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BEFORE THE ARIZONA NAVIGABLE STREAM ADJUDICATION COMMISSION

IN THE MATTER OF THE NAVIGABILITY OF THE VERDE RIVER FROM ITS HEADWATERS AT SULLIVAN LAKE TO THE CONFLUENCE WITH THE SALT RIVER, YAVAPAI, GILA AND MARICOPA COUNTIES, ARIZONA	No. 04-009-NAV (Verde) **FREEPORT MINERALS CORPORATION'S OPENING POST-HEARING MEMORANDUM CONCERNING THE NON-NAVIGABILITY OF THE VERDE RIVER**

INTRODUCTION

Freeport Minerals Corporation (Freeport) respectfully submits its Opening Post-Hearing Memorandum Concerning the Non-Navigability of the Verde River.

As with the proceedings on remand concerning the San Pedro River, the Santa Cruz River, and the Gila River, the parties advocating that the Verde River was navigable in its ordinary and natural condition rest their case upon erroneous standards for navigability. Specifically, these parties rely upon modern recreational boating standards to support their arguments that any stream with depths of 1 foot or even 6 inches is navigable for purposes of title. These parties build their cases upon modern recreational boats and modern recreational boating. By choosing to ignore "the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood," as a matter of law these parties fail to meet their burden of proof. *PPL Montana v. Montana*, 132 S.Ct. 1215, 1233 (2012).

The reasons that the proponents of navigability again rely upon inapplicable standards relating to modern recreational craft is that this case involves a shallow desert stream with a meager history of boating of any kind, despite a multitude of needs that could have been served by commercial navigation if the Verde River had actually been navigable. Applying the standard for navigability that is well-established through longstanding United States Supreme Court precedent, the evidence presented to ANSAC requires a determination that the Verde River was neither navigable nor susceptible to navigation in its ordinary and natural condition.

I. THE APPLICABLE LEGAL STANDARD MANDATES A FINDING THAT THE VERDE RIVER IS NOT NAVIGABLE.

A. Legal Standard.

The proponents of navigability for the Verde River bear the burden of proof and must demonstrate by a preponderance of the evidence that specific segments of the river were navigable in their ordinary and natural condition. *State ex rel. Winkleman v. Arizona Navigable Stream Adjudication Comm'n* ("*Winkleman*"), 224 Ariz. 230, 239, ¶¶ 17 (App. 2010). The river must be considered both in its "ordinary condition," *e.g.* absent extreme

drought or flooding, and in its "natural condition," *e.g.* absent human diversions. *Id.* at 241, ¶ 28. Evidence from a time before modern-era settlement and farming began having a substantial impact on the river is considered the best evidence of the river's natural condition. *Id.* at 242, ¶ 30. "Assuming the evidence has indicia of reliability," however, "the determination of the relevance and weight to be afforded the evidence is generally for ANSAC to make." *Id.* at 243, ¶ 31.

The test of navigability for title is a federal test based on more than 150 years of case law. *PPL Montana*, 132 S.Ct. at 1227. The most important of these cases were decided by the United States Supreme Court, beginning with *The Daniel Ball*, 77 U.S. 557 (1870). Although *The Daniel Ball* addressed federal power to regulate navigation, its statement of the test of navigability has become the standard test for purposes of navigability for title. *See PPL Montana*, 132 S.Ct. at 1228. In fact, Arizona's statutory definition of a navigable waterway paraphrases *The Daniel Ball* test:

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

A.R.S. § 37-1101(5).

During the long history of Supreme Court consideration of this issue, several important legal principles have become well-established. First, this test is one of "navigability in fact." *PPL Montana*, 132 S.Ct. at 1227. Accordingly, the focus is on "'rivers really navigable.'" *Id.* (quoting *Shively v. Bowlby*, 152 U.S. 1, 31 (1894)). Furthermore, it is "not every small creek in which a fishing skiff or gunning canoe can be made to float at high water which is deemed navigable, but, in order to give it the character of a navigable stream, it must be generally and commonly useful to some purpose of trade or agriculture." *United States v. Rio Grande Dam & Irrigation Co.*, 174 U.S. 690, 698-99 (1898) (quoting *The Montello*, 20 Wall. 430, 442). On this basis, the Supreme Court concluded that

> [o]bviously, the Rio Grande within the limits of New Mexico is not a stream

> over which in its ordinary condition trade and travel can be conducted in the customary modes of trade and travel on water. Its use for any purposes of transportation has been and is exceptional, and only in times of temporary high water.

Id. at 699. The Rio Grande is the largest and longest river in New Mexico, flowing from the northern border with Colorado to the southern border with Texas. Yet, because it is a desert river with insufficient reliable flows, the Supreme Court held that the entire river in New Mexico is non-navigable.

Similarly, the Supreme Court concluded that the entire length of the Red River in the State of Oklahoma, more than 500 miles in all, was non-navigable due to variable water flows and river bed conditions, such that

> trade and travel neither do nor can move over that part of the river, in its natural and ordinary condition, according to the modes of trade and travel customary on water; in other words, that it is neither used, nor susceptible of being used, in its natural and ordinary condition as a highway for commerce. Its characteristics are such that its use for transportation has been and must be exceptional, and confined to the irregular and short periods of temporary high water. A greater capacity for practical and beneficial use in commerce is essential to establish navigability.

Id. at 591.

Most recently, the Supreme Court has reconfirmed that evidence of navigability "must be confined to that which shows the river could sustain the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood." *PPL Montana*, 132 S.Ct. at 1233. Moreover, "[n]avigability must be assessed as of the time of statehood, and it concerns the river's usefulness for 'trade and travel,' rather than for other purposes." *Id.* For these reasons, "[m]ere use by initial explorers or trappers, who may have dragged their boats in or alongside the river despite its nonnavigability in order to avoid getting lost, or to provide water for their horses and themselves, is not itself enough." *Id.* Finally, the Court stated that a finding of navigability must be founded on the kind of trade and travel on water that constitutes "a ***commercial*** reality." *PPL Montana*, 132 S.Ct. at 1234.[1]

[1] Unless otherwise noted, emphasis is added.

Based on these standards, the Supreme Court rejected a lower court ruling that the Madison River in Montana was navigable because the lower court had relied primarily on evidence of modern-day boating. While the Supreme Court noted that such evidence could be considered, it would only support a finding of navigability if "[a]t a minimum, ... the party seeking to use present-day evidence for title purposes" can show that "(1) the watercraft are meaningfully similar to those in customary use for trade and travel at the time of statehood; and (2) the river's post-statehood condition is not materially different from its physical condition at statehood." *Id.* The Court noted that these requirements are critical because "[m]odern recreational fishing boats, including inflatable rafts and lightweight canoes or kayaks, may be able to navigate water much more shallow or with rockier beds than the boats customarily used for trade and travel at statehood." *Id.*

B. The Commission Already Applied The Appropriate Legal Standard In Determining That The Verde River Was Not Navigable In Its Ordinary And Natural Condition.

The Commission's 2005 determination that the Lower Salt was nonnavigable was remanded for purposes of assessing the Lower Salt in its natural condition. *Winkleman*, 224 Ariz. at 242. However, with respect to the Verde River, the Commission already applied the appropriate legal standard in determining that the Verde River was not navigable in its ordinary and natural condition at statehood. In its Report, Findings and Determination Regarding the Navigability of the Verde River from its Headwaters to the Confluence with the Salt River dated March 24, 2008 (Report, Findings and Determination), the Commission made very clear that it was evaluating the Verde in its ordinary and natural condition:

> In the 1860's, with the establishment of Camp Verde and Ft. McDowell, settlers followed and began diverting water from the river to grow alfalfa for hay for the army and established other irrigation agriculture. **In order to consider the river in its ordinary and natural condition, the Commission considered its condition prior to 1860 and the initial diversion of water for irrigation by modern settlers.**[2]

[2] Report, Findings and Determination at p. 28. Even the proponents of navigability agree that the Verde River was in its natural condition into the 1860s. 12/19/14 Trans. 1183:11 – 1184:14 (Hjalmarson).

The Commission's Report, Findings and Determination reflects an in-depth analysis of the relevant facts concerning the Verde River's natural condition. The Commission devoted a Section to consideration of the evidence of "Prehistoric or Pre-Colombian Conditions on the Verde River,"[3] in which the Commission recognized that "[t]here is no evidence in the archeological record that would indicate that any of the prehistoric cultures located in the study area used the Verde River as a means for transportation by boat or other water craft."[4]

In Sections titled "Historic Development of the Verde River Valley" and "Conditions Approaching Statehood: Oral History and Opinions of Pioneers Who Lived or Traveled in the Area Prior to Statehood," the Commission documented its consideration of evidence concerning early Spanish exploration in the 1500s (no use of boats on the Verde), Yavapai, Pima, and Apache inhabitation and presence from 1600 to the 1820s (also no use of boats on the Verde), the travels of trappers and mountain men through the region in the early 1800s ("These mountainmen generally rode horseback or walked through the southwest and did not use canoes, rafts or other types of boats on the Verde River or other Arizona rivers, except for the Colorado."), the rise of mining activity and the establishment of military posts in the mid-1800s ("Records from the military posts indicate attempts to boat on the river and cross it when it was in higher water as if they were using the boat as a ferry."), and early settlement beginning in the 1860s ("Other than the few examples given of attempts to boat on the river or float logs on the lower part of it from the dismantling of Ft. McDowell, almost everyone interviewed conceded that travel along the Verde River Valley was mostly by horse or mule, wagon or foot until roads and the automobile came into common use.").[5]

As documented in its Report, Findings and Determination, the Commission considered a great deal of additional evidence bearing upon the Verde River's natural and ordinary condition, and ultimately determined that "the preponderance of evidence supports a finding that the Verde River was not navigable on February 14, 1912, and further, was not

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[3] Report, Findings and Determination at pp. 20-23.

[4] Report, Findings and Determination at p. 23.

[5] Report, Findings and Determination at pp. 23-35.

susceptible of navigability in its ordinary and natural condition."[6] This determination was made by properly applying *The Daniel Ball* test and in consideration of the river in its ordinary and natural condition.

As summarized below, the evidence that has been presented to the Commission since issuing its Report, Findings and Determination only strengthens the conclusion that the Commission reached in 2008.

II. MR. BURTELL HAS SIGNIFICANT EXPERTISE EVALUATING THE NATURE AND OCCURRENCE OF SURFACE WATER IN ARIZONA STREAMS.

Freeport retained Rich Burtell, RG, to identify and compile available evidence concerning the Verde River and to evaluate whether it was navigable or susceptible to navigation in its ordinary and natural state. Mr. Burtell prepared a declaration (Declaration)[7] and testified in support of his findings that the Verde River was not navigable in its ordinary and natural condition on or before statehood.

Mr. Burtell's *Curriculum Vitae* is Attachment A to his Declaration. Mr. Burtell is a Registered Geologist with a Masters of Science in Hydrology. Mr. Burtell has over twenty-five years of experience as an environmental scientist dealing with a host of water and environmental matters, and his experience and expertise extend to matters involving geology, hydrology, and hydrogeology. Mr. Burtell worked at the Arizona Department of Water Resources (ADWR) for twelve years. For the majority of his tenure, Mr. Burtell served as the Manager of the Adjudications Section at ADWR. As Manager of the Adjudications Section, Mr. Burtell was extensively involved in evaluating the nature and occurrence of surface water in Arizona streams.

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[6] Report, Findings and Determination at p. 53.

[7] Declaration Of Rich Burtell On The Non-Navigability Of The Verde River At And Prior To Statehood dated September 2014, Exh. X009, Freeport 1 (Declaration).

III. THE VERDE RIVER WAS NOT NAVIGABLE IN ITS ORDINARY AND NATURAL CONDITION AT OR BEFORE STATEHOOD.

A. The Verde River's Scant History Of Boating Demonstrates That It Was Not Navigable In Its Ordinary And Natural Condition.

1. There Is No Evidence Of Navigation By Native Americans At Any Time During Their Thousands Of Years Of Occupation Of The Region.

The Verde Valley has been occupied for thousands of years, and during that time the Verde River has served as an important communication and trade route.[8] As described in Fuller's 2003 Verde Report, "[t]he fact that the Verde River served as a communication and trade link and focus is evident in settlement patterns, architectural and artifactual traits, and site structure."[9]

Despite millennia of inhabitation of the region, and the central role that the Verde River played to the cultural aspects of the inhabitants' lives, there is no evidence to suggest that any prehistoric peoples ever used the Verde River for boating of any kind.[10] This fact is uncontested, and consistent with findings already reached by this Commission in its Report, Findings and Determination.[11]

The fact that the Native Americans did not use the Verde River for boating of any kind during the millennia during which they inhabited the region is compelling evidence that the Verde River was not susceptible to use as a highway of commerce in its ordinary and natural condition.

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[8] 12/17/14 Trans. 752:9 – 754:11 (Fuller); JE Fuller Hydrology & Geomorphology, Inc., Arizona Stream Navigability Study for the Verde River: Salt River Confluence to Sullivan Lake (revised June 2003), Exh. 31, (Fuller's 2003 Verde Report) at 2-14.

[9] Fuller's 2003 Verde Report at 2-11.

[10] 12/17/14 Trans. 752:9 – 754:11 (Fuller); 3/30/15 Trans. 2593:9 – 2597:8 (Burtell); Fuller's 2003 Verde Report at 2-14.

[11] Report, Findings and Determination at p. 23 ("There is no evidence in the archeological record that would indicate that any of the prehistoric cultures located in the study area used the Verde River as a means for transportation by boat or other water craft and there has been no documented use of the river as a highway for commerce for commercial trade and travel or regular floatation of logs. All travel in the study area during this period was by foot.").

2. There Are Very Few Historic Accounts Of Boating On The Verde River.

In his 2003 Verde Report, Mr. Fuller acknowledged that, while some limited historic accounts of boating exist, "the vast majority of transportation in the region [was] by horses, mule trains, and railroad."[12] Mr. Fuller recognized that this was true despite the fact that "[o]verland transportation was often difficult, especially during rainy periods."[13] Fuller's 2003 Verde Report also recounts that long-time residents and historians of the Verde Valley were aware of some accounts of boating, "though most [of the long-time residents and historians] were surprised that the river was under consideration as a navigable stream."[14]

Their surprise was understandable given the paucity of historic accounts of boating on the Verde. Mr. Burtell compiled information concerning these few sparse historic accounts in Table 1 to his Declaration.[15] Several of the accounts involve the use of rafts, not for travel up or down the river, but as ferries serving the functional equivalent of a bridge.[16] Others were recreational excursions, not for the purpose of conducting trade or travel, and they often occurred during periods of high water.[17] Some of these boating events ended badly, and some may not have even actually taken place.[18]

This evidence was considered previously by the Commission, which noted in its 2008 Report, Findings and Determination that,

> [a]lthough there was some boating on the Verde River during historical times and use of boats to hunt ducks and other game, and likewise there is evidence in historical times as well as modern times of fish in the river and evidence that people did catch fish in the river, there was no fishing industry ever established. It appears that all fishing was for recreational or personal consumption. None of the boating incidents carried

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[12] Fuller's 2003 Verde Report at 9-2.

[13] Fuller's 2003 Verde Report at 9-2.

[14] Fuller's 2003 Verde Report at 9-2.

[15] Declaration at Table 1.

[16] Declaration at Table 1; 3/30/15 Trans. 2593:9 – 2605:23 (Burtell).

[17] Declaration at Table 1; 3/30/15 Trans. 2593:9 – 2605:23 (Burtell).

[18] Declaration at Table 1; 3/30/15 Trans. 2593:9 – 2605:23 (Burtell).

> goods for commercial trade and there was no navigation upriver.[19]

The Commission concluded that "it does not appear that any of these attempts were used for commercial transportation or use of the river as a highway for commerce."[20] Instead, "[t]he vast majority of transportation in the region was by horse, mule, wagon and later by railroad."[21]

The evidence received by the Commission in connection with the hearings in 2014 and 2015 only reinforces these prior determinations. As Mr. Burtell opines, "[t]aken together, these historic accounts do not demonstrate that the Verde River was reliably used, or susceptible to use, for trade or travel prior to statehood. Most of the accounts either involved using boats to cross the river or were downstream recreational floats. There is simply no evidence of extensive or continued use of the river at that time for commercial purposes."[22]

B. The Verde River Was Unable To Meet Significant Needs For Commercial Navigation During Early Settlement Of The Watershed.

While the absence of commercial navigation is not dispositive "where conditions of exploration and settlement explain the infrequency or limited nature of such use," *United States v. Utah*, 283 U.S. 64, 82 (1931), there were clear needs to use the Verde River as a highway for commerce – if it had been viable for such purposes – in the early years of settlement before diversions had meaningfully impacted the river.

As Mr. Burtell describes in his Declaration, the first non-Indian settlers in the Verde River watershed were the military and farmers in the Verde Valley.[23] These settlers were

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[19] Report, Findings and Determination at p. 37.

[20] Report, Findings and Determination at p. 36.

[21] Report, Findings and Determination at p. 36.

[22] Declaration ¶ 25. *See, e.g., Rio Grande Dam*, 174 U.S. at 698-99 (1898) (to be deemed navigable a river "must be **generally and commonly useful** to some purpose of trade or agriculture.") (quoting *The Montello*, 20 Wall. at 442).

[23] Declaration ¶ 40.

engaged in activities that required the transport of supplies and goods, and, in the unsettled West, they had to make good use of the best available transportation resources. Despite these obvious needs for transportation of goods and people, these early settlers did not use the Verde for such purposes.

1. The Military.

As Mr. Burtell described during his testimony, "[t]here were no less than four bases established either on or near the Verde River by the U.S. military prior to 1870..."[24] Organized from north to south, these military installations were established as follows: (1) Fort Whipple was established in December 1863 in the Prescott area near the headwaters of the Verde; (2) Camp Verde was established in January 1864 along the Verde River, near the confluence with Beaver Creek; (3) Camp Reno was established in September 1867 in Meadow Valley; and (4) Fort McDowell was established in 1865 along the Verde River near the confluence with the Salt River.[25]

In this same timeframe, the Verde Valley was being settled, and Prescott had been designated as the capital of the Arizona territory.[26] Nevertheless, the Verde River certainly remained in its ordinary and natural condition in that era, as reflected by the minimal amount of irrigation diversions that were occurring prior to 1870.[27] As Mr. Burtell observes, "[w]ith this level of early development, it is difficult to explain how military personnel, farmers, and townspeople all failed to use the Verde River as a highway for commerce if it were susceptible to commercial navigation."[28]

The reality is that the military, in particular, had significant needs for efficient transportation and means to supply its four installations. "No less than four attempts were made by the military prior to 1870 to figure out the most efficient way of getting from Fort

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[24] 3/30/15 Trans. 2623:24 – 2625:11 (Burtell); Declaration ¶ 40.

[25] 3/30/15 Trans. 2623:24 – 2625:11 (Burtell); Declaration ¶ 40.

[26] Declaration ¶ 39.

[27] Declaration at Table 2; 3/30/15 Trans. 2623:24 – 2625:11 (Burtell).

[28] Declaration ¶ 39.

Whipple near the headwaters down to Fort McDowell at the mouth, four attempts."[29] The map attached as Figure 3 to Mr. Burtell's Declaration depicts the wagon roads that the military was forced to use during this timeframe. The routes were extremely indirect and, therefore, inefficient. The primary route available to the military at the time actually required a massive detour through Wickenburg. This inefficient route prompted the four separate campaigns to identify a more suitable means of connecting the installations.[30]

Figure 3 also depicts the Verde River and its proximity to Fort Whipple and Fort McDowell. Simply put, had it been susceptible to use as a highway of commerce, the Verde River would have afforded the military with an express highway between the two forts.[31] The only reason that the military did not use the Verde River as a means of transportation is that it was not susceptible to that use.

In 1870, the military finally achieved a more suitable passage between these two forts, a route that became known as "Stoneman's Road."[32] Stoneman's Road reduced the length of the journey by approximately 80 miles, which equated to a savings of nearly a week of wagon road travel time.[33] In 1875, a congressional appropriation was sought and received to fund further improvements of Stoneman's Road.

Mr. Burtell described the significance of this history as follows:

> But I think a point that can't be overlooked with regard to these roads is I think the impression that I got from other testimony is that these roads back then were somehow low-maintenance, great, easy-to-use roads. Nothing could be further from the truth. These early roads were very difficult to build. They were very expensive, and think what happens after the monsoon. Most of these river crossings didn't have bridges. Roads were getting washed out. And how about livestock? Whatever you're using to haul your stuff up there, where are they going to get their water?
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> So believe me, I can't believe that if the Verde River was

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[29] 3/30/15 Trans. 2625:12 – 2627:9 (Burtell); *see also* Declaration ¶¶ 41-44.

[30] Declaration at ¶ 42 and Figure 3; 3/30/15 Trans. 2627:10 – 2629:9 (Burtell).

[31] Declaration at ¶ 42 and Figure 3; 3/30/15 Trans. 2627:10 – 2629:9 (Burtell).

[32] 3/30/15 Trans. 2627:10 – 2629:9 (Burtell); *see also* Declaration ¶ 45.

[33] 3/30/15 Trans. 2627:10 – 2629:9 (Burtell).

> navigable, everybody would have ignored it because a road was so much easier. They were expensive to build. They were expensive to maintain....[34]

The Verde was ignored as a solution to the military's significant transportation problems because the river was not susceptible to use as a highway of commerce.

2. Early Settlers.

The military was not alone in seeking solutions to transportation needs in the region. The early settlers in the Prescott and Verde Valley areas also explored means to improve their travel.

A stagecoach route between Prescott and Maricopa Wells was established in 1868. As depicted in Figures 3 and 4 to Mr. Burtell's Declaration, the Verde, Salt, and Gila rivers "would have offered as direct a route between the two towns as passing overland by stage through Wickenburg." These early settlers did not travel on these rivers because they were not susceptible for such use. Instead, these settlers had to establish an expensive stage line.[35]

Similarly, by the early 1870s the need was identified for a means of transportation between Camp Verde and Phoenix:

> Hellings Flour Mill, from Phoenix, had a large contract with Camp Verde and its associated Indian Reservation. Transportation of goods all the way to Prescott over the Wickenburg road and then on to Camp Verde would be far too expensive. It made a lot of sense to establish a more direct road through the Black Canyon.

The Verde would have provided a direct connection between Camp Verde and Phoenix, but it was not used. Instead, these early settlers resorted to the establishment of another

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[34] 3/30/15 Trans. 2632:11 – 2633:21 (Burtell). Wagon roads were also extremely dangerous. While navigability proponents have suggested that perhaps the Verde River was ignored as a means of transportation because travelers would be at risk of attack, the uncontroverted record demonstrates that travelers on wagon roads were commonly robbed and killed by bandits and Native Americans. 12/19/14 Trans. 1181:8 – 1183:10 (Hjalmarson); 3/30/15 Trans. 2632:11 – 2636:6 (Burtell).

[35] Declaration ¶ 49.

expensive stage line, although this would not come to fruition until 1878.[36] The Verde River would have been used if it was capable of serving as a highway of commerce.

Transportation was not the only need that the Verde was unable to satisfy in this early period of settlement. Obviously, among early settlers' chief concerns was securing an adequate and reliable food supply. While the Verde River provided fish to early settlers, it was incapable of supporting a fishing industry involving the transport of fish to communities where the food was needed.[37] This is because the Verde River was not susceptible to use for trade and travel.

C. Historic Accounts And Government Assessments Of The Verde River Reveal A River That Was Neither Navigable Nor Susceptible To Navigation In Its Natural And Ordinary Condition.

One of the earliest accounts of the Verde is provided by a trapper named Antoine Leroux from a journey in 1854, well before settlement or agricultural diversions. Leroux recounted numerous rapids. He also described wide lagoons, consistent with Vincent Randall's accounts of marshes and lagoons in the Camp Verde area, and consistent with the well-chronicled malaria outbreaks suffered in that area. As Mr. Burtell testified, "looking at tribal cultural history and Leroux's account, it certainly paints a picture that portions of that middle [Verde] area was likely marsh-laden, where the water was spread out, certainly in portions of it."[38]

A decade later, during the high water season of late February and early March, Judge Joseph Pratt Allyn traveled along the Verde with a group of civilians and troops. He recorded numerous observations about the Verde River during his trip. However, Allyn never mentions the use of boats during his trip or the Verde's suitability for navigation. Allyn also compares the Verde River to the Rio Grande, which Allyn had previously observed in the Santa Fe, New Mexico area. The Rio Grande is a river that has been

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[36] Declaration ¶ 50.

[37] Report, Findings and Determination at p. 37.

[38] 3/30/15 Trans. 2611:11 – 2612:23 (Burtell); Declaration ¶ 30.

deemed nonnavigable throughout its entire reach in New Mexico.[39]

That next year, in 1865, the Arizona Territorial Legislature requested an appropriation from the United States Congress to improve the navigability of the Colorado River, stating, in part, as follows:

> the Colorado River is the only navigable water in this Territory; that it is navigable, in high stages of water, five hundred miles; that by the expenditure of a small amount of money, it may be rendered navigable much higher up. That portion of the river between Fort Yuma and Fort Mohave has a changeable channel and is obstructed by boulders, snags, and sand bars rendering the navigation difficult and dangerous; that the removal of said obstructions would greatly facilitate the navigation of this part of the river…that if navigation of said river is improved it will accommodate the General Government and greatly increase and hasten the development of vast mineral other resources of this Territory.[40]

It is worth noting, again, that in this era the territorial capital was Prescott, very near the Verde River. Of any river in the territory, the legislators were likely most familiar with the Verde. The Arizona Territorial Legislature certainly would have been aware if the Verde River had been navigable.

The Arizona Territorial Legislature was not alone in its assessment that the Verde River was not navigable. In 1875, a Prescott newspaper called the *Weekly Journal-Monitor* published a story about Yavapai County, and included the following information:

> Our mountains contain fine, clear gravel-bottomed streams and lakes, valleys of great beauty and varying in length and width spread out in every direction among the mountains. The San Francisco or Verde River and the Colorado Chiquito (Little Colorado or Flax River) together with the Great Colorado with its wonderful Canon, are the most important rivers of Yavapai, but there is no navigable water in the county; all freight is moved by large trains of pack mules or heavy wagons drawn by from four to twenty mules to the wagon.[41]

Articles at this time were often aimed at encouraging growth and settlement of the region. If the Verde River had been navigable, the newspaper would have made sure to

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[39] Declaration ¶¶ 31-32; 3/30/15 Trans. 2612:24 – 2614:8 (Burtell).

[40] Declaration ¶ 35.

[41] Declaration ¶ 34 (emphasis supplied by Mr. Burtell).

underscore that point.

In addition, the several cadastral surveys conducted along the Verde River in the 1870s also indicate that the Verde River was not navigable. General Land Office surveyors were instructed to meander both banks of rivers that they deemed to be navigable. Not one of the surveyors meandered both banks of the Verde River.[42]

Finally, as the Commission noted in its Report, Findings and Determination,

> [t]he Verde River was not listed in or covered by the Rivers and Harbors Act of 1899, which applies to navigable rivers and other navigable waters of the United States and prohibits, among other things, bridges and other obstacles being placed on the navigable rivers without consent of Congress. 33 U.S.C. § 401, *et seq.*; *Economy Light & Power Co. v. U.S.*, 256 U.S. 113, 41 S.Ct. 409, 65 L.Ed. 847 (1921).[43]

The Rivers and Harbors Act of 1899 explicitly prohibits the construction of a dam across any navigable river without consent of Congress. 33 U.S.C. § 401. The Verde was not considered a navigable river, and Bartlett Dam and Horseshoe Dam were later constructed across the river.

D. Beaver Dams And Rapids Were Natural Impediments To Navigating the Verde River In Its Ordinary And Natural Condition.

1. Beaver Dams.

The historical record demonstrates that beavers and beaver dams were common throughout much of the Verde. Mr. Burtell compiled several relevant accounts in Table 3 to his Declaration. These accounts indicate, for instance, that "the river flows slowly, impeded by many beaver dams, and extensive marshes occupied the floodplains," and that "the Verde River was full of beaver dams and was not confined to an even channel...."[44] This is consistent with the Commission's prior findings that the early Spanish explorers "reported many beavers in the river," that beavers continued in their abundance when observed by mountain men in the early 1800s, and that farming and grazing were eventually enabled by

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[42] Declaration ¶¶ 36-37.

[43] Report, Findings and Determination at p. 35.

[44] Declaration at Table 3.

clearing out the beaver dams and draining the marshes.[45] These abundant beaver dams and the marshy conditions that persisted when the Verde River was in its ordinary and natural condition would have presented considerable impediments to use of the Verde River as a highway of commerce. As described below, the Verde's abundant rapids and generally shallow depths precluded its use as a highway of commerce, and the extensive beaver dams that existed in the river's ordinary and natural condition certainly compounded the difficulties presented to any entrepreneur attempting to put the Verde to use as a highway of commerce.

2. Rapids.

The Verde River is heavily laden with rapids that run the gamut from Class I to Class IV.[46] While these rapids are exciting to adventuresome recreationalists journeying in modern recreational craft, they posed a serious impediment to commercial trade and travel in the types of craft commonly used for those purposes *circa* 1912. Figures 5 and 6 to Mr. Burtell's Declaration are highly illustrative. These figures are reproduced as **Appendix A** hereto. The photographs in Figures 5 and 6 are examples of Class I and Class II rapids on the Verde. As Mr. Burtell describes, these photographs depict rapids that "are characterized by boulder-choked channels, drops, and turbulent water," and "[a]ll of these conditions pose an impediment to navigation and the frequency of rapids along the Verde River would have been more than just a nuisance to commercial boaters before statehood."[47] Moreover, "the increased frequency and still larger rapids between Beasley Flats and Horseshoe Reservoir would have posed an even greater impediment to navigation."[48]

Through his PowerPoint and direct testimony presented to the Commission in 2014, Mr. Fuller opined that Class I through V rapids are generally not obstacles to navigation; Mr. Fuller's opinion is that, in general, only Class VI rapids are obstacles to navigation. In

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[45] Report, Findings and Determination at pp. 27-28.
[46] Declaration ¶ 58.
[47] Declaration ¶ 59.
[48] Declaration ¶ 59.

fact, in presenting a calculation of the number of rapids on the Verde to the Commission, Mr. Fuller ignored Class I rapids altogether.[49]

Mr. Fuller's opinions flow from his experience as a recreational boater, which has demonstrated that these rapids may be traversed in modern recreational crafts made from modern, durable materials.

This was not true of the craft typically used for trade and travel in the era in which Arizona became a state. For instance, the determination that the San Juan River is not navigable, a finding adopted by the United States Supreme Court in *United States v. Utah*, 283 U.S. 64, was based, in part, on the Special Master's findings concerning the rapids that existed along the river:

> The number of difficult rapids, with steep and rapid drops, (whether that number be 37 as estimated by Miser or 30 as estimated by Allen, or 16 or 12 by Hoyt) make it impossible, in my opinion, for any boat to navigate safely unless conducted with great caution and by expert boatmen....[50]

Mr. Fuller testified that he would disagree with this analysis unless these rapids were Class VI, or if a particular reach consisted of a rapid succession of Class IV and V rapids.[51]

This testimony underscores the disconnect between Mr. Fuller's perspectives on navigability and *The Daniel Ball* test. As is addressed in further detail below, Mr. Fuller's view of navigability is driven by his avocation of recreational boating; Class I and II rapids are great fun for modern-day kayakers that enjoy some thrills in their durable plastic crafts. However, Class I, II, and III rapids posed significant obstacles to navigability 100 years ago when trade and travel were conducted in wooden boats that were ill-suited for traversing rock gardens and turbulent, boulder-laden waters like those depicted in Figures 5 and 6

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[49] 12/17/14 Trans. 755:24 – 757:2 (Fuller).

[50] Declaration ¶ 60 (quoting 1930 Special Master's Report, Item No. X017, Tab 92, at pp. 180-81).

[51] 12/17/14 Trans. 740:6 – 744:25 (Fuller) ("If they're very large and they're very close together, and I would say if their character, the character of the reach were more dominated by these large Class V's, Class IV's and V's -- I'd even go as low as IV's. -- then, yeah, I would say that the river could be nonnavigable, depending on the specifics of the river.")].

attached as Appendix A. As examples, the Unnamed Rapid (River Mile 3.3) on Figure 5 is a Class I rapid, and Raphael's Gauntlet (River Mile 32.5) is a Class I+ rapid.[52] It is easy to perceive that these rapids would have posed a significant impediment to trade and travel in a wooden boat like those in use *circa* 1912.

Yet these rapids were entirely omitted, along with all other Class I rapids, from Mr. Fuller's tabulation of rapids on the Verde. The disconnect between Mr. Fuller's vantage point as a modern recreational boater versus navigability under *The Daniel Ball* test is underscored by the analysis supporting United States Supreme Court's 1931 determination that the San Juan River was not navigable in the *Utah* case. 283 U.S. 64. As described by Mr. Burtell, the very rapids that formed the basis for the determination that the San Juan is not navigable consist largely of Class I and II rapids. For instance, Southwest Paddler describes the rapids between Sand Island and Mexican Hat as "'run-of-the-mill Class I to II boulder gardens,'" and describes the rapids between Mexican Hat and Clay Hills Crossing as "'mostly Class I and II, with a few class III's thrown in for good measure.'" The stretch between Mexican Hat and Clay Hills Crossing, deemed nonnavigable by the United States Supreme Court based in part on these rapids, "is considered 'one of the nation's most popular river trips'" for modern-day recreational boaters.[53]

Testimony specific to the Verde River was also illustrative of the disconnect between what is boatable in a plastic kayak or inflatable ducky versus what was useful as a highway of commerce using wooden boats in 1912. The ASLD designated Richard Lynch, owner of Verde Adventures in Clarkdale, to testify about modern recreational boating on the Verde. Mr. Lynch's operation uses a modern recreational craft known as a "ducky," which is an inflatable kayak. Mr. Lynch explained that "you just don't need any skill" to use a ducky. "You can hit things, you can bounce off things, you can get stuck on things, and they do – they just – they're just a superior craft for any kind of boater."[54] Mr. Lynch went on to

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[52] 12/17/14 Trans. 757:3 – 760:17 (Fuller); Declaration at Table 4 and Figure 5.

[53] Declaration ¶ 61.

[54] 12/16/14 Trans. 306:17 – 307:10 (Lynch). Duckies used in Mr. Lynch's operation are

describe the advantages that his modern recreational craft has over wooden boats, which include lower draw, greater durability, and the ability to bounce off of rocks without damaging the craft:

> Q. And when you're talking about these inflatable duckies that draw 5 to 6 inches and you've got mid-calf water, are you bouncing on some of the rocks from time to time?
>
> A. Yes.
>
> Q. And I assume that's one of the reasons you use these duckies, is these inflatable craft are pretty good for when you're bouncing on rocks?
>
> A. Correct.
>
> Q. You would rather be in an inflatable ducky than in a wooden canoe bouncing on rocks?
>
> A. Correct.
>
> Q. Mr. Slade asked you a question about the draw of a canoe, and you said it was more than the inflatable kayaks that you use, the inflatable duckies, so more than that 5 to 6 inches. Can you be more specific in your estimate of what their draw would be?
>
> A. I'm not a canoer. I'm a ducky guy. But I see these guys, you know, going. I can see and I can hear them when they're coming down. When they're coming down the river at lower flows, you can hear them, you know, going over the rocks. You can see them hitting things and talking about, oh, yeah, we had to get out and drag here, we had to get out here; where the duckies will, for the most part, glide right over everything.
>
> Q. So when portions of the stream are in mid-calf depth condition, you're hearing the canoes colliding with the rocks?
>
> A. Yeah. Different times of the year, yes.[55]

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depicted in Freeport 55, which is part of Item No. X099.

[55] 12/16/14 Trans. 314:4 – 315:9 (Lynch). Despite using "a superior craft," Mr. Lynch still must rely on clearing the stream of boulders, strainers, and other debris in order to facilitate passage of his inflatable duckies. 12/16/14 Trans. 292:23 – 293:19 (Lynch) ("But the river -- and we've done a lot of work to it. When the water gets low, we've gone out there, we have to move rock around."). He explained that the other portions of the river that he does not maintain are tougher to get through. "[S]ince nobody's out there maintaining them on a regular basis, there's a lot more tree growth, strainers, trees that have fallen. What we do on the stretches that we commercially boat all the time, we're out there constantly cutting back the bushes, the trees. When things fall into the river, we go out there with our chainsaws, because we've got to get all that stuff out of the river or people -- ***it's just not safe***. **You**

Quite simply, the same rapids that are sought after by modern-day recreationalists were significant barriers to navigability in the craft commonly used for trade and travel at statehood. As Mr. Burtell observes, "[l]ike the San Juan River, the Verde River is very popular among modern recreational boaters. It also shares the San Juan's Class I to III rapids, relatively steep slopes (see Section II) and narrow canyons." Mr. Burtell opines "that these factors alone demonstrate the Verde River is non-navigable under *The Daniel Ball* standard."[56]

E. The Verde River's Was A Generally Shallow Stream Not Susceptible To Use As A Highway For Commerce.

In order to assess the Verde River's ordinary and natural streamflow, Mr. Burtell performed a streamflow reconstruction to account for diversions and allow an assessment of the river "absent the effects of man."[57] As has become a theme in his evaluations of the San Pedro, Santa Cruz, Gila, and now the Verde, Mr. Burtell's reconstruction was extremely conservative, meaning that he erred on the side of adding too much water back into the stream.[58]

Mr. Burtell reconstructed streamflow from five USGS gages for the period from the 1910s through 1940. He selected this period because good stream flow data are available, it was a period that was neither particularly wet nor particularly dry, it was a period prior to substantial effects from well pumpage, and because the amount of cultural diversions remained fairly constant.[59]

Mr. Burtell accounted for the water that is diverted into diversion ditches and is

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can't get around it. So when you go into stretches of the river that we don't boat commercially, that can get relatively overgrown with all kinds of strange things." 12/16/14 Trans. 309:8-24 (Lynch). Without removing rocks from the channel, "you would be getting out of your boat a lot" in all sections of the river. 12/16/14 Trans. 292:23 – 293:19 (Lynch).

[56] Declaration ¶ 62; 3/30/15 Trans. 2666:11 – 2672:9 (Burtell).

[57] 3/30/15 Trans. 2673:9 – 2674:6 (Burtell). *See Winkleman*, 224 Ariz. at 241, ¶ 28.

[58] 3/30/15 Trans. 2620:9 – 2621:22 (Burtell).

[59] 3/30/15 Trans. 2675:5 – 2676:22 (Burtell).

returned directly to the river from those ditches.[60] However, Mr. Burtell did not attempt to offset the water that returned indirectly to the river, *e.g.* via return flows or seepage back into base flow. Nor did Mr. Burtell account for the evapotranspiration (ET) losses that would have occurred with respect to the water being added back to the stream, meaning the amount of discharge being added through the reconstruction is overestimated. By not offsetting indirect return flows and not accounting for ET losses associated with the water being added back to the stream, Mr. Burtell put more water back into the river than would have actually been present under natural conditions, and Mr. Burtell's calculations therefore overstate the amount of streamflow under natural conditions.[61]

Mr. Burtell's streamflow reconstruction results are tabulated in Table 5 to his Declaration. The median reconstructed streamflows (*i.e.* Q50) range from 93 cubic feet per second (cfs) to 440 cfs, and the higher range of flows represented by the 25% flow (*i.e.* Q25) was not much higher, with a range from 101 cfs to 587 cfs. These reconstructed flows, representing a very conservative representation of the Verde river in its natural condition,[62] pale in comparison to the levels of discharge associated with rivers throughout the United States that have been deemed navigable.[63] The Verde's natural discharge is also significantly less than the discharge of streams that have been deemed nonnavigable.[64]

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[60] 3/30/15 Trans. 2678:3 – 2683:7 (Burtell).

[61] 3/30/15 Trans. 2678:3 – 2683:7 (Burtell).

[62] It is uncontested that Mr. Burtell's streamflow and depth reconstructions are conservative. Mr. Fuller had no criticisms of Br. Burtell's reconstructions. 12/17/14 Trans. 736:1-19 (Fuller). Mr. Hjalmarson agreed that Mr. Burtell's reconstructions are generally conservative. Indeed, Mr. Hjalmarson feels that some of Mr. Burtell's reconstructed flows "are ridiculously high." 2/18/15 Trans. 1388:22 – 1389:21 (Hjalmarson). Mr. Hjalmarson only reconstructed greater flows for the most upstream portion of the river, based on his erroneous opinion that 8,000 acres of agricultural lands were in cultivation above Paulden before 1900. *Id.* As was firmly established during the hearing, Mr. Hjalmarson erroneously included numerous dryland farmed fields in his calculation of irrigated acreage, resulting in far too much additional streamflow being added to the gaged streamflows. 12/19/14 Trans. 1113:12 – 1131:20 (Hjalmarson).

[63] *See* Information Regarding Navigability of Selected U.S. Watercourses, Exh. 022.

[64] *See* Information Regarding Navigability of Selected U.S. Watercourses, Exh. 022.

Quite simply, Mr. Burtell's reconstruction confirms what we all know: the Verde River is a relatively small, shallow desert stream that did not have enough natural discharge to support commercial navigation.

From his reconstructed flows, Mr. Burtell was able to calculate associated depths. Under median natural flow, the Verde River ranged from 1.1 feet of depth to 1.9 feet at these gage locations.[65] These depths overstate the actual natural depths of the Verde for a number of reasons. For all of the same reasons, discussed above, that Mr. Burtell's streamflow reconstruction results in greater flow than would have been found under natural conditions, Mr. Burtell's depths are also greater. Moreover, these depths correspond to measurements taken in the vicinity of the gage stations. These measurements are taken near the edge of pools, not in riffles or rapids, and they therefore do not reflect the shallow areas of the river that are the limiting factor for navigation.[66]

Taking his extremely conservative depth figures and applying them to Supreme Court precedent, Mr. Burtell concluded that, consistent with the other lines of evidence, the Verde was not susceptible to navigation as a highway for commerce. In the United States' seminal decision in the *Utah* case, the San Juan River was determined to be *non-navigable* with depths between one and three feet "for 219 days" each year, and for the other "146 days a depth of over three feet."[67] Even in the context of extremely conservative flow reconstructions, the Verde River was a minor stream in its ordinary and natural condition, particularly in comparison to the much larger San Juan that was deemed non-navigable by the United States Supreme Court.

In sum, Mr. Burtell's flow and depth reconstructions are consistent with the several

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[65] Declaration at Table 5; 3/30/15 Trans. 2685:5 – 2690:9 (Burtell).

[66] 3/30/15 Trans. 2691:16 – 2394:10 (Burtell); Declaration ¶ 89; *see also* Item No. X054 at Freeport 43 (photographs depicting gage locations relative to shallower riffle areas).

[67] 1930 Special Master's Report, Item No. X017, Tab 92, at p. 167; *see also id.* at 169 ("[T]here is a depth of no more than 2 feet" five months per year and "at other times there are places where the depth is less than 2 feet…"), and 180 ("The evidence as to depth makes it clear that boats with a draft of two feet could navigate not more than half the year…").

other lines of evidence that Mr. Burtell evaluated that depict a stream that was not susceptible to commercial navigation.

IV. THE NAVIGABILITY PROPONENTS' ERR AS A MATTER OF LAW IN THEIR RELIANCE UPON MODERN RECREATIONAL CRAFT AND MODERN RECREATIONAL BOATING.

During the 2014 and 2015 proceedings on remand, the proponents of navigability called five witnesses, J.E. Fuller, Donald D. Farmer, Hjalmar W. Hjalmarson, Richard Lynch, and Brad Dimock.

Mr. Dimock provided fascinating testimony about his vast boating experience in Arizona, Arizona boating history, and his experience building historic wooden boats. However, his experience, his knowledge of Arizona boating history, and his construction and use of replica boats[68] revolve around the Grand Canyon and the Colorado River, not the Verde River. Mr. Dimock's experience boating the Verde is limited to some kayaking in modern polyethylene recreational craft in the 1970s and one other trip in a plastic kayak in the 1990s or 2000.[69]

Mr. Dimock was very candid in describing the Verde River as a shallow, rocky river.[70] Mr. Dimock contrasted the Verde from the San Juan in this regard:

> Q. Why would you want the boat for the Verde to be more quick-turning than the boat for the San Juan?
>
> A. Well, because you're going to run into a lot of shallows, a lot of rocky stretches. You want to be able to move quickly, dodge whatever rocks you can, and pick it up and carry it if you run aground.[71]

Mr. Dimock elaborated further, independently confirming that the non-navigable San Juan is a larger, higher-flowing river than the Verde.[72]

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[68] Mr. Dimock acknowledged that he would not want to run his Edith replica through the rapids as depicted in Appendix A hereto (*see* Figure 5). 3/31/15 Trans. 2935:15 – 2936:20 (Dimock).

[69] 3/31/15 Trans. 2929:7 – 2931:7 (Dimock).

[70] 3/31/15 Trans. 2933:21-24 (Dimock).

[71] 3/31/15 Trans. 2914:19-24 (Dimock).

[72] 3/31/15 Trans. 2946:9-12 (Dimock).

Mr. Dimock also testified about the adaptive nature of the settlers in the American West, and his belief that, through similar adaptive skill and spirit, he could have built a boat suitable for supplying the military posts along the Verde. He believed that the adaptive settlers of the American West could have as well. The fact that the adaptive, entrepreneurial settlers of the American West could not make use of the Verde to meet this crucial need demonstrates that the Verde was simply not susceptible to use as a highway for commerce.[73]

As discussed above, Mr. Lynch's testimony concerned his Verde Adventures recreational boating operation. Mr. Lynch's discussion about navigation was restricted to recreational boating in modern inflatable duckies, not use of the Verde as a highway of commerce in craft commonly used for that purpose at statehood. *See, e.g., PPL Montana*, 132 S.Ct. at 1233-34.

Messrs. Hjalmarson, Fuller, and Farmer rendered opinions based upon an erroneous standard, also based on recreational boating rather than commercial navigation. As briefly excerpted below, each evaluated navigability from the perspective of the ability to float a modern recreational craft, rather than on the Verde River's susceptibility to use as a highway for commerce. These witnesses based their opinions on recreational boating standards, known as the Hyra method, which were developed by the U.S. Fish & Wildlife Service in 1978, and/or upon personal recreational experiences with modern recreational craft, such as fiberglass kayaks and polyethylene canoes.

Using his erroneous standard, Mr. Hjalmarson opines that any stream with a maximum depth of one foot for most of the year is navigable. J.E. Fuller and the ASLD go even further than Mr. Hjalmarson, taking the position that any stream that is six inches deep is navigable for purposes of title.[74] Mr. Farmer seems to suggest that the threshold for

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[73] 3/31/15 Trans. 2931:8 – 2934:15 (Dimock).

[74] During cross-examination, Mr. Fuller acknowledged an inconsistency in the positions taken by his client, the ASLD. While ostensibly advocating for a six inch navigability standard in these proceedings, the ASLD chose to not assert that the San Francisco was navigable in its natural and ordinary condition, despite Mr. Fuller reporting depths of one foot and recommending to the ASLD that the stream should be deemed navigable because it is at times floated by recreational canoeists. 6/17/14 Trans. 282:3 – 285:4 (Fuller).

navigability is even shallower than six inches.

Mr. Fuller

> Q. Generally speaking, though, what you're looking at is does it have the 6 inches of water that you opine is the threshold; is that correct?
>
> A. **6 inches**, certainly for canoes, **would be a threshold**. Some people have said that's the standard, and **that seems reasonable to me, based on my own experience.**[75]

Of course, the "experience" that Mr. Fuller refers to is his experience as a recreational canoeist. Mr. Fuller testified that he would only lean towards concluding that a stream is non-navigable if the stream is ***uniformly*** less than 6 inches in depth.[76]

Mr. Farmer

> Q. And what was the depth?
>
> A. The flow was 50 CFS and **it was running pretty much six inches**.
>
> Q. And which one of your canoes did you take on that trip?
>
> A. I was in the Discovery, the 16-foot [polyethylene canoe].
>
> Q. So based on that experience, do you feel that any stream or creek that has six inches is good enough for you to get up and down in a recreational boat?
>
> A. I would boat -- I would without hesitation boat in **less water than that in a canoe**.
>
> Q. *And you would deem that to be navigable*?
>
> A. **Yes.**[77]
>
> * * *
>
> And so something -- whatever **your threshold for navigability**

[75] 12/17/14 Trans. 738:11-17 (Fuller).

[76] 12/17/14 Trans. 745:5-24 (Fuller). Mr. Fuller's testimony in this regard seems inconsistent with some of the recommendations that he gave to the ASLD about which streams the ASLD should assert are navigable. For instance, Mr. Fuller recommended against asserting that the San Pedro or Black rivers were navigable, despite Mr. Fuller's recognition in his reports concerning those rivers that the San Pedro and Black typically had depths of 6 inches or greater. 12/17/14 Trans. 745:5 – 752:8 (Fuller).

[77] Item No. X054 at Freeport 45 (Gila River 6/18/14 Trans. 594:7 – 595:6 (Farmer)).

> **is**, it's something less than 6 inches, **something between 2 and 6 inches**?
>
> A. **Depending on the boat, yes.**[78]
>
> **Mr. Hjalmarson**
>
> U.S. Fish and Wildlife Service [Hyra] method is the one I used. It shows its optimum for navigability using kayaks and canoes.... So my decision is based on that standard.[79]

The U.S. Fish and Wildlife Service publication, commonly referred to as the Hyra Method, is a standard for the shallowest depths of water needed for modern recreational craft. This is the same standard that Mr. Hjalmarson relied upon in developing his opinions that the San Pedro, the Santa Cruz, and the lower Gila were all navigable, opinions that have each been rejected in turn by the Commission.[80] In prior testimony before the Commission, Mr. Hjalmarson conceded that he has not studied how these depths would change if the activity involved were commercial instead of recreational.[81]

These witnesses each base their opinions of susceptibility to navigation on the ability to float modern recreational craft, as opposed to "the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood." *PPL Montana v. Montana*, 132 S.Ct. 1215, 1233 (2012).

Of course, *The Daniel Ball* test does not turn on whether the river has enough water to float a modern recreational canoe. The navigability proponents' recreational standard for navigability for title runs directly afoul of binding United States Supreme Court precedent, including the recent decision in *PPL Montana* in which the Court unanimously rejected the idea that evidence of modern recreational boating is sufficient to demonstrate navigability. 132 S. Ct. at 1234 (holding that "**present day recreational use of the river did not bear on navigability**," and that "**reliance upon** the State's **evidence of present-day,**

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[78] 12/16/14 Trans. 536:11-14 (Farmer).

[79] 12/18/14 Trans. 1038:21 – 1039:23 (Hjalmarson).

[80] 12/19/14 Trans. 1169:11 – 1170:18 (Hjalmarson).

[81] Item No. X023 at Freeport 7 (San Pedro 6/7/13 Trans. 50:1-25 (Hjalmarson)).

recreational use, at least without further inquiry, **was wrong as a matter of law**."). The Supreme Court expressly stated that it is evidence of susceptibility to *commercial* use that must be considered in evaluating navigability. *Id.* at 1233 (holding that "**evidence must be confined to that which shows the river could sustain the kinds of commercial use that, as a realistic matter, might have occurred at the time of statehood**."). In sum, the inquiry is whether the Verde River was susceptible in its ordinary and natural condition to use as a highway of commerce, not whether a modern, light-weight recreational craft can be floated on six inches of water.

The navigability proponents fail in their efforts to relate modern recreational boating and modern recreational watercraft to the kinds of commercial activities and watercraft of 1912. For instance, as excerpted above, Mr. Farmer based his opinion about the minimum depth for navigation on his experience of floating in six inches of water in his Discovery canoe. Mr. Farmer's Discovery canoe is a modern recreational canoe made out of polyethylene, a modern, durable plastic.[82] Mr. Farmer of course acknowledged that he cannot contend that plastic recreational canoes were available when Arizona became a state in 1912.[83] Mr. Farmer also acknowledged that he has no experience using a wooden canoe or a dugout log in his recreational boating, and he has no experience with commercial navigation.[84]

The reality is that the modern recreational craft that Messrs. Fuller and Farmer personally enjoy recreating in at various depths, and which correspond to the Hyra method, bear little resemblance to the craft customarily used for commercial purposes at the time of Arizona's statehood. *PPL Montana*, 132 S.Ct. at 1234. While six inches to one foot of depth may be sufficient to float some modern recreational craft, those depths are insufficient for engaging in meaningful commerce using the watercraft commonly used for commercial purposes at statehood. This is established through the complete absence of any commercial

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[82] Item No. X054, Freeport 45 (Gila 6/18/14 Trans. 584:1-17 (Farmer)).

[83] Item No. X054, Freeport 45 (Gila 6/18/14 Trans. 592:11-22 (Farmer)).

[84] Item No. X054, Freeport 45 (Gila 6/18/14 Trans. 617:6-11 (Farmer)).

use of the Verde River despite millennia of continual occupation by people reliant upon the river.

Modern recreational craft are also significantly more durable than the craft used in 1912. This fact is uncontroverted.[85] It is not surprising that polyethylene canoes and fiberglass kayaks fare better than did the wooden boats used *circa* 1912 on the Verde River with its shallow, rocky bed and numerous rapids.

Not only are these modern craft dissimilar to what was commonly used for trade and travel at statehood, but the modern recreational activity for which they are used is a recent phenomenon. In other words, recreational boating was not among the commercial uses that realistically might have occurred at statehood. *See PPL Montana*, 132 S. Ct. at 1233. As Mr. Fuller explained in his 1998 Final Report, Criteria for Assessing Characteristics of Navigability for Small Watercourses in Arizona, "rivers were not generally used for recreational travel until the development of new materials such as fiberglass and artificial rubber after World War II," and commercial recreational rafting, which did not begin until the 1930s, did not become common until the 1970s.[86] This timeline coincides with the development of the Hyra method in 1978.

Notably, the introduction of the types of modern, durable, low-draw recreational crafts that were not available at statehood was the primary driver behind the development of recreational boating well after statehood:

> The development of durable small boats – plastic, fiberglass and other modern types of canoes and kayaks, inflatable boats for single paddlers and for groups – all contributed to the rising popularity of river running in Arizona especially on rivers not previously considered boatable, or boatable only very rarely because of low water.

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[85] 12/15/14 Trans. 57:17 – 58:5 (Fuller); 12/17/14 Trans. 587:24 – 588:22 (Fuller); 3/31/15 Trans. 2822:7-17 (Dimock) ("Kayaking was just starting to pick up in the early '70s. They invented the plastic kayak, which was more durable than the fiberglass ones and the skin ones before that, and that's sort of when I got into the kayaking."); 12/16/14 Trans. 387:25 – 388:6 and 447:10-21 (Farmer); 1998 Final Report, Criteria for Assessing Characteristics of Navigability for Small Watercourses in Arizona, Item No. X023, Freeport 6, p. 32.

[86] Item No. X023, Freeport 6, pp. 32-33.

The United States Supreme Court addressed this circumstance squarely in *PPL Montana*. In holding that the Montana Supreme Court erred in relying on evidence of modern recreational boating, the United States Supreme Court recognized, as did Mr. Fuller in his 1988 report, that "[m]odern recreational fishing boats, including inflatable rafts and lightweight canoes or kayaks, may be able to navigate water much more shallow or with rockier beds than the boats customarily used for trade and travel at statehood." *PPL Montana*, 132 S. Ct. at 1234.

In sum, the navigability proponents have erred as a matter of law by relying on modern recreation craft and modern recreational boating. They have applied an erroneous standard, and they have therefore failed to meet their burden of proof.

CONCLUSION

Not only have the navigability proponents failed to satisfy their burden of proof, but the overwhelming weight of the evidence clearly demonstrates that the Verde River was neither navigable nor susceptible to navigation in its ordinary and natural condition at or before statehood. The Verde was never used as a highway for commerce in its ordinary and natural condition despite the need for such a highway to supply military installations and to support early settlement. There were significant needs to use the river, and the fact that inefficient overland travel was used instead confirms the other lines of evidence that demonstrate that the Verde River was a shallow stream not susceptible to commercial navigation in its ordinary and natural condition.

RESPECTFULLY SUBMITTED this 28th day of September, 2015.

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FENNEMORE CRAIG, P.C.

By _____
Sean T. Hood
Attorneys for Freeport Minerals Corporation

MAILING CERTIFICATE

ORIGINAL AND SIX COPIES of the foregoing
sent via U.S. mail for filing this 28th day of September, 2015 to:

Arizona Navigable Stream Adjudication Commission
1700 West Washington, Room B-54
Phoenix, AZ 85007

COPY sent via e-mail this 28th day of September, 2015 to:

George Mehnert
Director
nav.streams@ansac.az.gov

COPY sent via e-mail this 28th day of September, 2015 to each party on the mailing list (see http://www.ansac.az.gov/parties.asp) for *In re Determination of Navigability of the Verde River*

By: Kathy Power

10879021.1/028851.0233

APPENDIX A

FIGURE 5. GROUND PHOTOGRAPHS OF VERDE RIVER RAPIDS ALONG STREAM SEGMENT 1

Unnamed Rapid (River Mile 3.3)

"Duff Drop" (River Mile 14.8)

"Boulders Three" (River Mile 17.2)

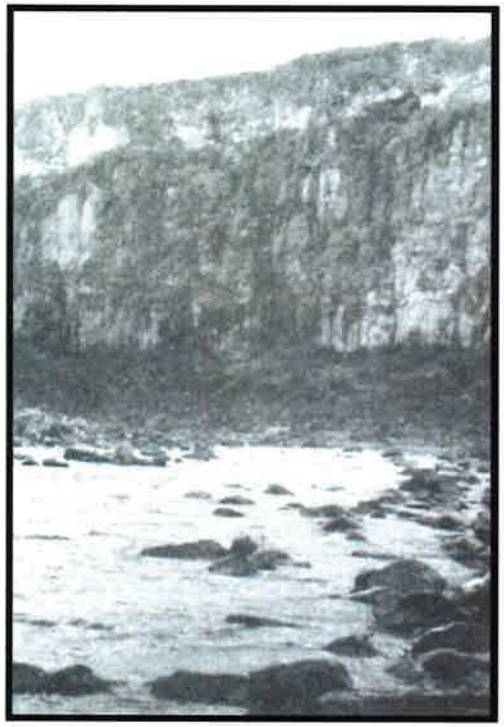
"Guv Drop" (River Mile 23.5)

"Horseshoe Drop" (River Mile 29.7)

"Rafael's Gauntlet" (River Mile 32.5)

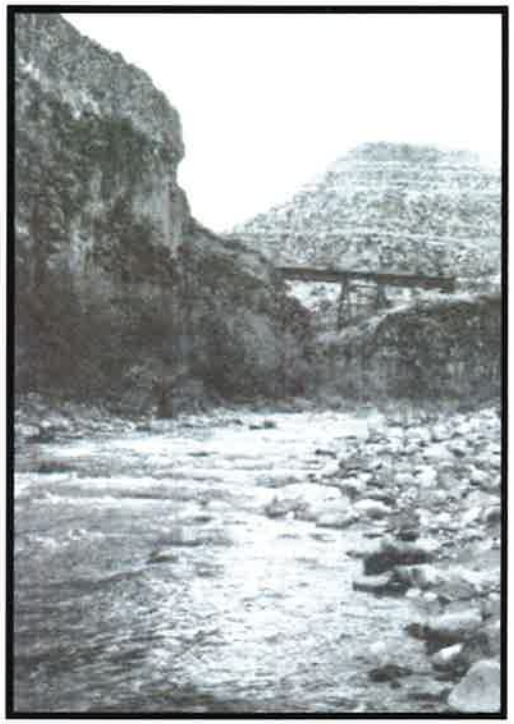
Source: Williams (1996, pp.9-37).

FIGURE 6. GROUND PHOTOGRAPHS OF VERDE RIVER RAPIDS ALONG THE UPPER REACH OF SEGMENT 2



"USGS Rapids" (River Mile 40.3)

"Little Swamper" (River Mile 40.3)



"SOB Drop" (River Mile 42.7)

Source: Williams (1996, pp.28 and 42-43).