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**BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION
COMMISSION**

IN THE MATTER OF THE
NAVIGABILITY OF THE SAN
PEDRO RIVER FROM THE
MEXICAN BORDER TO THE
CONFLUENCE WITH THE GILA
RIVER, COCHISE, PIMA AND
PINAL COUNTIES, ARIZONA

No. 03-004-NAV

**FIRST ADDENDUM TO THE REPORT, FINDINGS AND DETERMINATION
REGARDING THE NAVIGABILITY OF THE SAN PEDRO RIVER FROM THE
MEXICAN BORDER TO THE CONFLUENCE WITH THE GILA RIVER DATED
OCTOBER 18, 2006**

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 San Pedro River from the Mexican border to the confluence with the Gila River (“San Pedro River” or “San Pedro” 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 Determination Regarding the Navigability of the San Pedro River from the Mexican*

1 *Border to the Confluence of the Gila River* published October 18, 2006 (“2006 Report”).

2 While the Commission’s navigability determination remains unchanged, unless
3 otherwise discussed herein, this report supersedes the 2006 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 memorandum regarding the navigability of the San
4 Pedro River.

5 **A. 2003-2004 Hearings**

6 The first set of hearings was held in 2003 and 2004 (“2003-04 Hearings”).
7 Hearings were held on March 12, 2003, in Bisbee, Cochise County, Arizona; on January
8 22, 2004, in Tucson, Pima County, Arizona; and on March 9, 2004, in Florence, Pinal
9 County, Arizona. Each of the 2003-04 Hearings was properly noticed pursuant to the
10 applicable statutes.

11 Various individuals submitted documents or oral testimony in connection with the
12 2003-04 Hearings. The Commission received over 27 documentary filings, including
13 studies, articles, newspapers and other historical accounts, photographs, maps, and
14 recordings. A list of the evidence submitted in connection with the 2003-04 Hearings,
15 which originally appeared as Exhibit D to the 2006 Report, is reproduced here as Exhibit
16 A.

17 On September 26, 2004, at a public hearing in Phoenix, Arizona, after considering
18 all of the evidence, testimony, and legal memoranda submitted by the parties, and the
19 comments and oral argument made at the 2003-04 Hearings, and having been fully
20 advised by counsel, the Commission determined by a unanimous vote that the San Pedro
21 River was nonnavigable for purposes of title at statehood. Following the hearing, the
22 Commission issued its 2006 Report.

23 The Arizona Center for Law in the Public Interest (“ACLPI”) appealed the 2006
24 Report and determination on June 13, 2006. Proceedings in the case were ultimately
25 stayed, however, while the Arizona Court of Appeals considered a related challenge to the
26

1 Commission's determination that the Lower Salt River was nonnavigable for purposes of
2 title at statehood.

3 **B. Lower Salt River Appeal**

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

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

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

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1 In October 2011, the six cases that had been appealed were returned to the
2 Commission to reassess the Evidence in the Record in light of the principles addressed in
3 *Winkleman*.

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

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

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

14 **D. 2013 Hearings**

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

22 Hearings were held on June 7, 2013, in Bisbee, Cochise County, Arizona, and on
23 August 1-2, 2013, in Phoenix, Maricopa County, Arizona (“2013 Hearings”). At the
24 conclusion of the final public hearing on August 2, 2013, the Commission advised the
25 parties that they could file post-hearing legal briefs pursuant to Commission Rules. Salt
26 River Project Agricultural Improvement and Power District and Salt River Valley Water

1 Users Association (collectively, "SRP"), Freeport McMoRan Corporation ("Freeport"),
2 the San Carlos Apache Tribe, and the Gila River Indian Community ("GRIC"), submitted
3 briefs in favor of non-navigability (collectively, "Opponents"). The ACLPI, on behalf of
4 Defenders of Wildlife, Donald Steuter, Jerry Van Gasse, and Jim Vaaler (collectively,
5 "ACLPI" or "Proponents") submitted briefs in favor of navigability.¹

6 On November 21, 2013, at a properly noticed public hearing in Phoenix, Arizona,
7 after considering all of the new and existing Evidence in the Record, the parties' briefs,
8 and the testimony, comments, and oral arguments made at the 2003-04 and 2013
9 Hearings, and having been fully advised by counsel, the Commission determined by a
10 unanimous vote that the San Pedro River was nonnavigable in both its "ordinary" and
11 "natural" condition at the time of statehood. The Commission's vote also determined that
12 no navigable segments existed on the River, and, therefore, segmentation was
13 unnecessary.

14 **II. BURDEN OF PROOF**

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

16 If the preponderance of the evidence establishes that the watercourse was
17 navigable, the commission shall issue its determination confirming that the
18 watercourse was navigable. If the preponderance of the evidence fails to
19 establish that the watercourse was navigable, the commission shall issue its
20 determination confirming that the watercourse was nonnavigable.

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

23 The "preponderance of the evidence" standard is sometimes referred to as requiring
24 "fifty percent plus one" in favor of the party with the burden of proof. If the evidence on
25 each side weighs exactly even, then the party without the burden of proof necessarily

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

1 prevails. Proponents, as the party with the burden of proof, must convince the
2 Commission that the Evidence in the Record, considered in its totality, weighs in favor of
3 a finding of navigability. *See generally United States v. Fatico*, 458 U.S. 388, 403-06
4 (E.D.N.Y. 1978), *aff'd*, 603 F.2d 1053 (2d Cir. 1979), *cert. denied*, 444 U.S. 1073 (1980);
5 *United States v. Schipani*, 289 F.Supp. 43, 56 (E.D.N.Y. 1968), *aff'd*, 414 F.2d 1262 (2d
6 Cir. 1969).

7 While the Proponents bear the burden of proof as to navigability, the Commission
8 “may not begin its determination with any presumption against navigability.” *Winkleman*,
9 224 Ariz. at 239, 229 P.3d at 251. Indeed, “determinations regarding the title to beds of
10 navigable watercourses in equal footing cases must begin with a strong presumption
11 *against* defeat of state’s title.” *Def. of Wildlife v. Hull*, 199 Ariz. 411, 426, 18 P.3d 722,
12 737 (Ct. App. 2001) (emphasis added). A presumption, however, only applies “in the
13 absence of any evidence to the contrary,” *In re Westfall’s Estate*, 74 Ariz. 181, 186, 245
14 P.2d 951, 955 (1952), and “should never be placed in the scale to be weighed as
15 evidence,” *In re Hesse’s Estate*, 62 Ariz. 273, 282, 157 P.2d 347, 351 (1945); *see also*
16 *Sheehan v. Pima County*, 135 Ariz. 235, 238, 660 P.2d 486, 489 (Ct. App. 1982) (“a
17 presumption disappears entirely upon the introduction of any contradicting evidence and
18 when such evidence is introduced the existence or non-existence of the presumed fact is to
19 be determined exactly as if no presumption had ever been operative”).

20 **III. NAVIGABILITY STANDARD**

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

1 Those rivers must be regarded as public navigable rivers in law which are
2 navigable in fact. And they are navigable in fact when they are used, or are
3 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.

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

6 In Arizona, the federal test for navigability-for-title is codified at A.R.S. § 37-
7 1101(5), which states:

8 “Navigable” or “navigable watercourse” means a watercourse that was in
9 existence on February 14, 1912, and at that time was used or was
10 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.

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

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19
20 ² The Commission also considered the following definitions in A.R.S. § 37-1101 in making
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 As relevant here, the Commission’s task is to determine: (1) the characteristics of
2 the San Pedro River at the time of statehood “in its ordinary and natural condition”; and
3 (2) whether, at the time of statehood, the San Pedro River was used or was susceptible of
4 being used as a highway for commerce in that condition. *Winkleman*, 224 Ariz. at 239,
5 229 P.3d at 251.

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

12 In *PPL Montana*, the U.S. Supreme Court held that, with *de minimis* exception, a
13 watercourse’s navigability must be determined on a segment-by-segment basis, even
14 where only “short interruption[s] of navigability in a stream otherwise navigable” exist.
15 132 S.Ct. at 1229, 1230. As to determining the segment in question, the Court observed
16 that shifts in physical conditions, and topographical and geographical indicators provide a
17 means to determine start and end points. *Id.* at 1230. The Court acknowledged that a “*de*
18 *minimis* exception” may exist where some nonnavigable segments are “so minimal that
19 they merit treatment as part of a longer, navigable reach for purposes of title,” and
20 identified the types of considerations that would warrant such an exception as “those
21 related to principles of ownership and title, such as the inadministrability of parcels of
22 exceedingly small size, or worthlessness of the parcels due to overdivision.” *Id.* at 1230-
23 31.

24 The Court in *PPL Montana* also addressed the relevance of evidence of present-
25 day, primarily recreational use to the issue of a river’s susceptibility to use as a highway
26 for commerce. Specifically, the Court ruled that evidence of “present-day use may be

1 considered to the extent it informs the historical determination whether the river segment
2 was susceptible of use for commercial navigation at the time of statehood.” *PPL*
3 *Montana*, 132 S.Ct. at 1233. However, because navigability-for-title is determined at the
4 time of statehood and concerns a river’s usefulness for “trade and travel,” rather than for
5 other purposes, the Court ruled that such evidence “must be confined to that which shows
6 the river could sustain the kinds of commercial use that, *as a realistic matter*, might have
7 occurred at the time of statehood.” *Id.* at 1233 (emphasis added). Thus, before this type of
8 evidence can be considered in a navigability-for-title determination, “the party seeking to
9 use present-day evidence for title purposes must show: (1) the watercraft are meaningfully
10 similar to those in customary use for trade and travel at the time of statehood; and (2) the
11 river’s post-statehood condition is not materially different from its physical condition³ at
12 statehood.” *Id.*

13 **IV. EVIDENCE RECEIVED AND CONSIDERED BY THE COMMISSION**

14 Pursuant to A.R.S. § 37-1123, the Commission undertook to receive, compile, and
15 review Evidence in the Record regarding the issue of whether the San Pedro River was
16 navigable for title purposes as of statehood in its ordinary and natural condition. A list of
17 evidence and records submitted in connection with the 2013 Hearings, together with a
18 summarization, is attached as Exhibit C. The minutes from the 2013 Hearings are
19 attached as Exhibit D.⁴ Documents and testimony submitted in connection with the 2003-
20 04 Hearings (“Old Evidence in the Record”) were also considered by the Commission in
21 making this report.

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24 ³ In light of *Winkelman* and our obligation to consider a river’s “ordinary and natural
condition” at the time of statehood, we interpret the phrase “physical condition” in *PPL Montana* to mean
“ordinary and natural condition.”

25 ⁴ The transcripts of the 2013 Hearings are available at
26 <http://www.ansac.az.gov/UserFiles/PDF/Transcripts/SanPedroCombTranscripts.pdf>.

1 Three experts submitted evidence and testimony in connection with the 2013
2 Hearings, the details of which are described as relevant below: Richard Burtell, a
3 registered geologist and principal at Plateau Resources, LLC, on behalf of Freeport; T.
4 Allen J. Gookin, a registered engineer, land surveyor, and certified hydrologist, on behalf
5 of GRIC; and Win Hjalmarson, a retired USGS engineer with over 51 years of experience
6 with southwestern rivers, on behalf of ACLPI.

7 **V. ANALYSIS OF THE EVIDENCE**

8 **A. Physical Characteristics of the San Pedro River**

9 Though “not a major watercourse,” the San Pedro is one of the most studied rivers
10 in the Southwest. EIN 006,⁵ JE Fuller/Hydrology & Geomorphology, Inc., *Arizona*
11 *Stream Navigability Study for the San Pedro River: Gila River Confluence to the Mexican*
12 *Border* (revised Sept. 1997) (“Fuller 1997” or “State Report”), at 5-1. It spans
13 approximately 140 miles long, with its headwaters in Mexico and most of its length
14 flowing through Arizona between the point where it crosses the Mexican border to its
15 confluence with the Gila River. Over its 123-mile Arizona course, the San Pedro drops
16 2,340 feet, from 4,260 feet at the Mexican border to 1,920 feet at its confluence with the
17 Gila River in Winkleman, Arizona. EIN 016, JE Fuller/Hydrology & Geomorphology,
18 Inc., *Arizona Stream Navigability Study for the San Pedro River: Gila River Confluence*
19 *to the Mexican Border* (revised Jan. 2004) (“Fuller 2004” or “State Report”), at 5-4.

20 Environmental and geomorphic differences between the upper and lower reaches of
21 the San Pedro allow the River to be divided into two reaches: the upper San Pedro—from
22 the border of Arizona and Mexico near the headwaters, to a constricted bedrock section
23 known as the “Narrows” located north of Benson, Arizona; and the lower San Pedro—
24 from the Narrows to the confluence with the Gila River. Fuller 2004, at 5-4.

25 ⁵ Citations to the Record are identified as Evidence Item Number (“EIN”).
26

1 Geologically, this division is arbitrary because environmental and geomorphic variables
2 are transitional between the two reaches. *Id.*

3 1. Climate in the San Pedro River Basin

4 Precipitation patterns in the San Pedro River Valley have remained the same since
5 the predevelopment era. During the predevelopment era, the mountainous areas to the
6 east and west of the River typically received more than 20 inches of precipitation per year,
7 with the Valley typically receiving slightly less rainfall (16 inches). EIN x013, Win
8 Hjalmarson, *Navigability Along the Natural Channel of the San Pedro River, Executive*
9 *Summary of Analysis* (Aug. 20, 2013) (“Hjalmarson Exec. Summary”), at 2. Precipitation
10 fell during the summer and winter seasons. *Id.* There was also light snow accumulation
11 in the mountains, which occasionally melted to produce spring runoff. *Id.*

12 Climate in the Valley varies with elevation. Fuller 1997, at 5-4. Overall, it is semi-
13 arid, with violent thunderstorms in the summer producing the bulk of precipitation, and
14 sporadic rain in the winter. *See id.* at 5-4 to 5-5. Occasionally, intense precipitation hits
15 the Valley during September and October, which “commonly result[s] in heavy rain and
16 flooding.” *Id.* at 5-5. As a result, flows fluctuate with the seasons, and weather patterns
17 do not produce a regularly flowing stream.

18 2. Hydrology of the San Pedro River

19 In 1986, the U.S. Geological Survey (“USGS”) calculated the predevelopment base
20 runoff for the San Pedro and other southwestern rivers. EIN x012, Freethy & Anderson,
21 USGS Hydrologic Investigations Atlas HA-664, *Pre-development Hydrologic Conditions*
22 *in the Alluvial Basins of Arizona and Adjacent Parts of California and New Mexico*
23 (1986) (“HA-664”). USGS concluded that the entire length of the San Pedro in Arizona
24 was perennial during predevelopment times. *See id.* This conclusion was based on a
25 review of extant literature, numerical groundwater models, and water budget data
26 compiled by USGS and other agencies from the early 1900s to 1940.

1 According to the State Report, at the time of statehood, the upper San Pedro
2 between Hereford and St. David was perennial, and the remaining reaches mostly
3 intermittent, with short reaches containing ephemeral or perennial reaches. Fuller 2004, at
4 7-22. The State Report concluded that the San Pedro between Hereford and St. David had
5 an average annual flow of about 50 cfs, and a median flow rate of about 10 cfs, which
6 correspond to depths of about 1 foot and 6 inches, respectively. The remaining reaches
7 had an average annual flow of about 45 cfs, and a median flow rate of less than 1 cfs,
8 which are both associated with depths of less than 6 inches. *Id.*

9 Limited streamflow data for the San Pedro exists at or before statehood, and no
10 streamflow data exists for the month of February 1912. What data does exist indicates
11 that, from 1904 to 1912, average monthly flows varied widely from 3 cfs in June to 233
12 cfs in August, and channel depths (based on median monthly flows) between Charleston
13 and Fairbank on the upper San Pedro were less than 1 foot between 40% (at Charleston)
14 and 75% (near Fairbank) of the time. *See* Fuller 1997, at 7-13 (tbl. 7-6a); *see also id.* at 7-
15 10 (describing flows as “highly variable, with the major component of flow resulting from
16 direct response to precipitation”); 8/1/13 Tr. at 75 (noting “pretty large” range of flows
17 and variability), 96 (flows were “extreme and variable” in predevelopment conditions),
18 166; 6/7/13 Tr. at 163-64; EIN x001, Declaration of Rich Burtell on the Non-Navigability
19 of the San Pedro River At and Prior to Statehood (Mar. 2013) (“Burtell 2013”), at 3 ¶¶ 16-
20 18 & tbl. 2. Burtell opined that “[s]uch shallow water would have precluded commercial
21 boat travel.” *Id.* ¶¶ 17-18. In support of this opinion, Burtell noted that other rivers with
22 much greater depths and flow volumes than the San Pedro have been deemed
23 nonnavigable for purposes of title. Specifically, he presented evidence that the San Juan
24 River in Utah was deemed nonnavigable for title purposes, despite that, at the time of
25 Utah’s statehood, it had a daily discharge that exceeded 1,000 cfs for most of the year
26 (284 days) and depths between 1-3 feet for most of the year (219 days), and over 3 feet for

1 the rest of the year. EIN x012, Special Master's Report on the San Juan River (1930)
2 ("San Juan Determination"), at 167-68, 180. The San Juan Determination is consistent
3 with other navigability-for-title determinations in the Record. See EIN x006, Information
4 Regarding Navigability of Selected U.S. Watercourses, submitted by SRP; 8/1/13 Tr. at
5 166-67.

6 In the decade after statehood, streamflows were periodically measured at a gage
7 upstream of Charleston at Hereford. Burtell 2013, at 3 ¶ 19 & tbl. 3. Available flow data
8 from the Hereford gage during this time suggests that channel depths were relatively
9 shallow. During 12 of 16 months with data (75%), flow rates were less than 14 cfs. *Id.*
10 Streamflow measurements recorded at six gaging stations along the San Pedro well into
11 the 20th century, indicate that flow rates of up to 14 cfs typically correspond with channel
12 depths of less than 1 foot, and that higher average monthly flows (e.g., 100-200 cfs)
13 typically occur, if at all, during monsoon season in July and August. See *id.* at 4 ¶ 21 &
14 tbl. 4; Fuller 2004, at 7-10.

15 3. Geomorphology of the San Pedro River

16 Until the mid-1800s, the San Pedro was a single meandering channel that had not
17 yet entrenched itself. EIN x002, Stromberg & Tellman, *Ecology and Conservation of the*
18 *San Pedro River* (2009) (excerpts) ("Stromberg 2009"), at 260; EIN x004, Win
19 Hjalmarson, *Navigability along the Natural Channel of the San Pedro River, AZ, From*
20 *Mexico to the Mouth at the Gila River at Winkleman, AZ* (May 2013) ("Hjalmarson
21 2013"), at 102, 106-07. The River flowed through its entire reach and there was little
22 entrenchment. See Hjalmarson 2013, App. at 56-60. The River's morphology was "self-
23 formed with few hard rock controls that appear [to] have had little effect on channel
24 shape. The natural channel was formed in material that was entrained, transported, and
25 deposited by the river and tributary streams." *Id.* at 104. In 1854, a railroad surveyor
26 described the San Pedro as flowing "at about twelve feet below the surface of its banks,

1 which are nearly vertical, and of a treacherous miry soil, rendering it extremely difficult to
2 approach the water, nor muddy and forgiving.” Fuller 1997, at 3-16.

3 Beginning about the 1880s, the River’s channel began to downcut and entrench,
4 resulting in a narrower, more defined channel than existed before. *See* Burtell 2013, at 2
5 ¶ 9; EIN x008, T. Allen J. Gookin, *Navigability of the San Pedro River* (Aug. 1-2, 2013)
6 (“Gookin 2013”), App. A, at 15; Fuller 1997, at 5-1, 5-17. Much evidence was presented
7 in the 2013 Hearings regarding the potential causes of the downcutting and entrenchment,
8 including, among others, climate change; an earthquake in Sonora, Mexico in 1887; a
9 series of large floods in the 1880s-1890s; a drought from 1891-1893; and cultural effects
10 from cattle grazing, logging, removal of beavers, and other human activities. *See, e.g.,*
11 Burtell 2013, at 2 ¶ 9; Gookin 2013, at 50; 8/2/13 Tr. at 143-45; Hjalmarson Exec.
12 Summary, at 2; Fuller 2004, at 5-14.

13 Though the extent of human impacts on the downcutting and entrenchment remains
14 unresolved, *see infra*, the uncontroverted Evidence in the Record indicates that most of
15 the River was entrenched by 1912, except along bedrock portions such as the Narrows.
16 Fuller 2004, at 5-15; *see also* EIN x012, Gary Huckleberry, *Historical Channel Changes*
17 *on the San Pedro River, Southeastern Arizona*, ARIZ. GEO. SURVEY, Open-File Report 96-
18 15 (revised Oct. 1996) (“Huckleberry 1996”), at 10-11, 13. The State Report described
19 the upper San Pedro at statehood as “generally consist[ing] of a small braided stream with
20 a baseflow of less than 10 cfs that flowed between vertical banks 130 to 260 feet wide.”
21 Fuller 2004, at 5-16. The upper reach had a partly perennial, and partly intermittent flow.
22 Fuller 1997, at 7-1. The lower reach was characterized by an entrenched, broad, braided
23 channel, with only isolated reaches of perennial flow. *See id.*; EIN 006, Michelle Lee
24 Wood, *Historical Channel Changes Along the Lower San Pedro River* (Aug. 1997)
25 (“Wood 1997”), at 35; 8/2/13 Tr. at 143-46, 173; *see also* Gookin 2013, at 75; 8/1/13 Tr.
26 at 40. The depth of the entrenched channel likely varied between 5 and 20 feet, with the

1 intermittent reaches likely varying between 330 and 650 feet wide. Fuller 1997, at 7-1;
2 Fuller 2004, at 5-16.

3 **a. Human Impacts on the San Pedro River**

4 In their 2009 book on the San Pedro, Stromberg and her co-authors note the
5 difficulty in parsing out the degree to which each natural and artificial process altered the
6 River's channel and flow:

7 Rivers like the San Pedro are complex, open systems that adjust channel
8 size, shape, and configuration in response to changes in runoff and sediment
9 yield from drainage basins. Such changes can have multiple causes, and it
may not be possible to determine to what degree river metamorphosis is
human induced.

10 Stromberg 2009, at 259. They opined that "because fluvial systems are naturally prone to
11 change due to climate variability and intrinsic geomorphic processes, it is difficult to
12 quantify the degree to which humans have caused past and present transformations of the
13 San Pedro River," but that it is nonetheless true that "[m]any of the geomorphic changes
14 experienced by the San Pedro River during the last 150 years are undoubtedly linked in
15 part to water depletion, overgrazing, deforestation, and introduction of plant species." *Id.*
16 at 266-67.

17 Similarly, Gary Huckleberry concluded in his 1996 USGS report that entrenchment
18 and widening in the River "have occurred in the past and appear to be a natural cycle
19 within the fluvial system." Huckleberry 1996, at 16. He based his conclusion on
20 Holocene stratigraphy. *Id.* He concluded, however, that the driving force behind the
21 changes on the San Pedro was "probably not anthropogenic," (i.e., caused by humans)
22 though he acknowledged the undeniable effect of human activities on the magnitude and
23 rate of channel change. *Id.*; see also 8/1/13 Tr. at 137-39, 144-46. Gookin likewise
24 opined that the changes to the San Pedro's channel shape in the late 1800s were "[n]ot a
25 unique nor a human-caused event." See Gookin 2013, at 50; 8/2/13 Tr. at 133, 140, 143-
26 45. Even Hjalmarson agreed that at least some of the arroyo-cutting and incision that

1 occurred in the 1880s was likely caused by natural factors such as flooding, though he
2 maintained that “much of the change [in the San Pedro] probably resulted from human
3 activity going back 300 years or more—even to 1697.” See Hjalmarson 2013, at 7; 6/7/13
4 Tr. at 123.

5
6 **(i) Irrigation**

7 The Record indicates that, by the time of Arizona’s statehood in 1912, humans had
8 been diverting water from the River for centuries. Hjalmarson estimated that there have
9 been at least 144 man-made diversions over the past few hundred years. Hjalmarson
10 2013, App. at 14. The State Report notes that, as early as 1697, the San Pedro Valley was
11 “crisscrossed by irrigation ditches, and had irrigated fields in which cotton, squash,
12 watermelon, beans and corn were grown.” Fuller 2004, at 3-3; see also EIN x013, Win
13 Hjalmarson, *Further information to clear up possible confusion from Bisbee meeting* (July
14 27, 2013) (“Hjalmarson Redirect”), at 27-32 (citing Congressional records from 1919
15 indicating that land adjacent to the San Pedro had been continuously irrigated since well
16 before the Gadsden Purchase in 1854). During this time, the Sobaipuri Indians and
17 Spanish and Mexican settlers diverted water from the River for farming. The Apache also
18 inhabited the area, but the Record indicates they engaged in little, if any, farming and
19 irrigation. See 8/1/13 Tr. at 248-50. When the Apache increased their presence in the
20 area in the late 1700s, the Sobaipuri relocated, and by the 1840s, the Spanish and Mexican
21 settlements in the San Pedro watershed had also been abandoned. Thus, little to no
22 irrigation occurred after the 1840s until the 1870s, when military camps were established
23 along the San Pedro, and settlers resumed diverting water for farming. See *id.* at 134-36,
174-79.

24 The first significant diversion by Anglo-American settlers began at St. David in the
25 1870s. See 8/2/13 Tr. at 16-18; EIN x009, Materials submitted by Gail Griffin (“Griffin
26 Materials”), *Towns Throughout the San Pedro River Valley*, at 21. By 1890, 2,700 acres

1 were being irrigated along the River. Fuller 2004, at 7-6 (Winkleman gage). By 1899,
2 USGS reported that the lower San Pedro was dry, largely due to the high number of small
3 diversion canals. *Id.*; see also EIN x012, Map, *Canals Diverting Water from the San*
4 *Pedro River in March 1899* (“USGS 1899”) (showing 46 documented canals diverting
5 117.6 cfs of water in March 1899). The Record also indicates that no significant
6 diversions existed upstream of St. David in 1899 or at the time of statehood.

7 **(ii) Mining**

8 Mining began at the Mammoth mine and San Manuel mine in 1881. The
9 San Manuel mine used well water for mining. Fuller 2004 Report, at 3-22; see also
10 Hjalmarson 2013, at 21 (noting that the San Manuel mine used about 22,000 acre feet of
11 water annually). Other Evidence in the Record indicates that the Cananea mine, which
12 began operating in Mexico in the 1880s, may have also impacted baseflows. See
13 Hjalmarson Redirect, at 13-20; Stromberg 2009, at 222.

14 **(iii) Cattle Grazing**

15 Evidence was presented concerning the existence of herds of cattle along the San
16 Pedro from about 1750 until the mid-1800s, which may have changed the runoff and
17 sediment-yield, resulting in widening, downcutting, and straightening of the meandering
18 channel. See Hjalmarson 2013, at 24; Hjalmarson Exec. Summary, at 2. However, the
19 evidence indicates that these herds dwindled significantly after 1846. Moreover, even if
20 the herds remained throughout the 1800s, their impacts on the River through consumption
21 of water were largely inconsequential and would not have impacted the historic accounts
22 made during the 1850s. See EIN 012, Hendrickson & Minckley, *Cienegas - Vanishing*
23 *Climax Communities of the American Southwest*, DESERT PLANTS (early 1985)
24 (“Hendrickson 1985”), at 144; 8/1/13 Tr. at 212-15.

1
2 **(iv) Removal of Beavers**

3 Experts for both sides agreed that beavers and their dams were common throughout
4 much of the River until about 1870, though estimates of their numbers varied. *See* Burtell
5 2013, at 2 ¶ 13; Gookin 2013, App. A, at 9-10 (quoting various accounts of beavers on the
6 San Pedro); Stromberg 2009, at 219 (“In the late 1800s, European travelers, prior to
7 floodplain entrenchment, commented on numerous beaver dams and associated ponds.”).
8 Hjalmarson estimated that “nearly 500” beaver dams existed throughout the River in
9 Arizona prior to their removal by settlers. Hjalmarson 2013, at 154, 160. Gookin
10 estimated that as many as 1,680 beaver dams were present. Gookin 2013, at 58.

11 Historical accounts reveal just how significant beavers and their dams were to the
12 River’s natural hydrology and channel characteristics. James Ohio Pattie described the
13 San Pedro as “Beaver River,” after successfully trapping some “200 skins” during two
14 trips in 1824-25 and 1827-28. *See* Fuller 2004, at 3-3, 3-10 to 3-11, 5-9 to 5-10;
15 Huckleberry 1996, at 8; Hjalmarson 2013, at 32; 6/7/13 Tr. at 13, 28-29; Griffin
16 Materials, *From Marshes and Cienegas to Gallery Forests*. During a survey of the U.S.-
17 Mexico border in 1854-55, William Hemsley Emory reported: “Though affording no great
18 quantity of water, [the San Pedro River] is backed up into a series of large pools by
19 beaver-dams and is full of fishes.” Fuller 2004, at 3-11, 3-16. As late as 1857, beaver
20 dams were reported “about [e]very 5 miles” on the River downstream from the mouth of
21 Aravaipa Creek. *Id.* at 3-18.

22 By 1894, however, beavers had been completely removed from the area of the
23 upper San Pedro now occupied by the San Pedro National Conservation Area
24 (“SPRNCA”). Burtell 2013, at 5 ¶ 28. Some Evidence in the Record indicates that heavy
25 flooding at the end of the 19th century contributed to the removal of beaver dams.
26 However, as shown by the reintroduction of beavers in recent years to the San Pedro,
beaver dams are quickly repaired and replaced where beavers exist. *See* Burtell 2013, at 5

1 ¶ 30; Hjalmarson 2013, at 161-62; 6/7/13 Tr. at 28; 8/1/13 Tr. at 184-85. Thus, it appears
2 that it was the removal of beavers by settlers, rather than flooding, that had any lasting
3 impact on the River and its channel.

4 Less clear, however, is the effect that beavers and their dams had on navigability.
5 Burtell testified that, “given the frequency of beaver dams and how quickly beavers can
6 multiply and repair their dams,” their presence “would have posed a significant obstacle to
7 commercial boat travel.” Burtell 2013, 5 ¶¶ 29-30. Specifically, he believed that beaver
8 dams would have delayed boat travel, but not necessarily required portages. *Id.* at 2 ¶ 13.
9 Burtell’s conclusion that beaver dams would have delayed boat travel is undisputed by
10 other Evidence in the Record. *See, e.g.*, Gookin 2013, at 56; 8/2/13 Tr. at 141-42, 172.
11 Even Hjalmarson could not rule out the possibility that beaver dams may have adversely
12 effected navigability. *See* Hjalmarson 2013, at 154 (“The influence of beaver dams and
13 pools on navigability is a subject for some speculation”). Indeed, he testified that beaver
14 dams would have made upstream navigation difficult, and may have required land-route
15 portages. *Id.* at 159, 165 (noting that boaters would have had to “get out, walk around a
16 dam, then re-enter the river”); 8/1/13 Tr. at 72-73. However, in the absence of clear
17 evidence that beaver dams would have required land-route portages, the Commission
18 finds that the presence of beaver dams does not, in itself, defeat a finding of navigability.

19 Moreover, other Evidence in the Record indicates that beaver dams may have
20 created favorable conditions for navigability both in terms of flow volume and rate.
21 Evidence was presented that beaver dams increase baseflows, create deeper pools, slow
22 down the River’s flow, and protect against entrenchment of floodplains. *See, e.g.*, Burtell
23 2013, at 5 ¶ 30 & Attach. D (“Beaver dams may increase storage capacity and lead to
24 greater flows during dryer periods, which may result in enhanced flow in intermittent
25 streams”); Hjalmarson 2013, at 165 (beaver dams create ponds that increase water depth).
26 Slower flows, in turn, would have raised the groundwater table and made the River less

1 susceptible to erosion, which would have reduced geomorphic changes such as
2 downcutting and entrenchment. This suggests that while natural processes such as
3 flooding in the late 1800s caused downcutting and entrenchment in the River's channel,
4 the effects of such flooding were, at least in part, unnatural due to human changes to the
5 River (e.g., removal of beavers) that reduced its capacity to recover from such events. It
6 also indicates that, as a result of the removal of beavers in the upper San Pedro by settlers,
7 the River was shallower and swifter at the time of statehood than it would have been in its
8 natural condition.

9 4. **Ordinary and Natural Condition**

10 Here, as in *Winkleman*, little Evidence in the Record exists from the time period
11 before prehistoric people arrived in the San Pedro River Valley and developed diversions
12 on the River. Like in *Winkleman*, however, the evidence that does exist suggests that
13 prehistoric diversions disappeared through non-use over the centuries and largely ceased
14 to exist by the 1840s. *See Winkleman*, 224 Ariz. at 242, 229 P.3d at 254 (holding that the
15 "best evidence" of the Lower Salt River's natural condition was from the time period after
16 the effects of prehistoric diversions had ceased to affect the River, but before the
17 commencement of modern-era settlement and farming).⁶ This period of little-to-no
18 diversions continued until the 1870s, when the first significant irrigation by settlers began
19 at St. David. The Record also indicates that no significant diversions existed upstream of
20 St. David in 1899 or at the time of statehood. *See, e.g.*, 8/2/13 Tr. at 16-22. Accordingly,
21 the Commission treats Evidence in the Record regarding these two reaches differently for
22 the purpose of determining ordinary and natural condition. Upstream of St. David, the

23
24 ⁶ 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.*

1 Commission considers historic accounts from before statehood and median streamflows
2 recorded around the time of statehood, as the “best evidence” of the River’s ordinary and
3 natural condition. *See Fuller 2004*, at 7-9, 7-22 (concluding that median flow rates are
4 best representative of “typical” or ordinary flow conditions because “floods with high
5 peaks tend to skew the average”). Downstream of St. David, the Commission affords
6 greater weight to historical accounts occurring before the 1870s than those accounts
7 occurring thereafter.

8 Median streamflows recorded at Charleston and at a gage near Fairbank from
9 1904-1912 indicate that channel depths were less than 1 foot between 40% (Charleston)
10 and 75% (near Fairbank) of the time. The Commission finds these records reliable indicia
11 of the River’s ordinary and natural condition upstream of St. David because an
12 insignificant number of acres (50) were being farmed upstream of the Charleston gage in
13 1911, and USGS accounted for diversions that impacted the streamflows at the gage near
14 Fairbank in its adjusted data. *Burtell 2013*, at 3 ¶¶ 17-18 & tbl. 2; 8/1/13 Tr. at 162-66,
15 169. The Commission further finds that these records substantiate and verify historic
16 accounts of the upper San Pedro from before mining activities, which depict a very
17 shallow stream at various seasons of the year. *See 8/1/13 Tr.* at 163-66, 169. For example,
18 during a resurvey of the international border in 1891, the upper San Pedro in the vicinity
19 of the Mexican border was described as “ordinarily a stream of about 15 feet in width and
20 6 or 8 inches in depth, fringed with a fine growth of cottonwood and willow.” *See Burtell*
21 *2013*, at 2-3 ¶ 14. Significantly, whereas the Colorado River was described as “generally
22 navigable by draft steamers throughout the year for several hundred miles above its
23 mouth,” no mention was made of the San Pedro being navigable. *Id.* & Attach. B.

24 Downstream of St. David, historic accounts from before the 1870s indicate that the
25 River was relatively shallow and replete with beaver dams. *See Burtell 2013*, at tbl. 1. In
26 1848, Emory described the River as “an insignificant stream a few yards wide and only a

1 foot deep.” See Fuller 2004, at 3-13; Gookin 2013, at 83; Burtell 2013, tbl. 1; 8/1/13 Tr.
2 at 158-59. In 1854, J.G. Parke crossed the River near Benson in February and noted that
3 “[t]he stream is about eighteen inches deep and twelve feet wide and flows with a rapid
4 current. . . .The flow of water, however, is not continuous.” See Burtell 2013, at tbl. 1;
5 Gookin 2013, at 83; Stromberg 2009, at 237. Three years later, in 1857, Parke reported
6 that, in the lower San Pedro upstream from its confluence with the Gila River, the “water
7 sinks below the surface and rarely runs above it.” See Huckleberry 1996, at 12; 8/1/13 Tr.
8 at 157-58. Later that same year, James H. Tevis wrote that, upstream from the mouth of
9 Aravaipa Creek, the San Pedro was “one foot deep” and “six feet wide,” that beaver dams
10 were encountered every five miles, and that, at some point along the River, “the bed . . .
11 would be as dry as the road — it sinks & rises again . . .” See Burtell 2013, at tbl. 1;
12 8/1/13 Tr. at 159-61; Gookin 2013, at 83.

13 **a. Hjalmarson’s Study**

14 Hjalmarson utilized a mathematical model involving a series of calculations to
15 attempt to reconstruct the River in its ordinary and natural condition. See 6/7/13 Tr. at 97-
16 108. Because Hjalmarson’s study is the only scientific study of its type in the Record, his
17 methods and findings are presented in some detail here.

18 Hjalmarson first calculated base runoff and average runoff at three separate points
19 on the River: the River’s mouth, the Narrows, and the Charleston gage. He then applied
20 the flow-duration curve (a cumulative frequency curve that shows the percent of time
21 specified discharges were equaled or exceeded during a given period) to his calculated
22 combined runoff, which allowed him to estimate the full range of natural streamflow at
23 the identified points. Hjalmarson used his natural streamflow range and applied empirical
24 data regarding the River’s hydrology to its morphology. Hjalmarson Exec. Summary, at
25 9. Using the standard Manning hydraulics equation for open channel flow, Hjalmarson
26 calculated maximum and median depths for the three points on the River he studied. He

1 found that the maximum channel depth at the River's mouth ranged from 1-2.5 feet, with
2 a median depth of 1.5 feet; the maximum channel depth at the Narrows ranged from
3 slightly less than 1 foot to over 2.5 feet, with a median depth of 1.4 feet; and the
4 maximum depth at the Narrows ranged from slightly less than 1 foot to over 2.5 feet, with
5 a median depth of 1.25 feet. These projections are consistent with the sum of historical
6 accounts in the Record. Hjalmarson also found that at all three points, the maximum
7 channel depth was greater than 1 foot 80% of the time.

8 Hjalmarson applied two standards of assessing instream flows that are primarily
9 used for modern recreational boating to his projected depths. Hjalmarson 2013, at 138.
10 The first method, used by the federal Bureau of Outdoor Recreation, rates navigability
11 based on the amount of water discharged and watercourse gradient. *Id.* at 139-40.
12 Applying his projections to this method, Hjalmarson found that the San Pedro in its
13 natural state would have been Class 1, that is, "Very Easy. Waves are small and regular,
14 passages are clear, obstacles are sand bars, bridge piers, and riffles." *Id.* at 140. This
15 description is, for the most part, consistent with other Evidence in the Record, including
16 historic accounts. Hjalmarson next compared his projections to minimum depth and
17 width requirements established by the U.S. Fish and Wildlife Service for canoes, kayaks,
18 drift boats, row boats, and power boats. *Id.* at 141-42. Hjalmarson found that his
19 projected flow depths exceeded the minimum depths for modern canoes, kayaks, drift
20 boats, row boats, and rafts nearly 80% of the time during an ordinary year. *Id.* at 142-45.
21 Based on this finding, Hjalmarson opined that the San Pedro from the Lewis Springs area
22 to the mouth of the Gila River was susceptible to navigation in its ordinary and natural
23 condition.

24 It bears emphasizing that the standards upon which Hjalmarson's navigability
25 opinion is based concern a river's usefulness for present-day recreational boating, and
26 hence fundamentally differ from the navigability-for-title standard, which concerns a

1 river's usefulness at the time of statehood for "trade and travel," rather than for other
2 purposes. *See PPL Montana*, 132 S.Ct. at 1233. In addition, Hjalmarson's opinion does
3 not account for other physical characteristics beyond minimum depth, which he
4 acknowledged may also affect navigability, such as braided channels, sandbars, and
5 beaver dams. *See 6/7/13 Tr.* at 51-52, 151-53, 165, 172, 186. Moreover, his opinion is
6 flawed to the extent it concludes that the natural River was "susceptible to navigation
7 above and below beaver dams using small craft such as canoes and kayaks" because dams
8 could be managed by land-route portage. *See Hjalmarson 2013*, at 165 (noting that
9 boaters would have had to "get out, walk around a dam, then re-enter the river"). As the
10 U.S. Supreme Court made abundantly clear in *PPL Montana*, a land-route portage,
11 however small, is sufficient to defeat a finding of navigability. *See PPL Montana*, 132
12 S.Ct. at 1231 (in most cases, portages are sufficient to preclude navigability because "they
13 require transportation over land rather than over the water").

14 As Opponents and their experts aptly point out, Hjalmarson's navigability opinion
15 is also undermined by its reliance on assumptions that are without support in the Record.
16 For instance, Burtell and Gookin note that Hjalmarson's opinion assumes that the natural
17 San Pedro had a smooth, uniform parabolic channel, whereas the majority of the Evidence
18 in the Record depicts a highly variable channel. *See Gookin 2013*, at 85, 88-89; *8/1/13 Tr.*
19 *at 236*; *8/2/13 at 91, 134-36*; Fuller 2004, at App. E. Even Hjalmarson conceded that his
20 conceptual cross-section did not exist anywhere along the River. *See 6/7/13 Tr.* at 104-05.
21 Gookin added that Hjalmarson assumed a large amount of clay in the River banks, which
22 lacks support in the Record. *See Gookin 2013*, at 88; *8/2/13 Tr.* at 130-32.

23 Other criticisms of Hjalmarson's methodology and opinion are not as well-taken.
24 For instance, Opponents argue that Hjalmarson's projections are inconsistent with the sum
25 of historical Evidence in the Record. However, as noted, Hjalmarson's projected
26 maximum depths, ranging from slightly less than 1 foot to 2.5 feet, with an average

1 maximum depth between 1.25 and 1.5 feet, are strikingly similar to the sum of historic
2 accounts in the Record. Further, minor variations between the two are likely due to the
3 unquantifiable impact of human activities on historic accounts, which Hjalmarson's study
4 attempted to control for. *See, e.g.*, Hjalmarson Exec. Summary, at 11-12.

5 Opponents also highlight Hjalmarson's statements that "fine precision is unlikely,"
6 and that his study involved, among other things, estimation and extrapolation from other
7 data. *See* Hjalmarson 2013, at 12; *see also* 6/7/13 Tr. at 138, 190-91. But if fine precision
8 were the standard for relevant evidence, the Commission would find it difficult, if not
9 impossible, to find any relevant Evidence in the Record of the River's ordinary and
10 natural condition. Indeed, historic descriptions, which Opponents argue are the best
11 evidence of the River's natural condition, are often general, lacking important details such
12 as time of year or exact location along the River, and the significance of the impact of
13 human activities on these descriptions is unknown.

14 In addition, although Burtell convincingly demonstrated the importance of
15 calibration for interpreting mathematical models (without it, the model and values of its
16 parameters are questionable), his attempt to calibrate Hjalmarson's model revealed
17 limitations in his own analysis as well. *See* 8/1/13 Tr. at 241-50, 261. Burtell compared
18 historic accounts from 1846-1858 depicting streamflow depths of 1-1.5 feet to the outputs
19 that would result from Hjalmarson's model and concluded that Hjalmarson's model
20 invariably overestimated the stream discharge and thereby overstated depths. *Id.*; *see also*
21 EIN x012, Richard Burtell, *Comparison Between Historic Observations of the San Pedro*
22 *River Stream Conditions and Hjalmarson's Estimates of Predevelopment Flows* (July
23 2013) ("Burtell Calibration"). Notably, however, Burtell's Calibration omitted J.R.
24 Bartlett's September 1851 description of the River at Dragoon Wash as "two feet deep,
25 and quite rapid," as well as Sylvester Mowry's description of the River in 1864 (which,
26 although outside the temporal scope of Burtell's Calibration, occurred close enough in

1 time to be considered) as 30-feet wide and 2.5-feet deep. *See* Burtell Calibration; Burtell
2 2013, at tbl. 1.

3 Burtell also performed a series of calculations using recorded depths and widths
4 from the early 1900s in an effort to demonstrate that the width equation Hjalmarson used
5 significantly underestimates the actual, measured width of the active channel. *See* 8/1/13
6 Tr. at 227-35. Burtell argued that by underestimating width (i.e., constraining the same
7 amount of discharge to a narrower cross-section), Hjalmarson necessarily overestimated
8 the depth. But the measurements Burtell used in his comparison calculations are not
9 necessarily more reliable evidence of the River's ordinary and natural condition, given
10 that they were taken in the early 1900s, when channel widening and entrenchment had
11 been occurring for at least the previous 50 years, due in part to human activities.

12 On balance, given the approximate nature of the inquiry and the absence of any
13 contradicting scientific study in the Record, the Commission treats Hjalmarson's study as
14 meaningful evidence of the River's natural condition. In particular, the Commission finds
15 Hjalmarson's study probative of the River's natural discharge and gradient, and expected
16 obstacles resulting therefrom, which in turn bear on the susceptibility analysis. *See Nw.*
17 *Steelheaders Ass'n v. Simantel*, 199 Ore. App. 471, 485, 112 P.3d 383, 391 (2005) (cited
18 with approval in *Winkleman*, 224 Ariz. at 241-42, 229 P.3d at 253-54) (expert testimony
19 regarding historic hydrology may be especially probative of a stream's susceptibility to
20 navigation in its "ordinary" condition at statehood). On the other hand, the Commission
21 affords little weight to Hjalmarson's navigability opinion because it is based on standards
22 that relate to modern, primarily recreational watercraft, and Hjalmarson acknowledged
23 that he made no effort to apply his conclusions to commercial uses or give any
24 consideration to the type of watercraft that would have been used for commercial
25 purposes at the time of statehood. *See* 6/7/13 Tr. at 25.

26

1 **5. Segmentation**

2 Limited evidence and argument was presented during the 2013 Hearings regarding
3 segmentation. Although not arguing for segmentation specifically, Hjalmarson opined
4 that the San Pedro was (1) nonnavigable from the Mexican border up to about Lewis
5 Springs, and (2) navigable from the Lewis Springs area to the mouth of the Gila River.
6 Hjalmarson 2013, at 169, 6/7/13 Tr. at 25, 27. Burtell disagreed, opining that “if the San
7 Pedro River was divided into segments, none of the individual reaches of the watercourse
8 would have been navigable at that time.” Burtell 2013, at 1 ¶ 7.

9 **B. San Pedro River’s Susceptibility to Commercial Navigation**

10 **1. Susceptibility to Navigation Prior to Spanish Exploration**

11 The State Report chronicles archaeological evidence of inhabitation in the San
12 Pedro River Valley dating back to approximately 9,550 B.C., over 11,000 years ago. *See*
13 Fuller 1997, at 2-5; *see also, e.g.*, Stromberg 2009, at 217 (dating the first human
14 settlement in the area to 12,000 years ago). Prehistoric inhabitants along the River utilized
15 its water for agricultural purposes, such as floodwater farming in the low areas. *See* Fuller
16 1997, at 2-6, 2-9. There is also limited Evidence in the Record of prehistoric irrigation
17 practices. *Id.* at 2-9. Despite a long and well-documented history of human occupation in
18 the Valley, the State Report found “[n]o evidence of prehistoric boating on the San Pedro
19 River, or of river conditions that would support navigation” during its archaeological
20 investigation and literature search. Fuller 1997, at 2-9; Fuller 2004, at 2-10 (same); *see*
21 *also* 6/7/13 Tr. at 159-60. Similarly, no Evidence in the Record indicates that any of those
22 communities ever used or tried to use the San Pedro for any type of boating, much less as
23 a “highway for commerce.” *See* Fuller 2004, at 2-10; *see also* 6/7/13 Tr. at 159-60.

24 The fact that various archaeological studies found evidence of prehistoric
25 agricultural activities, as well as tools, ceramic artifacts, and ruins containing granaries
26

1 and dwellings, but no evidence of boating, suggests that prehistoric cultures did not view
2 the San Pedro River as a navigable stream, and supports a finding of nonnavigability. *See*
3 Fuller 2004, at 2-1, 2-7 to 2-8. Nonetheless, because such evidence could have easily
4 been destroyed over time or swept away in a major flood, the Commission finds that the
5 absence of archaeological evidence of boating is not, in itself, sufficient to defeat a finding
6 of navigability.

7 **2. Evidence of Actual Navigation or Susceptibility to Navigation**
8 **During Early Exploration and Before Anglo-Settlement**

9 Although the Record indicates that Indians, Spanish explorers and missionaries,
10 and Anglo-American trappers and travelers, entered the Valley and traveled along the
11 River before the 1880s, there is no substantiated Evidence in the Record that any of these
12 groups used the River for transportation or commerce. *See generally* Huckleberry 1996,
13 at 8; *see also* 6/7/13 Tr. at 178, 181 (Hjalmarson “not aware of any” human activity in the
14 Valley over the past 300 years that involved use of the River for commerce or trade, or
15 historical accounts of use of the River for shipping or transportation).

16 In the 1500s, explorers such as Spanish explorer Fray Marcos de Niza visited the
17 area. *See* Fuller 1997, at 3-7. Additionally, the Sobaipuri, an agricultural band of upland
18 Pimas, lived in villages of up to 500 people along the River until the 1760s, when
19 increasing Apache attacks forced them to the nearby Santa Cruz River in 1763. *See id.* at
20 3-7. Thereafter, the Apache occupied the Valley. *See* Fuller 2004, at 3-7. Spanish
21 missionaries also established missions along the nearby Santa Cruz in 1691. *See id.* at 3-7
22 to 3-8.

23 James Ohio Pattie made two trapping expeditions along the San Pedro between
24 1824 and 1828, referring to it as “Beaver River” due to the abundance of beavers. *See*
25 Fuller 1997, at 3-10; Huckleberry 1996, at 8; Stromberg 2009, at 219. Some Evidence in
26 the Record suggests that members of Pattie’s trapping party may have attempted to use a

1 canoe at one point during one of these trips, but the evidence is ambiguous as to whether
2 this occurred on the San Pedro or on one of the other rivers on which the party traveled.
3 See Gookin 2013, at 3; 6/7/13 Tr. at 13-14, 160, 170; 8/1/13 Tr. at 257; 8/2/13 Tr. at 112,
4 180. What evidence exists shows that this event—whether occurring on the San Pedro or
5 on another stream—was at a time of year when the rivers in the area were at, or near, flood
6 stage, i.e., not in their ordinary condition. See Gookin 2013, at 3; 8/2/13 Tr. at 112, 180;
7 see also *Winkleman*, 224 Ariz. at 241, 229 P.3d at 253.

8 With one notable exception, historic accounts of the River from before the 1880s
9 generally describe it as a continuous waterway that was between 1-2 feet deep. The State
10 Report found that Pattie’s accounts from 1826, which included a description of the River
11 as having banks “still plentifully timbered with cottonwood and willow,” implied
12 perennial streamflow throughout most of its reaches. Fuller 2004, at 5-9 to 5-10. This is
13 corroborated by a 1857 Report on the U.S.-Mexican Boundary Survey, which found that
14 “the San Pedro is the only branch of the Gila River, coming from the south which
15 furnishes an uninterrupted stream of running water along its whole course.” Hjalmarson
16 Redirect, at 39-40. The 1857 Report further noted that “[t]hroughout the whole course of
17 the San Pedro there are beautiful valleys susceptible of irrigation and capable of
18 producing large crops of wheat, corn, cotton and grapes.” *Id.* at 39. Two years later, in
19 1879, a federal land survey indicated that the River had water throughout its entire length
20 in November and December. *Id.* at 34-35.

21 William Hemsley Emory described the San Pedro in 1848 as “an insignificant
22 stream a few yards wide and only a foot deep.” See Fuller 2004, at 3-13; Gookin 2013, at
23 83; Burtell 2013, at tbl. 1; 8/1/13 Tr. at 158-59. This is consistent with reports by
24 Abraham Johnston in 1846 or 1850 that an “active man” could jump across the San Pedro.
25 See Fuller 2004, at 3-4, 5-13; Huckleberry 1996, at 12; Burtell 2013, at tbl. 1; 8/1/13 Tr. at
26 6, 158. Philip St. George Cooke, commander of the Mormon Battalion, traveled alongside

1 the San Pedro during the mid-1800s for over 50 miles. Despite his attempts to boat other
2 rivers, he made no attempts to do so on the San Pedro. *See Fuller 2004, at 3-13.*

3 In September 1851, J.R. Bartlett noted continuous streamflow in the upper San
4 Pedro and described the River near the mouth of Dragoon Wash as “two feet deep, and
5 quite rapid.” *See Burtell 2013, at tbl. 1; Stromberg 2009, at 30.* Bartlett’s account
6 occurred during a month when there is higher than usual discharge due to monsoons. *See*
7 *Burtell 2013, at tbl. 1.* Importantly, Bartlett also noted that the River below St. David
8 contained steep banks that were about 9 feet high, indicating channel incision was present.
9 *Huckleberry 1996, at 8.*

10 In 1854, Andrew Gray remarked that the San Pedro “is a small stream at this stage,
11 about eight feet wide, and shallow; between steep banks 10 feet high and 25 to 50 feet
12 apart.” *See Burtell 2013, at tbl. 1; 8/1/13 Tr. at 154-55.* In February of 1854, J.G. Parke
13 described the River near Benson as 1.5 feet deep and 12 feet wide with a rapid,
14 discontinuous current. *See Burtell 2013, at tbl. 1; Gookin 2013, at 83; Stromberg 2009, at*
15 *237.* Later that year, Parke described the River at Tres Alamos as “about fifteen inches
16 deep and twelve feet wide.” *Burtell 2013, at tbl. 1; Stromberg 2009, at 237.* In 1857, he
17 reported that, in the lower San Pedro, upstream from its confluence with the Gila River,
18 the “water sinks below the surface and rarely runs above it.” *See Huckleberry 1996, at 12;*
19 *8/1/13 Tr. at 157-58.* Parke’s accounts lend further support to the conclusion that the
20 upper San Pedro was variably incised by the mid-1800s, with bank cuts ranging from a
21 few centimeters to 15 feet high. *Huckleberry 1996, at 9.*

22 In late-1857, James H. Tevis wrote that, upstream from the mouth of Aravaipa
23 Creek, the River was 1 foot deep and 6 feet wide, with beaver dams every five miles, and
24 that, at some point along the River, “the bed . . . would be as dry as the road — it sinks &
25 rises again . . .” *See Burtell 2013, at tbl. 1; 8/1/13 Tr. at 159-61; Gookin 2013, at 83.*
26 Engineers surveying a wagon road in 1858, noted that the San Pedro “is not continuous all

1 the year, but in the months of August and September disappears in several places, rising
2 again, however, clear and limpid.” See Fuller 1997, at 3-18. Immediately upstream from
3 the Narrows, Hutton in 1858 or 1859 described the upper San Pedro as having a depth of
4 about 1 foot and a width of about 12 feet. See Fuller 2004, at 3-18, 5-10; Huckleberry
5 1996, at 9; Burtell 2013, at tbl. 1; 8/1/13 Tr. at 155-56; Gookin 2013, at 83. In September
6 1858, James Leach commented on the variable nature of the River above the Narrows:

7 Exceedingly to the surprise of every member of the expedition who had
8 passed over this route in the months of March and April it was discovered
9 after a march of a few miles that the waters of the San Pedro had entirely
10 disappeared from the channel of the stream. . . . Where the present reporter
11 took quantities of fine trout in March and April 1858 not a drop of water
12 was to be seen.

13 Fuller 2004, at 3-18; Burtell 2013, at tbl. 1; see also 8/1/13 Tr. at 156-57. Six years later,
14 in 1864, Sylvester Mowry described the River at an unknown location and time of year as
15 2.5 feet deep and 30 feet wide. See Hjalmarson Redirect, at 38. Notably, this description
16 depicts the River as significantly wider and deeper than the other historical accounts in the
17 Record. There were also numerous observations of dry reaches on the River from the
18 1840s-1850s in the Record. See Gookin 2013, at 11 & App. A, at 1-4.

19 To be sure, some evidence was presented that human impacts may have been
20 occurring in the mid-1800s, which may have tainted these historical descriptions. See
21 6/7/13 Tr. at 11. However, the limited evidence of human activities during this time
22 period does not establish that such activities, if they occurred at all, had a measurable or
23 significant effect on the River’s flows.

24 The Record also indicates that marshy conditions existed throughout substantial
25 reaches of the San Pedro prior to the 1880s. See 6/7/13 Tr. at 94 (in predevelopment
26 conditions, “[t]here was a series of springs, which are cienegas. And in this climate they
tend to be marshes.”), 145-46, 156; 8/1/13 Tr. at 161, 188-92; Griffin Materials, *From
Marshes and Cienegas to Gallery Forests*. The State Report concluded that before 1890,

1 the River was “an irregularly flowing stream, marshy in places, free-flowing in other
2 places, entrenched or subsurface in still other places.” Fuller 1997, at 3-1; *see also* Burtell
3 2013, at 2 ¶ 13 (pre-1870, “[i]ntermittent and discontinuous flow conditions were also
4 reported along the middle and lower reaches indicating a variable nature of flow”).
5 Indeed, so pervasive were marshes and swamps on the San Pedro that in 1879, the
6 Arizona Daily Star dubbed it the “‘valley of the shadow of death’ because of the serious
7 incidence of malaria there, reflecting the then-pervasive swampy conditions.” *See*
8 Huckleberry 1996, at 12; Griffin Materials, *From Marshes and Cienegas to Gallery*
9 *Forests*; Griffin Materials, *The Changing Mile*, at 3; EIN x007, Hendrickson and
10 Minckley (1984) Map, (“Hendrickson 1984”); *see also* Hendrickson 1985, at 133; 8/1/13
11 Tr. at 190-92. In addition to cienegas and riverine marshes, which characterized
12 significant portions of the predevelopment River, sandbars and riffles also existed, and
13 would have posed additional impediments to navigation. *See* Gookin 2013, at 56, 59-62
14 & App. A, at 6; 6/7/13 Tr. at 51; 8/1/13 Tr. at 107-08.

15 Although there is evidence that the San Pedro was an important transportation route
16 through southern Arizona and that stage transportation companies operated along it in
17 1880, no evidence was presented that the River itself was ever used for trade or travel
18 prior to the 1880s. Instead, the Evidence in the Record indicates that travel was alongside
19 the River via foot or horseback. *See* Fuller 1997, at 3-23; *see also* Burtell 2013, at 4 ¶¶
20 23-26; 6/7/13 Tr. at 157-58.

21 Similarly, although there is evidence of fish, such as squawfish, razorback sucker,
22 and flannel mouth sucker, found in the River, *see* Fuller 2004, at 3-21, the Record is
23 devoid of any evidence of anyone ever fishing by boat. Gray crossed the River at three
24 distinct points near Lewis Springs in 1854 and noted that it was a “living stream with
25 large fish.” Burtell 2013, at tbl. 1. Cooke likewise reported that the River was abundant
26 with fish, including “salmon trout,” that by some accounts grew up to 3 feet long.

1 Hjalmarson 2013, at 30; *see also* Fuller 1997, at 3-14. In addition, the State Report briefly
2 mentions that, from 1870-1910, a commercial business harvested razorback suckers near
3 Tombstone. Fuller 2004, at 3-14. No further evidence was presented, however, on the
4 fishing methods used or whether the business was seasonal due to the variable streamflow
5 of the River. Thus, the most this evidence establishes is that the River was deep and slow-
6 moving enough in certain places to support fish populations that by some accounts grew
7 up to 3 feet long. *See* Fuller 2004, at G-5 (“the presence of fish in a river does not
8 necessarily indicate that boatable conditions exist”). Indeed, James H. Tevis’s
9 observation in 1857 that “in ten minutes fishing we could catch as many fish as we could
10 use” from the River, which he described as 1 foot deep and 6 feet wide, suggests that
11 relatively low water volumes, which are not likely navigable, are capable of supporting
12 abundant fish. Burtell 2013, at tbl. 1.

13 3. Settlement and Conditions after the 1880s

14 After 1890, the San Pedro was a “highly variable stream, both seasonally and along
15 its length.” *See* Fuller 1997, at 3-26. Between 1885 and 1903, a drought accompanied by
16 periodic flash flooding, further limited any potential travel or transport on the River. *See*
17 *id.* Even Hjalmarson acknowledged that navigability would be less likely following a
18 severe flood, while the River recovered from the effects of the flood. *See* 6/7/13 Tr. at
19 173-74; *see also* Hjalmarson 2013, at 147.

20 During the resurvey of the international border in 1891, the River near the Mexican
21 border was described as about 6-8 inches deep and 15 feet wide. *See* Burtell 2013, at 2-3
22 ¶ 14. Significantly, whereas the Colorado River was described as “generally navigable by
23 draft steamers throughout the year for several hundred miles above its mouth,” no mention
24 was made of the San Pedro being navigable. *Id.* & Attach. B.

1 other Arizona stream other than the lower Colorado as a means to transport supplies to its
2 various installations. *Id.*

3 **C. Instances of Boating on the San Pedro River**

4 **1. Historic Boating Attempts**

5 During historic times, “there is no documentation of boating of any kind on the San
6 Pedro River.” *See* Fuller 1997, at 3-21. Similarly, there are no published accounts of
7 boating on the San Pedro around the time of statehood. *See* Fuller 2004, at G-3 to G-4.
8 Use of a ferry near Pomerene was recalled by two long-time residents, but was not
9 documented in any newspaper or other source, nor is there any Evidence in the Record of
10 when the ferry operated (year or season), what type of boat was used, or what it carried.
11 *See* Fuller 1997, at 4-3. Thus, the most that can be deduced from this evidence is that
12 somewhere near Pomerene, crossing the River in some sort of boat was possible, and
13 perhaps necessary, at times. Other than possible use of a ferry, local residents did not
14 report any knowledge of commercial or recreational boating on the San Pedro. *Id.* Nor
15 was any evidence presented of anyone ever attempting to float logs down the River for
16 commercial purposes.

17 This is corroborated by letters in the Record from long-time residents of the area
18 who reported that they had never seen, or heard anyone talk about, a time in which boats
19 were used on the San Pedro. *See, e.g.*, EIN 4, Letter from Virgil E. Mercer, Chairman of
20 the Winkleman Natural Resource Conservation District, to ANSAC (July 17, 1996)
21 (“Mercer Letter”); EIN x003, Letter from Clea Curtis Brown to ANSAC (Mar. 20, 2013);
22 EIN x003, Letter from Bessie M. Shugart to ANSAC (Apr. 23, 2013). Some of these
23 residents’ families have been continuously present in the area since the 1880s.
24 Specifically, the Chairman of the Winkleman Natural Resource Conservation District,
25 whose family has lived on the San Pedro since the 1880s, wrote that: “It is the
26

1 overwhelming consensus that the San Pedro River has never been a ‘navigable’
2 waterway.” *See* Mercer Letter.

3 **a. Boats Available at Statehood**

4 The Record indicates that the following boats were available for purchase at the
5 time of statehood in 1912: (a) a flat-bottom fishing boat made of oak and spruce and
6 ranging between 13-16 feet long and between 40-44 inches wide; (b) a 15-foot “smooth
7 silk double pointer boat” made of cedar or cypress that was 42 inches wide; and (c) a
8 square-stern “clinker” row boat, also made of cedar or cypress, ranging in width from 42-
9 44 inches. *See* EIN x002, *Sears, Roebuck and Co. Catalog* (1912) (excerpts).

10 **2. Modern Boating Attempts**

11 Instances of modern boating on the San Pedro are rare. *See* Fuller 1997, at 8-4. A
12 survey by the Central Arizona Paddlers Club found only six reported accounts of boating
13 on the San Pedro from 1973-1992. *See id.* at G-7. The majority of the trips occurred
14 during August, when monsoon season brings rain to southern Arizona; two of the trips
15 took place in January and March. *See id.* at 8-4 to 8-5. The State Report referred to these
16 boating trips as “very opportunistic,” noting that “boaters drive to a launching point on
17 likely rain days, and ‘put in’ the water if rain conditions favor runoff.” *Id.* at 8-5. Despite
18 these sporadic boating trips, the San Pedro is not classified as a boating stream by the
19 State Parks Department. *See id.* Additionally, as noted above, several long-time residents
20 of the area reported to have never seen, or heard anyone talk about, boating on the San
21 Pedro. *See supra.*

22 **a. Modern-Day Boats**

23 The Evidence in the Record indicates that low-draft boats such as canoes, kayaks,
24 or inflatable rafts have occasionally traveled downstream or across the River in modern
25 times. Fuller 1997, at 8-4. In addition, Hjalmarson opined that modern recreational
26 canoes, kayaks, drift boats, row boats, and rafts could float parts of the San Pedro at 1-foot

1 deep. Before this evidence can be considered however, Proponents (as the proponents of
2 the evidence) must establish that: (1) the watercraft are meaningfully similar to those in
3 customary use for trade and travel at the time of statehood; and (2) the River's post-
4 statehood condition is not materially different from its ordinary and natural condition at
5 statehood. *See PPL Montana*, 132 S.Ct. at 1233.

6 Although Proponents submitted evidence of the types of boats available in 1912,
7 no evidence was presented that these particular boats were the type customarily used for
8 trade and travel in 1912. Nor was any specific evidence presented regarding the draft of
9 these boats (i.e., how much of a boat is underwater), though there is some evidence that
10 the criteria for canoes available at statehood "are not substantially different from criteria
11 for canoes available today," and "the depth of water required for canoeing has not
12 substantially changed." Fuller 2004, at 8-4. However, even assuming that the drafts of
13 canoes available at statehood are the same as modern canoes, other evidence suggests that
14 the types of canoes available at statehood (birch bark cedar, canvas, and dugout canoes)
15 were much more fragile than modern recreational canoes. 8/2/13 Tr. at 177-78; *see also*
16 Fuller 2004, at 8-4 (noting that technology has improved the durability of canoes). Absent
17 more evidence, the Commission cannot find that modern canoes are "meaningfully
18 similar" to the canoes in customary use for trade and travel at the time of statehood.
19 Accordingly, the Commission need not reach the question of whether the River's post-
20 statehood condition is materially similar to its ordinary and natural condition at statehood.
21 But even if it were to consider the question, the Commission finds that the presence of
22 beaver dams, which would have created solid barriers to navigation, renders the River's
23 natural condition materially different from its post-statehood condition.

24 In any event, the Evidence in the Record of modern boating does not support a
25 finding that the River was susceptible to commercial navigation at the time of statehood.
26 The most the evidence shows is that it is possible to navigate the River in low-draft

1 recreational watercraft under the most favorable conditions, and that it may have been
2 possible to do so more frequently in the River's ordinary and natural condition. *See, e.g.,*
3 *Oklahoma v. Texas*, 258 U.S. 574 (1922), *reconsideration denied*, 260 U.S. 711 (1923)
4 (finding the Red River nonnavigable where "[i]ts characteristics are such that its use for
5 transportation has been and must be exceptional, and confined to the irregular and short
6 period of temporary high water"); *see also PPL Montana*, 132 S.Ct. at 1234 (though a
7 river need not be susceptible to navigation at every point of the year, "neither can that
8 susceptibility be so brief that it is not a commercial reality").

9 **VI. FINDINGS AND DETERMINATION**

10 The Commission finds that the San Pedro upstream from St. David was relatively
11 unaltered at the time of statehood. Thus, for this reach of the River, the Commission finds
12 that evidence at and around statehood is indicative of ordinary and natural condition. The
13 Commission further finds, as a matter of fact, that the San Pedro downstream from St.
14 David was close to its ordinary and natural condition until the 1870s, when the first
15 significant irrigation by settlers began. Accordingly, for that reach of the River, the
16 Commission finds historic accounts from before the 1870s more probative of the River's
17 ordinary and natural condition than accounts occurring thereafter, which, while afforded
18 less weight, were also considered.

19 The Commission also finds that the downcutting and entrenchment that began
20 about the 1880s was caused by a combination of natural occurrences and human activities.
21 Although it is impossible to determine precisely how much impact human activities had,
22 the Commission finds that the downcutting and entrenchment were, at least in large part, a
23 result of natural occurrences on the San Pedro. Accordingly, the Commission finds that,
24 with respect to channel size and shape, historical accounts of the San Pedro both before
25 and after 1880 are probative evidence of the River's ordinary and natural condition.
26

1 The Commission finds that the following physical characteristics existed in the
2 River's ordinary and natural condition and support a finding that the San Pedro was
3 nonnavigable: low flows, shallow depths, high variability, and discontinuity. The
4 Commission also finds that the following impediments to navigation also existed in the
5 River's ordinary and natural condition: marshy cienegas, sandbars, and riffles.

6 The Commission also finds that the geomorphologic Evidence in the Record
7 indicates that the San Pedro was not susceptible to navigation in its ordinary and natural
8 condition. The upper reach had a partly perennial and partly intermittent flow, and the
9 lower reach had an entrenched, broad, and braided channel with only isolated reaches of
10 perennial flow. The Commission further finds that the Evidence in the Record is
11 inconclusive as to whether the River was susceptible to navigation in its most favorable
12 condition prior to downcutting and entrenchment.

13 Based on all of the new and old Evidence in the Record, the Commission finds that
14 Proponents have not met their burden of showing that the San Pedro River was used or
15 susceptible to being used, in its ordinary and natural condition, as a highway for
16 commerce, over which trade and travel were or could have been conducted in the
17 customary modes of trade and travel on water as of February 14, 1912. The Commission
18 further finds that Proponents have not met their burden of establishing that any
19 identifiable reach of the River was navigable for purposes of title in its ordinary and
20 natural condition at statehood. Accordingly, the Commission finds that segmentation is
21 neither warranted or appropriate here.

22 In sum, based on all of the Evidence in the Record (both old and new) and the
23 Commission's review of the applicable law, including the principles addressed in
24 *Winkleman* and *PPL Montana*, the Commission finds, as a matter of law and fact, that on
25 February 14, 1912, no segment of the San Pedro River was used or was susceptible to
26 being used in its ordinary *and* natural condition, as a highway for commerce, over which

1 trade and travel were or could have been conducted in the customary modes of trade and
2 travel on water. Thus, it is not and was not "navigable" as defined by A.R.S. § 37-
3 1101(5), and federal case law. The Commission further finds that all notices of these
4 hearings and proceedings were properly and timely given.

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

8 **VII. ADOPTION AND RATIFICATION**

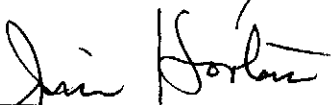
9 The Commission, having considered all of the historical and scientific data and
10 information, documents and other evidence, including the oral and written presentations
11 made by persons appearing at the public hearings and being fully advised in the premises,
12 hereby adopts and ratifies this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

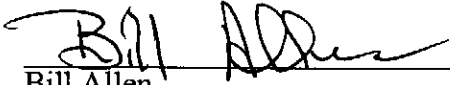
14
15 DATED this 28th day of June, 2018.

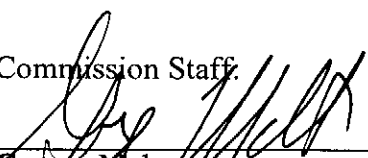
16 
17 Wade Noble, Chair

18
19

Jim Hennessey
Deceased, May 10, 2018

20
21 
22 Jim Horton

23 
24 Bill Allen

25
26 
27 Commission Staff
28 George Mehnert
Executive Director

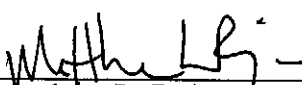
29 
30 Matthew L. Rojas
Counsel to the Commission

Exhibit A

Evidence Log

Hearing No. 03-004-NAV

Page No.

1

Arizona Navigable Stream Adjudication Commission

San Pedro River

March 12, 2003 Cochise County, January 22, 2004 Pima County,

March 9, 2004 Pinal County

Item Number	Received Date	Source to ANSAC	Description	Entry By
1	6/9/00 approx	Evidence on hand at AN-SAC.	Draft Final Report Small & Minor Watercourses Analysis for Cochise County, Arizona dated June 9, 2000.	George Mehnert
2	8/1/00 approx	Evidence on hand at AN-SAC.	Final Report Small & Minor Watercourses Analysis for Cochise County, Arizona dated August 1, 2000.	George Mehnert
3	8/17/00 approx	Evidence on hand at AN-SAC.	Computer printout pages of PowerPoint slide presentation by Stantec and Jon Fuller, titled AN-SAC Public Hearing Cochise County.	George Mehnert
4	9/?/98	Evidence on hand at AN-SAC	Small and Minor Watercourse Criteria Final Report.	George Mehnert
5	9/?/99	Evidence on hand at AN-SAC	Final Report, 3 County Pilot Study.	George Mehnert
6	Received on various dates.	Evidence on hand at AN-SAC previously submitted for watercourse hearings in Santa Cruz County and included in Commission report to legislature, 1 volume.	Volume I of I. 1. Letter from David Baron dated February 18, 1997. 2. 1992 Boating Survey by Central Paddlers Club. 3. Letter from James Braselton dated September 19, 1997. 4. Letter and attachments from Virgil Mercer, Winkelman Natural Resource Conservation District, dated July 17, 1996. 5. Explorations and Surveys from the Mississippi River to the Pacific	George Mehnert

Evidence Log Continuation Page

Hearing No. 03-004-NAV

Page No.

2

Arizona Navigable Stream Adjudication Commission

San Pedro River

Item Number	Received Date	Source	Description	Entry By
			Ocean, and July 15, 1987 affidavit by James Slingluff. 6. October 6, 1996 letter from Timothy Flood. 7. December 16, 1997 and December 19, 1996 letter from V. Ottozawa-Chatupron. 8. December 26, 1997 letter from Al Anderson, Arizona Audobon Council. 9 Handwritten letter received February 9, 1998 from A. Ralph Curtis. 10. February 22, 1998 comments and exhibits from Richard Lee Duncan. 11. Draft Navigability Study of the San Pedro River by SWCA Environmental Consultants received February 12, 1997. 12. Navigability study of the San Pedro River by Jon Fuller and SWCA Environmental Consultants received September 4, 1997.	
7	1/22/03	Frank C. Brophy Jr	Ltr Re: Babacomari River (Creek), Tributary of the San Pedro River.	
8	1/28/03	Wayne Klump	Letter Notice of Objection	George Mehnert
9	3/10/03	Vera Kornylak	Article, Water Follies by Robert Glennon	George Mehnert
10	3/10/03	Vera Kornylak	Arizona Sonora Desert Museum Newsletter, Summer 1988, Sonorensis, Riparian Habitats.	George Mehnert
11	3/10/03	Vera Kornylak	Arizona State Parks Rivers and Streams Guide, 1989.	George Mehnert
12	3/10/03	Vera Kornylak	Desert Plants Special Issue by Dean Hendrickson and W. L. Minckley.	George Mehnert
13	3/12/03	Amy Langenfeld	Memorandum submitted for hearing March 12, 2003	George Mehnert
14	3/12/03	Cheryl Doyle	Letter from State Land Department and Report Update by Jon Fuller	George Mehnert
15	3/13/03	Robin D. Silver	Letter and Notice to Sue by the Center for Biological Diversity.	George Mehnert
16	1/2004	SLD, Jon Fuller	Update Report for the San Pedro by JE Fuller Hydrology, etc.	George Mehnert

Exhibit B

ARIZONA DAILY STAR

Tucson, Arizona

STATE OF ARIZONA)
COUNTY OF PIMA)

Debbie Capanear, being first duly sworn deposes and says: that she is the Advertising Representative of **TNI PARTNERS**, a General Partnership organized and existing under the laws of the State of Arizona, and that it prints and publishes the Arizona Daily Star, a daily newspaper printed and published in the City of Tucson, Pima County, State of Arizona, and having a general circulation in said City, County, State and elsewhere, and that the attached ad was printed and

Legal Notice

published correctly in the entire issue of the said Arizona Daily Star on each of the following dates, to-wit:

MAY 3, 2013

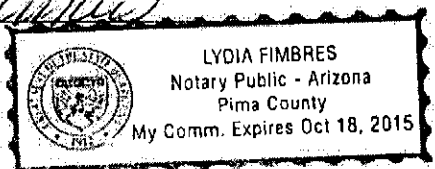
Debbie Capanear

Subscribed and sworn to before me this 9 day of

May, 2013

Lydia Fimbres

Notary Public



My commission expires _____

AD NO. 8009729

Notice Of Public Hearing
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 San Pedro River in its "ordinary and natural condition" prior to 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. 220, 229 P.2d 242 (App. 2010); and (2) segmentation of the San Pedro River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 558 U.S. 132, 5 C.T. 1215 (2012). The hearing is scheduled to begin at 1:00 p.m. on Friday, June 7, 2013, at the Cochise County Board of Superior Court Room, Building 6, 413 West Melody Lane, Bisbee, Arizona, 85603. This is the only hearing scheduled for the San Pedro River. 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 5-34, 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, Navigable Stream Adjudication Commission, April 25, 2013.
Publish May 3, 2013
Arizona Daily Star

THE ARIZONA REPUBLIC

STATE OF ARIZONA }
COUNTY OF MARICOPA } SS.

Ondrea Petty, being first duly sworn, upon oath deposes and says: That she is a Supervisor 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

5/3/2013

Ondrea Petty

Sworn to before me this
3RD day of
May A.D. 2013

 **TABITHA WEAVER**
Notary Public - State of Arizona
MARICOPA COUNTY
My Commission Expires
November 11, 2016

Tabitha Weaver

Notary Public

Notice Of Public Hearing
Pursuant to A.R.S. § 37-1226, 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 San Pedro River in its "ordinary and natural condition" prior to 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, 329 P.3d 242 (App. 2010); and (2) segmentation of the San Pedro River consistent with the United States Supreme Court's decision in *PPL Montana, LLC v. Montana*, 556 U.S. 137 S.Ct. 1215 (2012). The hearing is scheduled to begin at 1:00 p.m. on Friday, June 7, 2013 at the Cochise County Board of Supervisors Board Room, Building G, 1415 West Meloy Lane, Bisbee, Arizona 85603. This is the only hearing scheduled for the San Pedro River. 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, Navigable Stream Adjudication Commission, April 25, 2013.
Pub: May 3, 2013

STATE OF ARIZONA
COUNTY OF PINAL

} SS.

Affidavit of Publication

Notice Of Public Hearing
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 San Pedro River in its "ordinary and natural condition" prior to 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 San Pedro 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 is scheduled to begin at 1:00 p. m. on Friday, June 7, 2013 at the Cochise County Board of Supervisors Board Room, Building G, 1415 West Melody Lane, Bisbee, Arizona 85603. This is the only hearing scheduled for the San Pedro River. 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, Navigable Stream Adjudication Commission, April 25, 2013.
5/3/13
CNS-2479127#
CASA GRANDE DISPATCH

RUTH A. KRAMER first being duly sworn deposes and says: That he/she is a native born citizen of the United States of America, over 21 years of age, that I am an agent and/or publisher of the Casa Grande Dispatch, a daily newspaper published at Casa Grande, Pinal County, Arizona, Tuesday through Sunday of each week; that a notice, a full, true and complete printed copy of which is hereunto attached, was printed in the regular edition of said newspaper, and not in a supplement thereto, for ONE issues the first publication thereof having been on the

3RD day of MAY A.D., 2013
Second publication _____
Third publication _____
Fourth publication _____
Fifth publication _____
Sixth publication _____

CASA GRANDE DISPATCH

By [Signature]
agent and/or publisher of the Casa Grande Dispatch

Sworn to before me this 6th

day of May A.D. 2013
[Signature]

Notary Public in and for the County
of Pinal, State of Arizona

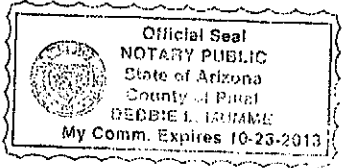


Exhibit C

Supplemental Evidence - San Pedro River

Item Number	Submitted By	Description	Link
X001	Freeport	Declaration of Rich Burtell on the Non-Navigability of the San Pedro River At and Prior to Statehood (Mar. 2013)	PDF
X001	Freeport	Attachments A-D to Burtell Declaration on the Non-Navigability of the San Pedro River At and Prior to Statehood (Mar. 2013)	PDF
X001	Freeport	Attachment E to Burtell Declaration on the Non-Navigability of the San Pedro River At and Prior to Statehood (Mar. 2013)	PDF
X002	ACLPI	Dale S. Turner & Holly E. Richter, <i>Wet/Dry Mapping: Using Citizen Scientists to Monitor the Extent of Perennial Surface Flow in Dryland Regions</i> , 47 <i>Enviro. Mgmt.</i> (2011), 495-505	PDF
X002	ACLPI	Sears, Roebuck & Co. Catalogue No. 124 (1912) (excerpts)	PDF
X002	ACLPI	Joseph P. Cook <i>et al.</i> , <i>Mapping of Holocene River Alluvium Along the San Pedro River, Aravaipa Creek, and Babocomari River, Southeastern Arizona</i> (Oct. 2009) Maps: <ul style="list-style-type: none"> · DM-RM-1A PDF · DM-RM-1B PDF · DM-RM-1C PDF · DM-RM-1D PDF · DM-RM-1E PDF · DM-RM-1F PDF 	PDF
X002	ACLPI	Ecology and Conservation of the San Pedro River (Stromberg & Tellman eds. 2009) (excerpts)	PDF
X002	ACLPI	Geoffrey W. Freethy & T.W. Anderson, Map, Predevelopment Hydrologic Conditions in the Alluvial Basins of Arizona and Adjacent Parts of California & New Mexico (1986)	PDF
X003	Rachel Thomas	Affidavits of Rachel Thomas (Apr. 3, 2013), Clea Curtis Brown (Mar. 20, 2013), Bessie M. Shugart (Apr. 23, 2013), Jack Ladd (Apr. 17, 2013), and Dr. Charles Behney (Apr. 18, 2013), in support of the Non-Navigability of San Pedro River & excerpts from 1921 USDA Bureau of Soils Soil Survey of the Benson Area, Arizona, and 1956 Boquillas Company, Boquillas Grant Ranch Authorization for Expenditure for Installation of New Watering	PDF

Supplemental Evidence - San Pedro River

Item Number	Submitted By	Description	Link
X004	ACLPI	Win Hjalmarson, PE, Navigability Along the Natural Channel of the San Pedro River, AZ From Mexico to Mouth at the Gila River at Winkleman, AZ (May 2013) PowerPoint Appendix: PDF	PDF
X004	ACLPI	H.W. Hjalmarson <i>et al.</i> , <i>Arid Lands: Hydrology, Scour, and Water Quality</i> (1988)	PDF
X004	ACLPI	Bernard W. Muffley, <i>The History of The Lower San Pedro Valley in Arizona</i> , Thesis (1938) (excerpts)	PDF
X004	ACLPI	The Personal Narrative of James O. Pattie of Kentucky (Timothy Flint ed. 1831)	PDF
X005	ACLPI	Gary Huckleberry, <i>Historical Channel Changes on the San Pedro River, Southeastern Arizona</i> (rev'd Oct. 1996)	PDF
X006	SRP	SRP, Information Regarding Navigability of Selected U.S. Watercourses (April 2003)	PDF
X007	Freeport	Hendrickson and Minkley, Maps of San Pedro Valley (1984)	PDF
X007	Freeport	R. Burtell, <i>Hjalmarson's San Pedro Predevelopment Runoff vs. Drainage Area Chart (with border data omitted)</i> (June 2013)	PDF
X007	Freeport	William R. Krug <i>et al.</i> , <i>Preparation of Average Annual Runoff Map of the United States, 1951-80</i> (1989)	PDF
X007	Freeport	Daily Hydrograph for USGS 09471000 San Pedro River at Charleston, AZ 2008	PDF
X008	GRIC	T. Allen J. Gookin, Navigability of the San Pedro River (Aug. 1-2, 2013) PowerPoint with Report & Supporting Documents	PDF
X009	Sen. Gail Griffin	Various letters, book page copies, and other documents from Senator Gail Griffin's constituents re: San Pedro River	PDF
X010	ACLPI	Win Hjalmarson, Further Information to Clear Up Possible Confusion from Bisbee Meeting (Aug. 1, 2013) PowerPoint	PDF
X011	ACLPI	Slide 160 from X004- Picture Showing Recreational Canoeing	PDF
X011	San Carlos	Daily Hydrograph for USGS 09471000 San Pedro River at Charleston, AZ July 2012-May 2013	PDF
X012	Freeport	USGS, <i>Trends in Streamflow of the San Pedro River, Southeastern Arizona, and Regional Trends in Precipitation and Streamflow in Southeastern Arizona and Southwestern New Mexico</i> , Professional Paper 1712 (excerpts)	PDF

Supplemental Evidence - San Pedro River

Item Number	Submitted By	Description	Link
X012	Freeport	Geoffrey W. Freethey & T.W. Anderson, Map, Predevelopment Hydrologic Conditions in the Alluvial Basins of Arizona and Adjacent Parts of California & New Mexico (1986), Plates 1-3	PDF
X012	Freeport	Table 1 from Burtell's Declaration re: San Pedro River X001	PDF
X012	Freeport	A.B. Gray, Survey of a Route for the Southern Pacific R.R. on the 32nd Parallel (1856)	PDF
X012	Freeport	James G. Bell, <i>A Log of the Texas-California Cattle Trail, 1854</i> , 35 Sw. Hist. Quarterly (1931-1932) (excerpts)	PDF
X012	Freeport	R. Burtell, <i>Hjalmarson's San Pedro Predevelopment Runoff and Drainage (all data used)</i> (June 2013)	PDF
X012	Freeport	R. Burtell, <i>Comparison Between Historic Observations of San Pedro River Stream Conditions and Hjalmarson's Estimates of Predevelopment Flows</i> (July 2013)	PDF
X012	Freeport	Brown & Others, Map of San Pedro River (1979)	PDF
X012	Freeport	Gary Huckleberry, <i>Historical Channel Changes on the San Pedro River, Southeastern Arizona</i> (rev'd Oct. 1996)	PDF
X012	Freeport	<i>United States v. Utah</i> , Report of the Special Master (1930)	PDF
X012	Freeport	Map, Canals Diverting Water From the San Pedro River in March 1899	PDF
X012	Freeport	Map, Indian Villages Identified Along the San Pedro River During the 1690's by Father Kino & Associates	PDF
X013	ACLPI	Benjie Sanders, <i>San Pedro River is Running Dry</i> , Ariz. Daily Star (July 13, 2005)	PDF
X013	ACLPI	Win Hjalmarson, Further Information to Clear Up Possible Confusion from Bisbee Meeting (Aug. 1, 2013) PowerPoint	PDF
X013	ACLPI	Executive Summary of N.H. Hutton (Aug 22, 2013)	
X013	ACLPI	Gary Huckleberry, <i>Historical Channel Changes on the San Pedro River, Southeastern Arizona</i> (rev'd Oct. 1996)	PDF
X013	ACLPI	N.H. Hutton, <i>Pacific Wagon Roads: El Paso and Fort Yuma Wagon Road</i> (1859) (excerpts)	PDF
X013	ACLPI	G.W. Foreman, Field Notes of the Survey of the No. 1164 of Township 5S, Range 5W, Gila and Salt River Base and Meridian Arizona (Mar. 4-11, 1871) (excerpts)	PDF
X013	ACLPI	USGS, Map of Areal Geology of Bisbee Quadrangle, Cochise County, Arizona (1903)	PDF
X013	ACLPI	Frederick Leslie Ransome, <i>Description of the Bisbee Quadrangle</i> (June 1903)	PDF
X014	ANSAC	Transcript of Gila River Hearing, June 16, 2014	PDF

Supplemental Evidence - San Pedro River

Item Number	Submitted By	Description	Link
X014	ANSAC	Transcript of Gila River Hearing, June 17, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, June 18, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, June 19, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, June 20, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, August 18, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, August 19, 2014	PDF
X014	ANSAC	Transcript of Gila River Hearing, August 20, 2014	PDF

Exhibit D



JANICE K. BREWER
Governor

STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room B54, Phoenix, Arizona 85007

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

E-mail: nav.streams@ansac.az.gov Web Page: <http://www.ansac.az.gov>

GEORGE MEHNERT
Executive Director

COMBINED MEETING MINUTES

**Bisbee, Arizona, June 7, 2013
and Continuation, Phoenix, Arizona, August 1, 2013
and Continuation, Phoenix, Arizona, August 2, 2013**

NOTE: ANSAC has a court reporter transcription of the audio tapes of the Hearing held in Bisbee, Arizona held on June 7, 2013, and of the court reporter transcriptions of the continuation hearing held in Phoenix, Arizona on August 1, 2013 and August 2, 2013.

June 7, 2013, Bisbee, Arizona

COMMISSION MEMBERS PRESENT

Jim Henness, Jim Horton, Wade Noble

COMMISSION MEMBERS ABSENT

Cecil Miller

STAFF PRESENT

Fred Breedlove Attorney, George Mehnert Director

1. CALL TO ORDER

By Chairman Wade Noble at 10:03 a.m.

2. Roll Call

See above for members present and absent.

3. Introduction of Commissioner Jim Horton

Commissioner Jim Horton was introduced by Chairman Wade Noble

4.&5. Approval of the Executive Session Minutes and of Regular Session Minutes of October 22, 2012(discussion and action).

No Discussion.

Motion by: Jim Henness Second by: Wade Noble

Motion to accept both minutes as submitted. Vote: All aye.

6. Hearing regarding the San Pedro River.

The Commission received testimony and physical evidence by several individuals, including agenda item number 7, Call for Public Comment at the beginning of the hearing to invite local citizens and others to participate in the morning rather than near the end of the day.

The Commission recessed for lunch at approximately 12:15 p.m. and reconvened at approximately 1:17 p.m.

Hearing ended at approximately 4:16 p.m. and the Chair announced the hearing regarding the San Pedro River would be continued at a date to be announced in Phoenix, Arizona.

Hearing Continuation, August 1, 2013, at 9:00 a.m., 1700 W. Washington, Phoenix, Arizona, in the basement Grand Canyon Conference Room.

COMMISSION MEMBERS PRESENT

Wade Noble, Cecil Miller, Jim Henness, Jim Horton

COMMISSION MEMBERS ABSENT

None

STAFF PRESENT

Fred Breedlove Attorney, George Mehnert Director

1. CALL TO ORDER

By Chairman Wade Noble at 9:01 a.m.

2. Roll Call

See above for members present and absent.

3. Introduction of Commissioner Jim Horton

Completed at June 7, 2013 meeting in Bisbee, Arizona.

4.&5. Approval of the Executive Session Minutes and of Regular Session Minutes of October 22, 2012(discussion and action).

Completed at June 7, 2013 meeting in Bisbee, Arizona.

6. Hearing regarding the San Pedro River, continued from June 7, 2013.

The Commission heard more testimony and received additional evidence, beginning with the testimony and introduction of physical evidence by Arizona Senator Gail Griffin, a resident of Hereford, Arizona.

The Commission recessed for lunch at approximately 12:15 p.m. and reconvened at approximately 1:15 P.m. The San Pedro River hearing recessed at approximately 5:15 p.m. including an announcement by the Chair that the Commission would reconvene the following day, August 2, 2013 at 9:00 a.m. and at the same location. Before recessing the Chair asked for public comment.

**Hearing Continuation, August 2, 2013, at 9:00 a.m., 1700 W. Washington,
Phoenix, Arizona, in the basement Grand Canyon Conference
Room.**

COMMISSION MEMBERS PRESENT

Wade Noble, Cecil Miller, Jim Henness, Jim Horton

COMMISSION MEMBERS ABSENT

None

STAFF PRESENT

Fred Breedlove Attorney, George Mehnert Director

1. CALL TO ORDER

By Chairman Wade Noble at 9:00 a.m.

2. Roll Call

See above for members present and absent.

3. Introduction of Commissioner Jim Horton

Completed at June 7, 2013 meeting in Bisbee, Arizona.

**4.&5. Approval of the Executive Session Minutes and of Regular Session
Minutes of October 22, 2012(discussion and action).**

Completed at June 7, 2013 meeting in Bisbee, Arizona.

**6. Hearing regarding the San Pedro River, continued from August 2,
2013.**

The Commission heard more testimony and received additional evidence, and the Commission Chair again asked for public comment. The Commission recessed for lunch at approximately 11:45 p.m. and reconvened at approximately 12:30 p.m. The San Pedro River hearing closed for testimony evidence at approximately 3:00 p.m. with instructions by the Chair concerning holding the record open for receiving physical evidence until 12:00 p.m. on Friday, August 23, 2013 and including instructions by the Chair concerning submission of Post Hearing Opening Legal Memorandums not later than 12:00 p.m. on Friday, September 13, 2013 and Response Legal Memorandums not later than 12:00 p.m. on Friday, September 27, 2013. Also included in the Chair's instructions was the submission of Order, Findings of Fact

and Conclusions of Law to be submitted either with the Opening or Response Memorandums.

7. Call for Public Comment (comment sheets). The Chair included public comments under item number 6 on June 7, 2013, on August 1, 2013, and on August 2, 2013.

(Pursuant to Attorney General Opinion No. 199-006 [R99-002]. Public Comment: Consideration and discussion of comments and complaints from the public. Those wishing to address the Commission need not request permission in advance. Action taken at this meeting as a result 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.)

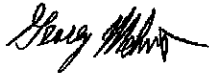
8. Future meeting dates and future agenda items.

None scheduled at this time.

9. ADJOURNMENT.

The chair adjourned the meeting at approximately 3:00 p.m.

Respectfully submitted,



George Mehnert, Director
August 6, 2013



JANICE K. BREWER
Governor

STATE OF ARIZONA
NAVIGABLE STREAM ADJUDICATION COMMISSION

1700 West Washington, Room B54, Phoenix, Arizona 85007

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GEORGE MEHNERT
Executive Director

REGULAR SESSION MEETING MINUTES

Phoenix, Arizona, November 21, 2013

Commission Members Present

Wade Noble, Jim Henness, Jim Horton

Commission Members Absent

None.

Staff Present

Fred Breedlove Attorney, George Mehnert Director

1. Call To Order

The Chair called the meeting to order at approximately 9:08 a.m.

2. Roll Call

See above for members present and absent

3. Remembering Cecil Miller

Comments from the guests and Commissioners occurred.

4. Approval of Combined Minutes-June 7, 2013, August 1, 2013, and August 2, 2013.

Motion by: Jim Henness Second by: Jim Horton

Motion to accept minutes as submitted. Vote: All aye.

5. Discussion of the Navigability of the San Pedro River

A discussion among the parties and Commissioners ensued.

6. Determination of the Navigability of the San Pedro River (discussion and action).

Motion by: Jim Henness Second by: Jim Horton

Motion that the San Pedro River was Non-navigable at Statehood. Vote: All aye. Following the vote the Chair instructed our attorney to write a report to reflect the vote of the Commission.

7. Call for Public Comment

(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 as a result 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.)

8. Future meeting dates and future agenda items.

Likely the third or fourth Friday in January 2014. At Chair's discretion.

9. ADJOURNMENT.

Adjourned at approximately 10:21 a.m.

Respectfully submitted,

George Mehnert, Director, Navigable Stream Adjudication Commission, November 22, 2013.