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**BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION  
COMMISSION**

IN THE MATTER OF THE  
NAVIGABILITY OF THE VERDE  
RIVER FROM ITS HEADWATERS  
AT SULLIVAN LAKE TO THE  
CONFLUENCE WITH THE SALT  
RIVER, YAVAPAI, GILA AND  
MARICOPA COUNTIES,  
ARIZONA

No. 04-009-NAV

**FIRST ADDENDUM TO THE REPORT, FINDINGS AND DETERMINATION  
REGARDING THE NAVIGABILITY OF THE VERDE RIVER FROM ITS  
HEADWATERS TO THE CONFLUENCE WITH THE SALT RIVER DATED  
MARCH 24, 2008**

The Arizona Navigable Stream Adjudication Commission (“ANSAC” or “Commission”), having considered all of the historical and scientific data and information, documents and other evidence (collectively, “Evidence in the Record”) regarding the issue of whether the Verde River from its headwaters at Sullivan Lake to the confluence with the Salt River (“Verde River” or “Verde” or “the River”) was navigable for title purposes as of February 14, 1912, the date of Arizona’s statehood, and being fully advised by counsel, hereby submits this addendum to the *Report, Findings and*

1 *Determination Regarding the Navigability of the Verde River from its Headwaters to the*  
2 *Confluence with the Salt River* published March 24, 2008 (“2008 Report”).

3         While the Commission’s navigability determination remains unchanged, unless  
4 otherwise discussed herein, this report supersedes the 2008 Report in its entirety.

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1 **I. PROCEDURAL HISTORY**

2 The Commission has held two separate hearings over the course of a decade to  
3 receive evidence, testimony, and legal memoranda regarding the navigability of the Verde  
4 River.

5 **A. 2005-2006 Hearings**

6 The first set of hearings was held in 2005 and 2006 (“2005-06 Hearings”).  
7 Hearings were held on March 29, 2005, in Prescott, Yavapai County, Arizona; on  
8 November 16-17, 2005, in Phoenix, Maricopa County, Arizona, and continued on January  
9 18, 2006, in Phoenix, Maricopa County, Arizona. Each of the 2005-06 Hearings was  
10 properly noticed pursuant to the applicable statutes.

11 Various individuals submitted documents or oral testimony in connection with the  
12 2005-06 Hearings. The Commission received over 38 documentary filings, including  
13 surveys, reports, books, photographs, articles, maps, and PowerPoint printouts. A list of  
14 the evidence submitted in connection with the 2005-06 Hearings, which originally  
15 appeared as Exhibit F to the 2008 Report, is reproduced here as Exhibit A. The  
16 Commission also considered 11 post-hearing memoranda.

17 On May 24, 2006, at a public hearing in Phoenix, Arizona, after considering all of  
18 the evidence, testimony, and legal memoranda submitted by the parties, and the comments  
19 and oral argument made at the 2005-06 Hearings, and having been fully advised by  
20 counsel, the Commission determined by a unanimous vote that the Verde River from its  
21 headwaters at Sullivan Lake to the confluence with the Salt River in Yavapai, Gila, and  
22 Maricopa Counties, Arizona, was nonnavigable as of February 14, 1912 for purposes of  
23 title at statehood. Following the hearing, the Commission issued its 2008 Report.

24 The State Land Department/Attorney General (“SLD”) appealed the 2008 Report  
25 and determination on December 19, 2008. Proceedings in the case were ultimately stayed,  
26

1 however, while the Arizona Court of Appeals considered a related challenge to the  
2 Commission's determination that the Lower Salt River was nonnavigable for purposes of  
3 title at statehood.

4 **B. Lower Salt River Appeal**

5 On June 19, 2006, the Arizona State Land Department ("ASLD") appealed the  
6 Commission's determination that the Lower Salt River was nonnavigable at the time of  
7 statehood. ASLD alleged that the Commission misapplied the federal test for  
8 navigability-for-title by concluding that the Lower Salt River's "ordinary and natural  
9 condition . . . includes irrigation diversions, canals, and other human impacts," which  
10 "dramatically and drastically altered" the River. Complaint for Judicial Review of  
11 Administrative Decision regarding Lower Salt River, *State ex rel. Winkleman v. Ariz.*  
12 *Navigable Stream Adjudication Comm'n*, 2006 WL 6616118 (Ariz. Super. June 19, 2006),  
13 at ¶ 22(A).

14 The superior court affirmed the Commission's determination regarding the Lower  
15 Salt River by order dated August 7, 2007. The determination was further appealed to the  
16 court of appeals, which vacated the order affirming the Commission's determination and  
17 remanded to the superior court with instructions to determine "what the [Lower Salt]  
18 River would have looked like on February 14, 1912 in its ordinary (i.e., usual, absent  
19 major flooding or drought) and natural (i.e., without man-made dams, canals, or other  
20 diversions) condition." *State ex rel. Winkleman v. Ariz. Navigable Stream Adjudication*  
21 *Comm'n*, 224 Ariz. 230, 229 P.3d 242 (Ct. App. 2010) (emphasis added).

22 After the initial appeal of the Lower Salt River determination, four other appeals  
23 were filed regarding the Commission's determinations of nonnavigability of the Santa  
24 Cruz, Verde, Upper Salt, and Gila Rivers. These four cases were also stayed pending  
25 completion of the Lower Salt River appeal.

26 In October 2011, the six cases that had been appealed were returned to the

1 Commission to reassess the Evidence in the Record in light of the principles addressed in  
2 *Winkleman*.

3 **C. U.S. Supreme Court Ruling in *PPL Montana, LLC v. Montana***

4 In February 2012, after the remand but before the Commission had voted to reopen  
5 the record, the U.S. Supreme Court issued a decision that impacted the way navigability  
6 determinations are made in Arizona. *PPL Montana, LLC v. Montana*, 132 S.Ct. 1215  
7 (2012), required the Commission to resolve whether individual segments of the affected  
8 watercourses were navigable at the time of statehood.

9 On October 22, 2012, the Commission voted to reopen the record for the Verde and  
10 the five other watercourses that had been remanded. The Commission also announced  
11 that it would hold additional public hearings for the six remanded cases for consideration  
12 of the principles addressed in *Winkleman* and *PPL Montana*.

13 **D. 2014-15 Hearings**

14 In accordance with A.R.S. §§ 37-1123(B) and 37-1126, the Commission gave  
15 proper public notice (copies of which are attached as Exhibit B to this report) of its intent  
16 to reopen the record and hold additional public hearings for consideration of the principles  
17 addressed in *Winkleman* and *PPL Montana*. The notices advised that anyone could appear  
18 at the public hearings and give testimony regarding the navigability of the Verde River,  
19 and that the Commission would consider all new and existing Evidence in the Record in  
20 making its determination.

21 Hearings were held on the following dates:

- 22 • May 1, 2014, in Prescott, Yavapai County, Arizona
- 23 • December 15-19, 2014, in Phoenix, Maricopa County, Arizona
- 24 • February 18-20 and 23-25, 2015, in Phoenix, Maricopa County, Arizona
- 25 • March 30-31, 2015, in Phoenix, Maricopa County, Arizona
- 26 • April 1-3, 2015, in Phoenix, Maricopa County, Arizona

1 (collectively, the “2014-15 Hearings”).

2 At the conclusion of the final public hearing on April 3, 2015, the Commission  
3 advised the parties that they could file post-hearing legal briefs pursuant to Commission  
4 Rules. Salt River Project Agricultural Improvement and Power District and Salt River  
5 Valley Water Users Association (collectively, “SRP”), Freeport Minerals Corporation  
6 (“Freeport”), the Salt River Pima-Maricopa Indian Community (“SRPMIC”), the City of  
7 Phoenix (“Phoenix”), and the Yavapai-Apache Nation and the Fort McDowell Yavapai  
8 Nation (“Nations”) submitted briefs in favor of non-navigability (collectively,  
9 “Opponents”). The ACLPI, on behalf of Defenders of Wildlife, and the Arizona State  
10 Land Department (collectively, “Proponents”) submitted briefs in favor of navigability.  
11 An *amicus* brief was submitted by Maricopa County and the Flood Control District of  
12 Maricopa County (“County and FCD”).<sup>1</sup>

13 On December 15, 2015, at a properly noticed public hearing in Phoenix, Arizona,  
14 after considering all of the new and existing Evidence in the Record, the parties’ briefs,  
15 and the testimony, comments, and oral arguments made at the 2005-06 and 2014-15  
16 Hearings, and having been fully advised by counsel, the Commission determined by a  
17 unanimous vote that the Verde River was nonnavigable in both its “ordinary” and  
18 “natural” condition at the time of statehood.

## 19 **II. BURDEN OF PROOF**

20 Arizona Revised Statute § 37-1128(A) provides:

21 If the preponderance of the evidence establishes that the watercourse was  
22 navigable, the commission shall issue its determination confirming that the  
23 watercourse was navigable. If the preponderance of the evidence fails to  
24 establish that the watercourse was navigable, the commission shall issue its  
25 determination confirming that the watercourse was nonnavigable.

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25 <sup>1</sup> The parties’ legal memoranda are available on the Commission’s website at  
26 <http://www.ansac.az.gov/RemandCaseLegalMems.asp>.

1 The proponent of navigability bears the burden of proof of establishing navigability  
2 by a preponderance of the evidence. *Winkleman*, 224 Ariz. at 238-39, 229 P.3d at  
3 250-51.

4 The “preponderance of the evidence” standard is sometimes referred to as requiring  
5 “fifty percent plus one” in favor of the party with the burden of proof. If the evidence on  
6 each side weighs exactly even, then the party without the burden of proof necessarily  
7 prevails. Proponents, as the party with the burden of proof, must convince the  
8 Commission that the Evidence in the Record, considered in its totality, weighs in favor of  
9 a finding of navigability. *See generally United States v. Fatico*, 458 U.S. 388, 403-06  
10 (E.D.N.Y. 1978), *aff’d*, 603 F.2d 1053 (2d Cir. 1979), *cert. denied*, 444 U.S. 1073 (1980);  
11 *United States v. Schipani*, 289 F.Supp. 43, 56 (E.D.N.Y. 1968), *aff’d*, 414 F.2d 1262 (2d  
12 Cir. 1969).

13 While the Proponents bear the burden of proof as to navigability, the Commission  
14 “may not begin its determination with any presumption against navigability.” *Winkleman*,  
15 224 Ariz. at 239, 229 P.3d at 251. Indeed, “determinations regarding the title to beds of  
16 navigable watercourses in equal footing cases must begin with a strong presumption  
17 *against* defeat of state’s title.” *Def’s. of Wildlife v. Hull*, 199 Ariz. 411, 426, 18 P.3d 722,  
18 737 (Ct. App. 2001) (emphasis added). A presumption, however, only applies “in the  
19 absence of any evidence to the contrary,” *In re Westfall’s Estate*, 74 Ariz. 181, 186, 245  
20 P.2d 951, 955 (1952), and “should never be placed in the scale to be weighed as  
21 evidence,” *In re Hesse’s Estate*, 62 Ariz. 273, 282, 157 P.2d 347, 351 (1945); *see also*  
22 *Sheehan v. Pima County*, 135 Ariz. 235, 238, 660 P.2d 486, 489 (Ct. App. 1982) (“a  
23 presumption disappears entirely upon the introduction of any contradicting evidence and  
24 when such evidence is introduced the existence or non-existence of the presumed fact is to  
25 be determined exactly as if no presumption had ever been operative”).  
26



1 **III. NAVIGABILITY STANDARD**

2 “The standard of navigability for equal footing claims is established by federal  
3 law.” *Def. of Wildlife*, 199 Ariz. at 419, 18 P.3d at 730 (citing *Utah v. United States*, 403  
4 U.S. 9, 10 (1971)); accord *PPL Montana*, 132 S.Ct. 1227 (“questions of navigability for  
5 determining state riverbed title are governed by federal law”). The federal standard has  
6 remained virtually unchanged since 1870, when the U.S. Supreme Court provided the  
7 classic definition of navigability in *The Daniel Ball*, 77 U.S. (10 Wall.) 557 (1870):

8 Those rivers must be regarded as public navigable rivers in law which are  
9 navigable in fact. And they are navigable in fact when they are used, or are  
10 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.

11 *Id.* at 563; see *PPL Montana*, 132 S.Ct. at 1228 (collecting cases applying the *Daniel Ball*  
12 formulation to determine navigability-for-title under the equal-footing doctrine).

13 In Arizona, the federal test for navigability-for-title is codified at A.R.S. § 37-  
14 1101(5), which states:

15 “Navigable” or “navigable watercourse” means a watercourse that was in  
16 existence on February 14, 1912, and at that time was used or was  
17 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.

18 “‘Watercourse’ means the main body or a portion or reach of any lake, river, creek,  
19 stream, wash, arroyo, channel or other body of water. Watercourse does not include a  
20 man-made water conveyance system described in paragraph 4 of this section, except to the  
21 extent that the system encompasses lands that were part of a natural watercourse as of  
22 February 14, 1912.” A.R.S. § 37-1101(11). “‘Highway for commerce’ means a corridor  
23 or conduit within which the exchange of goods, commodities or property or the  
24 transportation of persons may be conducted.” *Id.*; and § 37-1101(3).<sup>2</sup>

25 \_\_\_\_\_  
26 <sup>2</sup> The Commission also considered the following definitions in A.R.S. § 37-1101 in making

1 As relevant here, the Commission's task is to determine: (1) the characteristics of  
2 the Verde River at the time of statehood "in its ordinary and natural condition"; and (2)  
3 whether, at the time of statehood, the Verde was used or was susceptible of being used as  
4 a highway for commerce in that condition. *Winkleman*, 224 Ariz. at 239, 229 P.3d at 251.

5 In *Winkleman*, the court of appeals clarified that the phrase "ordinary and natural  
6 condition" means that a river must be evaluated at the time of statehood in "both its  
7 'ordinary' and 'natural' condition." *Id.* at 241, 229 P.3d at 253. It thus directed the  
8 Commission to determine "what the River would have looked like on February 14, 1912  
9 in its ordinary (i.e., usual, absent major flooding or drought) and natural (i.e., without  
10 man-made dams, canals, or other diversions) condition." *Id.*

11 In *PPL Montana*, the U.S. Supreme Court held that, with *de minimis* exception, a  
12 watercourse's navigability must be determined on a segment-by-segment basis, even  
13 where only "short interruption[s] of navigability in a stream otherwise navigable" exist.  
14 132 S.Ct. at 1229, 1230. As to determining the segment in question, the Court observed  
15 that shifts in physical conditions, and topographical and geographical indicators provide a  
16 means to determine start and end points. *Id.* at 1230. The Court acknowledged that a "*de*  
17 *minimis* exception" may exist where some nonnavigable segments are "so minimal that  
18 they merit treatment as part of a longer, navigable reach for purposes of title," and  
19 identified the types of considerations that would warrant such an exception as "those

20  
21 this determination:

22 2. "Bed" means the land lying between the ordinary high watermarks of a  
watercourse.

23 6. "Ordinary high watermark" means the line on the banks of a watercourse  
24 established by fluctuations of water and indicated by physical characteristics, such as a  
25 clear natural line impressed on the bank, shelving, changes in the character of the soil,  
26 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.

1 related to principles of ownership and title, such as the inadministrability of parcels of  
2 exceedingly small size, or worthlessness of the parcels due to overdivision.” *Id.* at 1230-  
3 31.

4 The Court in *PPL Montana* also addressed the relevance of evidence of present-  
5 day, primarily recreational use to the issue of a river’s susceptibility to use as a highway  
6 for commerce. Specifically, the Court ruled that evidence of “present-day use may be  
7 considered to the extent it informs the historical determination whether the river segment  
8 was susceptible of use for commercial navigation at the time of statehood.” *PPL*  
9 *Montana*, 132 S.Ct. at 1233. However, because navigability-for-title is determined at the  
10 time of statehood and concerns a river’s usefulness for “trade and travel,” rather than for  
11 other purposes, the Court ruled that such evidence “must be confined to that which shows  
12 the river could sustain the kinds of commercial use that, *as a realistic matter*, might have  
13 occurred at the time of statehood.” *Id.* at 1233 (emphasis added). Thus, before this type of  
14 evidence can be considered in a navigability-for-title determination, “the party seeking to  
15 use present-day evidence for title purposes must show: (1) the watercraft are meaningfully  
16 similar to those in customary use for trade and travel at the time of statehood; and (2) the  
17 river’s post-statehood condition is not materially different from its physical condition<sup>3</sup> at  
18 statehood.” *Id.*

#### 19 **IV. EVIDENCE RECEIVED AND CONSIDERED BY THE COMMISSION**

20 Pursuant to A.R.S. § 37-1123, the Commission undertook to receive, compile, and  
21 review evidence in the record regarding the issue of whether the Verde River was  
22 navigable for title purposes as of statehood in its ordinary and natural condition. A list of  
23 evidence and records submitted in connection with the 2014-15 Hearings, together with a  
24

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25 <sup>3</sup> In light of *Winkleman* and our obligation to consider a river’s “ordinary and natural  
26 condition” at the time of statehood, we interpret the phrase “physical condition” in *PPL Montana* to mean  
“ordinary and natural condition.”

1 summarization, is attached as Exhibit C. The minutes from the 2014-15 Hearings are  
2 attached as Exhibit D. Documents and testimony submitted in connection with the 2005-  
3 06 Hearings (“Old Evidence in the Record”) were also considered by the Commission in  
4 making this report.

5 A number of experts submitted evidence and testimony in connection with the  
6 2014-15 Hearings, the details of which are described as relevant below. Jack August, who  
7 has his Ph.D. in history, offered his opinion on the history of the region. Richard Burtell,  
8 a registered geologist and principal at Plateau Resources LLC, prepared a report on behalf  
9 of Freeport Minerals Corporation. Jonathan E. Fuller, a hydrologist and civil engineer,  
10 also offered his professional opinion on navigability and boating on the Verde for the  
11 ASLD. Hjalmar W. Hjalmarson, a retired engineer with the United States Geological  
12 Survey, provided his assessment of navigability as well on behalf of Maricopa County.  
13 Robert A. Mussetter, a professional engineer with Tetra Tech, Inc., who has a Ph.D. in  
14 Hydraulic Engineering, along with Douglas R. Littlefield, a forensic historian with  
15 Littlefield Historical Research, who provided a historical assessment of navigation on the  
16 Verde, provided evidence on behalf of the Salt River Project Agricultural Improvement  
17 and Power District and Salt River Valley Water Users’ Association (collectively, SRP).

## 18 **V. ANALYSIS OF THE EVIDENCE**

### 19 **A. Physical Characteristics and Geomorphology of the Verde River**

20 “The Verde River heads in the highlands and flows through the central mountain  
21 area of Arizona, where the physiography and geology is transitional between the high-  
22 elevation, relatively flat Colorado Plateau and the lower-elevation Basin and Range  
23 province.” Mussetter Decl. at 5. This central mountain area is characterized by the most  
24 rugged relief in Arizona, and it contains large, high mountain ranges and deeply dissected  
25 alluvial basins. *Id.* Segments 3-5 are entrenched in a relatively narrow, deep canyon, and  
26 it remains entrenched downstream to its confluence with the Salt River. *Id.* In some

1 locations along the Verde River, the bedrock can cause sharp breaks in the longitudinal  
2 profile that create waterfalls and rapids, making navigation very challenging and  
3 dangerous, or even impossible. *Id.* The coarse-grained sediment and debris delivered  
4 from the side canyons and tributaries also creates alluvial fans and bars that constrict the  
5 river, causing rapids that also severely limit navigability. *Id.*

6 Further, much of the downstream, approximately 18 miles of the reach, is bounded  
7 by alluvium; “the morphology of the channel at any point in time is inherited from the last  
8 significant flood-driven alteration, and this controls the channel form during the  
9 subsequent recovery period.” *Id.*; see Transcript (“Tr.”) at 12/15/14:30 (Fuller) (for  
10 “[m]ost arid region streams, the Verde River included, it’s called flood dominated. What  
11 does that mean? When you have a big flood like 1993, it comes through and to some  
12 extent it rewrites the system. It moves things around. It moves boulders and it moves  
13 sand and moves vegetation, and they leave that persistent mark on the floodplain. There  
14 can be some widening of the flood channel and some rearrangement of the flood channels.  
15 It moves a lot of vegetation. In some cases there’s something called geomorphic  
16 threshold. You can substantively change the river.”). Following the channel-altering  
17 flood events, the river channel recovers slowly. Mussetter at 6. The “larger, more  
18 infrequent flows are more geomorphically effective than the frequently occurring flows.  
19 During floods, the flows are so powerful that they can rapidly and significantly alter the  
20 channel and adjacent overbanks.” *Id.* During the recovery periods between floods, the  
21 channel form tends toward a single-thread, sinuous configuration within the overall wider  
22 cross section created by the disturbance flows. *Id.*

23 Like other alluvial rivers in the arid southwestern U.S., the Verde experiences  
24 cycles of low (or non-existent) to moderate flows punctuated by large, infrequent,  
25 monsoon-driven flood events. See *id.* at 9. Rivers can, due to flood events, rapidly  
26 transform from a single-thread, meandering platform into a wide, braided, multi-channel

1 platform in which the flow depths are both spatially and temporally irregular. *Id.*<sup>4</sup> As Dr.  
2 Mussetter emphasized, “[b]oth conditions are *natural and ordinary* conditions of the  
3 river.” *Id.* Especially during flood events and subsequent recovery periods, the multiple,  
4 individual channels in the braided platform tend to be very shallow and unstable. *Id.*  
5 Where a river is confined by bedrock, the profile of the river is controlled by the bedrock  
6 and local deposits of coarse-grained material from debris flows that come from side  
7 canyons and from material falling into the river from canyon walls; these features create  
8 the rapids, shallow riffles, and, sometimes, waterfalls, that can make navigation extremely  
9 challenging or impossible, even for modern whitewater boats. *Id.*

10 Underlying bedrock is exposed in the bed and banks of the river in many places,  
11 implying that the long-term downcutting trend that occurs in the river continues. *Id.* at 10.  
12 That exposed bedrock exerts a strong control over the longitudinal profile of the river. *Id.*  
13 The combination of long-term downcutting and the erodibility of the pre-incision bedrock  
14 and basin-fill units control the extent and character of the terrace deposits and modern  
15 floodplain along the Verde. *Id.* Generally, the older terraces flanking the river are more  
16 erosion resistant; where this occurs, the river valley is steep and narrow with relatively  
17 limited amounts of alluvial storage in the valley bottom. *Id.* However, where the

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18  
19 <sup>4</sup> With regard to Mr. Hjalmarson’s USGS graph distinguishing braided and meandering  
20 rivers based on channel slope and bankfull discharge, Dr. Mussetter testified: “And so Mr.  
21 Hjalmarson drew a green circle in the range of gradients for the lower Verde River, and he’s  
22 suggesting that the bankfull discharge in the lower Verde River is somewhere between 180 and  
23 650 cfs. He also said that it probably corresponds to something akin to the two-year flood. I’m  
24 not quite sure how he makes the connection between this level of discharge and the two-year  
25 flood. . . . His characterization of bankfull discharge in that plot would mean that the Verde  
26 River is flowing at bankfull conditions, essentially, for something between a month and a half and  
eight months out of the year, which is clearly absurd.” See Tr. at 2/23/15:1959 (Mussetter);  
Mussetter Power Point, at 61-62 [x060]. See also Tr. at 2/23/15:1961-63 (Mussetter) (With  
regard to the concept of bankfull discharge, “So if you plot those, the real discharges for the two  
to five-year event that most geomorphologists would say is the bankfull discharge, you’re solidly  
in the braided category. So this strongly supports the idea that certainly at high flows, the Verde  
River, you would expect the lower end of that to be in the braided range. . . . This is just for the  
lower portion of the river.”); Mussetter Power Point, at 63-64 [x060].

1 bounding materials are more erodible, the valley is wider, the slope of the river is flatter  
 2 and there is more alluvial storage in the valley bottom. *Id.* at 10-11. The confined reaches  
 3 of the valley (such as Segments 3 and 4, described *infra*) allow little potential for lateral  
 4 migration of the river, while the lateral migration potential increases significantly where  
 5 the valley is wider (the downstream, approximately 18 miles of Segment 5, discussed  
 6 *infra*). *Id.* at 11.

7 Where the valleys are narrow and confined, the flood events tend to disturb the  
 8 valley flood sediments, which has the effect of eliminating or modifying vegetation that  
 9 has become established during the interflood period; by contrast, wider, less-confined  
 10 areas tend to be depositional during the infrequent flood events, which causes braiding,  
 11 shifting of the low-flow channels, and disturbance to the riparian plant communities. *Id.*;  
 12 see Mussetter 2014, at 24 [x016] (“The Verde Valley becomes less confined in ASLD  
 13 Segment 5, providing more potential for lateral adjustment, and widening and braiding  
 14 under un-regulated flow conditions.”). Hydrologic process such as flooding and channel  
 15 incision have been occurring over several million years and are witnessed by the 90-150  
 16 m (300-500 ft) of incised tributaries and the Verde River Canyon below Perkinsville. See  
 17 EIN x001-58, Historical and Pictorial Perspective of the Upper Verde River at 23.

18 For purposes of determining navigability of the Verde River, the State Land  
 19 Department has divided the river into six segments. Tr. 12/15/14, p. 47:9-10.

Segment	Description	Source
0	Sullivan Lake to Forest Road 638 <ul style="list-style-type: none"> <li data-bbox="483 1623 1105 1717">• Segment 0-A Sullivan Lake to Granite Creek Ephemeral/Intermittent with rapids</li> <li data-bbox="483 1738 1138 1776">• Segment 0-B Granite Creek to Forest Road 638</li> </ul>	EIN X035 “Fuller PPT,” slides 40-42

	Perennial, pool & riffle, shallow flow with no rapids	
1	Forest Road 638 to Sycamore Canyon Perennial, pool & riffle, bedrock canyon	<i>Id.</i> at slides 46-47
2	Sycamore Canyon to Beasley Flat (Verde Valley) Perennial, pool & riffle, alluvial valley	<i>Id.</i> at slides 53-54
3	Beasley Flat to Childs	<i>Id.</i> at slides 59-60
4	Childs to Needle Rock	<i>Id.</i> at slides 65-66
5	Needle Rock to Salt River	<i>Id.</i> at slides 71-72

The segment designations were based upon differences in geology, channel characteristics, and changes in the river's hydrology. Tr. 12/15/14 at p. 47:18-48:9.

**i. Segments 0-2<sup>5 6</sup>**

Segment 0<sup>7</sup> is perennial below Granite Creek and is characterized by a pool-drop/pool & riffle pattern as well as a bedrock canyon. According to Mr. Burtell's Declaration, Segment 1 is 37 miles long with a slope of 21 feet per mile. *See* Burtell 2014, at 3 [x009]. While it is estimated that there has been depleted base flow since and prior to 1912, there has apparently been minimal other human impact and, in modern times, there have been some flow depletions due to groundwater pumping. EIN x011-69

<sup>5</sup> Dr. Mussetter stated that, based on evidence presented by others, his expert opinion was that Segments 1 and 2 were also "not navigable using boats in customary use for commerce at [the] date of statehood." Mussetter PowerPoint Presentation on Navigability at 45.

<sup>6</sup> By contrast, Hjalmar W. Hjalmarson, using methods he devised, concluded that "Verde River . . . from river mile 3.3 in the Stewart (Campbell) Ranch area to the mouth at the Salt River (mile 230) was susceptible to navigation at the time of statehood (February 14, 1912) in its natural condition." Hjalmar W. Hjalmarson, *Navigability Along the Natural Channel of the Verde River, AZ*, October 4, 2014 ("Hjalmarson Assessment") at 106.

<sup>7</sup> ASLD, a proponent of navigability, states that it believes that Segment 0 was not boatable by 1912-era watercraft, due to the low flows and boulder channel conditions. EIN x011-69 at 154.



1 at 40; *see* Tr. at 12/15/14:49 (Fuller). Even in modern times, it is not normally boated.  
2 *Id.*; *see* Tr. at 12/15/14:49 (Fuller). Access to the upper portion is steep and difficult. *Id.*;  
3 *see* Tr. at 12/15/14:50 (in describing potential navigability of Segment 0-A, Mr. Fuller  
4 testified that “[i]f you read the Williams Guide, he decided after the ’93 flood to give it a  
5 shot down there and ended up climbing out of the steep canyon walls. Too steep, too  
6 rocky, not enough water, too dangerous, and decided not to boat that. I don’t know of  
7 anybody else who has boated that.”); Tr. at 12/15/14:59 (with respect to Segment 0-B, Mr.  
8 Fuller testified that “[s]ome of the boating guides that are out there describe the boating  
9 reaches beginning at Forest Road 638 and describes the reach upstream as more of a drag,  
10 pole and paddle.”); Tr. at 12/15/14:59 (Fuller noted that Segment 0 did not “have any  
11 historical descriptions of boating” on it).

12 Segment 1 is perennial and characterized by a pool & riffle pattern as well as a  
13 bedrock canyon. *Id.* at 46. ASLD estimated that there has been diminished base flow  
14 since, and prior to, 1912, but minimal other direct human impact to the channel. *Id.*; *see*  
15 Tr. at 12/15/14:62 (Fuller testified that there has “[b]een some diminishment in the flow  
16 prior to and before and prior to 1912, primarily due to withdrawals at the upper watershed;  
17 to a lesser degree a small diversion at Perkinsville. Other than that, there’s not a lot of  
18 direct human impact to the channel itself . . . .”); Tr. at 12/15/14:220 (“In terms of its  
19 ordinary and natural condition, based on the geomorphology of the reach, I would say it’s  
20 very similar to its existing condition, particularly in recent years with some of the cattle  
21 enclosures.”).

22 Segment 2 is also perennial and is characterized by a pool & riffle pattern in an  
23 alluvial valley. *Id.* at 51. Segment 2 has a length of 49 miles with a slope of 13 ft/mi. *See*  
24 Burtell 2014, at 3 [x009]. In modern times, ASLD asserted that there have been  
25 significant human impacts. *Id.*; *see* Tr. at 12/15/14:79 (Mr. Fuller testified that “[i]t has a  
26 pool and riffle pattern, saying it’s an alluvial valley, and it has experienced diminished

1 base flow since and prior to 1912.”) Portions of Segment 2 have a braided channel, which  
2 is not conducive to navigation. Mussetter 2014, at 24 [x016]; Tr. at 12/15/14:149 (Fuller)  
3 (testifying that a photograph of Segment 2 from 1800 shows a braided portion of the  
4 river); Tr. at 2/18/15:1350-52 (Hjalmarson) (admitting that a number of the photographs  
5 included in his report depict braiding).

6 Over 100 rapids have been identified along the Verde from its headwaters to  
7 Horseshoe Reservoir. Burtell Decl. at 13. From the headwaters to Sycamore Creek, there  
8 are 22 rapids ranging from Class I to Class II. *Id.* at 13. Mr. Burtell stated that, “[a]ll of  
9 these conditions [the Class I to II rapids mapped along Segment 1 and the upper reach of  
10 Segment 2] pose an impediment to navigation and the frequency of rapids along the Verde  
11 River would have been more than just a nuisance to commercial boaters before  
12 statehood.” Burtell Decl. at 13-14 (noting that the Verde shares the San Juan’s Class I to  
13 III rapids, relatively steep slopes and narrow canyons). Ten additional rapids, typically  
14 Class I+, were encountered between Sycamore Creek and Beasley Flats, in Segment 2. *Id.*  
15 at 13.

## 16 ii. Segment 3

17 The approximately 17-mile segment between Beasley Flat and Verde Hot Spring is  
18 entrenched in a relatively narrow, deep canyon with a relatively steep (approximately 19  
19 feet/mile) gradient. Mussetter Decl. at 11; *see also* Burtell 2014, at 3 [x009] (stating that  
20 Segment 3 has a length of 16 miles with a slope of 20ft/mi). The bedrock outcrop at  
21 Verde Falls<sup>8</sup> creates an approximately 4-foot high waterfall with a number of other  
22

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23 <sup>8</sup> The *PPL Montana* opinion makes clear that natural obstructions to navigation that would  
24 require portages can and often do make the river nonnavigable: “[T]he Montana Supreme Court  
25 was wrong to state, with respect to the Great Falls reach and other stretches of the rivers in  
26 question, that portages “are not sufficient to defeat a finding of navigability.” 355 Mont., at 438,  
229 P.3d at 446. In most cases, they are, because they require transportation over land rather than  
over the water.” 132 S. Ct. at 1231.

1 boulder obstructions. *Id.*; see also Tr. at 2/23/15:1897-98 (Mussetter); Mussetter Power  
2 Point, at 18 [x060] (indicating that the drop at Verde Falls is anywhere from 4 to 8 feet).  
3 As noted by Dr. Mussetter, Arizona State Parks recommends that even present-day  
4 whitewater boaters portage around this area.<sup>9</sup> *Id.* “In other locations, large caliber  
5 sediment and debris from the adjacent side canyons constrict the river and/or create  
6 shallow riffles, rapids, and obstacles within the channel that represent significant  
7 navigation hazards.” *Id.* Constrictions in the valley width and bends in the valley  
8 alignment also create upstream backwater (a local increase in water-surface elevation and  
9 depth, and flattening of the water-surface slope that occurs upstream from a flow  
10 constriction) conditions at high flows when coarse-grained sediment is being transported,  
11 causing the transported sediment to deposit and form large gravel bars. *Id.* During times  
12 of lower flows, the river is constricted to a relatively narrow channel along the sides or  
13 across the middle of the bars, which forms rapids and shallow riffles. *Id.*

14 Between late February and mid-April during high flow boating years, this segment  
15 is characterized by challenging whitewater. *Id.* However, there may be no boating  
16 opportunities at all during low-flow years. Dr. Mussetter made the point in his report that,  
17 while the depths would be somewhat greater at higher flows (by a few tenths of feet,  
18 based on the gage measurement data at the *below Tangle Creek* gage), the intensity of the  
19 hydraulic conditions at significant rapids like Verde Falls would also be greater,  
20 increasing navigation hazards. *Id.* at 14.

21 Segment 3 contains 33 rapids between Beasley Flats and Verde Hot Springs, most  
22 between Classes II-III.<sup>10</sup> Burtell Decl. at 13. There are a total of 11 named rapids,

23  
24 <sup>9</sup> Mr. Farmer testified that it took three men to portage Verde Falls with his 17-foot canoe  
with 300 pounds in it. See Tr. at 12/16/14:390 (Farmer).

25 <sup>10</sup> Mr. Fuller testified that “Segment 3 is the so-called whitewater reach of the Verde  
26 River. So it has its moniker, probably because some of the larger rapids, the larger rapid, are  
located in this reach.” See Tr. at 12/15/14:92 (Fuller).

1 including one Class IV<sup>11</sup> and 7 Class III rapids. *Id.* at 14-15. Dr. Mussetter's opinion was  
2 that "the rapids and riffles represent significant impediments to navigation by the  
3 watercrafts that were in use at and prior to the time of Arizona's statehood." *Id.* at 14; *see*  
4 *also* Tr. at 2/23/15:1944 (Mussetter) ("[T]hese reaches are relatively narrow, bedrock-  
5 confined, flows through a bedrock-confined canyon. There are numerous rapids in these  
6 reaches that would make navigation for commercial purposes very impractical. My  
7 opinion is these reaches certainly don't meet the standard for navigability using the types  
8 of boats that were in customary use for commerce at the date of Arizona statehood.");  
9 Mussetter Power Point, at 52 (x060).

10 With regard to the changes since statehood, Mr. Fuller testified that "this is a fairly  
11 pristine reach. In terms of the morphology of the stream, it hasn't changed much since its  
12 ordinary and natural condition, with the exception of some reduction in the normal flows."  
13 *See* Tr. at 12/15/14:223 (Fuller).

### 14 iii. Segment 4

15 Segment 4 resembles Segment 3 in that this approximately 35-mile segment of the  
16 Verde River between Verde Hot Spring and the head of Horseshoe Reservoir is also  
17 entrenched into a deep, relatively narrow canyon. Mussetter Decl. at 16. While the  
18

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19 <sup>11</sup> The American Whitewater Association defines Class III and Class IV rapids as follows:

20 **Class IV:** Intense, powerful but predictable rapids requiring precise boat handling in  
21 turbulent water. Depending on the character of the river, it may feature large, unavoidable waves  
22 and holes or constricted passages demanding fast maneuvers under pressure. A fast reliable eddy  
23 turn may be needed to initiate maneuvers, scout rapids, or rest. Rapids may require "must make"  
24 moves above dangerous hazards. Scouting may be necessary the first time down. Risk of injury  
25 to swimmers is moderate to high, and water conditions may make self-rescue difficult. Group  
26 assistance for rescue is often essential but requires practiced skills.

**Class III:** Rapids with moderate, irregular waves which may be difficult to avoid and  
which can swamp an open canoe. Complex maneuvers in fast current and good boat control in  
tight passages or around ledges are often required; large waves or strainers may be present but are  
easily avoided. Strong eddies and powerful current effects can be found, particularly on large-  
volume rivers. Scouting is advisable for inexperienced parties. Injuries while swimming are rare;  
self-rescue is usually easy but group assistance may be required to avoid long swims.

1 overall gradient is slightly flatter than Segment 3, it is still relatively steep at about 17  
2 feet/mile. *Id.*; see also Burtell 2014, at 3 [x009] (stating that Segment 4 has a length of 35  
3 miles, with a slope of 18 ft/mi).

4 Segment 4 contains 36 rapids, mostly class I+ to II+, from Verde Hot Springs to  
5 Horseshoe Reservoir. Burtell Decl. at 13. This reach contains 13 named rapids – 5 of  
6 them are rated as Class III and 8 as Class II.<sup>12</sup> Mussetter Decl. at 16. This portion of the  
7 Verde contains shallow riffles and severely constricted areas in which the bed of the river  
8 is strewn with boulder and cobble-sized material that “would be very difficult to navigate  
9 safely at the low to moderate flows that occurred throughout most of the year with the  
10 watercraft that were in customary use at and before Arizona became a state.” *Id.*

11 In 2002, Mussetter Engineering, Inc. (MEI) and ERO Resources were retained by  
12 SRP to evaluate the effects of several potential dam operating scenarios on the Verde. *Id.*  
13 In conjunction with this work, three sites were surveyed: (1) “between the head of  
14 Horseshoe Reservoir and the *below Tangle Creek gage*”; (2) “1.7 miles downstream from  
15 Horseshoe Dam and just downstream from the mouth of Davenport Wash”; and (3) about  
16 2.3 miles downstream from Bartlett Dam and about 0.6 miles upstream from Box Bar  
17 Ranch.” *Id.* Site 1<sup>13</sup> was located at the downstream end of Segment 4 and Sites 2 and 3  
18 were located in Segment 5 (discussed *supra*, in the Segment 5 section). While these sites  
19 were not located in the areas that would present the greatest challenges to navigation,  
20 “even in these areas, navigation at the flows that persist during a significant part of the  
21

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22 <sup>12</sup> The American Whitewater Association defines **Class II** rapids as: Straightforward rapids with  
23 wide, clear channels which are evident without scouting. Occasional maneuvering may be required, but  
rocks and medium-sized waves are easily missed by trained paddlers.

24 <sup>13</sup> Mr. Hjalmarson makes the point that Site 1 has been inundated a few times by water stored  
25 behind Horseshoe Dam and has also been subjected to backwater and associated deposition of river  
26 transported sediment during large floods. Hjalmar W. Hjalmarson, Addendum to Navigability Along the  
Natural Channel of the Verde River, AZ, November 14, 2014, at 43. The Committee recognizes that Site  
1 may not be representative of the larger area for this reason.

1 year would be challenging.” *Id.*

2 Mr. Fuller testified, with regard to Segment 4, that “the changes since statehood,  
3 again, this is primarily an undisturbed reach, has that wild and scenic designation. That’s  
4 one of the criteria to get that designation. But the base flow is reduced, and then we get  
5 below the dams today, the flow rights are substantially altered by the operations of those  
6 dams.” *See* Tr. at 12/15/14:224 (Fuller).

7 **iv. Segment 5**

8 The Verde River valley broadens in Segment 5, which provides more opportunities  
9 for braiding and widening under unregulated flow conditions. *Id.* at 24; *see also* Burtell  
10 2014, at 3 [x009] (stating that Segment 5 is 55 miles long with a slope of 13 ft/mi). A  
11 series of high discharge years in the period prior to statehood (1889, 1890, 1891)  
12 apparently caused major channel erosion, which continued in 1905, 1906, 1907 and 1909  
13 (also high discharge years). *Id.*

14 Site 2 of the MEI project is characterized by an active (unvegetated) channel that is  
15 approximately 450 feet wide. *Id.* at 24. The approximately 200-foot wide low-flow  
16 channel is fringed by riparian vegetation and a large, sparsely vegetated cobble-gravel bar  
17 separates the main channel from a chute channel that is located along the margin of the  
18 valley flow. *Id.* at 32. This channel runs along the base of the bounding alluvial fan and  
19 terraces for most of the site length. *Id.* The maximum depths at two cross sections located  
20 in this area are less than 2 feet for flows up to 225 cfs to 250 cfs. *Id.* The cross  
21 sectionally-average depth is less than 2 feet in discharges up to about 600 cfs at XS 2 and  
22 greater than 1,000 cfs at XS4. *Id.*

23 Mr. Fuller testified that Segment 5 is a “perennial stream, pool and riffle, and now  
24 we’re out of the canyons into an alluvial valley. The flow has been altered since the mid-  
25 century, mid-last century, with the major upstream dams. Of course, they were not there  
26 in statehood.” *See* Tr. at 12/15/14:111 (Fuller).

1                   **1. Hydrology of the Verde River<sup>14</sup>**

2           Precipitation in the region is bimodal, with intense monsoonal storms in the  
3 summer that are linked to tropical Pacific events and cooler winter storms linked to  
4 northern Pacific events. EIN x001-58 at 23. The Verde River is characterized by highly  
5 variable flows. One article published in 1892 noted that “[t]he Rio Verde, like all  
6 Western streams, is quite copious during the spring months from the periodical rains and  
7 melted snow, but during the summer and autumn it is only a creek of 500 inches.”  
8 Littlefield Report at 99; Littlefield 2014, at 88 [x002] (“Like the annual reports of the U.S.  
9 Reclamation Service, the agency’s unpublished documents further depicted the Verde  
10 River as highly unpredictable and not useful for commercial navigation.”).

11           As the *Weekly Journal-Miner* reported on February 19, 1896, “some dark morning  
12 you hear a roar like a mighty wind tearing through a forest, and here it comes--a solid  
13 head of water--swift by reason of its great incline, and dark with the soil of the ranchers’  
14 valuable land.” *Id.* at 99. The effects of the floods on the banks is tremendous: “[t]he  
15 high banks, having become saturated, crumble from beneath, and day and night one can  
16 hear the sound of large portions of land falling into the water.” *Id.* Not only do the floods  
17 erode the banks, but “[e]very flood we have changes its current. One year it ripples up  
18 against this side, and the next it purrs and murmurs its deceptive little song clear across on  
19 the other side, and so back and forth, back and forth, always demanding a toll, and taking  
20 it too, with a lavish and liberal hand.” *Id.* Mr. Burtell calculated that undepleted flows in  
21 the Verde River typically had a mean depth of less than two feet during 75% of the year.

22 \_\_\_\_\_  
23           <sup>14</sup> The United States Geological Survey (“USGS”) has operated six gauges on the Verde, but only  
24 two were operational before statehood. *See* Fuller 2003, at 7-5 [EI 31]. According to ASLD’s consultants,  
25 the average monthly streamflow rate in February 1912 was 300 cfs at the McDowell gauge. *See* Fuller  
26 2003, at 7-6 (Table 7-3) [EI 31]. Two days after statehood, the reading at that gauge was 269 cfs. *Id.* The  
other pre-statehood gauge was established in February 1911, near Camp Verde. *See* Fuller 2003, at 7-6  
[EI 31]. Although only limited measurements were taken, the ASLD’s consultants estimate that the  
average streamflow in February 1912 was approximately 200 cfs. *Id.*

1 Burtell Decl. at 20.<sup>15</sup>

2 **i. Segments 0-2**

3 Mr. Burtell concluded that, for 75% of the time, undepleted streamflows along the  
4 Verde River remained below 100 cfs in Segment 1 and the upper reach of Segment 2.  
5 Burtell Decl. at 15; *see also* EIN x011-69 at 142 (stating that the median flow rate in  
6 Segment 2 was approximately 26 cfs); EIN x011-69 at 149 (at a flow rate of 42 cfs in  
7 Segment 1 (the estimated mean annual), the average depth in feet would be 1.2 and at an  
8 estimated mean annual flow rate of 192 cfs, the average depth in Segment 2 would be 2.2  
9 feet). He considers these values to be an upper estimate, as he did not correct for the  
10 effects from infiltration and evapotranspiration. *Id.* Mr. Burtell also concluded that, for  
11 75% of the time, undepleted streamflows would be below 500 cfs in Segment 3 and the  
12 lower reach of Segment 2. *Id.* Mr. Hjalmarson felt that the Upper Verde River would  
13 have a mean annual flow of 60-116 cfs and an average depth of flow of at least 2.9 feet.  
14 Hjalmarson Assessment at 7. Mr. Hjalmarson used theoretical calculations to attempt to  
15 account for the hypothetical flow at the time the Verde was not used for irrigation.

16 Historical studies indicate that the upper Verde River was so marshy that the  
17 Yavapais were able to farm only 20 of the 125 acres available on the floodplain. EIN  
18 x011 at 84. Unsurprisingly, given the marshy conditions, malaria was common and the

19 \_\_\_\_\_  
20 <sup>15</sup> Mr. Hjalmarson spends some time in his Second Addendum attacking various parts of Mr.  
21 Burtell's declaration. The Committee takes note of his comments and the limitations of Mr. Burtell's  
22 estimations. *See* Hjalmar W. Hjalmarson, Second Addendum to Navigability Along the Natural Channel  
23 of the Verde River, AZ, February 5, 2015, at 74-95. However, the Committee also recognizes the  
24 limitations of Mr. Hjalmarson's estimates, such as his changed assumptions on the numbers of acres  
25 irrigated, the consumptive use factor he used (which was for a different region and for different crops),  
26 failure to account for dryland farming and for deficit farming and piecing together disparate data from  
multiple years, distorting the estimate of the number of acres irrigated in any one year. *See* Tr. at  
12/18/14:1073 (Hjalmarson), Tr. at 12/19/14:1123-25, 1199 (Hjalmarson), Tr. at 2/18/15:1268-1276, Tr. at  
2/18/15:1281-82 (Hjalmarson), Tr. at 3/30/15:2736 (Burtell); *see* D.R. Pool, et al., *United States  
Geological Survey, Regional Groundwater-Flow model of the Redwall-Muav, Coconino, and Alluvial  
Basin Aquifer Systems of Northern and Central Arizona, Scientific Investigations Report 2-10-5180, v. 1.1,*  
at 37 (2011) [x037, Freeport 32].



1 water was forced into standing pools which bred mosquitoes. *Id.* at 86; *see also* EIN  
2 x011-69 at 90 (stating that the river “flowed slowly, impeded by many beaver dams, and  
3 extensive marshes occupied the floodplains”). It was reported to be “so shallow you  
4 could cross it on clumps of grass.” *Id.* The occasional floods would cause “the river to  
5 cut into banks, change the course of the main river channel and the river bed spread to half  
6 a mile wide in places.” *Id.* at 87 (also noting that the water would run into pools which  
7 became stagnant and sources for malaria).

#### 8 **ii. Segment 3**

9 Modern data from 1945 through 2013 at the *Verde River below Tangle Creek gage*  
10 (USGS Gage No. 09508500), which is located just upstream from Horseshoe Reservoir,  
11 indicates that the discharge in the river (Segment 2 moving into Segment 3) was less than  
12 240 cfs about half the time and less than 340 cfs about 75% of the time, as measured on an  
13 annual basis. Mussetter Decl. at 11; *see also* EIN x011-69 at 142 (stating that the median  
14 flow rate was 197 at Clarkdale, measured in cfs); EIN x011-69 at 151 (at an estimated  
15 flow rate of 439 cfs in Segment 3, the average depth would be approximately 2 feet). As  
16 Dr. Mussetter noted, “[t]he overall hydrologic regime in the river (i.e., not considering the  
17 effects of upstream diversion) during the period of the gage measurements appears to be  
18 similar to long-term conditions that existed prior to significant human influences.” *Id.* at  
19 13. When annual flow volumes were estimated from 1320-2005 using tree ring data, it  
20 indicated that the mean flow and annual variance during the period of the estimates are  
21 not statistically different from those taken at the gage from 1945-2005. *Id.*

22 Dr. Mussetter indicated that the discharge in Segments 3 and 4 would have been  
23 less than 265 cfs about 50% of the time and less than 375 cfs about 75% of the time, on an  
24 annual basis. *Id.* When amended to account for water lost due to irrigation, he estimated  
25 that the discharge in Segments 3 and 4 would have been less than 350 cfs about 50% of  
26 the time and less than 420 cfs about 75% of the time, on an annual basis. Updated

2 **iii. Segment 4**

3 When the field surveys were conducted in Segment 4 (late November 2012), the  
4 discharges recorded at the *below Tangle Creek* gage ranged from 259 cfs to 296 cfs. *Id.* at  
5 17. Dr. Mussetter found that the “maximum depth at the locations within the site that  
6 would be most limiting to navigation was only about 2 feet . . . and the cross sectionally-  
7 averaged depth at Cross Section (XS) 5 (the shallowest cross section) is less than 2 feet  
8 for flows up to about 800 cfs . . . indicating that, even this area that is not the most  
9 limiting within Segment 4, would not have been navigable under ordinary and natural  
10 conditions at the time of Arizona’s statehood. *Id.*; *see also* EIN x011-69 at 152 (at an  
11 estimated mean annual flow rate of 559 cfs, the average estimated depth would be 1.1  
12 feet).

13 **iv. Segment 5**

14 Site 3 of the MEI project is about 6.5 miles downstream from Bartlett Dam in a  
15 section of the Verde River valley that is about 4,000 feet wide. *Id.* The active channel at  
16 the site is about 600 feet in width, and the site is located in a depositional zone upstream  
17 from a valley constriction that is caused by erosion-resistant alluvial deposits in the right  
18 bank and outcrop of the Needle Rock Formation on the left bank. *Id.* In this site, survey  
19 data indicate that maximum depths are less than 2 feet at discharges in the range of 300  
20 cfs to 500 cfs in several cross sections. *Id.* The hydraulic model also indicates average  
21 depth of less than 2 feet at discharges up to 1,000-2000 cfs, depending on the cross  
22 section. *Id.*; *see also* EIN x011-69 at 153 (showing the massive variability in potential  
23 flow, ASLD estimated that the flow rate could range from 142 cfs in June to 2121 cfs in  
24 February, causing a range in depth from 1.7 feet to over 4 feet). Likely, during the time  
25 period leading up to Arizona’s statehood, these low-flow channels were wider, shallower  
26 and less stable than under modern conditions. *Id.* This also supports the conclusion that

1 Segment 5 was not navigable under ordinary and natural conditions at Arizona's  
2 statehood. *Id.*

### 3                   2.     **Human Impacts on the Verde River**

4           The Colorado plateau and the Verde River Valley were likely occupied by paleo-  
5 Indians since around 14,000 B.P. EIN x001-58 at 31. While the influence of hunter-  
6 gather nomadic groups was likely small, Paleo-Indians of the Pueblo periods inhabited  
7 river valleys like the Verde Valley and Perkinsville Valley, where they built homes,  
8 harvested fish and game, and farmed using extensive irrigation canals. *Id.* The valleys of  
9 the Verde River were farmed as early as 750 A.D. and probably through the mid-1400s.  
10 *Id.* at 31-32.

11           The Spanish explorer Antonio de Espejo was the first European to visit the Camp  
12 Verde area of the Valley during an expedition in May 1583; he was in search of mineral  
13 wealth at the location where mines were established near Jerome. *Id.* at 32. In 1598 A.D.,  
14 Don Juan de Oñate sent his lieutenant, Marcos Farfán de los Godos, to conduct further  
15 investigations of the ore mines at Jerome, and he crossed the Verde in 1604 *en route* to the  
16 Colorado. *Id.* at 32. For the next 220 years, the Verde Valley remained unnoticed, except  
17 for the Paleo-Indians of the area, until the French trappers arrived. *Id.*

18           Given the importance of water for irrigation in the desert, people were interested in  
19 damming the river. On January 17, 1898, the Rio Verde Canal Company recorded a claim  
20 with the Maricopa County Recorder for 5,000 cubic feet per second of Verde River Water.  
21 In the claim notice, the company said that it would “build and maintain a diversion dam  
22 across the Verde River . . . .” Littlefield Report at 100. The company also intended to  
23 build other dams: one at what later became known as the Horseshoe Reservoir site,  
24 another at the Lower Verde Reservoir site, and a third that was known as Storage  
25 Reservoir. *Id.* Interestingly, while the dams would be expected to impede navigation on a  
26 navigable river, there is no evidence of any protests against the proposed dams by

1 navigational interests. *Id.* at 100.

2 In specifically considering human impacts on Segment 3, Dr. Mussetter stated that  
3 “[t]he magnitude of human impacts to the physical characteristics that affect the  
4 navigability of this segment have been relatively minor. As a practical matter, the rapids  
5 and short, unreliable boating season (even for modern whitewater craft) strongly indicate  
6 that this segment [3] was not navigable or susceptible to navigation under ordinary and  
7 natural conditions at the time of Arizona’s statehood.” Mussetter Decl. at 15.

8 **i. Irrigation<sup>16</sup>**

9 Irrigation has been a part of the Verde River’s ecology for some time. It was first  
10 practiced in this region by ancient peoples; “[i]n the valleys of the Little Colorado, Salt,  
11 and Gila Rivers, and along the Verde River and smaller tributaries are found unmistakable  
12 remains of ditches and reservoirs, together with ruins of the cliff dwellings and the  
13 communal houses of tribes . . . .” EIN x001 Exhibit 26 Irrigation and Agricultural  
14 Practice in Arizona at 15. Yavapai Indians were using canals to irrigate their crops along  
15 banks of the stream in the 1890s. EIN x001 Exhibit 20, Fish Remains Along the Verde at  
16 7. While the first European irrigators were likely the Jesuits, who established themselves  
17 at the Guevavi and San Xavier missions in 1732, it was not until sometime between 1768  
18 and 1822 that there was much development of irrigation along the Santa Cruz River, near  
19 Tucson. EIN x001 Exhibit 26 at 16.

20 Along the Upper Verde, in July 1901 the subcommittee representing the Salt River  
21 Valley water users measured the ditches and areas irrigated, about 7,650 acres, concluding  
22 that about 70,000 acre-feet for an irrigating season of 200 days was used. *Id.* at 58. It was  
23 stated that since 1901 not much additional irrigation had been undertaken. *Id.* Notably,  
24

25 <sup>16</sup> While irrigation has been used for some time, widespread groundwater pumping did not  
26 begin in Arizona until well after statehood. Tr. at 04/02/15:3437-38 (Burtell).

1 “[a] considerable percentage of the water applied to the soil may work its way back  
2 gradually to stream channels and again be taken and applied.” *Id.* at 59.

3 Burtell stated that irrigation by Anglo settlers along and near the Verde increased  
4 from about 200 acres in 1864 to nearly 4,000 acres by 1883. Burtell Decl. at 6. He  
5 estimated that “these diversions initially depleted about 4 cubic feet per second (cfs) from  
6 the Verde River and, by 1883, the depletions had probably increased to nearly 80 cfs.” *Id.*  
7 His assessment was that even this level of stream depletion would not have substantially  
8 changed the depth of the stream and impacted its susceptibility to navigation. *Id.*

9 **ii. Upstream Flow Regulation<sup>17</sup>**

10 Under present conditions, the downstream area of the Verde has an island-braided  
11 character, with multiple channels in many locations that are stabilized by riparian  
12 vegetation that remains relatively stable due to the upstream flow regulation. *See*  
13 Mussetter 2013, at 3 [x016]. Under natural conditions prior to significant upstream flow  
14 regulation, this reach (Segment 5, primarily) responded to periodic high flow events such  
15 as those that occurred in the late-19th and early 20th centuries by developing a wide,  
16 braided pattern with multiple, unstable low-flow channels that would have precluded  
17 navigation using the watercraft that were in customary use at and prior to Arizona’s  
18 statehood. *Id.*

19 **iii. Mining**

20 Mining began in the 1860s in the Verde Valley and Jerome and a smelter at  
21 Clarkdale existed in 1912. EIN x011-69 at 75. The period from the 1880s to the present  
22 marked a period in the Verde River where humans extracted various river products such  
23 as sand and gravel for construction of towns and businesses. EIN x011-58 at 33. As early  
24

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25 <sup>17</sup> The first large dams on the Verde were not constructed until well after statehood. Fuller  
26 2003, at 3-1.

1 as 1910, extensive gravel mining of Verde River reaches near Tapco, Cottonwood and the  
2 Camp Verde area was reported. *Id.*

3 **iv. Cattle Grazing**

4 The first permanent settlers to the Verde Valley arrived in January 1865, and this  
5 event marked the beginning of cattle ranching in the Verde Valley. *Id.* at 34. Livestock  
6 were intended to meet the needs of Army personnel stationed at what was then known as  
7 Fort Lincoln (it later became known as Fort Verde) and the settlers themselves. *Id.* James  
8 Baker's 76 Ranch in Perkinsville was reportedly stocked with 10,000 head of cattle in  
9 about 1882; however, the cattle were widely distributed in the watershed and not solely in  
10 Perkinsville. *Id.* Severe droughts in the area saw many of these cattle perish, however.  
11 *Id.*

12 While many assessments have attributed overgrazing by cattle and other human  
13 activities to arroyo cutting, recent examination of Quaternary geologic records linked  
14 arroyo formation to changing post-glacial climate, vegetation, groundwater conditions,  
15 and human land use. EIN x011-58 at 26. This would link arroyo formation to repeated  
16 wet-dry cycles; as water tables drop and vegetation decreases during dry periods, sites  
17 become more susceptible to erosion. *Id.* at 27. Subsequent wet periods would then induce  
18 flooding and initiate arroyo formation. *Id.*

19 **v. Beaver Dams<sup>18</sup> and Their Removal**

20 Historically, the flow of the Verde was slow, and was impeded by many beaver  
21 dams, exacerbating the extensive marshes that occupied the floodplains. EIN x001

22 \_\_\_\_\_  
23 <sup>18</sup> Beavers are "part of the ordinary and natural condition of the river, if beavers are there and  
24 they're making dams. So to artificially remove them I would say would be in the same camp as artificially  
25 damming the river and counting that as an ordinary and natural condition." Tr. 12/15/14:186 (Fuller); *see*  
26 *also* Tr. at 3/30/15:2647 (Burtell) ("Again, I'll just reiterate the common occurrence of these beaver dams,  
as indicated by these historic accounts, suggest that they were common, and they would be a common  
obstacle that a boater would have to deal with. Would it defeat navigability in its entirety by itself?  
Maybe yes, maybe no. But it's just one more thing that a boater at this time would have to grapple with.").

1 Exhibit 20, Fish Remains Along the Verde at 7. Burtell provides a number of historic  
2 accounts of beaver dams along the Verde; these reveal that, from the 1860s through the  
3 1880s, beaver dams were common along Segments 1, 2 and 5 of the Verde. Burtell Decl.  
4 at 13; *see also* EIN x011-69 at 89 (noting that Segment 2 was “impeded by many beaver  
5 dams”). Not only did beavers create dams, and, consequently, lagoons, along the Verde,  
6 but they can also quickly repair those dams following flooding, creating an ongoing  
7 impediment to boat travel. *Id.* at 13. Trappers in the area acted to temporarily remove  
8 beavers from the ecosystem, which would have caused the pools formed behind their  
9 dams to drain, locally lowering stream levels. *Id.*

### 10 3. Ordinary and Natural Condition

11 Here, as in *Winkleman*, little Evidence in the Record exists from the time period  
12 before prehistoric people arrived and developed diversions on the Verde River. Like in  
13 *Winkleman*, however, the evidence that does exist suggests that prehistoric diversions  
14 disappeared through non-use over the centuries and largely ceased to exist by the 1840s.  
15 *See Winkleman*, 224 Ariz. at 242, 229 P.3d at 254 (holding that the “best evidence” of the  
16 Lower Salt River’s natural condition was from the time period after the effects of  
17 prehistoric diversions had ceased to affect the River, but before the commencement of  
18 modern-era settlement and farming).<sup>19</sup> “[P]rior to significant development, the Verde  
19 River was a shallow stream easily crossed by horse or mule and characterized by both  
20 rapids and lagoons. The river was at times deeper and more difficult to cross, but usually  
21 only following storm events and/or during spring snowmelt.” *See Burtell 2014*, at 6  
22 [x009].

23 \_\_\_\_\_  
24 <sup>19</sup> Significantly, the *Winkleman* court did not rule out consideration of evidence of a river’s  
25 condition after man-made diversions. *See Winkleman*, 224 Ariz. at 243, 229 P.3d at 255. On the contrary,  
26 it observed that such evidence, while not dispositive, may nonetheless be informative and relevant and  
that, as long as “the evidence has indicia of reliability, the determination of the relevance and weight to be  
afforded the evidence is generally for [the Commission] to make.” *Id.*

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**B. Verde River’s Susceptibility to Commercial Navigation**

**1. Overview**

As early as 1865, members of the Arizona Territorial Legislature had reached the conclusion that the Verde River was not navigable. Littlefield Report at 95. On December 28, 1865, the legislators stated that “the Colorado River is the only navigable water in this Territory[.]” *Id.* at 95; *see also* Burtell Decl. at 8.

This seems to be at least partly due to the frequency and severity of floods affecting the Verde. For example, in 1874 Prescott’s *Weekly Journal-Miner* described the Verde as rising “about fifty feet in a short space of time.” *Id.* at 97. About five months later, the *Weekly Arizona Miner* described another Verde River flood as follows, “[it] rose three feet during yesterday. This morning the angry torrent is rushing southward with terrific force and the muddy water has overflowed the meadows, making it dangerous to ford or attempt to cross.” *Id.* There were large numbers of stories describing the Verde River floods throughout the years before Arizona’s statehood. *Id.* A river that floods and rearranges its channel on a regular basis would be unlikely to be susceptible to navigation.

In September 1875, the *Weekly Journal-Miner* described the rivers in the area, but noted that none of the streams were navigable: “[t]he San Francisco or Verde River and the Colorado Chiquito (Little Colorado or Flax River) together with the Great Colorado with its wonderful Cañon, are the most important rivers of Yavapai, but there is no navigable water in the county; all freight is moved by large trains of pack mules or heavy wagons drawn by from four to twenty mules to the wagon.” *Id.* at 98; *see also* Burtell Decl. at 7.

**2. Susceptibility to Navigation Prior to Spanish Exploration**

Rich Burtell stated in his declaration that “[n]o evidence of prehistoric boating by Native Americans was found.” 2014 Declaration of Rich Burtell on the Non-Navigability



1 of the Verde River at and Prior to Statehood (“Burtell Decl.”) at 4; see also EIN x011-69  
2 at 72 (noting that archaeology has provided no evidence of boats or boating); 2015  
3 Declaration of Jack L. August (“August Decl.”) at 4-5 (“These early inhabitants [the  
4 Hohokam and others in Mexico and northern Arizona before contact with Europeans]  
5 traveled by foot and there was no archeological evidence of boats or water-based  
6 transportation. . . . there is a lack of evidence that the semi-nomadic group used the  
7 Lower Verde for commerce or travel.”). Likewise, in his affidavit for the 2014/15  
8 Hearings, Mr. Randall wrote: “From my many decades of research regarding Yavapai and  
9 Apache history and culture, including my review of thousands of federal, state and private  
10 archival sources, my interviews with Tribal elders, and my interactions and discussions  
11 with historians, ethnographers and archaeologists, I have not come across any accounts of  
12 the use of the Verde River being used for trade or travel by our Yavapai and Apache  
13 People at all.” *See* Randall 2015, at 7 [x055-YAN 1]; *see also* Randall 2015, at 7 [x055-  
14 YAN 1] (The “Yavapai and Apache People have never used canoes or rafts to travel on  
15 the Verde River and [the] Yavapai and Apache People have no traditional cultural  
16 knowledge of how to construct a canoe, boat or raft.”); Randall 2015, at 7 [x055-YAN 1]  
17 (“No other tribes ever traded with [the] Yavapai and Apache People using canoes, boats  
18 or rafts and all of our trade with other tribes was by land routes.”); Randall 2015, at 7  
19 [x055-YAN 1] (“People have no oral history of ever seeing a canoe, boat or raft on the  
20 Verde River, including when our People returned to the Verde Valley around Camp Verde  
21 and Clarkdale in the late 1890’s and early 1900’s.”).

### 22 **3. Evidence of Actual Navigation or Susceptibility to Navigation** 23 **During Early Exploration and Before Anglo-Settlement**

24 Before the late 1850s, Arizona was still an unknown region, although it was  
25 exploited by self-reliant beaver trappers, investigated by government expeditions, and  
26 crossed by wagon trains of emigrants on their way to California. EIN x011-49, Man and

1 Wildlife in Arizona at 1. Generally, these people passed with little impact, with the  
2 exception of the mountain men, who temporarily depressed the beaver population. *Id.*;  
3 *see* August Decl. at 5 (“They [Spanish explorers] traveled overland, using horses and  
4 mules for transportation . . . After Onate [in 1604], the Yavapai would not see Europeans  
5 in their lands for another two hundred years.”); August Decl. at 7 (“[Father Eusebio  
6 Francisco Kino’s brief encounter with the Lower Verde River offers no indication that he  
7 navigated the river for transportation or commerce, nor do his diaries suggest that he  
8 viewed the Lower Verde as susceptible for transportation or commerce.”); August Decl. at  
9 9 (“the Verde River continued to confound cartographers as to its course through central  
10 Arizona[, suggesting that mapmakers charged with noting travel routes] omitted or  
11 glossed over the Verde because it was not considered navigable as a route for  
12 transportation or commerce.”); August Decl. at 9-10 (describing various trapping  
13 expeditions, none of which used the Verde for transportation); *see also* Tr. at  
14 12/15/14:120-21 (Fuller); Fuller Power Point, Slide 80 [x035].

#### 15 4. Settlement and Conditions from the Mid-1800s

16 “By the mid to late 1860s, four military camps were established on or near the  
17 Verde River, farming settlements had begun in the Verde Valley, and Prescott had been  
18 named the capital of the territory. With this level of early development, it is difficult to  
19 explain how military personnel, farmers, and townspeople all failed to use the Verde  
20 River as a highway for commerce if it were susceptible to commercial navigation.”  
21 Burtell Decl. at 9; *see id* at 10-11 (soldiers failed to use the Verde), 11-12 (same for  
22 settlers). Burtell felt that, “shallow stream depths, rapids and beaver dams were all  
23 characteristic of the Verde River prior to its development. These natural impediments to  
24 navigation explain why the river was neither used nor susceptible to use as a highway for  
25 commerce at and prior to statehood.” *Id.* at 21; *see also* August Decl. at 12 (noting that  
26 mapmakers did not know the Verde’s course until 1889, indicating that the watercourse

1 “elicited no interest as a source of navigation”); August Decl. at 13 (“Despite the need to  
2 move food, provisions, and supplies, none of these pioneer entrepreneurs used the Verde  
3 for travel.”); August Decl. at 14 (“Though the detachment encountered the Verde in  
4 several instances, the military commanders never used the Verde to move material,  
5 munitions, men, or animals from one post to another.”).

6 **a. Federal Surveys**

7 When the United States acquired a large amount of territory from Mexico at the end  
8 of the Mexican-American War in 1848, federal officials wanted to ready the new lands for  
9 homesteading and to record the land’s characteristics. Douglas R. Littlefield’s Revised  
10 and Updated Report: Assessment of the Navigability of the Verde River Prior to and on  
11 the Date of Arizona’s Statehood, February 12, 1912 (April 3, 2014) (“Littlefield Report”)  
12 at 13.

13 Dr. Littlefield noted in his report that, by the time that Arizona became a state,  
14 “there had been substantial revisions and alterations to the instructions to federal  
15 surveyors concerning how they were to mark and record the intersection of survey lines  
16 with non-navigable and navigable bodies of water.” *Id.* at 25. While, initially, only  
17 navigable bodies of water were supposed to be meandered, some non-navigable bodies of  
18 water were also. *Id.* Additionally, surveyors would also loosely use the term “meander”  
19 to identify irregular survey lines along reservation boundaries. *Id.*

20 Significantly, “while there were at least eight federal surveyors who mapped the  
21 Verde between the Salt and the Verde’s headwaters prior to 1912 and while those surveys  
22 were done under the instructions of different survey manuals, at different times of year,  
23 and in different years, not one of the surveyors recorded information about the Verde  
24 River that would be consistent with a determination of navigability.” *Id.* at 26; Littlefield  
25 2005, at 73 [EI32].  
26

1                                   **b.     Land Patents and State Grants**

2           After the Mexican War ended in 1848, the U.S. Congress also passed a variety of  
3 homestead laws that were designed to facilitate settlement of the lands in the West that  
4 had been acquired from Mexico. *Id.* at 51. Understanding this process is significant  
5 because if the Verde River had flowed through a given parcel and had been considered  
6 navigable, federal officials would not have granted the title of the bed of the stream to  
7 private parties. *Id.* at 61. Consequently, a patent to a quarter section through which the  
8 stream ran would have been recorded as somewhat less than 160 acres. *Id.* Further, had  
9 the river been considered navigable, an irregularly shaped parcel next to the river would  
10 have been identified as belonging to the government instead of an even division of a 640-  
11 acre section. *Id.*

12           As Dr. Littlefield observed, “none of the federal patents that overlay the Verde  
13 River (regardless of their respective dates) contain any provisions for reserving the bed of  
14 the river to Arizona.” *Id.* at 62. Additionally, there “is also no evidence that Arizona,  
15 upon statehood, chose lands in lieu of those previously patented upon the river bed, which  
16 the state would have been entitled to do had the river been navigable.” *Id.* Land patents  
17 can also shed light on the question of navigability because a patent file includes details  
18 such as whether the farmer built an irrigation ditch from the Verde or whether he used the  
19 river for other reasons. Here again, “nothing in the supporting files suggests that the  
20 Verde River was navigable or that settlers used the stream for conveying commerce.” *Id.*

21           For example, a number of federal patents in Township 13 North, Range 5 East  
22 (Segment 2), near Camp Verde, were granted. *Id.* at 63. One such was to a Joseph H.  
23 Morrison, who made a homestead entry application on January 21, 1913. *Id.* The notes  
24 about his application state that part of it lay in the river bed. *Id.* at 64. Despite the fact  
25 that this information was part of the record, the federal government granted a patent to  
26 Morrison without withholding the bed and the banks of the river due to the sovereign

1 rights of Arizona. *Id.* at 64. Several similar examples were provided by Dr. Littlefield; in  
2 none of them was land withheld from patenting due to the presence of the stream,  
3 suggesting that the river was considered non-navigable. *Id.* at 65-71.

4 Further, under the terms of the *Desert Land Act of 1877*, land was also patented in  
5 larger blocks (since desert land was considered less productive from an agricultural  
6 perspective). *Id.* at 72. Under the Act, the desert land being claimed had to be irrigated  
7 before a final patent would be awarded; importantly, the water used in that irrigation had  
8 to come from a non-navigable stream. *Id.* There were over 50 applications for land under  
9 the *Desert Land Act* in land adjacent to the Verde River, and many of those cited that  
10 stream as their source of water. *Id.* at 73. All of the applications were initially accepted  
11 by the U.S. General Land Office in Phoenix. *Id.* While many of the applications were  
12 subsequently canceled due to the failure to comply with the requirements of the Act, the  
13 fact that they were initially accepted indicates that there was a contemporaneous belief  
14 that the Verde River was not navigable. *Id.* Further, there is no indication that those  
15 cancellations and relinquishments were related to the navigability of the Verde. *Id.*

16 For example, Dea Mee Get applied for a desert land entry patent for land in Section  
17 18 of Township 15 North, Range 4 East. *Id.* The fact that the U.S. patented this land even  
18 when the Verde ran through it suggests that the federal government did not believe the  
19 stream to be navigable. *Id.* at 74. Further, the claimant declared that the Verde River was  
20 the source of water for irrigation, and the *Desert Land Act* required that the water be from  
21 a non-navigable stream. *Id.* Similarly, a patent was issued to Ada D. Andrews, who filed  
22 (on February 11, 1914) a desert land application for a parcel through which the Verde  
23 River flowed. Not only did the Verde flow through this claim, but it was also stated to be  
24 the source of water to reclaim this tract – a statement that would only have been possible  
25 had the stream been considered non-navigable. *Id.* at 75.

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**c. Federal Land Grants to Arizona**

Arizona also obtained land by Congressional grants to support various public interest objectives (for example, supporting public schools) prior to and following statehood. *Id.* Arizona was able to select “in-lieu” or indemnity acreage if mineral lands, Indian reservations or other conflicting claims overlay various sections. *Id.* Likewise, if a navigable body of water overlay one of the sections, the state could take land elsewhere that was equal in size to the total area of the bed of the body of water. *Id.* at 76. “Significantly, Arizona made no in-lieu selections to compensate for the area covered by the Verde River’s bed in Sections 2, 16, 32 and 36 or in other federal lands granted to the state where they overlay the Verde.” *Id.*

**d. State Disposition of Federally-Granted Lands**

In a special 1915 session, the Arizona State Legislature created an initial version of what became the Public Land Code. *Id.* This code laid out the process by which the state would dispose of its public land. *Id.* Here, again, historical evidence shows that Arizona officials did not consider the Verde River to be navigable when they granted title to parcels through which the stream flowed to private parties. *Id.* at 77. As noted by Dr. Littlefield, in “each case, several parties expressed implicit opinions on the navigability of the Verde through the request for, and award of, lands through which the river flowed. These included the patentee, his witnesses, and officials of the U.S. General Land Office.” *Id.* at 78. Significantly, “cumulatively hundreds of people made judgments concerning the Verde River’s navigability in this manner – opinions spread chronologically in many years, throughout different seasons, and over a large geographic area.” *Id.* Based on this evidence, Dr. Littlefield concluded that “federal patents, Congressional grants to Arizona, and state patents strongly indicate that federal as well as state officials did not perceive the Verde River to be navigable.” *Id.*



1 *Geological Survey* stated that “[t]hese streams fluctuate greatly, being at times subject to  
2 sudden floods, especially during summer rains, when they often sweep out bridges, dams  
3 and canal head works, while at other times they may diminish until the water almost  
4 disappears.” *Id.* at 82. A record in the *Eighteenth Annual Report of the United States*  
5 *Geological Survey to the Secretary of the Interior, 1896-97*, noted that in January 1895 the  
6 maximum discharge had been 33,000 cubic feet per second, while the minimum had been  
7 only 527 cubic feet per second. *Id.*

8 **f. U.S. Geological Survey Water Supply Papers**

9 The U.S. Geological Survey also published a series of research treatises known as  
10 “Water Supply Papers.” *Id.* at 83. These papers also detail the widely fluctuating flow of  
11 the Verde through various tables – they show that at some times of the year, the stream  
12 had less than 100 cubic feet per second in it, while at other times flows could exceed  
13 100,000 cubic feet per second. *Id.* Observations of the stream were also provided. In  
14 Water Supply Paper No. 73, Arthur Powell Davis stated that “[b]oth [the Verde and the  
15 Upper Salt] streams are more or less torrential in character, the combined flow dwindling  
16 at times to about 100 cubic feet per second, and at other times reaching a volume more  
17 than one hundred times as great.” *Id.* at 84. Regarding the river basin, he stated that “the  
18 greater portion of the basin, however, is of a mountainous character, being cut with  
19 profound canyons and dotted by rugged mountains.” *Id.*

20 **g. Unpublished Records of the U.S. Geological Survey**

21 In preparation for his report to Congress (discussed *infra*), George M. Wheeler  
22 observed that “[t]here are three streams whose navigability gives them more or less  
23 importance as commercial lines, namely: the Colombia, the Sacramento, and the Colorado  
24 rivers.” *Id.* at 85. (Wheeler had reduced the number of navigable rivers to two in his final  
25 report to Congress.) Another useful observation on the potential navigability of the Verde  
26 comes from an unpublished report that was done by E.C. Murphy to determine potential



1 hydroelectric power sites within Arizona. *Id.* at 86. Murphy noted that there was a long  
2 set of runoff data at Camp McDowell covering the period from 1889-1914. *Id.* This data  
3 indicated that there was an extreme variation in the Verde's flow on a monthly basis, with  
4 the highest flow taking place in March (with a 26-year average of 121,600 acre-feet) to a  
5 low in June (with an average of 8,700 acre-feet). Regarding the possibility of  
6 hydroelectric power, Murphy stated that "only a comparatively small part of the run-off  
7 can be utilized for power on account of the floods and long dry periods – one-fifteenth to  
8 one-fifth in the case of the Verde River. . . ." *Id.* at 87.

9 **h. Records of the U.S. Reclamation Service**

10 Like the Geological Survey, the Reclamation Service issued annual reports  
11 describing its activities. *Id.* at 88. The *First Annual Report of the Reclamation Service,*  
12 *from June 17 to December 1, 1902* stated, in the context of the Verde being a tributary to  
13 the Gila, that "[t]he sources from which water may be obtained for reclamation of the arid  
14 lands in Arizona are, taken as a whole, the most erratic or irregular in the entire country.  
15 There are comparatively few rivers which flow throughout the year." *Id.*

16 The *Third Annual Report of the Reclamation Service, 1902-4* discussed two  
17 possible dam locations that had been investigated on the Verde: the Horseshoe and  
18 McDowell sites. *Id.* While the report discussed which location was more practicable, it  
19 gave no indication that either of the two proposed dams might impede navigation on the  
20 Verde River. *Id.*

21 **i. Records of the U.S. Indian Service**

22 The Indian Service administered both the Salt River and the Camp McDowell  
23 Indian reservations, and the Verde River flowed through both. *Id.* at 91. In one report  
24 from 1905, Indian Service Inspector W.H. Code commented on the Verde as follows: "In  
25 times of heavy stormes [*sic*], run vast quantities of water which sweep out canal banks and  
26 fill sections of the ditch with a heavy sand deposit. . . . [T]he banks of the Verde River at

1 the head of ditch have suffered great erosion . . . and the river channel seems to have  
2 scoured down to a considerable depth . . . .” *Id.* at 92. A letter dated May 20, 1905, from  
3 J.R. Meskimons, superintendent of irrigation for the U.S. Indian Service, to Indian Service  
4 Commissioner Francis E. Leupp stated that “[t]he map shows the position of the river at  
5 the time the survey was made. It has, however, changed its course since . . . the river  
6 again rose and cut away its bank until it approached to within ten feet of the canal in one  
7 place . . . one good heavy rain would . . . wash out and fill up the canal wherever the flood  
8 waters from the hills strike it.” *Id.* at 93. Similarly, on September 22, 1905, William H.  
9 Gill, a farmer in charge of the McDowell Reservation submitted a summary for inclusion  
10 in a report by the Department of the Interior. *Id.* He wrote that “[t]he Verde River, from  
11 which the water is diverted, is a mountain stream which becomes a raging flood with  
12 every freshet, washing away the embankment at every arroyo, and filling the [Indians’]  
13 ditch with sand. This is apt to occur both in the rainy season in summer and also during  
14 the winter.” *Id.*

15 On February 10, 1909, C.R. Olberg, superintendent of irrigation, wrote in a letter to  
16 W.H. Code that “a flood fifteen feet in depth . . . came down the Verde River a short time  
17 ago. This flood also ruined large bodies of tillable land; so that now the channel of the  
18 Verde River is approximately a mile in width.” *Id.* Further describing the characteristics  
19 of the streambed, he wrote that “[t]he Verde River flows through a flat of sand and gravel  
20 bars, from one-half to three-quarters of a mile in width, bordered by cut banks from five to  
21 twenty feet in height. It swings from one side of the flat to the other, and where it  
22 impinges against a cut bank, is continuously eroding away the land.” Yet another  
23 observer wrote in 1910 that “[t]oday the main channel may be on one side and tomorrow  
24 one of the many floods of water may sweep down and change the entire course of the  
25 channel to the opposite side of the river, and pile up a sandbar between it and the head of  
26 the ditch; or, on the other hand, the swift current is liable to cut into the bank . . . [t]he first

1 floods coming down may render it [a canal from the river] absolutely useless.” *Id.* at 94.  
2 Given the frequent issues with flooding and constantly changing banks that have long  
3 been a characteristic of the Verde, it seems highly unlikely that the river could provide a  
4 reliable means of commerce.

5 **j. Types of Commerce Contemplated Prior to and At**  
6 **Statehood**

7 The Record indicates that the following types of commerce were contemplated prior  
8 to and at statehood: transport of mining loads, materials, and equipment; transport of  
9 agricultural goods; travel or transport of people; and transport of military supplies. *See,*  
10 *e.g.,* 8/1/13 Tr. at 174-81; 8/2/13 Tr. at 112. Burtell presented evidence that before and  
11 after the Civil War, the U.S. Military shipped supplies from San Francisco and transported  
12 by boat up the Colorado River to Yuma and La Paz. *See* 8/1/13 Tr. at 174-81. From  
13 there, supplies were distributed to military installations along the River overland via  
14 wagon trains--not by watercraft. *Id.* Significantly, Burtell found no evidence of the  
15 military ever using another Arizona stream other than the lower Colorado as a means to  
16 transport supplies to its various installations. *Id.*

17 **C. Instances of Boating on the Verde River**

18 As Mr. Burtell noted, no evidence was found of prehistoric boating on the Verde;  
19 eleven “historic accounts of boating the Verde River were identified[,] including five  
20 reports of ferrying people and/or materials across the river and four hunting or trapping  
21 trips. The two other historic accounts were likely also recreational.” Burtell Decl. at 4-5;  
22 *see also id.* Table 1.

23 **1. Historic Boating Attempts**

24 Rarely, there were instances of boats on the Verde, but this was infrequent.  
25 Littlefield Report at 99. One of the earliest accounts involved a trapper named Leroux,  
26 who discussed the rapids on the Verde as well as the lagoons he came across, which

1 matches other accounts of shallow water that was conducive to breeding mosquitoes with  
2 malaria. *See* Tr. at 3/30/15:2006 (Burtell).

3 Mr. Fuller testified that, in 1868, troops at Fort McDowell attempted to build a raft  
4 to ferry the river at high flow, but the raft capsized. *See* Tr. at 12/15/14:153 (Fuller);  
5 Fuller Power Point, Slide 127 [x035]. In June 1873, Charles Hayden attempted to float  
6 logs down the Salt River and to establish a lumber mill in Tempe, but could not get the  
7 logs through the canyons upstream. *Weekly Arizona Miner*, June 14, 21, 28, 1873. Later,  
8 Hayden came to the Verde, but his effort to float logs there also failed. *See* Fuller 2003, at  
9 3-20 [EI 31]. Mr. Fuller also testified that, in 1878, troops at Fort McDowell used a boat  
10 to ferry the river “primarily during high flow.” *See* Tr. at 12/15/14:153 (Fuller); Fuller  
11 Power Point, Slide 127 [x035]. Further, in 1883, N. Willcox and Dr. Andrews took a  
12 canvas skiff from Fort McDowell to Barnum’s Pier on the Salt River Canal. *See* Tr. at  
13 12/15/14:154-55 (Fuller); Fuller Power Point, Slide 128 [x035]. In 1887, the U.S. Army  
14 used a collapsible boat to take couriers across the river during high flows in Segment 2.  
15 *See* Tr. at 12/15/14:155 (Fuller); Fuller Power Point, Slide 129 [x035]. In 1888, Major  
16 Spaulding traveled from Fort McDowell to Mesa Dam in a canoe, but one of the soldiers  
17 died from an accidental gunshot discharge during a portage. *See* Tr. at 12/15/14:156  
18 (Fuller); Fuller Power Point, Slide 130 [x035].

19 According to Scott Soliday, research historian at the Tempe Historical Museum, an  
20 article in the *Mesa Free Press* of 1890 or 1891 describes how, after Fort McDowell was  
21 abandoned, A.J. Chandler had logs or sawn timber from the fort floated down the Verde  
22 and then used in the head gates of the Consolidated Canal. *See* Fuller 2003, at 3-21 [EI  
23 31].

24 On March 4, 1891, the *Weekly Journal-Miner* had an article about a boat being  
25 used to try to repair railroad facilities where they crossed the Verde River. Littlefield  
26 Report at 99. It stated that “[i]n attempting to cross the Verde River the other day, on a

1 raft constructed of [railroad] ties, his frail craft went to pieces, and but for the precaution  
2 of carrying a rope with him, he stood a good chance of being drowned.” *Id.* at 99. There  
3 is one somewhat apocryphal account of a JK & George Day, who supposedly traveled  
4 from Camp Verde to Yuma trapping five separate times. *See* Tr. at 12/15/14:158 (Fuller);  
5 Fuller Power Point, Slide 132 [x035].<sup>20</sup>

6 While there was at least one proposal to float down the Verde River from Jerome  
7 to Phoenix, it was made clear that such a trip would be fraught with difficulties, and it is  
8 not clear that the adventure ever took place. *Id.* at 100. A 1905 article in the *Arizona*  
9 *Silver Bulletin* said that three men “expect to make the trip in seven days. In places they  
10 will have to shoot rapids, and in others it will be necessary to carry their boat.” *Id.*

11 To summarize, while there is some historical and photographic evidence of boats  
12 on the Verde, the existence of watercraft on the Verde was “clearly the exception and not  
13 the rule.” *Id.* at 102; *see also id.* at 103-115.

14 **a. Boats Available at Statehood**

15 The Record indicates that the following boats were available for purchase at the  
16 time of statehood in 1912: (a) a flat-bottom fishing boat made of oak and spruce and  
17 ranging between 13-16 feet long and between 40-44 inches wide; (b) a 15-foot “smooth  
18 silk double pointer boat” made of cedar or cypress that was 42 inches wide; and (c) a  
19 square-stern “clinker” row boat, also made of cedar or cypress, ranging in width from 42-  
20 44 inches. *See* EIN x002, *Sears, Roebuck and Co. Catalog* (1912) (excerpts); *see also*  
21 EIN 107 at 8 (“Before 1830, commercial boating in the West was limited to canoes,  
22 flatboats and keelboats.”).<sup>21</sup> Some evidence was submitted that a “cataract boat” with a

23 \_\_\_\_\_  
24 <sup>20</sup> For example, Dr. August testified that the 800-mile distance allegedly traveled in the Day  
25 brothers account is “inaccurate.” *See* Tr. at 2/25/15:2420-21 (August). Also, Mr. Burtell testified that the  
26 actual distance of the Day brothers’ trip is less than half of what was reported in the *Sentinel*. *See* Tr. at  
3/30/15:2600 (Burtell).

<sup>21</sup> In writing on boating in shallow creeks and rivers generally, Mr. Slingluff has noted that such

1 beam of four feet and depth of 18 inches were used on September 1901 for a trip down the  
2 Colorado River. EIN x001, Photo of Builder Plate of Stone Boat and Company  
3 Information (excerpts). While other types of boats might have been theoretically  
4 available, the best evidence for boats that could be purchased and used in the area are the  
5 boats that actually were used on Arizona's rivers.

6 A 1909 report by the commissioner of corporations contained information about  
7 the types of vessels being used for navigation at the time of statehood. Littlefield Report  
8 at 137. The report described a "well-known flat-bottom, stern-wheel steamboat, adapted  
9 to the shallow waters of those streams, the design of which has not greatly changed for  
10 half a century." *Id.* The boats used were "still mainly built of wood." *Id.*

11 There is a historical record of a journey by Lieutenant J.C. Ives, who was sent in  
12 the mid-1850s to pilot a small steamboat, the *Explorer*, up the Colorado River to assess  
13 the Colorado's utility as a navigable waterway. Littlefield Report at 117. He found it  
14 quite difficult and reported that "boats rarely make a trip between tide water and Fort  
15 Yuma without grounding many times a day." *Id.* Other historical records of boats  
16 available around the time of statehood are pictured in photographs taken when John  
17 Wesley Powell and Lieutenant George M. Wheeler attempted to navigate the Colorado.  
18 *Id.* at 122-135 (showing dories and other rowboats used by the two expeditions).

19 The Verde could range from a few inches deep to containing water well over the  
20 height of humans, and boats in use at the time would need a dependable and reliable draft  
21 of around two feet. *Id.* at 139. The dories used by John Wesley Powell on the Colorado  
22 or the rowboats used by the Wheeler expedition would have a difficult time using the  
23 Verde on a regular basis. *Id.* The Verde's shifting nature also made its course

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24 watercourses "are boatable in many different canoes, but aluminum, canvas and wood boats are easily  
25 damaged and difficult to repair." Slingsluff, "Shallow Streams: Liquid Paths Into Wilderness,  
26 *Southwestern Sportsman National Magazine*, Winter 1990-1991, at 16 [EI 34].

1 undependable as well as dangerous. *Id.* The watercraft available at the time of Arizona's  
2 statehood in 1912 make it clear that the vessels could not have been utilized on a regular  
3 and dependable basis on the Verde. *Id.*

## 4 2. Modern Boating Attempts

### 5 a. Modern-Day Boats<sup>22</sup>

6 The evidence in the record indicates that low-draft boats such as canoes<sup>23</sup>,  
7 kayaks<sup>24</sup>, or inflatable rafts have sometimes traveled downstream or across the River<sup>25</sup> in  
8 modern times.<sup>26</sup> However, these boats appear to be dissimilar to boats existing at the time  
9

10 <sup>22</sup> Mr. Fuller testified that modern boats compared to historical boats have "improved durability,  
11 no doubt about that." Tr. at 12/15/14:250 (Fuller); *see also* Tr. at 3/31/15:2910 (Dimmock) ("a wood boat  
12 won't last as long as a rubber boat."); Tr. at 12/16/14:483 (Farmer) ("Again, if I know that I'm in a wood  
13 boat or a fiberglass boat, I'm going to be extra, extra careful with it. If I'm in the plastic boat fully loaded,  
14 I might just punch that rock."); Tr. at 12/16/14:314-15 (Referring to the difference between "duckies"  
15 (inflatable kayaks that Mr. Lynch and others use) and canoes, "you can hear them, you know, going over  
16 the rocks. You can see them hitting things and talking about, oh, yeah, we had to get out and drag here,  
17 we had to get out here; where the duckies will, for the most part, glide right over everything.").

18 <sup>23</sup> Mr. Fuller testified that canoes today are "more durable than they were before." *See* Tr. at  
19 12/15/14:57-58 (Fuller).

20 <sup>24</sup> Tr. at 12/18/14:878-79 (Fuller) (Inflatable kayaks are "pretty indestructible and foolproof."); Tr.  
21 at 3/31/15:2822 (Dimmock) (In the early '70s, "[t]hey invented the plastic kayak, which was more durable  
22 than the fiberglass ones and the skin ones before that").

23 <sup>25</sup> When asked if he thought other portions of the Verde were navigable other than the portions  
24 where he operates his tours (he is the only tour provider), Mr. Lynch replied:

25 They're tougher because there's a lot -- you know, since nobody's out there  
26 maintaining them on a regular basis, there's a lot more tree growth, strainers, trees that  
have fallen. What we do on the stretches that we commercially boat all the time, we're  
out there constantly cutting back the bushes, the trees. When things fall into the river, we  
go out there with our chainsaws, because we've got to get all that stuff out of the river or  
people -- it's just not safe. You can't get around it. So when you go into stretches of the  
river that we don't boat commercially, that can get relatively overgrown with all kinds of  
strange things.

Tr. at 12/16/14:309 (Lynch); *see* Tr. 12/16/15 (Lynch) (stating that there were no other commercial  
boating operations on the Verde).

<sup>26</sup> Even today, however, obstacles like boulders and other debris are challenging and have to be  
moved. *See* Tr. at 12/16/14:293, 332 (Lynch) (When asked whether he could still boat the Verde if his  
company did not move rocks, Mr. Lynch testified: "You would be getting out of your boat a lot" on "all"  
sections of the river. Further, if he did not remove brush and debris, "you would have to have people  
getting in and out of the boat all of the time.").

1 of statehood. As the Slingluff Guide states, “I believe plastic canoes are the best single  
2 craft to have. They do not conduct heat or cold very well, they are durable, and they slide  
3 easily off rocks. . . . Metal, wood and fiberglass all lack the durability necessary to boat  
4 shallow creeks. None of the latter materials will slide off rocks as well as does plastic.”  
5 Jim Slingluff, *Verde River Recreation Guide*, First Edition, 1990, at 5 [x035\_ASLD  
6 162]<sup>27</sup>.

7 The Arizona State Land Department submitted, as its Exhibit 2, excerpts from the  
8 Arizona State Parks *Arizona Rivers and Streams Guide* (1989). In it, portions are  
9 described as usable as a “low water boating run.” EIN x001, Exhibit 2 at 158. However,  
10 “[a]ctual dates of runnable flows remain unpredictable.” *Id.* The portion from Beasley  
11 Flats to Childs is also described as variable: “[o]n good snow years the high water season  
12 can last from late February to mid-April. Other years may provide no boating at all.” *Id.*  
13 at 164. For the portion of the river from Childs to Horseshoe Reservoir, it states that,  
14 “[f]or those willing to drag a canoe over a gravel bar the experience of running this stretch  
15 of river can be enjoyed almost year-round.” *Id.* at 166.

16 Another piece of evidence submitted by the ASLD is an advertisement for Verde  
17 River Sedona Adventure Tours, which states that people can experience a stretch of  
18 waterway that “has seen very few boaters on it” as they travel in an “inflatable kayak”  
19 EIN x001 Exhibit 24 at 4. Another guide submitted by ASLD stated that “Verde River

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20  
21 <sup>27</sup> In the second edition, Mr. Slingluff cautions boaters: “Boaters, paddler clubs, and  
22 paddler magazines SHOULD NOT say or infer that a stream is unboatable if what they mean is  
23 the stream is too low, or high, or rough, or flat or tree-lined for their particular paddling tastes.  
24 Such comments could find their way into the commission or court as evidence that a stream has  
25 minimal public value or was not navigable at statehood. Also, go paddle small streams and keep  
26 careful records of dates and conditions. Finally, don’t forget to write the state land commissioner  
and let him know you possess information relating to the issue of stream navigability and/or  
public values. None of us can let our individual and group responsibilities drop on this. It is the  
boaters, (past, present, and future) who hold the responsibility to secure the beachhead for the  
coming fight. All share in the fight to see that all public interests are known and protected.” Jim  
Slingluff, *Verde River Recreation Guide*, Second Edition, 1990, at 148 [x038].



1 flows can vary widely during any year or season. Low flows (<100 cfs) are typical . . .  
2 [d]uring the early summer months, the section between Clear Creek RAP and Beasley Flat  
3 may be the only boatable segment in this guide . . . [f]loods can occur during spring  
4 snowmelt, after rain-on-snow events or following summer storms.” EIN x001 Exhibit 30,  
5 Verde River Paddle Trail 89A to Beasley Flat at 5. Later, the guide notes that Point 3 of  
6 the paddle trail “can be a dangerous area requiring a portage. Floods, high winds, beavers  
7 and chain saws can often drop large limbs and tree trunks into and across the river  
8 channel.” *Id.* at 12.

9         The ASLD submitted a newspaper article entitled “A Verde Unusual Cruise,” dated  
10 June 14, 1989, describing the experience of an ex-Marine who travels up and down a two-  
11 mile-long stretch of the Verde at Camp Verde. EIN x001, Exhibit 17. This boat only  
12 draws “2 feet of water,” but the captain still has to “walk (literally) the river one more  
13 time and find a better route. Every so often, his propeller stirs up some mud, and there’s  
14 an occasional “whomp” when he overruns a submerged piece of wood.” *Id.* No one has  
15 ever been fished out of the water, because “[a]ll they have to do is stand up[.]” *Id.*

16         Two authors, Mr. Jim Byrkit and Mr. Bob Munson, who have written extensively  
17 on the history of the Verde, stated that the river is not navigable, even though they were  
18 aware of recreational boating on the river. *See Fuller 2003, at 4-2 [EI 31].* Mr. Byrkit  
19 noted that such boating is normally possible only in February and March, and that in other  
20 months, “the Verde River cannot be run because it dries up or because it is dangerous, and  
21 that a lot of people have died in the Verde River because they enter the river during  
22 flooding.” *Id.*

23         Before evidence of modern day boating can be considered, proponents (as the  
24 proponents of the evidence) must establish that: (1) the watercraft are meaningfully  
25 similar to those in customary use for trade and travel at the time of statehood; and (2) the  
26 River’s post-statehood condition is not materially different from its ordinary and natural

1 condition at statehood. *See PPL Montana*, 132 S.Ct. at 1233. All of the submitted  
2 evidence indicates that, even for modern boats that are lighter and more sturdy than those  
3 at the time of statehood, significant obstacles to navigability exist.<sup>28</sup> *See, e.g., Oklahoma*  
4 *v. Texas*, 258 U.S. 574 (1922), *reconsideration denied*, 260 U.S. 711 (1923) (finding the  
5 Red River nonnavigable where “[i]ts characteristics are such that its use for transportation  
6 has been and must be exceptional, and confined to the irregular and short period of  
7 temporary high water”); *see also PPL Montana*, 132 S.Ct. at 1234 (though a river need  
8 not be susceptible to navigation at every point of the year, “neither can that susceptibility  
9 be so brief that it is not a commercial reality”). Proponents have not done this.

10 The vast majority of the proponents of navigability’s case relies entirely on  
11 evidence of modern recreational boating, contrary to the guidance of *PPL Montana*, 132  
12 S. Ct. at 1233, 1233-34 (“If modern watercraft permit navigability where the historical  
13 watercraft would not, . . . then the evidence of present-day use has limited or no bearing  
14 on navigability at statehood.”).

## 15 VI. FINDINGS AND DETERMINATION

16 As noted above, Proponents bear the burden of proof of establishing navigability  
17 by a preponderance of the evidence. *Winkleman*, 224 Ariz. at 238-39, 229 P.3d at 250-51.  
18 That is, Proponents must show that it is more likely than not that the Gila River, or a  
19 segment thereof, was navigable or susceptible to navigation at the time of statehood under  
20 ordinary and natural conditions. If the evidence on each side is exactly even, the  
21 Commission must find in favor of nonnavigability. Evidence is something, including  
22 testimony, documents, and tangible objects, that tends to prove or disprove the existence  
23 of an alleged fact. *Black’s Law Dictionary* (7th Ed. 2013) at 457. The Commission’s

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24 <sup>28</sup> *See Burtell 2014*, at 5 [x009] (“[S]ome of the very features that make [the Verde] attractive for  
25 recreational use (remoteness, rapids and shallow, rocky channels) would have made the Verde River  
26 unsuitable as a highway of commerce at and or before statehood.”).

1 findings and conclusions reflect its evaluation of the Evidence in the Record while sitting  
2 as the trier of fact, including evidence presented by way of testimony, and the  
3 Commission's determination regarding the weight, if any, to be given to that evidence.  
4 See Winkleman, \_\_\_\_\_ (noting that it is the function of the Commission to  
5 determine the relevance and weight of evidence).

6 **A. Findings of Fact**

7 The Commission accepts the division of the Verde River into six segments, as  
8 those divisions provide a useful base for analysis. The Commission finds, as a matter of  
9 fact, that the Verde has always been subject to unpredictable flooding and seasonal  
10 periods of high flows; it is spatially and temporally heterogenous. The Commission finds  
11 as a matter of fact, that the channel changes that persist after flood flows recede are part of  
12 the "ordinary" condition of the Verde.

13 The Commission finds, as a matter of fact, that the prehistoric inhabitants in the  
14 area did not use the Verde as a highway for commerce. No evidence submitted to the  
15 Commission by the ASLD's consultants or any other witness or exhibit indicated any use  
16 of boats on the Verde (commercial or otherwise) or any flotation of logs by these early  
17 inhabitants. Prehistoric tribes did use the river for canal irrigation. In the 1500s, Spanish  
18 explorers are known to have traveled in central Arizona in search of mines. Again, no  
19 evidence was presented to show that these explorers ever used boats on the Verde. The  
20 Commission finds, as a matter of fact, that the Spanish explorers did not use the Verde as  
21 a highway for commerce. The early trappers in Arizona were aware of and capable of  
22 building and piloting customary boats used for trapping in the Southwest Region, but  
23 there is no evidence they used such boats on the Verde. Further, the Commission finds  
24 that one reason early maps did not accurately map the Verde was because settlers at the  
25 time did not see it as a highway of commerce. The Commission also finds, as a matter of  
26 fact, that the trappers and mountain men did not use the Verde as a highway for

1 commerce. Similarly, the Commission finds, as a matter of fact, that the early military  
2 expeditions in the area did not use the Verde as a highway for commerce; early settlers in  
3 the area also did not use the Verde as a highway for commerce. The Commission finds,  
4 as a matter of fact, that the federal survey evidence and federal patent evidence support  
5 the conclusion that the Verde was not, in its ordinary and natural condition at the time of  
6 statehood, susceptible to being used as a highway for commerce.

7 The Commission finds, as a matter of fact, that the Verde is in its “ordinary”  
8 condition when it is not in a state of flood or drought. The Commission finds, as a matter  
9 of fact, that any particular segment of the Verde was in its “natural” condition prior to the  
10 commencement of upstream diversions (such as for irrigation) and groundwater pumping  
11 and prior to the construction of upstream dams. The Commission finds, as a matter of  
12 fact, that the Verde was in its “natural” condition from about the mid-1400s to the mid-  
13 1800s for Segments 2, 3, 4, and 5 and from about the mid-1400s to the late 1800s for  
14 Segments 0 and 1.

15 The Commission finds, as a matter of fact, that some historical instances of boats  
16 on the Verde were reported; however, the rarity of the reports and the fact that they were  
17 often seen as newsworthy supports the conclusion that the Verde was (a) not actually used  
18 as a highway for commerce prior to statehood and (b) was not, in its ordinary and natural  
19 condition at the time of statehood, susceptible to being used as a highway for commerce.  
20 Likewise, historical descriptions of the Verde and the hydrology and geomorphology  
21 evidence provided also support the conclusion that the Verde was not, in its ordinary and  
22 natural condition at the time of statehood, susceptible to being used as a highway for  
23 commerce. The Commission finds, as a matter of fact, that modern day boats differ from  
24 those existing at the time of statehood, and that the evidence relating to modern day  
25 boating supports the conclusion that the Verde was not, in its ordinary and natural  
26 condition at the time of statehood, susceptible to being used as a highway for commerce.

1 The Commission concludes, as a matter of law, that the Verde was not actually used as a  
2 “highway for commerce.”

3 The fact that a skilled kayaker in a modern plastic or inflatable craft can float,  
4 bump, and scrape down a shallow stream does not make it navigable. If that were the  
5 case, modern recreational boating enthusiasts have demonstrated that nearly every stream  
6 in the United States is navigable for title purposes. A commercial boater or traveler at the  
7 time of statehood would have far greater concern for crashing, wrecking, or swamping  
8 their boats and damaging or losing their valuable cargo or customers. This explains the  
9 dearth of boating in the Verde’s history until the later twentieth century when plastic boats  
10 were introduced. The Commission concludes, as a matter of law, that the Verde was not,  
11 in its ordinary and natural condition at the time of statehood, susceptible to being used as  
12 a “highway for commerce.”

13 As Dr. Littlefield concluded, after having examined a wide array of published and  
14 unpublished documents and photographs, including federal surveys and reports, land  
15 settlement records created by the United States and Arizona governments, explorers’  
16 journals, diaries, early pioneer reminiscences, historical newspaper articles, old  
17 photographs, and many other records: “Taken as a whole, these records overwhelmingly  
18 illustrate that prior to and at the time of Arizona’s statehood the Verde River was  
19 considered not navigable by virtually every contemporaneous observer. The historical  
20 record amply demonstrates that the Verde River was highly erratic, subject to flooding  
21 and major channel changes, and blocked by obstacles.” *See* Littlefield 2014, at 1-2  
22 [x002]. Occasional use in exceptional times does not support a finding of navigability.

23 **B. Conclusions of Law**

24 In sum, based on all of the Evidence in the Record (both old and new) and the  
25 Commission’s review of the applicable law, including the principles addressed in  
26 *Winkleman* and *PPL Montana*, the Commission finds, as a matter of law and fact, that on

1 February 14, 1912, no segment of the Verde River was used or was susceptible to being  
2 used in its ordinary *and* natural condition, as a highway for commerce, over which trade  
3 and travel were or could have been conducted in the customary modes of trade and travel  
4 on water. Thus, it is not and was not “navigable” as defined by A.R.S. § 37-1101(5), and  
5 federal case law. The Commission further finds that all notices of these hearings and  
6 proceedings were properly and timely given.

7 In view of the foregoing, the Commission, pursuant to A.R.S. § 37-1128(A), finds  
8 and determines that the Verde River in Cochise, Pima and Pinal Counties, Arizona, was  
9 not navigable as of February 14, 1912.

## 10 **VII. DISSENTING OPINION BY COMMISSIONER BILL ALLEN**

11 I respectfully dissent from the Commission’s decision as to Segments 2 and 5 of  
12 the Verde. I believe that those segments of the Verde meet the test for navigability, based  
13 on the history of those two segments.

### 14 **A. Legal Standard for Navigability**

15 The proponents of navigability need only establish by a preponderance of evidence  
16 that the Segments in question were navigable or susceptible to navigation in the Verde’s  
17 ordinary and natural condition. *State ex rel. Winkleman v. Arizona Navigable Stream*  
18 *Adjudication Comm’n*, 224 Ariz. 230, 236, 229 P.3d 242, 248 (App. 2010).

19 The test for navigability for title purposes is a federal test that has its origin in *The*  
20 *Daniel Ball*, 77 U.S. (10 Wall.) 557 (1870), a case that is paraphrased in Arizona statutory  
21 law:

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

Arizona Revised Statutes § 37-1101(5).

1            “It is not the size of the articles transported in commerce that establishes the  
2 navigable character of a waterway. Navigability depends upon the stream’s usefulness as  
3 a transportation mechanism for commerce.” *Puget Sound Power & Light Co. v. Fed.*  
4 *Energy Regulatory Comm’n*, 644 F.2d 785, 789 (9th Cir. 1981).

5            Essentially, the test requires a determination of whether a river in its ordinary and  
6 natural condition was used or susceptible to being used as a highway for commerce. *PPL*  
7 *Montana LLC v. Montana*, 132 S.Ct. 1215, 1228 (2012); *Winkleman*, 224 Ariz. at 239,  
8 229 P.3d at 251. The ordinary condition of the river is the usual condition of the river  
9 absent major flooding or drought; the natural condition of the river is the river untouched  
10 by civilization, absent man-made dams, canals, and other diversions. *Winkleman*, 224  
11 Ariz. at 241, 229 P.3d at 253. On the Salt River, the court found that it was in a natural  
12 condition after the Native American diversions had ceased to affect the river and prior to  
13 modern-era settlement and farming in the Salt River Valley that diverted water. *Id.* at  
14 242, 229 P.3d at 254. While the Verde did not have significant Native American  
15 diversions, Tr. 12/15/14 at 119 (Fuller), beginning in 1864 with the Perkins ditch,  
16 modern-era settlement began diverting the water for irrigation. 031 at 7-23. Some  
17 portions of the Verde are boated today; it would be even easier to boat these parts in the  
18 Verde’s natural condition with more water. X035-167 at 35; Tr. 12/15/14 at 45-46  
19 (Fuller).

20            **B. Historical Boating Accounts Show that Segments 2 and 5 of the Verde**  
21            **Could Be Navigated**

22            Portions of the Verde were also navigated historically. For example, J.K. Day and  
23 his brother George left Camp Verde (in Segment 2) on September 1, 1891, in a small boat  
24 on a trapping expedition to take their beaver and otter furs to market in Yuma, where they  
25 arrived six months later. X001-18. It was J.K. Day’s fifth trip; he and his brother planned  
26 to repeat the trip the following year. *Id.* They traveled slowly, likely setting traps,

1 travelling several times between their camp and the traps to check for beaver, then  
2 skinning and drying any beaver hides before once again travelling downriver. Tr. 2/25/15  
3 at 2511 (August); X011-52.

4 In early 1903, Dr. Palmer and Joe Crain boated about sixteen miles on the Verde in  
5 a borrowed steel boat, duck-hunting during the course of their trip. X017-97 at 29; 031, at  
6 3-21. This boat had been borrowed from the man who ran the Camp Verde general store,  
7 and the boat was hauled upriver on a two-wheeled axle drawn by a horse that could be  
8 relied upon to return the empty axle to the corral. *Id.*

9 It was also reported that Miller, Hooker, Cox and Smith started down the Verde on  
10 May 21, 1905, in iron boats from the Jerome area (likely Clarkdale). Tr. 12/15/14 163:5 –  
11 165:21. The trip had been previously postponed because their shipped iron boats were lost  
12 in transit. X017-126. Another man, Armstrong, joined them in his own boat at Camp  
13 Verde. The boats were “shooting boats” that carried fishing tackle, guns, and  
14 ammunition. Downstream of Camp Verde, the water had become low and some of the  
15 party ended the trip. X017-126; X017-127. Unfortunately, the trip took place in May,  
16 during the irrigation season, which was not the optimal time of year to be using iron boats.  
17 Tr. 4/1/15 (Burtell).

18 In 1910, four hunters in a boat loaded with guns and supplies started from the  
19 Verde Valley at about RM 75 on their way to Mesa. They were able to navigate through  
20 Segment 2 and Segment 3, but wrecked on a rock at about Red Creek (RM 130) or at the  
21 East Verde River, both in Segment 4. X035-164; Tr. 12/15/14 at 166-69 (Fuller). A  
22 photograph, probably taken at Beasley Flat, depicts Fred Stevens and his wife, Jessie, in a  
23 wooden rowboat on the Verde during the spring runoff in 1917. X017-121; Tr. 12/15/14,  
24 at 169-70 (Fuller). Fred and his friend Jake boated through Segment 2 successfully, but  
25 did not make it beyond Brown Spring Falls/Verde Falls in Segment 3. *Id.* Fred Fogel and  
26 Karl Gireaux launched a flat-bottomed boat at Clarkdale in 1931, intending to trap their



1 way down to Granite Reef Dam, on the Salt River. X031 at 3-21; X017-125. They exited  
2 the Verde eighteen miles north of the old Fort McDowell to Payson road after five weeks  
3 on the Verde. *Id.*

4 Of the total boating accounts that were put into evidence, thirteen reached their  
5 destination and four did not. X053-174 at 144. The Verde currently experiences  
6 diminished flow and people have had a significant impact on this segment due to  
7 diversions and other uses; all of these changes have made it more difficult to navigate this  
8 segment of the Verde. Tr. 12/15/14 at 80, 221-22, 920-21 (Fuller); X035-167 at 182.  
9 Most of the irrigation that takes place on the Verde occurs in this segment. X031 at 7-23,  
10 Table 7-16. In its ordinary and natural condition, the Verde would have had a deeper flow  
11 in this Segment. Tr. 12/15/14, at 222 (Fuller); X035-167, at 183. Even with the human  
12 impacts, Segment 2 is the most frequently boated and supports commercial recreational  
13 boating.

14 Segment 5 has also supported boating historically. Soldiers at the Fort rafted  
15 across the Verde in 1868. Tr. 12/15/14, at 153 (Fuller); X035-167 at 127. In 1885, a ferry  
16 boat was upset at McDowell, although no lives were lost. X017-134. Beginning in this  
17 Segment, in February 1883, North Willcox and Dr. G.E. Andrews, both of Fort  
18 McDowell, boated down the Verde from the Fort to the Salt River Valley Canal in a  
19 canvas skiff and had a pleasant trip, except for some rain while they were camping.  
20 X017-122. In December 1888, Major Spaulding and Captain Hatfield canoed from Fort  
21 McDowell, duck hunting as they traveled to Phoenix. While the Major accidentally shot  
22 and killed himself while lifting the boat over the Mesa Dam on the Salt River, the account  
23 does not mention any boating difficulties. X017-123. The Day brothers also continued on  
24 their fifth trapping trip from Camp Verde and successfully passed through this segment on  
25 their way to Yuma. X001-18.

1           **C. Modern Day Boating Demonstrates that Segments 2 and 5 are**  
2           **Navigable**

3           In *PPL Montana*, the Supreme Court’s most recent title navigability case, the Court  
4 placed two requirements on the use of present-day evidence to demonstrate navigability:  
5 (1) the watercraft used are “meaningfully similar to those in customary use for trade and  
6 travel at the time of statehood; and (2) the river’s post-statehood condition is not  
7 materially different from its physical condition at statehood.” *Id.* While no court has  
8 disqualified small boats like flatboats, canoes, or kayaks from demonstrating a river’s  
9 navigability, the United States Supreme Court has cautioned that there may be some  
10 “lightweight canoes or kayaks” that could navigate waters that historical watercraft could  
11 not. *PPL Montana*, 132 S.Ct. at 1233-34.

12           Mr. Brad Dimock, an Arizona historical boat builder, author of several books about  
13 historical boating in Arizona, experienced Verde boater, professional Grand Canyon  
14 rafting guide, and resident of Flagstaff, Arizona, testified that he has built a few dozen  
15 boats, including exact replicas of historical Arizona boats used at statehood, and is very  
16 familiar with boats used and available in Arizona. Tr. 3/31/15, at 2817-28. Mr. Dimock  
17 concluded that modern kayaks, canoes, duck boats, dories, rowboats, and flatboats are  
18 meaningfully similar to boats that existed around 1912 in Arizona and throughout the  
19 United States. *Id.* at 2850-51. Additionally, he testified that historical boats that existed  
20 at statehood could have been used on the Verde. *Id.* at 2833-40.

21           While there was not a great deal of lumber or other materials along the Verde from  
22 which people could build a boat, small boats could be made from lumber or driftwood.  
23 Tr. 3/31/15 at 2837 (Dimock); X035-152 at 30-31. Boats could be purchased through  
24 mail order and delivery from the Sears or Montgomery Ward catalogues or by special  
25 order from boat building companies, including boats like the Peterborough freight canoes,  
26 canvas and wood boats, folding boats, kayaks that held cargo, and steel boats. Tr. 3/31/15

1 at 2835-38, 2860-63 (Dimock); X001-01; X001-13; X035-160, Tr. 6/16/14 at 39 (Fuller).  
2 Mention was also made (in the account of the trip discussed *supra* by Miller, Hooker,  
3 Cox, and Smith) of iron boats. Tr. 12/15/14 at 163:5–165:21. Both Mr. Dimock and Mr.  
4 Fuller addressed how advances in technology have made some modern boats more  
5 durable than historic boats. Tr. 3/31/15 at 2835 (Dimock) (modern rafts more durable  
6 than wood boats); X035-160, Gila Tr. 6/16/14 at 86-87 (Fuller) (plastics and modern  
7 materials are more durable); Tr. 12/15/14 at 57-58 (Fuller) (canoes more durable today).  
8 While it is true that boat building technology has improved, it was not these  
9 improvements in durability that allowed boating on the Verde.

10 Today, parts of the Verde are boated year-round, by various types of boats,  
11 commercially, and recreationally, sometimes in water levels that are substantially less  
12 than those that existed when the Verde was in its natural condition. Tr. 12/17/14 at 555  
13 (Farmer); Tr. 12/15/14 at 116, 255 (Fuller). The U.S. Forest Service actually has a ranger  
14 who goes “down the river many, many times throughout the year.” Tr. 12/15/14 at  
15 233:10. The Game and Fish Department also uses the River “to go down there and  
16 monitor fish and other wildlife populations, and they go down in canoes, heavily loaded  
17 canoes, with many pounds of equipment and people in their boats.” *Id.* at 232:16-18.  
18 Additionally, Mr. Richard Lynch owns Verde River Adventures in Clarkdale, Arizona,  
19 and testified about his commercial operation. Tr. 12/16/14 at 283-378, 284 (Lynch). Mr.  
20 Lynch has operated his business in Segment 2 since 2007, including above Clarkdale by  
21 Sycamore Canyon and down through Camp Verde to Beasley Flats. *Id.* at 285. Each  
22 year, his company provides some 5-6,000 people with boating services, guided tubing and  
23 kayaking, boat rentals, and general advice about boating the Verde. Tr. 12/16/14 at 285-  
24 86, 372. Most of his business occurs from March through October, with the busiest time  
25 period from May through September. *Id.* at 285-86, 290. Mr. Lynch noted that once the  
26 irrigation withdrawals stopped, the water levels in the Verde rose significantly. *Id.* at 300.

1 Even with the significantly lower water levels associated with irrigation withdrawals, the  
2 Verde still supports his commercial boating operation. Mr. Lynch uses inflatable kayaks  
3 (duckies or IKs) because his trips are intended for unskilled people and families. Tr.  
4 12/16/14 at 293, 324 (Lynch). Mr. Lynch also stated that the dominant craft on the Verde  
5 is the canoe. Tr. 12/16/14 at 297. He stated that “[c]anoes are a huge part of the Verde  
6 River. It’s very canoeable.” *Id.* Mr. Lynch testified that he sees canoes “every day” on  
7 the Verde, including canoes that are fully loaded for five to seven-day trips, as well as  
8 canoes without much gear that boat the day stretches of the Verde. *Id.* at 297, 350-51.

9 Mr. Lynch testified that, in addition to canoes, he had also seen flatboats with  
10 motors on the Verde, which are used for duck hunting and fishing. Tr. 12/16/14 at 356,  
11 373-76. The boats he has seen measured up to about 15 feet long by 6 feet wide. *Id.* at  
12 374. Mr. Jon Fuller also testified that he had seen a fully loaded flatboat traveling  
13 downstream from Segment 2 through 5. X035-167 at 180, 183, 186, 189, 192; X053-174  
14 at 177 (estimating what percentage of the time flatboats can be used on each segment of  
15 the Verde). While Mr. Lynch acknowledged that he and his crew have sometimes made  
16 improvements in the Verde, including cutting back strainers, creating more obvious  
17 channels by moving rocks, and dealing with fallen trees, he stated that he has done this to  
18 provide a better and safer experience for unskilled customers, including children and  
19 families. Tr. 12/16/14, at 293, 309-10, 376. In Mr. Lynch’s estimation, these  
20 improvements would be unnecessary for a skilled boater: “[S]omeone who knows how to  
21 read water can pretty successfully boat it all the time, even with a little water, even if we  
22 weren’t doing things out there . . . .” *Id.* at 376.

23 Don Farmer also testified that the Verde is navigable. Tr. 12/16/14 at 379-540 -  
24 12/17/15, at 547-574, 555-56. He has boated the Verde about three to five times a year  
25 since 1973, and has boated most of Segment 1 and all of Segments 2-5 at various times of  
26 the year, from low flows of 20 cfs to flows as large as 10,000 cfs. *Id.* at 380-81.

1 Specifically, with respect to Segment 5, Mr. Farmer testified that four friends built  
2 traditional wooden canoes and boated them successfully through Segment 5 with no  
3 issues. Tr. 12/16/14 at 384-87. Mr. Farmer also testified that the depth of the River has  
4 not been an issue; in Segment 2, where Mr. Lynch runs most of his commercial operation,  
5 Mr. Farmer testified that he almost never needs to get out of his boat for any reason. *Id.* at  
6 404.

7 Significant modern boating also occurs in Segment 5 throughout the year below  
8 Bartell dam, and also through the Fort McDowell Nation land when it is permitted by the  
9 Tribe. Tr. 12/15/14 at 112-116 (Fuller). For example, Mr. Colby ran commercial trips on  
10 this Segment in canoes. Natural flooding on this Segment no longer occurs due to the  
11 dam controls, but, even so, Mr. Farmer testified that, while the brush can be thicker, he  
12 has no trouble finding the boating channel. Tr. 12/16/14 at 414 (Farmer). Further, *The*  
13 *Arizona Rivers and Streams Guide* describes both the stretch from Horseshoe Reservoir to  
14 Bartlett Lake (twenty miles) and from Bartlett Dam to the Salt (twenty-four miles) as  
15 popular with boaters, although both sections depend on dam releases. X0001-2; X035-  
16 155 at 121; X035-162, at 118.

17 **D. Weight of the Evidence**

18 The evidence from both historical and modern boating (where the modern boats  
19 were meaningfully similar to those that existed at the time of statehood and the Verde was  
20 in its ordinary and natural state) demonstrates that the Verde River was navigable in  
21 Segments 2 and 5. Because I feel that the Commission should have weighted the evidence  
22 provided regarding actual boating that took and is taking place on the Verde more heavily  
23 in its determination of navigability, I cannot concur with the opinion of the other  
24 Commissioners as to these two segments.

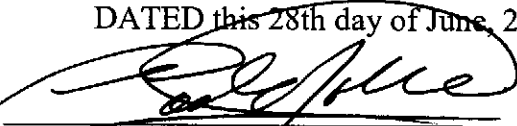
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NOW, THEREFORE, the Commission, pursuant to A.R.S. § 37-1128(A), finds and determines that the Salt River from the confluence of the White and Black Rivers, to its confluence with the Gila River, was not navigable for purposes of title as of February 14, 1912.

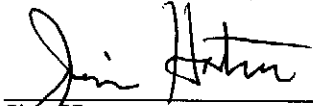
**VIII. ADOPTION AND RATIFICATION**

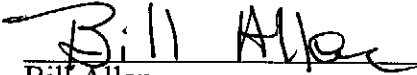
The Commission, having considered all of the historical and scientific data and information, documents and other evidence, including the oral and written presentations made by persons appearing at the public hearings and being fully advised in the premises, hereby adopts and ratifies this report containing its findings and determination regarding the Verde River.

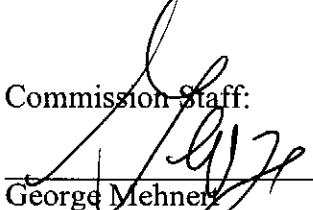
DATED this 28th day of June, 2018.

  
\_\_\_\_\_  
Wade Noble, Chair

\_\_\_\_\_  
Jim Hennessey  
Deceased, May \_\_, 2018

  
\_\_\_\_\_  
Jim Horton

  
\_\_\_\_\_  
Bill Allen

Commission Staff:  
  
\_\_\_\_\_  
George Mehner  
Executive Director

  
\_\_\_\_\_  
Matthew L. Rojas  
Counsel to the Commission

# Exhibit A

# Evidence Log

Hearing No. 04-009-NAV

Page No.

1

## Arizona Navigable Stream Adjudication Commission

### Verde River

Yavapai County March 29, 2005—Maricopa County November 16, 2005

Item Number	Received Date	Source to ANSAC	Description	Entry By
1	6/10/96	Evidence on Hand— Central Arizona Paddlers Club.	Boating Survey of Arizona Rivers 1992.	George Mehnert
2	11/27/96	Evidence on Hand— Town of Camp Verde.	Letter.	George Mehnert
3	12/2/96	Evidence on Hand— Timothy Flood.	Letter.	George Mehnert
4	12/3/96	Evidence on Hand— Maricopa County Dept of Transportation.	Report.	George Mehnert
5	12/4/96	Evidence on Hand— Thomas Y. Perkins, Per- kins Ranch, Inc.	Letter.	George Mehnert
6	12/6/96	Evidence on Hand—U.S. Dept of Agriculture, For- est Service.	Analysis of the Criteria for Navigability.	George Mehnert
7	2/12/97	Evidence on Hand—Land Department.	Report from CH2MHill, Verde River Salt River to Sullivan Lake.	George Mehnert
8	2/18/97	Evidence on Hand— ACLPI.	Letter from David Baron.	George Mehnert
9	5/20/97	Evidence on Hand—Jim Slingluff.	Book—Verde River Recreation Guide, plus 13 loose photographs.	George Mehnert
10	5/20/97	Evidence on Hand—C.A. McDonald.	3 loose photographs.	George Mehnert
11	5/20/97	Evidence on Hand— Source Unknown.	News article by Diane Rabb "River classroom teaches rafters about Verde".	George Mehnert
12	5/20/97	Evidence on Hand— Source Unknown.	Booklet entitled Recreation Opportunity Guide, Verde River, 1997, Prepared by Forest Service.	George Mehnert



# Evidence Log continuation Page

Hearing No. 04-009

Page No.

2

## Arizona Navigable Stream Adjudication Commission

### Verde River

Yavapai County March 29, 2005—Maricopa County November 16, 2005

Item Number	Received Date	Source to ANSAC	Description	Entry By
13	5/20/97	Evidence on Hand— Source Unknown.	Photo #10 Abandoned Canoe.	George Mehnert
14	5/20/97	Evidence on Hand— Source Unknown.	Photo #11 Another View of Verde Falls.	George Mehnert
15	5/20/97	Evidence on Hand— Source Unknown.	2 pages of color photocopies of a total of 5 photographs including statement "Photos by Tim Flood".	George Mehnert
16	9/16/97	Evidence on Hand—Mr & Mrs Aston.	2 B&W Photos, letters, and maps and claim information regarding Gold Tooth Mine Cottonwood, AZ., including letter dated 9/25/97, which was presumably added to file when it was received at ANSAC.	George Mehnert
17	10/6/97	Evidence on Hand—Dr. Douglas Littlefield.	Assessment of the Verde River's Navigability prior to and on the date of Arizona's Statehood, February 14, 1912. Includes loose, large maps.	George Mehnert
18	10/15/97	Evidence on Hand— Source Unknown.	Verde River Recreation Opportunity Guide, U.S. Forest Service.	George Mehnert
19	10/15/97	Evidence on Hand—Sun Country Rafting.	Sun Country Rafting Schedules and Prices.	George Mehnert
20	10/15/97	Evidence on Hand— Source Unknown.	Tonto National Forest, Forest Service Map.	George Mehnert
21	9/98	Evidence on Hand—State Land Department	Final Report, Criteria for assessing Small and Minor Watercourses in Arizona.	George Mehnert
22	4/1/03	Mark McGinnis	Information Regarding Navigability of Selected U.S. Watercourses.	George Mehnert
23	3/8/04	Allen Gookin.	Report.	George Mehnert

# Evidence Log Continuation Page

Hearing No. 04-009

Page No.

3

## Arizona Navigable Stream Adjudication Commission

### Verde River

Yavapai County March 29, 2005—Maricopa County November 16, 2005

Item Number	Received Date	Source to ANSAC	Description	Entry By
24	5/4/04	Richard A. Rupp.	Letter.	George Mehnert
25	5/19/04	Candace S. Hughes.	Letter.	George Mehnert
26	6/15/04	Chuck Kranz.	Letter.	George Mehnert
27	6/15/04	Douglas Rhodes.	Letter.	George Mehnert
28	6/20/04	Coby Muckelroy.	Letter.	George Mehnert
29	6/23/04	Jeanne Keller.	Letter.	George Mehnert
30	12/10/04	Stanley Schumm.	Geomorphic Character of the Verde River.	George Mehnert
31	3/3/05	Land Department.	Report, Jon Fuller, etc.	George Mehnert
32	7/21/05	Dr. Douglas Littlefield.	Revised Report, Assessment of the Verde River's Navigability Prior to and on the Date of Statehood, February 14, 1912	George Mehnert
33	11/15/05	Terrence Colver.	Letter.	George Mehnert
34	1/18/06	Jim Slingsluff.	The Southwestern Sportsman Quarterly, Feb 15, 1991, with pages selected by Jim Slingsluff, 14, 15, 16, 17, 18, & 19. Plus PowerPoint presentation slides used by Mr. Slingsluff on 1/18/06.	George Mehnert



# Exhibit B

# Affidavit of Publication

## Payson Roundup

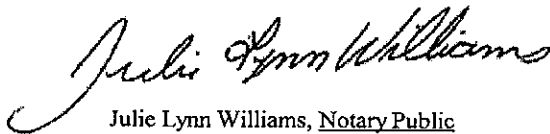
STATE OF ARIZONA 10069283  
COUNTY OF GILA 4/1/2014

I, Paula VanBuskirk, do solemnly swear that I am Assistant Bookkeeper of the Payson Roundup, that the same is a newspaper printed, in whole or in part, and published in the COUNTY OF GILA, State of Arizona, and has a general circulation therein; that said newspaper has been published continuously and uninterruptedly in said COUNTY OF GILA for a period of more than fifty-two weeks prior to the first publication of the annexed legal notice or advertisement; that said newspaper has been admitted to the United States mails as second-class matter under the provisions of the Act of March 3, 1879, or any amendments thereof, and that said newspaper is a newspaper duly qualified for publishing legal notices and advertisements within the meaning of the laws of the State of Arizona. That the annexed legal notice or advertisement was published in the regular and entire issue of every number of said daily newspaper for the period of 1.00 consecutive insertions; and that the first publication of said notice was in the issue of said newspaper dated April 01 A.D., 2014, and that the last publication of said notice was in the issue of said newspaper dated April 01 A.D., 2014. In witness whereof I have hereunto set my hand this April 01 A.D., 2014.

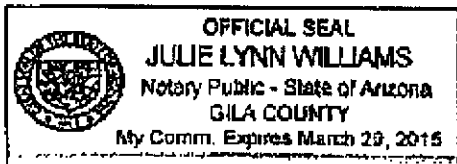


Paula VanBuskirk

Subscribed and sworn to before me, a Notary Public in and for the COUNTY OF GILA, State of Arizona April 01 A.D., 2014.



Julie Lynn Williams, Notary Public



15296: 4/1/2014  
NOTICE OF PUBLIC HEARING  
Hearing Date: May 1, 2014  
State of Arizona  
Navigable Stream Adjudication  
Commission

Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in State v. Arizona Navigable Stream Adjudication Comm'n, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in PPL Montana, LLC v. Montana, 556 U.S. \_\_\_, 132 S.Ct. 1215 (2012).

The hearing will be held from 8:00 am to 12:00 p.m. at the Yavapai County Board of Supervisors Board Room, 1015 Fair Street, Prescott, Arizona 86305. This is the only hearing date scheduled for the Verde River in Yavapai County. It is anticipated that the hearing will not be completed on May 1, 2014, and will be continued on a future date in Phoenix.

Interested parties may submit evidence to the commission office prior to the hearing. During the public hearing, the commission will receive additional evidence including testimony. The commission will conduct its hearing informally without adherence to judicial rules of procedure or evidence.

Evidence submitted in advance of the hearing will be available for public inspection during regular commission hours of 8:00 a.m. to 5:00 p.m., Monday through Friday, except on holidays. The commission office is located at 1700 West Washington Street, Room B-54, Phoenix, AZ 85007. Please call first to review evidence at (602) 542-9214.

Individuals with disabilities who need reasonable accommodation to communicate evidence to the commission or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.

George Mehnert, Executive Director.  
March 25, 2014

**Affidavit of Publication**

**State of Arizona  
County of Gila**

Marc Marin, or his authorized representative being first duly sworn deposes and says: That he is the Publisher of the Arizona Silver Belt and the San Carlos Apache Moccasin newspapers, located at 298 North Pine Street, Globe, Arizona 85501, or mail: P.O. Box 31, Globe, Arizona 85502.

The above stated newspapers are published weekly in Globe, in the State of Arizona, County of Gila and that the following described   √   legal, or    advertising was duly published.

**NOTICE OF PUBLIC HEARING**

Hearing Date: May 1, 2014

State of Arizona

Navigable Stream Adjudication Commission

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A printed copy of said legal or advertising is attached hereto and was published in a regular weekly edition of said newspaper (and not a supplement thereof) for 1 consecutive weeks in the   √   Arizona Silver Belt newspaper, and/or the   √   San Carlos Apache Moccasin newspaper. The dates of publication being as follows, to wit:

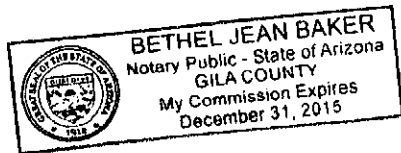
**April 2, 2014**

Marc Marin  
Publisher

State of Arizona )  
                          ) ss:  
County of Gila    )

The foregoing instrument was acknowledged before me April 2, 2014, by Marc Marin.

Notary Public



My Commission Expires:  
December 31, 2015

NOTICE OF PUBLIC HEARING  
Hearing Date: May 1, 2014  
State of Arizona  
Navigable Stream Adjudication Commission  
Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. \_\_\_, 132 S.Ct. 1215 (2012).  
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Individuals with disabilities who need reasonable accommodation to communicate evidence to the commission or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.  
George Melkert, Executive Director  
March 25, 2014  
One Pub. 4/2/2014 Belt 8974

# THE ARIZONA REPUBLIC

**NOTICE OF PUBLIC HEARING**  
 Hearing Date: May 1, 2014  
 State of Arizona  
 Navigable Stream Adjudication Commission  
 Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Commission*, 224 Ariz. 229, P.3d 242 (App. 2010), and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PI Montana, LLC v. Montana*, 556 U.S. 132, S.Ct. 1215 (2012).  
 The hearing will be held from 8:00 am to 12:00 p.m. at the Yavapai County Board of Supervisors Board Room, 1015 Fair Street, Prescott, Arizona 86305. This is the only hearing date scheduled for the Verde River in Yavapai County. It is anticipated that the hearing will not be completed on May 1, 2014, and will be continued on a future date in Phoenix.  
 Interested parties may submit evidence to the commission office prior to the hearing. During the public hearing, the commission will receive additional evidence including testimony. The commission will conduct its hearing informally, without adherence to judicial rules of procedure or evidence. Evidence submitted in advance of the hearing will be available for public inspection during regular commission hours of 8:00 a.m. to 5:00 p.m. Monday through Friday, except on holidays. The commission office is located at 1700 West Washington Street, Room 8-54, Phoenix, AZ 85007. Please call first to review evidence at (602) 542-9214.  
 Individuals with disabilities who need reasonable accommodation to communicate evidence to the commission or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.  
 George Mehnert, Executive Director  
 March 25, 2014  
 Pub: April 1, 2014

STATE OF ARIZONA }  
 COUNTY OF MARICOPA } SS.


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

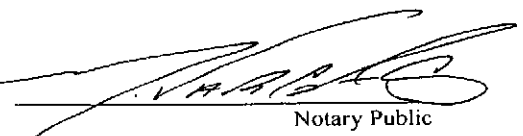
The Arizona Republic

April 1, 2014



Sworn to before me this  
 1<sup>ST</sup> day of  
 April A.D. 2014

 **MANUEL VARGAS**  
 Notary Public - State of Arizona  
 MARICOPA COUNTY  
 My Commission Expires  
 November 30, 2015



Notary Public

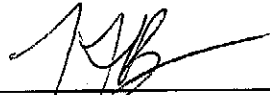
**AFFIDAVIT OF PUBLICATION**

STATE OF ARIZONA    )  
County of Yavapai    ) ss.

I, **Teri Bryant**, being first duly sworn on her oath, say:  
That she is the Legals Clerk of **PRESCOTT NEWSPAPERS, INC.**, an Arizona corporation, which owns and publishes **THE DAILY COURIER**, a Daily Newspaper published in the City of Prescott, County of Yavapai that the notice attached hereto, namely,

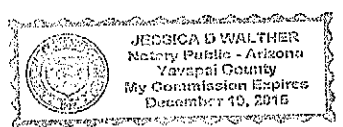
**NSAC  
NOTICE OF PUBLIC HEARING  
MAY 1, 2014**

has, to the personal knowledge of affidavit, been published in the news paper aforesaid, according to law, on 1 day of **APR, 2014** to 1 day of **APR, 2014** both inclusive without change, interruption or omission, amounting in all 1 insertions, made on the following dates:  
**APR 1, 2014**

By:   
Dated this 4 Day of **APR, 2014**

By:   
Notary Public

My commission expires:





**NOTICE OF PUBLIC HEARING**

Hearing Date: May 1, 2014  
State of Arizona  
Navigable Stream Adjudication Commission

Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. \_\_\_, 132 S.Ct. 1215 (2012).

The hearing will be held from 8:00 am to 12:00 p.m. at the Yavapai County Board of Supervisors Board Room, 1015 Fair Street, Prescott, Arizona 86305. This is the only hearing date scheduled for the Verde River in Yavapai County. It is anticipated that the hearing will not be completed on May 1, 2014, and will be continued on a future date in Phoenix.

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Individuals with disabilities who need reasonable accommodation to communicate evidence to the commission or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.

George Mehnert, Executive Director.  
March 25, 2014  
1TC PUB Apr 1, 2014

# THE ARIZONA REPUBLIC

**NOTICE OF PUBLIC HEARING**  
 Hearing Date: October 20, 2014  
 State of Arizona  
 Navigable Stream Adjudication Commission  
 Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its ordinary and natural condition at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. 127, 132 S.Ct. 1215 (2012).  
 This is the continuation of a hearing that began May 1, 2014 at the Yavapai County Board of Supervisors Board Room in Prescott, Arizona. The hearing will resume on October 20, 2014 at 9:00 a.m. at the Arizona State Senate Building, Hearing Room 1, 1700 West Washington St., Phoenix, AZ 85007. The hearing is scheduled for five consecutive days at this location, if necessary, ending October 24, 2014. While it is anticipated that each day of the hearing will begin at 9:00 a.m. and end at approximately 5:00 p.m., the Chair reserves the right to alter the schedule as needed. Interested parties may submit evidence to the commission office prior to the hearing. During the public hearing, the commission will receive additional evidence including testimony. The commission will conduct its hearing informally without adherence to judicial rules of procedure or evidence. Evidence submitted in advance of the hearing will be available for public inspection during regular commission hours of 9:00 a.m. to 5:00 p.m., Monday through Friday, except on holidays. The commission office is located at 1700 West Washington Street, Room B-54, Phoenix, AZ 85007. Please call first to review evidence at (602) 542-9214. Individuals with disabilities who need reasonable accommodation to communicate evidence to the commission or who require this information in an alternate format may contact the commission office at (602) 542-9214 to make their needs known.  
 George Mehnert, Executive Director  
 September 4, 2014  
 Pub: September 12, 2014

STATE OF ARIZONA }  
 COUNTY OF MARICOPA } SS.


Tabitha Weaver, being first duly sworn, upon oath deposes and says: That she is a Sr. legal advertising representative 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, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.


The Arizona Republic

September 12, 2014



Sworn to before me this  
 12<sup>th</sup> day of  
 September A.D. 2014

 **BRIAN BILLINGS**  
 Notary Public - State of Arizona  
 MARICOPA COUNTY  
 My Commission Expires  
 July 26, 2018

  
 Notary Public



NOTICE OF PUBLIC HEARING

Hearing Date: October 20, 2014  
State of Arizona  
Navigable Stream Adjudication  
Commission

Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. \_\_\_\_ 132 S.Ct. 1215 (2012).

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George Mehnert, Executive Director.  
September 4, 2014  
11C PUB Sept. 12, 2014

# THE ARIZONA REPUBLIC

**NOTICE OF PUBLIC HEARING**  
Hearing Date: December 15, 2014

State of Arizona  
Navigable Stream Adjudication Commission  
Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its ordinary and natural condition at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Commission*, 224 Ariz. 230, 229 P.3d 242 (Apr. 2010), and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 132 S.Ct. 1219 (2012).

This is the continuation of a hearing that began May 1, 2014 at the Yavapai County Board of Supervisors Board Room in Prescott, Arizona. The hearing was previously scheduled to resume on October 20, 2014 but was postponed. The hearing will now resume on December 15, 2014 at 9:00 a.m. at the Arizona State Senate Building, Hearing Room 3, 1700 West Washington St., Phoenix, AZ 85007. The hearing is scheduled for five consecutive days at this location, if necessary, ending December 19, 2014.

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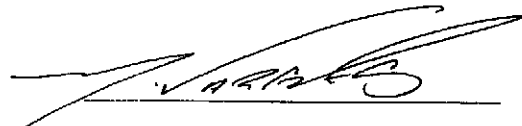
George Mehnerl, Executive Director  
November 6, 2014  
Pub: Nov. 14, 2014

STATE OF ARIZONA }  
COUNTY OF MARICOPA } SS.


Manuel Vargas, being first duly sworn, upon oath deposes and says: That he is a legal advertising representative 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, and that the copy hereto attached is a true copy of the advertisement published in the said paper on the dates as indicated.

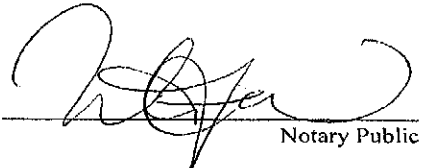
The Arizona Republic

November 14, 2014



Sworn to before me this  
14<sup>TH</sup> day of  
November A.D. 2014

 **MELISSA HOEKSTRA**  
Notary Public - State of Arizona  
MARICOPA COUNTY  
My Commission Expires  
August 1, 2018

  
Notary Public



**NOTICE OF PUBLIC HEARING**

Hearing Date: December 15, 2014  
State of Arizona Navigable Stream  
Adjudication Commission

Pursuant to A.R.S. § 37-1126, notice is hereby given that the Navigable Stream Adjudication Commission will hold a public hearing to receive physical evidence and testimony on two narrow issues: (1) navigability or non-navigability of the Verde River in its "ordinary and natural condition" at the time of the State of Arizona's admission to the United States on February 14, 1912, consistent with the Arizona Court of Appeals decision in *State v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 229 P.3d 242 (App. 2010); and (2) segmentation of the Verde River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. \_\_\_, 132 S.Ct. 1215 (2012).

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George Mehnerl, Executive Director  
November 6, 2014  
TTC PUB Nov. 14, 2014

# Exhibit C



## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X001	ASLD	1897 Sears Roebuck & Co. Catalog 1895 Montgomery Ward & Co. Catalog	<a href="#">PDF</a>
X001	ASLD	Ariz. State Parks, Arizona Rivers & Streams Guide (1989) (excerpts)	<a href="#">PDF</a>
X001	ASLD	Photo, Emery and Ellsworth Kolb, Dave Rust in Canoe, NAU Cline Library Kolb Collection, NAU.PH.568-966	<a href="#">PDF</a>
X001	ASLD	Hunter Trader Trapper (excerpts from Dec. 1908-Mar. 1909)	<a href="#">PDF</a>
X001	ASLD	Herman Hoops, <i>The History of Rubber Boats and How They Saved Rivers</i> (2009)	<a href="#">PDF</a>
X001	ASLD	Hunter Trader Trapper (July 1912) (excerpts)	<a href="#">PDF</a>
X001	ASLD	Hunter Trader Trapper (Oct. 1912) (excerpts)	<a href="#">PDF</a>
X001	ASLD	Keith C. Wilbur, <i>Dugout Canoes</i> , Indian Handcrafts (Jan. 2001)	<a href="#">PDF</a>
X001	ASLD	Gaylord Staveley, <i>Than The Man: The Life and Times of Nathaniel Galloway</i> , in <i>Reflections of Grand Canyon Historians</i> (Todd R. Berger ed. 2008)	<a href="#">PDF</a>
X001	ASLD	Grand Canyon Historical Boat Drawings May 2013, including: Edith, Glen, and Stone	<a href="#">PDF</a>
X001	ASLD	King Folding Boat Company (May 16, 2013)	<a href="#">PDF</a>
X001	ASLD	Photo of Builder Plate of Stone Boat and Company Information	<a href="#">PDF</a>
X001	ASLD	Sears, Roebuck & Co. Catalogue No. 124 (1912) (excerpts)	<a href="#">PDF</a>
X001	ASLD	Canvas Canoes, Why Wood and Canvas, <a href="http://www.canvascanoes.co.uk">www.canvascanoes.co.uk</a> (last visited July 2013)	<a href="#">PDF</a>
X001	ASLD	Ambrose Canoes, About Canoes, <a href="http://www.ambrosecanoes.com/about-canoes/">www.ambrosecanoes.com/about-canoes/</a>	<a href="#">PDF</a>
X001	ASLD	All Rivers Segment Map	<a href="#">PDF</a>
X001	ASLD	Gail Tabor, <i>A Verde Unusual Cruise</i> , Ariz. Republic (June 1989)	<a href="#">PDF</a>
X001	ASLD	<i>A Long Journey</i> , Ariz. Sentinel (Apr. 2, 1892)	<a href="#">PDF</a>
X001	ASLD	<i>Daring Jerome Explorers</i> , Bisbee Daily Review (May 26, 1905)	<a href="#">PDF</a>
X001	ASLD	W.L. Minckley & Norman T. Alger, <i>Fish Remains from an Archaeological Site Along the Verde River Yavapai County, Arizona</i> (1968)	<a href="#">PDF</a>
X001	ASLD	W.L. Minckley, Ph.D., <i>Fishes and Aquatic Habitats of the Upper San Pedro River System, Arizona and Sonora</i> (Mar. 1987)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X001	ASLD	Kennebec Canoe Company, Dragonfly Canoe Works, <a href="http://dragonflycanoe.com/wood-canoe-identification-guide/kennebec-canoe-company/">http://dragonflycanoe.com/wood-canoe-identification-guide/kennebec-canoe-company/</a>	<a href="#">PDF</a>
X001	ASLD	<i>Verde River Runoff</i> , Canoe Race Brochure (Mar. 29, 2014)	<a href="#">PDF</a>
X001	ASLD	<i>Float the Verde River with Sedona Adventure Tours</i> (Mar. 20, 2014)	<a href="#">PDF</a>
X001	ASLD	James W. Byrkit, <i>A Log of the Verde: The "Taming" of an Arizona River</i> , J. Ariz. Hist. (Spring 1978), 31-54	<a href="#">PDF</a>
X001	ASLD	R.H. Forbes, <i>Irrigation &amp; Agricultural Practice in Arizona</i> (June 30, 1911)	<a href="#">PDF</a>
X001	ASLD	Marc W. McCord, <i>Sullivan Lake to Perkinsville</i> , Southwest Paddler (2003)	<a href="#">PDF</a>
X001	ASLD	Ariz. State Parks, <i>Verde River Paddle Trail Tuzigoot Bridge to Highway 89A Bridge</i>	<a href="#">PDF</a>
X001	ASLD	<i>A Boater's Guide to the Verde River Beasley Flat to Sheep Bridge</i>	<a href="#">PDF</a>
X001	ASLD	<i>Verde River Paddle Trail Highway 89A to Beasley Flat</i> , Verde Valley Land Preservation (2012)	<a href="#">PDF</a>
X001	ASLD	USGS, <i>Human Effects on the Hydrologic System of the Verde Valley, Central Arizona, 1910-2005 and 2005-2110, Using a Regional Groundwater Flow Model</i> (2013)	<a href="#">PDF</a>
X001	ASLD	<i>A Portable Folding Boat</i> , 6 Manufacturer & Builder (July 1874)	<a href="#">PDF</a>
X001	ASLD	Dan Beard, <i>How to Build a Cheap Boat</i> , Outing (May 1905)	<a href="#">PDF</a>
X001	ASLD	Photos - Boats in the Grand Canyon Collection	<a href="#">PDF</a>
X001	ASLD	William Draper Brinckle, <i>Just a Boat</i> , Country Life in America (July 1909)	<a href="#">PDF</a>
X001	ASLD	F.H. Carpenter, <i>A Floating Camp at a Dollar a Day</i> , Country Life in America (June 2010)	<a href="#">PDF</a>
X001	ASLD	Brad Dimock, <i>The Case for James White's Raft Trip Through Grand Canyon: The Story of White's Story</i> , in Reflections of Grand Canyon Historians (Todd R. Berger ed. 2008)	<a href="#">PDF</a>
X001	ASLD	Brad Dimock, <i>The James White Debate</i> , in Reflections of Grand Canyon Historians (Todd R. Berger ed. 2008)	<a href="#">PDF</a>
X001	ASLD	Donal Hamilton Haines, <i>A Back-Yard Wilderness</i> , Outing (July 1915)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X001	ASLD	A.G. Holmes, <i>Ducking Boats of Many Waters</i> , Outing (Oct. 1901)	<a href="#">PDF</a>
X001	ASLD	<i>How to Construct a Row-Boat</i> , 7 Manufacturer & Builder (Aug. 1875)	<a href="#">PDF</a>
X001	ASLD	A. William Masters, <i>Outing With a Portable Equipment</i> , American Homes & Garden (July 1911)	<a href="#">PDF</a>
X001	ASLD	St. Nicholas, <i>The Small Water Craft of the American's of Yesterday and Today</i> , Nature and Science for Young Folks (May 1913)	<a href="#">PDF</a>
X001	ASLD	W.E. Partridge, <i>Rowboats and Boating</i> , Country Life in America (June 1910)	<a href="#">PDF</a>
X001	ASLD	Scott Peters, Pouliot Boat Company	<a href="#">PDF</a>
X001	ASLD	Edward L. Pratt, <i>A Three-Dollar Houseboat Vacation</i> , Country Life in America (June 1910)	<a href="#">PDF</a>
X001	ASLD	<i>The Layman Pneumatic Sporting and Outing Boat</i> , 72 Scientific American (May 1895)	<a href="#">PDF</a>
X001	ASLD	W.P. Stephens, <i>Sport in All Kinds of Water Craft</i> , Country Life in America (Aug. 1908)	<a href="#">PDF</a>
X002	SRP	Douglas R. Littlefield, Ph.D., Revised & Updated Report: Assessment of the Navigability of the Verde River Prior To and On the Date of Arizona's Statehood, February 14, 1912 (Apr. 3, 2014)	<a href="#">PDF</a>
X003	Andy Groseta	Letter from George Kovacovich to Wade Noble, Chair, ANSAC (May 1, 2014)	<a href="#">PDF</a>
X004	Andy Groseta	Letter from Andy Groseta, Groseta Ranches LLC, to Wade Noble, Chair, ANSAC re: Verde River Navigability Hearing May 1, 2014 - Prescott (May 1, 2014)	<a href="#">PDF</a>
X005	Andy Groseta	Letter from Andy Groseta, President, Cottonwood Ditch Association, to Wade Noble, Chair, ANSAC re: Verde River Navigability Hearing May 1, 2014 - Prescott (May 1, 2014)	<a href="#">PDF</a>
X006	Daniel Major	Letter from Daniel K. Major, General Manager, Perkins Ranch, Inc., to Wade Noble, Chair, ANSAC re: Verde River (Apr. 30, 2014)	<a href="#">PDF</a>
X007	J.G. Brady	Collection of Photographs and Documents	<a href="#">PDF</a>
X008	Daniel Major	Letter from Daniel K. Major, President, Yavapai Cattle Growers, to Wade Noble, Chair, ANSAC re: Verde River (Apr. 30, 2014)	<a href="#">PDF</a>
X009	Freeport	Declaration of Rich Burtell on the Non-Navigability of the Verde River At and Prior to Statehood (Sept. 17, 2014)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X010	SRP	Photos Canoeing on the Gila, Lower Salt, Verde, and San Juan Rivers, taken by Jon E. Fuller	<a href="#">PDF</a>
X011	ASLD	Good Paschall Davis, Jr., Man and Wildlife in Arizona: The Pre-Settlement Era, 1823-1864 (1973) (excerpts)	<a href="#">PDF</a>
X011	ASLD	Jim Schreier, <i>Born a Cavalryman</i> , J. Ariz. Hist. (Summer 1999), 142-164	<a href="#">PDF</a>
X011	ASLD	David A. Weedman, Ariz. Game & Fish Dept., Salt & Verde River Fisheries Survey Trips & Related River Flows	<a href="#">PDF</a>
X011	ASLD	Oregon Historical Society, <i>Beaver Trap</i> (2002)	<a href="#">PDF</a>
X011	ASLD	Photo of Canoe on Verde River	<a href="#">JPG</a>
X011	ASLD	Photo of Canoe on Verde River #2	<a href="#">JPG</a>
X011	ASLD	Photo of Canoes on Verde River	<a href="#">JPG</a>
X011	ASLD	Bertha S. Dodge, <i>The Road West: Saga of the 35th Parallel</i> (1980) (excerpts)	<a href="#">PDF</a>
X011	ASLD	Marshall Trimble, <i>Ewing Young: The Southwest's Premier Mountain Man</i> , Ariz. Adventure (1982), 27-37	<a href="#">PDF</a>
X011	ASLD	Alvin Medina & Daniel G. Neary, <i>Historical and Pictorial Perspective of the Upper Verde River</i> (2012)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Anglo Penetration</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Colorado River Posts 1852-1909</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Main Stagecoach Lines</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Major Trails</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Military Posts 1865-1920</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Railroads</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Henry P. Walker & Don Bufkin, <i>Routes of American Explorers &amp; Surveyors</i> , Historical Atlas of Arizona (2d ed. 1979)	<a href="#">PDF</a>
X011	ASLD	Marshall Trimble, <i>James Ohio Pattie: Arizona's First Storyteller</i> , in Old Ariz. Adventure (1982), 33-36	<a href="#">PDF</a>
X011	ASLD	Edgar Alexander Mearns, <i>Mammals of the Mexican Boundary of the US</i> (1907) (excerpts)	<a href="#">PDF</a>
X011	ASLD	Mussetter Engineering, Inc., <i>Inundation and Substrate Stability Study to Support Verde River Vegetation Analysis</i> (2004)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X011	ASLD	Jonathan E. Fuller, Presentation to ANSAC: Verde River Navigability (Sept. 2014)	<a href="#">PDF</a>
X011	ASLD	Christopher Carrillo <i>et al.</i> , <i>An Overview of Historical Beaver Management in Arizona</i> (2009)	<a href="#">PDF</a>
X011	ASLD	John McPhee, <i>The Survival of the Bark Canoe</i> (1982) (excerpts)	<a href="#">PDF</a>
X011	ASLD	David Weber, <i>The Taos Trappers: The Fur Trade in the Far Southwest, 1540-1846</i> (1968) (excerpts)	<a href="#">PDF</a>
X012	Tom Martin	Letter from Tom Martin, Flagstaff resident, to ANSAC re: Verde River Hearing (Oct. 7, 2014)	<a href="#">PDF</a>
X013	Mark Jibilian	Letter from Mark Jibilian to ANSAC (Oct. 8, 2014)	<a href="#">PDF</a>
X014	Andy Weenig	Letter from Andy Weenig to ANSAC re: Verde River Navigable (Oct. 8, 2014)	<a href="#">PDF</a>
X015	ACLPI	Hjalmar W. Hjalmarson, PE, Appendices A through D, Navigability Along the Natural Channel of the Verde River, AZ (Oct. 4, 2014)	<a href="#">PDF</a>
X015	ACLPI	Hjalmar W. Hjalmarson, PE, Appendices E through M, Navigability Along the Natural Channel of the Verde River, AZ (Oct. 4, 2014)	<a href="#">PDF</a>
X015	ACLPI	Hjalmar W. Hjalmarson, PE, Navigability Along the Natural Channel of the Verde River, AZ (Oct. 4, 2014)	<a href="#">PDF</a>
X016	SRP	Robert A. Mussetter, Ph.D., PE, Declaration re: Navigability of the Verde River (Oct. 10, 2014)	<a href="#">PDF</a>
X016a	SRP	Robert A. Mussetter, Ph.D., PE, Amended Page 13 to Declaration re: Navigability of the Verde River (Oct. 10, 2014)	<a href="#">PDF</a>
X017	ASLD	Photos Canoeing on the Gila, Lower Salt, Verde, and San Juan Rivers, taken by Jon E. Fuller	<a href="#">List</a>
X017	ASLD	ASLD All Watercourses Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 0 Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 1 Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 2 Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 3 Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 4 Map	<a href="#">PDF</a>
X017	ASLD	ASLD Verde River Segment 5 Map	<a href="#">PDF</a>
X017	ASLD	Photos of Verde River, taken by David Weedman	<a href="#">List</a>
X017	ASLD	Photos of Verde River, taken by Jim Slingluff	<a href="#">List</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X017	ASLD	C.A. White, <i>Instructions to the Surveyor General of Oregon; Being a Manual for Field Operations (1851)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>Instructions to the Surveyors General of Public Lands of the United States, for Those Surveying Districts Established In and Since the Year 1850; Containing, Also, a Manual of Instructions to Regulate the Field Operations of Deputy Surveyors (1855)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>Instructions to the Surveyors General of the United States, Relating to Their Duties and to the Field Operations of Deputy Surveyors (1856)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>Instructions of the Commissioner of the General Land Office to the Surveyors General of the United States Relative to the Survey of the Public Lands and Private Land Claims (May 3, 1881)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>Manual of Surveying Instructions for the Survey of the Public Lands of the United States and Private Land Claims (Jan. 1, 1890)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>1894 Manual of Surveying Instructions for the Survey of the Public Lands of the United States and Private Land Claims (June 30, 1894)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>Manual of Surveying Instructions for the Survey of the Public Lands of the United States and Private Land Claims (Jan. 1, 1902)</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management	<a href="#">PDF</a>
X017	ASLD	1912 Arizona Railroad Map	<a href="#">PDF</a>
X017	ASLD	1912 Arizona State Map	<a href="#">PDF</a>

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Item Number	Submitted By	Description	Link
X017	ASLD	<i>United States v. Utah</i> , Report of the Special Master (1930)	<a href="#">PDF</a>
X017	ASLD	Arizona Population of Counties by Decennial Census 1900-1990	<a href="#">PDF</a>
X017	ASLD	Robert L. Blomstrom, <i>Fur Trading: Forerunner of Industry in Arizona</i> (Dec. 1963)	<a href="#">PDF</a>
X017	ASLD	D.E. Burkham, <i>Channel Changes of the Gila River in Safford Valley, Arizona 1846-1970</i> (1972)	<a href="#">PDF</a>
X017	ASLD	Michael Harvey & Robert Mussetter, <i>Difficulties of Identifying Design Discharges in Steep, Coarse-Grained Channels in the Arid Southwestern U.S.</i> (2005)	<a href="#">PDF</a>
X017	ASLD	Ralph F. Palmer, <i>Doctor on Horseback</i> (1979) (excerpts)	<a href="#">PDF</a>
X017	ASLD	Robert Glass Cleland, <i>This Reckless Breed of Men</i> (1950) (excerpts)	<a href="#">PDF</a>
X017	ASLD	Martha Summerhayes, <i>Vanished Arizona: Recollections of the Army Life of a New England Woman</i> (1979) (excerpts)	<a href="#">PDF</a>
X017	ASLD	Howard Roberts Lamar, <i>The Far Southwest 1846-1912, A Territorial History</i> (1970) (excerpts)	<a href="#">PDF</a>
X017	ASLD	U.S. Government, <i>Free Lands and Dry Farming in the Southwest</i> (1908)	<a href="#">PDF</a>
X017	ASLD	Jonathan E. Fuller Publications List	<a href="#">PDF</a>
X017	ASLD	Jonathan E. Fuller, P.E., R.G., Ph.D. Resume	<a href="#">PDF</a>
X017	ASLD	Philip A. Pearthree, <i>Geologic and Geomorphic Setting of the Verde River from Sullivan Lake to Horseshoe Reservoir</i> (Mar. 1993)	<a href="#">PDF</a>
X017	ASLD	<i>Homesteading in Arizona 1870-1942</i> , Ariz. State Hist. Preservation Office (Aug. 1990)	<a href="#">PDF</a>
X017	ASLD	Kyle P. House <i>et al.</i> , <i>Hydrologic and Paleo-hydrologic Assessment of the 1993 Floods on the Verde River, Central Arizona</i> (Dec. 1995)	<a href="#">PDF</a>
X017	ASLD	Jonathan E. Fuller, <i>Boating in Arizona ca. 1912</i> (2014)	<a href="#">PDF</a>
X017	ASLD	Photo of Mine in Jerome	<a href="#">PNG</a>
X017	ASLD	C.A. White, <i>Office of the Surveyor General of Arizona 1863-1924</i> , A History of the Rectangular Survey System, U.S. Department of the Interior, Bureau of Land Management (1926)	<a href="#">PDF</a>
X017	ASLD	Photo of Ore Wagons in Jerome	<a href="#">PNG</a>
X017	ASLD	James A. Simpson, <i>The Rectangular Survey System</i> , River & Lake Boundaries: Surveying Water Boundaries - A Manual (2d. ed. 2005)	<a href="#">PDF</a>

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Item Number	Submitted By	Description	Link
X017	ASLD	James A. Simpson, <i>Meanders—What They Do</i> , River & Lake Boundaries: Surveying Water Boundaries - A Manual (2d. ed. 2005)	<a href="#">PDF</a>
X017	ASLD	James A. Simpson, <i>Navigability</i> , River & Lake Boundaries: Surveying Water Boundaries - A Manual (2d. ed. 2005)	<a href="#">PDF</a>
X017	ASLD	Paul Strong, <i>Where Waters Run Beavers</i> (1997)	<a href="#">PDF</a>
X017	ASLD	Barbara Tellman, Highlights of Boating in Arizona to about 1920 (from Verde River hearing, Nov. 16, 2005)	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>The Direct System to End of the General Land Office</i> , A History of the Rectangular Survey System, Bureau of Land Management (1926)	<a href="#">PDF</a>
X017	ASLD	C.A. White, <i>The General Land Office Within the Department of the Interior</i> , A History of the Rectangular Survey System, Bureau of Land Management (1926)	<a href="#">PDF</a>
X017	ASLD	B.W. Thomsen & J.J. Porcello, <i>Predevelopment Hydrology of Salt River Indian Reservation</i> (1991)	<a href="#">PDF</a>
X017	ASLD	Utah Population of Counties by Decennial Census 1900-1990	<a href="#">PDF</a>
X017	ASLD	Stephanie Whittlesey, et al., <i>Vanishing River: Landscapes and Lives of the Lower Verde Valley</i> (1997)	<a href="#">PDF</a>
X017	ASLD	Verde Independent (Feb. 27, 1980) (excerpt)	<a href="#">PDF</a>
X017	ASLD	Ariz. Gazette (Feb. 14, 1883) (excerpt)	<a href="#">PDF</a>
X017	ASLD	<i>Major Spaulding's Death</i> , Phoenix Daily Herald (Dec. 12, 1888)	<a href="#">PDF</a>
X017	ASLD	Robert W. Munson, <i>Territorial Verde Valley</i> , 53 Plateau (1981) (excerpts)	<a href="#">PDF</a>
X017	ASLD	<i>Word Received on Progress of Verde River Navigators</i> , Verde Copper News (Feb. 6, 1931)	<a href="#">PDF</a>
X017	ASLD	<i>Voyage Postponed</i> , Weekly Journal Miner (May 24, 1905)	<a href="#">PDF</a>
X017	ASLD	<i>Mariners Return</i> , Weekly Journal Miner (May 28, 1905)	<a href="#">PDF</a>
X017	ASLD	Ariz. Miner (May 8, 1869) (excerpt)	<a href="#">PDF</a>
X017	ASLD	Wm. H. Corbusier, M.D., <i>The Apache-Yumas and Apache-Mojaves</i> (1886) (excerpts)	<a href="#">PDF</a>
X017	ASLD	<i>History of the Verde</i> , Yavapai Magazine (Oct. 1918)	<a href="#">PDF</a>
X017	ASLD	<i>Indians</i> , Ariz. Miner (Oct. 5, 1872)	<a href="#">PDF</a>
X017	ASLD	Ariz. Miner (Apr. 6, 1864)	<a href="#">PDF</a>
X017	ASLD	<i>The Governor's Expedition</i> , Ariz. Miner (Oct. 5, 1872)	<a href="#">PDF</a>
X017	ASLD	Phoenix Herald (Jan. 1, 1885) (excerpt)	<a href="#">PDF</a>
X018	Christopher Wales	Letter from Christopher G. Wales to ANSAC re: Verde River Navigability (Oct. 7, 2014)	<a href="#">PDF</a>



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Item Number	Submitted By	Description	Link
X019	Janette Fazio	Letter from Janette Fazio to ANSAC re: Verde River Navigability (Oct. 7, 2014)	<a href="#">PDF</a>
X020	Lee Kohlhasse	Letter from Lee Kohlhasse to ANSAC (Oct. 10, 2014)	<a href="#">PDF</a>
X021	Steven Kanner	Letter from Steven Kanner, President, Southern Arizona Paddlers Club, to ANSAC re: Verde River Navigability Hearings (Oct. 8, 2014)	<a href="#">PDF</a>
X022	SRP	Bob Mussetter, Ph.D., P.E. Resume	<a href="#">PDF</a>
X023	Freeport	M.C. Hinderlider & G.L. Swendsen, <i>Part XI-Colorado River Drainage above Yuma</i> , in Report of Progress of Stream Measurements for the Calendar Year 1905 (1906)	<a href="#">PDF</a>
X023	Freeport	JE Fuller/Hydrology & Geomorphology, Inc., ASLD, ANSAC Study for the San Pedro River: Gila River Confluence to the Mexican Border (rev'd Jan. 2004)	<a href="#">PDF</a>
X023	Freeport	JE Fuller/Hydrology & Geomorphology, Inc., ASLD, ANSAC Study for the Upper Gila River Safford to the State Boundary and San Francisco River Gila River Confluence to the State Boundary (rev'd June 2003)	<a href="#">PDF</a>
X023	Freeport	ASLD, Final Report: Small & Minor Watercourses Analysis for Graham County, Arizona (April 2001)	<a href="#">PDF</a>
X023	Freeport	JE Fuller/Hydrology & Geomorphology, Inc., Final Report: Criteria for Assessing Characteristics of Navigability for Small Watercourses in Arizona (Sept. 1998)	<a href="#">PDF</a>
X023	Freeport	San Pedro River Hearing Tape, Transcript of Hearing held in Bisbee, Arizona on June 7, 2013	<a href="#">PDF</a>
X024	SRP	Douglas R. Littlefield, Ph.D., Assessment of the Verde River's Navigability On or Before the Date of Arizona's Statehood, February 14, 1912 (Oct. 2014)	<a href="#">PDF</a>
X025	Jerry Gless	Letter from Jerry L. Gless to ANSAC re: Verde River Navigability (Oct. 15, 2014)	<a href="#">PDF</a>
X026	Paul Wheeler	Letter from Paul C. Wheeler, PT, DPT, MPT, to ANSAC re: Verde River Navigability (Oct. 16, 2014)	<a href="#">PDF</a>
X027	Nancy Murbach	Letter from Nancy L. Murbach to ANSAC re: Verde River Navigability (Oct. 16, 2014)	<a href="#">PDF</a>
X028	Dan Bramble	Letter from Dan Bramble to ANSAC re: Verde River Navigability (Oct. 19, 2014)	<a href="#">PDF</a>
X029	Philip Dixon	Letter from Philip Dixon to ANSAC re: Verde River Navigability (Oct. 16, 2014)	<a href="#">PDF</a>
X030	Justin Donnell	Letter from Justin & Carrie Ann Donnell to ANSAC re: Verde River Navigability (Oct. 20, 2014)	<a href="#">PDF</a>

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Item Number	Submitted By	Description	Link
X031	Allan Watts	Letter from Allan Watts to ANSAC re: Verde River Navigability (Oct. 16, 2014)	<a href="#">PDF</a>
X032	Allison Dixon	Letter from Allison Dixon to ANSAC re: Verde River Navigability (Oct. 20, 2014)	<a href="#">PDF</a>
X033	Steven Miller	Letter from Steven W. Miller to ANSAC re: Verde River Navigability (Oct. 18, 2014)	<a href="#">PDF</a>
X034	Joel Clark	Letter from Dr. Joel L. Clark to ANSAC re: Verde River Navigability (Oct. 29, 2014)	<a href="#">PDF</a>
X035	ASLD	Verde River Google Earth Video	
X035	ASLD	ASLD Verde River Segment 0 Map (to replace X017-75)	<a href="#">PDF</a>
X035	ASLD	ASLD Verde River Segment 1 Map (to replace X017-76)	<a href="#">PDF</a>
X035	ASLD	Arizona Wildlife: The Territorial Years 1863-1912 (David E. Brown ed. 2009) (excerpts)	<a href="#">PDF</a>
X035	ASLD	Goode P. Davis, Man and Wildlife in Arizona: The American Exploration Period 1824-1865 (1982) (excerpts)	<a href="#">PDF</a>
X035	ASLD	Desert Land Act	<a href="#">PDF</a>
X035	ASLD	Marion Gray Donaldson, <i>The Initial Point: Arizona's First Rectangular Land Survey</i> , 29 J. Ariz. Hist. (Fall 1988), 245-256	<a href="#">PDF</a>
X035	ASLD	Patrick Hamilton, <i>The Resources of Arizona</i> (1881) (excerpts)	<a href="#">PDF</a>
X035	ASLD	Patrick Hamilton, <i>The Resources of Arizona</i> (3d ed. 1884) (excerpts)	<a href="#">PDF</a>
X035	ASLD	T.A. Hayden, <i>Irrigation on Upper Verde River Watershed from Surface Waters</i> (1940) (excerpts)	<a href="#">PDF</a>
X035	ASLD	P. Kyle House & Philip A. Pearththree, <i>Surfical Geology of the Northern Verde Valley, Yavapai County, Arizona</i> (Sept. 1993)	<a href="#">PDF</a>
X035	ASLD	Dan Huntington, <i>Fort McDowell in the Eighties</i> (1957) (excerpts)	<a href="#">PDF</a>
X035	ASLD	William C. McComb <i>et al.</i> , <i>Dam-Site Selection by Beavers in an Eastern Oregon Basin</i> , 50(3) Great Basin Naturalist (1990), 273-281	<a href="#">PDF</a>
X035	ASLD	National Park Service, <i>Fur Trade Illustration Project</i>	<a href="#">PDF</a>
X035	ASLD	The Personal Narrative of James O. Pattie of Kentucky (Timothy Flint ed. 1831)	<a href="#">PDF</a>
X035	ASLD	Ruth Wingfield, <i>The History of Camp Verde</i> , in <i>Pioneer Stories of Arizona's Verde Valley</i> (1954)	<a href="#">PDF</a>
X035	ASLD	<i>Our Southern Neighbors</i> , Salt Lake Herald (May 3, 1894)	<a href="#">PDF</a>

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Item Number	Submitted By	Description	Link
X035	ASLD	Barbara Tellman, <i>A Brief History of Boating in Arizona</i> (2005)	<a href="#">PDF</a>
X035	ASLD	War Department, Surgeon General's Office, Circular No. 4, Barracks and Hospitals (1870) (excerpts)	<a href="#">PDF</a>
X035	ASLD	<i>Editorial Notes</i> , Ariz. Weekly Journal-Miner (Mar. 11, 1891)	<a href="#">PDF</a>
X035	ASLD	Bob Williams, <i>A Floater's Guide to the Verde River</i> (1996)	<a href="#">PDF</a>
X035	ASLD	Photos of Verde River from Beasley to Childs, by Don Farmer	<a href="#">List</a>
X035	ASLD	Photos of Verde River below Bartlett, by Don Farmer	<a href="#">List</a>
X035	ASLD	Photos of Verde River from Childs to Horseshoe, by Don Farmer	<a href="#">List</a>
X035	ASLD	Photos of Verde River from Verde Ranch to Perkinsville, by Don Farmer	<a href="#">List</a>
X035	ASLD	Partial Transcripts of Gila River Hearing 6-16-14 - 6-18-14	<a href="#">PDF</a>
X035	ASLD	History of Arizona Territory (Wallace W. Elliott ed. 1884) (excerpts)	<a href="#">PDF</a>
X035	ASLD	Jim Slingsluff, <i>Verde River Recreation Guide</i> (1990)	<a href="#">PDF</a>
X035	ASLD	Ariz. State Parks, <i>Arizona Rivers &amp; Streams Guide</i> (1989) (excerpts)	<a href="#">PDF</a>
X035	ASLD	<i>Walked Sixty Miles in His Bare Feet</i> , Bisbee Daily Review (Aug. 12, 1910)	<a href="#">PDF</a>
X035	ASLD	Walt Anderson, <i>Beaver Presence Survey of Upper Verde River</i> (Nov. 1, 2009)	<a href="#">PDF</a>
X035	ASLD	Jonathan E. Fuller, <i>Boating in Arizona ca. 1912</i> (2014)	<a href="#">PDF</a>
X035	ASLD	Jonathan E. Fuller, Presentation to ANSAC: Verde River Navigability (Sept. 2014)	<a href="#">PDF</a>
X036	ACLPI	Hjalmar W. Hjalmarson, PE, Addendum to Report of October 4, 2014; Win Hjalmarson, PE, Navigability Along the Natural Channel of the Verde River, AZ (Oct. 2014) PowerPoint	<a href="#">PDF</a>

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Item Number	Submitted By	Description	Link
X037	Freeport	<p><i>Farming in Yavapai County, ARIZ.</i> Miner (Feb. 1, 1868), <i>Part II-Irrigation</i>, Eleventh Annual Report of the United States Geological Survey to the Secretary of the Interior 1889-90 (1891) (excerpts); F.H. Newell, Report on Agriculture by Irrigation in the Western Part of the United States at the Eleventh Census: 1890 (1894) (excerpts); Patrick Hamilton, <i>The Resources of Arizona</i> (1881) (excerpts); William L. Graf, <i>Fluvial Processes In Dryland Rivers</i> (reprint of 1st ed. 1988) (excerpt); William H. Bradshaw, Wyoming Game &amp; Fish Dept, <i>LaBarge Creek Instream Flow Report</i> (Nov. 1990) (excerpts); Ronald Hyra, <i>Methods of Assessing Instream Flows for Recreation</i> (June 1978) (excerpts); Ken D. Bovee &amp; Robert Milhous, <i>Hydraulic Simulation in Instream Flow Studies: Theory and Techniques</i> (June 1978) (excerpts); Erich Obermayr, <i>Silver and Borax: The Wadsworth and Columbus Freight Road</i> (2007) (excerpts); Allan J. Wheeler, <i>The History of the Santa Fe Trail and its Founder, William Becknell</i> (May 2013) (excerpt); R. Burtell <i>Charts: Estimated Natural and Expected Flows in the John Day River, Oregon, John Day River Depth vs. Discharge at USGS Gaging Station at Service Creek, John Day River Depth vs. Discharge at USGS Gaging Station at McDonald Ferry, Historic Verde River Baseflows Measured at the USGS Gage Near Clarkdale, Verde River Discharge vs. Stream Depth at USGS Paulden Gage, Verde River Discharge vs. Stream Depth at USGS Gage Near Clarkdale</i> (Dec. 2014); Marc W. McCord, <i>Rio Grande, Southwest Paddler: Canoeing New Mexico, New Mexico</i></p>	<p><a href="#">PDF</a></p>
X038	SRP	<p>Jim Slingluff, <i>Verde River Recreation Guide</i> (2d ed. 1993) (excerpts)</p>	<p><a href="#">PDF</a></p>
X039	SRP	<p>Sedona Adventure Tours, <i>New Guided Trip on the Verde River at Clarkdale</i>, <a href="http://www.sedonaadventuretours.com/verde-river-trip">www.sedonaadventuretours.com/verde-river-trip</a> (last visited Dec. 12, 2014)</p>	<p><a href="#">PDF</a></p>
X040	SRP	<p>Sedona Adventure Tours, <i>FAQs - frequently asked questions</i> <a href="http://www.sedonaadventuretours.com/info/faqs">www.sedonaadventuretours.com/info/faqs</a> (last visited Dec. 12, 2014)</p>	<p><a href="#">PDF</a></p>
X041	SRP	<p>Sedona Adventure Tours Facebook Page, Aug. 19, 2014 post</p>	<p><a href="#">PDF</a></p>
X042	SRP	<p>Rob Chaney, <i>Canoe-makers losing key material for molding boats</i>, <i>Missoulia</i> (Jan. 23, 2014)</p>	<p><a href="#">PDF</a></p>
X043	SRP	<p>Bob Mussetter, Ph.D., PE, <i>Verde River Navigability: Presentation to ANSAC</i></p>	<p><a href="#">PDF</a></p>

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Item Number	Submitted By	Description	Link
X044	ASLD	Ariz. Weekly Journal-Miner (Mar. 4, 1891) (excerpt); The American Whitewater Association, International Scale of River Difficulty, <a href="http://www.americanwhitewater.org/content/Wiki/safety:start#vi._international_scale_of_river_difficulty">www.americanwhitewater.org/content/Wiki/safety:start#vi._international_scale_of_river_difficulty</a> ; ERO Resources Corp., Technical Report: Lower Verde River Riparian Vegetation (June 2004)	<a href="#">PDF</a>
X045	Freeport	<i>Part 9-Colorado River Basin</i> , Compilation of Records of Surface Waters of the United States through September 1950, Geological Survey Water-Supply Paper 1313 (1954)	<a href="#">PDF</a>
X046	Ft. McDowell Yavapai	Selected USGS Documents/Graphs	<a href="#">PDF</a>
X047	ASLD	Win Hjalmarson Drawing 1 (12/18/14)	<a href="#">PDF</a>
X048	ASLD	Win Hjalmarson Drawing 2 (12/19/14)	<a href="#">PDF</a>
X049	Philip Verellen	Letter from Philip Verellen to ANSAC (Dec. 10, 2014)	<a href="#">PDF</a>
X050	Walt Carr	Letter from Walt Carr to ANSAC re: The Verde River Remains Navigable Today! (Dec. 13, 2014)	<a href="#">PDF</a>
X051	Pam & Charles Corrado	Letter from Pam & Charles Corrado to ANSAC re: Verde River (Dec. 11, 2014)	<a href="#">PDF</a>
X052	Andrew Messer	Letter from Andrew Messer to ANSAC re: Verde River Navigability (Dec. 17, 2014)	<a href="#">PDF</a>
X053	ASLD	Paul R. Fish, <i>Prehistoric Land Use in the Perkinsville Valley</i> (1974)	<a href="#">PDF</a>
X053	ASLD	Replacement pages to X035-167, Jonathan E. Fuller, Presentation to ANSAC: Verde River Navigability (Sept. 2014)	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 0 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 1 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 2 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 3 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 4 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Photo of Verde River, Segment 5 by Jon Fuller	<a href="#">PDF</a>
X053	ASLD	Video of Clay Bank Rapids by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Gila River Needles Eye by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Grumman 180 cfs (11/8/14) by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Jon Fuller Navigating Beaver Dam by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Jon Fuller Paddling by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Kiss-N-Tell 180 cfs (11/8/14) by Jon Fuller	<a href="#">WMV</a>
X053	ASLD	Video of Salt River Black Rock by Jon Fuller	<a href="#">WMV</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X053	ASLD	T.A. Hayden, Irrigation on Upper Verde River Watershed from Surface Waters (1940) (excerpts)	<a href="#">PDF</a>
X054	Freeport	<p><i>Verde Prosperous</i>, Weekly Journal-Miner (Feb. 15, 1911); Tombstone Weekly Epitaph (Feb. 26, 1911) (excerpt); <i>Construction of Power Line is Resumed</i>, Weekly Journal-Miner (Mar. 1, 1911); <i>Slight Change in Local Itinerary</i>, Ariz. Republican (Mar. 14, 1911); Summary of Verde River Channel Conditions Noted During the February 1911 GLO Survey of T3N, R7E; Summary of Verde River Channel Conditions Noted During the March 1911 GLO Survey of T4N, R7E; USFS, <i>Synthesis of Upper Verde River Research &amp; Monitoring, 1993-2008</i> (Dec. 2012); Robert A. Farmer, Field Notes of the Survey of the Subdivision and Meanders of T.3N., R.7E., Salt River Indian Reservation (Feb. 18-Mar. 9, 1911); Robert A. Farmer, Field Notes of the Survey of the Subdivision and Meanders of T.4N., R.7E., Salt River Indian Reservation (Mar. 1-20, 1911); Verde River at USGS Gages (Jan. 2015) PowerPoint; Discharge Measurement Summaries; Transcript of Gila River Hearing, June 18, 2014; Transcript of Gila River Hearing, June 20, 2014; Affidavit of Richard E. Lingenfelter (May 16, 2014); Richard A. Lingenfelter, Steamboats on the Colorado River 1852-1916 (1978) (excerpts)</p>	<a href="#">PDF</a>

**Supplemental Evidence - Verde River**

Item Number	Submitted By	Description	Link
X055	Yavapai-Apache	Affidavit of Vincent E. Randall (Feb. 11, 2015); Bureau of Reclamation, Biological Opinion Summary: Central Arizona Project Water Assignment-Cottonwood Water Works, Inc., and Camp Verde Water System, Inc. to City of Scottsdale (Mar. 30, 1998); Dean A. Hendrickson & W.L. Minckley, <i>Cienegas Vanishing Climax Communities of the American Southwest</i> , 6(3) Desert Plants (1985), 131-174; Marie E. Pearthree, <i>Channel Change in Southern Arizona-Implications for Floodplain Management</i> (1941); J. C. Stromberg, <i>Fremont Cottonwood-Gooding Willow Riparian Forests: A Review of Their Ecology, Threats, and Recovery Potential</i> , 26(3) J. Ariz.-Nev. Academy of Science (1996), 98-110; Barbara Tellman et al., <i>Arizona's Changing Rivers: How People Have Affected the Rivers</i> (Mar. 1997) (excerpts); War Department, <i>A Report on the Hygiene of the United States Army with Descriptions of Military Posts</i> (1875) (excerpts); War Department, <i>A Report on Barracks and Hospitals with Descriptions of Military Posts</i> (1870) (excerpts)	<a href="#">PDF</a>
X056	ASLD	City of Clarkdale, <i>Commercial River Runner Capacities for the Verde River at Clarkdale</i> ; Michigan Steel Boat Co. <i>Catalogue</i> (1902); Hiram C. Hodge, <i>Arizona As It Is: Or, the Coming Country</i> (1877) (excerpts); I. Herbert Gordon, <i>The Complete Book of Canoeing</i> (3d ed. 2001) (excerpts); Hiram Martin Chittenden, <i>The American Fur Trade of the Far West</i> , Vol. 1 (1986) (excerpts); <i>Ariz. Republican</i> (Nov. 1, 1918) (excerpt); <i>Jerome: Arizona At Large</i> , Los Angeles Times (Jan. 28, 1898); Bo Shelby et al., <i>Streamflow and Recreation</i> , USDA Forest Service General Technical Report RM-209 Rev'd (Mar. 1992)	<a href="#">PDF</a>
X057	SRP	ADWR, <i>North Central Arizona Regional Water Study-Phase 1</i> (May 18, 1999); ADWR, <i>Verde River Watershed Study</i> (2000)	<a href="#">PDF</a>
X058	SRP	William L. Graf, <i>Fluvial Processes In Dryland Rivers</i> (reprint of 1st ed. 1988) (excerpt)	<a href="#">PDF</a>
X059	ACLPI	Hjalmar W. Hjalmarson, PE, <i>Second Addendum to Report of Oct. 4, 2014</i> (Feb. 5, 2015)	<a href="#">PDF</a>
X060	SRP	Bob Mussetter, Ph.D., PE, <i>Verde River Navigability: Presentation</i> (rev'd Feb. 2015)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X061	SRP	Hjalmar W. Hjalmarson, Depletion Estimates (Feb. 18, 2015)	<a href="#">PDF</a>
X062	ACLPI	Ken D. Bovee & Robert Milhous, <i>Hydraulic Simulation in Instream Flow Studies: Theory &amp; Techniques</i> (Aug. 1978) (excerpt)	<a href="#">PDF</a>
X063	ACLPI	Marine Board, Criteria for the Depths of Dredged Navigational Channels (1983)	<a href="#">PDF</a>
X064	ACLPI	Photos of Mo Udall & friends' trip on Verde River	<a href="#">PDF</a>
X065	ASLD	Arizona Township Map	<a href="#">PDF</a>
X066	ASLD	Brad Dimock Video	
X067	Phoenix	Declaration of Jack August, Jr., Ph.D. on the Non-Navigability of the Verde River At and Prior to Arizona Statehood, February 14, 1912	<a href="#">PDF</a>
X068	ASLD	USGS, <i>Measurements and Computation of Streamflow: Volume 1, Measurement of State of Discharge</i> (1982) (excerpts); USGS, <i>Navigability Potential of Washington Rivers and Streams Determined with Hydraulic Geometry and a Geographic Information System</i> (1999)	<a href="#">PDF</a>
X069	SRP	<i>Replication Conundrums</i> , Fretwaterlines (Jan. 3, 2013)	<a href="#">PDF</a>
X070	SRP	Brad Dimock, <i>A Bit About the Euphrates</i> , Wooden Boat People (Feb. 25, 2010)	<a href="#">PDF</a>
X071	SRP	<i>Edith in the Wild</i> , Fretwaterlines (Apr. 10, 2011)	<a href="#">PDF</a>
X072	SRP	Arizona Highways (July 2004) (excerpts)	<a href="#">PDF</a>
X073	SRP	Brad Dimock, <i>Rowing Wooden Dories</i> , Ariz. Raft Adventures (Feb. 19, 2014)	<a href="#">PDF</a>
X074	SRP	First Form Withdrawal, Salt River Project, Arizona (Mar. 2, 1903)	<a href="#">PDF</a>
X075	ACLPI	Hjalmar W. Hjalmarson, Additional GLO Maps for Upper Verde River and Settler Impact on Base Q (Mar. 30, 2015)	<a href="#">PDF</a>
X076	Freeport	Robert A. Farmer, Field Notes of the Survey of the Boundary and Exterior Lines (including the old Camp McDowell Reservation) (Feb. 5, 1910-Feb. 25, 1911) (excerpts)	<a href="#">PDF</a>
X077	Freeport	Map & Other Docs re: Township No. 16 N Range 4 West	<a href="#">PDF</a>
X078	Freeport	Map of Township No. 17 North Range No. 2 West	<a href="#">PDF</a>
X079	Freeport	Richard J. Hinton, <i>The Hand-Book to Arizona: Its Resources, History, Towns, Mines, Ruins and Scenery</i> (1878) (excerpts)	<a href="#">PDF</a>



## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X080	Freeport	Bradley D. Garner & Donald J. Bills, <i>Spatial &amp; Seasonal Variability of Base Flow in the Verde Valley, Central Arizona, 2007 and 2011</i> (2012)	<a href="#">PDF</a>
X081	ASLD	Robert A. Farmer, Field Notes of the Survey of the Boundary and Exterior Lines (including the old Camp McDowell Reservation) (Dec. 5, 1910-Feb. 25, 1912) (excerpts)	<a href="#">PDF</a>
X082	SRP	Watershed Monitor, Map of Middle Verde River	<a href="#">PDF</a>
X083	ASLD	Jonathan E. Fuller, Rebuttal Slides	<a href="#">PDF</a>
X084	ASLD	<i>When Verde Means Gold</i> , GEOLOBO (Nov. 4, 2012)	<a href="#">PDF</a>
X085	SRP	Photo of Stoneman Road through Cave Creek	<a href="#">PDF</a>
X086	SRP	<i>Game Commissioner</i> , Ariz. Republican (Oct. 15, 1898)	<a href="#">PDF</a>
X087	SRP	<i>Is John McCarty Dead?</i> , Ariz. Republican (Sept. 18, 1905)	<a href="#">PDF</a>
X088	SRP	Power Site Classification, 34 Fed. Reg. 36	<a href="#">PDF</a>
X089	SRP	64 Fed. Reg. 232 (Dec. 3, 1999)	<a href="#">PDF</a>
X090	SRP	<i>Dead Alive</i> , Coconino Sun (Jan. 2, 1904)	<a href="#">PDF</a>
X091	ACLPI	Emails between Win Hjalmarson and Robert Ross dated Jan. 22, 2015 - Feb. 10, 2015	<a href="#">PDF</a>
X092	SRP	Vt. Agency of Nat. Res., Vermont Stream Geomorphic Assessment, Appendix K, Identification of Bankfull Stage (May 2009)	<a href="#">PDF</a>
X093	SRP	Luna B. Leopold et al., <i>Fluvial Processes in Geomorphology</i> (1964) (excerpts)	<a href="#">PDF</a>
X094	SRP	Tiao J. Chang, <i>Bankfull Geometry Determinations in the Hocking River Basin</i> (Feb. 6, 2001) (excerpt)	<a href="#">PDF</a>
X095	SRP	Summary, A Video Guide to Field Identification of Bankfull Stage in the Western United States, <a href="http://www.stream.fs.fed.us/news/streamnt/apr95/apr95a1.htm">http://www.stream.fs.fed.us/news/streamnt/apr95/apr95a1.htm</a>	<a href="#">PDF</a>
X096	SRP	U.S. EPA, <i>Hydrologic Processes: Bankfull Discharge</i> (Mar. 6, 2012)	<a href="#">PDF</a>
X097	SRP	USGS, <i>Bankfull Discharge and Channel Characteristics of Streams in New York State</i> , Scientific Investigations Report 2009-5144	<a href="#">PDF</a>
X098	SRP	Luna B. Leopold & M. Gordon Wolman, <i>River Channel Patterns: Braided, Meandering &amp; Straight</i> (1957)	<a href="#">PDF</a>
X099	Freeport	Emails between Rich Burtell and Robert Ross re: Excerpts from February 2015 Hjalmarson Report re: Robert Ross Diversion/Return Flow Data dated Feb. 17, 2015	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X099	Freeport	Verde Adventures, <i>Now Kayaking In Clarkdale</i>	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Data Gap Analysis	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Declarations of Martha Camacho (Oct. 8, 2014), Linda Ebon-Jones (Oct. 8, 2014), Shirly A. Taho (Oct. 6, 2014), Ralph D. Jones (Oct. 8, 2014), Wayne Shenah (Oct. 8, 2014)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Iknowinsurance, <i>Be Alert! Boating Safety Saves Lives</i> (July 11, 2012)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	American Whitewater Association, Accident Database: Verde River Deaths (last visited Apr. 20, 2015)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Thomas Edwin Farish, History of Arizona, Vol. IV (1916) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Hiram C. Hodge, Arizona As It Is or The Coming Country (1877) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	E.J. Farmer, The Resources of the Rocky Mountains (1883) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	G.M. Sparkes, <i>Yavapai, The Land of Opportunity</i> , Univ. of Ariz. Bulletin (Aug. 10, 1917)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Report of the Governor of Arizona to the Secretary of the Interior 1901 (1901)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Report of the Governor of Arizona to the Secretary of the Interior 1905 (1905)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Arizona: A Review of its Resources (1891) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Scott Fritz, Ph.D., <i>Yavapai County Merchants: The Center of Arizona's Early Territorial Economy, 1863-1881</i> , Territorial Times (May 2008), 26-32	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	James E. Sherman & Edward R. Ronstadt, <i>Wagon Making in Southern Arizona</i> , reprinted from The Smoke Signal (Spring 1975)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	ADOT, Arizona Transportation History Final Report 660 (Dec. 2011)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Frank B. Fryman, Jr. et al., <i>An Initial Survey of Historic Resources within the Phoenix Metropolitan Area Maricopa County, Arizona</i> (Feb. 1977) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Bridges: Arizona Historic Bridge Inventory (Jan. 2008) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Modifications to Chapter 4, Agricultural Conservation Program, Third Management Plan, Prescott Active Management Area	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X100	Ft. McDowell Yavapai	Yavapai County Water Advisory Committee, Draft Big Chino Subbasin: Historical & Current Water Uses and Water Use Projections (Feb. 2004) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Yavapai County College of Agriculture & Life Sciences, Yavapai County Vegetable Planting Dates (updated Aug. 1, 2007)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	S.C. Dickinson, <i>What to Do With the Other Eight Hours</i> , Univ. of Ariz. Bulletin (Nov. 10, 1917)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Jeremy Rowe, <i>George Rothrock: Arizona Pioneer Photographer</i> , J. Ariz. Hist. (Winter 2008)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	37(3) J. Ariz. Hist. (Fall 1996) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Edward H.H. Peplow, Jr., <i>History of Arizona, Volume II</i> (1958) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Photograph of Oak Creek and Verde River, Yavapai County, Arizona c.1890, Sharlot Hall Museum	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	J.W. Powell, Thirteenth Annual Report of the Bureau of Ethnology (1891-92) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	<i>Arizona Through Time: Southern Arizona Culture History</i> , Univ. of Ariz. (last visited 4/16/2015)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Photograph of Apache on Horseback; Camp-Verde, Arizona, c.1910; Photograph of Yavapai Indian groups from Verde River, Arizona c.1880; Photograph of Yavapai Indian Chiefs on Horseback, Verde River, Arizona c. 1880; Photograph of Yavapai Indian Scouts with pack saddles at Camp Verde, Arizona c. 1875; Photograph of Yavapai Indian Scouts at Camp Verde, Arizona c.1880; Photograph of Yavapai Indian Scouts Dress Parade at Camp Verde, Arizona, c.1880 (Sharlot Hall Museum)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Mike Harrison & John Williams, <i>Oral History of the Yavapai</i> (2012) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	<i>Arizona Army National Guard: The First One Hundred Years</i> , 180th Field Artillery Regiment (Feb. 22, 2002)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Annual Report of the Secretary of War, Vol. I (1884) (excerpts)	<a href="#">PDF</a>
X100	Ft. McDowell Yavapai	Annual Report of the Secretary of War, Vol. I (1888) (excerpts)	<a href="#">PDF</a>
X101	Yavapai-Apache	USGS, <i>Effects of Urban Development on Floods</i> (2003)	<a href="#">PDF</a>

## Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X101	Yavapai-Apache	Thomas E. Dahl & Gregory J. Allord, <i>History of Wetlands in the Conterminous United States</i> , USGS Water Supply Paper 2425	<a href="#">PDF</a>
X101	Yavapai-Apache	Highways in the River Environment (1990) (excerpts)	<a href="#">PDF</a>
X101	Yavapai-Apache	<i>United Verde Copper Co. v. Ralston</i> , 46 F.2d 1 (9th Cir. 1931)	<a href="#">PDF</a>
X101	Yavapai-Apache	<i>United Verde v. Kovacovich</i> , 42 Ariz. 159 (1933)	<a href="#">PDF</a>
X101	Yavapai-Apache	Yvonne Gonzales, <i>Verde River recovers from flood impacts</i> , Verde Independent (Mar. 26, 2015)	<a href="#">PDF</a>
X102 Disc1	ASLD	Walt Anderson, <i>Beaver Presence Survey of Upper Verde River</i> (Nov. 1, 2009)	<a href="#">PDF</a>
X102 Disc1	ASLD	Photos of Clarkdale Gage 2-16-2015	<a href="#">PDF</a>
X102 Disc1	ASLD	Photos of Camp Verde Gage 3-28-2015	<a href="#">PDF</a>
X102 Disc1	ASLD	Frederick H. Brandenburg, <i>Climatological Data for January, 1911, District No. 9, Colorado River</i> (1911)	<a href="#">PDF</a>
X102 Disc1	ASLD	Photograph/colorized postcard of three men in a boat on the Salt River, probably in the Salt River Canyon, in Maricopa County, Arizona c.1910, ASU Library	<a href="#">PDF</a>
X102 Disc1	ASLD	Photograph of a boat rescuing people during a flood of the San Francisco River in Clifton, Arizona in 1884 c.1884, ASU Library	<a href="#">PDF</a>
X102 Disc1	ASLD	Photograph of Francis H. Clark in a boat near the Hassayampa River in Yavapai County, Arizona c.1900, ASU Library	<a href="#">PDF</a>
X102 Disc1	ASLD	Photos of Tangle Creek Gage 3-21-2015	<a href="#">PDF</a>
X102 Disc1	ASLD	Photos of Verde River Race 3-28-2015	<a href="#">PDF</a>
X102 Disc1	ASLD	<i>Death of J.K. Day</i> , Ariz. Republican (Jan. 27, 1902)	<a href="#">PDF</a>
X102 Disc1	ASLD	<i>Game Commissioners</i> , Ariz. Republican (Oct. 14, 1898)	<a href="#">PDF</a>
X102 Disc1	ASLD	USGS, Velocity Reading at Near Camp Verde Gage 09506000	<a href="#">PDF</a>
X102 Disc1	ASLD	Transcript of Santa Cruz Hearing in Tucson, AZ on Mar. 28, 2014	<a href="#">PDF</a>
X102 Disc1	ASLD	Declaration of Jonathan E. Fuller (Apr. 22, 2015)	<a href="#">PDF</a>
X102 Disc1	ASLD	Kent Klein, <i>Trapping Techniques of the Mountain Man</i> , HistoricalTrekking.com (last visited 4/22/15)	<a href="#">PDF</a>
X102 Disc1	ASLD	<i>Establishes Her Claims</i> , Williams News (Oct. 3, 1903)	<a href="#">PDF</a>
X102 Disc1	ASLD	Williams News (Oct. 22, 1902) (excerpt)	<a href="#">PDF</a>
X102 Disc1	ASLD	<i>Insurance Paid</i> , Coconino Sun (June 20, 1903)	<a href="#">PDF</a>
X102 Disc1	ASLD	<i>No Trace of John McCarty</i> , Coconino Sun (July 27, 1901)	<a href="#">PDF</a>

### Supplemental Evidence - Verde River

Item Number	Submitted By	Description	Link
X102 Disc1	ASLD	<i>Lion Hunter Lost</i> , Florence Tribune (June 22, 1901)	<a href="#">PDF</a>
X102 Disc1	ASLD	Video of Class 3 Grumman 11-8-2014 180 cfs	<a href="#">VIDEO</a>
X102 Disc1	ASLD	Video of MEI Site 1 downstream boating part 1	<a href="#">VIDEO</a>
X102 Disc2	ASLD	Video of MEI Site 1 downstream boating part 2	<a href="#">VIDEO</a>
X102 Disc2	ASLD	Video of Verde Tangle at Gage Cable	<a href="#">VIDEO</a>
X103	ACLPI	Emails between Robert Ross and Win Hjalmarson dated Feb. 10, 2015 - Apr. 2, 2015	<a href="#">PDF</a>

# Exhibit D



STATE OF ARIZONA  
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room B54, Phoenix, Arizona 85007

Phone (602) 542-9214 FAX (602) 542-9220

JANICE K. BREWER  
Governor

E-mail: [nav.streams@ansac.az.gov](mailto:nav.streams@ansac.az.gov) Web Page: <http://www.ansac.az.gov>

GEORGE MEHNERT  
Executive Director

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**REGULAR SESSION MEETING MINUTES**

**Prescott, Arizona, May 1, 2014**

**Commission Members Present**

Wade Noble, Jim Henness, Bill Allen, Jim Horton

**Commission Members Absent**

**Staff Present**

Fred Breedlove Attorney, George Mehnert Director.

**1. Call To Order**

The Chair called the meeting to order at approximately 9:00 a.m.

**2. Roll Call**

See above for members present and absent

**3. Approval of Minutes for April 24, 2014 (discussion and action).**

The minutes were approved without objection.

**4. Approval of Minutes for April 25, 2014 (discussion and action).**

The minutes were approved without objection.

**5. Hearing Regarding the Verde River.**

Several witnesses appeared with some submitting documents: Bob Rothrock, Larry Meads, Steven Cling, Don Doddard, Andy Grosetta, Danny Major, J.G. Brady, Peter Krutnik, Helen Howard, Linda Emmett, Thomas Slayback, Adessa Carr, and Cathy Rowland.

**6. Call for Public Comment**

Some speakers listed in #5 spoke here instead as witnesses.

**7. Future meeting dates and future agenda items.**

None established

**8. ADJOURNMENT.**

Adjourned at approximately 10:10 a.m.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "George Mehnert".

George Mehnert  
Director, Navigable Stream Adjudication Commission  
May 2, 2014



STATE OF ARIZONA  
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room B-54, Phoenix, Arizona 85007

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GEORGE MEHNERT  
Executive Director

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**MINUTES OF PUBLIC MEETING**  
**December 15, 2016**  
**Commission Decision Regarding Navigability of Verde River**  
**PHOENIX, ARIZONA**

**Commission Members Present**

Wade Noble, Bill Allen, Jim Henness, Jim Horton.

**Commission Members Absent**

None

**Staff Present**

George Mehnert, Director.

**1. Call To Order**

The Chair called the meeting to order at approximately 9:00 a.m.

**2. Roll Call**

See above for members present and absent

**3. Approval of Minutes for October 20-23, 2015 and November 17-20, 2015 (discussion and action).**

The minutes were approved as submitted without objection.

**4. Discussion and Presentations by parties regarding the navigability of the Verde River**

Speakers and Presenters were Edwin Slade, Joy Herr-Cardillo, John Helm, Mark McGinnis, Sue Montgomery, Cynthia Campbell, and Sean Hood.

Members of the Public were also present and the following members made short presentations per agenda item number 5: Jim Voller, Jennifer Martin, Dan Mills, Jimmie Watley, Thomas Slaback, Bob Rothrock, Chris Jensen, Steven Max Castillo, and Anita Gauss.

Following presentations and questions from the Commissioners regarding the Verde River, the Commission entered into Executive Session at approximately 12:00 p.m. to obtain legal advice concerning the Verde River. Executive Session ended at approximately 12:30 p.m., and the Commission went back on the record at that time.

**Decision regarding the Navigability of the Verde River. A motion was made that all six segments of the Verde River were non-navigable; the segments are numbered 0 thru 5, and the vote occurred regarding each segment.**

Motion by: Jim Horton Second by: Jim Henness

Motion: That segments zero thru five of the Verde River were non-navigable.

Vote: Roll Call Vote by Segment:

Segment 0 - All Aye.

Segment 1 - All Aye.

Segment 2 - Commissioners Horton, Henness, and Noble - Aye. Commissioner Allen - Nay.

Segment 3 - All Aye.

Segment 4 - All Aye.

Segment 5 - Commissioners Horton, Henness, and Noble - Aye. Commissioner Allen - Nay.

**5. Call for Public Comment.**

Speakers who requested to speak did so following the presentations by Parties, see item 4 above.

**6. Future meeting dates and future agenda items.**

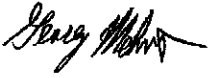
Reminder of future scheduled hearing dates for the Salt River reconvening January 26, 2016.

**7. ADJOURNMENT**

The business of the Commission having been completed the Chair adjourned the meeting at approximately 3:05 p.m.



Respectfully submitted,

A handwritten signature in black ink, appearing to read "George Mehnert". The signature is written in a cursive style with a long horizontal stroke at the end.

George Mehnert  
Director, Navigable Stream Adjudication Commission  
December 16, 2015



STATE OF ARIZONA  
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room B-54, Phoenix, Arizona 85007

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GEORGE MEHNERT  
Executive Director

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AGENDA AND NOTICE OF PUBLIC MEETING  
TO BE HELD Wednesday, September 19, 2018 at 9:00 a.m.  
in PHOENIX, ARIZONA

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the Navigable Stream Adjudication Commission and to the public that the Navigable Stream Adjudication Commission will hold a meeting open to the public Wednesday September 19, 2018 at 9:00 a.m. in Senate Hearing Room 3, 1700 West Washington, Phoenix, Arizona 85007

Pursuant to A.R.S. § 38-431.03(A)(3), the Navigable Stream Adjudication Commission may vote to go into Executive Session for purposes of obtaining legal advice from the Commission's attorney on any matter listed on the agenda, or pursuant to A.R.S. § 38-431.03(A) or for discussion of records exempt by law from public inspection on any matter listed on the agenda.

Title 2 of the American with Disabilities Act (ADA) prohibits the Commission from discriminating based on disability in its public meetings. Individuals with disabilities who need a reasonable accommodation to attend or communicate at the Commission's meeting, or who require this information in alternate format, may contact George Mehnert at (602) 542-9214 to make their needs known. Requests should be made as soon as possible so the Commission will have sufficient time to respond. For those individuals who have a hearing impairment, this Commission can be reached through the Arizona Relay Service at 1-800-367-8939 (TTY) or 1-800-842-4681 (Voice). The agenda for the meeting is as follows:

1. CALL TO ORDER.
2. Roll Call.
3. Approval of Executive Session Minutes for June 28, 2018 (discussion and action).
4. Approval of Regular Session minutes of June 28, 2018 (discussion and action).
5. Nunc pro tunc corrections of Commission report dated June 28, 2018 regarding the Verde River (04-009-NAV) (discussion and action).

The corrections to the report on the Verde River are as follows (underlining represents insertions; ~~strike through~~ represents deletions):

Page 50, line 18: "Proponents must show that it is more likely than not that the Verde ~~Gila~~ River..."

Page 51, line 4: "See Winkleman, 224 Ariz. at 243, 229 P.3d at 255..."

Page 54, lines 8-9: "The Verde River in ~~Cochise, Pima and Pinal~~ Yavapai, Gila, and Maricopa Counties, Arizona..."

Page 62, lines 2-5: "and determines that the Verde River from its headwaters at Sullivan Lake to the confluence with the Salt River, in Yavapai, Gila and Maricopa Counties, Arizona ~~Salt River from the confluence of the White and Black Rivers, to its confluence with the Gila River,~~ was not navigable..."

6. Call for Public Comment (comment sheets). (Pursuant to Attorney General Opinion No. I99-006 [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 advance. Action taken at this meeting because of public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.)
7. Future agenda items and establishment of future meetings.
8. ADJOURNMENT.

The chair reserves the right to alter the order of the agenda.

Dated this 4<sup>th</sup> Day of September 2018

George Mehnert, Director

Navigable Stream Adjudication Commission.