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9 **IN THE SUPERIOR COURT OF THE STATE OF ARIZONA**
10 **IN AND FOR THE COUNTY OF APACHE**

11 IN THE GENERAL ADJUDICATION
12 OF ALL RIGHTS TO USE WATER IN
13 THE LITTLE COLORADO RIVER
14 SYSTEM AND SOURCE

Civil Case No. CV 6417-400

15 **ARIZONA DEPARTMENT OF WATER**
16 **RESOURCES' NOTICE OF FILING**
17 **PROGRESS REPORT**

18 Special Master Susan Ward Harris

19 **CONTESTED CASE NAME:** *In re the Lower Little Colorado River Subwatershed*

20 **DESCRIPTIVE SUMMARY:** The Arizona Department of Water Resources hereby
21 provides notice of filing its report regarding ADWR's initial findings and progress in the
22 investigations of water rights claims and water uses in the Lower Little Colorado River
23 subwatershed in preparation for the Preliminary Hydrographic Survey Report.

24 **NUMBER OF PAGES:** Two and twelve-page attachment

25 **DATE OF FILING:** December 16, 2019

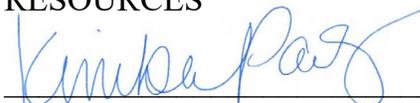
26 Pursuant to the Court's Order in this matter dated March 20, 2018, ADWR hereby
provides notice of filing its report regarding ADWR's initial findings and progress in the
investigations of water rights claims and water uses in the Lower Little Colorado River
subwatershed in preparation for the Preliminary Hydrographic Survey Report. A copy of

1 ADWR's report is attached to the original of this Notice being filed with the Clerk
2 (Attachment) and is being posted to ADWR's web site at:

3 <https://new.azwater.gov/adjudications>.

4 **DATED** this 16th day of December, 2019.

5 ARIZONA DEPARTMENT OF WATER
6 RESOURCES

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Kimberly R. Parks, Deputy Counsel

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10 **ORIGINAL** of the foregoing notice and
11 attachment sent by first-class mail on
12 December 16, 2019, to:

13 Clerk of the Apache County Superior Court
14 P.O. Box 365
15 St. Johns, Arizona 85936

16 **COPIES** of the foregoing notice and
17 attachment sent by first-class mail on
18 December 16, 2019, to:

19 Special Master Susan Ward-Harris
20 Maricopa County Superior Court
21 Central Court Building
22 201 West Jefferson Street, Suite 3A
23 Phoenix, AZ 85003-2205

24 **COPIES** of the foregoing notice
25 sent by first-class mail on December 16, 2019 to
26 all parties on the court-approved mailing list
for Case No. CV 6417-400.



ATTACHMENT

Lower Little Colorado River PHSR Progress Report

1.0 INTRODUCTION

As requested by the Court,¹ the Arizona Department of Water Resources (Department or ADWR) is filing this report regarding ADWR’s initial findings and progress in the investigations of water rights claims and water uses in the Lower Little Colorado River (LLCR) subwatershed in preparation for the Preliminary Hydrographic Survey Report (PHSR). This report also identifies`1 any additional information required from the Hopi Tribe or the United States on behalf of the Hopi Tribe in order for ADWR to conduct its analysis of their respective claims for water in the LLCR subwatershed. The Special Master has requested ADWR to file its PHSR for the LLCR in May 2021.²

2.0 AMENDED STATEMENTS OF CLAIMANT SUBMITTED BY THE HOPI TRIBE AND UNITED STATES

The Hopi Tribe and the United States submitted their Fourth Amended Statements of Claimant (SOCs) for the Hopi Ranches on December 21, 2017 and December 18, 2017, respectively.³

2.1 Hopi 4th Amended SOC

The Hopi 4th Amended SOC included: 1) a zip file with abstracts and summary tables for each ranch; 2) imaged documents of the SOC’s originally filed on the ranches; and 3) GIS files of the ranch boundaries, underlying land ownership (BLM or State Land, as well as lands privately owned by the Hopi Tribe) for ranch areas in the “checkerboard” area, and a points shapefile entitled “*Water_Rights_Features_Dec_14_2017.*” This shapefile

¹ See, Case Initiation Order for Lower Little Colorado River Watershed, filed March 20, 2018 at 4.

² *Id.*

³ See, Order filed August 3, 2016 in Contested Case No. CV 6417-201, *In re Hopi Tribe Priority* at 3-5.



includes five use types: impoundments (317 points), instream (streamside) uses (18 points), irrigation uses (2 points), springs (31 points), and wells (35 points).

ADWR requests that the Hopi Tribe provide the following information: 1) methods of measuring or estimating quantities; 2) the basis for determining annual volumes for irrigation, stockponds, stockwatering, and domestic uses; and, 3) crop information, consumptive use calculations, and diversion methods or estimated efficiencies for irrigation.⁴

2.2 United States' 4th Amended SOC

The 4th Amended SOC submitted by the United States on behalf of the Hopi Tribe included some of the same exhibits provided by the Hopi Tribe in their 4th Amended SOC. Exhibits 1 through 4, the only exhibits included in the United States submission, are used as Exhibits 3 through 6 in the Hopi Tribe submission. The United States did not include any GIS data with the submission of the 4th Amended SOC on behalf of the Hopi Tribe.

ADWR requests that the United States provide the following information: 1) all GIS information or data used to create the map pdfs in Exhibit 2 and the tables in Exhibit 1 of the United States' 4th Amended SOC; 2) information regarding methods of measuring or estimating quantities; 3) the basis for determining annual volumes for irrigation, stockponds, stockwatering, and domestic uses; and 4) crop information, consumptive use calculations, diversion methods or estimated efficiencies for irrigation. Additionally, information provided on the Hopi Industrial Park states that the water is currently supplied by the City of Winslow but gives no estimate of volumes or methods of metering; ADWR requests that the United States review this item and provide relevant information.

⁴ *Id.*



3.0 STATEMENTS OF CLAIMANT AND PRIOR FILINGS WITHIN THE LOWER LITTLE COLORADO RIVER SUBWATERSHED

3.1 Summary of Statements of Claimants: Types and Counts

SOCs are not subdivided by watershed within the Little Colorado River adjudication as they are within the Gila River adjudication. Determining whether a particular SOC falls inside the LLCR subwatershed versus the Upper Little Colorado (ULCR) or Silver Creek (SC) subwatersheds requires a combination of reviewing the imaged record of the document and displaying the claimed location from the SOC database in GIS. For this discussion of the initial numbers and types of SOC, points of diversion (PODs), and places of use (POUs) claimed within the SOC, a one-mile buffer on the outside of the ADWR published delineation of the subwatershed boundary was used to conservatively include all potential relevant SOC.

There are approximately 5,700 unique SOC filed in the Little Colorado River adjudication which are located within the LLCR buffer. These SOC account for approximately 2,400 individual PODs and 7,700 individual POUs.⁵

There are four variations of the SOC form: Domestic, Irrigation, Stockpond and Other. SOC filed using the Domestic form include approximately 910 PODs and 1,450 POUs. Irrigation SOC forms account for approximately 80 PODs and 215 POUs. There are approximately 2,600 POUs claimed on Stockpond forms. Note that the POD for a stockpond is considered the same location as the POU and is not claimed separately.

The Other SOC form allows several different types of uses to be claimed, which include municipal, commercial or industrial, mining, stockwatering other than from a stockpond,

⁵ Note that a single SOC number could be associated with multiple uses with multiple PODs and POUs for each use. In the following discussion, estimated totals of POUs and PODs may not be the same as the estimated total number of SOC.



recreation, fish and wildlife, and “other”, which can be specified by the claimant. Overall, there are approximately 870 PODs and 1,000 POUs claimed on the Other form. Municipal uses account for 20 PODs and 30 POUs. In the commercial-industrial category, there are 10 PODs and 20 POUs, while for mining, there are three PODs and four POUs. Stockwatering other than from a stockpond (often a reservoir filled by a well) accounts for 180 PODs and 150 POUs. Recreation, Fish, and Wildlife as a classification has approximately 640 PODs and 480 POUs. Finally, there are 835 PODs and 300 POUs claimed on the Other Uses form that have “other” listed as the use type. In these cases, the claimant has frequently written in a specific use, such as uses for a school football field, summer cabins, or domestic monitoring, each of which will be reviewed and investigated.

3.2 Summary of Prior Filings: Types and Counts

The ADWR Surface Water Rights database contains summary water use information and locations for filings made under the various surface water rights programs. Each of these programs has been assigned a numeric code as shown in the following table. The filings within these programs are collectively referred to as “prior filings.”⁶

Code	Description of Prior Filing
10*	Pre-1919 Notice of Appropriation
33	Post-1972 Application to appropriate surface water (can lead to a Certificate of Water Right (CWR))
36	Pre-1919 Water Right Application Claim (under the Water Rights Registration Act of 1974)

⁶ Under Arizona Revised Statute (A.R.S.) § 45-251 (6), “Prior filing” means a notice of appropriation recorded with the county recorder or the recorder’s predecessor, an application to appropriate filed pursuant to section 45-152, a statement of claim filed pursuant to article 7 of this chapter or a claim of water right filed pursuant to article 10 of this chapter, any or all of which reasonably relate to the water right claim or use that is subject to adjudication.



Code	Description of Prior Filing
38	Stockpond Registration Act of 1977 (for stockponds built between 1919 and 1977 and which did not have a 33, 3R, 4A permit or CWR applicable)
3R	1919-1972 Application to appropriate surface water in conjunction with the construction of a reservoir or stockpond (can lead to a CWR)
4A	1919-1972 Application to appropriate surface water (can lead to a CWR)
T	Transfer of Pre-1919 NOA Application for Permit to Change Point of Diversion of Appropriated Waters of the State of Arizona

*Not contained in the Surface Water Rights database.

There are approximately 7,070 active or pending prior filings in the entire Little Colorado River watershed with 3,700 in the LLCR subwatershed.⁷ These include 33s, 36s, 38s, 3Rs, 4As, BBs, and Ts which include claims for approximately 3,800 PODs and 3,500 POU. The 10s, or Notices of Appropriation, are currently being analyzed to determine their locations and use types as they are not part of the Surface Water Rights database.

Table 1 shows the prior filings categorized by water use claimed, subdivided by POD and POU, with totals for all the PODs and POU in each use type. Each prior filing may have between one and five use types included in the filing by the claimant, thus producing the higher total of water uses claimed in each category than the number of PODs or POU. The italicized rows are not use types, but rather other comments included by the claimants in the filings.

4.0 INVESTIGATION STATUS AND POTENTIAL FIELD WORK

The current investigation status of the four types of SOC (Domestic, Irrigation, Stockpond, and Other Uses) and associated water uses is discussed below.

⁷ Like SOC, prior filings are filed within the LCR watershed rather than in a specific subwatershed. Prior filings were assigned to the LLCR using the same techniques as ADWR used to sort the SOC.



4.1 Domestic Uses

Domestic Use is defined in A.R.S. § 45-251 as:

1. “Domestic use” means a single appropriative water right serving a residence, or multiple residences up to a maximum of three residential connections, for household purposes with associated irrigation of lawns, gardens or landscape in an amount of not more than one-half acre per residence. Domestic use does not include the use of water delivered to a residence or multiple residences by a city, town, private water company, irrigation provider or special taxing district established pursuant to title 48.

ADWR staff investigating domestic uses utilize GIS to match SOC's, prior filings, well registration information from the Wells55 database, and assessor parcel ownership information from the county assessors GIS maps to residential structures visible in aerial imagery. ADWR staff also review historical imagery to establish apparent first use dates for the domestic uses.

Currently there are approximately 2,300 domestic uses matched to one or more of the listed filings types (SOC's, prior filings, or Wells55) and nearly 3,900 additional potential domestic water uses outside of municipal areas or water co-ops were identified that do not appear to have matching filings. It is not expected that field work will be conducted to investigate domestic uses unless they are part of a larger claim and other types of investigations, such as irrigation or commercial-industrial uses, are occurring at the site.

4.2 Irrigation Uses

The Irrigation SOC instructions state:

Anyone who is using water to raise commercial crops, pasture for livestock, orchards, or gardens on land exceeding one-half acre must file their water right claims using an irrigation use statement of claimant form.

ADWR divides irrigation uses into two categories of Potential Water Rights (PWRs) during its HSR investigations: 1) Agricultural Irrigation (designated as an “IR” PWR) is



water used to produce plants for human or animal consumption or for sale such as nursery stock or pine trees; 2) Other Irrigation (designated as an “OT” PWR) is water used to produce plants used primarily for landscaping, aesthetic value, erosion control, and similar purposes. Common examples of OT irrigation include cemeteries and landscaping around businesses and along highways.

ADWR’s investigations to date have consisted of digitizing those agricultural fields visible in aerial imagery which appear to have been irrigated within the last 10 years, and matching SOCs and prior filings to those fields. Ditches and canals providing water to the fields are being initially digitized using the National Hydrography Dataset (NHD) flowlines.

ADWR estimates that there are approximately 360 active agricultural fields within the LLCR subwatershed with a total area of approximately 4,900 acres. An additional 340 acres of OT irrigation have been tentatively identified. Note that the number of IR and OT PWRs described in the HSR will likely be less than the total number of visible agricultural fields.

Field work for irrigation uses is expected to begin in late April or early May of 2020, depending on the strength and duration of winter and commencement of the growing season. It is initially estimated that field work may take up to 18 team weeks⁸ of effort. Field work will include determining or verifying the crop(s) grown in each field, the irrigation method and efficiency, the PODs and conveyance systems, any shared wells or reservoirs, and the recent growing history for each field. Primary Storage Reservoirs (PS PWRs) and Small Reservoirs (SR PWRs) will also be investigated during the irrigation-related field work.

⁸ A “team week” refers to a 40-hour week of work, typically conducted by two members of the field staff, and includes travel time to and from areas of work.



4.3 Stockpond Uses

According to A.R.S. § 45-251:

9. “Stockpond” means an on-channel or off-channel impoundment of any size that stores water that is appropriable under section 45-141, subsection A and that is for the sole purpose of watering livestock and wildlife.

During the preparation of ADWR’s “Technical Report on *De Minimis* Adjudication of Stockpond and Stock and Wildlife Watering Uses for the Lower Little Colorado River Subwatershed” (issued July 30, 2019) (“Technical Report”), ADWR digitized the surface areas of 3,103 apparent stockponds and matched available SOC’s and prior filings to these water uses. ADWR still needs to review historic aerial photography to determine apparent first use dates for these water uses.

ADWR is utilizing Small Unmanned Aircraft Systems (sUAS) to conduct surveys for determining the volume of all stockponds that may equal or exceed 15 acre-feet in capacity, the statutory limit contained in ARS § 45-271. ADWR surveyed approximately 110 stockponds during the preparation of the Technical Report and anticipates surveying approximately 50 additional stockponds greater than 3 acres in area. This field effort will require four team weeks.

4.4 Other Uses

As described in **Section 4.1**, the “Other” SOC form provides the claimant the ability to claim a number of different water use types. Each of these is described below, along with ADWR’s progress in investigating these water uses.

4.4.1 Municipal Uses

The instructions for the “Other” SOC form state that municipal use “is meant to represent cities, water franchises and others who serve similar developments. Water uses in this category include all those commonly associated with urban development and may include commercial, golf courses, parks, domestic, and light industrial.” Cooperatives, joint



ventures, or informal well agreements involving four or more users are also included in this category.

ADWR has initially identified 122 potential municipal water uses in the LLCR subwatershed. These were identified using a variety of sources including SOC's, prior filings, ADWR Community Water Systems (CWS) reports, Arizona Corporation Commission (ACC) Certificates of Convenience and Necessity (CC&Ns), and Arizona Department of Environmental Quality (ADEQ) Public Water Supply (PWS) filings.

The investigation process will entail contacting the municipal providers to verify their SOC information, their service areas (POUs), and their PODs. This process will commence in January 2020 and will include field work to review the PODs, update information, and resolve any apparent conflicts in the data. It is estimated that field work could take up to 20 team weeks to complete.

4.4.2 Commercial or Industrial Use

The "Other" SOC instruction form describes commercial and industrial uses as "self-supplied developments including lumber mills, motels, and stores." ADWR is utilizing SOC's and Wells55 data within GIS to identify commercial and industrial uses.

The primary water uses to be investigated in this category include the APS Cholla Generating station, the Novo BioPower plant (formerly the Catalyst Paper mill discussed as part of the SC HSR), and truck stops along Interstate 40. Field work is expected to begin in early 2020 and could take five team weeks of investigation.

4.4.3 Mining Use

Mining uses claimed using the "Other" SOC form concern "the water required to mine or process coal, copper, sand and gravel, uranium, or other minerals extracted from the earth." Within the LLCR subwatershed there are a number of small sand and gravel operations



described in SOC's and the US Bureau of Mines database. ADWR believes these uses can be investigated in four team weeks.

4.4.4 Stockwatering other than from a Stockpond

A.R.S. § 45-251 defines stockwatering as:

10. "Stock watering use" means the consumption of water by livestock and wildlife, either:

(a) Directly from a naturally occurring body of water, such as an undeveloped spring, cienega, seep, bog, lake, depression, sink or stream.

(b) From small facilities, other than a stockpond, that are served by a diversion of water that is appropriable under section 45-141, subsection A.

During the investigations to complete the Technical Report, ADWR identified springs and streamside uses for stockwatering. Spring uses were verified only if both an SOC and a previous filing existed for a potential spring location. ADWR identified 107 springs with stockwatering uses. Streamside water uses for stock and wildlife were associated with either streams or lakes. ADWR identified 92 stock and wildlife uses along streams and 92 along lakes. Additionally, stockwatering from a well may fill an impoundment similar to a stockpond or a metal or concrete trough or tank. PWRs are not created for water uses consisting only of stockwatering from a well.

4.4.5 Recreation, Fish, and Wildlife

As described in the instructions to the "Other" SOC form, these uses "apply to lakes, ponds, hatcheries, or other uses to support recreation or enhance fish and wildlife habitat." The majority of these claims are associated with stockponds and stockwatering uses. There are a limited number of claims with impoundments created for these purposes. For those impoundments where designed capacities are not available, ADWR may conduct surveys to determine the capacities. ADWR estimates that this investigation would take two team weeks of investigation.



5.0 NON-INDIAN FEDERAL RESERVED RIGHTS

ADWR has identified that the National Park Service has 5 SOCs in the LLCR subwatershed claiming Federal Reserve Water Rights. Grand Canyon National Park covers nearly 1.2 million acres but only 2% of the park, approximately 25,370 acres, fall within the LLCR subwatershed. Petrified Forest National Park (PFNP) covers approximately 140,300 acres but falls into both ULCR and LLCR subwatersheds, but is primarily in the LLCR subwatershed with 86%, nearly 121,000 acres, in non-Navajo tribal areas and an additional 6%, over 8,600 acres, in Navajo tribal areas. There are also three National Monuments: Wupatki, Sunset Crater, and Walnut Canyon having Federal Reserve Rights claims.

Field work is expected to begin in early 2020 and could take two team weeks of investigation, excluding stockpond investigations.

6.0 GIS AND AIS DEVELOPMENT

The original Adjudication Information System (AIS) was a database designed using the programming language COBOL to store the results and produce reports of ADWR investigations of water rights claims and uses in both the Gila River and Little Colorado River adjudications. Geographic Information Systems (GIS) and Computer Assisted Drafting (CAD) were in their infancy in usefulness at this stage and were not used in the analysis for previous HSRs. Current technology has advanced to a point where GIS and a new AIS can work seamlessly together allowing for quicker analysis and more interactive output of results. ADWR is investigating the possibility of providing the output for the PHSR as a webmap so that claimants can locate their watershed file report (WFR), zoom in to see the locations for the PODs and POUs they have claimed, and possibly view available historical imagery for their location.



TABLE

Table 1 - Summary of Prior Filings by Use Type, Filing Type, and Point of Diversion (POD)/Place of Use (POU) ¹

	33		36		38		3R		4A		T		Totals for all Previous Filing types	
Use Type	POD	POU	POD	POU	POD	POU	POD	POU	POD	POU	POD	POU	POD	POU
Domestic	10	10	78	56	0	0	11	12	34	37	0	0	133	115
Irrigation	15	15	59	45	0	0	10	9	14	15	2	0	100	84
Industrial	0	0	7	2	0	0	0	0	0	0	0	0	7	2
Mining	0	0	0	0	0	0	2	0	1	1	0	0	3	1
Municipal	2	1	2	0	0	0	5	1	15	4	1	0	25	6
Recreation	3	4	17	14	0	0	7	7	0	0	0	0	27	25
Stock	231	282	1,338	945	1,833	1,982	88	92	92	66	0	0	1,749	1,385
Wildlife	22	35	684	503	1,038	1,066	13	13	1	1	0	0	720	552
<i>None Listed²</i>	<i>1</i>	<i>1</i>	<i>3</i>	<i>3</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>4</i>	<i>4</i>
<i>Other</i>	<i>1</i>	<i>1</i>	<i>6</i>	<i>3</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>9</i>	<i>6</i>
<i>Maintenance</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>2</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>2</i>	<i>2</i>
<i>“Annual” or “Annual use not specified”</i>	<i>16</i>	<i>17</i>	<i>501</i>	<i>321</i>	<i>1,027</i>	<i>1,053</i>	<i>10</i>	<i>9</i>	<i>5</i>	<i>5</i>	<i>0</i>	<i>0</i>	<i>532</i>	<i>352</i>
Total	301	366	2,695	1,892	3,899	4,102	149	146	163	130	3	0	3,311	2,534
Unique POD Features	257		1,404		1,923		111		114		2			
Unique POU Features		308		987		1,982		111		109		0		

¹ Data for this table extracted on September 21, 2019.

² Note: The italicized rows are not use types, but rather other comments included by the claimants in the filings.

