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11	IN APACHE COUNTY SUPERIOR COURT					
	OF THE STATE OF ARIZONA					
12	IN RE: THE GENERAL AI	OJUDICATIOI	N	CIVIL NO. 6417		
13	OF ALL RIGHTS TO USE	WATER IN	``	01112110.0117		
14	THE LITTLE COLORADO RIVER			MIIIDD		
15	SYSTEM AND SOURCE		THE HOPI TRIBE'S THIRD AMENDED STATEMENT OF			
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#### I. INTRODUCTION

The Hopi Tribe submits its Third Amended Statement of Claimant amending its original Statement of Claimant, filed November 3, 1986, its Amended Statement of Claimant, filed January 29, 2004, and its Second Amended Statement of Claimant, filed November 12, 2009. The Hopi Tribe reserves the right to further amend or supplement its Statement of Claimant.

In submitting this Third Amended Statement of Claimant, the Hopi Tribe does not waive its sovereign rights to the land and resources of the Hopi Reservation or to other lands and resources owned by the Tribe. The Hopi Tribe does not waive its right to change the use of its water rights or to seek confirmation of additional water rights if the need for more water arises in the future. The Hopi Tribe reserves right to administer its own water code, and in filing this statement in no way submits to the jurisdiction of the State of Arizona as to the control and administration of water decreed to the Hopi Tribe.

A significant portion of the water rights claimed by the Hopi Tribe relate to anticipated future uses of water to maintain the Hopi Reservation as a permanent homeland for the Hopi people. Proposals for future use are not meant to indicate that the water right claimed must be used at the precise proposed place or for the precise proposed purpose described. Instead, the proposals demonstrate the quantity of water needed for the continued development of the Hopi Reservation as a permanent homeland for the Hopi people.

The Hopi Tribe's Third Amended Statement of Claim complies with the requirements of the Arizona Revised Statutes and guidelines of the Arizona Department of Water Resources (ADWR). Nevertheless, the ADWR and this

Court should evaluate the Tribe's water right claim with reference to federal law, not state law. In this regard, the Court should bear in mind the following admonition of the Arizona Supreme Court:

Indian rights are conferred by federal law, and it is the federal substantive law which our courts must apply to measure those rights in the state adjudication. Where state law conflicts, it must give way. Our courts have neither the intention nor the power to overturn the *Winters* doctrine or any other federal rule which supports the Indian claims.

United States v. Maricopa County Superior Court, 144 Ariz. 265, 277 (1985)(internal citation omitted).

#### II. THE HOPI TRIBE'S STATUS AS A PARTY

The Hopi Tribe is a federally-recognized Indian tribe whose Reservation is located within the Little Colorado River basin, in northeast Arizona. Since time immemorial the Tribe has resided in the Little Colorado River basin using the waters of the Little Colorado River, its tributary streams and washes, and the groundwater of the basin. The Hopi Tribe has a paramount interest in these waters, and the United States, as its trustee, also has filed a claim on the Hopi Tribe's behalf. Nevertheless, the United States has a conflict of interest representing the Navajo Nation as well as the Hopi Tribe. Consequently, the Hopi Tribe intervened in this proceeding to present its own claim in addition to the claims being presented for it by the United States.

A tribe's right to speak for itself in a general stream adjudication is firmly established. *Arizona v. California*, 460 U.S. 605, 612-616 (1983). The Court granted the Hopi Tribe's motion to intervene on April 30, 1985, finding that the Tribe's interests were not adequately represented by existing parties. See Ariz. R. Civ. Proc. 24.

# III. THE HOPI TRIBE'S HISTORY IN THE LITTLE COLORADO BASIN

The Hopi are a Puebloan people who speak Hopi, except for one village where Tewa is also spoken. The Hopi language belongs to the Uto-Aztecan language family. It is related to Shoshone, Ute, Paiute, Piman, and Nahuatl (the language of the Aztecs). The Hopi are the only Pueblo people to speak a Uto-Aztecan language. By all accounts, the Hopi are an ancient people with one of the oldest cultures in North America. Archaeological evidence indicates that present day Hopi are descendants of the ancient Basketmaker culture that existed in the Four Corners area after A.D. 100. Oraibi, a Hopi village on Third Mesa, was founded by 1150 A.D., and has been continuously occupied since then.

The Hopi people are composed of more than thirty clans that migrated throughout the Southwest before reaching and settling on the Hopi Mesas, the great majority in prehistoric times. Numerous Ancestral Pueblo ruins that dot the Little Colorado River watershed are ancestral sites to specific Hopi clans. Members of these clans continue to visit their ancestral sites for ceremonial purposes (such as collecting eagles, and other resources, including spring-water) throughout the Tribe's ancestral homeland, which tribal members refer to as *Hopitutskwa*. The archaeological record thus confirms more than 2,000 years of continuous, uninterrupted occupation of the Hopi area culminating in the lifeway of the contemporary Hopi people.

The prehistoric Hopi were sedentary people who lived in large villages on the valley floor, terraces, and tops of three mesas on the Colorado Plateau. They were highly successful farmers who produced maize, beans, melons, squash, and other crops by utilizing a variety of farming techniques. Hopi field types included flood-water fields, akchin fields at the mouths of arroyos, sand dune seepage fields, irrigated terraces fed by springs, and irrigated fields fed by canals and reservoirs. Each of these field types took advantage of the relatively scarce water available in the Little Colorado Basin. The Hopi also hunted game and gathered native seeds and plants to supplement their agrarian lifestyle. Livestock production became an important part of the Hopi economy during the Spanish era, circa 1540-1680.

The court in *Healing v. Jones* concluded that "[n]o Indians in this country have a longer authenticated history than the Hopis." *Healing v. Jones*, 210 F. Supp. 125, 134 (D. Ariz. 1962), *affd*, 373 U.S. 758 (1963) (per curiam). The court cited as a prime example a 1540 encounter by a detachment of the Spanish explorer Coronado that "found the Hopis living in villages on mesa tops, cultivating adjacent fields, and tending their flocks ...." *Id.* The period of Spanish colonization in the Southwest provides the earliest written accounts of life in the Southwest and provides extensive evidence of Hopi existence in the area as well as their agrarian lifestyle.

For example, the mid-sixteenth century Coronado expedition referenced in *Healing v. Jones* is discussed in GEORGE P. HAMMOND & AGAPITO REY, NARRATIVES OF THE CORONADO EXPEDITION 1540- 1542, 215-16 (U.N.M. Press, 1940), which chronicles the first Spanish contacts with the Hopi. According to the account, the Coronado expedition set out to explore the northern reaches of New Spain and encountered the Hopi and found them to be living in well-established villages. The Hopi presented the Spaniards with gifts of food and cloth, including corn meal, squash and fresh corn, and

accompanied them on their expedition, eventually leading them to the Colorado River and the Grand Canyon.

It became readily apparent to these explorers that water was vital to Hopi needs. In a letter to the Viceroy of New Spain, Coronado stated that,

[s]o far as I can find out, the water is what these Indians worship, because they say that it makes the corn grow and sustains their life, and that the only other reason they know is because their ancestors did so.

George P. Winship, *The Coronado Expedition, 1540-1542, Part 8, reprinted in* 14th ANN. REP. OF THE BUREAU OF ETHNOLOGY (1896). The Spanish found that the Hopi grew crops using irrigation from springs, flood irrigation from the washes, run-off from the hills and by plantings in sand dunes. In this regard, it was noted that Hopi villages were situated so as to take advantage of the considerable surface and groundwater run-off of Black Mesa and other areas. Significantly, the Coronado expedition mentioned no other Indians as being settled in the areas explored.

A subsequent Spanish expedition later in the sixteenth century also encountered the Hopi. GEORGE P. HAMMOND & AGAPITO REY, THE REDISCOVERY OF NEW MEXICO 1580-1594, 190-91 (U.N.M. Press, 1966). Again, the Hopi greeted the expedition with hospitality and gifts of food and pieces of cloth. The Spanish noted Hopi success in agriculture by observing that "[t]he natives cultivate sandy places without difficulty." *Id.* They also noted that the Hopi made use of the natural springs and wells in the area. The expedition reported an instance where a camp established close to a well that ran dry, "the natives brought us some [water] for the animals, in gourds and kettles, from other wells." *Id.* Furthermore, this expedition visited a number of

Hopi villages, including Shongopavi and Mishongnovi on Second Mesa, and Oraibi on Third Mesa.<sup>1</sup>

Experts estimate the Hopi population in the area to have exceeded 29,000 in the early sixteenth century, although the experts believe the population dropped dramatically due to a smallpox epidemic to between 8,000 and 10,000 by the time the Spanish arrived in 1540. Thus, the earliest accounts of Spanish exploration throughout the Little Colorado River basin document a substantial Hopi population supported by a successful agrarian lifestyle. In none of these early reports is there any mention made of Navajo or other Indians settled near the Hopi or interfering with their use of land or water.

The documented accounts of Hopi existence and agrarian lifestyle continue uninterrupted for at least 300 years following the initial sixteenth century Spanish expeditions. For instance, the period of Spanish colonization was marked by numerous missions into this area in an attempt to convert the Hopi to Christianity. The missionaries described the Hopi as having their own government and religion, living in villages and farming their lands in the same manner found by the early expeditions. In none of these reports are Navajo described as living in this area or using its water.

Moreover, Hopi rights to occupation and use of the land and water were specifically recognized and upheld under Spanish law during this period. The Recopilacion de leyes de los Reynos de las Indias governed Spanish treatment of natives within New Spain and expressly preserved native rights to land and

<sup>&</sup>lt;sup>1</sup> As with the previous expedition, no other Indians are mentioned as having settled in the area of the Hopi.

water. The language of this body of law was unmistakable in its intent to preserve native rights in this regard. For instance:

We order that the same regulation followed by the Indians in dividing and distribution of water shall be observed and followed by the Spaniards among whom lands are apportioned and assigned. For this reason the same natives who were previously in charge shall manage watering of the lands; and the water that each must have shall be given to each one in turn. Penalty for violation of this regulation shall be that he who wants, takes and uses the water by his own authority shall be deprived of it until all those in line after him have watered the lands assigned to them.

....

We command that no change be allowed in this regard, and that they keep them as they did before their reduction so that they may cultivate their lands and profit from them.

THE INDIAN CAUSE IN THE SPANISH LAW OF THE INDIES, reprinted in WESTERN CIVILIZATION AND NATIVES PEOPLES, OCCASIONAL Paper No. 16, at 111 (S. Lyman Tyler ed., American West Center, Univ. Utah, 1980).

The legal protection afforded the Hopi under Spanish rule was carried forward under Mexican rule. See G. Emlen Hall & David J. Weber, Mexican Liberals and the Pueblo Indians, 1821-1829, 59 N.M. HIST. REV. 1 (1984). As such, Indians, including the Hopi, were treated as citizens of Mexico. Later, when the area came into the United States, Hopi rights were protected by the Treaty of Guadalupe Hidalgo. The Treaty stated:

Mexicans who, in the territories aforesaid, shall not preserve the character of citizens of the Mexican republic, conformably with what is stipulated in the preceding article, shall be incorporated into the Union of the United States, and be admitted at the proper time (to be judged of by the Congress of the United States) to the enjoyment of all the rights of citizens of the United States, according to the principles of the constitution; and in the meantime shall be maintained and protected in the free enjoyment

of their liberty and property, and secured in the free exercise of their religion without restriction.

Treaty of Guadalupe Hidalgo, February 2, 1848, art. IX, 9 Stat. 922. Thus, the United States protected the property rights, including water rights, of the Hopi by the Treaty of Guadalupe Hidalgo in 1848.

## IV. HOPI LANDS

# A. The Hopi Tribe's Ancestral Homeland.

The Hopi Tribe's ancestral territory far exceeded those lands belonging to the Hopi Tribe today. Hopitutskwa encompasses the entire Little Colorado River watershed from its confluence with the Rio Puerco River west to its confluence with the Colorado River. The Hopi people and their ancestors have used or occupied nearly all of the Little Colorado River drainage basin in Arizona over nearly twenty centuries. E. Charles Adams, Hopi Use and Development of Water Resources in the Little Colorado River Drainage Basin of Arizona: An Archeological Perspective to 1700 3 (2009). They have inhabited the area between Navajo Mountain in the north to the Little Colorado River in the south and between the San Francisco Mountains and the Luckchukas since before 1300 A.D. Hopi Tribe and Navajo Tribe v. United States, 23 Ind. Cl. Comm. 277, 292-93 (1973).

The Hopi Tribe retains aboriginal title to a portion of its ancestral territory. Former Land Management District 6 ("District 6") is an area of land located inside the boundaries of the 1882 Hopi Reservation (see below). The federal courts have recognized exclusive Hopi title to District 6 during extensive litigation that Partitioned the 1882 Reservation between the Hopi Tribe and the Navajo Nation. See, e.g., Healing v. Jones, 210 F. Supp. 125 (D. Ariz. 1962) ("Healing II"). In Hopi Tribe and Navajo Tribe v. United States, 23 Ind. Cl.

Comm. 277, 305-306 (1973), the Indian Claims Commission found that the Hopi Tribe retained Indian title to District 6 lands. The federal reserved rights doctrine recognizes aboriginal rights that pre-exist the creation of a reservation and preserves such rights as part of the water rights reserved to serve the purpose of the reservation. See, e.g., United States v. Winans, 198 U.S. 371, 381 (1905) (preserving a tribe's aboriginal rights); Winters v. United States, 207 U.S. 564 (1908) (recognizing aboriginal control over resources); United States v. Adair, 723 F.2d 1394, 1414 (9th Cir. 1983) (recognizing and preserving aboriginal water uses with a priority date of time immemorial). The Hopi Tribe's water rights priority date precedes the establishment of the reservation areas described below because the Hopi people continue to inhabit their ancestral homeland.

## B. 1882 Executive Order Reservation.

The President of the United States by Executive Order of December 16, 1882, set aside a reservation of some 2.5 million acres for the use of the Hopi Indians "and such other Indians as the Secretary [of the Interior] may see fit to settle thereon." This 1882 Reservation was only a portion of the land traditionally and actually occupied by the Hopi Indians. One of the primary purposes of the reservation was to protect the Hopi from incursions by Navajo into Hopi land. Navajo incursions continued, however, and in *Healing v. Jones*, the court held that by actions beginning in 1931 the Secretary settled certain Navajo Indians in the Hopi Reservation. *Healing v. Jones*, 210 F. Supp. at 169. The *Healing* court recognized that District 6 was being held exclusively for the benefit of the Hopi Tribe and the remainder was recognized as a "Joint Use Area" for both the Hopi Tribe and the Navajo Nation.

The Joint Use Area was later partitioned in accordance with the Act of December 22, 1974, Pub. L. No. 93-531, 88 Stat. 1712 (codified as amended at 25 U.S.C. § 640d -24). The partition divided the 1882 Reservation joint use area into Hopi Partitioned Lands (HPL) and Navajo Partitioned Lands (NPL). The 1974 Act provides that partition of the surface shall not affect the joint ownership "of the coal, oil, gas, and all other minerals within or underlying such lands." 25 U.S.C. § 640d-6.

The Reservation is characterized by mesa and canyon topography. Generally, the mesas range from 5,000 to 6,700 feet in elevation above sea level. All the population centers are located in this elevation range. The highest area on the Reservation is in its northeast corner, near Low Mountain, at an elevation of 6,700 feet above sea level. The Hopi lands are dominated by three mesas: First, Second, and Third Mesas. The major population centers of Walpi, Sichomovi, Tewa, Polacca, Shungopavi, Mishongnovi, Shipaulovi, Oraibi, Kykotsmovi, Bacavi, Hotevilla and Keam's Canyon are located on or near the mesas. Spider Mound is a newer community located on the eastern portion of the Reservation. Tawaovi is a new community north of Second Mesa. The valleys separating the mesas slope gently from northeast to southwest toward the Little Colorado River.

The Hopi lands are located in the Black Mesa drainage, and all streams and washes are tributary to the Little Colorado River. Major streams and washes on the reservation include: Dinnebito Wash, Oraibi Wash, Jeddito Wash, Polacca Wash, Moenkopi Wash and Wepo Wash. These washes are primarily ephemeral. However, each wash has limited perennial or intermittent reaches supplied from springs.

# C. Moenkopi Island

By Act of June 14, 1934, 48 Stat. 960 (codified at 25 U.S.C.§ 640d-7), Congress set aside for the Navajo "and such other Indians as were already located' thereon" an additional area of land outside the boundaries of the 1882 Hopi Reservation. The 1934 Act authorized the Hopi Tribe to bring suit to quiet title to lands it occupied in the area in 1934. Pursuant to that Act the Hopi Tribe brought an action in the federal district court to establish the Tribe's right to the 1934 Reservation. The court subsequently declared that portions of the 1934 Act area belong to the Hopi Tribe, including the Villages of Upper Moenkopi and Lower Moenkopi and surrounding areas. See Masayesva.v. Zah, 65 F.3d 1445 (9th Cir. 1995). The United States holds these lands in trust for the benefit of the Hopi Tribe and the Hopi Tribe exercises exclusive jurisdiction over the lands under federal law.

The Moenkopi portion of the Hopi Reservation, also referred to as Moenkopi Island, is located at 5,000 feet in elevation above sea level along the floodplain of Moenkopi Wash. Moenkopi Island includes a reach of Moenkopi Wash. The wash flows across both the 1882 Reservation and the 1934 Act Reservation and is ephemeral with limited perennial reaches supplied by springs.

# D. Hopi Industrial Park, Hopi Ranches and Other Hopi Lands

The Hopi Tribe re-acquired portions of its aboriginal lands located outside of the Reservation lands discussed above. Pursuant to orders of this Court and the delineated scope of this HSR, however, the Hopi Tribe will not update claims for lands outside of the "main reservation" as defined by ADWR

in this statement of claimant.<sup>2</sup> The Hopi Tribe claims time immemorial water rights to service these lands as fully as if the land had never left Hopi use, occupation, and control.

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#### V. WATER IN HOPI CULTURE

Water is the essence of Hopi secular and religious philosophy. It is hard to imagine anything more sacred -- as substance or symbol -- than water in practice. Intrinsic to other religious Hopi religious thought and representations, and underlying much other symbolism in the panoply of Hopi ritual, is the concern with water. "Springs, water, and rain are focal themes in ritual costumes, kiva iconography, mythological narratives, personal names, and songs, which call the clouds and rain from the varicolored directions to bear their fructifying essence back into the cycle of human, animal, and vegetal life." PETER WHITELEY, THE IMPORTANCE OF THE LITTLE COLORADO RIVER DRAINAGE AND ITS WATER RESOURCES TO THE HOPI 24 (April 2005). That essence -- as clouds, rain, and other water forms -- manifests the spirits of the dead. When people die, in part they become clouds; songs call to the clouds as ascendant relatives. Arriving clouds are returning ancestors, their rain both communing with and blessing the living. The waters of the earth (where Katsina spirits live) are, then, transubstantiated human life.

Hopi clan migration histories represent a pattern that is reiterated dramatically in ceremonial performance. As a part of ceremonies, priests and ordinary initiated members revisit the ancestral sites and collect their resources, including water from springs. In this fashion they re-consecrate the

<sup>&</sup>lt;sup>2</sup> See infra Section VIII discussion regarding scope of Amended Statement of Claimant.

world, conceived as connected from all directions to the Hopi center, throughout the landscape over which Hopi clans maintain a continuing claim.

Its mythological history and the re-enactment of this in ceremony or the reiteration of it in tradition constitute crucial features of clan identity in Hopi thought. The Orayvi Bow clan, or others associated with the Hopi Sa'lako, revisits several shrines (like the Sa'lako spring in Pasture Canyon) and other localities associated with its migration route each time the ceremony is performed and gathers its resources for the ceremony. Similarly, the Water clan continues to return to springs in the south to bring in water and associated resources, especially with regard to Kwanwimi, the One Horn ceremony. A significant number of the sites visited for ceremonial purposes are found in direct proximity to the Little Colorado River, or its tributary drainages—on both sides of the river, not merely the northern/eastern side.

The documentary record shows that ceremonies continue actively into the present, and draw, in an unbroken pattern since anthropologists first recorded these activities in the late nineteenth century, upon the ancestral estates along the clan's migration route. For example, the Snake clan introduced the Snake ceremony to the Hopi community from Tokòonavi (villages in the Navajo Mountain area), the Flute clan brought the Flute ceremony from Lenaytupqa (Tsegi Canyon area) and Lengyan'ovi (on northern Black Mesa), the Badger clan introduced the Powamuy ceremony from Kiisiwu (in the northeastern corner of Black Mesa) and Mesa Verde, the Water clan brought the One Horn ceremony from its villages in the south, and so on. Fourteen Hopi religious orders continue to practice actively into the present.

As noted, the present Hopi Reservation boundaries are neither a reflection of Hopi interest in, nor of actual documented use of the broader landscape. Late nineteenth century ethnographer Walter Hough recorded that the wide-ranging extent of Hopi knowledge of environmental resources was exceptional among American Indians:

The Hopi are assiduous collectors. A catalogue of the substances brought to their pueblos from long distances would awaken surprise...Every house is a museum of the environment, with specimens from the mineral, animal, and vegetal kingdoms, and every Hopi is a repository of knowledge as to places where materials may be secured. Time and distance are little thought of when it comes to procuring the materials desired (Hough 1900:465).

Describing a specific 400-mile round-trip for moccasin-dye extracted from birch bark in an area south of the San Francisco Peaks, Hough observes:

These journeys are common, for the Moki [Hopi] is no stay-athome, but roams far beyond the widest view from the high vantage ground of his village, visiting the former seats of his people of bygone centuries. Thus he knows the flora and fauna over a wide region, and is as much at home in the White Mountains as on the Great Colorado. In former times, he may have journeyed to the Gulf of California for precious sea-shells, to be used as ornaments and for ceremonial trappings, or made long quests for the much prized turquoise, just as he now goes to the Coconino canyon [Cataract Canyon] for baskets or deerskins. His face is familiar at Zuni, where he fares often on a neighborly visit (Hough 1898:138).

Both the Indian Claims Commission hearings in 1962 on Hopi land use, and the 1934 Reservation legal proceedings have extensively documented Hopi resource use - for hunting, gathering, farming, grazing of sheep, horses, and cattle, and for collection of religious-use resources- throughout a large area away from the mesa-top villages of the Hopi residences. In the Indian Claims

Commission case, the map of aboriginal claim prepared by the government's own expert, Professor Florence Ellis, identified exclusive Hopi aboriginal interest in an area that encompassed a large part of the Little Colorado River watershed.

Water is important to the Hopi also as a critical element in agriculture. Farming is an important part of Hopi identity. Agriculture has historically been at the center of the Hopi economy and has served as an important source of food and materials needed for Hopi religious life. Wherever the Hopi have lived throughout the Little Colorado River basin, they have engaged in agricultural pursuits. For example, the archeological record confirms that the Hopi engaged in substantial farming at Homolovi, an historical village on the Little Colorado River. Agriculture continues to serve these vital functions in Hopi life today.

#### VI. LEGAL BASIS FOR THE TRIBE'S WATER RIGHTS

A. As a sovereign, long predating the United States, and the historic guardian of its lands, the Hopi Tribe claims under its own retained sovereignty the right to all groundwater and surface water in, on, or serving lands owned by the Hopi Tribe or allotted or assigned to its members, or may hereafter be recognized as belonging to it or its members. Specifically, the Hopi Tribe claims a time immemorial priority date for lands within the 1882 Reservation where the Tribe retains aboriginal title. The Hopi Tribe also claims a time immemorial priority date for Moenkopi Island on the basis of its actual, continuous beneficial use of water on lands occupied by the Hopi Tribe and its ancestors.

B. As the owner of lands and waters under both Spanish rule and Mexican rule, the Hopi Tribe further claims these waters under Articles VIII and IX of the Treaty of Guadalupe Hidalgo, Treaty between the United States and Mexico of February 2, 1848 (9 Stat. 922), reserving to citizens of Mexico the rights that they held under Mexican law.

- C. Under the reserved rights doctrine established in Winters v. United States, 207 U.S. 564 (1908); Arizona v. California, 373 U.S. 546 (1963); Cappaert v. United States, 426 U.S. 128 (1976), and as owner of all natural resources forming part of its land, United States v. Shoshone Tribe of Indians of Wind River Reservation, 304 U.S. Ill (1938), the Hopi Tribe claims the right to all groundwater and surface water, in, on or serving lands owned by the Hopi Tribe or allotted or assigned to its members, or that may hereafter be recognized as belonging to it or its members.
- D. The Hopi Tribe further asserts a right to water from other sources as needed to supply the Tribe's needs to make its land a permanent homeland, including water from the main stem of the Little Colorado River, the Colorado River including Lake Powell, and the Coconino aquifer. See United States v. Winans, 198 U.S. 371 (1905), see also, Lyon v. Gila River Indian Community, 626 F.3d 1059 (9th Cir. 2010)(an implied easement existed across the Indian reservation to serve lands that were granted by the federal government for use by the state as a school).<sup>3</sup>
- E. As the owner of subsurface minerals underlying the Hopi Reservation pursuant to the Navajo-Hopi Land Dispute Settlement Act of 1974,

<sup>&</sup>lt;sup>3</sup> If the present adjudication is not the appropriate venue for asserting the Hopi Tribe's right to these waters, then the Hopi Tribe wishes to preserve its claim and right to pursue these claims at a later date in a different adjudication.

25 U.S.C. §640d-6, the Hopi Tribe claims a proportionate right to water discharging from the Blue Springs Complex into the lower Little Colorado River.

The Hopi Tribe makes these claims on behalf of and for the benefit of the Tribe, its villages, clans and people.

### VII. THE HOPI TRIBE'S WATER RIGHTS PRIORITY

The Hopi people have the oldest historic claim to water in the Little Colorado Basin. Historical and archeological records confirm that the Hopi people and their ancestors have used or occupied nearly all of the Basin for over twenty centuries. Hopi traditions establish a substantially longer period of occupation of the region by the Hopi. As the United States District Court held in *Healing v. Jones*, 210 F. Supp. at 134:

No Indians in this country have a longer authenticated history than the Hopis. As far back as the Middle Ages the ancestors of the Hopis occupied the area between Navajo Mountain and the Little Colorado River, and between the San Francisco Mountains and the Luckachukas.

The Hopi occupied the Little Colorado Basin long before the Spanish or Navajo arrived, and used its water resources to sustain their society and culture. Oraibi, on Third Mesa, in the heart of the Little Colorado Basin, is widely accepted as the oldest continually inhabited community in North America.

The Hopi Tribe claims a water right with a time immemorial priority, senior to that of any other claimant, Indian or non-Indian. The Tribe claims this right for water to serve lands presently owned by the Tribe or Hopi allottees or assignees and for lands that may hereafter be recognized as belonging to the Tribe or Hopi allottees or assignees. The Tribe asserts a senior right with immemorial priority for waters from sources located outside the boundaries of the main reservation lands as defined by ADWR, including from

the mainstem Little Colorado River, the Colorado River, including Lake Powell, and the Coconino Aquifer.

### VIII. SCOPE OF THIRD AMENDED STATEMENT OF CLAIMANT

Over the course of this adjudication's 30-year history, the Court, the parties and ADWR have refined the focus of the Hopi Tribe's HSR. On November 2, 2004, the Court issued a Minute Entry instructing ADWR to limit the scope of the Preliminary Hopi HSR to claims for water on the "main reservation." Minute Entry, dated November 4, 2004, p.2. ADWR complied with the Minute Entry and limited its investigation and Preliminary HSR to the Hopi lands within the 1882 Executive Order Reservation and the 1934 Act Reservation (Moenkopi Island). Preliminary Hopi HSR, § 1.3 Scope, p. 1-4. ADWR's investigation for the Preliminary Hopi HSR excluded the Hopi Ranches, Hopi Industrial Park and any other newly acquired lands outside the "main reservation."

In June 2013, ADWR filed its Status Report with the Court, reiterating that the Final HSR for the Hopi Reservation would not include and analysis of the Hopi Tribe's water right claims for the Hopi Industrial Park, the Hopi Ranches or other Hopi-owned lands outside the boundaries of the Hopi Reservation. ADWR Status Report Concerning Final Hydrographic Survey Report for the Hopi Indian Reservation, filed June 10, 2013, p. 6-7. ADWR concluded that the final HSR should not include the industrial park and ranches because these lands were outside the main reservation lands and not analyzed in the Preliminary HSR. *Id.* The Court issued a Minute Entry on July 2, 2013, confirming that ADWR should limit the scope of the Final Hopi HSR to the minimum requirements of the existing statutes.

The Tribe's Third Amended Statement of Claimant will similarly limit its substantive amendments to claims related to the 1882 Executive Order Reservation and Moenkopi Island. The Tribe expressly reserves its rights to amend and update its water claims for Hopi-owned lands outside the main reservation lands at an appropriate future date when the Court indicates that water rights for those lands will be included in a hydrological survey report pursuant to the Arizona Water Code. More specifically, the Tribe reserves its rights to update its claims for Hopi Industrial Park, the Hopi Ranches, the Cibola property and any other lands located outside the "main reservation lands."

# IX. STANDARDS FOR QUANTIFYING THE HOPI TRIBE'S RESERVED WATER RIGHTS

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The Arizona Supreme Court established standards for determining the amount of water reserved for Indian lands.4 In In re General Adjudication of All Rights to Use Water in Gila River System and Source, 35 P.3d 68, 74 (Ariz. 2001) (en banc)(Gila V), the Court confirmed that a tribe is entitled to an amount of water necessary to make the tribe's reservation a "permanent home and abiding place, ... that is, a 'livable' environment." Id. at 74 (citations omitted). Accordingly, the Hopi Tribe has an undisputed right to water necessary to fulfill the purpose of its reservation - which is to provide a permanent homeland for the Hopi people. The court found that a broad construction of the purpose of Indian reservations is necessary to allow tribes "to achieve the twin goals of Indian self-determination and economic self-sufficiency." Id. at 76. It held that practicably irrigable acreage (PIA) must not serve as the exclusive means for quantifying Indian water rights because it would implicitly limit the purpose of a reservation to agriculture and "assumes that the Indian peoples will not enjoy the same style of evolution as other people, nor are they to have the benefits of modem civilization." Id. at 76. The court noted that parties claiming rights under state law are not constrained to use the water in the same manner as their ancestors and held, "[j]ust as the nation's economy has evolved, nothing should prevent tribes from diversifying their economies if they so choose and are reasonably able to do so." Id.

Although the Hopi Tribe wishes to pursue water for non-agriculturebased economic development, water for irrigated agriculture will still play a key

<sup>&</sup>lt;sup>4</sup> A substantial portion, though not all, of the water claimed by the Hopi Tribe is based on the reserved rights doctrine.

role in creating a viable homeland for the Tribe and its members. While the Gila V court rejected the PIA standard as the exclusive means for quantifying Indian water rights, it stated that "[t]his does not mean that tribes are prohibited from including agriculture/irrigation as part of their development plans," noting "future irrigation projects are subject to a PIA-type analysis: irrigation must be both practically and economically feasible." Id. at 80.

The court set out the key factors that must be considered in quantifying Indian water rights. Overall, the court explained that the courts must examine "actual and proposed uses, accompanied by the parties' recommendations regarding feasibility and the amount of water necessary to accomplish the homeland purpose." Gila V, 35 P.3d at 79. The court noted that this may be presented in a master land use plan that specifies the quantity of water necessary for different purposes on the reservation, but acknowledged that tribes may present it in another manner as well. Id.

The court identified historical water use as a significant factor, holding that "[d]eference should be given to practices requiring water use that are embedded in Native American traditions... and tribes should be granted water rights necessary to continue such practices into the future." *Id.* at 79. The court reasoned that "tribal prioritization of past water use will affect its future development," and historic use may indicate how the tribe has valued it. *Id.* The court explained,

For example, a tribe that has never used water to irrigate is less likely to successfully and economically develop irrigation projects in the future. This does not mean that Indians may not use their water allocations for new purposes on a reservation. However, any proposed projects should be scrutinized to insure that they are practical and economical. Such projects should also be examined

to determine that they are, in fact, appropriate to a particular homeland.

Id. at 80.

The court also held that tribal culture must be considered, explaining "[w]ater uses that have particular cultural significance should be respected, where possible. The length of time a practice has been engaged in, its nature (e.g., religious or otherwise), and its importance in a tribe's daily affairs may all be relevant." *Id.* at 80. The Hopi people have farmed and continue to farm their lands. The cultural significance of agriculture and farming in Hopi society cannot be underestimated. The Tribe, therefore, also claims water for ceremonial and subsistence farming. *See U.S. v. Winans*, 198 U.S. 371 (right to water implied by a reservation of aboriginal ways of life).

The court also identified as an important factor, "the tribal land's geography, topography, and natural resources, including groundwater availability" and explained, "[w]e anticipate that any development plan will carefully consider natural resources (including potential water uses), so that the water actually granted will be put to its best use on the reservation." *Gila V*, 35 P.3d at 80.

In addition to natural resources, courts must look at a tribe's economic base. The court explained that "[t]ribal development plans or other evidence should address, and the court should consider, 'the optimal manner of creating jobs and income for the tribes [and] the most efficient use of the water ...." Id. (citation omitted). In examining such evidence, the court explained,

Economic development and its attendant water use must be tied, in some manner, to a tribe's current economic station. Physical infrastructure, human resources, including the present and potential employment base, technology, raw materials, financial

Id.

resources, and capital are all relevant in viewing a reservation's economic infrastructure.

The court also identified present and projected tribal population as an important factor to consider. It reasoned that, "[t]o act without regard to population would ignore the fact that water will always be used, most importantly, for human needs. Therefore, the number of humans is a necessary element in quantifying water rights." *Id.* 

The court emphasized that the list of factors that it identified is not exclusive, and the lower court must be given the latitude to consider other information that it deems relevant to determining tribal water rights. The Arizona Supreme Court explained that the primary requirement is that "proposed uses be reasonably feasible." *Id.* at 81. The court set out a two-part analysis for determining compliance with this requirement,

First, development projects need to be achievable from a practical standpoint-they must not be pie-in-the-sky ideas that will likely never reach fruition. Second, projects must be economically sound. When water, a scarce resource, is put to efficient uses on the reservation, tribal economies and members are the beneficiaries.

Id.

In *Gila V*, the Arizona Supreme Court also held that the reserved rights doctrine applies to groundwater, explaining "[t]he significant question for the purpose of the reserved rights doctrine is not whether the water runs above or below the ground but whether it is necessary to accomplish the purpose of the reservation." *Id.* at 747.

# X. Hopi Water Rights Claim

# A. Hopi Tribe Claim Summary<sup>5</sup>

# Table 1 -- Quantification

Use	Quantity (Acre-Feet per Year)		
Domestic, Commercial, Municipal and Industrial Use	9,348		
Agriculture			
- Past and Present Irrigation	101,1216		
- Livestock	1,000		
- Ceremonial and Subsistence Irrigation	7,385		
- Water Storage	4,883		
Present Mining Use	1,255		
Energy Resources Development	27,600		
Tourism	1,022		
Recreation	41		
Other Claims			
- Subsurface Mineral Rights	40,295		
<ul> <li>Aesthetic, Cultural and Ecological Flows</li> <li>A) Pasture Canyon</li> <li>B) White Ruin Canyon</li> <li>C) Lower Little Colorado River (instream flows)</li> </ul>	>3007		

<sup>&</sup>lt;sup>5</sup> The table is a summary for convenience and does not limit the broader claims made in the text above, *e.g.*, relating to the ownership of water resources as a whole; nor does the table limit the more precise description of each category that follows. This table does not include claims for water off the "main reservation" per ADWR. See Section VIII.

<sup>6</sup> The Hopi Tribe also claims 333 acre-feet for irrigation storage plus evaporation and seepage losses.

<sup>&</sup>lt;sup>7</sup> The Tribe is working to quantify the flows at White Ruin Canyon Wash. The 300 acrefeet per year represents the quantification to protect the flows at Pasture Canyon only.

- Cultural, Religious and Ceremonial Uses

Total 194,248

# B. Domestic, Commercial, Municipal and Industrial Use (DCMI)

#### 1. Future DCMI Uses

The Hopi Tribe claims 9,348 acre-feet of water annually for future domestic, commercial, municipal, and industrial (DCMI) uses of water on the 1882 Reservation and Moenkopi Island.<sup>8</sup> The Hopi Tribe projects a population on its Reservation lands (not including the Hopi Industrial Park) of 50,255 in 2120 and that the population (not including the Hopi Industrial Park) will stabilize at 52,016 in 2175. The Tribe's projections rely on the work of experts retained by the United States, which have been updated since the projections filed with the Tribe's 2009 Second Amended Statement of Claimant. The details of the projections, including the growth rates upon which they are based, are set out in Appendix 3 to the United States' Third Amended Statement of Claimant on behalf of the Hopi Tribe (U.S. Third Amended SOC).

The Tribe is making this claim based on total tribal-wide DCMI demands rather than on village-by-village water demands. The Hopi Tribe bases its DCMI claim on a per-capita approach, in which the projected future stable population on the Hopi Reservation is multiplied by an estimate of per-capita DCMI usage. The Tribe projects future use of approximately 160 gallons per capita per day (gpcpd), which includes residential indoor use, residential outdoor use, commercial use, light industrial use and public uses and system losses.

<sup>&</sup>lt;sup>8</sup> This amount no longer includes the DCMI needs of the Hopi Industrial Park (380 acrefeet) as this land is outside the scope of the final HSR. The Hopi Tribe reserves its right to assert this claim when ADWR begins the HSR process for that area.

The Tribe claims a priority of time immemorial for DCMI uses. sources are springs, groundwater wells in the N-Aquifer and other aquifers.

## 2. Existing and Future Wells

In support of this DCMI claim, the Hopi Tribe claims the right to withdraw and deplete groundwater from both existing and future wells in the N-Aquifer and other aquifers. The Hopi Tribe relies on Appendix 4 and Appendix 7 to the U.S. Third Amended SOC. These appendices provide a list and maps of existing wells which serve DCMI, as well as stock and other uses. A specific pumping quantity is not claimed from individual existing wells because, as is the case throughout much the Little Colorado River basin, metering data or other evidence concerning the quantities of past or present diversions from specific wells is often unavailable.

With respect to future wells, the Hopi Tribe asserts that its reserved water rights necessarily include the right to establish new points of diversion and withdrawal as needed to meet the Tribe's future needs. The location of future wells, including quantities and points of diversion and withdrawal, for rights reserved by the Hopi Tribe, but not yet exercised, cannot be ascertained at present.

## 3. Springs

Springs also provide water for DCMI purposes, as well as livestock and agricultural purposes. The Hopi Tribe claims the right to utilize all flows of springs on the Hopi Reservation, including existing springs identified in Appendix 5 to the U.S. Third Amended SOC, springs not identified due to drought or other conditions, and springs that may occur in the future to meet the needs of the Hopi Tribe.

Appendix 5 and Appendix 7 to the U.S. Third Amended SOC provide a list and map of existing springs that the Hopi Tribe has in the past used, or is at present using. The Hopi Tribe claims the right to utilize the flow of each spring at its described location, to make improvements, such as constructing spring boxes or pipe collection systems, as may be necessary to preserve each spring's utility, and to use water diverted from such springs for any use, including livestock, domestic, agriculture, ceremonial, religious, and cultural uses. A specific quantity is not claimed for each individual spring because, as is the case throughout much of the Little Colorado River basin, metering data or other evidence concerning the quantities of past or present flow at specific springs on Hopi Tribal lands is generally unavailable. Additionally, spring flows vary based on influences from climate conditions and hydrological effects of other water uses such as groundwater pumping. The Hopi Tribe also claims flows from springs not on the Hopi Reservation with present or historical uses on the Reservation.

# C. Agricultural

# 1. Past and Present Irrigation

ADWR concluded that approximately 63 percent of the Hopi Reservation, or over one million acres, have soils that are suitable for irrigated agriculture. The Hopi Tribe claims the right to irrigate 26,611 acres of land that has been irrigated in past or is irrigated presently. This acreage requires diversion of 101,121 acre-feet of water on an average annual basis to irrigate the lands

shown in Table 2.9 The past and present irrigated acreage consists of the following and is shown in Appendix 1:

- 13,031.6 acres as described in the United States Third Amended Statement of Claim for the Hopi Tribe;
- 1,853.3 acres of past and present irrigation identified by ADWR as having complete evidence and not included in the Federal claim listed above;
- 11,658.5 acres of past and present irrigation identified by ADWR-as having partial evidence and not included in the Federal claim listed above; 10 and
- 67.5 acres not included in the above three categories that represent a historic irrigation project on Dinnebito Wash called Dinnebito 10 or DW10 and that ADWR did not attempt to verify during their claim verification process for the 2008 Preliminary Hopi HSR.

The sources of water for this claimed irrigation are all the surface and groundwater resources of the Hopi Reservation, including the five washes, 11 minor tributaries that flow from north to south through the Hopi Reservation and groundwater or other sources of water as necessary. Past irrigation was limited to using mainly springs and washes flowing on the Reservation. Nevertheless, the Hopi Tribe claims the right to develop additional sources of supply such as, but not limited to, groundwater and/or additional storage water may be developed to provide a full supply of irrigation water to the past

<sup>&</sup>lt;sup>9</sup> This claim differs from the claim presented in the Tribe's 2009 Second Amended Statement of Claimant because it is no longer based on a single time period of irrigation, i.e., 1954-1955. The above acreage is appropriate under the doctrine that Indian water rights are not lost through non-use. *Gila V*, 35 P.3d at 72 (a reserved right "retains priority despite non-use").

<sup>&</sup>lt;sup>10</sup> This additional acreage was based on Geographical Information System (GIS) computer files provided by the ADWR to the Hope Tribe's Consultant DOWL (formerly HKM and DOWL HKM). ADWR developed the GIS files as part of their preparation of their 2008 Preliminary Hopi HSR.

<sup>11</sup> The five washes are Moenkopi, Dinnebito, Oraibi, Polacca and Jeddito.

and present irrigated acres.<sup>12</sup> The Hopi Tribe should not be limited to historical methods of farming and irrigation and should be allowed to employ modern irrigation methods, including groundwater pumping. See e.g., United States v. Washington, 384 F. Supp. 312, 402, 407 (W.D. WA 1974) aff'd 520 F.2d 676 (9th Cir. 1975); Grand Traverse Band of Ottawa & Chippewa Indians v. Dir. Mich. DNR, 141 F.3d 635, 639 (6th Cir. 1998).

Table 2 -- Past and Present Irrigation Acreage and Average Annual Diversion Volume

Category	Acres	NIR (ft)	Overall Irrigation Efficienc y	Water Duty, ac feet/ac (rounded)	Avg. Ann Div. Vol, acre-feet (rounded)
U.S Third Amended Claim	13,031.6	2.09	55%	3.80	49,520
ADWR Complete Evidence not within the U.S. Claim	1,853.3	2.09	55%	3.80	7,043
ADWR Partial Evidence not within the U.S. Claim	11,658.5	2.09	55%	3.80	44,302
Historic project DW 10	67.5	2.09	55%	3.80	256
Total	26,610.9				101,121

The Hopi Tribe's claimed acreage is larger than the Tribe's claimed acreage from its Second Amended Statement of Claimant, but is still lower than the acreage likely farmed historically. Specifically, ADWR concluded that prior

<sup>&</sup>lt;sup>12</sup> DOWL, the Hopi Tribe's water resources consultant, calculated a full-supply water duty for irrigation of the above-listed past and present irrigated acres. First, DOWL established a full-supply net irrigation requirement (NIR) by taking the average of the lower (1.72 feet) and upper (2.46 feet) NIR from Table 8-1 for modern farming in ADWR's 2008 Hopi Preliminary HSR to get an average of 2.09 feet NIR. The NIR is the total crop water demand less effective precipitation. Based on an assumed 85percent irrigation conveyance efficiency and 65percent on-farm efficiency, an overall irrigation efficiency of 55percent (rounded) was then calculated. The total per acre water duty was then calculated by taking the 2.09 feet average NIR and dividing by the 55percent overall irrigation efficiency to calculate a diversion requirement of 3.80 feet or 3.80 acre-feet per acre. Multiplying a water duty of 3.80 acre-feet per acre water duty times an irrigated area of 26,610.9 acres results in an average annual diversion volume of 101,121 acre-feet.

to 1930, the Tribe cultivated 2.5 acres per person annually. See Preliminary HSR, 8-5; See also, Charles Adams, Hopi Use and Development of Water Resources in the Little Colorado River Drainage Basin of Arizona: An Archaeological Perspective to 1700 84 (April 2007). This average annual acreage per person combined with the historic high population estimate of 29,305 people would require over 70,000 cultivated acres. See Peter Whiteley, Historic Hopi Use and Occupancy of the Little Colorado River Watershed 104 (January 2004). Even if we use the population estimate of 12,000 people, as posited by Fred Andersen in Table 8 of his report prepared for ADWR, 2.5 acres per per person translates to 30,000 cultivated acres.

The nature of much of the irrigation of lands from seasonal flows is such that the field and diversion locations change over time. The Tribe claims a priority of time immemorial for past and present irrigation.

#### 2. Livestock

The Hopi Tribe claims 1,000 acre-feet of water each year to support the maximum carrying capacity of livestock on the Hopi lands within the 1882 Reservation and Moenkopi Island. This claim is based on the maximum carrying capacity of the rangeland within the 1882 Reservation and Moenkopi Island. This rangeland includes approximately 1,622,455 acres of land, with a maximum livestock carrying capacity of 44,486 animal units. The water consumption for cattle is 12 gallons per animal unit per day (gpaud) based on ADWR's "Standard Water Use Quantities" document date revised January 2006. The Hopi Tribe used a diversion of 20 gpaud for the Claim based on a water use efficiency of 60 percent to account for evaporation, spills, and other losses from wells. The 60 percent efficiency estimate assumes the use of metal

drinker tanks to store the stock well water although presently such water is frequently stored in earthen facilities. The Tribe asserts the right to use more than the 20 gpaud rate and 1,000 acre-feet of water annually to account for decreased efficiency if earthen facilities continue to be used to store stock well water in the future.

The primary water source for the livestock demand is groundwater (the N-Aquifer and other aquifers) as provided by existing and future wells. Appendix 4 to the U.S. Third Amended SOC provides a list of all existing wells claimed, including the wells that serve livestock uses. The Hopi Tribe claims groundwater as the primary source because of the importance of reliable water sources for livestock in an arid climate. In addition to wells, some springs provide livestock water. Appendix 5 to the U.S. Third Amended SOC identifies the existing springs. The Hopi Tribe has the right to allocate this right among wells as it deems necessary to meet the needs of the Hopi Tribe.

# 3. Ceremonial and Subsistence Irrigation

The Hopi Tribe claims 7,385 acre-feet of water per year for future irrigation of small garden plots for ceremonial and subsistence purposes. <sup>13</sup> The Hopi people have a rich agricultural tradition that goes back millennia. The Hopi farmers' ingenuity and hard work is largely responsible for the Hopi peoples' long tenure and rich ceremonial life in such an arid region. While the Hopi economy is no longer based on subsistence agriculture, traditional Hopi agricultural practices continue to the present and are a major part of the activities of many Hopi households. Nearly 40 percent of households still

<sup>&</sup>lt;sup>13</sup> This number is based on the stable population and total number of households projected for the Hopi villages with 25percent of the households carrying out ceremonial and subsistence farming with each participating household requiring 0.8 acres. Additionally, the Tribe relied on a CIR of 25.08 inches and efficiency of 75percent.

cultivate corn and other crops for ceremonial and subsistence use. Seventyeight percent of those who are not currently engaged in farming activities reported that they would like to have a garden or field. Drought and lack of land were the principal reasons given for not farming at present.

A growing Hopi population will need to expand the scope of current agricultural activities on the Reservation in order to protect and to maintain its agricultural heritage and ceremonial life. The limited and uncertain water supplies currently used for ceremonial and subsistence irrigation are insufficient to meet present and future demands. Down-cutting of the washes has also reduced the availability of water to lands upstream in the washes. Finally, in the future, climate change threatens the surface water flows on which the Hopi currently rely. Traditional Hopi agricultural practices have evolved over centuries to accommodate limited water supplies and erratic rainfall, so Hopi farmers are skilled at cultivating in water-scarce conditions. But as one looks to the future, Hopi farmers will need to adapt their traditional agriculture practices somewhat to accommodate population growth and climate change.

Providing a firm water supply for ceremonial and subsistence agriculture will also provide important health benefits to the Hopi by ensuring a supply of fresh fruit and produce and thereby helping in the fight to combat the alarming incidence of adult-onset diabetes and other health conditions with ties to diet which afflict so many Hopi.

Like current spring-fed and surface water irrigation, the planned garden plots could be located in or near the Hopi villages. In the future, ceremonial and subsistence gardens will cover a total of about 2,646 acres of arable land

surrounding the villages for the garden plots and storage ponds, as shown in Table 3 below.

Table 3
Ceremonial and Subsistence Irrigation

Village	Irrigated acreage	Annual water requirement (acre-feet)	
First Mesa villages	400	1,116	
Second Mesa villages	385	1,075	
Along Highway	31	88	
Keams Canyon	100	280	
Bacavi/Hotevilla	360	1,003	
Kykotsmovi	351	978	
Tawaovi	254	710	
Moenkopi	452	1,262	
Lower Moenkopi	206	574	
Howell Mesa East	58	161	
Side Rock Well (Kaibito Plateau)	49	138	
Totals	2,646	7,385	

The Tribe claims a right to store the capacities of each of the storage facilities for the gardens. The Tribe claims a priority of time immemorial for ceremonial and subsistence irrigation. The source is the N-Aquifer and other available aquifers.

## 4. Water Storage

The Hopi Tribe claims the right to store 333 acre-feet of water flowing from springs and surface runoff in and above Pasture Canyon in two reservoirs in Moenkopi Island, as described in Table 4. The Hopi tribe reserves the right to rebuild and rely on historic reservoirs that may or may not be included in

the impoundment inventory. The Tribe also claims 192 acre-feet of water annually for evaporation losses.

Table 4
Irrigation Reservoirs

Reservoir	Max. Storage, AF	Max Surface Area, ac	Net evap. Rate, ft/yr	Evap. Loss, AF/yr
Pasture Canyon	212	32	4	128
Lower Lagoon	121	16	4	64
Total	333	48		192

Additionally, the Hopi Tribe claims the right to divert and deplete the total 4,883 acre feet of water per year for livestock storage purposes from past and present historic stock ponds served by surface flow from the washes and tributaries. Stockponds are filled by surface water from washes and tributaries to washes. As such, stockponds can be unreliable in dry years and are claimed here as complementary sources to wells for livestock support. Despite the fact that stockponds are not as reliable as groundwater, they play a vital role in allowing livestock full access to the range for grazing purposes and represent an important aspect of the livestock claim. See attached Appendix 2 for maps and lists of impoundments.

The Hopi Tribe claims the right to maintain each reservoir at its described location and dimensions, as well as the right to fill each reservoir to its full capacity whenever the stated source of supply is available, and to use the impounded water for livestock purposes. The Hopi Tribe has in the past used, or is at present using, the impoundments identified in Appendix 2 for stock purposes and Appendix 3 for an explanation of basis for keeping impoundments deleted by ADWR and the United States. The Hopi Tribe claims the right to construct future stock ponds necessary to satisfy the claimed

livestock demand of 1,000 acre-feet per year. In addition, subject to the total quantity of rights asserted herein, the Hopi Tribe claims a right to repair, to maintain, and to replace existing impoundments and to construct new impoundments in the future for livestock water and soil and water conservation benefits as needed to satisfy the livestock demand of 1,000 acrefeet of water per year.

# D. Energy Resources Development

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The current Hopi economy is based mainly on a high degree of Federal government involvement combined with revenues derived from coal mining royalties for electric power generation. The primary natural resources available to Hopi include coal, the potential for other petroleum hydrocarbons (coalbed methane, natural gas, oil), and an abundance of sunlight. Under Gila V, the Hopi Tribe claims water for an economic base that will provide for sustainable and long-term employment for its stable population. To build the necessary economic base to employ the projected stable population, the Tribe claims the water necessary to allow it to rely on areas where it has a relative economic advantage. The Tribe has a strategic economic advantage in the area of solar power, coal, natural resource extraction and the ancillary businesses attendant to mineral extraction, including use of petroleum hydrocarbons as feedstock for secondary and tertiary processed products. In addition to coal mining and a mine mouth power plant, the Tribe asserts that it should have adequate water supply to support industrial uses including, but not limited to, coal liquefaction/gasification facility (CLG) and CLG byproduct processing.

The following discussion describes possible elements, from the perspective of water supply, of a strategy that offers the potential for building

on existing Hopi resources to build a long-term, economically viable future for the Tribe. Water supply is a critical component in insuring that the Hopi Reservation can become a permanent homeland and again become economically viable for the Hopi people.

## 1. Present Mining Use

The Tribe claims 1,255 acre-feet per year for present coal mining needs for the Peabody Coal Company's mine at Black Mesa. <sup>14</sup> The current source is the N-Aquifer. The Hopi Tribe claims a priority of time immemorial for water for mining activity.

## 2. Future Coal Mining

Estimates of the amount of coal availability at Black Mesa vary from between 3.6 and twenty billion tons. The Tribe currently leases a small part of its overall coal resources- approximately 330 million tons- to Peabody Coal Company which mines the coal and conveys it to the Navajo Generating Station for power generation. However, the Tribe's coal resources substantially exceed the amount which Peabody may mine under its lease from the Tribe.

The Tribe asserts the right to mine its vast reserves of coal presently and in the future. The Tribe claims 500 acre-feet for the additional mine. The exact location of wells and the distance from which the water would be drawn cannot currently be known, nor can contractual arrangements as to its use.

# 3. Future Energy Resource Development

The Hopi Tribe claims 27,100 acre-feet of water annually for future energy resource development. Power generation could include a concentrated solar facility with after dusk thermal power generation. An additional use of

<sup>&</sup>lt;sup>14</sup> This amount is slightly higher than the 1,236 acre-feet per year claimed in 2009. The Tribe bases this increase on the latest records available for current use.

the coal mined on Hopi lands could be cola liquefaction/gasification and processing of the related byproducts of the CLG process. The integrated approach below provides an illustrative example of how such a plan could be accomplished for the Hopi Tribe. The Hopi Tribe as a sovereign, however, has the right to determine how it would like to develop economically in the future depending on the Tribe's desires and the market. The Tribe, however, claims the amount of water described below to allow it to make the Reservation a permanent homeland for the Hopi people.

## a. Potential Future Solar/Thermal Power Plant

The Hopi Tribe claims 6,500 acre-feet of water annually to allow the Tribe to build, should it choose to do so, a 1,500 megawatt solar power plant, supplemented by after-dusk conventional generation fired by liquid/natural gas products of liquefaction or gasification plant. This water is necessary because concentrated solar with wet cooling requires anywhere from 800 gallons to 1,000 gallons of water per megawatt hour.

The source is the N-Aquifer or other water sources as necessary. The Hopi Tribe claims a priority of time immemorial for water for a power plant.

# b. Potential Development of Coal Liquefaction/Gasification and secondary products

The Hopi Tribe claims 20,600 acre-feet of water annually for the potential development of a no-liquid-discharge coal liquefaction/gasification facility (CLG) and related secondary manufacturing. The coal liquefaction/gasification

<sup>&</sup>lt;sup>15</sup> The 500 kV power line that crosses the main reservation has a capacity of about 1500 mW, most of which is no longer committed to Southern California from the Four Corners power plant. FERC will reallocate the unused capacity, which is likely about 1000 mW. If half of this were reserved for a Hopi combined solar thermal/conventional 500 mW power plant, new transmission capacity would not initially be required. An additional 500 kV line may also be necessary to transmit the additional power produced.

process requires 12,600 acre-feet of water annually and may also be used to produce varying ratios of primary products, including natural gas, liquid fuels (diesel, jet fuel, and gasoline), naphtha, etc. There are thousands, of products that can be produced from the primary products of coal liquefaction/gasification. Development of businesses related to the secondary manufacturing requires between 6,000 and 8,000 acre-feet per year.

The potential bundling of CLG and secondary businesses would allow the Tribe to further monetize its competitive economic advantages. For example, availability of primary CLG products at competitive prices could potentially support a wide range of production chains. Very briefly tracing just one possible production chain illustrates the future potential. Naphtha can be the primary feedstock for ethylene production. Ethylene is in turn one of the highest demand industrial inputs for many types of products. Between 2005 and 2011, ethylene demand worldwide increased by one-third, reaching 140 million metric tons. As an industrial commodity, the ethylene market is very broad and deep, with new uses being developed on an ongoing basis. Like copper or electricity, modern economies cannot function without ethylene.

An adequate water supply to support the additional employment necessary to make the Reservation a permanent homeland requires 20,600 acre-feet of water annually. The source is the N-Aquifer or other water sources as necessary. The Hopi Tribe claims a priority of time immemorial for water to allow the Reservation to become a permanent homeland for its future stable population.

## E. Tourism

Tourism is the most important non-industrial, non-governmental source of income in northern Arizona. In 2013, there were 5.3 million international visitors to Arizona, alongside 33.8 million domestic visitors, for a total of 39.1 million visitors. In 2013, there were over 7.1 million domestic overnight visits to Northern Arizona (including the Grand Canyon and Indian country). These numbers are expected to increase. According to a 2000 study prepared by Northern Arizona University, an estimated 200,000 non-reservation residents visited the Hopi Reservation each year.

The Hopi share of visitors to northern Arizona is relatively small. For one thing, there are relatively few places to stay overnight at Hopi. During the 1990s, two motels existed on the Hopi Reservation for overnight guests, one at Keams Canyon and the other on Second Mesa at the Hopi Cultural Center. The Keams Canyon motel closed in 2001, leaving the Hopi Cultural Center as the only on-reservation lodging available for tourists. Since 2001, the Moenkopi Developers Corporation opened the Legacy Inn and Suites at Tuba City. The recent success of the Legacy Inn and Suites demonstrates the potential for growth. The Hopi Tribe's economic development plans include expansion of the Hopi Cultural Center and related commercial development nearby.

Compared to other regions in Arizona, domestic overnight visitors to northern Arizona have high incomes and high education levels and the highest participation in visiting historic sites. Visitors to Hopi include a greater share of the more highly-educated and higher-spending market segment of visitors to

the region. There is a tremendous potential to increase the Hopi share of the existing tourist market in the region.

The richness of the Hopi traditions, mythology, and language are a unique cultural resource and represent an immense, untapped economic value, particularly for increasing the Reservation's share of the tourism market. Because such cultural assets are increasingly being lost elsewhere, these Hopi assets will become ever more valuable. Recently the Hopi Tribe designated State Route 264 between Moenkopi and Keams Canyon as the Hopi Arts Trail with a brochure identifying all businesses along the route. See Appendix 4, Hopi Comprehensive Economic Development Strategy. Many people throughout the world will seek to see the world from a Hopi perspective and to learn about their culture and traditions. The Tribe has only begun to tap the nascent tourism market. The success of the Legacy Inn & Suites and the travel center demonstrate the untapped potential for responsible tourism. A 2008 survey at Hopi demonstrates that a majority of the Hopi support tourism development on the Hopi Reservation.

The Hopi Tribe claims 1,022 acre-feet of water annually for a future destination resort with the potential for an RV park, golf course and other destination resort amenities, possibly at Keams Canyon,, and for expansion of the Hopi Tribal Cultural Center. The Hopi Tribe claims a priority of time immemorial for the water for tourism. The source is groundwater or other sources as necessary.

#### F. Recreation

<sup>&</sup>lt;sup>16</sup> This does not include the possible hotel, casino, golf course and RV park at the Hopi Industrial Park in Winslow due to the limited scope of the Final HSR. The Hopi Tribe claims 522 acre-feet annually for the projects in the Hopi Industrial Park. The source is groundwater and the Tribe claims a priority date of time immemorial.

The Hopi Tribe claims the right to continuously fill Keams Lake (located in Sections 26 and 28 North, R. 20 East) to its maximum capacity of 27.8 acrefeet and 12.8 acrefeet for evaporation. Water use is for camping, fishing and evaporation. The source of water for Keams Lake is the Keams Canyon watershed in the Polacca drainage. The Tribe claims a priority of time immemorial for recreation uses.

### G. Other Claims

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# 1. Subsurface Mineral Rights

The Hopi Tribe asserts a right to its proportional share of the water in and feeding Blue Springs under 25 U.S.C. §640d-6 (Navajo Hopi Land Dispute Settlement Act of 1974 or the "1974 Settlement Act"). The 1974 Act provides that partition of the surface shall not affect the joint ownership "of the coal, oil, gas, and all other minerals within or underlying such lands." 25 U.S.C. § 640d-Water, like oil and gas, is a mineral in the broader sense of the word. Andrus v. Charlestone Stone Products Co., Inc., 436 U.S. 604, 610, 98 S. Ct. 2002, 2006, 56 L. Ed. 2d 570 (1978)(is a mineral in the broadest sense of the word); United States v. Union Oil Co. of California, 549 F.2d 1271, 1273-74 (9th Cir. 1977)(all of the elements of a geothermal system magma, porous rock strata, even water itself may be classified as minerals.); Hollingsworth v. Berry, 107 Kan. 544, 192 P. 763, 763 (Kan. 1920)( oil and gas, and for that matter water, are minerals in the broader sense of the word); see also, Mack Oil Co. v. Laurence, 389 P.2d 955, 958 (Okla. 1964)(water technically is a mineral and this supports the argument that water should be included in a reservation of all mineral rights.)

<sup>&</sup>lt;sup>17</sup> Keams Lake is not included in the livestock storage claim.

The Hopi Tribe asserts this claim on the basis that water is a mineral under the 1974 Act and that the Tribe is entitled to its proportional share of that mineral resource. The Tribe's proportional share is based on the Tribe's land mass in the LCR basin as compared to the Navajo Nation's total land mass in the LCR basin. The Hopi Tribe estimates that its land comprises 25 percent of the total Tribal lands. The Tribe claims 40,295 acre-feet of water annually for the Tribe's proportional share of the Blue Springs complex.

## 2. Aesthetic, Cultural and Ecological Flows

The Hopi Tribe asserts a non-diversionary claim to protect the aesthetic, cultural and ecological flows of the waters of Pasture Canyon and White Ruin Canyon Wash. The Hopi Tribe claims 294 acre-feet for per year for riparian and wetland habitat in Pasture Canyon, a unique ecosystem within Moenkopi Island that is of great historic and present significance to the Hopi Tribe. A map of Pasture Canyon is attached as Appendix 9 to the U.S. Third Amended Statement of Claim. This claim seeks sufficient water to sustain the areas within Pasture Canyon consisting of wetlands, willows, cottonwoods and other riparian vegetation. On average, the depletion is 267 acre-feet per year. However, the Hopi Tribe claims the maximum 294 acre-feet per year in order to utilize the water supply for the riparian vegetation when such water is available.

These wetland and riparian areas of Pasture Canyon exist near agricultural fields subject to irrigation, but are separate and apart from those fields. A second map of Pasture Canyon is attached at Appendix 10 to the U.S. Third Amended Statement of Claimant, and delineates the areas that form the

 $<sup>^{18}</sup>$  This assumes that the Hopi Tribe and Navajo Nation will claim all ecological flows for Blue Springs.

basis of this Riparian and Wetland Habitat Claim as compared to the Irrigated Lands which are subject to the Past and Present Irrigation Claim outlined above. While this claim was not included in the Second Amended SOC filed in 2009, these areas were in existence and are of continuing ecological significance to the Tribe.

White Ruin Canyon Wash is located near the headwaters of Moenkopi Wash, at the following GPS coordinates: 36° 12′ 2.9844″ N; 110° 44′ 10.5108″ W. This wetland habitat is a unique ecosystem that is of great historic and present significance to the Hopi Tribe. The Hopi Tribe claims a non-diversionary right to protect White Ruin Canyon Wash. 19

Finally, the Hopi Tribe claims a non-diversionary water right for instream flows in the lower Little Colorado River. This area hold tremendous cultural and religious significance for the Hopi people. The quantity of water needed to protect the aquatic, cultural and religious resources of the lower Little Colorado River are unknown at the present time.

Since time immemorial, Pasture Canyon, White Ruin Canyon Wash and the lower Little Colorado River watersheds have played a critical role in Hopi spiritual life and an integral part of Hopi cultural life and should be protected. In addition to the spiritual significance, Hopi wetlands are an important source of fish, wildlife and plant materials for Hopi ceremonial, cultural, and day-to-day uses. The wetlands also provide materials for the Hopi arts and crafts industry.

<sup>&</sup>lt;sup>19</sup> The Hopi Tribe is working to quantify the flows at White Ruin Canyon Wash,

## 3. Cultural, Religious and Ceremonial Uses

Appendix 5 and Appendix 7 to the U.S. Third Amended SOC provide a list and map of existing springs that the Hopi Tribe has in the past used, or is at present using. The Hopi Tribe claims the right to utilize the flow of each spring at its described location, to make improvements, such as constructing spring boxes or pipe collection systems, as may be necessary to preserve each spring's utility, and to use water diverted from such springs for ceremonial, religious, and cultural uses. The Hopi Tribe also claims flows from springs not on the Hopi Reservation with present or historical uses on the Reservation.

# H. Reservation of Rights for Lands Not Included in HSR

The Tribe is not updating its claims for the ranch lands in this Third Amended Statement of Claimant. However, the Hopi Tribe reiterates its 2009 claims for water for the five ranches based on state law as provided in Section 12(a)(l)(B) of the Navajo-Hopi Land Dispute Settlement Act of 1996. The Tribe also asserts the additional rights recognized in the Navajo-Hopi Land Dispute Settlement Act, Pub. L. 104-301, 110 Stat. 3649, for trust lands acquired under that Act. These rights shall "not be subject to forfeiture or abandonment arising from events occurring after the date the lands are taken into trust." *Id.* § 12(a)(2).

A summary of the amounts previously claimed for present irrigation and non-irrigation uses is set out in Table 3. The Hopi Tribe also claims water for evaporation and seepage losses associated with the storage facilities. The water uses on each ranch property and water right abstracts are set out in Appendix 5 to the Hopi Tribe's Second Amended Statement of Claimant.<sup>20</sup> The

<sup>&</sup>lt;sup>20</sup> Appendix 5 is a series of spreadsheets saved on a compact disk.

sources are the C-Aquifer and surface runoff. The Tribe reserves its right to amend and supplement these claims at the appropriate date in the future when the Court indicates that water rights for those lands will be included in a hydrological survey report pursuant to the Arizona Water Code.

Table 3 -- Present Water Uses on Hopi Ranches<sup>21</sup>

	Irrigation Use		Non-Irrigation Use		Total	Total
Ranch	Annual AF	Storage AF	Annual AF	Storage AF	Annual AF	Storage AF
26 Bar Ranch	507.00	184.00	302.99	67.33	809.99	251.33
Aja Ranch			654.74	- 636.27	654.74	636.27
Clear Creek Ranch			604.90	912.16	604.90	912.16
Hart Ranch			275.17	235.99	275.17	235.99
Drye Ranch			21.33	53.02	21.33	53.02
Total	507.00	184.00	1859.13	1904.77	2366.13	2088.77

The source for the water claimed on the ranches are the C-Aquifer and other aquifers and surface runoff.

<sup>21</sup> Notes:

<sup>1.</sup> The above table includes water uses on deeded ranch land and associated leased state land and Forest Service permit land used by the ranches.

<sup>2.</sup> Irrigation use on the 26 Bar Ranch is for 193.5 acres. The 507 acre-feet annual use includes 217 acre-feet supplemental supply from groundwater.

<sup>3.</sup> Non-irrigation uses include domestic, stockpond, stockwater, recreation, fish, and/or wildlife.

<sup>4.</sup> The above water use amounts were based on an analysis of associated water right filings and actual use. In cases where no filings or data exist for a water use, amounts were estimated.

## I. Hopi Claims to Off-Reservation Water Supplies

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The claims described above identify groundwater and local surface water as the source of supply. However, the groundwater resources beneath the Reservation and surface water will likely be insufficient to supply these demands into the indefinite future, particularly if Navajo withdrawals are permitted from the same aquifers. Furthermore, increasing groundwater withdrawals will affect the resources of the Reservation, reducing the flows of valuable springs and washes. Such environmental effects have already been documented as a result of prior and present pumping. The Hopi people place great value on a proper balance in the environment and protection of their resources, particularly water resources. The Tribe is gravely concerned about effects on groundwater and related resources from continued and increased rates of pumping and the effects of over grazing of lands around springs on spring flows. While the Hopi Tribe must assert its rights to local water resources, it also believes and asserts that water must be imported to the Reservation in order to satisfy these demands and make the Reservation a permanent homeland while protecting the long-term viability of the groundwater.

Accordingly, to the extent that on-Reservation water resources are insufficient to satisfy any of the demands, or any part of said demands, identified in this Third Amended Statement of Claimant, or to do so without serious increases in pumping depths and damage to the aquifers, the Hopi Tribe further asserts a right to water from sources located outside the boundaries of its lands, including from the main stem of the Little Colorado River and the Colorado River, Lake Powell and the Coconino Aquifer, to satisfy

1	those demands, and the right to transport water from those sources, or from							
2	Hopi lands separated from the Hopi Reservation by Navajo lands, to any part of							
3	the Hopi Reservation with or without permission from the Navajo Nation.							
4								
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