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11 **IN THE SUPERIOR COURT OF THE STATE OF ARIZONA**  
12 **IN AND FOR THE COUNTY OF MARICOPA**

13 IN RE THE GENERAL ADJUDICATION  
14 OF ALL RIGHTS TO USE WATER IN  
15 THE GILA RIVER SYSTEM AND  
16 SOURCE

17 W-1 (Salt)  
18 W-2 (Verde)  
19 W-3 (Upper Gila)  
20 W-4 (San Pedro)  
21 (Consolidated)

22 Contested Case No. W1-106

23 **ARIZONA DEPARTMENT OF WATER**  
24 **RESOURCES' COMMENTS ON SRP,**  
25 **FREEPORT, AND ASLD'S MOTION**  
26 **FOR SUMMARY JUDGMENT RE**  
**OBJECTIONS TO SUBFLOW ZONE**  
**DELINEATION REPORT FOR VERDE**  
**MAINSTEM AND SYCAMORE**  
**CANYON SUBWATERSHED**

Assigned to the Hon. Scott Blaney

Referred to Special Master Sherri Zendri

**CONTESTED CASE NAME:** *In re Subflow Technical Report, Verde River Watershed*

**HSR INVOLVED:** None

1 **DESCRIPTIVE SUMMARY:** The Arizona Department of Water Resources (“ADWR”)  
2 hereby provides comments on SRP, Freeport, and ASLD’s Motion for Summary  
3 Judgment on the objections to ADWR’s Subflow Zone Delineation Report for the Verde  
4 Mainstem and Sycamore Canyon Subwatershed.

4 **NUMBER OF PAGES:** Eighteen

5 **DATE OF FILING:** July 24, 2023  
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8 **I. INTRODUCTION**

9 On December 30, 2021, the Arizona Department of Water Resources (“ADWR”)  
10 filed its Subflow Zone Delineation Report for the Verde River Mainstem and Sycamore  
11 Canyon Subwatershed (“Subflow Report”). Among other parties, the Salt River Valley  
12 Water Users’ Association and the Salt River Project Agricultural Improvement and Power  
13 District (collectively, “SRP”), Freeport Minerals Corporation (“Freeport”), and the  
14 Arizona State Land Department (“ASLD”) filed objections to the Subflow Report.<sup>1</sup>

15 On June 15, 2023, SRP, Freeport, and ASLD filed a joint Motion for Summary  
16 Judgment (“Motion”) pursuant to Rule 56(a) of the Arizona Rules of Civil Procedure  
17 (“Ariz. R. Civ. P.”) regarding their objections to the Subflow Report.<sup>2</sup> Although SRP,  
18 Freeport, and ASLD (collectively, “Moving Parties”) raised various issues in their  
19 separate objections, the Motion states that the Moving Parties do not intend to litigate any  
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22 <sup>1</sup> See Salt River Project’s Objections to the Subflow Zone Delineation Report for the  
23 Verde River Mainstem and Sycamore Canyon Subwatershed filed May 2, 2022; Freeport  
24 Minerals Corporation’s Objections to Subflow Technical Report for the Verde River  
25 Mainstem and Sycamore Canyon Subwatershed filed May 2, 2022; and Arizona State  
26 Land Department’s Objection to the Subflow Zone Delineation Report for the  
Verde River Mainstem and Sycamore Canyon Subwatershed filed May 2, 2022.

<sup>2</sup> Motion for Summary Judgment re Objections to Subflow Zone Delineation Report for  
Verde Mainstem and Sycamore Canyon Subwatershed filed June 15, 2023.

1 of those issues except one: their objections to the manner in which ADWR delineated its  
2 proposed subflow zone in the vicinity of two reservoirs, both operated by SRP.<sup>3</sup>

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4 **II. SUMMARY OF POSITIONS**

5 The Moving Parties make two arguments in support of their Motion for Summary  
6 Judgment. Neither is correct.

7 The Moving Parties' principal argument is that "ADWR was required to delineate  
8 the subflow zone of the Verde River-including within the area now submerged by Bartlett  
9 and Horseshoe Reservoirs- based on the lateral extent of the saturated floodplain  
10 Holocene alluvium under predevelopment conditions."<sup>4</sup> Their second argument is that  
11 ADWR did not delineate the areas near Horseshoe and Bartlett Reservoirs in compliance  
12 with *Gila IV*.<sup>5</sup> In support of these arguments, the Moving Parties offer the following  
13 "undisputed facts": "1) ADWR's delineation in the vicinity of the two reservoirs extends  
14 far more broadly than the saturated floodplain Holocene alluvium of the Verde River; (2)  
15 ADWR based its delineation upon conditions that existed after the two reservoirs were  
16 constructed rather than predevelopment conditions; (3) credible evidence of  
17 predevelopment conditions of the Verde River in the vicinity of the two reservoirs exists;  
18 and (4) ADWR did not account for that evidence in preparing the Mainstem Report."<sup>6</sup>

19 For these reasons, the Moving Parties believe that they are entitled to Summary  
20 Judgment and seek an order from this Court directing ADWR to file a supplement to the  
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<sup>3</sup> *Id.* at 3 and footnote 3.

24 <sup>4</sup> *Id.* at 10.

25 <sup>5</sup> *Id.* at 4. See *In re General Adjudication of All Rights to Use Water in Gila River System*  
26 *and Source*, 198 Ariz. 330, 338 (2000), "The subflow zone is defined as the saturated  
floodplain Holocene alluvium" (FHA).

<sup>6</sup> *Id.* at 3.

1 Subflow Report that bases its subflow zone delineation in the area of the two reservoirs on  
2 predevelopment conditions.<sup>7</sup>

3 The Motion is not supported by the facts or law in this case; as such, the Motion  
4 should be denied.

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6 **III. SUMMARY JUDGMENT STANDARD**

7 Rule 56 of the Ariz. R. Civ. P. authorizes this Court to grant summary judgment  
8 when there is no genuine dispute as to any material fact and the moving party is entitled to  
9 judgment as a matter of law.<sup>8</sup> Accordingly, the moving party must establish that no such  
10 issue remains for trial, even if the evidence is viewed in the light most favorable to the  
11 non-moving party. *Thompson v. Better-Bilt Aluminum Prod. Co., Inc.*, 171 Ariz. 550, 558,  
12 832 P.2d 203, 211 (1992). Additionally, this Court is authorized to grant summary  
13 judgment for a non-moving party, grant summary judgment on grounds not raised by a  
14 party or consider summary judgment on its own after identifying for the parties material  
15 facts that may not be genuinely in dispute. Ariz. R. Civ. P. 56(f).

16 As a threshold matter, ADWR is not a party to the general stream adjudication.<sup>9</sup>  
17 ADWR serves as technical advisor to the Court.<sup>10</sup> Therefore, ADWR offers these  
18 comments regarding the Motion for the Court's consideration.

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20 **IV. ADWR PROPERLY CONSIDERED BOTH PREDEVELOPMENT AND**  
21 **POST-DEVELOPMENT CONDITIONS IN DELINEATING THE**  
22 **SUBFLOW ZONE.**

23 ADWR follows five basic steps when delineating the subflow zone of a river:

24 <sup>7</sup> *Id.* at 4.

25 <sup>8</sup> Ariz. R. Civ. P. 56 (a).

26 <sup>9</sup> *See* Order With Regard To The Fifth Set of Issues Submitted for Decision filed in the  
Gila River adjudication on July 27, 1989, W-1, W-2, W-3, W-4.

<sup>10</sup> Arizona Revised Statutes § 45-256.

- 1 Step 1: Determine which stream reaches should be mapped based on their pre-  
2 development classification: ephemeral, intermittent, or perennial.  
3 Step 2: ADWR contracts with a third party to map the geology of the stream  
4 reaches selected in Step 1 and is then able to map the lateral extent of the  
5 floodplain Holocene alluvium (FHA) using a three-step methodology.  
6 Step 3: In areas of side recharge, setbacks are applied, making the lateral extent of  
7 the subflow zone narrower.  
8 Step 4: The historic composite of active floodplains (HCAF) is mapped to account  
9 for migrating river channel changes and variations in surficial water flow.  
10 Step 5: Delineate the subflow zone using (FHA - Setbacks) + HCAF = Subflow  
11 Zone

12 ADWR's Subflow Report Sections 2.0- 7.0.

13 This is the same methodology that was used to determine the subflow zone for the  
14 San Pedro River, which was approved by the Court in 2017,<sup>11</sup> with certain variations due  
15 to the geologic differences between the San Pedro River and Verde River watersheds.<sup>12</sup>  
16 The Moving Parties emphasize that ADWR's methodology as it pertains to delineating the  
17 subflow zone near Horseshoe and Bartlett Reservoirs required different mapping than  
18 previously seen in the San Pedro,<sup>13</sup> and imply that this must mean that the "different  
19 mapping" in those areas is wrong in some way;<sup>14</sup> however, there are no dams or  
20 substantial on-stream reservoirs such as Horseshoe and Bartlett reservoirs in the San  
21 Pedro which would have required this type of mapping. As described below, ADWR's  
22 delineation is in compliance with the Court's orders.

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23 <sup>11</sup> Findings of Fact and Conclusions of Law filed July 13, 2017 in Contested Case W1-  
24 103, *In re Subflow Technical Report, San Pedro River Watershed* at 8.

25 <sup>12</sup> ADWR's Subflow Report at 19.

26 <sup>13</sup> *Id.* at 26.

<sup>14</sup> Separate Statement of Facts in Support of Motion for Summary Judgment re Objections  
to Subflow Zone Delineation Report for Verde Mainstem and Sycamore Canyon  
Subwatershed at 3-4.

1           **1. The 2005, 2012, and 2017 Orders require ADWR to examine**  
2           **predevelopment conditions when classifying streams for inclusion in the**  
3           **subflow zone analysis.**

4           In all of the past Orders regarding the use of “predevelopment conditions,” the  
5 Court has consistently used that term when referring to the use of predevelopment  
6 conditions to classify streams as perennial, intermittent, or ephemeral to determine which  
7 streams should be included in or excluded from the subflow zone analysis. ADWR  
8 complied with this directive in its Subflow Report (*See* Subflow Report Section 3.0).

9           In the 2017 Order in which the Court requested that ADWR prepare a subflow  
10 zone delineation report for the Verde River watershed, the Court stated, “ADWR shall  
11 determine the subflow zone based on conditions existing in the earliest year or during “a  
12 range of years immediately prior to regular, discernable diversion or depletion of stream  
13 flows resulting from human activity” for which reliable and reasonably complete data  
14 exists, citing page 21 of a September 5, 2005 Order by Judge Ballinger.<sup>15</sup> Page 21 of the  
15 2005 Order, and several pages before that, uses identical language to discuss whether  
16 predevelopment or current conditions should be used **when calculating stream flows for**  
17 **purposes of classifying streams as perennial, intermittent, or ephemeral.**<sup>16</sup> Indeed,  
18 Judge Ballinger stated “the Special Master considered whether predevelopment or current  
19 conditions should be used **when calculating stream flows.**”<sup>17</sup> The Court pointed to  
20 arguments of various parties opposed to solely using current stream conditions to classify  
21 streams, such as the Apache Tribes’ argument that “it would be unjust “for a claimant to  
22 be able to ‘pump his way out of’...the jurisdiction of the Court by depleting the subflow

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24 <sup>15</sup> Order for Production of a Subflow Zone Delineation Technical Report for the Verde  
River Watershed filed November 27, 2017 at 4.

25 <sup>16</sup> Order filed September 28, 2005 in Contested Case W1-103, *In re Subflow Technical*  
*Report San Pedro River Watershed* at 18-24 (emphasis added).

26 <sup>17</sup> *Id.* at 19 (emphasis added).

1 zone... in order to create current stream conditions that are ephemeral.”<sup>18</sup> The Court also  
2 pointed to arguments of various parties opposed to using predevelopment stream  
3 conditions, such as ASARCO’s argument that language in a previous order establishes  
4 that “only current stream flow conditions are relevant” in determining the ephemeral  
5 stream exception.<sup>19</sup> These arguments demonstrate that the parties understood that the  
6 Court’s determination on whether to use predevelopment or current conditions was to be  
7 applied to the stream classification analysis (whether the streams are perennial,  
8 intermittent, or ephemeral).

9 The 2005 Order further states:

10 At its core, the Goodfarb Order provides that the subflow zone may only be  
11 comprised of areas related to perennial and intermittent streams. That is the  
12 rule. No ephemeral streams may be included. The exception to this rule  
13 arises when evaluating streams that would legitimately be categorized as  
14 ephemeral, but only because of the effect of surface water diversions or  
15 groundwater pumping. **The exception requires, in effect, that these  
16 streams be considered in a predevelopment state. That is, if one  
17 assumes away the effects of diversions and pumping, would the subject  
18 streams share the characteristics of an adjacent intermittent or  
19 perennial stream? If the answer is “yes,” they can be included within  
20 the subflow zone due to their predevelopment attributes.** Instead of an  
admonition to use only current conditions, the ephemeral stream exception  
is evidence that the Goodfarb Order contemplated that ADWR would  
outline the subflow zone without having to be concerned that human  
generated water diversions or depletions might artificially divest  
jurisdiction over water right claims this Court is charged with adjudicating.

21 2005 Order at 23-24 (emphasis added).

22 In October 2012, the Court further expanded on the specific requirements for the  
23 subflow zone delineation report, adopting ADWR’s “analysis of predevelopment flows  
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25 <sup>18</sup> *Id.*

26 <sup>19</sup> *Id.* at 19-22.

1 and water levels” and “the hydrologic criteria and procedures described in Section 2.1,  
2 including the definitions of perennial, intermittent and ephemeral streams, and the use of  
3 predevelopment flow conditions,”<sup>20</sup> which are portions of ADWR’s 2009 Report that refer  
4 to classifying streams for purposes of determining which streams should be included or  
5 excluded from the analysis.<sup>21</sup> In that Order, the Court further states that “streams may be  
6 excluded from the subflow analysis if they were ephemeral under predevelopment  
7 conditions and there is not a connection of FHA between the ephemeral stream and a  
8 perennial or intermittent stream.”<sup>22</sup>

9 The past directives from this Court demonstrate that the Court intended for ADWR  
10 to consider predevelopment conditions in classifying streams for inclusion in the subflow  
11 zone analysis. None of these Orders directs ADWR to delineate the subflow zone of the  
12 Verde River based on the lateral extent of the saturated floodplain Holocene alluvium  
13 under predevelopment conditions as the Moving Parties suggest. It is also important to  
14 note that ADWR did not determine the lateral extent of the saturated floodplain Holocene  
15 alluvium as it existed under predevelopment conditions anywhere else on the river as that  
16 was not the requirement set by the Court; however, the Moving Parties have only objected  
17 to the delineation for these two reservoirs. Thus, the Moving Parties’ “undisputed fact”  
18 #2, that “ADWR based its delineation upon conditions that existed after the two reservoirs  
19 were constructed rather than predevelopment conditions” is a mischaracterization of the  
20 requirement to consider predevelopment conditions as part of the subflow zone analysis.  
21 ADWR complied with the requirement to consider predevelopment conditions when

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24 <sup>20</sup> Order filed October 12, 2012 in Contested Case W1-103, *In re Subflow Technical Report San Pedro River Watershed* at 3-4.

25 <sup>21</sup> See ADWR’s June 2009 Subflow Zone Delineation Report for the San Pedro River Watershed at 2-2 and 2-3.

26 <sup>22</sup> 2012 Order, *supra* note 20, at 4.



1 classifying streams for inclusion in its Subflow Report, and it also considered historic and  
2 post-development conditions as required by the Court, and as discussed more fully below.

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4 **2. ADWR properly included both the current active channel and the**  
5 **Historic Composite Active Floodplain (HCAF) in its analysis.**

6 In 2012, Judge Ballinger expanded on his previous ruling and found that ADWR's  
7 subflow zone delineation must:

- 8 a. result in a continuous subflow zone;  
9 b. result in a stable geologic feature;  
10 c. **include the entire current active channel of each watercourse;**  
11 d. **include the Historical Composite Active Floodplain (1935-2007) for**  
12 **each watercourse;**  
13 e. accurately reflect the full extent of the FHA; and,  
14 f. to the extent possible, interpret judicial pronouncements in a manner  
15 consistent with scientific fact.

16 Findings of Fact and Conclusions of Law filed October 12, 2012 at 5 (emphasis  
17 added)("2012 Order").

18 Bartlett Reservoir and Horseshoe Reservoir are part of the active channel of the  
19 Verde River. Both reservoirs are located on the stream where they collect and retain  
20 upstream water, and periodically release water to downstream users.<sup>23</sup> The reservoirs are  
21 merely an area of the watercourse with a widened surface area through which river water  
22 and sediment is carried. As such, the reservoirs are required to be included in the subflow  
23 zone delineation analysis.

24 The Moving Parties take the position that ADWR should have determined the  
25 lateral extent of the saturated floodplain Holocene alluvium prior to construction of the  
26 dams that created the reservoirs.<sup>24</sup> In other words, the Moving Parties are asking the

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<sup>23</sup> See Separate Statement of Facts, *supra* note 14, at 6.

<sup>24</sup> Motion, *supra* note 2, at 8.

1 Court to exclude the reservoirs from the subflow zone even though these reservoirs are  
2 part of the active channel and FHA exists in the reservoirs, as discussed further below. If  
3 the Court were to accept the argument that the reservoirs should be excluded from  
4 ADWR's analysis because ADWR should only consider the lateral extent of the saturated  
5 floodplain Holocene alluvium under predevelopment conditions, then other areas of the  
6 river would also be excluded from the subflow zone delineation; this includes areas of  
7 heavy human alteration, such as Granite Creek, in which quarrying and construction have  
8 destroyed the original stream channel but where active streamflow and FHA still exists.  
9 Excluding any of these areas is contrary to the Court's previous orders.

10 The Moving Parties mischaracterize the Court's requirement to include "the entire  
11 current active channel of each watercourse" as stated in the 2012 Order by adding that  
12 ADWR should only include the current active channel "to the extent that the active  
13 channel currently is outside the subflow zone that existed under predevelopment  
14 conditions;"<sup>25</sup> this distinction is not contained anywhere in the 2012 Order, and even if it  
15 was, both reservoirs presumably extend outside the lateral boundaries of the subflow zone  
16 that existed under predevelopment conditions. Thus, under the Moving Parties' logic,  
17 ADWR would be required to include the current active channel, with reservoirs, in its  
18 analysis.

19 The Moving Parties further attempt to dispense with the requirement that the active  
20 channel be included by positing that the direction from the Court "was issued in response  
21 to the fact that streams naturally meander over time, and it would make little practical  
22 sense for the subflow zone associated with a stream to not include the stream itself," and  
23 that this rule should not apply to reservoirs because reservoirs are not capable of  
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<sup>25</sup> *Id.* at 7, footnote 10 and at 8, footnote 13.

1 meandering.<sup>26</sup> The Moving Parties are correct that it would make little practical sense for  
2 the subflow zone to not include the stream itself, which is why ADWR included the entire  
3 active channel in its subflow analysis pursuant to the 2012 Order. The active channel  
4 includes reservoirs, and the reservoirs impact downstream flow, stream beds, and flow  
5 structure by transporting and collecting streamflow and deposits, such as alluvium.<sup>27</sup> And  
6 while the Moving Parties are correct that reservoirs themselves are not capable of  
7 meandering, the water levels within the reservoirs and the floodplain Holocene alluvium  
8 deposited in the reservoirs do change over time, which the Court has previously  
9 recognized.<sup>28</sup> The Moving Parties also argue that “under ADWR’s approach to  
10 delineation, the subflow zone would be a moving target that would have to be expanded

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12 <sup>26</sup> *Id.* at 8, footnote 13. In the same footnote, the Moving Parties imply that reservoirs  
13 cannot be considered part of a watercourse because a reservoir does not meet the  
14 definition of “watercourse” as defined in the 2019 edition of Black’s Law Dictionary: “a  
15 body of water, usu. of natural origin, flowing in a reasonably definite channel with bed  
16 and banks.” The Moving Parties emphasized the portion of the definition that says that a  
17 watercourse is usually of natural origin. However, watercourses can be either natural or  
18 artificial in nature. Black’s Law Dictionary defines an “artificial watercourse” as “a man-  
19 made watercourse, usu. to be used only temporarily. If the watercourse is of a permanent  
20 character and has been maintained for a sufficient length of time, it may be considered a  
21 natural watercourse to which riparian rights can attach.” Black’s Law Dictionary (11th ed.  
22 2019). There are also numerous cases in which courts have found that artificial structures  
23 can be considered part of the natural watercourse. *See, e.g., Ramada Inns, Inc. v. Salt  
24 River Valley Water Users’ Ass’n*, 111 Ariz. 65, 67, 523 P.2d 496, 498 (1974), finding that  
25 an artificially created canal has developed the characteristics of a natural watercourse after  
26 considering factors such as its history, permanence, and how it is used; *Taft v. Ball, Ball &  
Brosamer, Inc.*, 169 Ariz. 173, 176, 818 P.2d 158, 161 (Ct. App. 1991), finding that the  
Central Arizona Project Canal has “the same basic function of any water course.” Thus,  
the fact that these reservoirs are artificial in nature has no bearing on whether they can be  
considered part of the watercourse.

<sup>27</sup> *See, e.g.,* Morris, Gregory L. and Fan, Jiahua, *Reservoir Sedimentation Handbook*, Ver.  
1.04. 2010, Section 2.5 “Geomorphic Stages of Reservoir Life”; and Marren, Philip M. et  
al., “The Potential for Dams to Impact Lowland Meandering River Floodplain  
Geomorphology,” published in *The Scientific World Journal*, 2014.

<sup>28</sup> 2012 Order, *supra* note 20, at 2.

1 through additional artificial changes in the inundated area...”.<sup>29</sup> This can be said for any  
2 area of the subflow zone, not just the reservoirs. The subflow zone will change over time  
3 depending on where the floodplain alluvium is located every year, which is why ADWR  
4 completes the Historic Composite Active Floodplain (“HCAF”) mapping to show the  
5 composite of all floodplains over a long period of time as part of its analysis.

6 ADWR’s HCAF analysis reflects the combination of floodplains from all the time  
7 periods examined from historic to current conditions. The HCAF analysis also takes into  
8 consideration variations in water levels over time. ADWR mapped the HCAF in the  
9 reservoirs to the high-water mark because it shows the highest level where water is  
10 located, or has been located, historically. Thus, ADWR’s maps show the full extent of  
11 floodplains from the 1940s until now, which is captured in the final floodplain composite  
12 (HCAF). The HCAF is then modified with FHA mapping by removing areas that are not  
13 geologically compatible with the subflow zone, such as areas within the reservoirs that  
14 show underlying bedrock, to create the proposed subflow zone. This method is consistent  
15 with the Court’s directives to include both the entire current active channel and the HCAF  
16 for each watercourse in ADWR’s analysis. Excluding the reservoirs from the analysis  
17 would be contrary to the Court’s directive to include the historic composite for each  
18 watercourse.

19 **3. ADWR properly considered relevant, reliable data when classifying**  
20 **streams within the Verde River watershed as either perennial,**  
21 **intermittent, or ephemeral.**

22 In support of their argument that ADWR was required to delineate the subflow  
23 zone of the Verde River based on the lateral extent of the saturated floodplain Holocene  
24 alluvium under predevelopment conditions, the Moving Parties offer a number of  
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26 <sup>29</sup> Motion, *supra* note 2, at 10.

1 documents purporting to show predevelopment conditions of the river that they believe  
2 ADWR was required to consider.<sup>30</sup> However, the offered documents relate to dam  
3 construction and do not appear to provide specific information about streamflow that  
4 could possibly change ADWR's determinations that the Verde River mainstem and  
5 Sycamore Canyon are perennial streams.<sup>31</sup> ADWR considered relevant, reliable data  
6 when classifying streams in the Verde River watershed, and more importantly, **none of**  
7 **the Moving Parties objected to ADWR's classifications for these streams**, so it would  
8 be unnecessary for ADWR to consider these documents just to arrive at the same  
9 conclusions.

10 The Moving Parties have failed to show that considering pre-1936 photos and  
11 information would change ADWR's HCAF analysis results because it would not. In its  
12 HCAF analysis, ADWR selected all available aerial imagery that was chronologically  
13 relevant to years of major flooding, including imagery from the 1940s.<sup>32</sup> The aerial  
14 imagery from the 1940s would contain similar streambed or floodplain configurations to  
15 the 1930s, and specifically 1938, prior to construction of the reservoirs.<sup>33</sup> Since the  
16 HCAF is a composite of all aerial imagery reviewed from the 1940s to now, the influence  
17 of the variations from any individual time period is minimized, so it is unlikely that  
18 information from 1936 would substantially change ADWR's HCAF analysis.

19 Thus, the Moving Parties' "undisputed fact" #3, that credible evidence of  
20 predevelopment conditions of the Verde River in the vicinity of the two reservoirs exists,  
21 is not disputed insofar as the Moving Parties are referring to the relevant evidence that  
22 ADWR considered in its analysis and listed in Chapter 8 of ADWR's Subflow Report.

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23 <sup>30</sup> *Id.* at 8-10.

24 <sup>31</sup> ADWR's Subflow Report at 14.

25 <sup>32</sup> *Id.* at 31-32.

26 <sup>33</sup> Motion, *supra* note 2, at 7. "Construction of the dams that created Bartlett and Horseshoe Reservoirs was completed in 1939 and 1945, respectively."

1 Assuming, however, that the Moving Parties are referring to the information described in  
2 their Motion, that information would not change ADWR's the results of ADWR's  
3 streamflow analysis or HCAF analysis. As such, the Moving Parties' "undisputed fact"  
4 #4, that (4) ADWR did not account for that evidence in preparing the Mainstem Report, is  
5 also not relevant.

## 6 V. ADWR'S ANALYSIS IS IN COMPLIANCE WITH GILA IV.

### 7 1. ADWR's proposed subflow zone delineation does not extend more broadly 8 than the saturated floodplain Holocene alluvium as floodplain Holocene 9 alluvium is found within the reservoirs.

10 In *Gila IV*, the Arizona Supreme Court held that "The subflow zone is defined as  
11 the saturated floodplain Holocene alluvium."<sup>34</sup> The floodplain Holocene alluvium is the  
12 geologic unit surrounding a river that is comprised of sedimentary materials that were  
13 deposited by the river during the Holocene period, i.e. the past approximately 10,000  
14 years.<sup>35</sup> The Moving Parties argue that ADWR's analysis does not comply with the  
15 requirements of *Gila IV* because "ADWR's delineation in the vicinity of the two  
16 reservoirs extends far more broadly than the saturated floodplain Holocene alluvium of  
17 the Verde River."<sup>36</sup> This assertion is not correct.

18 Through extensive fieldwork and map analysis, surficial mapping along the full  
19 length of the Verde River was completed by Arizona Geological Survey ("AZGS").  
20 Although in some areas the submerged underlying deposits were not clear, AZGS was still  
21 able to collect control points around the high-water line on both reservoirs.<sup>37</sup> Additionally,  
22 surficial mapping was conducted below the high-water line where landform shape was

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24 <sup>34</sup> *Gila IV*, *supra* note 5, 198 Ariz. at 344.

25 <sup>35</sup> *Id.* at 345 n.2.

26 <sup>36</sup> Motion, *supra* note 2, at 3.

<sup>37</sup> AZGS Report, "Mapping of Holocene River Alluvium along the Verde River, Central  
Arizona," June 2010, at 5-6.

1 discernible.<sup>38</sup> Further interpretation was made possible through the use of aerial imagery  
2 taken at relatively low reservoir levels.<sup>39</sup>

3           The geologic mapping provided by AZGS shows the existence of FHA within the  
4 reservoirs and bounding either side of the reservoirs, as shown in Figure 1, below:  
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25 <sup>38</sup> *Id.*

26 <sup>39</sup> *Id.*



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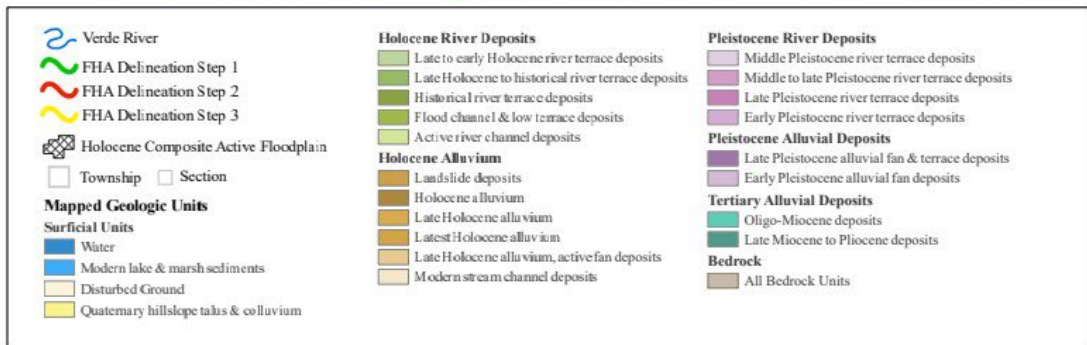
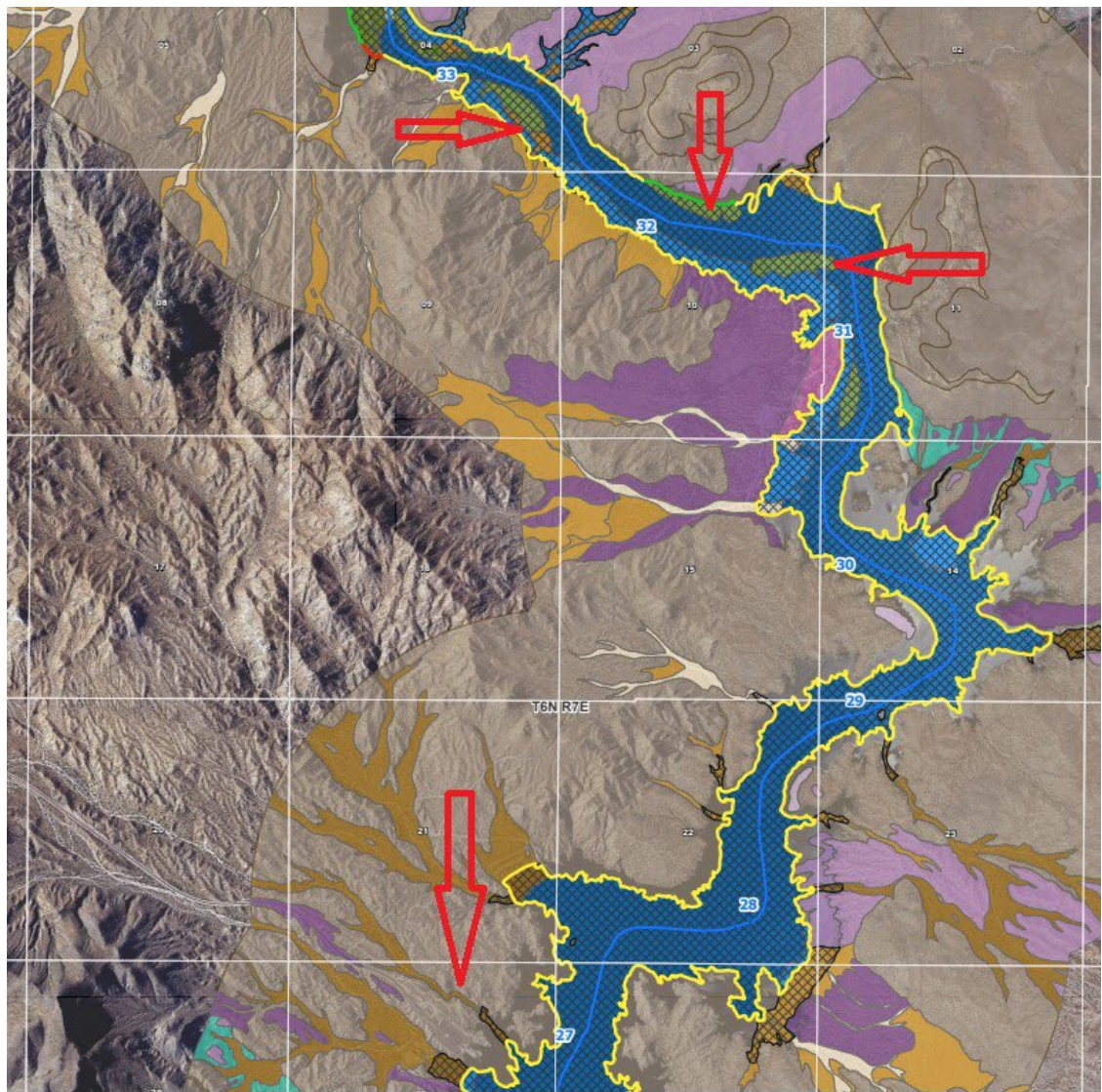


Figure 1: Hologene deposits in vicinity of Barrett Reservoir, Arizona.

Modified from Appendix C, FHA Delineation Map Series, Verde River Miles: 20-38, Map 3 of 13, Subflow Delineation Report for the Verde River Mainstem and Sycamore Canyon Subwatershed, ADWR December 2021.



1 According to AZGS, the certainty of the limit of FHA is strongly dependent on the nature  
2 of the bounding geologic units.<sup>40</sup> Therefore, the proposed subflow zone in the vicinity of  
3 the two reservoirs does not extend more broadly than the FHA because AZGS mapped  
4 alluvium of Holocene age along areas of the reservoirs that were not obscured by standing  
5 water. Since the geologic units bounding the two reservoirs are of Holocene age, it is  
6 reasonable to assume that the geologic deposits that are submerged are alike.

7 ADWR used the AZGS geologic mapping to modify ADWR's HCAF mapping by  
8 removing any areas that are not geologically compatible with the subflow zone, such as  
9 areas with underlying bedrock. ADWR also applied the setback rules adopted by the  
10 Court.<sup>41</sup> ADWR's proposed subflow zone delineation ensures that the subflow zone  
11 remains "as narrow as the saturated floodplain Holocene alluvium" as required by the  
12 Court, while accurately reflecting "the full extent of the floodplain Holocene alluvium," as  
13 required by the Court.<sup>42</sup> ADWR's methodology is consistent with the Court's directions  
14 and in compliance with *Gila IV*. Thus, the Moving Parties' "undisputed fact" #1, that  
15 ADWR's delineation in the vicinity of the two reservoirs extends far more broadly than  
16 the saturated floodplain Holocene alluvium of the Verde River is wrong.

## 17 VI. CONCLUSION

18  
19 For the foregoing reasons, the Motion should be denied. To the extent that the  
20 Court is inclined to grant summary judgment in this matter, it would be appropriate for the  
21 Court to consider granting judgment independent of the Motion and exercising its  
22 available options under Ariz. R. Civ. P. 56(f).

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24  
25 <sup>40</sup> *Id.*

26 <sup>41</sup> 2017 Order, *supra* note 15, at 2-3.

<sup>42</sup> *Id.*

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**RESPECTFULLY SUBMITTED** this 24th day of July, 2023.

ARIZONA DEPARTMENT OF WATER  
RESOURCES



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Kimberly R. Parks, Deputy Counsel  
Karen J. Nielsen, Deputy Counsel

**ORIGINAL** of the foregoing sent by  
first-class mail on July 24, 2023, to:

Clerk of the Maricopa Superior Court  
Attn: Water Case  
601 W. Jackson Street  
Phoenix, Arizona 85003

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