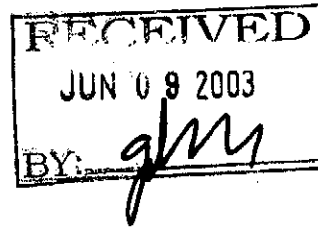


1 William J. Sims III, 10458
Steve Wene, 19630
2 **MOYES STOREY LTD.**
3003 North Central Ave., Suite 1250
3 Phoenix, Arizona 85012
(602) 604-2141

4 Attorneys for Arizona State University
5



6 **BEFORE THE ARIZONA NAVIGABLE STREAM**
7 **ADJUDICATION COMMISSION**
8

9 IN RE THE DETERMINATION OF
10 NAVIGABILITY OF THE LOWER SALT
11 RIVER, FROM GRANITE REEF DAM TO
THE GILA RIVER CONFLUENCE

No. 03-005-NAV

**ARIZONA STATE UNIVERSITY'S
OPENING POST-HEARING
MEMORANDUM**

12
13 **I. Introduction**

14 The philosopher R.G. Collingwood once said, "[e]very new generation must
15 rewrite history in its own way." Some people of our generation want to rewrite the
16 history of Lower Salt River¹ navigability at statehood so the State of Arizona can take
17 title to streambeds and serve these people's goals. But the Arizona Navigable Stream
18 Adjudication Commission (Commission) is responsible for ensuring its findings are
19 accurate, and not merely a form of revisionist history. In doing so, the Commission
20 should give great weight to historical facts and to the opinions of knowledgeable people
21 wrestling with water issues in near the time of statehood in 1912.
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¹ Lower Salt River is defined as the stretch of river from Granite Reef Dam to the Gila River confluence.

1 The appropriate legal analysis is straightforward. Rivers that can transport
2 people and goods are navigable in fact, and rivers navigable in fact at statehood are
3 navigable in law.² Only a handful of daring adventurers ever tried to navigate the
4 Lower Salt River, and it cost several their lives. Some people foolishly tried to navigate
5 the river for business purposes, but these ventures failed. Contemporaries
6 knowledgeable about navigation recognized the obvious – the Lower Salt River was
7 never navigable. Thus, the Commission should find that the river was not navigable in
8 fact or in law.

10 II. Preliminary Statement

11 An Arizona streambed is navigable if “[o]n February 14, 1912, the watercourse,
12 *in its natural and ordinary condition, either was used or was susceptible to being used*
13 *for travel or trade in any customary mode used on water.*”³ As applied to the Lower
14 Salt River, this pronouncement of law wrongfully implies (1) the river’s ordinary
15 condition and natural condition were similar when in actuality they were drastically
16 different; and (2) the Commission can accurately determine whether the unaltered river
17 was theoretically susceptible to navigation.

18 The Commission recognizes the potential spectrum of legal tests it could apply.⁴
19
20 Liberally construed, the test could mean that a stream is navigable if its predevelopment
21 natural flow was susceptible to being used for travel or trade. Conservatively construed,
22

23 ² *The Daniel Ball*, 77 U.S. 557, 563 (10 Wall.1870).

24 ³ *Defenders of Wildlife v. Hull*, 199 Ariz. 411, 426, 18 P.3d 722, 737 (App. Div. I, 2001) (citing *The Daniel Ball*, 77
U.S. at 563) (emphasis added).

25 ⁴ See Transcript of Record of Hearing dated April 7-8, 2003, at p. 13:18-23 (hereinafter “Tr. at p. ___”)
(Commissioner Brashear to ask “[o]n the Lower Salt ... is it the ordinary condition of that river ... with Roosevelt
Dam there a few years before statehood, or is the ordinary condition the condition of the river as if the dam were not
there?”).

1 the test could mean that a stream is navigable only if it was actually used for travel or
2 trade in 1912, when dams rendered the streambed dry. Between these two polar
3 positions lie other possible readings. The Commission could interpret the court's
4 statement of law four different ways, as shown below in Table 1.
5

	Used for Travel or Trade	Susceptible to Use for Travel or Trade
Natural Flow		
Ordinary Flow at Statehood		

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7
8
9
10 Thus, as a preliminary matter, the Commission must decide to consider (1) ordinary
11 stream conditions at statehood or natural stream conditions; and (2) actual use of the
12 river or potential uses.
13

14 **III. The Commission Should Analyze Ordinary Flow at Statehood.**
15

16 The federal test requires the Commission to review navigability at statehood.⁵
17 The federal test seemingly assumes that the river's condition at statehood is similar to
18 its natural condition. For the Lower Salt River, however, the river's ordinary condition
19 at statehood differs greatly from its natural conditions.
20

21 Along the Lower Salt River, focusing on ordinary flow at statehood rather than
22 natural flow is more appropriate. Dating back to the ancient Hohokam, for thousands of
23 years people living in the Salt River Valley have been diverting water for irrigation and
24
25

⁵ *Utah v. United States*, 403 U.S. 9, 11 (1971).

1 domestic use.⁶ Anglos continued the practice when they arrived in the Valley in the
2 1860's,⁷ and such diversions continue today. In short, Valley residents have never
3 known the river's natural flow. Knowing this, any attempt to determine natural stream
4 conditions would be highly speculative.

5
6 Nevertheless, some people want the Commission to reach back into prehistory to
7 determine "natural flow." Offering very little evidentiary support, they propose
8 subjective judgments about the amount of water comprising the river's natural flow
9 dressed up in the language of science. These opinions are pure conjecture and it would
10 be inappropriate for the Commission to find the river was navigable based on such
11 unsupported opinions. Thus, the Commission should focus on the ordinary conditions
12 of the stream at statehood and avoid guessing what natural flows were and whether they
13 could support navigation.

15 **IV. Physical River Conditions Prevented Navigation.**

16
17 Even if there were enough water in the stream to theoretically float a boat, the
18 river's braiding⁸ punctuated by turbulent confining channels prevented navigation. Dr.
19 Schumm, an expert on physical river conditions, vividly described what the typical
20 boating attempt of the Lower Salt River would be like. Moving down river into the
21 Valley, a boater first encounters a shallow braided river. The fast flowing river then
22 flattens out and deposits sediments into a mile-wide reach braided with islands, bars and
23

24 ⁶ CHM Hill, revised by JE Fuller, *Arizona Stream Navigability Study for the Salt River: Granite Reef Dam to the Gila River Confluence*, Report at p. 2-9 (Sept. 1996) (hereinafter "*Hill Report*").

25 ⁷ *Hill Report* at p. 3-10.

⁸ "Braided stream" is defined as (1) A stream [that] divides into a network of channels branching and reuniting, separated by islands. (2) A complex tangle of converging and diverging stream channels separated by sand bars or islands. Nevada Division of Water Planning, *WATER WORDS DICTIONARY*, at p. 36 (1999).

1 multiple channels.⁹ Next, “the river bangs into a terrace, and we have got a very, very
2 narrow reach” that confines two channels, scouring the bank, and creating a highly
3 turbulent, high-velocity reach.¹⁰ Then the channel widens and braids again.¹¹ A little
4 further downstream bedrock forces groundwater to the surface and constricts the river
5 into another hazardous stretch.¹² Dr. Schumm described boating through the narrows as
6 a harrowing experience: “Suppose you had a boat coming down here, you would reach
7 very high velocities coming through this narrow reach. It would be pretty hazardous.
8 Then, bang, you would be out into this reach of ground of a sandbar or an island.”¹³ Dr.
9 August, a leading historian on territorial waters and politics, confirmed the accuracy of
10 Dr. Schumm’s account based on the historical records describing the stream as
11 dangerous, erratic, unreliable, and “blocked by obstruction – sandbars, gravel pits,
12 boulders, you name it.”¹⁴ This repeated pattern of a shallow stream braided within a
13 mile-wide floodplain riddled with sandbars and gravel and then being pinched into a
14 perilous narrow with raging rapids prevented navigation of the Lower Salt River.
15
16

17 **V. Historical Evidence Supports a Finding of Non-Navigability.**

18 Historical evidence supports Dr. August’s and Dr. Schumm’s conclusion that
19 stream conditions prevented navigation. The obvious truth is that if the Salt River could
20 have been used for trade and travel, people would have done so. There is no credible
21 evidence of navigation between prehistoric time and the American period beginning in
22
23

24 ⁹ Tr. at p. 197:13 - 198:5.

¹⁰ *Id.* at 198:5-12.

¹¹ *Id.* at 198:14-16.

¹² *Id.* at 198:17-23.

¹³ *Id.* at 195:5-9.

¹⁴ *Id.* at 129:1-3.

1 1848. Between 1848 and statehood in 1912, there were very few attempts to navigate
2 the river, and most failed miserably. In fact, these reports of boating were more for
3 entertainment pieces rather than serious articles on developing commercial navigation.¹⁵
4

5 **A. Attempts at Navigating the River Failed.**

6 The lack of evidence illustrates that nobody traveled by way of the Lower Salt
7 River at statehood. Several alleged accounts of boating on this stretch of the Salt
8 actually occurred upstream from Granite Reef Dam on the Upper Salt River or other
9 streams altogether. These attempts at navigation are still addressed because they show
10 that the river was not navigable even in stretches of the Salt where there were no
11 manmade impediments.
12

13 Most of the reported attempts to navigate the Lower Salt River ended in failure.
14 In 1873, Charles Trumbull Hayden made a disastrous effort to float logs down the
15 river.¹⁶ The *Weekly Arizona Miner* reported:

16 The Hayden party, left up Salt River to come down in a canoe and drive
17 some logs with them, have returned, and pronounce the scheme a failure.
18 With much toil and difficulty, on account of rapids and boulders in the
19 river, they descended a long way, when, having lost their arms,
20 ammunition, and provisions, excepting flour, they arrived in a [canyon] so
narrow as not to admit of the passage of a log, and were compelled to
abandon their boat and foot it.¹⁷

21 Eight years later, Bucky O'Neill's "Yuma or Bust" boat busted before reaching Gila
22 Bend.¹⁸ In 1888, Major Spaulding died of an accidental gunshot wound inflicted as he
23

24
25 ¹⁵ Tr. at p. 127:4-22.

¹⁶ *Hill Report* at B-2; Tr. at p. 126:14-16 and 43:2-17.

¹⁷ *Hill Report* at 3-19.

¹⁸ *Id.* at 3-20.

1 and Captain Hatfield tried to lift their canoe over Mesa Dam.¹⁹ A year later, during a
2 major flood period, Vol Gentry and W. Cox tried to float their ferry downstream to Gila
3 Bend, but “[s]he was cut in two parts as if she had come across a buzz saw.”²⁰ During
4 another flood event, John Tisler drowned when his boat struck a barbed-wire fence and
5 capsized.²¹

6
7 Even the adventurers that actually survived their boating experiences did not
8 believe the river could be navigated. For example, during their rowboat trip from
9 Roosevelt Dam to Mesa, the Thorpe-Crawford expedition many times carried their boat,
10 which was described as “very dilapidated” by the end of the trip. Happy to reach Mesa
11 alive, the men reported they “have no serious intention of attempting to go into
12 competition with the stage company, nor did they attempt to break any speed
13 regulations.”²² Engineers of the Reclamation Service in 1905 “started down the river in
14 a boat ... [and] found the Salt [R]iver a poor stream for navigation, however, and in the
15 voyage of a mile they were shipwrecked twice.”²³

16
17 The Report cites several other historical accounts of boating the river, but relying
18 on them to support a finding of navigability is dubious at best. There is no indication
19 that either the Cotton-Bingham trip of 1881 or the Shively expedition of 1905 actually
20 boated the Lower Salt.²⁴ Jim Meadows’ trip of 1885 and Soliday’s report concerning
21 A.J. Chandler’s log float are second-hand accounts of what may have, or many not have,
22
23

24 ¹⁹ *Id.* at 3-18.

²⁰ *Hill Report* at 3-22 (citing *Tombstone Daily Prospector* (Jan 24, 1889)).

²¹ *Tr.* at p. 59:6-16; *Hill Report* at 3-23.

²² *Hill Report* at 3-23.

²³ *Id.* at 3-23.

²⁴ *See Tr.* at pp. 43:18 - 44:2; and *see Tr.* at pp. 57:18 - 58:19.

1 occurred decades earlier.²⁵ Willcox and Andrews reportedly floated a canvas skiff from
2 McDowell to the Salt River Valley Canal in an attempt to secure federal appropriations
3 from the Rivers and Harbors Act,²⁶ but their efforts proved futile as the Salt failed to
4 qualify as navigable under the act. Adams and Evans had to haul their boat overland
5 from the Gila River to the Salt River, and there is no record of their boating the Salt
6 River.²⁷

8 Even the most “successful” of these ventures do not prove the river sustained
9 trade or travel. Supposedly Vandemarke and Kilgore floated goods less than two miles
10 from Hayden’s Ferry to the Swilling Canal, but this occurred during a high flood period
11 and they never attempted it again.²⁸ The alleged “successful” trip by Burch et al.,
12 confronted “rapids with numerous projecting boulders making the trip a hazardous
13 one.”²⁹ This “party of daring adventurers” on one occasion wrecked and lost their
14 provisions, firearms, etc.³⁰ One of these daring adventures named John Meaders
15 claimed “[t]he boat on one occasion shot under a cave,” and “fish were so thick that the
16 boat floated on their backs.”³¹ These exaggerations bring into question the veracity of
17 the navigation claims, and although the stated purpose of the trip was to determine if a
18 log float was possible, none of the adventurers ever attempted such an undertaking.
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23 ²⁵ See Tr. at pp. 45:16 - 46:17; and see Tr. at p. 53:18-24.

24 ²⁶ Tr. at p. 47:1-123.

25 ²⁷ Hill Report at 3-19.

²⁸ Tr. at pp. 39:12 - 42:10.

²⁹ Hill Report 3-21 (citing Arizona Gazette (June 3, 1885)).

³⁰ Id. (citing Arizona Gazette, June 5, 1885).

³¹ Id. at 3-21, 3-22.

1 **B. Contemporaries Knew the River Was Not Navigable.**

2 Along with the ample physical evidence that the river was non-navigable, the
3 Commission should give great weight to the fact that contemporaries knowledgeable
4 about water and navigation matters at statehood all knew the river was not navigable.
5

6 Nobody knew the river better than Charles Trumbell Hayden's son Carl. As an
7 Arizona Senator, the younger Hayden called upon his personal childhood knowledge of
8 the river's ebb and flow, flood and drought, and grew to become the country's
9 "Legislative Water Master" of the 20th Century.³² Early in his political career, then-
10 Congressman Hayden sought federal funding to control the Lower Salt River under
11 House Bill 221, addressing nonnavigable streams.³³ Hayden explained to his fellow
12 congressmen, "I come from a state where we have dry rivers and no harbors. And I
13 want to see a committee established that will give consideration to the flood problems on
14 nonnavigable streams."³⁴ He often recalled his father's ill-fated attempt to float logs
15 down the Salt River.³⁵ And knowing the river's history, Hayden wholeheartedly
16 supported building Roosevelt Dam and the Apache Trail, a wagon road to transport men
17 and materials from Phoenix to the dam site.³⁶
18
19

20 Other well-informed contemporaries also knew the river was not navigable. For
21 example, Director of the Reclamation Service Author Davis Powell agreed with the
22 service engineers' assessment that the Salt River was a poor stream for navigation and
23

24 ³² Tr. at p. 108: 17-25.

25 ³³ *Id.* at p. 118:6-24.

³⁴ *Id.* at p. 119:7-11.

³⁵ *See id.* at p. 126:14-16.

³⁶ *Id.* at pp. 124:20 - 125:5; and 126:1-8.

1 supported building the Apache Trial. ³⁷ One-time Arizona Governor Raleigh Stanford
2 was so confident that the river was nonnavigable, and consequently the state could not
3 own the streambed, that he bought 20 acres of streambed.³⁸
4

5 The courts of this era also found that the river was nonnavigable. In 1892, Judge
6 Kibbey found that the Lower Salt River was “unnavigable”, and accordingly applied
7 Arizona law rather than federal law when dividing the stream’s water for irrigation.³⁹
8 Eighteen years later the same court confirmed that decision and again found that the
9 river was nonnavigable.⁴⁰
10

11 While these judicial pronouncements are certainly relevant and compelling,
12 silence may be the most compelling evidence of all. When Roosevelt and Granite Reef
13 dam were built, no commercial navigation interests protested these projects. Knowing
14 that the dam building might harm any downstream business dependant upon navigation,
15 this silence clearly means that no such interests existed.⁴¹
16

17 In sum, Arizona’s most well informed politicians and judges and most
18 knowledgeable federal officials of the statehood era all proclaimed that river was
19 nonnavigable. Their opinions are substantiated by the fact that at the time, no
20 commercial navigation interest existed here. This evidence clearly illustrates the river
21 was nonnavigable.
22
23

24 ³⁷ *Id.* at pp. 125:4 - 126:7.

³⁸ *Id.* at p. 121:8-24.

³⁹ See *Wormser v. Salt River Valley Canal Co.*, No. 708, 2nd Judicial Dist., Terr. of Ariz., Maricopa County (March 31, 1892) (“Kibbey Decree”).

⁴⁰ *Hurley v. Abbott*, No. 4564, 3rd Judicial Dist., Terr. of Ariz., Maricopa County (March 1, 1910) (“Kent Decree”).

⁴¹ *Tr.* at p. 124:3-18.

1 **C. The River Proved a Barrier to Transportation and Commerce.**

2 As Senator Hayden repeatedly pointed out, [t]he Salt River served as a barrier
3 rather than a corridor for transportation."⁴² When the Salt flooded, troops could not be
4 moved or supplied, mail service was interrupted, and interstate commerce was
5 interrupted.⁴³ One could only cross the river at such times via a perilous ferry voyage.
6

7 While ferry travel can be evidence of navigability,⁴⁴ ferries that merely
8 "functioned much like bridges" do not establish navigability.⁴⁵ Neither does
9 transportation "confined to the irregular and short periods of temporary high water"
10 establish navigability.⁴⁶

11 The Valley ferries functioned like bridges during the episodic flood periods. The
12 ferries were, in fact, anomalies that ceased operations by statehood and were never "a
13 major factor or a characteristic mode of transportation in the Valley."⁴⁷ As commercial
14 ventures, even the most-celebrated Hayden's Ferry never made money.⁴⁸ Where this
15 ferry once ran now stands Mill Avenue Bridge.⁴⁹ This is compelling evidence that it
16 actually functioned as a bridge. Simply put, the Lower Salt River impeded travel and
17 commerce at statehood, and during floods, ferries operated like bridges to carry
18 essentials across the dangerous waters. As such, this is not evidence of navigability.
19
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21
22

23 ⁴² *Id.* at p. 113:11-12.

24 ⁴³ *Id.* at p. 119:19-24.

25 ⁴⁴ *City of Centralia v. FERC*, 851 F.2d 278 (9th Cir. 1988).

⁴⁵ *North Dakota v. United States*, 972 F.2d 235, 239 (8th Cir. 1992).

⁴⁶ *See Oklahoma v. Texas*, 258 U.S. 574, 591, 42 S. Ct. 406 (1922).

⁴⁷ *Tr.* at p. 114:14-19.

⁴⁸ *Id.* at p. 113:5-9.

⁴⁹ *Id.* at p. 145:1-9.

1 **VI. Conclusion**

2 The Lower Salt River was not navigable at statehood. A few daring adventurers
3 floated down the river. There were a couple attempts at commercial navigation, and
4 they failed. Carl Hayden and other contemporary experts recognized the river could not
5 be used for commercial use and travel. Even when the stream held sufficient water to
6 float a boat, the river's braiding and turbulence prevented navigation. Consequently, the
7 Commission should find that the river was not navigable in fact or in law.
8

9 DATED this 9th day of June, 2003

10 MOYES STOREY LTD.

11
12 

13 William J. Sims III, 10458
14 Steve Wene, 19630
15 3003 North Central Ave.
16 Suite 1250
17 Phoenix, Arizona 85012
18 Attorneys for Arizona State
19 University

17 ORIGINAL AND SIX COPIES of the foregoing
18 hand-delivered this 9th day of June, 2003 to:

19 Arizona Navigable Stream Adjudication Commission
20 1700 West Washington, Suite 304
21 Phoenix, AZ 85007

21 COPY mailed this 9th day of June, 2003 to:

22 M. Byron Lewis
23 John B. Weldon, Jr.
24 Mark A. McGinnis
25 Salmon Lewis & Weldon
2850 E. Camelback, Suite 200
Phoenix, AZ 85016


1 Curtis A. Jennings, Esq.
Jennings, Haug & Cunningham
2 2800 N. Central Ave., Suite 1800
Phoenix, AZ 85004
3
4 Laurie A. Hachtel
Tom Shedden
Arizona Attorney General's Office
5 1275 W. Washington
Phoenix, AZ 85007
6
7 Vera Kornylak
Joy E. Herr-Cardillo
Timothy Hogan
8 Arizona Center for Law in the Public Interest
18 East Ochoa Street
9 Tucson, AZ 85701
10
11 Sally Worthington
John Helm
Helm & Kyle, Ltd.
12 1619 E. Guadalupe #1
Tempe, AZ 85283
13
14 Sandy Bahr
Sierra Club
202 E. McDowell Rd., Suite 277
Phoenix, AZ 85004
15
16 Julie Lemmon
930 S. Mill Avenue
Tempe, AZ 85281
17
18 Michael Dendy
Lewis and Roca
40 N. Central Aveue
19 Phoenix, AZ 85004
20
21 Cynthia Chandley
William Staudenmaier
Ryley Carlock & Applewhite
22 One North Central, Suite 1200
Phoenix, AZ 85004
23
24 Charlotte Benson
P.O. Box 5002
Tempe, AZ 85280
25
Charles Cahoy
P.O. Box 1466
Mesa, AZ 85211

1 Jim Callahan
City of Phoenix
2 200 W. Washington, Suite 1300
Phoenix, AZ 85003

3
4 John Hestand
5002 N. Maricopa Rd.
Chandler, AZ 85226

5
6 Michael J. Pearce
Fennemore Craig
3003 N. Central Ave., Suite 2600
7 Phoenix, AZ 85012

8 James Braselton
Mariscal Weeks McIntyre & Friedlander
9 2901 N. Central, Suite 200
Phoenix, AZ 85012

10
11 
12

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14
15
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17
18
19
20
21
22
23
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