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BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

In The Matter Of The Navigability Of The Gila River From The New Mexico Border To The Confluence With The Colorado River, Greenlee, Graham, Gila, Pinal, Maricopa, And Yuma Counties, Arizona	**No. 03-007-NAV** **Maricopa County and The Flood Control District of Maricopa County's Post-Hearing Closing Brief Regarding Navigability of Gila River in "Natural and Ordinary" Condition on February 14, 1912.**

This Closing Brief is submitted by Maricopa County and the Flood Control District of Maricopa County ("County and FCD") by undersigned counsel in support of a finding of navigability for the lower Gila River from the confluence with the Salt River near Phoenix to the confluence with the Colorado River near Yuma.

I. *Winkleman* And *PPL Montana* Make Clear That The River Must Be Evaluated In Its Ordinary, Un-diverted, Natural Condition.

The *PPL Montana* court reiterated the standard formulation for navigability for title set forth in *The Daniel Ball*, 77 U.S. 557 (1870):

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

PPL Montana, LLC. v. Montana, 132 S. Ct. 1215, 1228 (2012). Navigability for title purposes under the equal-footing doctrine, is determined at the time of statehood, and based on the "ordinary and natural "condition of the water. *PPL Montana, LLC.*, 132 S. Ct. at 1228.

The phrase, "ordinary and natural," requires giving effect to both words. *State ex rel. Winkleman v. Arizona Navigable Stream Adjudication Comm'n*, 224 Ariz. 230, 241, ¶ 25, 229 P.3d 242, 253 (App. 2010). "Ordinary" is defined as "[o]ccurring in the regular course of events; normal; usual." *Id.* at ¶ 26. "Natural" means "[u]ntouched by civilization, *i.e.*, man-made diversion." *Id.* at ¶ 27.

The *PPL Montana* court discussed the types of evidence that should be considered, and the weight to be given to different classes of evidence. The court stated, the "crucial question" is the potential for such use at the time of statehood, rather than "the mere manner or extent of actual use," the river segment must only have been "susceptible" to navigation at that time for title purposes. To prove "susceptibility" to navigation, the Commission should consider all evidence showing "the river could sustain the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood." *PPL Montana, LLC*, 132 S. Ct. at 1233. Finally, pursuant to *PPL Montana*, this analysis must be performed for each discrete and administrable segment of the river.

II. Evidence In The Record Demonstrates The Lower Gila River Was Susceptible To Navigation For Commerce In Its Ordinary And Natural Condition At Statehood.

To analyze the record adequately, it should be evaluated using a three-step process: 1) determine what evidence exists demonstrating the watercourse's natural conditions; 2) determine what evidence exists of the ordinary condition of nature for that watercourse; and, 3) determine and analyze evidence of susceptibility to navigation under the preceding conditions describing what is "natural" and "ordinary."

A. The only relevant evidence in the record of the "natural" and "ordinary" condition of the lower Gila, was presented by Mr. Hjalmar W. Hjalmarson, P.E.

The relevant period for determining the "natural" condition of the river is after the effects of any Native American diversions had disappeared but before commencement of modern-era settlement when other man-made diversions and obstructions began affecting the river. *Winkleman*, 224 Ariz. at 242, ¶ 30, 229 P.3d at 254. The relevant period is the early to mid-1800s. *Id.*

As discussed *infra*, Mr. Hjalmar W. Hjalmarson's report and testimony evaluating the predevelopment physical conditions of the river is the only evidence demonstrating the lower Gila's natural condition during the appropriate period. The primary goal of Mr. Hjalmarson's study was to estimate the amount and temporal distribution of the ordinary and natural flow in the Gila River from the confluence with the Salt to the Colorado using known hydrologic and geomorphic information and relationships. [Gila River Hearing Transcript ("TR") 11/17/2005 236:14–18; Evidence Log ("EL") #23-Hjalmar W. Hjalmarson, *Navigability Along the Natural Channel of the Gila River*, 30 (October 25, 2002)][1] Mr. Hjalmarson used a three-step methodology because rivers construct their own geometry, which can be estimated using hydrologic and hydraulic principles. [*Id.*] Unlike all other experts, Mr. Hjalmarson analyzed the river in its ordinary and natural condition. [TR 11/17/2005 256:21–25] His testimony was not refuted nor contradicted either at the November 2005 hearings, or at the 2014 hearings.

"Natural" conditions include both large volume flows (a.k.a. floods) of up to 190,000 cfs [EL #4 at VI-5], and low volume drought conditions when only base flow[2] is present (*i.e.*, 170–290 cfs) [EL#23 at 12]. However, while "natural," the navigability analysis must exclude those unusual events because they are not "ordinary." Instead,

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1 References to the hearings are cited by "page number:line number(s)."

2 The base flow (a.k.a. base runoff) is the amount of sustained or fair weather runoff comprised mostly of groundwater effluent. [EL#23 at 35]

the analysis must focus on the usual flows, which are established by the mean (a.k.a. average) and median flow rates, which were calculated by Mr. Hjalmarson.

Mr. Hjalmarson is a licensed professional engineer. [EL #23, curriculum vitae] He served as an engineer and hydrologist for the U.S. Geological Survey for thirty-one years. [*Id.*] As a surface water specialist for the Arizona district for twelve years, he was responsible for ensuring the hydrologic data collected, analyzed, and compiled conformed with applicable standards. [*Id.*] As part of his duties, he directed hydrologic studies and wrote many published technical reports on surface water hydrology of arid lands. He has also testified in various Arizona courts as an expert witness on the nature of streamflow. [*Id.*]

Using data from the U.S. Geological Survey,[3] Mr. Hjalmarson computed the annual predevelopment Gila River base flow using the Freethey and Anderson (1986) basin accounting method for natural stream base flow for ground-water systems. [*Id.* at 13] This method uses natural conditions existing **before human activities** and is a recognized methodology for such determinations. [*Id.*] Using this method, he calculated the predevelopment base flow rate of the river at the Salt confluence as 290 cubic feet per second ("cfs"). [*Id.* at 13-14] Because there was a large amount of stored groundwater supplying the base flow, the base flow may not have varied greatly year to year. [*Id.* at 12] Base runoff is precipitation that seeps from the ground into

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3 Among many others, Mr. Hjalmarson relied upon the following three publications: B.W. Thomsen & J.H. Eychaner, U.S. Geological Survey, PREDEVELOPMENT HYDROLOGY OF THE GILA RIVER INDIAN RESERVATION, SOUTH-CENTRAL ARIZONA, Water-Resources Investigations Report 89-4174 (1991) (*available at* http://pubs.usgs.gov/wri/1989/4174/report.pdf); B.W. Thomsen & J.J. Porcello, U.S. Geological Survey, PREDEVELOPMENT OF THE SALT RIVER INDIAN RESERVATION, EAST SALT RIVER VALLEY, Arizona, Water-Resources Investigations Report 91-4132 (1991) (*available at* http://pubs.usgs.gov/wri/1991/4132/report.pdf); and, Geoffrey W. Freethey & T.W. Anderson, U.S. Geological Survey, PREDEVELOPMENT HYDROLOGIC CONDITIONS IN THE ALLUVIAL BASINS OF ARIZONA AND ADJACENT PARTS OF CALIFORNIA AND NEW MEXICO (1986) (*available at* http://pubs.er.usgs.gov/publication/ha664). [EL #23 at 31]

uncontrolled streams and rivers. [*Id.* at 11] This is important for navigability because under natural conditions the water that seeped into the ground was temporarily stored in aquifers throughout the watershed. That water later discharged to the streams as base runoff during dry periods (a.k.a. droughts). Because precipitation was seasonal and some months had no precipitation at all, the base runoff provided perennial flow to the Gila River. [*Id.* at 11-12] This is the amount of water (290 cfs) that would flow down the Gila beginning at the confluence with the Salt River 90% of the time. [*Id.* at 13] Proponents of navigability bear the burden of demonstrating susceptibility to navigation by a preponderance of the evidence. *See*, A.R.S. § 37-1128(A). A "preponderance of the evidence" means that the evidence is sufficient to persuade the finder of fact that the "existence of a fact is more probable than its nonexistence." *In re Winship*, 397 U.S. 358, 371 (1970). It is evidence which, "though not sufficient to free the mind wholly from all reasonable doubt, is still sufficient to incline a fair and impartial mind to one side of the issue rather than the other." BLACK'S LAW DICTIONARY 1201 (7th ed. 1999). Absent any controverting evidence in the record, Mr. Hjalmarson's evidence establishes by a preponderance what the "natural" conditions would have been at statehood but for diversions.

With respect to the "ordinary" condition of the lower Gila, the Commission must disregard both the unusual flashy high-flow conditions, and drought low-flow conditions as both are not the usual, normal, or everyday condition of the lower Gila. *Winkleman*, 224 Ariz. at 241, ¶ 27, 229 P.3d at 253. After determining the extremes of what constitutes "natural" conditions, Mr. Hjalmarson then calculated the "ordinary" (*i.e.*, mean and median) annual predevelopment discharge at the confluence of the Gila and Salt Rivers by combining average annual predevelopment streamflow for both rivers. [*Id.* at 14] The average annual predevelopment streamflow at the confluence of the Gila and the Salt Rivers was 1,685,000 acre-feet (2,330 cfs). [*Id.* at 12, Table 2.1] The estimated median annual predevelopment streamflow was 1,265,000 acre-feet (1,750

cfs).[4] [*Id.*] Half of the days have streamflow less than 1,750 cfs, half have streamflow higher than 1,750 cfs. He estimated the average width was 300 feet, [*id.* at 19] and the average depth was between 4.31 and 5.31 feet. [*Id.* at 20, Table 3.2] Based on his calculations, Mr. Hjalmarson concluded that the predevelopment river was a perennial stream, and 90% of the year the river flow equaled or exceeded the base flow (290 cfs), while approximately 30% of the year, the river flow equaled or exceeded the mean (2,330 cfs). [TR 11/17/2005 at 240:17-23; EL #23 at 13, Figure 2.2] Even at the minimal base flow of 290 cfs, the lower Gila near Gillespie Dam was between 1.5 and 3.0 feet deep [EL #23 at 52-54, Appendix E, Figures E1 & E3], and thus was susceptible to navigation by boats of that period. [EL #2, *Arizona Stream Navigability Study For The Upper Gila River Safford To The State Boundary And San Francisco River Gila River Confluence To The State Boundary Draft Final Report* at 6-3-6-4 (June 1997) (Stream flow requirements to support types of boats available at statehood not substantially different from criteria for boats available today (*i.e.*, flat bottom boats required only 4 inches of water, while round bottom boats required only 6 inches of depth.); [EL #16-Papers submitted by Barbara Tellman at 23, 31 & 42] The best evidence in the record of what is the usual condition is found in Mr. Hjalmarson's report.

Because the Commission must base its decision on what it finds are "ordinary" conditions, rather than rare or extreme conditions of flood or drought, the averages calculated by Mr. Hjalmarson for the natural river are the best available evidence. Average means, "not out of the ordinary: common." WEBSTER'S NINTH NEW COLLEGIATE DICTIONARY 119 (1987). Therefore, the best evidence in the record of what constitutes "ordinary" for the purpose of navigability for title are the average and median conditions. Because no other evidence disputes his calculations for the lower Gila River,

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4 The median streamflow is the flow value that is equaled or exceeded 50% of the time. [*Id.*]

this evidence more than meets the preponderance of the evidence standard required by A.R.S. § 37-1128(A) of what is the "ordinary" condition of the lower Gila River.

Moreover, Mr. Hjalmarson's calculated averages are supported by other evidence in the record. In addition to using the natural river characteristics (*e.g.*, flow data and sediment characteristics) to calculate the width, Mr. Hjalmarson also collected measured width data from historical Government Land Office ("GLO") survey notes and–after adjusting for unknown angles of incidence–calculated an average width from those notes as well. [*Id.* at 245:19–248:8; EL #23 Appendix D] Mr. Hjalmarson's calculated width agreed with the GLO measured average from the surveys. [*Id.* at 248:9–13]

Mr. Hjalmarson testified that based on the natural conditions (*e.g.*, slope, sediment, etc.) the Gila River would return to a single meandering channel when braiding occurred as the result of infrequent floods. [*Id.* at 279:12–17] Mr. Hjalmarson's conclusion that both the ordinary and natural condition of the Gila was a single, meandering channel was supported by Dr. Gary Huckleberry [TR 11/16/05 57:2–58:7; EL #X034, Gary Huckleberry, *Contrasting Channel Response to floods on the middle Gila River, Arizona* 22 GEOLOGY 1083, 1083 (1994)], Dr. Stanley Schumm [TR 11/17/05 9:9–10], and Dr. Mussetter [TR 8/20/2014 1818:14–1819:7]. Drs. Schumm and Huckleberry acknowledged that the Gila River became a wide-braided river as a result of large, infrequent (*i.e.*, unusual) floods, [TR 11/16/2005 59:13–21; EL #6-Stanley A. Schumm, *Geomorphic Character of the Lower Gila River* 8-9 (2004) ("Schumm Report")], but Dr. Schumm testified that a braided river would revert to a single meandering channel over time if natural conditions prevailed. [TR 11/17/2005 13:9–14, 34:13–16] Dr. Mussetter agreed with Dr. Schumm's testimony. [TR 8/19/2014 1659:22-1660:9] The primary reason that the Gila River channel was braided at statehood was because a flood in 1891 caused braiding and the natural flow had been diverted, interrupting the ordinary and

natural process of re-establishing a single meandering channel. [TR 11/17/2005 254:22–255:7; EL #6 at 10; TR 8/20/2014 1819:8–13]

B. Only Mr. Hjalmarson's opinion regarding susceptibility to navigation of the lower Gila was based on its ordinary and natural conditions.

After calculating the physical and hydraulic conditions of the pre-modern era lower Gila River, Mr. Hjalmarson then used three federal tests for navigability to determine whether those conditions would have proven susceptible to navigation. [*Id.* at 252:8–254:15] The three tests include: the Bureau of Outdoor Recreation method developed by Cortell and Assoc. [EL #23 at 24]; the U.S. Fish and Wildlife Service method developed by Hyra [*id.* at 26]; and the U.S. Geological Survey engineering method developed by Langbein in 1962. [*Id.*]

The Bureau of Outdoor Recreation method assigns a class rating (*i.e.*, I–VI) to rate the difficulty that small watercraft (*e.g.*, canoes, kayaks, driftboats, and rafts) would have navigating on the river. [*Id.* at 24–25] In this rating system, Class I is considered "very easy" while Class VI is "extraordinarily difficult." [*Id.*] According to this method, the Gila River from the confluence of the Salt to the Colorado is considered "very easy." [*Id.* at 25, Figure 4.1] and thus suitable for navigation.

The Fish and Wildlife Method assesses the suitability of stream flow for recreation. [*Id.* at 26] This method looks at the cross-section of the river to determine the minimum necessary width and depth for canoes, kayaks, driftboats, rowboats, and powerboats. [*Id.*] Using this method, throughout the studied reach of the Gila, it met the minimum depth (one foot) and width (six feet) requirements for these small boats [*Id.* at 26, Figure 4.2] making the river navigable for them.

The U.S. Geological Survey engineering method developed by Langbein in 1962 looks at the specific force required to propel a craft upstream. [*Id.*] This method uses the natural condition of the river (*e.g.*, discharge, gradient, depth, and velocity) to assess whether flow conditions were favorable for two-way (upstream and downstream)

commercial navigation by shallow-draft watercraft. [*Id.*] This method is particularly appropriate for determinations of title navigability because it is for "rivers in their approximate native state," and because it uses "the hydraulic geometry of rivers ...and the hydraulic geometry of commercial vessels." [*Id.* at 27] The Langbein method "considers hull resistance, shallow water drag, slope drag, squat and other characteristics of vessels." [*Id.*] These characteristics are used to calculate the specific tractive force of a river. Rivers with tractive forces above 0.002 are not used for navigation (*e.g.*, Red River at Terral, Okla., Rio Grande at Bernalillo, N. Mex.). [*Id.* at 27, Table 4.1] Commercial navigation is feasible within the range of 0.001 to 0.002. [*Id.* at 27] The lower Gila River has a tractive force of 0.001. [*Id.*] Therefore, although the Gila does not have an extensive history of commercial use, in its ordinary and natural condition it was susceptible to navigation both downstream and upstream. [*Id.* at 27–29] In addition to its scientific veracity, Mr. Hjalmarson's analysis agrees with other assessments and historical accounts of predevelopment navigation on the river discussed below.

C. Evidence of boats used on the Gila River pre-statehood demonstrate susceptibility to commercial navigation.

In addition to Mr. Hjalmarson's unrefuted susceptibility analysis, record evidence of actual navigation supports finding the Gila River susceptible to navigation. Before 1913, there were several types of boats in use in Arizona on the Gila River, all of which were susceptible to commercial use. The list of boats includes basket boats (3'–5' long), wooden rafts (5'–25' long), canoes (8'–25' long), rowboats (6'–22' long) drawing 5"-24" of water, canvas boats (5'–12' long), scows (8'–32' long) drawing 8" of water, flat boats (8'–30' long), ferry boats (6'–35' long), and at least one steam boat (25' and up). [EL #16-Papers submitted by Barbara Tellman 23, 31 & 42; EL #12–Douglas R. Littlefield, *Assessment of the Navigability of the Gila River Between the Mouth of the Salt River and the Confluence with the Colorado River Prior to and on the Date of Arizona's Statehood February 14, 1912* ("*Littlefield Report*") 120 (Nov. 3, 2005)] *See also, United States v. Utah*, 283 U.S. 64,

82 (1931) (recognizing use of rowboats, flatboats, steamboats, motorboats, barges and scows for exploration, recreation and carrying passengers and supplies on Colorado, Green, and San Juan rivers in Utah at statehood in 1896).

Other references cited in the record, indicate the following depths and widths needed for various vessels pre-statehood:

Boat Type	Depth (ft.)	Width (ft.)	Source	Other
Canoe	0.5	4.0	USFWS[5]	
Canoe	0.3–0.5		Slingluff[6]	4" for flat-bottomed; 6" for round-bottomed
Canoe	0.25–0.5	25.0	Cortell[7]	
Canvas Boat	0.2		Sears Catalog 1910	Hunting in calm water
Drift Boat	1.0	50.0	Cortell	
Duck Boat	0.2	3.0	Sears Catalog 1910	
Low-power boat	1.0	25.0	Cortell	
Rowboat/Drift Boat	1.0	6.0	USFWS	

[EL #16 at 38]

According to Mr. Hjalmarson's uncontroverted evidence, the "ordinary and natural" condition of the lower Gila was a perennial stream with an average width of 300', an average depth of between 4.3' and 5.3', and velocity of less than 3 mph. [EL #23, at 19–21] In addition to the three navigability tests employed by Mr. Hjalmarson, logically, the vessels described above would have been capable of navigating on the Gila under those conditions. This is further evidence that the "ordinary" and "natural" Gila River was susceptible to navigation.

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5 U.S. Fish & Wildlife Serv. (1978): Methods of Assessing Instream Flow for Recreation. FWS/OBS.

6 Slingluff, Jim (1987): Testimony in *Maricopa County et al. v. State of Ariz. et al.*

7 Cortell and Associates (1977): Recreation and Instream Flow Vol. 1 Flow Requirements BORD 6429.

D. Historical and anecdotal evidence supports finding the lower Gila susceptible to commercial navigation at statehood.

The Arizona State Land Department report, entitled *Gila River Navigability Study Draft Final Report* dated October 1994 (revised September 1996) ("GILA RIVER NAVIGABILITY STUDY") lists many accounts of the river leading to the conclusion that it was susceptible to navigation in its natural condition. The first such account describes a party passing through the Gila River basin in November 1697. [EL #4-GILA RIVER NAVIGABILITY STUDY IV-1] In that account, in order to investigate ruins on the other side of the river, Juan Bautista de Escalante was forced to swim across the river. [*Id.*] A later account by James Ohio Pattie states that while trapping along the lower Gila during December 1827, his party constructed a canoe so that they could trap both sides of the river, which he wrote was too deep to be forded on horseback. [*See* Goode P. Davis, Jr., *Man and Wildlife in Arizona: The American Exploration Period 1824-1865* 21 (Neil B. Carmony & David E. Brown eds., 2d ed. 1986)] Another account by a predevelopment observer, John S. Griffin, an army surgeon who traveled with the Kearny (Emory) expedition in 1846, described the Gila below the Salt as about 80 yards wide, three feet deep, and rapid. [*Id.* at 29 (*quoting* J.S. Griffin, *A Doctor Comes to California* 35 (California Historic Soc., San Francisco 1943)] Another member of the expedition, Henry Smith Turner, noted that the river was from 100 to 150 yards wide, with an average depth of four feet –"quite deep enough to float a steamboat." [*Id.* (*quoting* H.S. Turner, *The Original Journals of H.S. Turner* (D.L. Clarke, ed. Univ. of Oklahoma Press 1966)] Indeed, Dr. Littlefield, who opined the river was not navigable, acknowledged in his 2005 report that historical records established that the steamboat, Explorer, was used on the lower Gila for seven years before it was destroyed in a flood on the Colorado. [EL #12-*Littlefield Report* at 120] A river that is deep enough to float a steamboat is certainly capable of supporting navigation in smaller vessels used for commercial navigation.

Although much of the water that could have supported boating was diverted between 1850 and 1912, there is ample evidence that boating on the river actually took place during that period. As listed in the GILA RIVER NAVIGABILITY STUDY, many people used the river to navigate while diversions were actually happening. The fact that water-borne travel was happening irrespective of the ever-growing diversions reinforces the conclusion that the lower Gila River was, and remains, susceptible to navigation in its ordinary and natural condition on February 14, 1912.[8] It bears noting, that the Treaty of Guadalupe Hidalgo in 1848 recognized the potential navigability of the Gila. Evidence of post-diversion boating supports a finding that the river was at least susceptible to commercial navigation at statehood if the diversions had not existed. Finally, Jon Fuller testified at the 2005 hearing and again at the 2014 hearings that based on his research and experience and considering the Federal navigability standard, he believes the Gila River was navigable at the time of statehood. [TR 11/16/2005 120:24–121:22; TR 6/16/2014 264:22–264:3]

Notwithstanding there is ample historical evidence of actual navigation on the lower Gila, the susceptibility analysis performed by Mr. Hjalmarson makes it clear, by a preponderance of the evidence, that the river was susceptible to navigation in its

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8 While there is no specific evidence about modern boating on the lower Gila, in addition to the historical evidence presented by the parties, at the November 2005 hearing non-parties testified about their own modern navigation on other parts of the river. For example, Mr. Jon Colby testified that he was employed as an outfitter and guide on the upper Gila. He stated that he guided groups of people via kayaks, rubber rafts, and canoes through the Gila Box Riparian National Conservation Area managed by the Bureau of Land Management near Safford, AZ. [TR 11/17/2005 331:1–339:12] In addition, Mr. Dave Weedman, a biologist with Arizona Fish & Game, testified at the hearing that he had floated the river below San Carlos gathering information on fish populations. [TR 11/16/2005 211:8–13] At the June 2014 hearings, Mr. Jon Fuller and Donald Farmer both testified to having extensively boated the upper and middle Gila. [TR 6/16/2014–6/18/2014] The fact that boating on the Gila persists to this day, even though the vast majority of the river has long been diverted, combined with the historical anecdotes, is persuasive evidence that before these diversions began, the river was navigable in fact.

"ordinary" and "natural" condition. Not one of the presenters at the 2005 or 2014 hearings refuted Mr. Hjalmarson's study proving that the lower Gila River, at least from the confluence of the Salt to the Colorado, was susceptible to navigation at statehood.

III. Evidence Presented By Opponents To Navigability Does Not Relate To The "Ordinary and Natural" Condition Of The River And Therefore Carries No Weight.

A decision on navigability must be supported by substantial, reliable and probative evidence *See* Ariz. Rev. Stat. § 41-1062 (A); *Callen v. Rogers*, 216 Ariz. 499, 502, ¶ 9, 168 P.3d 907, 910 (App. 2007) ("On appeal from the superior court's review of an administrative decision, we consider whether the agency action was supported by the law and substantial evidence and whether it was arbitrary, capricious or an abuse of discretion. . . . [In} reviewing factual determinations, we decide 'only whether there is substantial evidence to support the administrative decision. A decision supported by substantial evidence may not be set aside as being arbitrary and capricious.'"). Substantial evidence is evidence that a reasonable mind would accept as adequate to support a conclusion; evidence beyond a scintilla. BLACK'S LAW DICTIONARY 580 (7th Ed. 1999) Reliable evidence is evidence "supported by appropriate validation—*i.e.*, "good grounds," based on what is known." *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 590 (1993) Probative evidence is evidence that tends to prove or disprove a point in issue. BLACK'S LAW DICTIONARY 579 (7th Ed. 1999). If the proper legal test is not applied to evidence being considered, decisions based on substantial, reliable, probative evidence will not support a finding of navigability or non-navigability. *Winkleman*, 224 Ariz. at 242, ¶ 28, 229 P.3d at 254.

As amended in 2012, Arizona Rule of Evidence 702 governs the admissibility of expert opinion testimony. The amended rule, which is now identical to Federal Rule of Evidence 702 states:

> A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:
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> (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
> (b) the testimony is based on **sufficient facts or data**;
> (c) the testimony is the product of reliable principles and methods; and
> (d) **the expert has reliably applied the principles and methods** to the facts of the case.

(emphasis added); *Glazer v. State*, 234 Ariz. 305, 314, ¶ 27, 321 P.3d 470, 479 (App. 2014). "Because they are now textually identical, "federal court decisions interpreting [Federal Rule of Evidence 702] are persuasive but not binding" in interpreting Arizona Rule of Evidence 702. *Id.* A.R.E. 702 and the *Daubert* analysis of admissibility applies to expert testimony of engineers and other non-scientists. *See* A.R.E. 702 Comment to 2012 Amendment (adopting Fed. Rule of Evidence 702 requiring trial courts to serve as gatekeepers ensuring that proposed expert testimony is reliable and helpful); *Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 141 (1999) ("We conclude that *Daubert's* general holding—setting forth the trial judge's general "gatekeeping" obligation—applies not only to testimony based on "scientific" knowledge, but also to testimony based on "technical" and "other specialized" knowledge.") Pursuant to Rule 702, if the expert's testimony lacks a sufficient factual basis, or the expert incorrectly applied established

principles and methods to the facts in coming up with his opinion, then that expert's opinion should not be considered.

In the instant matter, Jon Fuller, the State's primary testifying expert, and Donald D. Farmer, the State's boating expert are the only witnesses who testified at the June and August 2014 hearings who meet the requirements to qualify as experts on the lower Gila and who also applied the correct legal standards to the evidence. On the contrary, none of the experts testifying for the opponents of navigability are qualified to testify as experts on the lower Gila River referenced as segments 7 and 8 by the State. The following is an analysis of each of those testifying witnesses and the reasons they do not qualify to testify regarding the navigability of the lower Gila River from its confluence with the Salt River to the Colorado River confluence.

Allen Gookin Testifying on Behalf of the Gila River Indian Tribe.

Mr. Gookin's testimony should not be considered by the Commission because, for the third time, he has failed to apply the correct legal standards to the evidence to determine the navigability of the Gila River:

1. He openly states that he believes the Court of Appeals erred in *Winkleman*, when it concluded that "by the 1800s the River had largely reverted to its natural state" and he hopes the Commission will instead use the period from 1905 to 1916 as the correct time period to determine the ordinary and natural channel shape of the river, notwithstanding that the *Winkleman* opinion directing the Commission to consider evidence from an earlier time period as the best evidence of the river's natural condition. *See Winkleman*, 224 Ariz. at 242, ¶ 30, 229 P.3d at 254. ("Consequently, the

River could be considered to be in its natural condition after many of the Hohokam's diversions had ceased to affect the River, but before the commencement of modern-era settlement and farming in the Salt River Valley, when some of the Hohokam's diversions were returned to use and other man-made diversions and obstructions began to affect the River. Evidence from that early period should be considered by ANSAC as the best evidence of the River's natural condition."). [TR 6/19/2014, 852:11–853:19]

2. Mr. Gookin's standard for boat travel evidence requires both travel and commercial trade to be demonstrated on a single boat trip before that trip qualifies as evidence of navigability as a result of actual boating on the subject river notwithstanding the *Defenders* Court's statement that "the federal test has been interpreted to neither require both trade and travel together nor that the travel or trade be commercial." *Defenders of Wildlife v. Hull*, 199 Ariz. 411, 421, ¶ 28, 18 P.3d 722, 732 (App. 2001). [TR 6/19/2014, 860:4–862:12; 988:24–989:13]

3. In reaching his non-navigability conclusion Mr. Gookin considers overland transportation by horse and stagecoach near the river to indicate that the river was not navigable despite the Court of Appeals' statement in *Defenders* that to do this is contrary to the federal test. *Defenders of Wildlife*, 199 Ariz. at 424-25, ¶ 48, 18 P.3d at 735-36. [TR 6/19/2014, 978:2-979:9]

4. That he selected 1905-1916 as the period to determine the ordinary and natural condition of the channel of the Gila river albeit at least in part the river was fully diverted and appropriated and the channel were created by floods during the same

time frame. Using flood channels to evaluate the ordinary condition of the river contravenes the holding in *Winkleman*. [TR 6/19/2014, 849:6-16, 854:1-7, 923:9-15]

5. That he did not determine the ordinary and natural condition of the river in the early 1800s as directed in *Winkleman*. 224 Ariz. at 242, ¶ 30, 229 P.3d at 254. The "Manning's N-value" he used for his reconstruction came from the river as it existed around 1912, not as it existed in the early 1800s when it was a single narrow channel with vegetation present. [TR 6/19/2014, 923:2-15]
6. That in his study to determine the channel condition, the period he selected was a period of big floods resulting in the channel condition being a function of the big floods. [TR 6/19/2014, 855:1-19] As a result, Mr. Gookin's channel determinations do not comply with *Winkleman* in that he did not use an ordinary channel but instead used one created by flood. *See Winkleman*, 224 Ariz. at 241, ¶ 28, 229 P.3d at 253.
7. Mr. Gookin in this iteration of testimony and report admits that his studies focused on segment 6 where his client's reservation is located and that he is not expressing opinions about the rest of the river except in general hydrological or geomorphological terms. [TR 6/19/2014, 782:21-783:13] In fact, regarding the lower Gila, Mr. Gookin has personally only travelled as far as Arlington on the lower Gila. [TR 6/19/2014, 798:13-16] He has thus only seen a small part of segment 7 and none of segment 8. Absent sufficient facts and data, Mr. Gookin is not qualified to opine about the navigability of the lower Gila River. A.R.E. 702. Clearly, Mr. Gookin's

complete lack of specific information about segments 7 & 8 make him make him unqualified as an expert on navigability of the lower Gila.

Finally, the Commission will recall that Mr. Gookin testified that he would supply Mr. Helm with the chapter and verse from his readings that supported his claims regarding beaver dams on the lower Gila River. [TR 6/19/2014, 974:13-975:18] As of this writing, his supporting citations are still unavailable.

Rich Burtell Testifying On Behalf of Freeport Minerals Corporation

Mr. Burtell testified that he was employed to evaluate the navigable potential of the upper Gila River which, in his report he labeled as segments A, B, and C. He stated that his segments equated loosely to segments 1, 2 and 3 of the river as identified by Mr. Fuller and Mr. Gookin in their reports. [TR 6/20/2014, 1041:19-1042:3. At various times during his testimony he stated:

1. That his focus was not on the middle or lower Gila. [TR 6/20/2014, 1136:19-24];
2. That segments 1 through 3 are the essence of his report. [TR 6/20/2014, 1158:2-5];
3. That he has done no additional work on segments 4-8 other then read submissions from other experts. [TR 6/20/2014, 1171:4-19];
4. That he has only done a Google Earth flight review over segments A, B, and C, [TR 6/20/2014, 1170:1-3];
5. That he has not done any fieldwork on the Gila. [TR 6/20/2014, 1169:17-1170:2; 1170:22-25];
6. That he never boated on the upper Gila. [TR 6/20/2014, 1171:1-3];

7. That his expertise on boats comes from reading about them and his discussions with Lingenfelter. [TR 6/20/2014, 1194:7-1195:3];
8. That he has not considered the middle and lower Gila on a segment-by-segment basis. [TR 6/20/2014, 1218:17-23];
9. That he did not use the Lingenfelter affidavit for anything other than opinions on the three segments he studied and is not giving an opinion of the viability of the middle and lower Gila for navigation. [TR 6/20/2014, 1244:17-1245:7]; and
10. That his statements on braiding only apply to the three segments he studied. [TR 6/20/2014, 1245:16-25].

The foregoing establishes that Mr. Burtell has done nothing that would qualify him by virtue of his studies or actual work on the lower Gila river from its confluence with the Salt River to the Colorado River to testify as an expert on the lower Gila River regarding whether it is navigable or not. *See, Adams v. Amore*, 182 Ariz. 253, 254-55, 895 P.2d 1016, 1017-18 (App. 1994) (Court properly excluded expert witness testimony that lacked adequate foundation and because proponent failed to demonstrate reliability of data gathering procedure). The Commission should not consider any of his testimony as being applicable to the lower Gila.

In addition, for an expert to testify on a specific factual setting he must apply the proper legal standards to the evidence presented. *See Winkleman*, 224 Ariz. at 241-42, ¶ 28, 229 P.3d at 253-54. In the instant matter, Mr. Burtell does not do so. Like Mr. Gookin, he believes that the appropriate legal standard requires that trade and travel must occur together and requires a commercial component if trade and travel are to

establish that the river is navigable. [TR 6/20/2014, 1238:2-7, 1175:17-1176:18, 1174:21-1175:9, 1248:2-1249:18, 1277:12-1281:10] Further, he believes three feet of water depth is required for commercial boating and only one foot of depth for recreational boating. [TR 6/20/2014, 1253:20-1255:22] *Defenders* specifically states the federal test has been interpreted to not require both trade and travel together nor that the travel or trade be commercial. *Defenders of Wildlife*, 199 Ariz. at 421, ¶ 28, 18 P.3d at 732. Mr. Burtell thus does not apply the proper legal standards to his determinations from the evidence regarding the impact of the effects of boating on the Gila river regarding either actual navigability, or susceptibility to navigation.

Richard E. Lingenfelter Testifying for Freeport Minerals Corporation.

Richard E. Lingenfelter, Ph.D. supplied an affidavit to the Commission, but did not testify in person so the proponents of navigability were not able to cross-examine him on his affidavit. Dr. Lingenfelter's affidavit acknowledged that steamboats did ply the waters of the lower Gila for several miles upstream from Yuma at least to Dome. [EL# X008, at 3] In his affidavit, Dr. Lingenfelter opined that the Gila River was not navigable because it did not have sufficient water to float ore carriers or steamboats from the Clifton-Morenci area through the narrows near present-day Coolidge Dam to Yuma or from Gila Bend to Yuma, sufficient to make ore production profitable; therefore, according to him, the river is not navigable for title purposes. Dr. Lingenfelter does no analysis as to why the river was not used other than to say it lacked sufficient water. [EL #X008, at 10] There is no real dispute that the river was almost completely diverted in the mid-1800s thus depriving the river of sufficient water to float large

steamboats and ore carriers. *Winkleman*, however, instructs the Commission to evaluate the river in its pre-diversion, natural and ordinary condition, something Dr. Lingenfelter failed to do.

Dr. Lingenfelter's opinion of non-navigability does not take into consideration the condition of the river in its natural and ordinary state, and he bases his non-navigability opinion on whether steamboats and ore carriers were profitable on the river. He opines that the only boats in commercial use at the time of statehood "did not include craft that are similar to modern day recreational craft such as modern lightweight canoes and kayaks," but instead only "included large steamboats and gasoline powered paddle wheelers." [EL #X008, at 10] This opinion is contrary to the controlling legal authority. The *Daniel Ball* test as enunciated in *Winkleman*, does not require that a complete river be capable of supporting steamboats or ore carriers over the river's entire length before it is deemed navigable for title purposes. Evidence in the record and partially summarized *supra*, dispute Dr. Lingenfelter' conclusory statement that boats in use in Arizona for trade and travel were limited to large steamboats and gasoline power paddle wheelers. Accordingly, Dr. Lingenfelter's opinions of non-navigability should be given no weight whatsoever.

Douglas Littlefield Testifying on Behalf of Salt River Project Agricultural Improvement and Power District and the Salt River Valley Water Users' Association

An expert witness must apply the proper legal standard to the evidence for his conclusions to be accepted by the Commission. If the Commission accepts the expert's conclusions that are based on the wrong legal standard, the Commission's decision will

not be upheld. *Winkleman*, 224 Ariz. at 241-42, ¶ 28, 229 P.3d at 253-54. Dr. Littlefield failed to apply the proper legal standards to the alleged evidence he gathered, thus, his conclusions are unsupported and should not be relied on by the Commission.

Dr. Littlefield admits that his reports do not comply with any particular legal standard. He claims to just be reporting what he found. [TR 8/18/2014, 1489:4-9, 1538:3-8, 1581:14-1582:10] He makes no judgment whether the evidence he presents is true or false nor has he done anything to verify the evidence he presents. [TR 8/18/2014, 1508:21-1509:2] He claims that his work since *Winkleman* and his testimony is based on the ordinary and natural condition of the Gila River. [TR 8/18/2014, 1304:24-1305:4] He makes this claim although he testified he did no research to determine if the Gila was in its ordinary and natural condition when the evidence he relies on was created, [TR 8/18/2014, 1546:18-1547:20, 1495:3-11]; doesn't know that the ordinary condition and the natural condition of the river are legally required to be considered as separate categories [TR 8/18/2014, 1491:6-8, 1494:23-1495:1] *Winkleman*, 224 Ariz. at 241, ¶ 25, 229 P.3d at 253; and made no attempt to tell the Commission about the Gila untouched by civilization. [TR 8/18/2014, 1492:18-1493:4] Dr. Littlefield believes that the Gila River was in its natural condition before 1860 but relies on information well after that date to form his opinion, which is contrary to *Winkleman*. 224 Ariz. at 242, ¶ 30, 229 P.3d at 254. [TR 8/18/2014, 1418:12-1419:4; TR 8/19/2014, 1582:11-1583:20] Dr. Littlefield did not attempt to provide an opinion on the ordinary condition and natural condition of the river as required by *Winkleman*. [TR 8/18/2014, 1494:3-1495:11], and in fact has no opinion what the Gila would have looked like in its

ordinary and natural condition on the date of statehood in Arizona. [TR 8/19/2014, 1621:7-11]

Additional mistakes regarding correct legal standards made by Dr. Littlefield include:

1. Concluding that the federal test for navigability required that the actual use of the river being considered must have commercial transport as a component to qualify the use as supporting a navigability determination. [TR 8/19/2014, 1502:13-1503:12] albeit *Defenders* specifically states that the trade or travel does not have to be commercial nor occur simultaneously. *Defenders of Wildlife*, 199 Ariz. at 421, ¶ 28, 18 P.3d at 732;
2. Dr. Littlefield also construes non-boat transportation near the Gila to be an indicator of non-navigability and within the definition of "well defined artery of internal communication," [TR 8/18/2014, 1326:21-25, 1332:9-13, 1439:25-1441:19] notwithstanding *Defenders* holding that this would be contrary to the federal test for navigability. *Defenders of Wildlife*, 199 Ariz. at 424-25, ¶ 48, 18 P.3d at 735-36;
3. Dr. Littlefield believes that, notwithstanding the Court of Appeals direction in *Winkleman*, to consider the river absent major floods that because many of the witnesses he quotes reached their conclusions based on floods the Commission should consider their evidence in making a determination of navigability. [TR 8/18/2014, 1458:20-1459:12];
4. Dr. Littlefield believes that one still had to consider man-made obstructions in making a navigability determination notwithstanding *Winkleman*'s express direction

to the contrary. *Winkleman.* 224 Ariz. at 241-42, ¶¶ 27-28, 229 P.3d at 253-54. [TR 8/18/2014, 1489:18-22];

5. Dr. Littlefield claims that the surveyor notes and opinions should be given more weight than any other fact; [TR 8/18/2014, 1519:1-22]
6. Dr. Littlefield's treatment of surveyor notes and opinions disregards controlling U.S. Supreme Court authority. *State of Oklahoma v. State of Texas,* 258 U.S. 574, 585 (1922), holds that surveyors were not cloaked with the powers to settle questions of navigability and their actions in performing the survey were of little significance;
7. All of Dr. Littlefield's statements regarding what instructions a surveyor was following are solely his assumptions not backed up by any written documentation from the surveyors themselves. [TR 8/18/2014, 1521:12-1522:8; TR 8/19/2014,1581:22-1582:10];
8. Although he has no idea about the legal significance of any deeds issued by a government, [TR 8/19/2014, 1584:7-1585:2] Dr. Littlefield believes that examination of patents issued by the federal government are important because if they had thought a river was navigable the patent would not of been issued. [TR 8/18/2014, 1509:3-7] Again, Dr. Littlefield applies the wrong legal standard. The U.S. Supreme Court held long ago that a patent will not convey navigable land underneath a river unless the federal government definitely declares its intention to convey such land in the conveyancing document or otherwise makes it intention "very plain." *United States v. Holt State Bank,* 270 U.S. 49, 55, 46 S. Ct. 197, 199 (1926); *see also, Morgan v. Colorado River Indian Tribe,* 103 Ariz. 425, 427, 443 P.2d 421, 423 (1968) (Executive

order creating tribal reservation lacked a "clear intention" to reserve beds and waters of Colorado River to the Indian tribe and no showing of "peculiar need" to reserve the lands to the tribe, therefore the State holds title to land underlying Colorado River.).

In summary, Dr. Littlefield made the point numerous times in this testimony that he was not basing his conclusions and factual determinations on any legal standard. Unlike Dr. Littlefield, the Commission must make its navigability determination based on the statutory and case law governing navigability determinations. Dr. Littlefield's failure to comply with the legal standards governing navigability determinations makes his conclusions and opinions meaningless and of no use to this Commission. While many of observations he sets out in his testimony and reports are interesting, his failure to verify them calls them into question. At best, the Commission should follow the direction of the U.S. Supreme Court in the *Oklahoma* case, *supra*, and give his report and testimony "little significance."

Robert A. Mussetter on behalf of Salt River Project Agricultural Improvement and Power District and Salt River Valley Water Users' Association.

Again, in order to have one's testimony accepted as an expert one must apply the correct legal standard to the evidence. *Winkleman*, 224 Ariz. at 242, ¶ 29, 229 P.3d at 254. In preparing his report and testimony regarding the lower Gila, Dr. Mussetter reviewed some of the old reports that Dr. Schumm had done and reviewed Dr. Schumm's prior testimony, all of which he agreed with. [TR 8/19/2014, 1659:22–1660:9] Dr. Mussetter's only experience on the lower Gila was a helicopter flight over a portion of segment 7.

[TR 8/19/2014, 1780:21-24] When Dr. Schumm was doing his work, Dr. Mussetter did not do any direct analysis or work for Dr. Schumm. [TR 8/19/2014, 1711:2-5] Mr. Mussetter has not done any field work on the Gila nor, for that matter, has he ever been on the ground in any reach of the Gila River [TR 8/19/2014, 1708:18-1709:3] He does claim to have driven across it several times. [TR 8/19/2014, 1708:22-24], but if that experience supports expert status, everybody in the room during the hearing would be one. He did no analysis of historic boating accounts or historic activities on the Gila. [TR 8/19/2014, 1740:9-12] He did no calculations to determine Manning's N-values at any parts of the river. [TR 8/19/2014, 1745:5-7] He did no modeling for his work on the Gila [TR 8/20/2014, 1780:18-20], and although he testified that he could do modeling or hydraulic calculations that would estimate the natural and ordinary conditions of a river, he did not do this for the Gila. [TR 8/19/2014, 1807:20-1808:13] He testified that he is not aware of any waterfalls, rapids or beaver dams in segments 7 and 8 of the Gila. [TR 8/20/2014, 1805:1-10] He testified that he did no studies to quantify the flow of the river, [TR 8/20/2014, 1818:23-1819:1] He has no idea what the natural and ordinary flows of the Gila River are in terms of flow rate. [TR 8/20/2014, 1825:4-7] He admits that all the studies he references and relies on in his report and testimony were basically done with information after the date of statehood and do not explicitly try to describe what the river looked like in its ordinary and natural condition, but at the same time claims that those studies gave him information about what the river would have looked like. [TR 8/20/2014, 1826:4-20] He admits that the flow data he uses is from 1911 to 2009 and does not depict the natural and ordinary condition of the Gila [TR 8/20/2014,

1835:11–15], and that the gauge data that he used in his analysis comes from the Safford gauge [TR 8/20/2014, 1841:25–1842:4], which is located in the upper Gila far above the confluence with the Salt river. Lastly, he admits that every channel change he discusses that resulted in a braided channel was the result of a flood. [TR 8/20/2014, 1852:10–15]

The bottom line is Dr. Mussetter did no studies of the lower Gila that qualify him to give expert testimony on its navigability or non-navigability. The only study he did do was on the upper Gila. His sole evidence that he relies on for a determination on the lower Gila is the work of Dr. Schumm. This reliance is misplaced because Dr. Schumm's work does not support a non-navigability determination of the lower Gila. Dr. Schumm testified that he did not study the natural and ordinary conditions of the Gila River. [TR 11/17/2005 28:15–20; 31:4–32:11] That is one of the principal reasons this case is again before this Commission. Dr. Mussetter is relying on Dr. Schumm's work for his conclusions about the lower Gila, but Dr. Schumm's work does not support any navigability or non-navigability determination because it did not apply the correct legal standard. *Winkleman* requires a determination of what the river would have looked like in its ordinary and natural condition on February 14, 1912. Dr. Schumm never made this determination for the lower Gila. [TR 11/17/2005 28:15–20; 31:4–32:11] His work is of no value to Dr. Mussetter. He could have, and should have, done his own work, as he did on other rivers, but he did not do this on the lower Gila. The Commission should not rely on his report or testimony regarding the lower Gila.

Further, his braiding claims are solely the results of flooding and under *Winkleman* are not the ordinary condition of the river. This is especially true in light of

Dr. Mussetter's testimony that the reason the braiding did not heal itself after the floods in question was because the river was diverted and did not have enough flow to heal. [TR 8/20/2014, 1819: 2-13]

Finally, on re-direct, Mark McGinnis, attorney for Salt River Project, led Dr. Lingenfelter through several pages of the Commission's 2009 report, which cited the ASLD report that described the effects of the large floods on the river in the time around statehood. [TR 8/20/2014 1869-1884] For those fifteen pages of the transcript, Mr. McGinnis read the 2009 Commission report and Dr. Lingenfelter stated he agreed with the statements. [*Id.*] This testimony should be disregarded for two important reasons; 1) the 2009 Commission report was based on a mistaken legal premise, which ignored the legal requirement that the river be evaluated in its ordinary and natural condition, and 2) the cited ASLD report, which acknowledged the effects of the unusual period of large floods in the late 1800s, was also premised on the mistaken assumption that the river was to be evaluated at the time of statehood and not the "ordinary" and "natural" period as defined by *Winkleman*. Accordingly, any reliance by the current Commission on Dr. Lingenfelter's agreement with Mark McGinnis's reading of the 2009 Commission report is misplaced.

IV. Gila River from confluence with Salt River to mouth is a navigable segment.

In *PPL Montana*, the Supreme Court held that a determination of navigability of an entire river within a state must consider the various segments of the river and determine whether each segment is navigable or not. *PPL Montana, LLC*, 132 S. Ct. at 1229-30. The Supreme Court stated that segments must be discrete and substantial, and

evaluated based upon their administrability and value. *Id.*, at 1231. The segments must have exact beginnings and endings. *Id.*, at 1229. When determining segmentation, the *PPL Montana* Court stated that physical conditions (*e.g.*, terrain, flow rates, topography, and geography) provide a practical means of identifying starting and ending points for segments. *Id.*, at 1230. The Court reiterated, however, that *The Daniel Ball* test (*i.e.*, whether navigation had occurred or the segment was susceptible of navigation in its natural and ordinary condition, if navigation had not occurred), still applied to determinations of navigability for title. *Id.* at 1228. The Court further stated that evidence of recreational (*i.e.*, non-commercial) boating should be considered as bearing on navigability for title purposes if it "shows the river could sustain the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood." *Id.*, at 1233. Susceptibility to navigation at the time of statehood is the applicable test, not whether actual use for commercial purposes occurred. *Id.*

The lower Gila (ASLD Segments 7 & 8) is located in the Basin and Range province and its flow is supplemented by the Salt River, which, before Anglo settlement, supplied a greater volume of water than the upper and middle Gila watersheds. [EL #1, *ASLD Gila River Navigability Study* revised 9/1996, at VII-5-6] The lower Gila was perennial from the Salt to the Colorado River. [*Id.*] Early Spanish explorers described natives living along the lower Gila as fishermen and the river as lined with Cottonwoods through the late 1800s. [*Id.*] There are multiple historical records of successful navigation down the lower Gila during the 1800s before upstream diversions entirely depleted the river by the 1920s. [*Id.*] The lower Gila River is a clearly definable,

discrete, administrable segment, which, as described in more detail *supra*, has ample evidence of navigability for title purposes.

Conclusion

The only admissible evidence of the lower Gila in its ordinary and natural condition was presented by Hjalmar W. Hjalmarson in his report and testimony at the 2005 hearings. That evidence, coupled with the evidence of actual trade and travel that occurred on the river after diversions began, plus the evidence of steamboat use on the lower Gila, leads to only one conclusion a finding that the segment from the Salt River to the Colorado River was navigable at statehood.

Respectfully Submitted this 14th day of November 2014.

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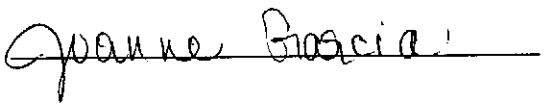

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BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

In The Matter Of The Navigability Of The Gila River From The New Mexico Border To The Confluence With The Colorado River, Greenlee, Graham, Gila, Pinal, Maricopa, And Yuma Counties, Arizona	**No. 03-007-NAV** **Maricopa County and The Flood Control District of Maricopa County's Post-Hearing Closing Brief Notice of Errata**

After filing its post-hearing closing brief, undersigned counsel noticed a typographical error in the final paragraph of the discussion about Dr. Mussetter on page 28. Counsel mistakenly attributed Dr. Mussetter's testimony at the August 2014 hearing to Dr. Lingenfelter, who did not testify. Exhibit 1 hereto is a replacement page with the corrected attribution.

Respectfully Submitted this 24th day of November 2014.

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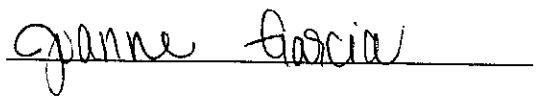

Exhibit 1

Dr. Mussetter's testimony that the reason the braiding did not heal itself after the floods in question was because the river was diverted and did not have enough flow to heal. [TR 8/20/2014, 1819: 2-13]

Finally, on re-direct, Mark McGinnis, attorney for Salt River Project, led Dr. Mussetter through several pages of the Commission's 2009 report, which cited the ASLD report that described the effects of the large floods on the river in the time around statehood. [TR 8/20/2014 1869-1884] For those fifteen pages of the transcript, Mr. McGinnis read the 2009 Commission report and Dr. Mussetter stated he agreed with the statements. [*Id.*] This testimony should be disregarded for two important reasons; 1) the 2009 Commission report was based on a mistaken legal premise, which ignored the legal requirement that the river be evaluated in its ordinary and natural condition, and 2) the cited ASLD report, which acknowledged the effects of the unusual period of large floods in the late 1800s, was also premised on the mistaken assumption that the river was to be evaluated at the time of statehood and not the "ordinary" and "natural" period as defined by *Winkleman*. Accordingly, any reliance by the current Commission on Dr. Mussetter's agreement with Mark McGinnis's reading of the 2009 Commission report is misplaced.

IV. Gila River from confluence with Salt River to mouth is a navigable segment.

In *PPL Montana*, the Supreme Court held that a determination of navigability of an entire river within a state must consider the various segments of the river and determine whether each segment is navigable or not. *PPL Montana, LLC*, 132 S. Ct. at 1229-30. The Supreme Court stated that segments must be discrete and substantial, and