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**FILED**  
SUPERIOR COURT OF CALIFORNIA  
COUNTY OF ORANGE

SEP 15 2025

DAVID H. YAMASAKI, Clerk of the Court

BY: \_\_\_\_\_, DEPUTY

SUPERIOR COURT OF CALIFORNIA  
COUNTY OF ORANGE, CIVIL COMPLEX CENTER

MOJAVE PISTACHIOS, LLC; et al.,

Plaintiffs,

v.

INDIAN WELLS VALLEY WATER  
DISTRICT; et al.,

Defendants.

No. 30-2021-01187275

**STATEMENT OF DECISION FOR PHASE  
ONE TRIAL INVOLVING THE UNITED  
STATES NAVY'S FEDERAL RESERVED  
WATER RIGHT**

This Phase 1 trial adjudicates the federal reserved water right of the United States Navy for the Naval Air Weapons Station-China Lake ("NAWS China Lake" or "China Lake"). The trial stems from the Indian Wells Valley Water District's (the "District") filing of a cross-complaint for a comprehensive groundwater adjudication for the Indian Wells Valley Groundwater Basin No. 6-54 ("Basin") pursuant to the Streamlined Adjudication Act, Code of Civil Procedure 830 et seq. (ROA 155) That cross-complaint was in response to a lawsuit filed by Mojave Pistachios and other landowners seeking to quiet title and declare their rights to groundwater in the Basin. A Phase 2 trial, determining the safe yield of the Basin is set for June 1, 2026. Additional phases, to determine all parties' groundwater rights and to establish a physical solution for the Basin, have not yet been

1 scheduled.

2  
3 The Phase 1 Trial was conducted over 7 days between April 28 and May  
4 14, 2025. The parties primarily participating in the trial included the United States,  
5 Meadowbrook Dairy Real Estate and affiliated entities ("Meadowbrook"), the City  
6 of Ridgecrest ("Ridgecrest") and Searles Valley Minerals Inc. ("Searles"). Following  
7 the trial, the parties filed comprehensive post-trial briefs. The County of Kern and  
8 the Indian Wells Valley Groundwater Authority (the "Authority") joined in  
9 Ridgecrest's brief.

10  
11 On July 28, 2025 the Court issued a Proposed Statement of Decision (PSOD)  
12 pursuant to California Rule of Court 3.1590. Thereafter, the United States, the City  
13 of Ridgecrest, Kern County and the Authority submitted objections to that  
14 Proposed Decision. In addition, Searles and Meadowbrook filed a joint request for  
15 clarification of the place of use of the federal reserved water right. With respect to  
16 the objections, Searles, Meadowbrook and the District filed responding briefs.  
17 With respect to the request for clarification, the United States filed a responding  
18 brief.

19  
20 The Navy contends that its federal reserved water right, i.e., the  
21 minimum amount of water necessary to accomplish China Lake's primary purpose  
22 of weapons development and testing-- is nearly 7000-acre feet per year (APY).  
23 Although this amount is more than quadruple current usage levels, the Navy  
24 insists this level is necessary given the possibilities of (1) future weapon  
25 development and testing programs being assigned to China Lake, and (2) a return  
26 to on-base housing levels of the 1970s notwithstanding the demolition of most  
27 such housing and current policy limiting on-base residences to military personnel.

1 Ridgecrest, Kern County and the Authority take it one step further and  
2 insist that the reserved water right for China Lake should be 7988 AFY. This  
3 number is derived from the amount of water used in 1970—the single highest year  
4 of water usage in the base’s 80-year history. Even though this usage was at a time  
5 when most China Lake personnel lived on the base, and even though only 6% of  
6 personnel live there now, these parties assert that this amount is justified since  
7 China Lake’s mission could not be accomplished without the off-base workforce,  
8 most of whom live in Ridgecrest.

9  
10 Meadowbrook and Searles disagree with both the Navy and Ridgecrest  
11 et al, contending that the amount of water needed to fulfill the Navy’s mission at  
12 China Lake is between 1644 AFY (Searles) and/or no more than approximately  
13 2000 AFY (Meadowbrook). They assert that it does it not make sense to determine  
14 the federal reserved water right based on water usage over 50 years ago, and that  
15 the Navy’s estimate of potential future use is tainted by two levels of speculation.  
16 They argue that whether or not new weapons programs will be assigned to China  
17 Lake in the future is pure guesswork as there are no current plans to do so.  
18 Notwithstanding this flaw, they acknowledge that it is possible some programs  
19 may come to China Lake in the future and that with those programs will be  
20 additional water needs.

21  
22 But those additional water needs are relatively small. By far and away,  
23 the bulk of the Navy’s claimed future water needs (over 4000 AFY) hinges on a  
24 second level of speculation—namely, the assumption that this additional work will  
25 entail a revitalization of on-base housing and, contrary to current Navy policy,  
26 thousands of civilian personnel and their families moving on-base.

27  
28 As set forth below, this second level of speculation is not supported by

1 sufficient evidence for the Court to give it credence. Certainly, it does not meet  
2 the “reasonably likely to occur” standard being applied by this Court. For this  
3 reason, and as explained in detail below, the Court finds that the Navy’s federal  
4 reserved water right is 2008 AFY.

5  
6 **1. OVERVIEW**

7  
8 The Basin is located in the Mojave Desert and encompasses roughly  
9 382,000 acres underlying portions of Kern, Inyo and San Bernardino Counties.  
10 Approximately 302,095 acres overlying the Basin are owned by the United States.  
11 The Basin, which is the sole supply of potable water for the Indian Wells Valley,  
12 has been designated by the Department of Water Resources as a high priority  
13 basin due to critical conditions of overdraft.

14  
15 NAWS China Lake is the Navy’s largest land holding in the world,  
16 encompassing over 1.1 million acres and nearly 20,000 square miles of restricted  
17 air space. (Exh. 93, p. 4) Its location in the Mojave Desert is ideal for weapons  
18 testing given its remote location away from major population centers, its unique  
19 topography—both the lowest (Death Valley) and highest (Mt. Whitney) points in  
20 the continental United States are nearby, and 330 sunny, clear days per year allow  
21 year-round flying weather. The base serves all branches of the military and  
22 cooperates with allies in weapons testing.

23  
24 China Lake has 2100+ buildings, including approximately 500 laboratories  
25 as well as various facilities for testing and fabrication. Most of its personnel are  
26 civilians, none of whom currently resides on the base. The base includes military  
27 housing, recreational facilities, schools, runways, hangars and substantial public  
28 works infrastructure. The source of water for the base is limited to groundwater

1 pumped from the Basin and recycled water from the City of Ridgecrest's  
2 treatment plant.

3  
4 The District's cross-complaint seeks a comprehensive adjudication to  
5 determine the rights to all water within the Basin. The Streamlined Act establishes  
6 methods for a comprehensive adjudication, including the federal government's  
7 reserved water right. The McCarran Amendment, 43 U.S.C. § 666, establishes a  
8 waiver of federal sovereign immunity in cases involving a comprehensive state  
9 court adjudication of water rights. The Streamlined Act specifically provides for  
10 such an adjudication "consistent with *Winters v. United States* (1908) 207 U.S.  
11 564, the McCarran Amendment . . . and any other federal laws regarding the  
12 determination of federal or tribal water rights, as applicable." (CCP § 830(b)(6))  
13

## 14 **2. THE FEDERAL RESERVED WATER RIGHTS DOCTRINE**

15  
16 The United States asserts a right to groundwater based on a body of case  
17 law known as the federal reserved water rights doctrine. As explained in *Cappaert*  
18 *v. United States* (1976) 426 U.S. 128: "[W]hen the Federal Government withdraws  
19 its land from the public domain and reserves it for a federal purpose, the  
20 Government, by implication, reserves appurtenant water then unappropriated to  
21 the extent needed to accomplish the purpose of the reservation." 426 U.S. at 138.  
22 The government's right to the water implicitly reserved "vests on the date of the  
23 reservation and is superior to the rights of future appropriators." *Id.* See also  
24 *Winters v. United States* (1908) 207 U.S. 564; *United States v. New Mexico* (1978)  
25 438 U.S. 696; *Arizona v. California* (1963) 373 U.S. 546; *Arizona v. Navajo Nation*  
26 (2023) 599 U.S. 555.  
27

28 A federal reserved water right does not extend to land outside the

1 reservation. (*Agua Caliente Band of Cahuilla Indians v. Coachella Valley Water*  
2 *District* (9th Cir. 2017) 849 F.3d 1262, 1268 [“Despite the longstanding recognition  
3 that Indian reservations, as well as other reserved lands, require access to water,  
4 the *Winters* doctrine only applies in certain situations: it only reserves water to the  
5 extent it is necessary to accomplish the purpose of the reservation, and it only  
6 reserves water if it is appurtenant to the withdrawn land. *Winters*, 207 U.S. at  
7 575–78, 28 S.Ct. 207; *Cappaert*, 426 U.S. at 138, 96 S.Ct. 2062.”].)<sup>1</sup>

8  
9 Ridgecrest, et al disputes this limitation, arguing that federal reserved  
10 water rights extend outside the reservation to the extent that “the water is being  
11 used in furtherance of the federal purpose for which the land was reserved.”  
12 (Ridgecrest post-trial Brief at pp. 17-18) While Ridgecrest is correct that these  
13 rights may affect water sources that are appurtenant to the reservation but  
14 outside its perimeter (*e.g.*, *John v. U.S.* (9<sup>th</sup> Cir. 2013) 720 F. 3d 1214), there is no  
15 authority supporting the proposition that federal reserved water rights extend to  
16 water used on non-reservation property.

17  
18 The Supreme Court has emphasized that the implied-reservation-of-  
19 water rights doctrine reserves “only that amount of water necessary to fulfill the  
20 purpose of the reservation, no more.” (*Cappaert v. U. S.* (1976) *supra* at 141  
21 [emphasis added].) (*U.S. v. New Mexico* (1978) *supra* at 700, quoting *Cappaert*,  
22 *supra* at 141.) Conversely, “[w]here water is only valuable for a secondary use of  
23 the reservation, however, there arises the contrary inference that Congress  
24 intended, consistent with other views, that the United States would acquire water  
25 in the same manner as any other public or private appropriator.” *U.S. v. New*  
26 *Mexico, supra* at 702. Accordingly, under the primary-secondary purpose test,

27  
28 <sup>1</sup> Because virtually all of the cases cited herein use the term “Indian” when referring to these reservations, the Court, in order to avoid confusion, also will use this term instead of the term, “Native American,” often used today.

1 water that does not serve the primary purpose of the reservation is not part of a  
2 federal reserved water right. *Id.*

3  
4 The primary-secondary use distinction is illustrated by the Ninth Circuit's  
5 description of the *U.S. v. New Mexico* holding:

6  
7 Though it was decided seventy years after *Winters*, *New Mexico* remains  
8 faithful to this construction. In analyzing the reserved rights doctrine, the  
9 Court first sought to determine Congress' intent in creating the Gila National  
10 Forest. *New Mexico*, 438 U.S. at 698, 98 S.Ct. 3012. After reviewing the  
11 congressional act that established the forest, the Court determined that  
12 Congress intended only two purposes—"to conserve the water flows, and to  
13 furnish a continuous supply of timber for the people." *Id.* at 707, 98 S.Ct.  
14 3012 (citation omitted). It did not, however, reserve the forest lands for  
15 aesthetic, environmental, recreational, or wildlife-preservation  
16 purposes. *Id.* at 708, 98 S.Ct. 3012. Thus, the Court deemed the latter uses  
17 "secondary," for which the reserved right did not attach, and held that only  
18 "to fulfill the very purposes for which a federal reservation was created ...  
19 [did] the United States intend[ ] to reserve the necessary water." *Id.* at 702,  
20 98 S.Ct. 3012.

21  
22 *Agua Caliente Band of Cahuilla Indians, supra* at 1269-70.

23  
24 Though not binding, the Court agrees with the Maricopa County  
25 (Arizona) Superior Court's ruling pertaining to the military base at Fort Huachuca  
26 explaining the limits of the "minimal needs" doctrine: "The quantification of the  
27 federal right is the minimum amount necessary to achieve the purpose for which  
28 the land for Fort Huachuca was reserved; it is not the maximum amount of water

1 that the United States may use for its military operations.” *In re. The General*  
2 *Adjudication of All Rights to Use Water in the Gila River System and Source,*  
3 Contested Case No. W1-11-605 (Sept. 6, 2024) at p. 6 (Meadowbrook RJN, Exh 1;  
4 United States RJN, Exh. 4; hereinafter cited as *Fort Huachuca*).

5  
6 The Court also agrees with the *Fort Huachuca* court’s finding that  
7 potential future temporary needs for water are not included in a calculation of  
8 federal reserved water rights. (*Id.* pp. 48-49) This conclusion is in line with *Winters*  
9 where the Supreme Court tethered those rights to permanent or long-term uses  
10 rather than temporary ones: “That the government did reserve them we have  
11 decided, and for a use which would be necessarily continued through years.”  
12 (*Winters, supra*, 207 U.S. at 577).

13  
14 In its objections to the PSOD, the United States argues that the Court erred  
15 in considering *Fort Huachuca* as “persuasive authority.” To be clear, the Court’s  
16 citations to *Fort Huachuca* are an acknowledgment of this Court’s approval of the  
17 rationale and logic of that court’s decision in a comparable case. Given that the  
18 United States asked this Court to take judicial notice of *Fort Huachuca* (ROA 1671)  
19 and then cited the case several times in its pre-trial brief, its post-trial objections  
20 ring hollow.

21  
22 It is important to bear in mind that a federal reserved water right does  
23 not preclude acquiring additional water rights needed for secondary purposes. As  
24 set forth above in *U.S. v. New Mexico, supra* at 702, the United States may acquire  
25 those rights on the same basis as any other user under state law.

1           **3. CHINA LAKE'S FOUNDING AND ESTABLISHMENT**

2  
3           NAWS China Lake, then known as the Naval Ordnance Test Station or  
4 NOTS, was initially established for the purpose of "research, development and  
5 testing of weapons" and "training in the use of such weapons" pursuant to an  
6 order from the Secretary of the Navy on November 8, 1943. (Exh. 207) That order  
7 followed an October 30, 1943 memorandum stating the need for a test facility for  
8 aircraft weapons and detailing the unique physical characteristics of the area,  
9 including the consistently good flying weather, the vast available space, and the  
10 availability of "necessary scientific personnel." (Exh. 420) Planning for NOTS,  
11 including a proposed layout and facilities list, was developed by the Navy in  
12 consultation with scientists from Cal Tech. (Exhs. 204, 327)

13  
14           A December 31, 1943 letter to the Secretary of the Interior stated that  
15 the Navy intended to make China Lake "permanent in character." (Exh. 232) The  
16 Secretary of the Navy requested "that the Department of the Interior take the  
17 necessary action to transfer complete control and jurisdiction over all of the public  
18 domain lands in the [proposed area for NAWS China Lake] to the Navy Department  
19 and that all revocable permits affecting such land, in favor of private parties, be  
20 cancelled." On March 23, 1944 Secretary of Interior Abe Fortas informed the Navy  
21 that the Interior Department had no objection to the Navy's immediate use of the  
22 area "pending the issuance of a public land order." (Exh. 355) On April 3, 1945, the  
23 Secretary of the Navy requested the Interior Department's approval to occupy  
24 public domain lands "pending issuance of a public land order." (Exh. 917) On  
25 December 19, 1947, the area now known as China Lake was formally withdrawn  
26 from the public domain pursuant to Public Land Order 431 published in the  
27 December 31, 1947 Federal Register. (Exh. 944)

1           In 1981, the United States issued Public Land Order 5942 to modify  
2 Public Land Order 431, and, in so doing, confirmed that December 19, 1947 as the  
3 date of the formal withdrawal. Public Land Order 5942 restored certain lands  
4 within NAWS China Lake for limited geothermal leasing under the Geothermal  
5 Steam Act of 1970, while stating all other aspects of the 1947 withdrawal—  
6 including the reservation of land for the Navy’s exclusive use—remained fully in  
7 effect: “Public Land Order No. 431 of December 19, 1947, withdrew public lands  
8 from appropriation under the public land laws, including the mining and mineral  
9 leasing laws, for use of Navy as a naval ordnance testing center and proving  
10 range.” (Exh. 1016) In 2016, the Congressional reservation for China Lake was  
11 extended to 2064. (Exh. 434)

12  
13           In light of this chronology, the Court concludes that China Lake’s implied  
14 federal reserve water right became effective as of December 19, 1947. While it is  
15 true that the Navy commenced operations at this location four years earlier, the  
16 reserved water right dates from the formal withdrawal of the land from the public  
17 domain. As stated by the Supreme Court: “When the Federal Government  
18 withdraws its land from the public domain and reserves it for a federal purpose,  
19 the Government, by implication, reserves appurtenant water then unappropriated  
20 to the extent needed to accomplish the purpose of the reservation. In so doing,  
21 the United States acquires a reserved right in unappropriated water *which vests on*  
22 *the date of the reservation* and is superior to the rights of future appropriators.”  
23 *Cappaert v. U.S., supra*, 426 U.S. at p. 138 (emphasis added).

24  
25           The United States argues that the federal reserved water right vested  
26 when the Secretary of the Navy issued his November 8, 1943 order. It contends  
27 that the “initiation” of China Lake on that date was sufficient to support the  
28 vesting. In this regard, the Secretary of the Navy was authorized by the Second

1 War Powers Act of 1942 to acquire “any real property, temporary use thereof, or  
2 other interest therein, . . . that shall be deemed necessary for military, naval, or  
3 other war purposes.” Ex. 430 (Pub. L. No. 77-507, § 201, 56 Stat. 176, 177 (Mar.  
4 17, 1942)). This authority included the power to acquire land “by purchase,  
5 donation, or other means of transfer” and to “cause [condemnation] proceedings  
6 to be instituted in any court having jurisdiction of such proceedings.”  
7

8 Contrary to Searles’ argument (Searles post-trial brief p. 16), this  
9 Congressional authorization allowed the Secretary of the Navy to take necessary  
10 steps to withdraw land from the public domain. Nevertheless, it appears that the  
11 Navy Secretary deferred to the Secretary of the Interior in doing so. (Exh. 232) And  
12 in both 1944 and 1945, the Secretary of the Interior referred to the need for a  
13 public land order formally withdrawing China Lake from the public domain. Of  
14 course, the 1947 formal withdrawal was reconfirmed in the 1981 order.  
15

16 Notwithstanding these formalities and the language in *Cappaert*  
17 regarding vesting on “the date of the reservation,” the United States points to  
18 *United States v. Walker River Irrigation Dist.* (9<sup>th</sup> Cir. 1939) 104 F. 2d 334 in support  
19 of its argument for the earlier date. In that case President Grant’s 1874 executive  
20 order “setting aside the land” for Indian tribes was deemed a “formal sanction to  
21 an accomplished fact” since in 1859 an authorized head of an executive  
22 department had taken necessary action to reserve the land. (*Id.*, at 338.) Based on  
23 this holding, the Government argues that the same result should apply here—  
24 China Lake’s reservation should date from when it began operations in 1943 and  
25 not four years later when the public land order issued.  
26

27 There are several responses to this argument. First, as noted above, the  
28 *Walker River* court concluded that “departmental action” in 1859 was sufficient

1 even without the Presidential proclamation to establish the reservation. Nothing  
2 comparable exists in the case at hand.

3  
4 Second, cases involving Indian reservations appear to warrant somewhat  
5 different treatment than non-Indian cases. For one thing, it is well-settled that the  
6 date an Indian reservation was established requires a review of materials that  
7 don't necessarily exist for non-Indian cases: "For Indian reservations, courts look  
8 to the treaties, executive orders, and statutes that set aside reservation land for  
9 the tribe in question." (*Navajo Nation v. Department of the Interior* (9<sup>th</sup> Cir. 2017)  
10 876 F. 3d 1144, 1155.) For another, a number of the reported federal reserved  
11 water rights cases involving Indian reservations emphasize that "treaties with the  
12 Indians and statutes disposing of property for their benefit have uniformly been  
13 given a liberal interpretation favorable to the Indian wards." (*United States v.*  
14 *Walker River Irrigation Dist.*, *supra* at p. 337; *Winters v. U.S.*, *supra*, 207 U.S. at pp.  
15 576-77) While no reported case has explicitly stated that this principle warrants  
16 treating the vesting date of reserved water rights for Indian reservations  
17 differently from other federal lands, this concept arguably supports the ruling in  
18 *Winters*.

19  
20 Third, as noted above, the evidence establishes that the intent of the  
21 Interior Department in 1944 and 1945 was that a formal public land order would  
22 issue withdrawing China Lake from the public domain. Yet that order did not occur  
23 until 1947. There is no reason to ignore the intent for a formal withdrawal order as  
24 well as the formal order itself.

25  
26 Fourth, and perhaps most importantly, establishing the federal reserved  
27 water right based on the date of the public land order provides certainty for all  
28 involved. Indeed, this case is prime example of why certainty is needed. Various

1 events from 1943 through 1945 are cited by the United States as triggering the  
2 reserved water right. Yet none is conclusive. The October 31, 1943 memorandum  
3 and the November 8, 1943 order started the ball rolling, but did not clearly  
4 establish a permanent facility. The Secretary of Interior's December 31, 1943 letter  
5 and the March 23, 1944 letter were two more steps in the process, but also were  
6 not conclusive, particularly given the latter's statement "pending the issuance of a  
7 public land order." The April 3, 1945 letter reiterated this requirement.

8  
9 All of these events led to the formal public land order in 1947. One could  
10 argue that any one or combination of these events was enough to establish the  
11 reserved water right. As it is, even without this documentation, there is an  
12 argument that China Lake was withdrawn from the public domain by virtue of the  
13 work being performed and the personnel situated at this location as early as 1943.  
14 But how many personnel are enough to make it a permanent facility? How many  
15 buildings are enough. Do the buildings have to be permanent or is temporary  
16 enough?

17  
18 In the Court's view, the establishment of the reserved water right is too  
19 important to be left to a guessing game or interpretation based on the testimony  
20 of qualified historical experts like Dr. Scott Miltenberger or Dr. Douglas Littlefield.  
21 This is especially true when there is a formal public land order that had been  
22 anticipated for three plus years.

#### 23 24 **4. CHINA LAKE'S PRIMARY PURPOSE**

25  
26 All of the key historical documents point to the development and testing  
27 of weapons as the primary purpose of China Lake. The November 8, 1943 order  
28 establishing the base states: "A station, having for its primary function the

1 research, development, and testing of weapons, and having additional function of  
2 furnishing primary training in the use of such weapons is hereby established. . . .”  
3 (Exh. 207) The March 23, 1944 letter from the Secretary of Interior refers to “the  
4 establishment of a naval ordnance testing center and proving grounds.” (Exh. 942)  
5 Similar language is found in Public Land Order 431. (Exhs. 944, 1016)

6  
7 Notwithstanding this undisputed history, Ridgecrest et al contends that  
8 the primary purpose of China Lake was “both a military installation and company  
9 town.” (Ridgecrest post-trial brief p. 9) The United States argues somewhat  
10 similarly, although it characterizes housing less in terms of a primary purpose and  
11 more about the need to support the military mission: “The housing purpose thus  
12 fits within the military purposes for which the base was established.” (United  
13 States post-trial brief p, 16)

14  
15 The acknowledgement that the base was established for a “military  
16 purpose” is the more accurate characterization. While it is true that when the base  
17 was established there was no permanent on-base housing and little, if any,  
18 housing in what eventually became the City of Ridgecrest, there is no evidence  
19 that building a company town was a separate reason for withdrawal of the land  
20 from the public domain. To the contrary, it was necessary to provide housing, at  
21 first temporary and later permanent, as China Lake’s mission expanded. And to  
22 the extent that housing was built on-base, the Court agrees that water needed to  
23 support the residents living there was encompassed by the federal reserved water  
24 right. Indeed, that remains the case today for the 6% of China Lake’s workforce  
25 that still resides on the base.

26  
27 But to argue that the reason for the withdrawal was to build a town is a  
28 bridge too far. This contention conflates the reason for establishing China Lake,

1 i.e., its primary purpose, with what is needed to *support* that purpose. Moreover,  
2 the contention of Ridgecrest et al that the amount of water reserved for this town  
3 should be calculated based on the single year of highest usage (55 years ago no  
4 less) makes little sense. The fact that this amount of water may been used in the  
5 distant past does not take into account the base's more recent experience, nor  
6 does it comport with the minimal need doctrine articulated in *Cappaert* and  
7 reiterated in the *Fort Huachuca* case.

## 8

### 9 **5. HISTORY OF HOUSING, POPULATION AND WATER USAGE AT CHINA LAKE**

10

11 As things now stand, on-base housing at China Lake consists of 192 units  
12 for family housing, 192 beds for unaccompanied personnel housing, and 24 beds  
13 for "geobachelor" housing for service members living apart from their families.  
14 (Exh. 93, p. 9) Sixteen additional family units have been approved for future  
15 construction utilizing a public-private joint venture (i.e., no capital outlay from the  
16 Navy). (*Id.*) It is estimated that 94% of China Lake's workforce live off the base.  
17 (Exh. 500, p.22) This is in sharp contrast to the early years of China Lake when, by  
18 1954, there were over 3400 housing units at the base, including 2227 residences,  
19 946 dormitory/barrack spaces, and 249 trailers. (Exh. 500, pp. 14-15) As of 1972  
20 there were 2916 on-base family units. (*Id.* p. 39; Exh. 2, p. 6)

21

22 By the 1970s the Navy had decided to abandon the "company-town"  
23 model and substantially reduce on-base housing. The transition from a large on-  
24 base population to mostly off-base housing is described in detail in the report of  
25 historian Dr. Miltenberger. (Exh. 424, pp. 78-83) That decision led to the  
26 demolition of most of the houses (Exh. 2, p. 12); by 1980, on-base houses had  
27 fallen below 1500, by 1990 the number was 818, and by 2004 there were less than  
28 200 residences. (Exh. 500, p. 15) Today on-base housing is limited to military

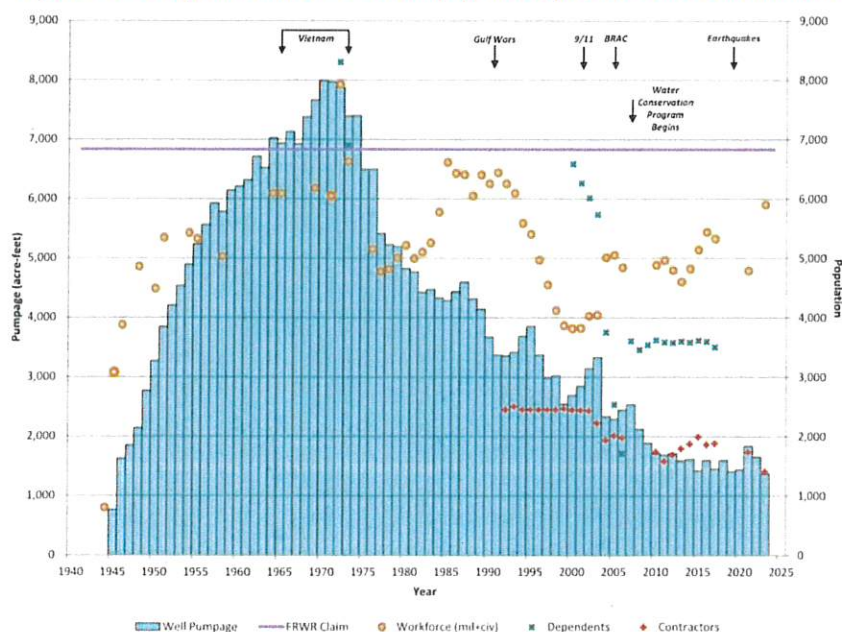
1 personnel with the vastly larger civilian workforce (estimated to be in excess of a  
2 10:1 ratio) living off-base, mostly in and around the City of Ridgecrest.

3  
4 The elimination of most on-base housing mirrors, to a certain extent, the  
5 reduction of personnel at China Lake. At its Cold-War height in 1991, the Base  
6 supported 23,406 personnel, including 1,008 military personnel and over 22,000  
7 civilians, contractors and their dependents. By 2000, the overall number was  
8 12,837, and by 2017 the total was 10,859. (Exh. 2, pp. 21-24)

9  
10 With the reduction of both on-base housing and the number of personnel  
11 working at China Lake, water usage also has been reduced. From a level of nearly  
12 8000 AFY in 1970, the base has dramatically reduced Basin groundwater usage and  
13 has averaged 1536 AFY for the 10 year period of 2014-2023, with 1367 AFY used in  
14 2023. (Exh. 500, p. 13) The progression of this reduction is illustrated by the graph  
15 found in Exh. 500, p. 44:

16  
17 *Quantification of Water Use Elements Comprising the Federal Reserved Water Rights Claim for Naval Air Weapons Station China Lake, California*

18 **Figure 3-1. Changes in China Lake Well Pumpage and Populations since Establishment**



1 The most recent 10-year average is reflected in the following chart covering  
2 the last 14 years:

3  
4

<b>Annual Extraction Totals from Production Wells (Acre-feet)</b>						
<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>
1685	1708	1588	1607	1421	1594	1450
<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
1596	1407	1436	1830	1651	1367	1380

5  
6  
7  
8

9 The 2014-2023 average is skewed somewhat by 1830 AFY and 1651 AFY in  
10 2021 and 2022 respectively. Those higher usage years were the result of a  
11 rebuilding project stemming from substantial damage caused by a 2019  
12 earthquake. In addition, this 10-year average includes water allocated to the off-  
13 base management of horses and burros, a category of water usage that is not part  
14 of China Lake's federal reserved water right.

15  
16 To be clear, however, the reduction in water usage is not simply the  
17 product of a lower base population. Rather, water conservation efforts have also  
18 played a role. In 1989 China Lake implemented a water conservation policy due to  
19 a concern with overdraft conditions in the Basin. (Exh. 91) That policy mandated a  
20 number of steps to reduce water usage, including replacing existing landscape,  
21 limiting lawn watering, installing low flow devices and water meters, and recycling  
22 water. In 2009, the Department of Defense issued a directive entitled Installation  
23 Energy Management which included a specific water conservation component.  
24 (Exh. 81, p. 20) Also addressing water conservation were the DOD's Unified  
25 Facilities Criteria (UFC) initially issued in 2009 and updated in 2020 and 2022.  
26 (Exhs. 84-86)

1           **6. MORALE, WELFARE AND RECREATION (MWR) AND OTHER WATER USES**

2  
3           China Lake, like all Navy bases, provides various non-work facilities for  
4 base residents to ensure they are best positioned to perform their jobs at a top  
5 level. Indeed, MWR programs are required by the Department of Defense at all  
6 bases. (Exh. 306) As explained by China Lake’s Commanding Officer, Captain  
7 Warren Van Allen, MWR programs, by addressing the “whole sailor,” are designed  
8 to enhance sailor wellness. As stated in a 2009 DOD publication: “Military MWR  
9 programs . . . [p]romote esprit de corps and provide for the physical, cultural and  
10 social needs; general well-being; [and] quality of life.” (Exh. 65, p. 2) This is  
11 particularly true at a remote base in the Mojave Desert where there is a nine-hole  
12 golf course, a bowling alley, a swimming pool, and dining facilities.

13  
14           The total amount of water currently used by these facilities include 325  
15 AFY for the golf course, 18.5 AFY for the pool and 8.3 AFY for the dining locations.  
16 (Exh. 93) Since 1972, the golf course has been irrigated using treated wastewater  
17 supplied by the City of Ridgecrest. That water supply continues pursuant to a 50-  
18 year easement signed in 2020. (Exhs. 438, p. 22; Exh. 291) This easement complies  
19 with the DOD’s policy requiring that golf courses “use alternative water in lieu of  
20 potable water if sources are available.” (Exh. 83) There is no evidence that this  
21 treated wastewater will not continue to be available for the entire term of the  
22 easement.

23  
24           Treated wastewater is also used to supply water to the Mohave Tui  
25 Chub, a fish listed as endangered under both federal and state law and present at  
26 China Lake in what is known as the Lark Seep System. (Exhs. 438, p. 22; 312)  
27 Pursuant to another agreement with the City of Ridgecrest, up to 200 AFY of this  
28 treated water is set aside for percolation into the groundwater through the Lark

1 Seep system. (*Id.* p. 23)

2  
3 According to the Navy, other water uses at China Lake include 75.5 AFY  
4 for the Sierra Sands Unified School District facilities on the base, and up to 20 AFY  
5 for the water needs of horses and burros kept at a Bureau of Land Management  
6 (BLM) corral. (Exh. 93) Even though the BLM facility for managing the horses and  
7 burros is not on base property (Exh. 49, p. 9), the Navy provides water to the  
8 facility pursuant to a Wild Horse and Burro Management Plan with the BLM in  
9 2022. (Exh. 292)

## 10 11 **7. QUANTIFICATION OF THE NAVY'S FEDERAL RESERVED WATER RIGHTS**

### 12 13 **A. Date of Quantification**

14  
15 There is no dispute that there exists a federal reserved water right at  
16 China Lake. The land for the base was withdrawn from the public domain for the  
17 purpose of establishing a research, development and testing facility for military  
18 weapons. With that withdrawal came the implied right to use an amount of water  
19 necessary to serve the primary purpose of the military base.

20  
21 What remains in dispute is how and when to quantify that amount.  
22 Although it does not say so directly, several statements in the United States' post-  
23 trial brief suggest that quantification is determined as of the date the base was  
24 established. For example, page 10 of the brief states: "Because a federal reserved  
25 water right "vests" on the date the land is set aside for a particular purpose,  
26 *Cappaert*, 426 U.S. at 138, the volume of the right is based on what the  
27 government needed, and thus impliedly reserved, to accomplish its purpose  
28 looking forward from that date."

1           To the extent that United States claims that the implied right to water  
2 *vested* on the date the base was established (1947 in the Court’s view), it is  
3 correct. But to the extent the position of the Government and Ridgecrest et al is  
4 that quantification must be based on the amount of water needed at the origin of  
5 the base or anticipated to be needed at that time, the Court disagrees.

6  
7           For one thing, it would have been impossible for the United States to  
8 know in 1947 what weapons would be needed in the future, what technological  
9 advances affecting water usage would occur, how housing needs would be  
10 handled, and a host other important pieces of information. Put another way,  
11 determining quantification based on potential future water usage at a time when  
12 water usage was less than 2000 AFY would have required something that plainly  
13 didn’t exist—a crystal ball.

14  
15           Notwithstanding the lack of such a device, the United States argues that  
16 “the government’s [water] needs are evaluated at the time it reserved the land.”  
17 (U.S. post-trial brief p. 16) Curiously, if the United States is correct in its contention  
18 that the volume of water reserved is measured from the date the installation was  
19 established (*Id.* p. 19), then that would mean no water was reserved for needs  
20 that didn’t exist in the 1940s—e.g., the Mohave Tui Chub and the golf course—that  
21 the U.S. now contends are part of the reserved water right. (*Id.* p. 31) Likewise,  
22 how could anyone know in 1947 that there would be a Vietnam War, what  
23 weapons would be developed and tested at China Lake, or how many houses  
24 would be built?

25  
26           The relatively few reported decisions dealing with the quantification issue  
27 focus on a reservation’s water needs going forward instead of what the precise  
28 needs were when the land was removed from the public domain. For example, in

1 *United States v. Walker River Irrigation Dist. supra*, the court was faced with the  
2 question of quantifying the amount of reserved water for an Indian Reservation  
3 established in 1859. Rather than basing a ruling solely on the amount of irrigable  
4 acreage that existed on this date, the court approved a report summarizing how  
5 much water had been used since inception and concluded that the appropriate  
6 calculation was “demonstrated by seventy years of experience.” (104 F. 2d at 340.)  
7

8 In *Colville Confederated Tribes v. Walton* (9<sup>th</sup> Cir. 1981) 647 F. 2d 42, the  
9 court applied a similar analysis. There, the purpose of the Indian Reservation that  
10 was created in 1872 was to create a homeland that relied on agriculture and  
11 fishing (primarily salmon and trout) to support the tribe. Because salmon runs had  
12 been destroyed in the 1900s by dams on the Columbia River, a fishery stocked  
13 with non-indigenous trout was established in 1968. Although that fishery was  
14 created nearly 100 years after the reservation’s establishment, and undoubtedly  
15 was not contemplated in 1872, the court held that the reserved water right  
16 included sufficient water to maintain the fishery. (*Id.* at 48.)  
17

18 These and a handful of other cases support the notion that actual water  
19 usage should be considered when determining quantification. While the United  
20 States appears to acknowledge this principle at page 13 of its post-trial brief, its  
21 continued reliance on outdated historical data for China Lake can fairly be  
22 characterized as myopic. Instead of considering the more relevant recent history  
23 of the base, the Government points to the “company town” that was built in the  
24 1950s and 1960s and asserts that quantification should be based on the possibility  
25 that the town will be rebuilt and water usage will revert to Vietnam War levels of  
26 more than 50 years ago.  
27

28 The problem with this approach is that it ignores the evidence presented

1 at trial. The housing that existed in the 1970s has largely been demolished, the  
2 Navy has formalized a policy that civilian personnel should live off-base, and there  
3 are no plans to increase on-base housing beyond the 16 houses that have been  
4 approved. China Lake has continued its mission without interruption by using an  
5 average of 1536 AFY for over 10 years, and there is no indication that this amount  
6 (along with the 108 AFY from non-potable wells for test and target areas and  
7 wildland firefighting) is inadequate. And while the United States has presented  
8 credible evidence that additional programs *might* be assigned to China Lake at  
9 some unknown point in the future (discussed below), that possibility does not also  
10 support the notion that the Navy suddenly will reverse course and house  
11 thousands of civilian employees on the base.

#### 12 13 **B. Future Water Needs**

14  
15 Much of the testimony in this trial focused on the Navy's potential future  
16 water needs. In *Arizona v. California, supra* at 601, the Supreme Court ruled that a  
17 reservation of water rights must be sufficient to meet the "future requirements"  
18 for accomplishing the purpose of the reservation. Significantly, future water needs  
19 must be tethered to the primary purpose of the reservation.

20  
21 Not surprisingly, many of the leading cases discussing future water use  
22 involve Indian reservations, forest reserves, national parks and national  
23 monuments. The Court is unaware of any appellate decisions that focus in detail  
24 on military installations. Indeed, of all the cases cited by the parties, the only one  
25 providing a thorough analysis and involving a comparable situation to the present  
26 case is *Fort Huachuca*. There, the trial court considered the reserved water right  
27 for a 73,000-acre Army base in southeastern Arizona. Among other things, the  
28 Army argued that the calculation of its water right should take into account the

1 possibility of an increase in base population from about 14,000 to nearly 64,000  
2 for a “total mobilization” in the event of a calamitous occurrence such as a war.

3  
4 In analyzing this issue, the *Fort Huachuca* court concluded that a  
5 potential future event can be a basis for quantification of a reserved water right if  
6 (1) it is “likely that a future use will occur,” and (2) the proposed use “will be a  
7 long-term use.” *Fort Huachuca* at p. 48. In other words, the federal reserved water  
8 right “must be based on a reasonably probable long-term use.” *Id.* at p. 49.

9  
10 The Court agrees that this standard makes sense as applied to a military  
11 installation. Unlike agricultural land or a national forest where the amount of  
12 water needed to support the basic purpose of the reservation is not likely to  
13 dramatically change, a military base’s water needs will fluctuate depending on a  
14 multitude of factors—new technology, budgetary concerns, base closings, military  
15 policies, the cost of housing, international relations and politics top the list. These  
16 and other factors are difficult to predict.

17  
18 More significantly, the time frame in which the reserved water right is  
19 adjudicated is critical. Thus, if quantification of China Lake’s reserved right was  
20 determined in the 1940s during World War II, then that right likely would have  
21 taken into account the ongoing war effort, the need for new weapons, the ever-  
22 increasing size of the base and the lack of a viable off-base housing alternative  
23 such as exists today in the City of Ridgecrest. Any determination at that time could  
24 not have contemplated base closings and consolidations that happened many  
25 decades later, nor could it account for the many water-conservation methods that  
26 have developed over the years.

27  
28 Likewise, if the reserved water right had been adjudicated in 1969 at the

1 height of the Vietnam War (Exh. 952), then the water use (nearly 8000-acre feet  
2 per year), the base's total population (nearly 20,000) and the available on-base  
3 housing (3800+ residences/dorm spaces) undoubtedly would have dictated a  
4 different result from today. However, because this proceeding is occurring 50+  
5 years after Vietnam and 80+ years after World War II, the previous historical use is  
6 of little value given the many significant changes that have occurred since those  
7 wars ended.

8  
9 In short, in determining China Lake's reserved water right, the Court  
10 starts with current water usage as a baseline, taking into account fluctuations that  
11 have occurred in the relevant past. And while the Court agrees that potential  
12 future expansion of China Lake's mission should be taken into account in  
13 calculating that water right, that expansion must meet the "reasonably likely to  
14 occur" criterion. Although that standard admittedly does not equate with an  
15 exacting scientific formula, it is sufficient for analyzing the evidence in this case.

16  
17 In its objections to the PSOD, the United States argues that the "reasonably  
18 likely to occur" standard is "unworkable" since it is based only on what is known  
19 today and fails to account for future national defense needs. (U.S. Objs. pp. 9-10)  
20 This argument is somewhat baffling in that much of the Government's evidence  
21 consisted of testimony regarding "reasonably foreseeable future programs." (Exh.  
22 93, pp. 5, 8, 9, 10) Despite the Court's crediting this evidence, the United States  
23 asserts that "The Proposed Decision does not explain why a standard dependent  
24 upon the subjective knowledge of government officials on the date of a water  
25 rights adjudication should be determinative of what the government's future  
26 water needs will be." (U.S. Objs. p. 10)

27  
28 Yet, it is that subjective knowledge, i.e., the testimony of Captain Van Allen and

1 Admirals Rosen and Hash, that was presented in support of the Navy's claim based  
2 on water needs related to possible future programs. If "reasonably likely to occur"  
3 or "reasonably foreseeable future programs" are not appropriate criteria in  
4 quantifying reserved water rights, then what are? The United States doesn't say.  
5 Nor does it explain how quantification can occur if it is supposed to include  
6 unknown events that *might* occur in the future. Indeed, it appears that the  
7 Government's position is that anything having to do with weapons development  
8 and testing in the future is covered by the reserved water right, effectively  
9 precluding any attempt to quantify those rights as of any given date.

10  
11 **8. MINIMUM AMOUNT OF WATER NECESSARY TO ACCOMPLISH THE**  
12 **PRIMARY PURPOSE OF CHINA LAKE UNDER CURRENT CONDITIONS**

13  
14 The amount of water used for existing programs and personnel is largely  
15 undisputed. What remains in dispute is (1) how much of that existing use qualifies  
16 for federal reserved water right protection, and (2) perhaps more importantly,  
17 how much additional water will be needed to fulfill China Lake's primary purpose  
18 in the future given the lack of a clear plan as to how the base will be used and  
19 function in the coming years.

20  
21 While the concept of weapon development and testing as a primary  
22 purpose of the base is easy enough to understand, quantification of water needs  
23 for this purpose is anything but simple. As noted above, the analysis today is  
24 undoubtedly different than it would have been 78 years ago when the base was  
25 formally established, and also quite different from 50+ years ago during the  
26 Vietnam War. Those earlier eras required far more manpower than today and  
27 were guided by military planning, technology and thinking developed in World  
28 War II and Vietnam. It also was before the growth of the City of Ridgecrest and

1 when few alternatives for off-base housing existed. While the AFY needed in  
2 earlier years provides perspective on how China Lake has changed, there simply is  
3 no basis to rely on water usage in 1970 (about 8000 AFY) when considering  
4 current and future needs. Among other things, the radical change in housing at  
5 China Lake—i.e., demolition of most on-base housing—dramatically alters the  
6 analysis.

7  
8 As of today, China Lake is able to accomplish its primary purpose using  
9 1536 AFY based on a relevant 10-year average. And while it is true that in two of  
10 the non-earthquake years, the AFY was slightly higher (1594 AFY in 2016 and 1596  
11 AFY in 2018), the average over the last four non-earthquake years is 1398 AFY,  
12 demonstrating a declining trend. On top of the 1536 AFY longer term average, the  
13 Navy claims 108 AFY needed for wildland firefighting and certain test and target  
14 area support. (Exh. 93, p. 6) This part of the reserved right claim is not the subject  
15 of any contrary argument. To be clear, there is no evidence that the total of 1644  
16 AFY is not sufficient to cover China Lake's current needs under present conditions.  
17 Of course, included in this amount is 20 AFY for the non-primary purpose of off  
18 base management of burros and horses.

19  
20 Put another way, because China Lake is able to fulfill its mission using  
21 1624 AFY and has been able do so consistently over at least the last 10 years, the  
22 Court concludes that this amount of water is the minimum currently needed to  
23 accomplish its primary purpose. In reaching this conclusion, several observations  
24 are in order.

25  
26 First, water necessary to support MWR programs is part of the federal  
27 reserved water right since the evidence establishes that these programs are  
28 needed for Navy personnel to perform at a high level. Such performance is integral

1 to China Lake fulfilling its primary purpose of weapon development and testing.  
2 (*See, e.g., Fort Huachuca, supra* pp. 9-18) That being said, because the 325 AFY  
3 needed for golf course irrigation comes from treated wastewater provided by the  
4 Ridgecrest and not from groundwater, and since there is nothing to suggest that  
5 this source won't be available for the full 50-year agreement with Ridgecrest, it is  
6 not included in the reserved water right calculation. Notably, this ruling is  
7 consistent with the position the United States took in the Fort Huachuca case  
8 where the golf course also was irrigated with treated wastewater. (*Fort Huachuca,*  
9 *supra*, at p. 22.)

10  
11 Second, the same is true with respect to the 200 AFY needed to support  
12 the Tui Chub. The availability of treated wastewater for this purpose supports the  
13 conclusion that it need not be included in the reserved water right. More to the  
14 point, ensuring the protection of this endangered species, while worthwhile and  
15 subject to monitoring by the Department of the Interior (Exh. 312), is not essential  
16 to the Navy's primary purpose of weapon development and testing.

17  
18 Third, the 20 AFY dedicated to the BLM's off-base management of burros  
19 and horses (Exh. 93, pp. 14, 28) also is not necessary to the primary purpose of the  
20 Navy's mission at China Lake. Among other things, water for purposes outside the  
21 reservation is not encompassed by the federal reserved water right doctrine.  
22 (*Agua Caliente Band of Cahuilla Indians v. Coachella Valley Water District, supra*, p.  
23 1268.) The United States' assertion in its objections to the PSOD (U.S. Objs. p. 11)  
24 that 5 AFY of the water supplied to the BLM is needed for future use at the Salt  
25 Wells Fire Station is not supported by any evidence offered at trial and is  
26 contradicted by Exh. 93, p. 28.

27  
28 Fourth, along the same lines, the Court rejects Ridgecrest's argument

1 that China Lake's reserved water right should include water used by base  
2 personnel living in that City. While water used by personnel while working on base  
3 is included in the reserved right, there is no authority for adding off-base water  
4 usage to this calculation.

5  
6 Fifth, the Navy used a 1633 AFY figure (slightly reduced from 1644 AFY)  
7 plus a 25% "growth contingency" when it submitted information to the Indian  
8 Wells Valley Groundwater Authority in connection with the Authority's adoption  
9 of a groundwater sustainability plan in 2020. (Exh. 2) According to the Navy, this  
10 figure—2041 AFY—reflected its "Baseline pumping through 2070" (Exh. 17).  
11 Although the Navy qualified this figure by stating that it did not necessarily reflect  
12 its federal reserved water right, it is evidence of stated basic water needs  
13 predating this litigation.

14  
15 Sixth, Meadowbrook and Searles' Joint Request for Clarification seeks to  
16 exclude from the reserved water right approximately 3 AFY of water (Exh. 548, pp.  
17 3-4) that is trucked from China Lake's North Range to the adjoining South Range.  
18 The basis of this request is threefold—the South Range was withdrawn from the  
19 public domain separately from the North Range where almost all of the water that  
20 is subject of this proceeding is used; there is no basis for including water trucked  
21 off the North Range in the reserved water right; and only the North Range overlies  
22 the Basin that is the subject of the ongoing comprehensive groundwater  
23 adjudication.

24  
25 The request is denied. Although the South Range was withdrawn separately  
26 from the North Range, it is where certain weapons developed at NOTS are tested.  
27 Because water trucked from the North Range is used to supply drinking water to  
28 the personnel involved in the testing at this location, it helps to fulfill China Lake's

1 primary military purpose. Indeed, this water is included in Meadowbrook expert's  
2 calculation of current and future water use (Exh. 548, p. 12) and in the annual  
3 pumping summary set forth above. Meadowbrook and Searles cite no authority  
4 supporting their arguments regarding the place of use for a federal reserved water  
5 right in this particular circumstance, nor do they point to any authority limiting a  
6 federal reserved right to groundwater that underlies a reservation.

## 7 8 **9. FUTURE WATER NEEDS**

9  
10 Much of the trial testimony and written evidence focused on potential  
11 future weapons development and testing that might be assigned to China Lake. In  
12 considering this evidence, the Court analyzes whether it is reasonably likely that  
13 this future use will occur and how much water will be needed to fulfill this need.  
14 Among other things, a critical issue is whether there is sufficient reliable evidence  
15 supporting the Navy's contention that this potential additional work will lead to a  
16 substantial increase in on-base housing.

17  
18 The Navy's position, as articulated by expert Michael Bizon, Chief  
19 Engineer Matt Boggs and in the Third Amended Initial Disclosures (Exh. 93), is that  
20 the additional amount of water required by 8 potential new programs assigned to  
21 China Lake is 215 AFY, that 5427 additional personnel will be needed to support  
22 these new programs, that 80% of the new personnel would live on base, that on-  
23 base personnel would have an average of 2.6 dependents, and that the total water  
24 needs of personnel both living on and off the base will be 4103 AFY. Also included  
25 in the estimate of future water needs is 380 AFY for future construction, 325 AFY  
26 for golf course irrigation and 200 AFY for endangered species, i.e., the Tui Chub.

27  
28 An opposing view was presented by Meadowbrook expert witness Rich

1 Burtell. He accepts the projected additional 215 AFY for future programs but  
2 contends that the water usage associated with these programs is 169 AFY based  
3 on up to 5667 additional personnel, with 10% living on base. He asserts that 1.0 is  
4 a more reasonable number of assumed dependents, and that the amount of water  
5 used each day by both on-base personnel and off-base residents is lower than the  
6 Navy's estimates. Excluded from his calculation is water designated for future  
7 construction, golf course irrigation and water for endangered species. (Exhs. 500,  
8 548)

9  
10 **A. Potential Future New Programs Assigned to China Lake**

11  
12 The United States' Third Amended Initial Disclosures (Exh. 93) identify 8  
13 programs which "would be feasible to be developed on the North Range of China  
14 Lake." Those programs are the basis of the Navy's estimates of future water needs  
15 even though it is acknowledged that "they are examples of hypothetical plausible  
16 future scenarios for mission growth at China Lake and are not currently planned or  
17 programmed actions." (*Id.* p. 16)

18  
19 As things now stand, there are no plans to assign these or any other  
20 additional programs to China Lake. Significantly, all three Navy officials testifying  
21 at trial acknowledged this status. Captain Van Allen testified he was unaware of  
22 future mission growth plans, and that there was no program in the process of  
23 being relocated to the base. Rear Admiral Brad Rosen confirmed that no new  
24 particular program or project has been assigned to China Lake, though he was  
25 confident additional programs would be assigned in the future. He acknowledged  
26 that while previous base closures pursuant to Congress's initiation of a process  
27 known as Base Relocation and Closure (BRAC) resulted in consolidation of  
28 programs at China Lake in the past, he "cannot predict whether Congress will

1 initiate another round of BRAC.” (Exh. 53, p. 7) Indeed, he stated that he was  
2 unable to assign a percentage as to the likelihood of growth actually occurring  
3 given the uncertainty of the budget process. Rear Admiral Keith Hash testified  
4 similarly. While acknowledging that no substantial growth is forecasted to occur at  
5 China Lake in the next 4 to 5 years, he approved the assumptions of future growth  
6 set forth in in the United States’ Third Amended Initial Disclosures. (Exh. 93)  
7

8           Given this undisputed testimony, Searles and Meadowbrook argue that  
9 to base the reserved water right on the possibility of future programs is nothing  
10 more than speculation. According to Searles, this means that the anything more  
11 than the 10-year average of 1644 AFY (1536 AFY for all base uses plus 108 AFY for  
12 firefighting, etc.) cannot be included in the reserved water right. Meadowbrook  
13 argues similarly, though it acknowledges via its expert that an increase to about  
14 2000 AFY is plausible.  
15

16           As noted above, the fact that China Lake’s purpose involves  
17 development and testing of weapons puts it on different footing than most other  
18 federal reservations. Unlike Indian reservations, national forests and national  
19 monuments where the amount of water needed to support the reservation’s  
20 primary purpose is relatively stable and focuses on things such as irrigable  
21 acreage, supplies of timber and fish survival, a military base is different. This is  
22 particularly true when it comes to China Lake where, given the pace of technology,  
23 the ever-changing nature of warfare, and the unpredictability of political issues,  
24 it’s virtually impossible to predict what the future will bring.  
25

26           In this sense, all parties are forced to speculate to a certain extent. The  
27 Navy and Ridgecrest et al speculate about programs that might come to China  
28 Lake, while Searles and Meadowbrook (albeit to a lesser extent) essentially

1 speculate that the volume of work will remain the same.

2  
3 In the Court's view, a number of factors support the notion that there is  
4 a reasonable likelihood that additional future programs will come to China Lake.  
5 The declarations and testimony of Captain Van Allen and Admirals Hash and Rosen  
6 emphasize the unique qualities of the base—its size, its remote location, varied  
7 terrain, 330 days of clear weather per year, over 500 facilities designated as  
8 laboratories, and the variety of programs it supports. Although it is not clear what  
9 new programs will be assigned to the base and when any such assignments will  
10 occur, the fact that China Lake was evaluated for the 8 programs listed in the Third  
11 Amended Initial Disclosures demonstrate its importance. Likewise, Congress'  
12 recent allocation of \$4 billion for earthquake-related repairs, along with the  
13 decision in 2017 to extend China Lake's public land withdrawal to 2064, tend to  
14 support the Navy's position on increased future programs.

15  
16 **B. It is Not Reasonably Likely that There Will Be an Increase in On-Base**  
17 **Housing**

18  
19 While any attempt to predict what might happen in coming years is, by  
20 definition, speculative, the Court is comfortable with concluding that there is a  
21 reasonable likelihood that future weapons programs will come to China Lake  
22 because of the above-listed factors. In this sense, the Court is giving the Navy the  
23 benefit of the doubt given the overriding importance of its mission.

24  
25 But the same is not true when it comes to the likelihood of increasing  
26 the amount of personnel living on the base in future years. Indeed, not only does  
27 the evidence strongly suggest this will not occur, but it amounts to a second layer  
28 of speculation on top of the layer regarding future programs. While the Court can

1 live with that first layer, the second layer goes too far.  
2

3 In contrast to testimony regarding the possibility of future weapons  
4 programs being assigned to China Lake, there was no evidence suggesting that  
5 additional housing beyond the 16 houses currently on the drawing board will be  
6 built, or that the Navy somehow will reverse course on a decades-long process of  
7 eliminating on-base housing for non-military personnel. To their credit, none of  
8 the testifying Navy officers suggested that such a change in direction is even in the  
9 discussion stage.  
10

11 Yet despite this testimony, Navy expert witness Michael Bizon  
12 hypothesized that at some point in the future 80% of China Lake's personnel and  
13 their dependents would eventually live on the base. (Exh. 438, p. 26) In support of  
14 this statement and others, Bizon's expert report relied on "staffing and programs  
15 personnel numbers . . . supplied by Naval Command." (*Id.* p. 24) When asked at  
16 trial who or what he meant by "Naval Command," he acknowledged that he did  
17 not know. Indeed, neither did Captain Van Allen nor Admirals Rosen and Hash. As  
18 it turned out, this assumption was developed by civilian employee Matt Boggs  
19 "through coordination with counsel." If nothing else, this admission highlights the  
20 lack of credible evidence on the future housing issue.  
21

22 Given this lack of evidence, the Court concludes that it is not reasonably  
23 likely that on-base housing levels will materially increase, or that they will increase  
24 to Vietnam War-era levels. While the Court recognizes that any increase in future  
25 programs likely will require additional personnel (see discussion below), the  
26 quantification of the reserved water right will not assume that the percentage of  
27 military and civilian personnel living on the base will materially change.  
28

1           **C. Quantification of Federal Reserved Water Right Considering the**  
2           **Reasonable Likelihood that New Programs Will Be Assigned to China Lake**  
3

4           In light of the above discussion of potential future programs and the fact  
5 that an increase in on-base housing is unlikely, the Court rejects the Navy's  
6 proposed figure of 6,783 AFY for its reserved water right. Instead, it finds that the  
7 2,028 AFY calculated by Meadowbrook is a more appropriate calculation  
8 considering all of the evidence, although that figure must be reduced by 20 AFY  
9 since it includes water for the non-primary purpose of off reservation animal  
10 management. The 2,028 figure consists of the existing baseline amount of 1644  
11 AFY, plus 215 AFY for projected new programs and 169 AFY for additional  
12 personnel associated with those programs.  
13

14           For the reasons set forth above, the 380 AFY allocated by the Navy for  
15 future construction is not supported by the evidence. While it is true that there is  
16 ongoing base construction, the water usage for such construction is baked into the  
17 10-year average of 1536 AFY. Significantly, that usage includes higher amounts in  
18 2021 and 2022 occasioned by extensive construction following the 2019  
19 earthquake. To the extent that another singular event occurs in future years, the  
20 water usage associated with that event is properly characterized as a temporary  
21 need that is not part of the permanent federal reserved right.  
22

23           Likewise, the 325 AFY allocated by the Navy for future golf course  
24 irrigation, as well as 200 AFY for the Tui Chub, are not part of the reserved water  
25 right. As set forth above, the water for both of these needs is supplied by the City  
26 of Ridgecrest with treated wastewater pursuant to a 50-year agreement.  
27

28           As to the 215 AFY for potential future programs, the Court finds this

1 amount to be a reasonable estimate for calculating the federal reserved water  
2 right. As noted above, assumptions about both future programs and the amount  
3 of water needed for them are by definition speculative. Nevertheless, given the  
4 importance of China Lake's mission and its unique qualities, as well as the lack of  
5 argument as to the specific amounts of water associated with these potential new  
6 programs, the Court accepts this figure as reasonable.

7  
8 The amount of water needed to support the personnel required for  
9 these new programs is not as clear. In terms of the number of additional  
10 personnel needed, the Navy estimate of 5427 is slightly lower than Burtell's  
11 estimate of 5667. With respect to the number of new personnel who would live on  
12 Base, the Court accepts Burtell's 10% figure—an amount 4% higher than current  
13 personnel housed at China Lake. As to the new on-Base personnel, the Court  
14 concludes that Burtell's assumption of 1.0 dependent each makes sense in light of  
15 the current data supporting a figure of .72 per personnel.

16  
17 What is less clear is the amount of water used on a daily basis by these  
18 personnel groups. Note that although there are water meters at various locations  
19 at China Lake, they were not used by either the Navy or the various experts to  
20 calculate usage. Also, the Court places little weight on Navy expert Bizon's reliance  
21 on the DOD's 2020 Unified Facilities Criteria (UFC) for calculating daily usage rates.  
22 Those criteria are design standards for water treatment facilities on military bases.  
23 While they include flow requirements for base personnel, they do not establish  
24 actual use requirements for any particular facility.

25  
26 More to the point, both experts' suggested use numbers are essentially  
27 educated guesses. To the extent the Court chooses one expert's number over  
28 another, it is not concluding that the underlying evidence clearly dictates a

1 particular result. Rather, it reflects the Court's best effort to realistically analyze  
2 the somewhat limited information supplied by each side.

3  
4 As to actual water usage, Bizon relies on the District's 2022 calculation of  
5 118.8 gallons per capita per day (GPCD) for its users. This figure is not a  
6 particularly accurate comparator since approximately 92% of Ridgecrest's housing  
7 and 24% of Kern County's housing was built more than 25 years ago (Exh. 115, p.  
8 54). There is no data whether any of this older housing incorporates the water  
9 conservation requirements found at China Lake. By the same token, Burtell's  
10 reliance on water usage at the nearby Army base at Fort Irwin (89 GPCD) is also  
11 not a particularly accurate comparator. Among other things, Fort Irwin houses  
12 much of its population in barracks and its soldiers spend much of their time in the  
13 field.

14  
15 Burtell offers two other possible comparators—100 GPCD based on  
16 projected usage at Fort Bliss and 104.25 for the District based on a revised  
17 conservative population estimate of 31,000 for Ridgecrest. (Burtell Demonstrative,  
18 p. 5) Bearing in mind that all of these daily use amounts are estimates and not  
19 exact comparators, the Court adopts the 104.25 GPCD as a reasonable figure.

20  
21 For China Lake personnel living off base but working on base, the Navy  
22 contends that a daily usage amount of 30 GPCD for 261 days annually should be  
23 applied. This figure comes from a federal Office of Personnel Management  
24 document. Bizon's supplemental report (actually, a response to Burtell's opinions)  
25 acknowledges that "future planning data and daily water demand is not  
26 quantifiable for the types of specific industrial activities within NAWSCL [China  
27 Lake]." (Exh. 439, p. 6) Neither Bizon nor any of the Navy's other witnesses  
28 provided any evidence of actual daily water use at China Lake.

1 Burtell disputed Bizon's usage rate on two fronts. First, he notes that 261  
2 days of annual water use assumes an individual will work 5 days per week, 52  
3 weeks per year. By not including holidays and vacations of at least 20 days, Bizon  
4 has inflated water usage. Second, Burtell points to studies of daily water usage  
5 rates in office settings (Exh. 500, p. 40) and uses the EPA's 13 GPCD measurement.  
6 While this figure also is not supported by specific evidence regarding water usage  
7 at China Lake, the Court finds it more reasonable than relying on a 2012 planning  
8 document that does not appear to take into account the various water  
9 conservation measures in place at the base.

10  
11 Adding both on and off base water usage, Burtell concludes that  
12 additional personnel associated with potential new programs will result in annual  
13 usage of 169 AFY. Meadowbrook asserts that this is a conservative amount given  
14 that it is based on several assumptions that favor the Navy, including (1) using 10%  
15 as the number of personnel living on base even though the current actual number  
16 is closer to 6%, (2) using 1.0 as a the assumed number of dependents even though  
17 the current actual figure is .72, and (3) assuming personnel living off base will work  
18 261 days per year even though a more realistic number is 241 days.

19  
20 Bizon does not calculate a number based on the assumptions discussed  
21 in the above paragraphs. However, to the extent that the Navy contends that  
22 those assumptions translate into an amount somewhat greater than 169 AFY, the  
23 Court believes that the above-described conservative approach compensates for  
24 any overage.

25  
26 **10. REQUEST FOR CERTIFICATION PURSUANT TO CCP § 166.1**

27  
28 The United States' request that the Court certify the case pursuant to CCP §

1 166.1 is denied. While there is no dispute that the issues decided in this trial are  
2 important and that there are few, if any, applicable California appellate decisions,  
3 the United States does not identify a “controlling question of law” as required by  
4 the statute.

5  
6 **11. CONCLUSION**

7  
8 The Court concludes that the Navy’s federal reserved water right for  
9 China Lake is 2008 AFY. This amount is calculated by adding the following  
10 amounts: (1) 1516 AFY based on the recent 10-year average annual water usage of  
11 1536 AFY minus 20 AFY used off reservation for animal management (burros and  
12 horses); (2) 108 AFY for test and target area plus wildfire management; (3) 215  
13 AFY for potential future weapons programs; and (4) 169 AFY for additional  
14 personnel associated with those potential new programs.

15  
16  
17 Dated: September 15, 2025



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19 William Claster, Superior Court Judge  
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