 South, Range 17 East, Latitude 31° 35' 2" North, Longitude 110° 38' 8" West. It flows north for 31.2 miles and has a drainage area or watershed of 457 square miles. It crosses the county line into Pima County at a point near Vail, Arizona, and flows in a northwesterly direction to the Colossal Cave Road crossing where its name is changed to Pantano Wash in the Northwest Quarter of Section 24, Township 16 South, Range 17 East, Latitude 32° 03' North, Longitude 110° 41' 9" West. The watershed is bounded by the Rincon Mountains to the north, the Whetstone Mountains to the east, the Canelo Hills to the south, and the Santa Rita Mountains to the west. Elevations within the watershed range from 9,400 at Mt. Wrightson in the Santa Rita Mountains to 3,200 feet at the Colossal Cave Road crossing.

Cienega is a Spanish word meaning a marsh or swamp. Literally, the word means "hundred (cien) waters (agua)" and carries the connotation of a rich combination of flowing water, stagnant water, stream flow springs and shallow ground water. Cienega Creek was named for the cienegas that were once found along its river valley prior to settlement of the area by anglo Americans.

A. History of the Cienega Creek Valley

Archaeological finds disclose that the Cienega valley has a history of human occupation dated to at least 1000 B.C. and possibly earlier. The Hohokam Culture became established in the valley and continued from the year 1 to approximately 1400 A.D. The prehistoric and early historic settlement in Pima County discussed in Section VII B 1, 2 and 3 above apply in general to the Cienega Creek valley and will not be generally repeated here.

The exploration of the area by the Spanish began in the 1600's. In 1699 Father Eusebio Francisco Kino, a Jesuit missionary delivered 150 head of cattle to the Rancheria Sonoita located near the headwaters of Cienega Creek. In the 1780's the Spanish crown granted large land holdings to cattlemen in the form of land grants which were fairly successful. However, between 1831 and 1850 Apache raids drove many of these cattle ranches out of business.

The California gold rush of 1849 brought an influx of anglo American travelers from the east on their way to California. In November of 1856 the Army established

Camp Moore, a temporary tent camp near the Rancho of Calabasas. It was closed the following year and replaced by Ft. Buchanan which was located on the right bank of Sonoita Creek about 25 miles east of Tubac. These posts were established to stop the Indian raids and protect the ranching settlers in the area. Ft. Buchanan was closed in July 1861 when the Army withdrew most of its troops from Arizona to fight the Civil War in the east. The Butterfield Stage Line was established in 1857 and ran stagecoaches from San Antonio to San Diego. Its route crossed the northern end of the Cienega Creek valley. It, too, ceased operations at the commencement of the Civil War.

Following the Civil War, the Army again established posts in Arizona to protect the settlers from Indian raids. Among these was Camp Crittenden which was established approximately 12 miles north of Patagonia, and its troops patrolled the entire Cienega Creek valley. Camps Wallen and Cameron were also established in that area but were kept open for only two to three years. Camp Crittenden was closed in June of 1873, and its duties were assumed by Ft. Huachuca at the base of the Huachuca Mountains in Cochise County and Ft. Lowell in Tucson.

The Southern Pacific Railroad began service across the northern end of the valley in 1877. The New Mexico and Arizona Line was built between Nogales and Benson through the southern end of the valley along Sonoita Creek in 1881 and 1882 to connect the Southern Pacific Railroad with the Sonoran Railroad in Mexico. Transportation through the Cienega valley prior to and at the time of statehood was by foot, horseback,

horse-drawn wagon, or railroad. There is no record of any commercial, recreational or any other type of boating on Cienega Creek prior to or after statehood. Likewise, there is no history of commercial fishing on Cienega Creek.

The modern history of the Cienega valley is largely the history of the Empire Ranch which began in 1876 and expanded to become one of the largest ranches in Arizona. In 1903 the Empire Ranch herd was over 12,000 cattle and the ranch covered almost a million acres. The owners of the Empire Ranch supported their ranching operation in part through the development of a mining operation called the Total Wreck Mine located on the western edge of the Cienega valley on the east flank of the Empire Mountains. By 1883 the silver production from this mine rivaled that of the most prosperous mines in the Arizona Territory. In 1884 a depression in silver prices crippled the mining operation, and the owners closed it three years later when the ore yields fell too low to be profitable. In 1988 the Bureau of Land Management acquired a portion of the ranch lands in the Cienega valley and formed the Empire-Cienega Resource Conservation Area. The Cienega valley is currently proposed for inclusion as part of the Las Cienegas National Conservation Area under the Las Cienegas NCA Establishment Act.

B. Wildlife, Habitat and Hydrology

According to records of early explorers and settlers, Cienega Creek prior to 1900 was a sluggish stream flowing through dense cienegas or bogs choked with tall grass.

Cienega Creek has perennial, intermittent, and ephemeral reaches during normal times that reflect a variety of water supply, subsurface geology, and water use within the river valley. There is no evidence in the record to suggest that the location or alignment of the stream has changed significantly since 1900. The stream has supported and currently supports fish of the gila top minnow, gila chub, and long fin dace varieties within the perennial reaches, none of which is usable for commercial purposes.

The stream currently supports numerous mammals, amphibians, reptiles and birds. Mammals include javelina, mule deer, antelope, coyote, badger, rabbits, gophers and various other rodents. The vegetation of the Cienega valley is characterized as typical upper sonoran life zone. Grama, sacaton, and salt grasslands have supported wild grazing animals for many centuries. The sacaton flats present during the first half of the 20th century have been invaded and dominated by moderately dense mesquite woods, with clusters of live oak along the upper drainages. Yucca and agave are found along the divide between the Cienega Creek and Davidson Canyon drainages. Cottonwoods, willow and scattered populations of velvet ash occur along Cienega Creek, while oak and juniper woodlands thrive on the rolling hillsides of the valley.

There are few hydrological records from the year of statehood and earlier but since that time two U. S. Geological Survey gauges have been established, one near Vail and the other at Pantano Wash in Pima County. The stream gauge at Vail indicates an average annual flow of 6.2 cfs, a depth of .2 to .5 ft., and a stream width of six to twenty

feet. During unusual periods of high precipitation and flooding, the stream flow is much higher and recently ran as high as 2,600 feet. High seasonal flow occurs during the summer monsoon months of July through September. The largest flow ever recorded was on August 11, 1958 at 38,000 cfs, which probably equates to a 100 to 500-year flood.

In 1911 a low surface dam was built near the present day community of Vail to force subsurface flow to the surface for diversion into ditches for agricultural uses and resulted in an increase of 1.4 cfs. The bed itself consists of a sand and gravel bedded channel with low banks in its upper reaches lined by riparian vegetation and grassland. The main channel is straight to slightly sinuous and consists of a single or braided channel reaches. In the lower reach of the stream the creek flows within a well-defined canyon. The historical data suggests that Cienega Creek experienced arroyo cutting during the late 1800's and early 1900's when so many cattle were grazed on the range. This arroyo cutting is probably continuing, but at a lower rate. Comparison of the estimated flow characteristics for Cienega Creek with federal boating criteria indicates that acceptable boating conditions do not exist during normal stream flow. There is no evidence in the record to suggest that Cienega Creek was ever used for commercial or recreational boating of any kind and, further, there was no evidence to suggest that flow conditions at or near the time of statehood would have allowed the flotation of

logs or would have made the stream susceptible to any kind of boating except during infrequent flood events.

At all times since man first settled the area, transportation was accomplished by foot, horse, wagon or rail and, since statehood, as the road network was improved, by truck and automobile. There is no record of any boating or other use of Cienega Creek for passenger craft, commercial craft or recreational craft. In view of the foregoing, it seems clear that Cienega Creek was neither navigable nor susceptible of navigability as of February 14, 1912.

IX. Climate and Weather Conditions in Pima County as of date of Statehood

The testimony presented at the hearing for all small and minor watercourses in Pima County established without any contradicting that the present climate and weather conditions in Pima County or substantially similar to that which existed in 1912 when Arizona became a state, subject only to wet and dry cycles which do not affect the issues of navigability.

IX. Findings and Determination

The Commission conducted a particularized assessment of equal footing claims the State of Arizona might have to the beds and banks of the 3,190 small and minor watercourses in Pima County, Arizona, and based on all of the historical and scientific data and information, documents, and other evidence produced, finds that none of the said small and minor watercourses, including Cienega Creek on which a separate

detailed study was conducted, were used or were susceptible to being used, in their ordinary and natural condition, as a highway for commerce over which trade and travel were or could have been conducted in the customary modes of trade and travel on water as of February 14, 1912.

The Commission also finds that none of the small and minor watercourses in Pima County, Arizona, are or were truly perennial throughout their length and that as of February 14, 1912, and currently they flow/flowed only in direct response to precipitation and are or at least portions thereof are dry at all other times.

The Commission also finds that there is no evidence of any historical or modern boating having occurred on any of the small and minor watercourses in Pima County, Arizona.


The Commission also finds that there is no evidence of any fishing having occurred on the small and minor watercourses in Pima County, Arizona.

The Commission further finds that all notices of these hearings and proceedings were properly and timely given.

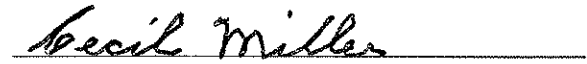
In view of the foregoing, the Commission, pursuant to A.R.S. § 37-1128A, finds and determines that the small and minor watercourses in Santa Cruz County, Arizona, including Cienega Creek, were not navigable as of February 14, 1912.

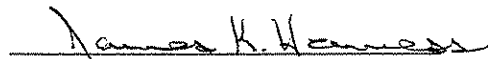
RESPECTFULLY SUBMITTED this 17 day of September, 2005.


Earl Eisenhower, Chair

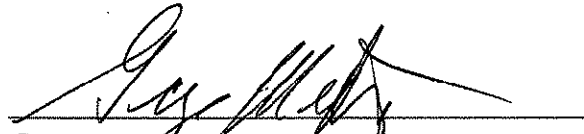

Dolly Echeverria, Vice Chair


Jay Brashear, Member


Cecil Miller, Member


James Henness, Member

STAFF MEMBERS:


George Mennert
Executive Director


Curtis A. Jennings
Legal Counsel to the Commission

Appendix A – List of Watercourses

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TABLE A-1A
 RL1 Watercourses for Pima County

| No. | W_ID | W_NAME | SECCOUNT | W_COUNTIES | W_MILES | W_ADDRESS | W_PER | W_MBOAT | W_HBOAT | W_FISH | W_SSTATUS | W_DIMP |
|-----|------|-----------------------------|----------|-----------------|---------|-------------------|-------|---------|---------|--------|-----------|--------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 1 | 14 | Agua Caliente Wash | 11 | Pima | 13.7193 | T13.0S,R16.0E,S19 | No | No | No | No | No | No |
| 2 | 16 | Agua Verde Creek | 6 | Pima | 13.3941 | T16.0S,R17.0E,S08 | No | No | No | No | No | No |
| 3 | 17 | Agujilla Wash | 13 | Pima | 11.6498 | T17.0S,R7.0W,S17 | No | No | No | No | No | No |
| 4 | 18 | Aguire Wash | 21 | Pima | 36.6433 | T11.0S,R6.0E,S32 | No | No | No | No | No | No |
| 5 | 21 | Alambra Wash | 10 | Pima | 14.7958 | T17.0S,R9.0E,S08 | No | No | No | No | No | No |
| 6 | 22 | Alarito Wash | 2 | Pima | 2.1987 | T22.0S,R9.0E,S23 | No | No | No | No | No | No |
| 7 | 25 | Alamo Wash 1 - Pima | 5 | Pima | 13.7947 | T15.0S,R6.0W,S15 | No | No | No | No | No | No |
| 8 | 30 | Alder Creek - Pima | 3 | Pima | 7.3201 | T13.0S,R14.0E,S27 | No | No | No | No | No | No |
| 9 | 33 | Alder Wash - Pima | 8 | Pima | 13.3664 | T11.0S,R17.0E,S01 | No | No | No | No | No | No |
| 10 | 40 | Allar Wash | 44 | Pima | 22.7159 | T18.0S,R9.0E,S11 | No | No | No | No | No | No |
| 11 | 43 | Amigo Wash | 3 | Pima | 4.0603 | T21.0S,R10.0E,S29 | No | No | No | No | No | No |
| 12 | 47 | Anegan Wash | 16 | Pima | 26.2508 | T12.0S,R2.0E,S25 | No | No | No | No | No | No |
| 13 | 48 | Anegan Wash | 12 | Pima | 20.5649 | T15.0S,R6.0E,S35 | No | No | No | No | No | No |
| 14 | 56 | Apache Canyon Stream | 2 | Cochise/Pima | 8.8835 | T18.0S,R18.0E,S07 | No | No | No | No | No | No |
| 15 | 63 | Arcadia Wash | 1 | Pima | 3.6675 | T13.0S,R14.0E,S35 | No | No | No | No | No | No |
| 16 | 66 | Arros Wash | 2 | Pima | 3.2651 | T21.0S,R7.0E,S24 | No | No | No | No | No | No |
| 17 | 69 | Arteta Wash | 2 | Pima | 4.1532 | T22.0S,R9.0E,S19 | No | No | No | No | No | No |
| 18 | 70 | Arroyo Chico | 3 | Pima | 2.8970 | T14.0S,R14.0E,S18 | No | No | No | No | No | No |
| 19 | 71 | Arroyo del Compa | 9 | Pima | 6.6445 | T21.0S,R8.0E,S22 | No | No | No | No | No | No |
| 20 | 72 | Arroyo del Saseb | 7 | Pima | 6.1215 | T22.0S,R8.0E,S34 | No | No | No | No | No | No |
| 21 | 80 | Ash Creek 1 - Cochise/Pima | 5 | Cochise/Pima | 5.2923 | T16.0S,R19.0E,S08 | No | No | No | No | No | No |
| 22 | 85 | Ash Creek 2 - Pima | 1 | Pima | 4.3955 | T18.0S,R10.0E,S12 | No | No | No | No | No | No |
| 23 | 97 | Ash Wash | 1 | Pima | 8.8982 | T17.0S,R9.0E,S35 | No | No | No | No | No | No |
| 24 | 99 | Asolido Wash | 2 | Pima | 5.6605 | T20.0S,R7.0E,S35 | No | No | No | No | No | No |
| 25 | 109 | Baboquivari Wash | 10 | Pima | 18.9303 | T19.0S,R6.0E,S11 | No | No | No | No | No | No |
| 26 | 116 | Bailey Wash | 5 | Pima | 6.3378 | T21.0S,R8.0E,S15 | No | No | No | No | No | No |
| 27 | 119 | Banner Wash | 4 | Pima | 12.1325 | T17.0S,R9.0E,S11 | No | No | No | No | No | No |
| 28 | 133 | Balamble Wash 1 | 3 | Pima | 11.2927 | T19.0S,R11.0E,S22 | No | No | No | No | No | No |
| 29 | 134 | Balamble Wash 2 | 4 | Pima/Santa Cruz | 6.4217 | T11.0S,R13.0E,S12 | No | No | No | No | No | No |
| 30 | 140 | Bear Creek 1 - Cochise/Pima | 2 | Pinal/Pinal | 9.0827 | T19.0S,R19.0E,S29 | No | No | No | No | No | No |
| 31 | 191 | Big Wash - Pima | 6 | Cochise/Pima | 12.1932 | T14.0S,R12.0E,S01 | No | No | No | No | No | No |
| 32 | 192 | Big Wash - Pinal/Pinal | 30 | Pima | 28.5679 | T11.0S,R14.0E,S30 | No | No | No | No | No | No |
| 33 | 203 | Bird Canyon Wash | 2 | Pinal/Pinal | 3.6594 | T12.0S,R15.0E,S33 | No | No | No | No | No | No |
| 34 | 242 | Bianca Wash | 10 | Pima | 19.1606 | T11.0S,R10.0E,S17 | No | No | No | No | No | No |
| 35 | 262 | Bodas Blancas Wash | 10 | Pima | 12.0787 | T19.0S,R9.0E,S14 | No | No | No | No | No | No |
| 36 | 263 | Bollen Wash | 12 | Graham/Pima | 13.0455 | T11.0S,R18.0E,S13 | No | No | No | No | No | No |
| 37 | 284 | Box Canyon Wash - Pima | 7 | Pima | 18.8193 | T17.0S,R13.0E,S24 | No | No | No | No | No | No |
| 38 | 290 | Brawley Wash | 16 | Pima | 34.8987 | T17.0S,R9.0E,S11 | No | No | No | No | No | No |
| 39 | 302 | Brown Wash - Pima | 5 | Pima | 13.5249 | T18.0S,R9.0E,S27 | No | No | No | No | No | No |
| 40 | 371 | Canaz Wash | 1 | Pima | 1.4522 | T20.0S,R11.0E,S31 | No | No | No | No | No | No |
| 41 | 372 | Canoa Wash | 5 | Pima | 5.5307 | T22.0S,R8.0E,S80 | No | No | No | No | No | No |
| 42 | 373 | Canuba Wash | 1 | Pima | 2.9052 | T23.0S,R9.0E,S13 | No | No | No | No | No | No |
| 43 | 398 | Catalina Wash | 17 | Pinal | 15.2351 | T10.0S,R18.0E,S08 | No | No | No | No | No | No |
| 44 | 428 | Cerro Prieto Wash | 3 | Pinal | 10.8939 | T18.0S,R8.0E,S22 | No | No | No | No | No | No |
| 45 | 430 | Chalk Creek | 4 | Pinal | 6.2578 | T11.0S,R14.0E,S29 | No | No | No | No | No | No |
| 46 | 434 | Champurado Wash | 1 | Pima | 13.6880 | T19.0S,R10.0E,S18 | No | No | No | No | No | No |
| 47 | 441 | Cherofel Wash | 14 | Pima | 15.0701 | T15.0S,R6.0W,S15 | No | No | No | No | No | No |
| 48 | 449 | Chico Shunle Arroyo | 5 | Pima | 7.2217 | T13.0S,R7.0W,S04 | No | No | No | No | No | No |
| 49 | 450 | Chiltepinas Wash | 2 | Pima | 10.0006 | T19.0S,R8.0E,S01 | No | No | No | No | No | No |
| 50 | 451 | Chimney Rock Creek | 3 | Pima | 8.8325 | T12.0S,R18.0E,S19 | No | No | No | No | No | No |

TABLE A-1A
RL1 Watercourses for Pima County

| No. | W_ID | W_NAME | SECCOUNT | W_COUNTIES | W_MILES | W_ADDRESS | W_PER | W_MBOAT | W_HBOAT | W_FISH | W_SSTATUS | W_DIMP |
|-----|-------|-----------------------------|----------|---------------------|----------|-------------------|-------|---------|---------|--------|-----------|--------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 51 | 458 | Chitreon Wash | 1 | Pima/Pinal | 8.1966 | T11.0S,R14.0E,S05 | No | No | No | No | No | No |
| 52 | 463 | Chukut Kuk Wash | 23 | Pima | 34.4244 | T19.0S,R3.0E,S33 | No | No | No | No | No | No |
| 53 | 464 | Chulum Vaya Wash | 17 | Pima | 16.8449 | T20.0S,R5.0E,S16 | No | No | No | No | No | No |
| 54 | 507 | Comobabi Wash | 5 | Pima | 12.4860 | T17.0S,R6.0E,S23 | No | No | No | No | No | No |
| 55 | 515 | Contreras Wash - Pima | 2 | Pima | 4.7798 | T18.0S,R8.0E,S14 | No | No | No | No | No | No |
| 56 | 538 | Coxona Wash | 3 | Pima | 2.0193 | T22.0S,R9.0E,S02 | No | No | No | No | No | No |
| 57 | 563 | Coyote Wash - Pima | 1 | Pima | 2.8985 | T15.0S,R18.0E,S24 | No | No | No | No | No | No |
| 58 | 608 | Cuadro Wash | 3 | Pima | 3.6021 | T21.0S,R8.0E,S17 | No | No | No | No | No | No |
| 59 | 607 | Cuadra de Lena | 25 | Pima | 19.8800 | T14.0S,R6.0W,S31 | No | No | No | No | No | No |
| 60 | 608 | Cumaro Wash | 5 | Pima | 9.3181 | T17.0S,R18.0E,S03 | No | No | No | No | No | No |
| 61 | 616 | Daniels Arroyo | 33 | Maricopa/Pima | 37.7288 | T10.0S,R10.0W,S36 | No | No | No | No | No | No |
| 62 | 617 | Deer Creek 1 - Cochise/Pima | 3 | Pima | 8.1944 | T12.0S,R5.0W,S08 | No | No | No | No | No | No |
| 63 | 643 | Deer Creek 1 - Cochise/Pima | 5 | Cochise/Pima | 7.7185 | T14.0S,R19.0E,S20 | No | No | No | No | No | No |
| 64 | 680 | Drainage Way | 4 | Pima | 8.7366 | T15.0S,R13.0E,S02 | No | No | No | No | No | No |
| 65 | 691 | Drainage Way 1 | 7 | Pima | 16.3164 | T14.0S,R15.0E,S03 | No | No | No | No | No | No |
| 66 | 740 | El Tiro Wash | 2 | Pima | 10.8658 | T11.0S,R8.0E,S24 | No | No | No | No | No | No |
| 67 | 751 | Esperanza Wash | 2 | Pima | 7.7567 | T18.0S,R12.0E,S27 | No | No | No | No | No | No |
| 68 | 752 | Esperero Wash | 3 | Pima | 5.8068 | T13.0S,R15.0E,S08 | No | No | No | No | No | No |
| 69 | 780 | Flood Detention | 3 | Pima | 2.4559 | T18.0S,R14.0E,S31 | No | No | No | No | No | No |
| 70 | 798 | Fortynine Wash | 2 | Pima | 8.4119 | T18.0S,R17.0E,S33 | No | No | No | No | No | No |
| 71 | 797 | Fraquilia Wash | 10 | Pima/Santa Cruz | 9.8541 | T21.0S,R10.0E,S32 | No | No | No | No | No | No |
| 72 | 803 | Fresnal Wash 1 - Pima | 30 | Pima | 30.2238 | T18.0S,R6.0E,S34 | No | No | No | No | No | No |
| 73 | 804 | Fresnal Wash 2 - Pima | 9 | Pima | 6.8957 | T22.0S,R9.0E,S26 | No | No | No | No | No | No |
| 74 | 805 | Fresnal Wash 3 - Pima | 6 | Pima | 13.6732 | T17.0S,R10.0E,S16 | No | No | No | No | No | No |
| 75 | 806 | Fresno Wash | 8 | Pima | 12.0439 | T18.0S,R8.0E,S14 | No | No | No | No | No | No |
| 76 | 817 | Gardner Canyon | 7 | Pima/Santa Cruz | 20.9407 | T19.0S,R17.0E,S10 | No | No | No | No | No | No |
| 77 | 822 | Gibb Wash | 2 | Pima | 4.3555 | T11.0S,R16.0E,S12 | No | No | No | No | No | No |
| 78 | 823 | Gibson Arroyo | 2 | Pima | 9.9387 | T11.0S,R6.0W,S13 | No | No | No | No | No | No |
| 79 | 877 | Growler Wash | 94 | Maricopa/Pima/Yuma | 178.6073 | T10.0S,R11.0W,S26 | No | No | No | No | No | No |
| 80 | 878 | Gu Achi Wash | 14 | Pima | 18.6940 | T12.0S,R2.0E,S32 | No | No | No | No | No | No |
| 81 | 879 | Gu Oidak Wash | 1 | Pima | 6.9234 | T17.0S,R2.0E,S23 | No | No | No | No | No | No |
| 82 | 880 | Gu Yo Wash | 7 | Pima | 20.8435 | T16.0S,R2.0W,S12 | No | No | No | No | No | No |
| 83 | 884 | Gunsight Wash | 4 | Pima | 17.8374 | T14.0S,R4.0W,S09 | No | No | No | No | No | No |
| 84 | 37616 | Hall Murk Wash | 3 | Pima | 9.1411 | T17.0S,R1.0W,S12 | No | No | No | No | No | No |
| 85 | 37652 | Hickiwan Wash | 25 | Pima | 33.2022 | T13.0S,R2.0W,S10 | No | No | No | No | No | No |
| 86 | 37659 | Hilton Wash | 1 | Maricopa | 2.5821 | T19.0S,R17.0E,S24 | No | No | No | No | No | No |
| 87 | 37669 | Honey Bee Canyon | 1 | Pima | 1.8250 | T11.0S,R13.0E,S13 | No | No | No | No | No | No |
| 88 | 37697 | House Wash | 6 | Pima | 11.3782 | T12.0S,R7.0E,S32 | No | No | No | No | No | No |
| 89 | 37724 | Indian Town Wash | 3 | Pima | 5.1621 | T11.0S,R13.0E,S01 | No | No | No | No | No | No |
| 90 | 37767 | Julian Wash | 3 | Pima | 7.0841 | T15.0S,R14.0E,S11 | No | No | No | No | No | No |
| 91 | 37778 | Kaka Wash | 22 | Pima/Pinal/Maricopa | 21.7553 | T10.0S,R1.0E,S14 | No | No | No | No | No | No |
| 92 | 37796 | Ko Vaya Wash | 10 | Pima | 19.5665 | T14.0S,R3.0E,S12 | No | No | No | No | No | No |
| 93 | 37799 | Kuakatch Wash | 21 | Pima | 22.0044 | T14.0S,R6.0W,S32 | No | No | No | No | No | No |
| 94 | 37804 | La Osa Wash | 4 | Pima | 7.5484 | T22.0S,R8.0E,S90 | No | No | No | No | No | No |
| 95 | 37808 | Lakeside Park | 1 | Pima | 0.6137 | T14.0S,R15.0E,S28 | No | No | No | No | No | No |
| 96 | 37815 | Las Moras Wash | 7 | Pima | 11.0904 | T20.0S,R9.0E,S23 | No | No | No | No | No | No |
| 97 | 37816 | Las Moras Wash | 5 | Pima | 12.5665 | T21.0S,R8.0E,S01 | No | No | No | No | No | No |
| 98 | 37828 | Legunilla Wash | 1 | Pima | 5.4531 | T21.0S,R8.0E,S17 | No | No | No | No | No | No |
| 99 | 37872 | Little Thomas Wash | 4 | Pima | 8.1923 | T19.0S,R9.0E,S33 | No | No | No | No | No | No |
| 100 | 37893 | Lopez Wash - Pima | 5 | Pima | 8.6547 | T21.0S,R8.0E,S22 | No | No | No | No | No | No |

TABLE A-1A
 RL1 Watercourses for Pima County

| No. | W_ID | W_NAME | SECCOUNT | W_COUNTIES | W_MILES | W_ADDRESS | W_PER | W_MBOAT | W_HBOAT | W_FISH | W_SSTATUS | W_DIMP |
|-----|-------|----------------------|----------|-----------------|---------|-------------------|-------|---------|---------|--------|-----------|--------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 101 | 37895 | Los Encinos Wash | 5 | Pima | 8.4385 | T21.0S,R7.0E,S21 | No | No | No | No | No | No |
| 102 | 37933 | Martinez Wash - Pima | 2 | Pima | 3.8719 | T16.0S,R18.0E,S14 | No | No | No | No | No | No |
| 103 | 37953 | Mendoza Wash | 9 | Pima | 15.6463 | T15.0S,R10.0E,S32 | No | No | No | No | No | No |
| 104 | 37958 | Mescal Arroyo | 6 | Cochise/Pima | 9.2571 | T17.0S,R18.0E,S03 | No | No | No | No | No | No |
| 105 | 38014 | Montosa Canyon | 2 | Cochise/Pima | 6.7310 | T18.0S,R18.0E,S23 | No | No | No | No | No | No |
| 106 | 38015 | Montrose Canyon | 2 | Pima | 5.7809 | T12.0S,R14.0E,S04 | No | No | No | No | No | No |
| 107 | 38033 | Mud Spring Canyon | 4 | Pima | 7.1446 | T19.0S,R17.0E,S23 | No | No | No | No | No | No |
| 108 | 38041 | Mudberry Wash | 2 | Pima | 4.6197 | T18.0S,R7.0E,S29 | No | No | No | No | No | No |
| 109 | 38046 | Mud Kuli Wash | 6 | Pima | 19.9222 | T17.0S,R2.0E,S20 | No | No | No | No | No | No |
| 110 | 38080 | North Fork Arizo | 3 | Pima | 5.9441 | T15.0S,R14.0E,S20 | No | No | No | No | No | No |
| 111 | 38124 | Old Julian Wash | 2 | Pima | 6.2227 | T15.0S,R14.0E,S03 | No | No | No | No | No | No |
| 112 | 38125 | Old Junction Wash | 2 | Pima | 13.0207 | T19.0S,R13.0E,S32 | No | No | No | No | No | No |
| 113 | 38151 | Palgo Creek | 27 | Cochise/Pima | 17.6841 | T13.0S,R19.0E,S23 | No | No | No | No | No | No |
| 114 | 38161 | Pan Tak Wash | 4 | Pima | 21.8893 | T17.0S,R8.0E,S21 | No | No | No | No | No | No |
| 115 | 38182 | Pan Wash | 4 | Pima | 10.8948 | T17.0S,R3.0E,S05 | No | No | No | No | No | No |
| 116 | 38186 | Papago Wash | 7 | Pima/Yuma | 10.5039 | T15.0S,R11.0W,S24 | No | No | No | No | No | No |
| 117 | 38187 | Papago Wash - Pima | 1 | Pima | 5.3917 | T19.0S,R10.0E,S16 | No | No | No | No | No | No |
| 118 | 38188 | Papatole Wash | 4 | Pima | 6.0713 | T20.0S,R11.0E,S32 | No | No | No | No | No | No |
| 119 | 38182 | Pavo Kug Wash | 4 | Pima | 7.7206 | T18.0S,R8.0E,S26 | No | No | No | No | No | No |
| 120 | 38191 | Pentlas Wash | 8 | Pima | 12.9952 | T19.0S,R9.0E,S10 | No | No | No | No | No | No |
| 121 | 38198 | Pesquierra Wash | 3 | Pima | 2.1176 | T20.0S,R10.0E,S32 | No | No | No | No | No | No |
| 122 | 38213 | Pima Wash | 1 | Pima | 8.9453 | T13.0S,R13.0E,S12 | No | No | No | No | No | No |
| 123 | 38239 | Pisimino Wash | 2 | Pima | 15.9897 | T16.0S,R1.0W,S27 | No | No | No | No | No | No |
| 124 | 38244 | Piacentios Wash | 3 | Pima | 7.3464 | T20.0S,R8.0E,S22 | No | No | No | No | No | No |
| 125 | 38281 | Puertocho Wash | 11 | Pima | 16.0928 | T21.0S,R9.0E,S30 | No | No | No | No | No | No |
| 126 | 38295 | Quijota Wash | 12 | Pima | 24.1284 | T12.0S,R4.0E,S17 | No | No | No | No | No | No |
| 127 | 38328 | Redondo Wash | 3 | Pima | 5.8553 | T18.0S,R8.0E,S07 | No | No | No | No | No | No |
| 128 | 38345 | Rillito Creek | 16 | Pima | 12.2043 | T13.0S,R13.0E,S08 | No | No | No | No | No | No |
| 129 | 38346 | Rincon Creek | 15 | Pima | 16.1987 | T15.0S,R16.0E,S16 | No | No | No | No | No | No |
| 130 | 38347 | Rio Cornez | 14 | Pima | 13.2574 | T13.0S,R5.0W,S04 | No | No | No | No | No | No |
| 131 | 38388 | Sabino Wash | 5 | Pima | 8.1390 | T18.0S,R9.0E,S17 | No | No | No | No | No | No |
| 132 | 38394 | Sahuanta Wash | 2 | Pima | 9.0975 | T11.0S,R14.0E,S17 | No | No | No | No | No | No |
| 133 | 38410 | San Cristobal Wash | 53 | Pima/Yuma | 75.3919 | T11.0S,R11.0W,S05 | No | No | No | No | No | No |
| 134 | 38413 | San Juan Wash 1 | 4 | Pima | 9.8865 | T17.0S,R5.0E,S24 | No | No | No | No | No | No |
| 135 | 38414 | San Juan Wash 2 | 2 | Pima | 10.8996 | T18.0S,R10.0E,S30 | No | No | No | No | No | No |
| 136 | 38415 | San Luis Wash 1 | 12 | Pima | 28.0240 | T17.0S,R2.0E,S20 | No | No | No | No | No | No |
| 137 | 38416 | San Luis Wash 2 | 12 | Pima | 12.6872 | T21.0S,R9.0E,S04 | No | No | No | No | No | No |
| 138 | 38418 | San Simon Wash | 47 | Pima | 60.3308 | T18.0S,R1.0W,S34 | No | No | No | No | No | No |
| 139 | 38419 | San Vicente Wash | 7 | Pima | 23.7841 | T16.0S,R7.0E,S28 | No | No | No | No | No | No |
| 140 | 38439 | Senla Margarita | 6 | Pima | 10.1812 | T20.0S,R9.0E,S17 | No | No | No | No | No | No |
| 141 | 38444 | Saucito Wash - Pima | 2 | Pima | 8.2424 | T18.0S,R9.0E,S17 | No | No | No | No | No | No |
| 142 | 38445 | Sausalito Creek | 3 | Pima | 7.7778 | T11.0S,R14.0E,S30 | No | No | No | No | No | No |
| 143 | 38456 | Seco Arroyo | 4 | Pima | 9.7318 | T19.0S,R9.0E,S27 | No | No | No | No | No | No |
| 144 | 38460 | Sells Wash | 28 | Pima | 38.3728 | T17.0S,R2.0E,S20 | No | No | No | No | No | No |
| 145 | 38493 | Sikort Chuupo Wash | 21 | Pima | 30.7360 | T12.0S,R5.0W,S16 | No | No | No | No | No | No |
| 146 | 38494 | Sikul Himak Wash | 4 | Pima | 6.9292 | T16.0S,R3.0E,S03 | No | No | No | No | No | No |
| 147 | 38495 | Sil Nakya Wash | 12 | Pima | 27.6071 | T11.0S,R4.0E,S27 | No | No | No | No | No | No |
| 148 | 38508 | Sivri Shualak Wash | 23 | Pima | 16.5427 | T17.0S,R3.0W,S08 | No | No | No | No | No | No |
| 149 | 38538 | Solano Wash | 3 | Pima | 8.2282 | T18.0S,R8.0E,S12 | No | No | No | No | No | No |
| 150 | 38548 | Sopori Wash | 17 | Pima/Santa Cruz | 19.6881 | T20.0S,R3.0E,S05 | No | No | No | No | No | No |

TABLE A-1A
RL1 Watercourses for Pima County

| No. | W_ID | W_NAME | SECCOUNT | W_COUNTIES | W_MILES | W_ADDRESS | W_PER | W_MBOAT | W_HBOAT | W_FISH | W_SSTATUS | W_DIMP |
|-----|-------|-------------------------------|----------|---------------------|---------|-------------------|-------|---------|---------|--------|-----------|--------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) | (13) |
| 151 | 38549 | Solo Wash | 2 | Pima | 12.6264 | T15.0S,R10.0E,S08 | No | No | No | No | No | No |
| 152 | 38554 | South Fork Alrpo | 5 | Pima | 10.1825 | T15.0S,R14.0E,S27 | No | No | No | No | No | No |
| 153 | 38576 | South Mendoza Wash | 5 | Pima | 16.5549 | T17.0S,R8.0E,S11 | No | No | No | No | No | No |
| 154 | 38617 | Stevens Wash | 4 | Pima | 9.5883 | T17.0S,R9.0E,S14 | No | No | No | No | No | No |
| 155 | 38630 | Sturton Wash | 9 | Pima | 18.0719 | T10.0S,R18.0E,S16 | No | No | No | No | No | No |
| 156 | 38640 | Sutherland Wash | 10 | Pima | 9.0417 | T12.0S,R14.0E,S04 | No | No | No | No | No | No |
| 157 | 38675 | Tascuela Wash | 3 | Pinal | 7.4625 | T18.0S,R11.0E,S08 | No | No | No | No | No | No |
| 158 | 38677 | Tal Mamoli Wash | 4 | Pinal | 6.5676 | T10.0S,R5.0E,S12 | No | No | No | No | No | No |
| 159 | 38687 | Tennile Wash | 31 | Marticopa/Pima/Yuma | 89.3217 | T11.0S,R5.0W,S29 | No | No | No | No | No | No |
| 160 | 38711 | Tinaja Wash | 8 | Pima | 6.5861 | T18.0S,R12.0E,S28 | No | No | No | No | No | No |
| 161 | 38727 | Topawa Wash | 1 | Pima | 16.9445 | T19.0S,R4.0E,S22 | No | No | No | No | No | No |
| 162 | 38738 | Tres Bellas Canyon | 9 | Pima/Santa Cruz | 6.1966 | T23.0S,R10.0E,S90 | No | No | No | No | No | No |
| 163 | 38773 | Turkey Creek - Pima | 4 | Pima | 6.5171 | T15.0S,R18.0E,S01 | No | No | No | No | No | No |
| 164 | 38790 | Twentyseven Wash | 1 | Pinal | 2.3928 | T11.0S,R14.0E,S04 | No | No | No | No | No | No |
| 165 | 38807 | Varnori Wash | 80 | Pima | 59.8379 | T21.0S,R5.0E,S24 | No | No | No | No | No | No |
| 166 | 38810 | Ventana Canyon Wash | 7 | Pima | 9.2965 | T13.0S,R15.0E,S31 | No | No | No | No | No | No |
| 167 | 38814 | Vopuli Wash | 7 | Pima | 21.7932 | T13.0S,R15.0E,S26 | No | No | No | No | No | No |
| 168 | 38852 | Yellow Jacket Wash | 6 | Pima/Santa Cruz | 6.5086 | T21.0S,R10.0E,S28 | No | No | No | No | No | No |
| 169 | 38873 | a - Seg 14 Pima | 2 | Pima | 5.5231 | T12.0S,R2.0W,S05 | No | No | No | No | No | No |
| 170 | 38875 | a - Seg 164 Pima | 1 | Pima | 8.8427 | T18.0S,R5.0W,S14 | No | No | No | No | No | No |
| 171 | 38877 | a - Seg 180 Pima | 1 | Pima | 1.2740 | T14.0S,R9.0W,S30 | No | No | No | No | No | No |
| 172 | 38878 | a - Seg 2 Pima | 12 | Pima | 22.0461 | T12.0S,R6.0E,S05 | No | No | No | No | No | No |
| 173 | 38980 | a - Seg 2 Yuma/Pima | 11 | Pima/Yuma | 13.9587 | T15.0S,R11.0W,S29 | No | No | No | No | No | No |
| 174 | 38990 | a - Seg 6 Pima/Marticopa/Yuma | 9 | Marticopa/Pima/Yuma | 36.1204 | T8.0S,R11.0W,S23 | No | No | No | No | No | No |
| 175 | 38999 | b - Seg 13 Pima | 5 | Pima | 15.6791 | T14.0S,R6.0W,S31 | No | No | No | No | No | No |
| 176 | 39004 | b - Seg 4 Pima 1 | 4 | Pima | 11.5463 | T18.0S,R5.0W,S08 | No | No | No | No | No | No |
| 177 | 39005 | b - Seg 4 Pima 2 | 5 | Pima | 14.6333 | T13.0S,R7.0E,S26 | No | No | No | No | No | No |
| 178 | 39011 | c - Seg 10 Pima/Marticopa | 11 | Marticopa/Pima | 21.9649 | T10.0S,R6.0W,S14 | No | No | No | No | No | No |
| 179 | 39012 | c - Seg 18 Pima | 2 | Pima | 7.1152 | T14.0S,R4.0W,S09 | No | No | No | No | No | No |
| 180 | 39016 | c - Seg 6 Pima | 2 | Pima | 6.3243 | T17.0S,R6.0W,S30 | No | No | No | No | No | No |
| 181 | 39020 | d - Seg 13 Pima/Marticopa | 19 | Marticopa/Pima | 27.9804 | T9.0S,R6.0W,S07 | No | No | No | No | No | No |
| 182 | 39022 | d - Seg 20 Pima | 6 | Pima | 11.9721 | T14.0S,R6.0W,S29 | No | No | No | No | No | No |
| 183 | 39027 | e - Seg 21 Pima | 7 | Pima | 18.7451 | T13.0S,R9.0W,S26 | No | No | No | No | No | No |
| 184 | --- | 2970 Unnamed watercourses | --- | Pima | varies | varies | No | No | No | No | No | No |

NOTES: The column headings are identified as follows:

- W_ID: Unique ID number given to the watercourse.
- W_NAME: Name of the watercourse.
- SECCOUNT: Number of segments merged together to comprise the watercourse.
- W_COUNTIES: County(ies) where the watercourse is located.
- W_MILES: Length of the watercourse in miles.
- W_ADDRESS: Township, Range and Section of the mouth of the watercourse.
- W_PER: Stream classification- perennial or not.
- W_MBOAT: With modern boating or not.
- W_HBOAT: With historical boating or not.
- W_FISH: With fish or not.
- W_DIMP: Impacted by dam or not.
- W_SSTATUS: With special status designation or not.
- HITS: Number of affirmative hits based on the six attribute data.

STATE OF ARIZONA
COUNTY OF PIMA

Janice Anderson, being first duly sworn,
upon oath deposes and says:

That he/she is the agent of TUCSON NEWSPAPERS, publishers of
THE ARIZONA DAILY STAR / TUCSON CITIZEN,
newspapers of general circulation in the County of Pima, State of Arizona,
published at Tucson, Arizona, and that the statement hereto attached is a true representation
of the advertisement published in the said paper(s) 3 times on the
following days:

Nov 14 2003 in class 918 T-Tucson Classifieds - Daily
Nov 21 2003 in class 918 T-Tucson Classifieds - Daily
Nov 28 2003 in class 918 T-Tucson Classifieds - Daily

Janice Anderson
Agent

Subscribed and sworn to before me this 28th day of November, A.D. 2003



VALERIE S. GONZALES
Notary Public - Arizona
Pima County
Expires 09/30/06

My Commission Expires _____

Notary Public Valerie S. Gonzales

M332223603601

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purchase to A.R.S. §37-1101, et. seq., the Arizona Navigable Stream Adjudication Commission (ANSAC) is planning to hold a watercourse navigability hearing regarding the San Pedro River and the Santa Cruz River in Pima County, Arizona. Notice is hereby given, pursuant to A.R.S. §37-1123 (B), that ANSAC intends to receive, review, and consider evidence regarding the navigability or nonnavigability of the San Pedro River and the Santa Cruz River in Pima County. Interested parties are requested to file all documentary and other physical evidence they propose to submit to ANSAC by January 12, 2004. All evidence submitted to ANSAC will be the property of ANSAC and the State of Arizona. Evidence submitted will be available for public inspection at the ANSAC offices during regular office hours. Pursuant to A.R.S. §37-1101, et. seq., the Arizona Navigable Stream Adjudication Commission (ANSAC) is planning to hold a watercourse navigability hearing regarding all of the small and minor watercourses in Pima County, Arizona. Notice is hereby given, pursuant to A.R.S. §37-1123 (B), that ANSAC intends to receive, review, and consider evidence regarding the navigability or nonnavigability of all small and minor watercourses in Pima County. Interested parties are requested to file all documentary evidence they propose to submit to ANSAC by January 12, 2004. All evidence submitted to ANSAC will be the property of ANSAC and the State of Arizona. Evidence submitted will be available for public inspection at the ANSAC offices during regular office hours. The list of small and minor watercourses includes: Agua Caliente Wash, Agua Verde Creek, Aguajita Wash, Aguirre Wash, Lambre Wash, Alamito Wash, Alamo Wash 1 - Pima, Alder Creek Pima, Alder Wash - Pima, All Chuk Wash, All Molina Wash, Altar Wash, Amigo Wash, Anegan Wash, Anegan

BEAUTIFUL DANISH teak dining table, 6 chairs, and 6 sideboard. \$1100. Call 504-3322.

Adjustable futon bed, electric model & elec massage. 10yr warranty. \$1500 OBO. 795-222

A STEAL!! Dining table & 6 uphol. chairs. White washed oak. \$495.00. Dinette table w/4 chairs. \$225.00. w/chairs. \$237-1264. Cash. Carry 237-1264.

BARLEY USED OMEGA wall bed. Superior quality, sep. raly order mattress. Style book shelf & drawers on side. \$1250. Includes professional removal, transport & installation in your home. Within 5 miles of 6th St & Country Club. 321-1990

BEAUTIFUL German Custom Built Wall Unit. \$2000 OBO

BEAUTIFUL QUEEN SIZE w. bed unit, drawer & shelf. \$2500 OBO. Hammock. \$25. Windback ch. \$50. * Call 546-6652 *

BEAUTIFUL RUSTIC MISSISSIPPI pine in ne. \$1475. Pc \$445. Premium Hr. & boxes. \$425 (520) 406-431

Bedroom master sleigh b. set. Solid wood, gorgeous. Still boxed must sell. \$600. (520) 940-3058

BEDS - 5 year warr. New fric. used prices. recyck since 1980. ABC 624-4199

BLACK LACQUER contemporary rary CA king bed with 2 nr. stands, dresser, & mirror. Made in Italy with mattress. \$2250. Call 252-9529

CHEERY DINING SET, 4x4 round w/leaf & chairs. \$799-1438

COFFEE & 2 END tables. design - metal. \$200-299-30.

COMPUTER DESK, CHERRY matching 2 drawer file cabinet & chair. \$250. \$229-4650

COPPERHAGEN DIN SET 7 chairs. \$580. \$580. \$330. Set \$840. 219-1250

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DEC 29 2003
BY: *gjm*

THE ARIZONA REPUBLIC

STATE OF ARIZONA }
COUNTY OF MARICOPA } SS.

TOM BIANCO, being first duly sworn, upon oath deposes and says: That he is the legal advertising manager of the Arizona Business Gazette, a newspaper of general circulation in the county of Maricopa, State of Arizona, published at Phoenix, Arizona, by Phoenix Newspapers Inc., which also publishes The Arizona Republic, a newspaper of general circulation in the State of Arizona, and that the copy hereto attached is a true copy of the advertisement published in the said paper, named below, on the dates as indicated below:

The Arizona Republic

December 12, 2003

[Signature]

Sworn to before me this
12TH day of
December A.D. 2003

C-1



[Signature]
Notary Public

IRISDAY
Townhome Rentals
114 - 118 County Blvd.
HWY 60, 5005
\$500/mo. 602-531-3300
28A IBA, cov'd carport, comm
pool, Univ/May \$45 Mt 1st
mo free 5675/mo 602-682-5804
28d Zba beat Alta Mesa TH
1200sq, vault cell, 2cg, comm
pool, 9950/mo, 602-762-8087
28d Zba split fr ptn condo cvd
frapley/Unit 480-225-6070
Spac 2br Zba condo, border
cpl, beat mt, quiet complex
c/d pkg, \$790, 480-633-0543
3675
Phoenix - Central
Condo / TH Rentals
1 & 2 br Zba, 800/1000 sq ft
5Combrk, All appliance incl
623-341-5921 or 623-376-7653
Baltimore area 2bd Zba, pool
1200sq w/d, 2nd floor, views
mtb incl 5975 602-826-8622
Cute turn'd studio apt, util
incl, close to St Joe's Hosp.
5550, 623-937-8504

Evidence Log

Hearing No. 04-003

Page No.

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Arizona Navigable Stream Adjudication Commission

Pima County Small and Minor Watercourses
January 22, 2003

| Item Number | Received Date | Source to ANSAC | Description | Entry By |
|-------------|---------------|-----------------------------|--|----------------|
| 1 | 06/10/96 | Evidence on Hand at AN-SAC | Central Arizona Paddlers Club Boating Survey of Arizona Rivers—1992 | George Mehnert |
| 2 | 02/18/97 | Evidence on Hand at AN-SAC | Letter from David Baron dated February 18, 1997. | George Mehnert |
| 3 | 09/19/97 | Evidence on Hand at AN-SAC | Letter and attached maps from James T. Braselton, Mariscal, Weeks, etc. | George Mehnert |
| 4 | 9/?/98 | Evidence on hand at AN-SAC | Small and Minor Watercourse Criteria Final Report. | George Mehnert |
| 5 | 9/?/99 | Evidence on hand at AN-SAC | Final Report, 3 County Pilot Study. | George Mehnert |
| 6 | 06/09/00 | Evidence on hand at AN-SAC | Draft Final Report, Small & Minor Watercourses Analysis for Pima County, Arizona. | George Mehnert |
| 7 | 08/01/00 | Evidence on hand at AN-SAC. | Final Report, Small & Minor Watercourses Analysis for Pima County, Arizona. | George Mehnert |
| 8 | 08/17/00 | Evidence on hand at AN-SAC. | PowerPoint slide show relating to the Final Report for Pima County Small & Minor Watercourses. | George Mehnert |
| | | | | |

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**Meeting Minutes
Tucson, Pima County, Arizona
January 22, 2004**

COMMISSION MEMBERS PRESENT

Jay Brashear, Earl Eisenhower, James Henness, Cecil Miller.

COMMISSION MEMBERS ABSENT

Dolly Echeverria

STAFF PRESENT

George Mehnert, Dir., Curtis Jennings, Legal Counsel.

1. CALL TO ORDER.

Chairman Eisenhower called the meeting to order at approximately 10:16 a.m.

2. ROLL CALL.

See above.

3. APPROVAL OF MINUTES.

A. Minutes of December 16, 2003.

Motion: To approve minutes.

Motion by: Cecil Miller. Second by: Jim Henness. Vote: All aye.

4. HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE SANTA CRUZ RIVER IN PIMA COUNTY, Cause Number 03-002-NAV.

The following people appeared and gave testimony, other information, or asked questions on January 22, 2004: Cheryl Doyle, Jon Fuller.

HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE SAN PEDRO RIVER IN PIMA COUNTY, Cause Number 03-004-NAV.

The following people appeared and gave testimony, other information, or asked questions on January 22, 2004: Cheryl Doyle, Jon Fuller.

5. HEARING REGARDING THE NAVIGABILITY OR NON-NAVIGABILITY OF THE SMALL AND MINOR WATERCOURSES IN PIMA COUNTY, Cause Number 04-003-NAV.

The following people appeared and gave testimony, other information, or asked questions on January 22, 2004: Cheryl Doyle, Jon Fuller.

6. CALL FOR PUBLIC COMMENT (comment sheets).

(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in

E

7.

FUTURE AGENDA ITEMS AND ESTABLISHMENT OF FUTURE HEARINGS AND OTHER MEETINGS.

The Chair asked the director to go over the current calendar for scheduled meetings. Mr. Mehnert said there was a meeting scheduled for 8:00 a.m. on January 27, 2004 in Phoenix at which time the Commission may consider and may vote on the navigability of the Graham County small and minor watercourses, the Greenlee County small and minor watercourses, the San Francisco River, the Blue River, and the Lower Salt River.

Mr. Mehnert also said there is a hearing scheduled for March 9, 2004 in Florence, Arizona relating to the Pinal County small and minor watercourses, the Santa Cruz River, the San Pedro River, and the Gila River.

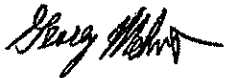
8. ADJOURNMENT.

Motion: To adjourn.

Motion by: Cecil Miller. Second by: Jim Hennes. Vote: All aye.

Meeting adjourned at approximately 11:00 a.m.

Respectfully submitted,



George Mehnert, Director, January 23, 2004
Navigable Stream Adjudication Commission

1-23-04 11:00 AM

TABLE A-1A
RL1 Watercourses for Pima County

| No. | (1) | W_ID | (2) | W_NAME | (3) | SEGCOUNT | (4) | W_COUNTIES | (5) | W_MILES | (6) | W_ADDRESS | (7) | W_PER | (8) | W_MBOAT | (9) | W_HBOAT | (10) | W_FISH | (11) | W_SSTATUS | (12) | W_DIMP | (13) |
|-----|-----|------|-----|-----------------------------|-----|----------|-----|-----------------|---------|---------|-----|-------------------|-----|-------|-----|---------|-----|---------|------|--------|------|-----------|------|--------|------|
| 1 | | 14 | | Agua Caliente Wash | | 11 | | Pima | 13.7193 | | | T13.OS,R16.0E,S19 | | No | | No | | No | | No | | No | | No | |
| 2 | | 16 | | Agua Verde Creek | | 6 | | Pima | 13.3941 | | | T16.OS,R17.0E,S08 | | No | | No | | No | | No | | No | | No | |
| 3 | | 17 | | Aguajilla Wash | | 13 | | Pima | 11.6498 | | | T17.OS,R7.0W,S17 | | No | | No | | No | | No | | No | | No | |
| 4 | | 18 | | Aguirre Wash | | 21 | | Pima | 36.6433 | | | T11.OS,R6.0E,S32 | | No | | No | | No | | No | | No | | No | |
| 5 | | 21 | | Alambre Wash | | 10 | | Pima | 14.7958 | | | T17.OS,R9.0E,S08 | | No | | No | | No | | No | | No | | No | |
| 6 | | 22 | | Alamito Wash | | 2 | | Pima | 2.1987 | | | T22.OS,R9.0E,S23 | | No | | No | | No | | No | | No | | No | |
| 7 | | 25 | | Alamo Wash 1 - Pima | | 5 | | Pima | 13.7947 | | | T15.OS,R6.0W,S15 | | No | | No | | No | | No | | No | | No | |
| 8 | | 30 | | Alder Creek - Pima | | 3 | | Pima | 7.3201 | | | T13.OS,R14.0E,S27 | | No | | No | | No | | No | | No | | No | |
| 9 | | 33 | | Alder Wash - Pima | | 8 | | Pima | 13.3664 | | | T11.OS,R17.0E,S01 | | No | | No | | No | | No | | No | | No | |
| 10 | | 40 | | Allar Wash | | 44 | | Pima | 22.7159 | | | T18.OS,R9.0E,S11 | | No | | No | | No | | No | | No | | No | |
| 11 | | 43 | | Amigo Wash | | 3 | | Pima | 4.0603 | | | T21.OS,R10.0E,S29 | | No | | No | | No | | No | | No | | No | |
| 12 | | 47 | | Anegam Wash | | 18 | | Pima | 26.2508 | | | T12.OS,R2.0E,S25 | | No | | No | | No | | No | | No | | No | |
| 13 | | 48 | | Anegan Wash | | 12 | | Pima | 20.5649 | | | T15.OS,R6.0E,S35 | | No | | No | | No | | No | | No | | No | |
| 14 | | 56 | | Apache Canyon Stream | | 2 | | Cochise/Pima | 8.8835 | | | T18.OS,R18.0E,S07 | | No | | No | | No | | No | | No | | No | |
| 15 | | 63 | | Arcadia Wash | | 1 | | Pima | 3.8675 | | | T13.OS,R14.0E,S35 | | No | | No | | No | | No | | No | | No | |
| 16 | | 66 | | Aros Wash | | 2 | | Pima | 3.2651 | | | T21.OS,R7.0E,S24 | | No | | No | | No | | No | | No | | No | |
| 17 | | 69 | | Arrieta Wash | | 2 | | Pima | 4.1532 | | | T22.OS,R9.0E,S19 | | No | | No | | No | | No | | No | | No | |
| 18 | | 70 | | Arroyo Chico | | 3 | | Pima | 2.8970 | | | T14.OS,R14.0E,S18 | | No | | No | | No | | No | | No | | No | |
| 19 | | 71 | | Arroyo del Compa | | 9 | | Pima | 6.6445 | | | T21.OS,R8.0E,S22 | | No | | No | | No | | No | | No | | No | |
| 20 | | 72 | | Arroyo del Sasab | | 7 | | Pima | 6.1215 | | | T22.OS,R8.0E,S34 | | No | | No | | No | | No | | No | | No | |
| 21 | | 80 | | Ash Creek 1 - Cochise/Pima | | 5 | | Cochise/Pima | 5.2923 | | | T16.OS,R19.0E,S06 | | No | | No | | No | | No | | No | | No | |
| 22 | | 86 | | Ash Creek 2 - Pima | | 1 | | Pima | 4.3955 | | | T18.OS,R10.0E,S12 | | No | | No | | No | | No | | No | | No | |
| 23 | | 97 | | Ash Wash | | 1 | | Pima | 8.8962 | | | T17.OS,R9.0E,S35 | | No | | No | | No | | No | | No | | No | |
| 24 | | 99 | | Asoldo Wash | | 2 | | Pima | 5.6605 | | | T20.OS,R7.0E,S35 | | No | | No | | No | | No | | No | | No | |
| 25 | | 109 | | Baboquivari Wash | | 10 | | Pima | 18.9303 | | | T19.OS,R6.0E,S11 | | No | | No | | No | | No | | No | | No | |
| 26 | | 116 | | Bailey Wash | | 5 | | Pima | 6.3378 | | | T21.OS,R8.0E,S15 | | No | | No | | No | | No | | No | | No | |
| 27 | | 119 | | Banner Wash | | 4 | | Pima | 12.1325 | | | T17.OS,R9.0E,S11 | | No | | No | | No | | No | | No | | No | |
| 28 | | 133 | | Batamote Wash 1 | | 3 | | Pima/Santa Cruz | 11.2927 | | | T19.OS,R11.0E,S22 | | No | | No | | No | | No | | No | | No | |
| 29 | | 134 | | Batamote Wash 2 | | 4 | | Pima/Pinal | 6.4217 | | | T11.OS,R13.0E,S12 | | No | | No | | No | | No | | No | | No | |
| 30 | | 140 | | Bear Creek 1 - Cochise/Pima | | 2 | | Cochise/Pima | 9.0827 | | | T14.OS,R19.0E,S29 | | No | | No | | No | | No | | No | | No | |
| 31 | | 191 | | Big Wash - Pima | | 6 | | Pima | 12.1932 | | | T19.OS,R2.0E,S01 | | No | | No | | No | | No | | No | | No | |
| 32 | | 192 | | Big Wash - Pima/Pinal | | 30 | | Pima/Pinal | 26.5679 | | | T11.OS,R14.0E,S30 | | No | | No | | No | | No | | No | | No | |
| 33 | | 203 | | Bird Canyon Wash | | 2 | | Pima | 3.6594 | | | T12.OS,R15.0E,S33 | | No | | No | | No | | No | | No | | No | |
| 34 | | 242 | | Bianco Wash | | 10 | | Pima | 19.1606 | | | T11.OS,R10.0E,S17 | | No | | No | | No | | No | | No | | No | |
| 35 | | 262 | | Bolas Blancas Wash | | 10 | | Pima | 12.0787 | | | T19.OS,R9.0E,S14 | | No | | No | | No | | No | | No | | No | |
| 36 | | 263 | | Bollen Wash | | 12 | | Graham/Pima | 13.0455 | | | T11.OS,R18.0E,S13 | | No | | No | | No | | No | | No | | No | |
| 37 | | 284 | | Box Canyon Wash - Pima | | 7 | | Pima | 18.8193 | | | T17.OS,R13.0E,S24 | | No | | No | | No | | No | | No | | No | |
| 38 | | 290 | | Brawley Wash | | 16 | | Pima | 34.8987 | | | T17.OS,R9.0E,S11 | | No | | No | | No | | No | | No | | No | |
| 39 | | 302 | | Brown Wash - Pima | | 5 | | Pima | 13.5249 | | | T18.OS,R9.0E,S27 | | No | | No | | No | | No | | No | | No | |
| 40 | | 371 | | Canez Wash | | 1 | | Pima | 1.4522 | | | T20.OS,R11.0E,S31 | | No | | No | | No | | No | | No | | No | |
| 41 | | 41 | | Canoa Wash | | 5 | | Pima | 5.5307 | | | T22.OS,R8.0E,S50 | | No | | No | | No | | No | | No | | No | |
| 42 | | 373 | | Cantina Wash | | 1 | | Pima | 2.9052 | | | T23.OS,R9.0E,S13 | | No | | No | | No | | No | | No | | No | |
| 43 | | 398 | | Catalina Wash | | 17 | | Pinal | 15.2351 | | | T10.OS,R18.0E,S08 | | No | | No | | No | | No | | No | | No | |
| 44 | | 428 | | Cerro Prieto Wash | | 3 | | Pima | 10.8939 | | | T18.OS,R9.0E,S22 | | No | | No | | No | | No | | No | | No | |
| 45 | | 430 | | Chalk Creek | | 4 | | Pinal | 6.2578 | | | T11.OS,R14.0E,S29 | | No | | No | | No | | No | | No | | No | |
| 46 | | 434 | | Champurrado Wash | | 1 | | Pima | 13.6890 | | | T19.OS,R10.0E,S18 | | No | | No | | No | | No | | No | | No | |
| 47 | | 441 | | Cherion Wash | | 14 | | Pima | 15.0701 | | | T15.OS,R6.0W,S16 | | No | | No | | No | | No | | No | | No | |
| 48 | | 449 | | Chico Shutlie Arroyo | | 5 | | Pima | 7.2217 | | | T13.OS,R7.0W,S04 | | No | | No | | No | | No | | No | | No | |
| 49 | | 450 | | Chiltepin Wash | | 2 | | Pima | 10.0006 | | | T19.OS,R8.0E,S01 | | No | | No | | No | | No | | No | | No | |
| 50 | | 451 | | Chimney Rock Creek | | 3 | | Pima | 8.8325 | | | T12.OS,R18.0E,S19 | | No | | No | | No | | No | | No | | No | |

TABLE A-1A
RL1 Watercourses for Pima County

| No. | W_ID (1) | W_NAME (3) | SEGCOUNT (4) | W_COUNTIES (5) | W_MILES (6) | W_ADDRESS (7) | W_PER (8) | W_MBOAT (9) | W_HBOAT (10) | W_FISH (11) | W_SSTATUS (12) | W_DIMP (13) |
|-----|-------------|-----------------------------|-----------------|---------------------|----------------|-------------------|--------------|----------------|-----------------|----------------|-------------------|----------------|
| 51 | 458 | Chireon Wash | 1 | Pima/Pinal | 8.1996 | T11.0S,R14.0E,S05 | No | No | No | No | No | No |
| 52 | 463 | Chukui Kuk Wash | 23 | Pima | 34.4244 | T19.0S,R3.0E,S33 | No | No | No | No | No | No |
| 53 | 464 | Chutum Vaya Wash | 17 | Pima | 16.9449 | T20.0S,R5.0E,S16 | No | No | No | No | No | No |
| 54 | 507 | Comobabi Wash | 5 | Pima | 12.4950 | T17.0S,R5.0E,S23 | No | No | No | No | No | No |
| 55 | 515 | Contreras Wash - Pima | 2 | Pima | 4.7798 | T18.0S,R8.0E,S14 | No | No | No | No | No | No |
| 56 | 538 | Corona Wash | 3 | Pima | 2.0193 | T22.0S,R9.0E,S02 | No | No | No | No | No | No |
| 57 | 593 | Coyote Wash - Pima | 3 | Pima | 2.8995 | T15.0S,R16.0E,S24 | No | No | No | No | No | No |
| 58 | 608 | Cuadro Wash | 1 | Pima | 3.6021 | T21.0S,R8.0E,S17 | No | No | No | No | No | No |
| 59 | 607 | Cuerda de Lena | 25 | Pima | 18.8800 | T14.0S,R8.0W,S31 | No | No | No | No | No | No |
| 60 | 608 | Cumaro Wash | 5 | Pima | 9.3181 | T17.0S,R18.0E,S03 | No | No | No | No | No | No |
| 61 | 616 | Daniela Arroyo | 33 | Maricopa/Pima | 37.7289 | T10.0S,R10.0W,S38 | No | No | No | No | No | No |
| 62 | 617 | Darby Arroyo | 3 | Pima | 8.1944 | T12.0S,R5.0W,S08 | No | No | No | No | No | No |
| 63 | 643 | Deer Creek 1 - Cochise/Pima | 5 | Cochise/Pima | 7.7186 | T14.0S,R19.0E,S20 | No | No | No | No | No | No |
| 64 | 680 | Drainage Way | 4 | Pima | 8.7566 | T16.0S,R13.0E,S02 | No | No | No | No | No | No |
| 65 | 681 | Drainage Way 1 | 7 | Pima | 16.3164 | T14.0S,R15.0E,S03 | No | No | No | No | No | No |
| 66 | 740 | El Tiro Wash | 2 | Pima | 10.8656 | T11.0S,R6.0E,S24 | No | No | No | No | No | No |
| 67 | 751 | Esperanza Wash | 2 | Pima | 7.7587 | T16.0S,R12.0E,S27 | No | No | No | No | No | No |
| 68 | 752 | Esperero Wash | 3 | Pima | 5.8088 | T13.0S,R15.0E,S08 | No | No | No | No | No | No |
| 69 | 780 | Flood Detention | 3 | Pima | 2.4559 | T14.0S,R14.0E,S31 | No | No | No | No | No | No |
| 70 | 788 | Fortynine Wash | 2 | Pima | 8.4119 | T18.0S,R17.0E,S33 | No | No | No | No | No | No |
| 71 | 797 | Fraquita Wash | 10 | Pima/Santa Cruz | 9.6541 | T21.0S,R10.0E,S32 | No | No | No | No | No | No |
| 72 | 803 | Fresnal Wash 1 - Pima | 30 | Pima | 30.2238 | T18.0S,R6.0E,S34 | No | No | No | No | No | No |
| 73 | 804 | Fresnal Wash 2 - Pima | 9 | Pima | 6.6957 | T22.0S,R9.0E,S26 | No | No | No | No | No | No |
| 74 | 805 | Fresnal Wash 3 - Pima | 6 | Pima | 13.6732 | T17.0S,R10.0E,S16 | No | No | No | No | No | No |
| 75 | 806 | Fresno Wash | 8 | Pima | 12.0439 | T18.0S,R8.0E,S14 | No | No | No | No | No | No |
| 76 | 817 | Gerother Canyon | 7 | Pima/Santa Cruz | 20.0407 | T19.0S,R17.0E,S10 | No | No | No | No | No | No |
| 77 | 822 | Gibb Wash | 2 | Pima | 4.3555 | T11.0S,R16.0E,S12 | No | No | No | No | No | No |
| 78 | 823 | Gibson Arroyo | 2 | Pima | 9.9387 | T11.0S,R8.0W,S13 | No | No | No | No | No | No |
| 79 | 877 | Growler Wash | 94 | Maricopa/Pima/Yuma | 178.6073 | T10.0S,R11.0W,S28 | No | No | No | No | No | No |
| 80 | 878 | Gu Achi Wash | 14 | Pima | 18.5940 | T12.0S,R2.0E,S32 | No | No | No | No | No | No |
| 81 | 879 | Gu Oidak Wash | 1 | Pima | 8.9234 | T17.0S,R2.0E,S23 | No | No | No | No | No | No |
| 82 | 880 | Gu Vo Wash | 7 | Pima | 20.8435 | T16.0S,R2.0W,S12 | No | No | No | No | No | No |
| 83 | 884 | Gunsight Wash | 4 | Pima | 17.8374 | T14.0S,R4.0W,S08 | No | No | No | No | No | No |
| 84 | 37616 | Haill Murk Wash | 3 | Pima | 9.1411 | T17.0S,R1.0W,S12 | No | No | No | No | No | No |
| 85 | 37652 | Hickman Wash | 25 | Pima/Maricopa | 33.2022 | T13.0S,R2.0W,S10 | No | No | No | No | No | No |
| 86 | 37659 | Hilton Wash | 1 | Pima | 2.5921 | T19.0S,R17.0E,S24 | No | No | No | No | No | No |
| 87 | 37669 | Honey Bee Canyon | 1 | Pima | 1.8250 | T11.0S,R13.0E,S13 | No | No | No | No | No | No |
| 88 | 37697 | House Wash | 6 | Pima | 11.3782 | T12.0S,R7.0E,S32 | No | No | No | No | No | No |
| 89 | 37724 | Indian Town Wash | 3 | Pima | 5.1621 | T11.0S,R13.0E,S01 | No | No | No | No | No | No |
| 90 | 37767 | Julian Wash | 3 | Pima | 7.0641 | T15.0S,R14.0E,S11 | No | No | No | No | No | No |
| 91 | 37778 | Kaka Wash | 22 | Pima/Pinal/Maricopa | 21.7553 | T10.0S,R1.0E,S14 | No | No | No | No | No | No |
| 92 | 37786 | Ko Vaya Wash | 10 | Pima | 19.5985 | T14.0S,R3.0E,S12 | No | No | No | No | No | No |
| 93 | 37789 | Kuakatch Wash | 21 | Pima | 22.0044 | T14.0S,R6.0W,S32 | No | No | No | No | No | No |
| 94 | 37804 | La Osa Wash | 4 | Pima | 7.5484 | T22.0S,R8.0E,S90 | No | No | No | No | No | No |
| 95 | 37808 | Lakeside Park | 1 | Pima | 0.6137 | T14.0S,R15.0E,S28 | No | No | No | No | No | No |
| 96 | 37815 | Las Guijas Wash | 7 | Pima | 11.0804 | T20.0S,R9.0E,S23 | No | No | No | No | No | No |
| 97 | 37816 | Las Moras Wash | 5 | Pima | 12.5565 | T21.0S,R8.0E,S01 | No | No | No | No | No | No |
| 98 | 37828 | Leguinita Wash | 1 | Pima | 5.1531 | T21.0S,R8.0E,S17 | No | No | No | No | No | No |
| 99 | 37872 | Little Thomas Wash | 4 | Pima | 8.1923 | T19.0S,R9.0E,S33 | No | No | No | No | No | No |
| 100 | 37893 | Lopez Wash - Pima | 5 | Pima | 8.6547 | T21.0S,R8.0E,S22 | No | No | No | No | No | No |

TABLE A-1A
RL1 Watercourses for Pima County

| No. | W_ID (2) | W_NAME (3) | SEGCOUNT (4) | W_COUNTIES (5) | W_MILES (6) | W_ADDRESS (7) | W_PER (8) | W_MBOAT (9) | W_HBOAT (10) | W_FISH (11) | W_SSTATUS (12) | W_DIMP (13) |
|-----|-------------|----------------------|-----------------|-------------------|----------------|-------------------|--------------|----------------|-----------------|----------------|-------------------|----------------|
| 101 | 37895 | Los Encinos Wash | 5 | Pima | 8.4385 | T21.OS,R7.0E,S21 | No | No | No | No | No | No |
| 102 | 37933 | Marlinez Wash - Pima | 2 | Pima | 3.8719 | T16.OS,R18.0E,S14 | No | No | No | No | No | No |
| 103 | 37953 | Mendoza Wash | 9 | Pima | 15.6463 | T15.OS,R10.0E,S32 | No | No | No | No | No | No |
| 104 | 37958 | Mescal Arroyo | 6 | Cochise/Pima | 9.2571 | T17.OS,R18.0E,S03 | No | No | No | No | No | No |
| 105 | 38014 | Montosa Canyon | 2 | Cochise/Pima | 6.7310 | T18.OS,R18.0E,S23 | No | No | No | No | No | No |
| 106 | 38015 | Montrose Canyon | 2 | Pima | 5.7809 | T12.OS,R14.0E,S04 | No | No | No | No | No | No |
| 107 | 38033 | Mud Spring Canyon | 4 | Pima | 7.1446 | T19.OS,R17.0E,S23 | No | No | No | No | No | No |
| 108 | 38041 | Mulberry Wash | 2 | Pima | 4.6197 | T18.OS,R7.0E,S29 | No | No | No | No | No | No |
| 109 | 38046 | Murk Kull Wash | 6 | Pima | 19.9222 | T17.OS,R2.0E,S20 | No | No | No | No | No | No |
| 110 | 38080 | North Fork Alrpo | 3 | Pima | 5.9441 | T15.OS,R14.0E,S20 | No | No | No | No | No | No |
| 111 | 38124 | Old Julian Wash | 2 | Pima | 6.2227 | T15.OS,R14.0E,S03 | No | No | No | No | No | No |
| 112 | 38125 | Old Junction Wash | 2 | Pima | 13.0207 | T18.OS,R13.0E,S32 | No | No | No | No | No | No |
| 113 | 38151 | Paige Creek | 27 | Cochise/Pima | 17.6841 | T13.OS,R19.0E,S23 | No | No | No | No | No | No |
| 114 | 38161 | Pan Tak Wash | 4 | Pima | 21.8893 | T17.OS,R8.0E,S21 | No | No | No | No | No | No |
| 115 | 38162 | Pan Wash | 11 | Pima | 10.9848 | T17.OS,R3.0E,S05 | No | No | No | No | No | No |
| 116 | 38166 | Papago Wash | 7 | Pima/Yuma | 10.5039 | T16.OS,R11.0W,S24 | No | No | No | No | No | No |
| 117 | 38167 | Papago Wash - Pima | 1 | Pima | 5.3917 | T18.OS,R10.0E,S16 | No | No | No | No | No | No |
| 118 | 38168 | Papatole Wash | 1 | Pima | 6.0713 | T20.OS,R11.0E,S32 | No | No | No | No | No | No |
| 119 | 38182 | Pavo Kug Wash | 4 | Pima | 7.7205 | T16.OS,R6.0E,S26 | No | No | No | No | No | No |
| 120 | 38191 | Pentlas Wash | 8 | Pima | 12.9952 | T19.OS,R9.0E,S10 | No | No | No | No | No | No |
| 121 | 38196 | Pesquiera Wash | 3 | Pima | 2.1176 | T20.OS,R10.0E,S32 | No | No | No | No | No | No |
| 122 | 38213 | Pima Wash | 2 | Pima | 8.9453 | T13.OS,R13.0E,S12 | No | No | No | No | No | No |
| 123 | 38239 | Pishimo Wash | 1 | Pima | 45.8997 | T16.OS,R1.0W,S27 | No | No | No | No | No | No |
| 124 | 38244 | Placeritos Wash | 3 | Pima | 7.3454 | T20.OS,R8.0E,S22 | No | No | No | No | No | No |
| 125 | 38281 | Puertocito Wash | 11 | Pima | 16.0928 | T21.OS,R8.0E,S17 | No | No | No | No | No | No |
| 126 | 38295 | Quijoto Wash | 12 | Pima | 24.1264 | T12.OS,R4.0E,S17 | No | No | No | No | No | No |
| 127 | 38328 | Redondo Wash | 3 | Pima | 5.8553 | T18.OS,R8.0E,S07 | No | No | No | No | No | No |
| 128 | 38345 | Rilito Creek | 16 | Pima | 12.2043 | T13.OS,R13.0E,S08 | No | No | No | No | No | No |
| 129 | 38346 | Rincon Creek | 15 | Pima | 16.1987 | T15.OS,R16.0E,S16 | No | No | No | No | No | No |
| 130 | 38347 | Rio Correz | 14 | Pima | 13.2574 | T13.OS,R5.0W,S04 | No | No | No | No | No | No |
| 131 | 38386 | Sabino Wash | 5 | Pima | 8.1390 | T18.OS,R9.0E,S17 | No | No | No | No | No | No |
| 132 | 38394 | Sahuarilla Wash | 2 | Pima | 9.0975 | T11.OS,R14.0E,S17 | No | No | No | No | No | No |
| 133 | 38410 | San Cristobal Wash | 53 | Pima/Yuma | 75.3919 | T11.OS,R11.0W,S05 | No | No | No | No | No | No |
| 134 | 38413 | San Juan Wash 1 | 4 | Pima | 9.8665 | T17.OS,R5.0E,S24 | No | No | No | No | No | No |
| 135 | 38414 | San Juan Wash 2 | 2 | Pima | 10.8986 | T18.OS,R10.0E,S30 | No | No | No | No | No | No |
| 136 | 38415 | San Luis Wash 1 | 12 | Pima | 28.0240 | T17.OS,R2.0E,S20 | No | No | No | No | No | No |
| 137 | 38416 | San Luis Wash 2 | 12 | Pima | 12.6072 | T21.OS,R8.0E,S04 | No | No | No | No | No | No |
| 138 | 38418 | San Simon Wash | 47 | Pima | 60.3306 | T16.OS,R1.0W,S34 | No | No | No | No | No | No |
| 139 | 38419 | San Vicente Wash | 7 | Pima | 23.7841 | T16.OS,R7.0E,S28 | No | No | No | No | No | No |
| 140 | 38439 | Santa Margarita | 6 | Pima | 16.1812 | T20.OS,R8.0E,S17 | No | No | No | No | No | No |
| 141 | 38444 | Saucillo Wash - Pima | 2 | Pima | 8.2424 | T18.OS,R9.0E,S17 | No | No | No | No | No | No |
| 142 | 38445 | Sausalito Creek | 3 | Pima | 7.7778 | T11.OS,R14.0E,S30 | No | No | No | No | No | No |
| 143 | 38456 | Seco Arroyo | 4 | Pima | 9.7319 | T19.OS,R9.0E,S27 | No | No | No | No | No | No |
| 144 | 38460 | Sells Wash | 28 | Pima | 38.3728 | T17.OS,R2.0E,S20 | No | No | No | No | No | No |
| 145 | 38493 | Sikort Chuapo Wash | 21 | Pima | 30.7350 | T12.OS,R5.0W,S16 | No | No | No | No | No | No |
| 146 | 38494 | Sikul Himaik Wash | 4 | Pima | 5.9292 | T16.OS,R3.0E,S03 | No | No | No | No | No | No |
| 147 | 38495 | Sil Nakya Wash | 12 | Pima | 27.8071 | T11.OS,R4.0E,S27 | No | No | No | No | No | No |
| 148 | 38508 | Siov Shuabak Wash | 23 | Pima | 16.5427 | T17.OS,R3.0W,S08 | No | No | No | No | No | No |
| 149 | 38536 | Solano Wash | 3 | Pima | 8.2282 | T18.OS,R8.0E,S12 | No | No | No | No | No | No |
| 150 | 38548 | Sopori Wash | 17 | Pima/Santa Cruz | 19.6681 | T20.OS,R13.0E,S05 | No | No | No | No | No | No |

TABLE A-1A
RL1 Watercourses for Pima County

| No. | W_ID (2) | W_NAME (3) | SEGCOUNT (4) | W_COUNTIES (5) | W_MILES (6) | W_ADDRESS (7) | W_PER (8) | W_MBOAT (9) | W_HBOAT (10) | W_FISH (11) | W_SSTATUS (12) | W_DIMP (13) |
|-----|----------|------------------------------|--------------|--------------------|-------------|-------------------|-----------|-------------|--------------|-------------|----------------|-------------|
| 151 | 38549 | Soto Wash | 2 | Pima | 12.9284 | T16.OS,R10.OE,S08 | No | No | No | No | No | No |
| 152 | 38554 | South Fork Alipio | 5 | Pima | 10.1925 | T15.OS,R14.OE,S27 | No | No | No | No | No | No |
| 153 | 38576 | South Mendoza Wash | 5 | Pima | 16.5549 | T17.OS,R8.OE,S11 | No | No | No | No | No | No |
| 154 | 38617 | Stevens Wash | 4 | Pima | 9.5863 | T17.OS,R9.OE,S14 | No | No | No | No | No | No |
| 155 | 38630 | Straiton Wash | 8 | Pima | 16.0718 | T10.OS,R18.OE,S16 | No | No | No | No | No | No |
| 156 | 38640 | Sutherland Wash | 10 | Pima | 8.0417 | T12.OS,R14.OE,S04 | No | No | No | No | No | No |
| 157 | 38675 | Tascuela Wash | 3 | Pima | 7.4625 | T18.OS,R11.OE,S08 | No | No | No | No | No | No |
| 158 | 38677 | Tat Memoli Wash | 4 | Pinal | 6.5676 | T10.OS,R5.OE,S12 | No | No | No | No | No | No |
| 159 | 38687 | Tennille Wash | 31 | Maricopa/Pima/Yuma | 69.3217 | T11.OS,R5.0W,S29 | No | No | No | No | No | No |
| 160 | 38711 | Tinaja Wash | 1 | Pima | 6.5661 | T18.OS,R12.OE,S28 | No | No | No | No | No | No |
| 161 | 38727 | Topawa Wash | 8 | Pima | 16.9445 | T19.OS,R4.OE,S22 | No | No | No | No | No | No |
| 162 | 38738 | Tres Bellotas Canyon | 9 | Pima/Santa Cruz | 6.1966 | T23.OS,R10.OE,S90 | No | No | No | No | No | No |
| 163 | 38773 | Turkey Creek - Pima | 4 | Pima | 6.5171 | T15.OS,R18.OE,S01 | No | No | No | No | No | No |
| 164 | 38780 | Twentyseven Wash | 1 | Pinal | 2.3928 | T11.OS,R14.OE,S04 | No | No | No | No | No | No |
| 165 | 38807 | Vamori Wash | 80 | Pima | 59.0379 | T21.OS,R5.OE,S24 | No | No | No | No | No | No |
| 166 | 38810 | Ventana Canyon Wash | 7 | Pima | 9.2965 | T13.OS,R15.OE,S31 | No | No | No | No | No | No |
| 167 | 38814 | Viopuli Wash | 7 | Pima | 21.7932 | T13.OS,R7.OE,S28 | No | No | No | No | No | No |
| 168 | 38962 | Yellow Jacket Wash | 6 | Pima/Santa Cruz | 6.5086 | T21.OS,R10.OE,S28 | No | No | No | No | No | No |
| 169 | 38973 | a - Seg 14 Pima | 2 | Pima | 5.5231 | T12.OS,R2.0W,S05 | No | No | No | No | No | No |
| 170 | 38975 | a - Seg 164 Pima | 1 | Pima | 8.8427 | T18.OS,R5.0W,S14 | No | No | No | No | No | No |
| 171 | 38977 | a - Seg 180 Pima | 1 | Pima | 1.2740 | T14.OS,R9.0W,S30 | No | No | No | No | No | No |
| 172 | 38978 | a - Seg 2 Pima | 12 | Pima | 22.0461 | T12.OS,R6.0E,S06 | No | No | No | No | No | No |
| 173 | 38980 | a - Seg 2 Yuma/Pima | 11 | Pima/Yuma | 13.9587 | T15.OS,R11.0W,S29 | No | No | No | No | No | No |
| 174 | 38990 | a - Seg 6 Pima/Maricopa/Yuma | 9 | Maricopa/Pima/Yuma | 36.1201 | T8.OS,R11.0W,S23 | No | No | No | No | No | No |
| 175 | 38999 | b - Seg 13 Pima | 5 | Pima | 15.6791 | T14.OS,R6.0W,S31 | No | No | No | No | No | No |
| 176 | 39004 | b - Seg 4 Pima 1 | 4 | Pima | 11.5463 | T18.OS,R5.0W,S08 | No | No | No | No | No | No |
| 177 | 39005 | b - Seg 4 Pima 2 | 6 | Pima | 14.6333 | T13.OS,R7.OE,S29 | No | No | No | No | No | No |
| 178 | 39011 | c - Seg 10 Pima/Maricopa | 11 | Maricopa/Pima | 21.9649 | T10.OS,R6.0W,S14 | No | No | No | No | No | No |
| 179 | 39012 | c - Seg 18 Pima | 2 | Pima | 7.1152 | T14.OS,R4.0W,S09 | No | No | No | No | No | No |
| 180 | 39016 | c - Seg 6 Pima | 2 | Pima | 6.3243 | T17.OS,R6.0W,S30 | No | No | No | No | No | No |
| 181 | 39020 | d - Seg 13 Pima/Maricopa | 19 | Maricopa/Pima | 27.9804 | T9.OS,R6.0W,S07 | No | No | No | No | No | No |
| 182 | 39022 | d - Seg 20 Pima | 6 | Pima | 11.9721 | T14.OS,R6.0W,S29 | No | No | No | No | No | No |
| 183 | 39027 | e - Seg 21 Pima | 7 | Pima | 16.7451 | T13.OS,R9.0W,S26 | No | No | No | No | No | No |
| 184 | — | 2970 Unnamed watercourses | — | Pima | varies | varies | No | No | No | No | No | No |

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- SEGCOUNT: Number of segments merged together to comprise the watercourse.
- W_COUNTIES: County(ies) where the watercourse is located.
- W_MILES: Length of the watercourse in miles.
- W_ADDRESS: Township, Range and Section of the mouth of the watercourse.
- W_PER: Stream classification- perennial or not.
- W_MBOAT: With modern boating or not.
- W_HBOAT: With historical boating or not.
- W_FISH: With fish or not.
- W_SSTATUS: With special status designation or not.
- HITS: Number of affirmative hits based on the six attribute data.

Table A-1B
NRL1 Watercourses for Pima County

| No. | W_ID (2) | W_NAME (3) | SEGCOUNT (4) | W_COUNTIES (5) | W_MILES (6) | W_ADDRESS (7) | W_PER (8) | W_MBOAT (9) | W_HBOAT (10) | W_FISH (11) | W_SSTATUS (12) | W_DIMP (13) | HITS (14) |
|-----|-------------|--------------------|-----------------|---------------------|----------------|-------------------|--------------|----------------|-----------------|----------------|-------------------|----------------|--------------|
| 1 | 64 | Anavaca Creek | 21 | Pima | 14.9251 | T20.OS,R9.0E,S16 | Yes | No | No | Yes | Yes | No | 3 |
| 2 | 367 | Canada del Oro | 49 | Pima/Pinal | 41.8401 | T10.OS,R14.0E,S35 | Yes | No | No | No | Yes | Yes | 3 |
| 3 | 470 | Cienega Creek | 50 | Pima/Santa Cruz | 45.2775 | T17.OS,R17.0E,S01 | Yes | No | No | Yes | Yes | No | 3 |
| 4 | 36326 | Redfield Canyon | 22 | Cochise/Graham/Pima | 24.3009 | T12.OS,R18.0E,S02 | Yes | No | No | Yes | Yes | No | 3 |
| 5 | 36387 | Sabino Creek | 17 | Pima | 20.1434 | T13.OS,R15.0E,S32 | Yes | No | No | Yes | Yes | No | 3 |
| 6 | 315 | Buehman Canyon | 10 | Pima | 13.7171 | T11.OS,R18.0E,S34 | Yes | No | No | No | Yes | Yes | 2 |
| 7 | 35 | All Chuk Wash | 4 | Pima | 4.4713 | T18.OS,R3.0W,S22 | No | No | No | No | No | Yes | 1 |
| 8 | 36 | Ali Molina Wash | 14 | Pima | 17.5626 | T17.OS,R6.0E,S29 | Yes | No | No | No | No | No | 1 |
| 9 | 336 | Burro Creek - Pima | 2 | Pima | 6.4507 | T12.OS,R17.0E,S15 | No | No | No | No | No | No | 1 |
| 10 | 412 | Cedar Creek 2 | 7 | Pima/Santa Cruz | 12.6395 | T22.OS,R10.0E,S01 | No | No | No | No | No | Yes | 1 |
| 11 | 494 | Cocia Wash | 4 | Pima | 11.8441 | T11.OS,R10.0E,S31 | No | No | No | No | Yes | No | 1 |
| 12 | 652 | Dematre Wash | 2 | Pima | 14.5789 | SLG | No | No | No | No | No | No | 1 |
| 13 | 882 | Gulid Wash | 1 | Pima/Pinal | 17.8282 | T11.OS,R11.0E,S04 | No | No | No | No | No | Yes | 1 |
| 14 | 19598 | H45_0335 | 2 | Pima | 0.7548 | T13.OS,R3.0E,S30 | No | No | No | No | No | Yes | 1 |
| 15 | 21668 | H51_0024 | 2 | Pima | 0.3840 | T13.OS,R15.0E,S21 | Yes | No | No | No | No | Yes | 1 |
| 16 | 21671 | H51_0029 | 2 | Pima | 1.0211 | T13.OS,R15.0E,S29 | No | No | No | No | No | Yes | 1 |
| 17 | 21899 | H51_0294 | 3 | Pima | 8.1702 | T13.OS,R15.0E,S01 | No | No | No | No | No | Yes | 1 |
| 18 | 21914 | H51_0309 | 1 | Pima | 0.8997 | T13.OS,R15.0E,S16 | Yes | No | No | No | No | Yes | 1 |
| 19 | 21946 | H51_0343 | 2 | Pima | 5.3971 | T12.OS,R16.0E,S30 | No | No | No | No | No | Yes | 1 |
| 20 | 21947 | H51_0344 | 1 | Pima | 1.1001 | T12.OS,R16.0E,S16 | No | No | No | No | No | Yes | 1 |
| 21 | 36037 | H82_0116 | 1 | Pima | 4.0050 | T12.OS,R12.0E,S36 | Yes | No | No | No | No | No | 1 |
| 22 | 36179 | H82_0286 | 1 | Pima | 7.3945 | T14.OS,R13.0E,S04 | No | No | No | No | No | Yes | 1 |
| 23 | 36312 | H82_0432 | 1 | Pima | 0.0471 | SLG | No | No | No | No | No | Yes | 1 |
| 24 | 36594 | H82_0723 | 1 | Pima | 0.6228 | T13.OS,R13.0E,S20 | Yes | No | No | No | No | No | 1 |
| 25 | 36620 | H82_0755 | 1 | Pima | 18.5806 | T11.OS,R14.0E,S02 | No | No | No | No | No | No | 1 |
| 26 | 37896 | Los Robles Wash | 7 | Pima | 12.3812 | T10.OS,R9.0E,S22 | No | No | No | No | No | Yes | 1 |
| 27 | 37920 | Mammoth Wash | 2 | Pima | 7.0183 | T11.OS,R8.0E,S26 | No | No | No | No | No | Yes | 1 |
| 28 | 38132 | Oro Blanco Wash | 8 | Pima/Santa Cruz | 22.7028 | T22.OS,R10.0E,S24 | No | No | No | No | No | Yes | 1 |
| 29 | 38163 | Panlano Wash | 42 | Pima | 3.1707 | T15.OS,R16.0E,S07 | Yes | No | No | No | No | No | 1 |
| 30 | 38190 | Pecks Canyon | 3 | Pima | 22.7508 | T22.OS,R8.0E,S27 | No | No | No | No | Yes | No | 1 |
| 31 | 38204 | Pia Oak Wash | 19 | Pima | 3.7533 | T18.OS,R3.0W,S12 | No | No | No | No | No | No | 1 |
| 32 | 38297 | Quitobaquito Creek | 1 | Pima | 4.8750 | T17.OS,R8.0W,S90 | No | No | No | No | No | Yes | 1 |
| 33 | 38329 | Redrock Canyon | 3 | Pima/Pinal | 71.5943 | T10.OS,R16.0E,S26 | No | No | No | Yes | No | No | 1 |
| 34 | 38440 | Santa Rosa Wash | 42 | Pima/Pinal | 26.2237 | T17.OS,R4.0E,S04 | No | No | No | Yes | No | No | 1 |
| 35 | 38671 | Tanque Verde Creek | 29 | Pima | 13.2978 | T14.OS,R15.0E,S02 | No | No | No | No | No | Yes | 1 |
| 36 | 38694 | Thomas Canyon Wash | 6 | Pima | 10.2733 | T18.OS,R9.0E,S33 | No | No | No | No | No | No | 1 |
| 37 | 38853 | West Branch Sant | 8 | Pima | | T14.OS,R13.0E,S22 | No | No | No | No | No | Yes | 1 |

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- W_COUNTIES: County(ies) where the watercourse is located.
- W_MILES: Length of the watercourse in miles.
- W_ADDRESS: Township, Range and Section of the mouth of the watercourse.
- W_PER: Stream classification- perennial or not.
- W_MBOAT: With modern boating or not.
- W_HBOAT: With historical boating or not.
- W_FISH: With fish or not.
- W_SSTATUS: With special status designation or not.
- HITS: Number of affirmative hits based on the six attribute data.