

**TECHNICAL MEMORANDUM**



TO: Elizabeth Goldmann, U.S. Environmental Protection Agency (EPA) Region 9  
FROM: James Ashby, PG Environmental, LLC  
DATE: January 31, 2014  
SUBJECT: Arizona Water Rights Analysis Support (Order Number EP-G149-00202)

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**1. Purpose**

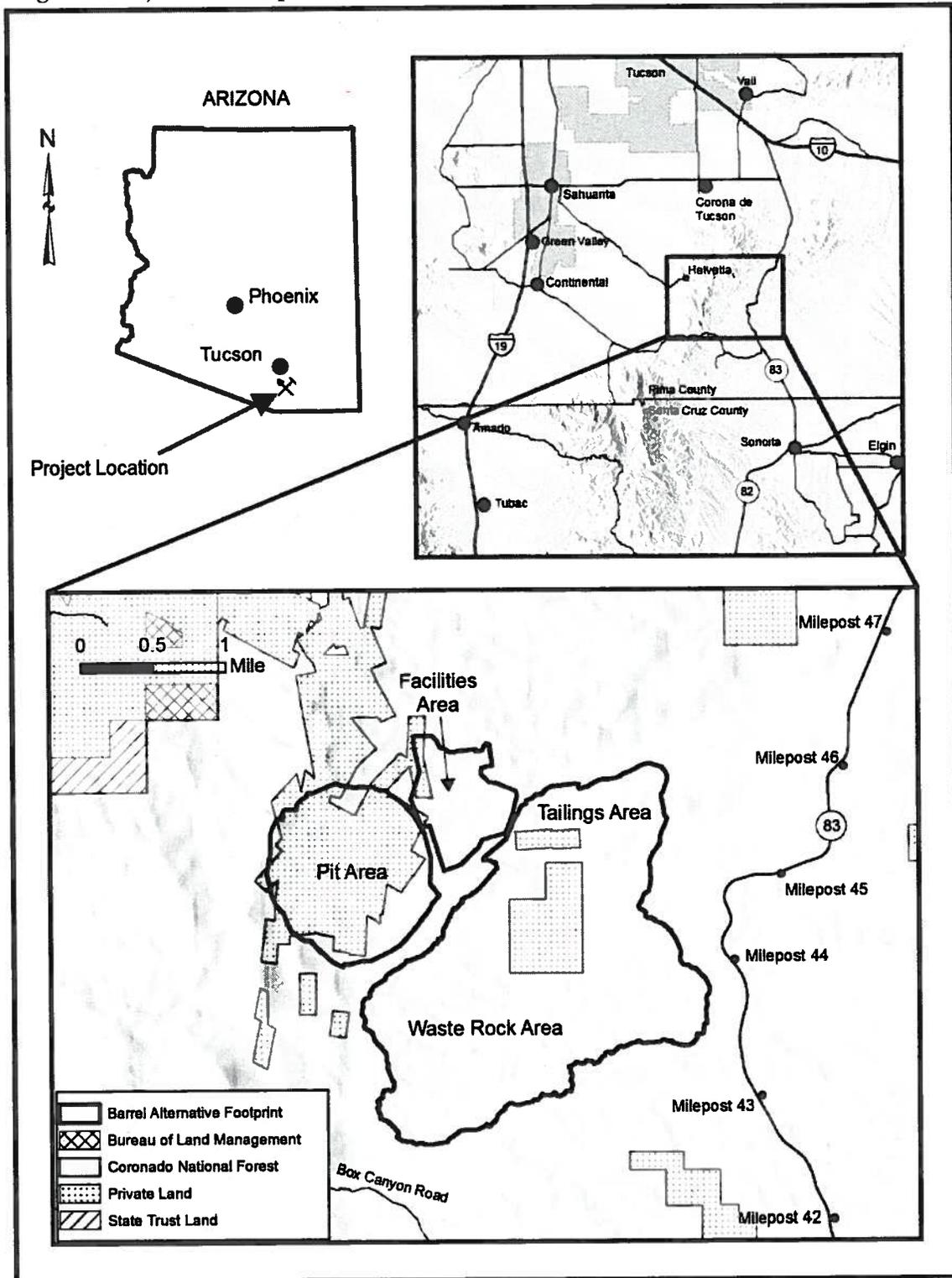
EPA Contract No. GS-10F-0210U, Task Order 8 EP-G149-00202, Arizona Water Rights Analysis, requests the development of a Technical Memo providing an overview of Arizona water rights law, including a description of the process by which water rights are purchased, severed from any current place of use and transferred to a new one, and then if necessary re-designated to the beneficial use category of recreation or wildlife, including fish. Also requested are historic examples from the last 20 years of completed or pending water rights transfers from prior uses into recreation or wildlife beneficial use designations.

**2. Background**

The Rosemont Copper Company, hereinafter referred to as “Rosemont,” has proposed the Rosemont Copper Mine Project, hereinafter referred to as “the mine” or “the project.” The approximately 4,750 acre proposed project is located in Pima County, Arizona, about 30 miles south of Tucson, on predominantly U.S. Forest Service (USFS) land in the Coronado National Forest (refer to Figure 1).

Through the permitting authority, the U.S. Army Corps of Engineers (USACE), Rosemont has requested an individual, project-specific, Clean Water Act (CWA) Section 404 permit from the U.S. EPA in order to discharge dredged or fill material into waters of the United States, hereinafter referred to as “waters.” Specifically, the proposed project as a whole, including the discharge of dredge or fill materials, would result in the direct loss of 42.5 acres of jurisdictional surface waters that are regulated by the USACE, as well as the indirect loss of an additional 36.9 acres of waters, for a total loss of jurisdictional waters of 79.4 acres (USFS, 2013). The 404 permit request proposes several mitigation measures to offset impacts to waters, one of which includes the purchase of water rights, transfer and severance, if necessary, to move the point of use of those water rights into the Cienega Creek watershed, and then re-designation of beneficial use in order to discharge wetted water downstream in Cienega Creek and help enhance the functional conditions of the creek.

Figure 1. Project area and preferred action footprint (USFS, 2013)



Cienega Creek is located approximately southeast of Tucson, east of the Santa Rita Mountains where the proposed mine is situated, north of Canelo Hills, and west of the Whetstone Mountains. Cienega Creek flows into the Tucson area from the southeast.

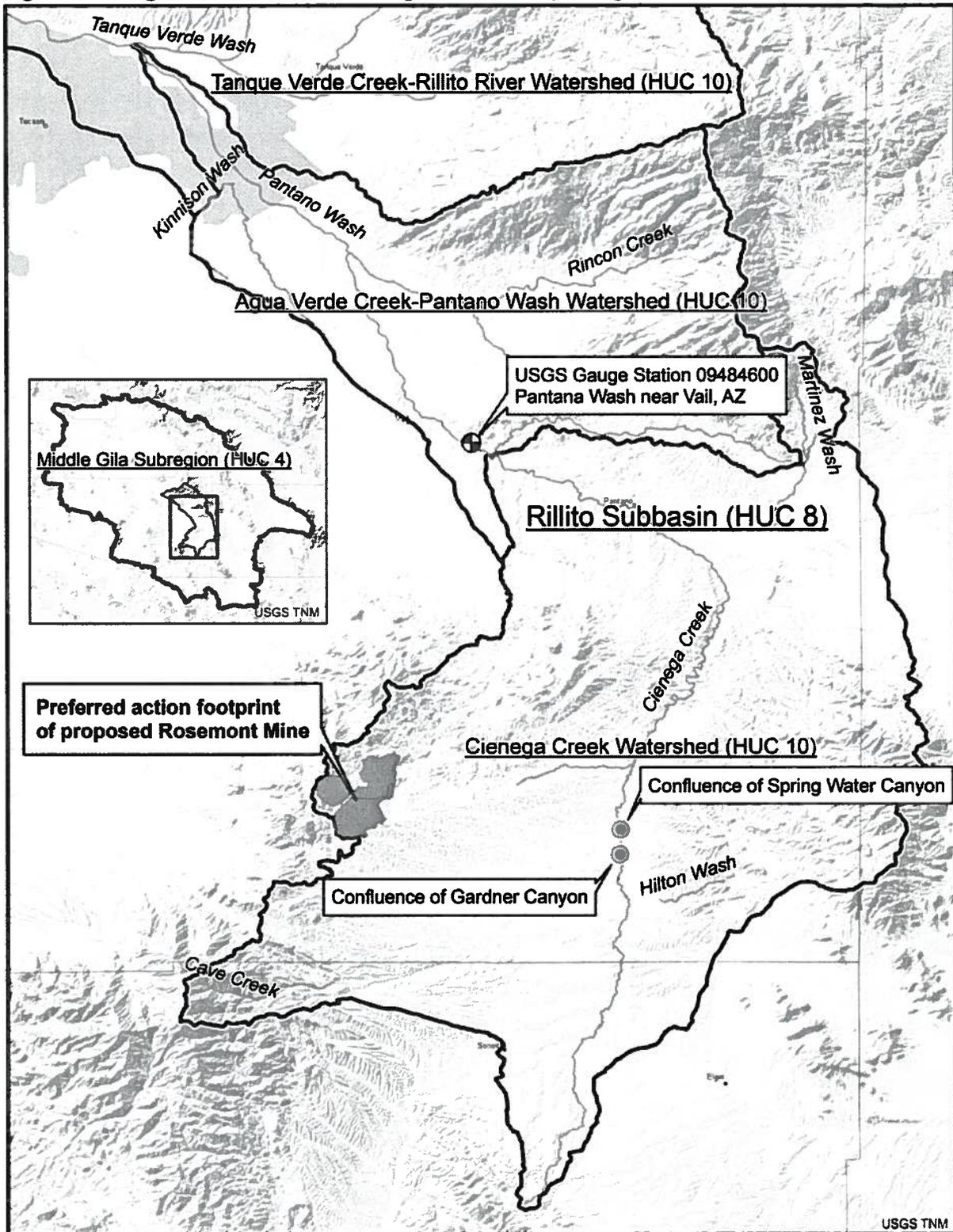
Cienega Creek drains the approximately 400 square mile Cienega Creek Watershed hydrologic unit that is within the 921 square mile Rillito Subbasin hydrologic unit (refer to Figure 2). The Rillito Subbasin is part of the larger, approximately 1,693 square mile Middle Gila River Subregion hydrologic unit. The Subregion hydrologic unit reference level is called a 4-digit hydrologic unit code (HUC) basin, or “HUC 4.”

Hydrologic unit reference levels are designated by the U.S. Geological Survey (USGS) in the National Hydrography Dataset (NHD). The Rillito Subbasin can be called a HUC 8 unit, and the Cienega Creek Watershed referred to as a HUC 10 unit (see sidebar for a descriptive table of cataloging units). Note that sometimes the term “watershed” is used to broadly describe the family of hydrologic unit boundary names or to talk in general about a specific hydrologic unit (“the Rillito watershed”), however “watershed” is also the specific term designated for fifth level, HUC 10 hydrologic units.

<b>Name</b>	<b>Level</b>	<b>Digit</b>
<b>Region</b>	1	2
<b>Subregion</b>	2	4
<b>Basin</b>	3	6
<b>Subbasin</b>	4	8
<b>Watershed</b>	5	10
<b>Subwatershed</b>	6	12

There are several notable classifications and regulations that apply to Cienega Creek. Cienega Creek is a tributary to the Santa Cruz River in Arizona, which is designated as part of the EPA Region 9 “Watershed Priorities,” an accelerated effort to enhance and restore impaired water quality by implementing Total Maximum Daily Limits (TMDLs) and developing watershed plans (EPA R9, 2014). Cienega Creek is also considered by the state of Arizona as a “Tier 3, outstanding Arizona water” (OAW). The Arizona Department of Environmental Quality (DEQ) has established water quality standards for Arizona surface waters and designated “tiers” of waters within which allowable water quality degradation has been defined (AAC, 2014, Title 18, Chapter 11 [R19-11]). Tier 3 waters, the highest tier, are those that have been classified by rule as outstanding Arizona waters (OAW) (AAC, 2014, R18-11-112), also called “unique waters.” Within Tier 3 waters, “existing water quality shall be maintained and protected” and degradation is not allowed (AAC, 2014, R18-11-107-D). Specifically, the section of Cienega Creek from the confluences with Gardner Canyon and Spring Water Canyon down to the Pantana Wash USGS gauge station near Vail, Arizona, approximately 28.3 river miles, have been designated as a Tier 3 OAW (AAC, 2014, R18-11-112-G.8) (refer to Figure 2).

Figure 2. Cienega Creek Watershed and larger associated hydrologic units.



### **3. Overview of Arizona water rights law**

Arizona surface water rights are governed by the principle of prior appropriation, which is the concept that the earliest historical claimant to the water has the priority of use. These users are referred to as senior water rights holders, and all other claimants after them, if granted, are junior water rights holders. The calendar date of the granted claim is used to determine priority. The primary distinction between senior and junior water rights holders is that any junior user upstream of a senior user must leave sufficient water in the stream to meet the downstream appropriation rights of the senior user. In the case where a water source is over-appropriated due to the number of allowed claims exceeding the normal capacity of the source, or when environmental conditions are such that there is not enough water annually to meet all the allocations of the senior and junior water rights holders, under prior appropriation the senior water rights allocations are to be met fully before any junior water rights, even if that means that then there is not enough water for the remainder of the claimants.

The Arizona Department of Water Resources (DWR) governs the permitting program and maintains records of all surface water rights in the state of Arizona. The DWR makes a broad division between the beneficial uses of surface water for cultural demands, such as for irrigation or mining, and then what are referred to as instream uses of water, which is the maintenance of surface water within the banks of a river or stream to support beneficial uses such as riparian habitat, wildlife including fish, or recreation (McClurg, 2007).

The Arizona Public Water Code (PWC) was enacted June 12, 1919, which allows the appropriation of water within the state, provided that it is for a beneficial use. Those beneficial uses are defined in the Arizona Revised Statutes (ARS), section 45-151, as for domestic use (including the watering of gardens and lawns no more than one-half of an acre in size), municipal use, irrigation, stockwatering, nonrecoverable water storage, or mining use and then the instream uses of recreation or wildlife (including fish). In order to appropriate surface water an application must be filed with the Arizona DWR and a certificate of water rights obtained. The ARS section 45-151 defines that application and approval process, and the Arizona DWR provides application forms and specific instructions.

### **4. Process for purchase, sever, and change of beneficial use designations**

Below are detailed the three steps required to purchase water rights, potentially move the place of use of those water rights if necessary, and then re-designate the type of beneficial use for the purchased water rights if it is not already designated for instream uses such as recreation or wildlife. The original claim date and senior or junior priority of the water right is unaffected by any of these steps, and remains the same. In general, the required steps are:

- 1) The seller must convey the property and associated water rights and file a “Request for Assignment of Surface Water Applications and Claims” form with the DWR in order to assign the water rights to the buyer;
- 2) If the beneficial use is to be in a watershed location different from its current use, then the new owner must request and receive approval for a “sever and transfer” from the Arizona DWR, which must include approval from any irrigation or agricultural improvement district, or water users’ association in the current watershed. If this step is required, the opportunity to change the type of beneficial use is provided during the application process;
- 3) Finally, if necessary, the type of beneficial use can be changed and re-designated to an instream use such as wildlife or recreation by filing a “Change of Use” application with the DWR.

The order of operations for these steps is a suggestion, and a possible alternative that protects the purchaser could be to make the conveyance of the property contingent on the seller successfully performing a sever and transfer and re-designating the beneficial use themselves prior to sale. Proper legal advice should be obtained from a qualified transactional team with direct Arizona water rights experience, and due diligence performed for all of the potential steps involved. Due diligence is the legal term for performing adequate research and creating contracts ensuring that the desired outcome of a transaction can be accomplished. For example, sever and transfer requires approval from water users in the watershed where the original place of use of a water right is located. Requesting and receiving assurances in writing from those users or entities approving the sever and transfer could be a critical due diligence step prior to potentially purchasing a water right. Determining if the purchased land and associated water rights are of adequate seniority, have historically received sufficient flow to guarantee the allocation each year, and were never abandoned or forfeited during the history of the water right would also be another example of an important due diligence step. The Arizona DWR permitting unit strongly encourages applicants to schedule a pre-meeting prior to submitting applications in order to assist the applicant and ensure that there are no deficiencies.

### **Purchasing water rights**

In general, in the state of Arizona a beneficial use water right is considered to belong to (“is appurtenant to”) the land that the water is used on, and so must be conveyed (sold) with that land through the use of a deed. If a person conveys a real property that is associated with a water right and they intend to transfer that allocation to the new owner, then the seller must file a “Request for Assignment of Surface Water Applications and Claims” form with the DWR (ARS, section 45-164). The water rights sold retain their original date of claim and seniority.

### **Sever and transfer**

Sever and transfer of a water right is the process by which the place of use for a surface water right is changed, as well as the beneficial use designation (ARS, section 45-172). Request for

approval from the Arizona DWR must be made, and as well the applicant must apply for and obtain the approval of the irrigation district, agricultural improvement district, or water users' association if the water is currently used on land within their boundaries or is in the same watershed or drainage area. Note that the legal water users' definition of watershed or drainage area may not be the same as the USGS hydrologic unit system that was previously discussed, and that "districts" may cross over multiple hydrologic units or split them. The water right under consideration must not be forfeited or abandoned, which is defined as failing to use the water right for a period of five consecutive years at any point during the history of the water right (ARS, section 45-141). The priority of the water rights (seniority) remains unchanged after sever and transfer.

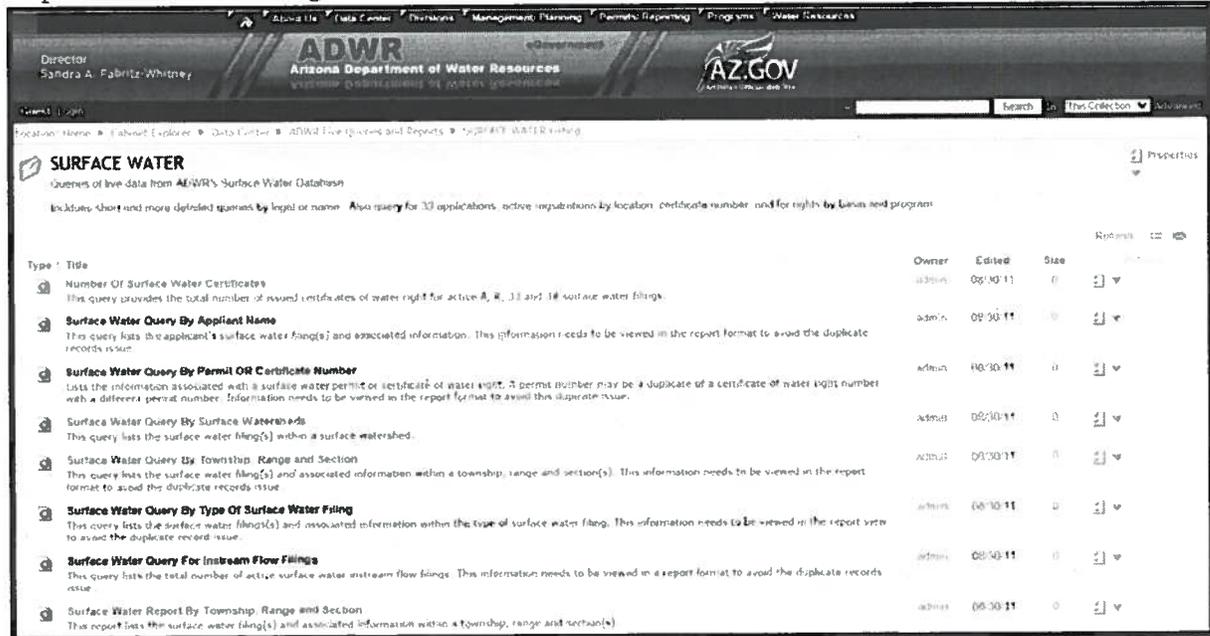
#### **Re-designation of beneficial use**

During the previously described application process for a sever and transfer, it is possible to request a change in the beneficial use designation, such as from irrigation use to instream wildlife or recreation use. If, however, the purchased water right required re-designation but had not required a sever and transfer because the place of use would not change from one water users' defined district or watershed to another, then a "Change In Beneficial Use" application would need to be filed with the DWR. Under the ARS, section 45-156, a previously designated and approved beneficial water use can be changed and re-designated, such as from irrigation use to instream wildlife or recreation use. The application follows the same requirements as the application for a permit to appropriate water (ARS, section 45-152), and as well if the change in beneficial use is to appropriate water for the purpose of recreation or wildlife, including fish, then it is considered an "instream flow application," and must follow the additional requirements for application under ARS section 45-152.01. If a change in use is allowed, the new use retains the same date and priority of water rights (seniority) as it originally possessed.

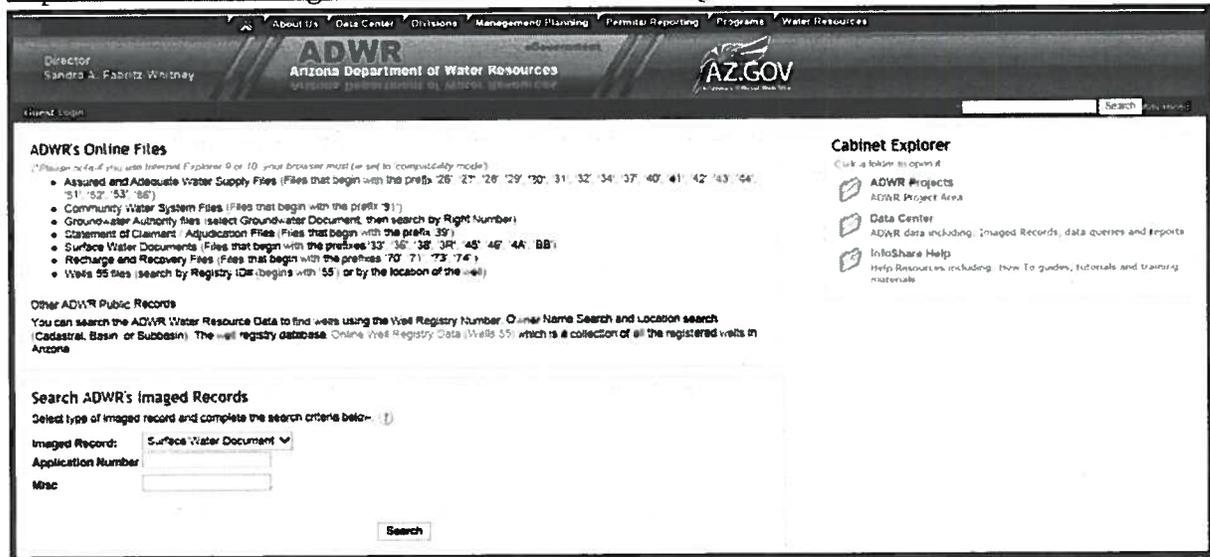
### **5. Comparable historical examples of water rights transfers**

The Arizona DWR maintains a publically accessible, searchable, downloadable, on-line database of all inactive and active surface water claims, both in a computer program-readable tabular format and then also as scanned images of the physically submitted applications and associated materials, such as protests and correspondence between the applicant and the DWR. For the database, the DWR has created pre-defined queries, such as "Surface Water Query By Type of Surface Water Filing," which lets the user search for all surface water filings by type designation within a Township and Range, or the "Surface Water Query By Surface Watershed," which will display all of the surface water filings within a surface watershed.

“Surface water queries of live data from ADWR’s Surface Water Database” webpage:  
<http://infoshare.azwater.gov/docushare/dsweb/View/Collection-86>



“Search ADWR's Imaged Records” webpage:  
<http://infoshare.azwater.gov/docushare/dsweb/HomePage>



State-wide, as of January 2014, the database reports 2,864 active issued certificates of water rights for the appropriation of public water for a beneficial use. The re-designation of a water right for a different beneficial use is filed the same as any other appropriation of public water, and so this count would include any change in designation from a previous use to an instream designation of recreation or wildlife. The DWR does not offer any publically available queries to

distinguish re-designation applications from other requests to appropriate public water, nor does the tabular data have any fields that can be used to sort for those specific types of records. The scanned images of the physically submitted applications do contain detailed information, however, and so if an application was a request for re-designation, the documentation of that would be present in the scanned file.

A manual examination of scanned surface water filings was undertaken for the Santa Cruz HUC6 watershed within which Cienega Creek is located. An initial list of filings to examine was obtained by using Arizona DWR's readily available "Surface Water Query By Surface Watershed" option on the "Surface water queries of live data from ADWR's Surface Water Database" webpage. No re-designation of beneficial use applications were found from that list, however relevant example material from two instream flow applications are provided in the Appendices of this memo, one from the National Park Service's (NPS) Saguaro National Park and one from the USFS Tonto National Forest. The NPS application was originally submitted on December 10, 2002, and is still under review, primarily due to protests received by concerned parties (refer to Appendix D). The USFS application was originally submitted on December 1, 1999, and after the resolution of protests in late 2009, a "Certificate of Water Right" was officially provided in a June 18, 2010 letter from the Arizona DWR (refer to Appendix E).

As previously mentioned, it is possible during a sever and transfer application to change the beneficial use designation of a water right. In the Appendices an example of a sever and transfer application is provided from the Salt River Project Agricultural Improvement and Power District (SRP), requesting a sever and transfer and change from a beneficial use of irrigation to a designation for wildlife (refer to Appendix F). The SRP application was originally submitted on October 3, 2005, and is still under review.

Based on personal communication (January 28, 2014) with Ms. Lisa Logan, the manager of the Arizona DWR Surface Water Permitting Unit, the ability to change a beneficial use designation during a sever and transfer is relatively new, although no specific date for the change of the application procedure was given. Ms. Logan provided the information that over the last two years, only two applications have been received that sought to re-designate during the sever and transfer process. The SRP application in Appendix F is an example of one of them.

As previously mentioned, the Arizona DWR Surface Permitting Unit encourages potential applicants to schedule a pre-meeting, during which time all of the current policies, procedures, and requirements are laid out. Specific examples of similar applications can also be requested at that time, and a discussion provided on the challenges that were faced or are currently still under review. It would be advisable that if there are specific water rights or real property, that these be taken to the DWR with the questions and hypothetical scenarios that are of concern. This would produce the most accurate legal assessment possible of any current or proposed water rights matter in Arizona.

## 6. Sources cited

Arizona Department of Water Resources (DWR), 2014, *Arizona Water Atlas on the Web*, retrieved January 2014 from <http://www.azwater.gov/AzDWR/StatewidePlanning/WaterAtlas>.

Arizona Land and Water Trust (ALWT), Citron A. and D. Garrick, Ed., 2009, *Benefiting Landowners and Desert Rivers: A Water Rights Handbook for Conservation Agreements in Arizona*, Arizona Land and Water Trust, Tucson, 64 p.

Arizona Secretary of State, Arizona Administrative Code (AAC), 2014, Title 18, Environmental Quality, Chapter 11, Department of Environmental Quality, Water Quality Standards, retrieved January 2014 from [http://www.azsos.gov/public\\_services/Title\\_18/18-11.htm](http://www.azsos.gov/public_services/Title_18/18-11.htm).

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McClurg, S., Ed., 2007, *Lyperson's Guide to Arizona Water*, Water Education Foundation and The University of Arizona's Water Resources Research Center, Tucson, 30 p.

U.S. Department of Agriculture Forest Service (USFS), producer, 2013, *Final Environmental Impact Statement for the Rosemont Copper Project, A Proposed Mining Operation, Coronado National Forest, Pima County, Arizona*, U.S. Department of Agriculture, Forest Service, Southwestern Region, Tucson, 212 p.

U.S. Environmental Protection Agency, Region 9 (EPA R9), 2014, *Watershed Priorities – Santa Cruz Watershed, Arizona*, retrieved January 2014 from <http://www.epa.gov/region9/water/watershed/santacruz.html>.

## **7. Appendices**

- A. Arizona DWR form “Request for Assignment of Surface Water Filings”**
- B. Arizona DWR form “Application to Sever and Transfer”**
- C. Arizona DWR form “Application for Change in Beneficial Use”**
- D. Example of an in-process Instream Flow application - National Park Service, Saguaro National Park, Tuscon, Arizona, “Application for Permit to Appropriate Public Water No. 33-96733 (Rincon Creek) Instream Flow Maintenance” (application materials last updated January 13, 2009)**
- E. Example of a completed Instream Flow application with a granted “Certificate of Water Right” – U.S. Department of Agriculture, Forest Service, Tonto National Forest, Phoenix, Arizona, “Certificate No. 96622 (Application No. 96622) – Instream Flow Maintenance” (notice of certificate sent June 18, 2010)**
- F. Example of an in-process Sever and Transfer application – Salt River Project Agricultural Improvement and Power District (SRP), Phoenix, Arizona, “Application for Severance and Transfer (36-105209 and 36-105259)” (most recent materials dated April 13, 2013)**