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Newberry Springs Recreational Lakes Association

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF RIVERSIDE

RIVERSIDE HISTORIC COURTHOUSE

Coordination Proceeding Special Title (Cal. Rules of Court, Rule 3.550) MOJAVE BASIN WATER CASES	JCCP No. 5265 Case No. CIV 208568 Judge: Hon. Craig G. Riemer Dept: 1
CITY OF BARSTOW, Plaintiff, vs. CITY OF ADELANTO, et al., Defendant.	**DECLARATION OF W. RICHARD LATON IN SUPPORT OF OPPOSITION TO WATERMASTER'S MOTION TO ADJUST THE FREE PRODUCTION ALLOWANCE FOR THE BAJA SUBAREA FOR WATER YEAR 2026-2027** [*Filed concurrently with Opposition to Watermaster's Motion for approval of (1) production safe yield classifications, and (2) free production allowance recommendations for water year 2026-2027]*
AND RELATED CROSS ACTIONS	Date: August 12, 2026 Time: 10:00 a.m. Dept: 1 **Reservation No.: Per Court Order 5/12/2026**

/ / /

DECLARATION OF W. RICHARD LATON

I, W. Richard Laton, declare as follows:

1. I am the Principal Hydrogeologist and President/Owner of Earth Forensics, Inc. I am an expert in geology, hydrology, hydrogeology, environmental contamination, and contaminated site investigations. I possess extensive knowledge and experience in the areas of hydrogeology, soil and water contamination, water quality, corrective action, hydrology and surface water, site assessment, site investigation, site remediation, wetlands, coastal monitoring/geomorphology, environmental field sampling techniques, well hydraulics, waste management, environmental remote sensing, aerial photographic interpretation/analysis, and geographical information systems (GIS). See Curriculum Vitae of W. Richard Laton, a true and correct copy of which is enclosed herewith as **Exhibit 1**.

2. My educational background that relates to this case is as follows: 1997 – Ph.D. in Hydrogeology, Western Michigan University; 1992 – M.S. in Environmental Earth Science, Western Michigan University; 1989 – B.A. in Earth Science, St. Cloud State University, Minnesota.

3. I am a licensed Professional Geologist in California, Alaska, Arizona, Illinois, Indiana, Florida, Minnesota, New York, North Carolina, Oregon, Pennsylvania, Texas and Washington. I am also a licensed Professional Hydrogeologist in both California and Washington. I am a Certified Professional Geologist with the American Institute of Professional Geologists and a Certified Professional Geologist for the European Union.

4. I am a Professor of Hydrogeology in the Department of Geological Sciences at California State University, Fullerton, California, where I have taught hydrogeology and related disciplines since 1999. Through my years of experience in teaching and consulting, I have extensive knowledge and understanding of groundwater and surface water relationships, particularly in Southern California and the Mojave Basin.

5. I have worked as a consultant and researcher within the Mojave River/Groundwater Basins and Sub-basins ("Mojave Basin"), including the Baja sub-basin ("Baja"), where I have conducted various monitoring and sampling of groundwater and geology. My experience in the

Mojave Basin includes research conducted for and on behalf of the Mojave Water Agency ("MWA") to develop conceptual basin models and to map the geological and hydrogeological features of the Mojave Basin. This research resulted in no fewer than 16 public reports, multiple peer-reviewed papers, 18+ presentations, and 12+ theses on conditions and hydrogeology in the Mojave Basin.

6. I have been retained by the Newberry Springs Recreational Lake Association ("NSRLA") as an expert for the purpose of providing opinions on the Watermaster's pending recommendation to adjust the Free Production Allowance ("FPA") for the Baja sub-basin for Water Year 2026-2027, in which the Watermaster recommends that the Baja FPA remain at 19.5 percent of Base Annual Production ("BAP") rather than increase to 24.5 percent, the figure the Watermaster's own engineer calculated by applying the formula in the Judgment using the existing 1931-1990 hydrologic base period. My opinions are set forth below and are held to a reasonable degree of scientific certainty.

I. UNDER THE JUDGMENT AND THE WATERMASTER'S OWN FORMULA, THE BAJA FPA FOR WATER YEAR 2026-2027 SHOULD BE 24.5 PERCENT, NOT 19.5 PERCENT

7. On April 20, 2026, the Court denied both the Watermaster's and Mitsubishi's motions to change the hydrologic base period, ordering that "[u]ntil further order of the Court, the Watermaster shall apply the existing base period, 1931-1990, when calculating PSY and adjustments to FPA" (Order filed April 20, 2026). The consequence of that ruling is arithmetic, the Production Safe Yield ("PSY") for Baja, and the FPA derived from it, will use the 1931-1990 base period.

8. Pursuant to that order, the Watermaster Engineer recalculated PSY on the 1931-1990 base period and reported the results in a technical memorandum (Wagner & Urrego-Vallowe, Amended Technical Memorandum to Mojave Basin Area Watermaster, "Production Safe Yield Update and Recommendation for Free Production Allowance for Water Year 2026-27," June 5, 2026 ("June 2026 Memorandum"), which was submitted to the Court as Exhibit 3 to Watermaster's Motion. Table 1 of that memorandum sets forth, for the Baja Subarea, a Base

Annual Production of 66,157 acre-feet and an indicated PSY, calculated from the refreshed 1931-1990 water budget (Table 5-1, based on the Stamos et al. (2001) model and Water Year 2024-25 cultural conditions), of 16,211 acre-feet.

A. Derivation of the Indicated Production Safe Yield of 16,211 Acre-Feet

9. The 16,211 acre-foot PSY is derived in three steps, each of which appears in the Watermaster's own Table 5-1 (Attachment B to the June 2026 Memorandum). First, Table 5-1 computes a water balance for the Baja Subarea using the 1931-1990 average natural water supply and outflow, together with consumptive use and production for Water Year 2024-25:

Baja Subarea Water Balance Element	**Acre-Feet**
Surface water inflow — gaged	0
Surface water inflow — ungaged (mountain-front recharge)	17,153
Tributary inflow	3,705
Subsurface inflow	1,462
Imports	0
Total water supply	**22,320**
Less: surface water outflow (toward Afton Canyon)	8,030
Less: subsurface outflow	170
Less: consumptive use — agriculture	4,592
Less: consumptive use — urban	3,027
Less: consumptive use — phreatophytes (riparian)	2,000
Total outflow and consumptive use	**17,819**
Surplus (22,320 − 17,819)	**4,501**

10. Second, consistent with the Judgment's definition of Production Safe Yield as pumping plus the change in groundwater storage, the Watermaster adds the 4,501 acre-foot surplus to actual Baja production for Water Year 2024-25 of 10,481 acre-feet, yielding 14,982 acre-feet.

11. Third, the Watermaster grosses that figure up to account for return flow. Because a portion of any water pumped returns to the aquifer as agricultural and urban return flow, additional production can occur before groundwater in storage is drawn down. Applying Baja's Water Year 2024-25 return flow percentage of 27.3 percent to the surplus (0.273 × 4,501 AF = 1,229 AF) produces the indicated PSY:

PSY = 10,481 AF + 4,501 AF + 1,229 AF = 16,211 AF

12. Table 5-1 reports precisely this result: a Production Safe Yield for the Baja Subarea of 16,211 acre-feet, and a corresponding "Indicated Free Production Allowance" of 24.5 percent (June 2026 Memorandum, Attachment B, Table 5-1 and n.20).

B. Calculation of the Resulting Free Production Allowance

13. The Watermaster expresses FPA as a percentage of aggregate BAP for the sub-basin. Applying that formula to the Watermaster's own figures:

FPA = PSY ÷ BAP = 16,211 AF ÷ 66,157 AF = 0.245 = 24.5%

14. This is not my calculation alone; it is the Watermaster's. Table 1 of the June 2026 Memorandum expressly reports an "Indicated FPA" for Baja of 24.5 percent for Water Year 2026-2027. The Watermaster then departs from its own calculated figure, listing a separate "Proposed FPA" of 19.5 percent, and states: "Watermaster recommends the Baja Subarea FPA remain unchanged (although the indicated PSY for the Baja Subarea is 16,211 acre feet)" (June 2026 Memorandum, p. 15). In other words, the Watermaster concedes that the formula in the Judgment, applied to the base period the Court ordered, yields 24.5 percent, and then recommends overriding that result and holding the FPA at 19.5 percent.

15. The sole basis the Watermaster offers for overriding its own calculation is Exhibit H, paragraph 2.a of the Judgment and the California Department of Fish and Wildlife's ("CDFW") concern that riparian habitat near Camp Cady is stressed and water levels there remain depressed (June 2026 Memorandum, pp. 14-15). For the hydrogeologic reasons set forth in Sections II through VI below, that concern does not support suppressing the Baja FPA: the producers who would receive the additional allowance are located west of the Calico Fault, the Calico Fault and the Manix Beds hydraulically separate them from Camp Cady, and the condition of the habitat at Camp Cady is controlled by surface storm flow in the Mojave River, not by the FPA percentage applied to producers on the far side of a fault barrier.

16. The difference between the calculated 24.5 percent and the proposed 19.5 percent is approximately 3,310 acre-feet of allowance per year (16,211 AF versus 66,157 AF × 19.5 percent ≈ 12,901 AF). Notably, this is a difference in allowance, not necessarily in pumping: the Watermaster reports that actual average Baja production for Water Years 2018-19 through 2024-

25 was 14,962 AFY, and total Baja production has declined roughly 79 percent since entry of the Judgment (June 2026 Memorandum, p. 14). Restoring the FPA to the calculated 24.5 percent brings the paper allowance back into line with the Judgment formula and the Court's April 20, 2026 order, while maintaining 19.5 percent effectively re-imposes the rejected 2001-2020 base period's restrictive result through the back door.

II. BAJA IS EFFECTIVELY TWO BASINS DIVIDED BY THE CALICO FAULT, AND ATTRIBUTING THE LOWER FPA TO CAMP CADY DOES NOT MAKE HYDROGEOLOGIC SENSE

17. The Baja sub-basin is not a single, hydraulically uniform basin. It is a tectonically active area crossed by numerous geologic faults, many of which represent partial barriers to groundwater flow, including the Camp Rock-Harper Lake (Waterman) Fault at the Centro/Baja boundary and the Calico Fault, Manix Fault, and Newberry Fracture Zone within Baja itself (Todd Engineers, Final Report, Hydrogeologic Investigation of Camp Cady Wildlife Area, January 2013 ("Todd 2013"), prepared for the California Department of Fish and Game and MWA). Notably, this investigation was performed for CDFW's own predecessor agency. Enclosed as **Exhibit 2: Fault and Groundwater Monitoring Location Map**, is a true and correct document that I prepared, displaying the pertinent faults in the Baja Subbasin.

18. The Calico Fault divides the developed western portion of Baja from the eastern portion where Camp Cady is located. The Calico Fault is documented to be a partial barrier to groundwater flow: Groundwater elevations have historically been approximately 60 feet higher on the western (upgradient) side of the Calico Fault than on the eastern side (Todd 2013). In the central portion of Baja, groundwater levels west of the fault stand at or above 1,770 feet above mean sea level, while levels in the area east (downgradient) of the fault are approximately 1,700 to 1,710 feet (Todd 2013, Figure 5).

19. East of the Calico Fault, the groundwater system is further compartmentalized by the Manix (Clay) Beds, Pleistocene lakebed clays more than 120 feet thick beneath Camp Cady, which separate a shallow unconfined aquifer from deeper confined aquifers and limit recharge to the deeper aquifer system east of the fault to a 3- to 4-mile stretch of river west of Harvard Hill

(Todd 2013).

20. The two sides of the fault have responded differently to recent conditions, which confirms they are not in direct, efficient hydraulic communication. As shown on Exhibit 2, west of the fault (Wells No. 1 through No. 6), and in at least one monitoring well east of the Calico Fault, Well No 7, groundwater levels have risen steadily over the past four to five years, as I documented with hydrographs of eleven Baja wells in my March 5, 2026 declaration, which is modified and reattached herein as **Exhibit 3: Groundwater Hydrographs.** Additionally, attached at Exhibit 3 are four other hydrographs east of the Calico Fault, Well Nos. 8 through 11, which all show a downward trend in groundwater elevation, but in the last few years the rate of decline has lessened to almost ceased. The hydrographs for wells No. 10 and 11, located in the vicinity of the Mojave River, show periods of recharge, specifically in 2005 and 2011, which were years with significant flow measured at the Barstow Gage and would have resulted in Mojave River flow past this area. These increases are indicative of the predominant recharge mechanism on the east side of the Calico Fault, driven by Mojave River Flow rather than migration across the Calico Fault. Since 2011, there have been only four years with measured flow at the Barstow flow, with 2023 the only one of significance (see **Exhibit 4, which is a true and correct copy of stream gage data I prepared**).

III. SUBSURFACE FLOW FROM THE WESTERN PORTION OF BAJA TAKES YEARS TO DECADES TO REACH THE EAST SIDE OF THE CALICO FAULT

21. Groundwater moves through porous media at velocities governed by Darcy's Law: velocity equals hydraulic conductivity multiplied by hydraulic gradient, divided by effective porosity. Three features of the Baja system make subsurface transmission from the recreational lakes area to Camp Cady exceptionally slow. First, the Calico Fault itself is a partial barrier that throttles flow, as evidenced by the roughly 60-foot head difference maintained across it. Second, the hydraulic gradient between the Calico Fault and Camp Cady has decreased dramatically over the past decades, reducing regional groundwater flow toward Camp Cady (Todd 2013). Third, the Manix Beds east of the fault confine the deeper aquifer and restrict where recharge can enter it.

22. Accordingly, based upon the monitoring results reflected in **Exhibit 3**, any

influence, positive or negative, of modestly changed pumping in Baja would therefore not be expected to affect Camp Cady for years to decades and would be strongly attenuated by the fault and the Manix Beds in any event.

IV. SURFACE STORM FLOW IN THE MOJAVE RIVER IS THE CONTROLLING SOURCE OF RECHARGE AT CAMP CADY

23. Streamflow losses from the Mojave River are the primary source of groundwater recharge in the Baja sub-basin, estimated at about 7,000 acre-feet per year on a long-term average basis, and evaluation of gaged flows from 1931 to 2009 indicates that storm flow has reached Camp Cady on average about one year in four (Todd 2013). From 1930 to 2009, annual discharge at the Barstow gage has averaged 16,377 AFY, of which approximately 14,000 AFY is estimated to enter Baja. From 1930 to 2025; per my review of historic annual stream gage data at Barstow, surface flows (greater than 100 acre-ft) reached Barstow in only 32 of 95 years of record with an average of 13,995 AFY during this period (**Exhibit 4**: Historical Annual Stream Gage Flow Data).

24. The historical shallow groundwater and artesian conditions at Camp Cady were sustained by these episodic storm flows recharging the floodplain aquifer. Todd (2013) found that the timing of groundwater-level declines at Camp Cady correlates strongly with decreased storm flows reaching the Baja sub-basin, driven by climatic variation and overproduction in upgradient management subareas, as well as decades of historical over-pumping within Baja (that is no longer a concern at current pumping levels). In short, what Camp Cady needs is more surface water in the river to recharge its floodplain aquifer, not additional cuts to pumping in other portions of the Baja Subbasin. Wet-year storm flow arriving in the main channel recharges the shallow aquifer at Camp Cady within a single season, whereas subsurface flow in the vicinity of the Calico Fault arrives attenuated and decades late, if at all.

V. WHY DOES LESS SURFACE FLOW REACH THE BAJA SUB-BASIN AND CAMP CADY TODAY THAN IN THE PAST

25. Several compounding, largely management-driven factors have reduced the surface flow that reaches Baja and Camp Cady:

(a) Upstream pumping and the Watermaster's ramp-up in Alto. The USGS has previously observed the relationship between surface flows in the Upper Mojave Watershed and Baja, observing "*overall, pumping in the lower region does not negatively affect the upper region; however, pumping in the upper region negatively affects the lower region by decreasing recharge from the Mojave River*" (Stamos et al., 2001). Based on USGS model simulations, upper-basin pumping (excluding Centro) was estimated to account for about 21 percent of the groundwater lost from storage in the Baja Subarea over the 1931-1990 base period (Todd Engineers, Conceptual Hydrogeologic Model, July 2013). Increased pumping authorization in Alto intercepts river underflow and increases channel losses upstream, directly reducing the storm and base flow that would otherwise pass the Lower Narrows and continue downstream toward Baja. In the same June 2026 Memorandum that recommends holding Baja at 19.5 percent, the Watermaster recommends increasing the Alto FPA from 50.4 percent to 54.5 percent of BAP for Water Year 2026-2027 (June 2026 Memorandum, Table 1). Thus, the very motion that would suppress Baja's allowance on the stated ground of protecting Camp Cady simultaneously authorizes additional upstream production in Alto, which reduces the surface flows on which Camp Cady actually depends.

(b) Slow releases from Silverwood Lake/Cedar Springs Dam and the Mojave River Dam during storm events. The Cedar Springs Dam (Silverwood Lake, State Water Project) and the Mojave River (Forks) Dam have operated since 1971 and 1974, respectively. My analysis of annual peak flows at the Lower Narrows gage shows that the dams attenuate storm peaks: since dam construction, peak flows are reduced, net annual recharge between the Forks and the Lower Narrows (upper Alto) has increased, and average daily flows measured downstream at the Lower Narrows and Barstow gages have decreased. See **Exhibit 5:** hereto, an exhibit I prepared, which is from my declaration in this Court, September 26, 2019, Figures 1 through 5 and Table 1. Water is released slowly over days rather than passing as a flood pulse infiltrates in the upstream reaches and never arrives in Baja. High-magnitude, short-duration flows are precisely the flows that historically traversed Centro and recharged Camp Cady.

(c) Overgrowth of phreatophytes in the Alto Transition Zone. Dense phreatophyte growth (notably tamarisk, a non-native, high-water-use species) in the Transition Zone and river corridor consumes flow that would otherwise continue downstream. Review of historical aerial photography shows that surface discharge from the VVWRA treatment plant infiltrates and is consumed within the Transition Zone and does not pass the Helendale Fault into Centro (see **Exhibit 5**: Laton Declarations of September 26, 2019 and October 9, 2024). In 2019, I recommended eliminating tamarisk upstream of Baja as a mitigation measure precisely because of this consumptive loss that reduces the amount of surface water that ultimately reaches Centro and Baja.

(d) Pumping in the river reach in Centro, especially at Barstow. Groundwater levels in Centro remain approximately 25 feet below pre-Judgment (1960s) levels. This creates the illusion of a subarea in balance, when in fact the depleted floodplain aquifer in the Barstow reach captures stormwater that would otherwise flow to Baja. As my analysis illustrates, as described in the Laton Declaration, March 5, 2026 (Exhibit water "*never spills over*" to flow downstream if it is captured by the depleted aquifer in Centro. Municipal pumping in Centro is concentrated in and along the river at Barstow, and its production would be authorized to increase if either the Watermaster or Mitsubishi base periods were ultimately accepted, to Baja's detriment, as the proposed base periods would raise Centro's PSY by roughly 40 percent (approximately 10,000 acre-feet of additional pumping) (see **Exhibit 5,** a true and correct copy of the Laton Declaration of March 5, 2026 that accompanies a true and correct copy of the Laton Declaration of September 26, 2019).

VI. SETTING THE BAJA FPA AT 24.5 PERCENT RATHER THAN 19.5 PERCENT IS NOT LIKELY TO IMPACT GROUNDWATER LEVELS AT CAMP CADY

26. The difference between an FPA of 24.5 percent and 19.5 percent of BAP is approximately 3,310 AF/yr of additional allowance (16,211 AF versus 66,157 AF × 19.5 percent ≈ 12,901 AF), not necessarily additional pumping, since actual production in Baja has declined roughly 79 percent since 1996 (from about 50,000 AFY to 10,481 AF in Water Year 2024-25) and recent production (14,962 AFY average for Water Years 2018-19 through 2024-25) is driven by

demand, not allowance (June 2026 Memorandum, p. 14).

27. As previously discussed herein, the factor that most strongly controls Camp Cady's shallow groundwater and riparian habitat is episodic storm flow in the Mojave River, which the FPA percentage in Baja does not regulate or effect. If anything, the Watermaster's current motion works against recovery of groundwater levels at Camp Cady by authorizing increased production upstream via a higher FPA in Alto, which further diminishes the storm flows downstream on which Camp Cady depends.

28. Accordingly, it is my opinion, to a reasonable degree of scientific certainty, that restoring the Baja FPA to 24.5 percent as required by the Judgment formula under the 1931-1990 base period is not likely to adversely impact groundwater levels at the Camp Cady Wildlife Area.

29. I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct and that I have executed this declaration on the 22nd day of July 2026, in North Tustin, California.

Dr. W. Richard Laton, PG, CHg
President of Earth Forensics, Inc.
Principal Consultant, Hydrogeology

Exhibit “1”

earthforensics, inc.

W. RICHARD LATON, Ph.D.

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VITAE

EDUCATION

Ph.D. (1997), Geology with an emphasis in Hydrogeology, Western Michigan University
Groundwater – Kalamazoo River Interaction near the Parchment City Well Field, Parchment, Michigan.

M.S. (1992), Environmental Earth Science (Coastal Geomorphology), Western Michigan University
Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement; Identification and Mapping.

B.A. (1989), Earth Science (Oceanography), Saint Cloud State University, Minnesota
Density Flow Analysis of Turbidity Currents.

PROFESSIONAL SUMMARY

Dr. Laton is an expert in the fields of geology/hydrology/hydrogeology. He is currently a Professor of Hydrogeology in the Department of Geological Sciences, California State University, Fullerton, the prestigious 2014 Ross Oliver Award winner, and a 2024 NGWA Fellow. This career path encompasses years of experience in teaching, consulting, litigation support, and management. Dr. Laton possesses extensive knowledge in the areas of geology, hydrogeology, fluvial geomorphology (including erosion and sediment transport), meteorology/climatology (including rainfall, RADAR analysis, and wind), hydrology and surface water, wetlands, coastal monitoring/geomorphology, natural hazards (such as land/mudslides, flooding, and earthquakes), soil and water contamination (fate and transport), CERCLA, NCP Compliance, CEQA, environmental field sampling techniques and well hydraulics-well design as well as environmental remote sensing/GIS. His classes at the university encompass topics such as water quality, environmental sampling, groundwater modeling, well hydraulics, oceanography, and basic geology. He enjoys introducing students to applied research and is the faculty advisor to many upper-level students. He has also consulted with numerous companies and agencies that require input on the above subjects, as well as natural hazard assessment and mapping.

CERTIFICATIONS

California Geologist	(PG-7098)	California Hydrogeologist	(CHg-958)
Alaska Geologist	(PG-673)	Oregon Geologist	(G2153)
Arizona Geologist	(PG-42253)	Pennsylvania Geologist	(PG-5095)
Florida Geologist	(PG-2618)	Texas Geologist	(PG-10018)
Illinois Geologist	(196.001370)	Washington Geologist	(PG-2517)
Indiana Geologist	(LPG-2191)	Washington Hydrogeologist	(CHg-2517)
Minnesota Geologist	(PG-44868)		
New York Geologist	(PG-001222)	AIPG-Certified Geologist	(CPG-10544)
North Carolina Geologist	(PG-2614)	European Geologist	(N-1128)

SELECTED CONSULTING, RESEARCH, AND EMPLOYMENT EXPERIENCE

Professional Profile

2010 - Present, President of *Earth Forensics Inc.*
1995 - 2010, Partner (Owner Operator) with *Environmental Science & Planning, LLC*.
1998 - 2001 & 2007 - 2012, Senior Consultant with *Earth Consultants International*.
2001 - 2007, Consultant to *Hromadka & Associates*.
1996 - 1998, Senior Hydrogeologist with *SimulProbe Technologies.*

2010 – Present. ***Earth Forensics, Inc.*** President (www.earthforensics.com)
Project experience includes management, expert testimony, fieldwork, oversight, and training. Clients have included the State of California, various cities, private firms, law firms, and other consulting companies.

2026

- Ohio. Retained to evaluate PFAS/PFOS impacts on the City wellfield.
- Laguna Beach, CA. Hired to evaluate groundwater conditions associated with Hotel construction.
- Minnesota. Hired to evaluate issues surrounding recharge wells.
- Hicksville, NY. Hired to evaluate potential PRPs.
- Village of Harriman, NY. Retained to evaluate the fate and transport of PFAS/PFOS in soil and groundwater (Plaintiff: Village of Harriman vs. Nepera, Inc., ET AL. (Case No. 7:25-cv-01888-CS)). Expert Report
- Groveland, MA. Retained to evaluate the fate and transport of PFAS/PFOS in soil and groundwater.
- Fayetteville, NC. Retained to evaluate the fate and transport of PFAS/PFOS/GenX in soil and groundwater.
- Mather, CA. Retained to evaluate the fate and transport of PFAS/PFOS (Plaintiff: California-American Water Company v Mather Air Force Base (Case: 2:19-cv-1784-RMG)).
- San Clemente, CA. Retained as an expert in fluvial geomorphology and meteorology (Plaintiff: Nelson, et al., v GC-8 LLC et al.).

2025

- Los Angeles, CA. Retained as an expert on CERCLA and NCP compliance.
- Los Angeles, CA. Retained as an expert in fluvial geomorphology (Plaintiff: Anton, et al., v. County of Los Angeles (Case: 23STCV15034)). Deposition: March 6, 2026; Trial March 21, 2026
- San Diego, CA. Retained to provide expert opinions on the impacts of surface water – groundwater interaction (Defense: El Monte Nature Preserve, LLC v City of San Diego (Case: 24CUoo6575C)). Deposition
- Honolulu, HI. Retained to provide expert opinions on the fate and transport of contamination of groundwater (Plaintiff: City and County of Honolulu v USA).
- Fullerton, CA. Hired to review potential contamination as it relates to groundwater and historical Site use.
- Wisconsin. Retained to provide expert opinions as they relate to drilling, well design, and standard of care. Expert Report (Defense: Frost v Sams Well Drilling (Case: 2025CV000219)).
- Texas. Retained to provide expert opinions as they relate to the remote sensing of oil field operations (Defense: SynMax v Kayrros (Case: 2:24-cv-0494)).
- Newport, CA. Hired to provide expert review and comments on a historical dry-cleaning facility.
- Palos Verdes Estates, CA. Retained as an expert in fluvial geomorphology. (Defense: Rucker v City of Palos Verdes Estates (Case: 24TRCV02395)). Deposition: February 20, 2026
- Kalamazoo, MI. Hired to provide a review of several well-field geophysical surveys for the City.

- Mojave Desert, CA. Retained to provide insight into sand and dust movement via wind in and around a solar power plant; Declaration (Defense: Doles v Newberry Solar 1, et al. (Case: 2135262)).
- Montrose, MO. Retained to provide expert opinions on coal combustion residuals (CCR) contamination of soil, groundwater, and surface water (Defense: Bauer v Evergy Metro, et al.)
- San Bernardino, CA. Hired to develop a basin-wide Monitoring Plan for TDS Solids.
- Wichita, KS. Retained to provide expert opinions associated with multiple contaminants in soil, groundwater, and soil vapor (vapor intrusion). Expert Report; Rebuttal Report, Declarations and Deposition (Plaintiff: Black and Tolson v Union Pacific Railroad (Case: 6:23-cv-1218)).

2024

- Camp Lejeune, NC. Hired to review and comment on expert reports associated with fate and transport and groundwater modeling.
- San Diego, CA. Hired to oversee multiple aquifer tests and develop a construction dewatering plan.
- Torrance, CA. Retained to provide expert opinion associated with groundwater, soil, and soil vapor contamination (PCE, TCE, and 1,1 DCE); Expert Report; Expert Rebuttal Report, Deposition (Defense: City of Torrance v Hi-Shear Corp (Case: 2:17-cv-07732) (cross-complaint)).
- Rolling Hills Estates, CA. Retained as an expert on groundwater and surface water impacts on a landslide.
- Encinitas, CA. Retained as an expert on rainfall and associated flood damage.
- Los Angeles, CA. Retained as an expert on remediation, groundwater, soil, and soil vapor contamination. Expert Report, Expert Rebuttal Report, Depositions (Defense: LA County Metro Transportation v California Drop Forge, et al. (Case: 2:23-cv01728-MWF-KS)).
- Vernon, CA. Retained as an expert on groundwater and vapor pathways associated with VOCs, SVOCs, and metals (CERCLA and NCP compliance).
- Ypsilanti, MI. Retained to evaluate the remedial efforts as they relate to a historical factory/assembly plant (Defense) Deposition and Arbitration.
- Palos Verde, CA. Retained to assess surface water and groundwater impacts on landslides. Multiple Cases; Mediation.
- Hicksville, NY. Hired to evaluate the groundwater model and fate and transport of contaminants.
- Port of Morrow, OR. Retained to evaluate nitrate contamination (Plaintiff: Pearson, et al., v Port of Morrow, et al., Case No.) Expert Report

2023

- El Dorado County, CA. Hired and retained to evaluate rainfall runoff and slope stability (Plaintiff: Poipao, et al., v County of El Dorado (Case: 2:23-cv-01265-CKD)).
- Corbett, OR. Hired and retained to evaluate water well design and standard of care (Defense: Corbett Water District v SCS Engineers, et al., (Case No.))
- Wausau, WI. Hired and retained to evaluate the fate and transport of PFAS/PFOS.
- Orange County, CA. Hired and retained to discuss groundwater flow (Plaintiff: Hadipour, et al., v Moulton Niguel Water District, (Case: 30-2020-01176360-CU-EI-CJC)).
- Endicott, NY. Retained to evaluate the fate and transport of contamination. Expert Report, Rebuttal (Plaintiff: Brunelle et al., v Saint Gobain et al (Case: 226-2022-cv-00416)).
- Oklahoma. Retained to evaluate PFAS/PFOS contamination statewide. Declarations
- Sarasota, CA. Retained as an expert on meteorology associated with flooding. Deposition and Trial Testimony (Plaintiff: Hedayati v Bhatnagar, (Case: 19CV357264)).
- Maui, HI. Retained as an expert on GIS and meteorology associated with wildfires.
- New Cambria, KS. Retained as an expert on hydrogeology/geology/sampling, and fate and transport. Expert Report and Deposition (Defense: Grit v Koch Remediation & Environmental Services, et al.)
- Coronado, CA. Retained as an expert on surface water flow.

- Pacific Palisades, CA. Retained as an expert on groundwater (Plaintiff: Nash v Etco Homes, et al., (Case: 20SMCV01211)).
- Los Angeles, CA. Retained as an expert on water sources and landslides.
- Claremont, CA. Hired to evaluate the source of high groundwater for multiple residential homes.
- San Diego, CA. Retained as an expert on water damage (Defense: Case: 37-2023-00011116-CU-OR-CTL).
- San Diego, CA. Retained as an expert on flood damage.
- IL, IN, NM, FL, and LA. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Oceanside, CA. Hired to evaluate water issues surrounding a landslide (Defense: Case: 37-2023-00032978-CU-PO-NC).
- Dalton, NH. Hired by the City to review landfill permits and provide a written report.
- Orange County, CA. Hired to develop a dewatering plan for a landslide on an active landfill.
- Vernon, CA. Retained as an expert on groundwater and vapor pathways associated with VOCs, SVOCs, and metals (lead) (CERCLA, NCP compliance). Expert Report, Rebuttal Report, Deposition and Trial (Plaintiffs: CA DTSC v NL Industries, Inc., et al. (Case: 2:20-cv-11293-SVW-JPRx)).

2022

- Orange County, CA. Hired to evaluate data gaps in the environmental analysis of a landfill.
- Elysian, TX. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Inglewood, CA. Retained as an expert on non-karst sinkholes (Plaintiff: Maiden v City of Inglewood, et al. (Case: 19STCV20008)).
- Southern California. Retained as a hydrogeology/hydrology/meteorology expert for various wildfires (Plaintiff).
- Riverside, CA. Retained as an expert on surface water flow associated with flood damage (Defense: HSU et al., v County of Riverside (Case: CVR12101209)).
- California. Retained as an expert on hydrogeology/hydrology/geology, and meteorology associated with the Thomas Fire.
- Las Vegas, NV. Retained as an expert on water well design, drilling, development, and completion (Defense) (Mediation).
- Bakersfield, CA. Retained in association with oil field issues and leaking wells.
- Los Angeles County, CA. Retained as an expert on hydrogeology/hydrology and meteorology (Plaintiff: Werner, et al., v Azirian et al. (Case: 20smv01176)).
- Union, IL. Retained as an expert on contamination from TCE and PCE in groundwater, soil, and soil vapor. Expert Report and Mediation (Plaintiff: Harper v TechAlloy Company, Inc., et al. (Case: 19-LA-307)).
- Encinitas, CA. Retained as an expert in fluvial geomorphology (Defense: Trujillo et al., v City of Encinitas et al. (Case: 37-2021-00015834-cu-or-nc)).
- Tampa, FL. Retained as an expert on Lead in the environment (Plaintiff: Brown v Gopher Resources, LLC et al., Case No.)
- Newton, MA. Retained as an expert in mapping and GIS.
- Los Angeles County, CA. Retained as an expert on hydrogeology/hydrology and meteorology (Defense: Bowmont Holding LLC, et al., v CAS Construction et al. (Case: 21SMCV01401)).
- Riverside County. Retained as an expert on hydrology (Defense).
- Franklin, IN. Retained as an expert on groundwater and vapor pathways associated with VOCs. Expert Report, Expert Rebuttal Report, and Deposition (Plaintiff: Denny, et al., v Amphenol Corp, et al. (Case: 1:19CV-04757-JRS-DLP)).

- Encinitas, CA. Retained as an expert on groundwater-surface water interaction in bluff areas. Declaration (Defense: Davis et al., v City of Encinitas et al. (Case No. 37-2020-00030315-cu-np-nc)).
- Illinois and Indiana. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Maryland. Retained as an expert on impacted soil classification and potential for reuse (Defense: MCM Management Corp v DXI Construction (Case: C-03-CV-21-003006)).
- New Jersey and Pennsylvania. Retained as an expert on AFFF contamination within the public water supply (Plaintiff).
- Laguna Beach, CA. Retained as an expert on the water, including irrigation and construction moisture issues. Declaration and Mediation (Plaintiff: Woods Cove v Michael Liikala (Case: 20-5685-DRC)).

2021

- Santa Barbara County, CA. Retained as an expert on hydrogeology and water resource sustainability. Expert Report and Deposition (Plaintiff: Goleta Water District v Slippery Rock Ranch, LLC (Case: 1487005)).
- Pleasanton, CA. Retained as an expert in dry-cleaning operations and PCE/TCE contamination (Defense: Charles H Stoll v Timothy Ewing, et al. (Case: 3:17-cv-02226-JSC)).
- Los Angeles County, CA. Cogswell Dam Review and Development of Dewatering Program.
- Oakland, CA. Hired to opine on the standard of care of geology and hydrogeology (Testified on behalf of a geologist).
- Santa Barbara, CA. Hydrogeological Evaluation for a Potential Cannabis Project.
- Vista, CA. Retained as an expert on wetlands and surface water flow (Defense: Goebel v City of Vista and State of California, et al. (Case: 37-2018-00058162-CU-PO-NC)).
- Lake Elsinore, CA. Retained as an expert on surface water and debris flow (Defense: Gomes, et al., v County of Riverside, et al. (Case: RIC2003297)).
- Bell Gardens, CA. Retained as an expert on remediation (Defense: Bell Gardens Avenue, LLC, et al., v 8000 Bell Gardens, LLC, et al. (Case: 20STCV26362)).
- Canoga Park, CA. Retained as an expert on the fate, transport, and cleanup of TCE/PCE contamination. Declaration(s), Expert Report, Expert Rebuttal Report, and Deposition(s) (Plaintiffs: Behar et al. v. Northrop Grumman et al. (Case: 21-cv)).
- Midwest City, OK. Retained as an expert associated with dry-cleaner operations and potential contamination. Declaration(s) (Plaintiff: Weingarten Realty Investors, et al., v Brite Cleaners, Inc., et al. (Case: 5:18-cv-971-JD)).
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense: Preciado v City of Encinitas (Case No. 37-2020-00037766-CU-EL-CTL)).
- Merrimack, NH. Retained to review PFAS/PFOS contamination. Expert Report, Expert Rebuttal Report, and Deposition. (Plaintiffs: Brunell, et al., v Saint-Gobain, et al. (Case No. 226-2022-CV-00416)).
- East Chicago, IN. Retained to review and evaluate lead contamination. Expert Report (Plaintiffs: Alvarez, et al., v City of East Chicago et al. (Case: 2:16-cv-00525-PPS-PRC)).
- Blades, DE. Retained to review PFAS/PFOS contamination Declaration (Plaintiffs).
- San Diego, CO. Retained as an expert in fluvial geomorphology. Declaration and Expert Report (Defense: Lodge v Barbanell (Case: A265558-58)).
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense: Gilligan v City of Encinitas (Case: 37-2020-00038879-CU-EI-CTL)).

2020

- Inglewood, CA. Retained as an expert in soil contamination. Expert Report (Plaintiff: TKG Management, Inc., et al., v Chubb Custom Insurance Company et al. (Case: 2;19-cv-10986-AB-AS)).
- Marinette, WI. Retained to review PFAS/PFOS contamination (Plaintiffs).
- Malibu, CA. Hired to review and report on multiple single-family homes' groundwater resources.
- Blythe, CA. Retained as an expert in surface water hydrology and canal flow (Plaintiff: Presley v Palo Verde Irrigation District).
- Hesperia, CA. Hired to review the City's water resources.
- Torrance, CA. Hired to develop a Conceptual Site Model for a former manufacturing facility.
- Michigan. Retained as an expert on dam failure and resulting flooding (Plaintiffs).
- Los Angeles, CA. Retained as an expert in environmental consulting. Mediation (Defense: Madrone et al., v Odic Environmental (Case No. 19STCV27986)).
- Central CA. Retained as an expert in hydrogeology and water resources.
- Orange County, CA. Hired to evaluate multiple historical dry-cleaning operations, including developing remedial options for cleanup.
- Chula Vista, CA. Retained as an expert associated with hydrology issues (Defense: Ludwig v City of Chula Vista (Case No. 37-2019-00034737-CU-EI-CTL)).
- Laguna Niguel, CA. Hired to evaluate groundwater conditions associated with a landslide.

2019

- Newport Beach, CA. Hired to evaluate the risk posed by contaminated soil, soil vapor, and groundwater in the residential neighborhoods.
- Los Angeles, CA. Hired to evaluate the contaminated soil conditions along a freeway expansion.
- San Diego, CA. Hired to evaluate the hydrogeological conditions of the Mission Valley Project.
- Santa Barbara, CA. Retained as an expert associated with dry-cleaner operations and potential contamination. Expert Reports (Defense: Donald George, et al., v L&R Dry Cleaning (Case: 5:14-cv-01872-DSF(SHx)).
- Apple Valley, CA. Retained as an expert on hydrogeology and water resources (Plaintiffs).
- Cannonsville, NY. Retained as an expert on hydrogeology associated with an earthen dam. Expert Reports (Plaintiff: City of New York v Gomez et al., Index No. 451296/2018).
- Santa Paula, CA. Retained as an expert on hydrometeorological conditions related to the Montecito-Thomas Fire (Defense).
- La Jolla, CA. Retained as an expert associated with the flooding of a single-family residence (Plaintiff).
- Rancho Palos Verdes, CA. Hired to conduct a site assessment, remedial investigation, and work plan.

2018

- Bethpage, Long Island, NY. Retained as an expert associated with groundwater and soil gas contamination. Expert Report and Deposition (Plaintiff: Romano, et al., v Northrop Grumman et al. (Case No. 16-cv-5760)).
- San Bernardino County, CA. Hired to conduct a Phase 1 and hydrogeological assessment.
- Glen Ivy, CA. Retained as an expert associated with flood damage. (Defense: Glen Ivy Investments Inc., et al., v Shea Homes, Inc., et al. (Case: RIC 1313300)).
- Norwalk, CA. Hired to develop a CSM and a work plan to evaluate the historical gas and dry-cleaning facility.
- Merced, CA. Retained as an expert on hydrogeology, groundwater seepage, and surface water. Deposition (Plaintiff: Thorp, et al., v Merced Irrigation District et al.)
- Portland, OR. Retained as an expert associated with a landslide (Defense).
- Los Osos, CA. Hired to develop an RAP associated with BTEX contamination.

- Newberry Springs, CA. Hired to evaluate the water budget and any shortcomings in the Mojave Judgment. Letter Reports and Multiple Declarations (Plaintiff: City of Barstow, et al., v City of Adelanto, et al. (Case: CIV 208568)).
- New Mexico. Retained as an expert associated with field drilling operations and well design. Declaration (Defense).
- Houston, TX. Retained as an expert associated with flood damage from Hurricane Harvey (hydrology and meteorology) (Plaintiffs).
- Huntington Beach, CA. Retained as an expert on PCE contamination, fate, and transport associated with a dry-cleaner. Deposition (Defense: Chan Property v Misak Olgun et al. (Case: 30-2018-00984600-CU-PO-CJC)).
- Torrance, CA. Retained as an expert on the fate and transport of contamination emanating from refinery operations. Declaration and Deposition (Plaintiff: Goldstein v Exxon Mobil, et al. (Case: 2:17-cv-02477-DSF (SKx))).
- Malibu, CA. Hired to assess the potential for a single-residence groundwater well.
- Los Angeles, CA. Hired to perform Phase II site assessment at former dry cleaners.
- Santa Barbara, CA. Retained as an expert on PCE contamination, fate, and transport (Plaintiff).
- Whittier, CA. Hired to review Phase II associated with both residential and commercial property.

2017

- San Diego, CA. Retained as an expert in hydrology and meteorology (Defense: Anderson, et al., v Cortez et al. (Case: 37-2016-00004134-CU-BC-CTL)).
- Roxboro and Mayo, NC. Retained as an expert in hydrology, hydrogeology, and geology. Expert Reports and Deposition (Defense: Roanoke River Basin Association v Duke Energy Progress, LLC (Case: 1:16-cv-607 and No 1:17-cv-452)).
- Inglewood, CA. Retained to review soil contaminated with arsenic and potential sources (Plaintiff).
- Torrance, CA. Hired to review the refinery's soil, water, and soil gas contaminant history.
- Bakersfield, CA. Hired to review water quality at the bottled water plant.
- Santa Barbara, CA. Hired to review the contaminant history of a former dry cleaner's facility.
- Glendale, CA. Hired to perform background research on a dry cleaner's facility.
- San Jose, CA. Hired to perform Phase II site investigation.
- Bishop, CA. Retained as an expert on hydrology and hydrogeology concerning the Round Fire (Defense).
- Thousand Palms, CA. Retained as an expert in hydrology and geomorphology (Defense: Hernandez v Huth, et al. (Case No PSC 1501365)).
- Beverly Shores, IN. Retained as an expert on well drilling, abandonment, and geothermal wells. Expert Report and Deposition (Defense: Salomon, et al., v Mark Scott Construction, et al. (Case: 2:15-cv-464)).
- Moraga, CA. Hired to review Phase II Soil Vapor Site Investigation.
- Long Beach, CA. Hired to review the Phase II soil and soil vapor site investigation.
- Huntington Beach, CA. Retained as an expert on PCE fate and transport. Deposition (Defense: 17892 Jamestown, et al., v Goldenwest Laundry, et al. (Case: 30-2014-00705041-CU-NP-CJC)).
- City of Industry, CA. Hired to determine dewatering options, calculate volumes, and review disposal options.
- Lafayette, CA. Hired to review the Soil and Groundwater Management Plan.

2016

- San Jose, CA. Hired to review and perform site investigation in association with PCE.
- Los Angeles, CA. Hired to develop soil and groundwater sampling plans for CalTrans.
- Malibu, CA. Hired to review groundwater withdrawal impacts on a local stream.
- Malibu, CA. Hired to develop and survey several groundwater monitoring wells.

- Malibu, CA. Hired to oversee pilot drill holes for the City's water injection program.
- Anaheim, CA. Hired to review the RI/FS of a former dry-cleaning facility.
- Santa Barbara, CA. Retained as an expert on PCE contamination fate and transport. Expert Report, Rebuttal Report, and Deposition (Defense: Goldberg, et al., v Goss-Jewett Company, et al. (Case: EDCV 14-1872DSF)).
- Malibu, CA. Hired to install several monitoring wells and rehabilitate an existing well.

2015

- Denver, CO. Retained as an expert on water wells and hydraulic fracturing. Expert Report, Rebuttal Report, and Deposition (Defense: Hydro v Denver Southeast Suburban Water, and Sanitation District et al. (Case: 201CV30849)).
- Orange County, CA. Retained as an expert on groundwater. Deposition (Defense: Kirk, et al., v Varco, et al. (Case: 30-2010-00423097)).
- Orange County, CA. Hired to review the South Coast Water District Desalination Program, specifically the slant intake wells.
- Malibu, CA. Hired to oversee groundwater issues associated with a landslide.
- Malibu, CA. Hired to install several groundwater monitoring wells in association with WDR permit.
- Los Angeles County, CA. Retained to provide expert testimony regarding well abandonment (Defense: Golden State Water Company v. General Pump, et al.)
- Los Angeles County, CA. Retained to provide expert geology and hydrogeology testimony (Defense: C. Donald Albin, et al., v David Leu, et al., County of Los Angeles (Case: TC027060)).
- Los Angeles County, CA. EIR review and comments for wastewater plant and disposal.

2014

- Northern California. Phase II Site Investigation.
- Los Angeles County, CA. Retained to provide expert rebuttal testimony on regional hydrogeology. Expert Rebuttal Report (Defense: City of Cerritos et al., v Water Replenishment District of Southern California (Case: BS128136)).
- Los Angeles, CA. Hired to collect samples of both seepage water and treated effluent water.
- Loma Linda, CA. Retained to provide expert opinion on meteorological analysis (Plaintiff: SoCal Self-Storage – Loma Linda v City of Loma Linda, et al. (Case: CIVDS 1200111)).
- Los Angeles, CA. Hired to review multiple potentially responsible parties' case files for the Los Angeles Department of Power and Water (Plaintiffs).
- Malibu, CA. Hired to abandon multiple groundwater monitoring wells.

2013

- San Diego, CA. Retained to provide expert testimony on surface water hydrology, geomorphology, and meteorological analysis (Defense: Jaffe v Bradshaw, et al. (Case: 37-2011-00055925-CU-PO-NC)).
- Lancaster, CA. Hired to peer-review a groundwater model and subsidence issues.
- Malibu, CA. Hired to review wastewater treatment options.
- Malibu, CA. Hired to review and reply to EIR comments about wastewater discharge and hydrology, hydrogeology, and geology.
- Olivenhain Municipal Water District. Hired to evaluate groundwater resources. Conceptual Water Resource Evaluation.

2012

- Torrance, CA. Retained to provide expert testimony on groundwater seepage (Defense: Torrance Matrix Center Property Owners Association v Headlands Realty Corporation, et al. (Case: BC462023)).
- Duncan, OK. Retained to provide expert testimony on the fate and transport of perchlorate and other contaminants of concern, geology, and hydrogeology. Expert Reports, Depositions, and

Mediation Conferences (Plaintiff: Alexander, et al., v Halliburton Company, et al. (Case: 5:11-cv-01343-M)).

- North Central Texas. Hired to evaluate the possible causation of potable water well failures.
- San Francisco, CA. Conducted evaluation of contaminated soils for CalTrans.
- Malibu, CA. Hired to conduct a groundwater investigation and model wastewater discharge into the subsurface. Includes the evaluation of ASR wells and groundwater-seawater interaction. Includes developing groundwater and surface water sampling protocols for long-term monitoring.
- Malibu, CA. Hired to conduct a groundwater investigation for a wastewater treatment system upgrade on a single-family residence.
- Fennville, MI. Retained to provide expert testimony on the fate and transport of contaminants of concern, geology, and hydrogeology. Expert Report and Deposition (Plaintiff: Barnes, et.al., v Birds Eye Foods (Case: 1:10-cv-541)).
- San Nicolas Island, CA. Hired to develop a white paper on the feasibility of deep-well brine injection.
- Long Beach, CA. Hired to develop calculations of dewatering operations for the Gerald Desmond Bridge Replacement Project.
- Malibu, CA. Hired to conduct quarterly and annual groundwater and effluent sampling of commercial property.

2011

- Orange County, CA. Retained to provide expert testimony on hydrogeology, TCE/PCE, perchlorate contaminant sources, and remediation. Deposition (Defense: Orange County Water District v Sabic Innovative Plastics (Case: 30-2008-00078246-CU-TT-CXC)).
- Parker Dam, CA. Semi-Annual Groundwater Reporting to the Bureau of Land Management.
- Baldwin Park, CA. Hired to oversee soil and groundwater sampling for CalTrans freeway expansion in association with FlatIron Corp., including both environmental and geotechnical sampling.
- Pomona, CA. Retained as a rebuttal expert to provide opinions on hydrogeology, contaminant sources (perchlorate), and historical fertilizer use. Expert Rebuttal Report and Trial Testimony (Defense: City of Pomona v SQM North America Corporation, Federal Court).
- Malibu, CA. Retained and hired to evaluate groundwater conditions of a landslide area in association with geotechnical mitigation. This included overseeing groundwater monitoring, drilling monitoring wells, and conducting meteorological assessments. Included Mediation (Defense).
- Laguna Beach, CA. Hired to photo-document coastal cave collapse.
- Baldwin Park, CA. Hired to evaluate the soil contamination of several stockpiles associated with FlatIron Corp. for road construction.
- Malibu, CA. Hired to evaluate and construct artificial recharge wells associated with the City's wastewater system. This included drilling test wells, conducting aquifer tests, and analyzing water chemistry.
- San Jose, CA. Aided in the development of a construction proposal for FlatIron Corp.
- Riverside County, CA. Reviewed ADL reports for SEMA Construction Corp.
- Los Angeles County, CA. Provided a Hydrogeologic evaluation of the landslide-impacted area.
- City of Los Angeles and Riverside County, CA. Wrote ADL Reports for CalTrans.

2010

- Fullerton, CA. Retained to provide expert testimony on contamination sources and remedial alternatives (Plaintiff: M&H Realty Partners v Aerojet-General Corp et al., CA State Court).
- Carson, CA. Provided review of contaminated soil data and sampling plan for hydrocarbon investigation.

- Fresno, CA. Wastewater sampling at the National Raisin Plant. Provide consulting services on wastewater reuse.
- Pleasant Hill, CA. Retained to provide expert assessment of BTEX/MTBE (Declaration (Plaintiff)).
- Victorville, CA. Hired to provide background information on Desert Knolls Wash.
- Placer County, CA. Retained to provide a hydrogeological assessment of the production well and its impact on neighboring domestic wells on behalf of the plaintiffs.
- Merced, CA. Retained as designated expert for Chromium VI contamination case. Work included providing hydrogeological analysis and guidance. Declarations, Expert Reports, Deposition, and Trial Testimony (Plaintiff: Abarca, et al., v. Merck-Federal Court).

1995 – 2010. ***Environmental Science & Planning, LLC.*** Partner (Owner Operator).
Project experience includes management, expert testimony, fieldwork, bid preparation, and consulting for public agencies and private companies in remediation, water resource evaluations, geophysical investigations, surface water management, sampling, and modeling. Selected consulting projects are as follows:

2008

- Torrance, CA. Provided expert analysis of dry-cleaner facility for commercial property.
- Long Beach, CA. Aided in developing a conceptual model of a manufacturing facility.
- Provide technical oversight and alternatives for San Bernardino County Flood Control.
- Orange County, CA. Retained as a designated expert on a single-family home associated with potential water issues (Defense).
- San Bernardino County, CA. Provided consulting services concerning the water supply to an area of single-family residences.
- Signal Hill, CA. Provided expert analysis of the downhole video of the suspected drain.

2007

- La Jolla, CA. Retained as a designated expert on surface and groundwater issues related to landslides (Plaintiff).
- Long Beach, CA. Retained as a designated expert on surface and groundwater issues surrounding a coastal condominium complex (Plaintiff).
- Norco, CA. Provide expert oversight to Wildermuth Environmental, Inc., on surface water and groundwater sampling protocols and training.

2006

- Riverside, CA. Environmental Impact Report. Provided technical support on land development associated with an old mining claim.
- Irvine, CA. Environmental Engineering and Contracting. Provided support and review of CPT, ROST data for an environmental contamination project in Illinois.

2005

- Malibu, CA. Retained as a designated expert on the hydrogeologic analysis of existing wastewater systems. Included Deposition (Defense).
- Riverside, CA. Oversaw specialized soil and groundwater sampling for Layne Christenson.

2004

- Oakland, CA. Soil and groundwater sampling for CalTrans.
- California. Statistical analysis of lead in soil samples for CalTrans highway expansion.
- Carpinteria, CA. Retained as a wetland expert, including HEC-RAS modeling.

2002

- Playa Vista, CA. Developed a methane mitigation plan for residential and commercial development. This included testifying before the County Commissioners.

1999 – 2000

- Norco, CA. Oversaw the development of methane sampling and mitigation standards for Riverside, California.
- Norco/Corona, CA. Methane Mitigation Investigation.
- Long Beach, CA. Conducted both soil and groundwater sampling for Carlin Environmental Consulting.

1998 – 2001 & 2007 – 2012. ***Earth Consultants International, Inc.,*** Senior Consultant (www.earthconsultants.com). Work includes project management and hydrogeologist duties. Other activities include business development and marketing. Projects include wastewater, oil field seepage, methane mitigation, dewatering for construction purposes, EIR development, water resources investigations, watershed studies, and a regional groundwater GIS study for Riverside County.

2010

- Ocotillo/Coyote Wells, CA. Retained to review groundwater basin conditions associated with Wind Zero development (Testimony on behalf of Client – Imperial County).

1998 – Present: City of Malibu Specific Projects

- Hired to provide hydrogeologic services in association with a zero-discharge wastewater system. Aided in Salt Management Plan.
- Hired to provide hydrogeologic services associated with on-site wastewater, Miramar Investment Co.
- Retained to provide consulting services associated with wastewater discharge impacts to the subsurface at Malibu Racquet Club, Casa Malibu Inn, Wavebreak Restaurant, and Malibu Cantina Restaurant (Testimony on behalf of Client – LARWQCB).
- Retained by the City of Malibu to represent them in a surface water lawsuit (Defense).
- Oceanographic-Hydrogeological analysis and modeling of tidal fluctuations, storm surge, and impacts on a coastal development's wastewater discharge system.
- Conducted a regional groundwater study for the City of Malibu associated with a groundwater flow model of the downtown area. This includes fieldwork, data analysis, and modeling support (Testimony for Client – LARWQCB).
- Provided expert testimony for the City of Malibu on local groundwater conditions (Testimony on behalf of Client – LARWQCB).
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Crummer Property, Malibu, California.
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Winter Canyon, Malibu, California.
- Hydrogeologic Characterization and testimony to wastewater discharge to subsurface – Malibu, California. (Testimony on behalf of Client – LARWQCB)
- Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for proposed wastewater treatment facility in downtown Malibu (Testimony on behalf of Client – LARWQCB).
- Hydrogeologic Characterization and Assessment of Wastewater Discharge Impacts for Thirteen Single-Family Residences' Proposed Construction in Trancas Canyon, Malibu, California.
- Groundwater study of Winter Canyon, Malibu, California, to determine the feasibility of using the canyon for wastewater disposal.
- Groundwater study of 200 acres in preparation for the Malibu Civic Center EIR.
- Provide expert witness testimony on sewer seepage and geology for the City of Malibu (Testimony on City of Malibu – LARWQB).

2001

- Developed Safety Elements for Newport Beach, Brea, Glendale, and Pasadena.

2000

- Los Angeles, CA. Playa Vista Corporation – Groundwater and Methane Migration Investigation on Playa Vista Property (Testimony for Client – City of Los Angeles).

1999

- Safety Element of the General Plan, Riverside County.
- Orange, CA. Environmental Impact Report – Geologic, Seismic, and Hydrologic Sections of the Environmental Impact Report for the Proposed Sully-Miller Fieldstone Project.
- Brea, CA. Feasibility investigation to review mitigation options for active crude oil seeps (tar) and methane generation.

2001- 2007. ***Hromadka & Associates***. Consultant

Provided litigation support, computer and physical modeling, expert report reviews, writing, and managing multiple cases and field-site inspections for the company.

2006

- San Diego, CA. PCB transport in San Diego Bay.
- San Francisco, CA. Physical model of apartment complex combined sewer and storm drain network.
- San Francisco, CA. Severe rainfall analysis for four storm events, including flooding.

2005

- Yorba Linda, CA. Analysis of sediment transport from a large grading project and nursery debris production at a school site.
- Irvine, CA. Groundwater uplift analysis of clogged filter fabric in the flexible lining and sediment transport in San Diego Creek in a 2-mile reach using flexible block lining.
- Torrance, CA. Sediment transport in Compton Creek downstream of the Montrose Plant. Transport analysis of sediment in major/minor events.
- Development of Volume-based BMP design procedure for San Bernardino County WQMP.
- Multi-lake hydrologic and water quality analysis at Lake Merced, California. Phosphates, nitrates, golf courses, coliform in groundwater, flood control, and risk reduction. Tunnel flow capacity analysis. Hydrologic balance analysis.
- Santa Rosa, CA. Transport and fate of TCE, PCE in surface water.
- Anaheim Hill, CA. Soil water transport and ET studies for several hundred residences. Water balance studies.
- Fullerton, CA. Soil water transport and ET studies for several dozen residences. Soil water flux in concrete.
- San Clemente, CA. Soil water transport and hydrologic balance analysis near landslides.
- Castaic Lake, CA. Soil water transport and hydrologic balance analysis of a residential tract.
- Oahu, HI. Groundwater plume transport, analysis of BTEX in rising groundwater, and tidal effects.
- Daly City and San Francisco, CA. Flooding and tunnel capacity analysis.

2004

- Tehachapi, CA. Analysis of TDS, cement Kiln dust, chlorinated hydrocarbons, BTEX, TCA, TCE, DCA, and DCE, groundwater flow in fractured and faulted media.
- Irvine, CA. Groundwater hydrostatic pressure analysis, waterproofing of the office center.
- Laguna Canyon, CA. Modeled Landslide.
- Fullerton, CA. Sediment and Debris production, transport, 50-acre watershed.
- Palm Springs, CA. Transport of Aeolian Sand, PM10, saltation, creep, and entrainment in the "*Blow Sand*" area.
- Water Quality holding time criteria development, 85 percent of average storm analysis, County of San Bernardino, Water Resources Division.

2003

- Torrance, CA. Sediment transport analysis between the city of Torrance and Santa Monica Bay. DDT transport.
- Analysis of TDS, viruses, bacteria, and raw sewage in New River and Salton Sea. Evaporation impacts on the Salton Sea salinity.
- San Clemente, CA. Analysis of landslide development.
- Henderson, NV. Analysis of soil water excess. Perchlorate sampling and analysis
- Review of perchlorate modeling and transport, Mid-Valley Landfill, San Bernardino County, California.
- Groundwater supply and TDS inflow levels into New River and Salton Sea, Imperial Valley, California.
- Henderson, NV. Man-made preferential pathways and groundwater transport in land development.
- Anaheim Hills, CA. Water Supply, soil water saturation, landscape methodology review, moisture accumulation, and percolation tests.
- San Diego, CA. Analysis of releases, BTEX, MTBE, lead, groundwater flow, plume evolution, soil gas, soil TPH, CPT/LIF, and HydroPunch data at Mission Valley.

2002

- Honolulu, HI. Sediment transport and erosion.
- Las Vegas, NV. Debris and sediment flow in Duck Creek.
- Irvine, CA. Statistical analysis of all Orange County sediment and contaminant data, San Diego Creek watershed.
- Ontario, CA. Groundwater modeling and analysis of the Kaiser TDS plume.
- San Clemente, CA. Analysis of landslide hydrologic balance.

2001

- Irvine, CA. Stability of Erosion Control Measures in San Diego Creek.
- Dana Point, CA. Erosion analysis of slope failures.
- Torrance, CA. Transport of DDT in surface water, groundwater, sediment, and atmosphere, M2000 transport of DDT from a chemical plant.
- San Diego, CA. Groundwater transport of fuel, free product, in Mission Valley.

1996 – 1998, *SimulProbe Technologies*. Senior Hydrogeologist
Traveled extensively throughout North America and Europe, marketing various technologies. Promoted to head of marketing in the Midwest and Southwest regions. Responsibilities included budgeting, supervising staff, project management, and presenting to government officials and private contractors. My duties also included direct marketing to drilling firms and environmental consultants, supervising all sales personnel and marketing efforts, scheduling service calls and field operations, and assisting with R&D, field training, and site management.

Miscellaneous Projects
1995 – 1998, Project/Staff Geologist

- Kalamazoo, MI. Worked with United Environmental Technologies, Inc. to help develop sampling and well-construction protocols for various projects.
- Kalamazoo, MI. I worked for the GEM Regional Center at *Western Michigan University.* Conducted water budget analysis for a watershed located in Calhoun County.
- Kalamazoo, MI. Worked with the *Health Division of the Michigan Department of Environmental Quality* on well-grouting issues surrounding public and private water supplies.
- Kalamazoo, MI. I worked with the Michigan Department of Environmental Quality on the hydrogeological and geochemical aspects of the Panelyte site. This involved the use of geophysics and geochemical analysis to detect and map potential contaminants.

- Ross Township, MI. Retained through *Western Michigan University* by the City of Kalamazoo to determine the impact of a proposed wellfield on the surrounding surface water bodies (streams, lakes, and wetlands).

1993 – 1995

- Minden, MI. Retained by *Michigan Peat Company* to evaluate peat reserves. The evaluation involved sampling and mapping the peat reserves for litigation.
- Salem, IL. Retained by *Hi-Shots Aerial Photography Inc*., to setup and demonstrate internet capabilities for small businesses.
- Michigan. Retained by *Superior Environmental Corp*. to conduct EM-31 geophysical surveys. The surveys were designed to locate possible buried tanks in a downtown bank parking lot, a corner restaurant parking lot, fabrication/manufacturing buildings, and a former car dealership.
- Schoolcraft, MI. *Alpha GeoSciences Inc*. (Through Department of Geology, Western Michigan University). Hired to run a hollow stem auger drill rig. Three 30-foot wells were installed.
- Kalamazoo, MI. *Golder Associates Inc*. (through the Institute for Water Sciences, Western Michigan University) retained geophysical log monitoring wells within the KL-landfill CERCLA site using natural gamma radiation.
- Champaign/Urbana, IL. Conducted an aerial photographic survey of the Champaign/Urbana landfills to locate hot spots where possible sub-surface fires may be burning. The contract was funded through the *Illinois State Geological Survey.*
- Ann Arbor, MI. Conducted aerial photographic survey of a contaminated wetland for *Alpha GeoSciences Inc*. of Kalamazoo, Michigan. Provided site maps of monitoring wells and sampling locations.

1991 – 1993

- Sanibel Island, FL. Retained by the *City of Sanibel Island, Florida,* to evaluate coastal erosion along the Gulf Coast side of the island for litigation.
- Paris, France. Retained by *Littoral et Patrimoine* for projects in France and India. Evaluated coastal erosion and constructed possible solutions to ongoing erosion problems.
- Sandusky, OH. Designed a sediment coring program along the Sandusky River and part of Lake Erie for a project funded by the *Ohio Department of Natural Resources*. The sediment cores were used to define the sediment input from the Sandusky River and Lake Erie on adjacent estuaries/marshes.
- Three Rivers, MI. Retained by *Reid and Reid Law Offices*, Kalamazoo, Michigan, to evaluate the effects of the construction of a golf course and adjacent buildings on the water quality of Lake Templene for litigation.
- Portage, MI. Designed and coordinated the work on an aeration pilot project on Austin Lake. This project involved bottom sampling, coring, and sediment profiling. Collected and analyzed the sediment and water samples for the *Ramco Company*. Prepared an independent report on the success of the entire project.
- Ludington, MI. Assisted on the Department of Geology's state-funded project involving erosion control monitoring of Undercurrent Stabilization systems.
- Michigan. Assisted the Western Michigan University Department of Geology on a state-funded project regarding erosion monitoring along Lakes Michigan and Huron.
- Wilmington, NC, and Plainwell, MI. Retained by Dr. Thomas Straw to analyze various meteorological parameters for a host of hydrology projects.
- Plainwell, MI. Retained by Dr. Thomas Straw to solve problems associated with a gravel pit operation.

1990 – 1991

- Atlanta, GA. Retained as a consultant by *Sutherland, Asbill & Brennan*, to address a wetland problem within one of *Mobil Land Development Company's* major developments. This included wetland hydrology, soil chemistry monitoring, and aerial photographic interpretation. Litigation support.
- Benton Harbor, MI. Member of Scientific Party – Great Lakes Mapping cruise of eastern Lake Michigan (United States Geological Survey cruise No. NPTN91-1). The resultant sediment samples were split between WMU and the USGS, allowing for research on Fourier shape analysis to possibly fingerprint sediment origin.
- Western Michigan University, Institute for Water Sciences. Research assistant on a USGS-funded project along the Lake Michigan shoreline.

1989 – 1990

- Western Michigan University. Worked with the Department of Geology on small construction projects and consulted on a State of Michigan-funded project addressing shoreline erosion.

1983 – 1989

- Hutchinson, MN. *3M Company*. Summer Intern - I worked at various positions within the 3M Company, including roles as a heavy equipment operator, a plastic injection molding operator, and a VHS line operator.

TEACHING EXPERIENCE

2024 – Present California State University, Fullerton, CA
Professor of Hydrogeology. Responsible for teaching lower division classes in Hydrogeology (GEOL 436); Physical Geology (GEOL 101-GE); Water Crisis in California (GEOL 310T): Sedimentology and Stratigraphy (GEOL 321); Hydrology and Surface Processes (GEOL 335); Meteorology (GEOL 340-GE); Oceanography (GEOL 333-GE); Physical Geology (GEOL 101-GE) and Lab (GEOL 101L-GE); Field Camp (GEOL 481) and upper division classes in Groundwater Modeling; Environmental Sampling and Protocols; Well Hydraulics and Aquifer Analysis (GEOL 535T); Research Methods in Geology (501); Geology Seminar (GEOL 590).

2006 – 2024 California State University, Fullerton, CA
Associate Professor of Hydrogeology.

2015 –2026 Western Michigan University, Kalamazoo, MI.
Adjunct Associate Professor, Department of Geological and Environmental Sciences.

2000 – 2006 California State University, Fullerton, CA
Assistant Professor of Hydrogeology.

2001 – 2016, 2023-2025 Western Michigan University, Kalamazoo, MI
Responsible for the Summer Field Course in Hydrogeology. Teach at least a 1-week graduate-level field course(s) every year, including (1) Principles of Well Drilling and Installation; (2) Principles and Practices of Aquifer Testing; (3) Remediation Design and Implementation

1999 – 2000 California State University, Fullerton, CA
Part-time instructor. Responsible for Oceanography (GEOL 333) and Water Quality (GEOL 437).

1992 – 1996 Western Michigan University, Kalamazoo, MI
Graduate Student Instructor responsible for Hydrogeology (GEOL 435), Oceanography (GEOL 333), and Hydrogeology Summer Field Course (GEOL 535a, b, c, d, e, and f). This field course consisted of six individual modules (40-Hour HAZWOPPER, Environmental Surface Geophysics, Principles of Well Drilling and Installation, Principles and Practices of Ground-Water Sampling and Monitoring, Principles and Practices of Aquifer Testing and Analysis, and Remediation Design and Implications). Other responsibilities included construction measurements and layouts for the Department of Engineering Technology. Responsible for the lab sequences only.

Other Teaching Experience

2025-26	Instructor – Groundwater & Wells Class, Large Capacity Water-Supply Wells Cradle to Grave
2026	Instructor – California Public Water Supply Systems
2021-23	Instructor – Gregg Drilling Field Day
2021	Instructor – California Public Water Supply Systems
2018	Instructor – CalGeo – Soil Logging and Litigation
2016-17	Instructor – SCGS – Soil Sampling and Classification Short-Course
2012	Instructor – NGWA Hydrogeology Field Methods Course: What you didn't learn in School. Andover, MN.
2010-11	Reviewer/Participant – Worked with Healthy Heroes, LLC, developing educational videos.
1996 – 98	Instructor – *Eight-hour OSHA HAZWOPER* supervisor course (29 CFR 1910.120 (e)(3).
1995	Hi-Shots International Conference. I taught short courses on environmental remote sensing utilizing a helium-filled tethered blimp.
1992	Kalamazoo, Michigan. Teaching Assistant for a course titled *Shoreline Geology and Processes*. Course sponsored by the Secondary Education of Michigan Summer (SEMS). This was a state-funded project.
1991	St. Joseph, Michigan, Berrien County. Teaching assistant for a Shoreline Geology and Processes course sponsored by the SEMS State-funded project.

Developed CSUF-Departmental Short Courses:

- GeoProbe Demonstration Days (2009 – 2011, 2017)
- Westbay Multiport Sampling (2004-09, 2017)
- CPT Demonstration Day – Gregg Drilling (2010)
- AMS Demonstration Day (2009)
- CPT Field Demonstration on Quality Environmental Site Investigation. (In-cooperation with Gregg Drilling) (2004)
- Environmental Sampling Procedures and Practices (2003)
- Borehole and Well Logging Interpretation (Taught at Layne Christenson) (2003)
- Baroid Industrial Drilling Products – Drilling and Boring Fluids (2002)
- GIS Course I & II – What is GIS and how can it be utilized in research (2001)
- FEMA – Advanced HAZUS Training for GIS Professionals (2001)

TEACHING PHILOSOPHY

As a professor, I aim to provide students with practical experience essential for building a successful career. In addition to providing the "*nuts and bolts*" of a subject, I encourage students to apply traditional knowledge to innovative approaches through applied research and hands-on experience. I aspire to motivate students by fostering participation in unique learning opportunities, many provided by local companies, agencies, and vendors willing to share their services and expertise.

Through private and government grants and contracts, I can offer multiple funding opportunities to my students, enabling them to dedicate more time to their academic studies and gain experience through field-related projects. My primary research focus is on groundwater hydrology and hydrogeology in arid environments. Most of my students directly participate in this research and can obtain either a bachelor' or master's degree through individual projects for which they are responsible.

I encourage my students to actively participate in professional organizations to build strategic partnerships and create a broad-reaching network of individuals and indispensable resources. Furthermore, I encourage students to present their abstracts and posters at local and national conferences, and to publish their research as often as possible, to stimulate informed discussions with their peers and accomplished professionals.

The most effective way to measure the achievement of my objectives and assess my goals is to solicit student feedback and evaluation. My students consistently rate me very highly in their end-of-semester assessments. My greatest reward as a teacher is the lasting professional and personal relationships I have with my students. I enjoy working with and supporting students through their academic careers and feel honored when they graduate with a professional degree.

AWARDS, HONORS, SPECIAL QUALIFICATIONS

- NSM 2025 Outstanding Service Award
- NGWA 2024 Fellow Designation
- NGWA 2024 Robert Storm Intersectional Cooperation Award
- NGWA 2014 Ross L. Oliver Award
- NGWA 2014 Keith E. Anderson Award
- Western Michigan University 2011 – Distinguished Alumni Award
- NGWA 2009 McEllhiney Lecturer for Water Well Technology
- International Ground Source Heat Pump Association (IGSHPA) Accredited Trainer (20589-0709)
- Boy Scouts of America – Merit Badge Sponsor: Geology, Oceanography, Environmental Science, and Soil and Water Conservation
- CSUF – Student Association, Outstanding Academic Advisor (2003/04)
- CSUF – NSM Nominee for Outstanding Contributions to Student Success Award (2002/03 & 2003/04)
- Western Michigan University established a scholarship in my honor for the outstanding hydrology field camp students. Awarded annually since 1998.
- Western Michigan University, Department of Geology, Distinguished Service Award, 1997
- Western Michigan University Research Fellowship 1991-1992
- IEEE OCEANS 92' student paper finalist
- OSHA 40-Hour Hazwoper Supervisor, Active

NATIONAL AND UNIVERSITY COMMITTEES

- CSUF, Geology Club Faculty Advisor (2024 – 2025)
- CSUF, Hiring Committee for VP Government and Community Relations (2020)
- CSUF, Campaign Congress, 2020-2024
- CSUF, Strategic Planning Committee Member, 2019-2022
- CSUF, Hiring Committee for VP Advancement (2018)
- CSUF, University Advancement Committee Member, 2003-05; 2011-15; 2017-21 (chair 2017-20)
- CSUF, Freshman Pathways (Sustainability), Committee Member, 2013-2015
- CSUF, ENST Advisory Committee, 2004 - present
- WMU, Geosciences Advisory Council Member 2007 - present (Chair 2021-)
- GRAC – Educational Committee Member 2009 - 2020
- NWRI – Independent Advisory Panel; OCWD Santa Ana River Monitoring Program, 2006-2012
- Long Valley Hydrologic Advisory Committee, 2003-2009

NATIONAL GROUND WATER ASSOCIATION

- NGWA Research and Education Foundation, President, 2015-2017
- NGWA Research and Education Foundation, Board Member, 2010-2014, 2017-2018
- Scientists and Engineers Division, Past Chair 2012-2014
- Scientists and Engineers Division, Chair 2010-2012
- Scientists and Engineers Division, Vice-Chair, 2008-2010
- Scientists and Engineers Division, Board Member, 2004-2008; 2016-2020

- NGWA - McEllhiney Lecture Committee, 2014 - 2018 (chair 2014); 2019 - 2021
- NGWA – Board of Directors, 2008-2014
- NGWA – Professional Development Committee Member, 2000 - (chair 2009-2010)
- NGWA – Groundwater Summit Co-Chair (2006): Committee Member (2005, 2007-2012)

FUNDED GRANTS and CONTRACTS
(CSUF total to date through 2026: over $ 3,000,000)

2016-2020

- California High Speed Rail Authority ($500,000); Oversee Groundwater issues as they may pertain to the construction and operations of the California High Speed Rail. Including groundwater modeling review and deep groundwater monitoring.

2004 – 2014

- Mojave Water Agency ($2,099,000); *Grant for work on Water Resource Evaluation and Mapping – Mojave Desert Region* (Alto, Este, Oeste, and Centro Hydrologic Sub-areas).

2003

- Mojave Water Agency ($217,000); Water Resource Research within the Mojave Desert. Part of this project involved developing a GIS/Database inventory of all wells, groundwater elevations, and hydro-geochemistry for each basin within the MWA boundaries. Specific portions of the grant were set aside to oversee, collect, and analyze data from a 2,500-foot-deep multiport monitoring well near Oro Grande Wash.
- Friends of the San Gabriel River ($32,000); *Citizens Monitoring Program Development and Implementation.* This was funded through a State of California Grant (Prop 50).

2002

- Mojave Water Agency ($57,405); *Groundwater Investigations to look at potential recharge areas throughout the Southern Mojave Desert Area.* Establish a digital well log inventory and conduct a bibliographic search of all documents related to the MWA Water Agency. CSUF also developed a key well program for Lucerne Valley based on groundwater basin recharge.
- CSUF Service-Learning Mini-Grant ($1,500); *Integrating Service Learning into Advanced Environmental Geology.*
- Earth Consultants International, Inc. ($3,000); *Geologic Interpretation of borehole geophysics. Involves the gamma-ray logging and interpretation of subsurface geology.*

2001

- CSUF Service-Learning Mini-Grant ($3,000); *Integrating Service Learning into Advanced Hydrogeology Sampling.*
- San Elijo Lagoon Conservancy ($35,000); *Sediment Quality and Depositional Environment of San Elijo Lagoon.*
- Los Angeles Regional Water Quality Control Board ($31,000); *The Santa Clara River Watershed; GPS and Observational Report on the Santa Clara River*
- Grant to develop a web-based model on Distance Calibration of Earth Images ($800). This was part of the Advanced Technology in Science Learning Environments Grant through the Department of Biology.
- CSUF Summer Support Assistance ($5,000): This was summer support money to aid in sampling water and soil throughout Orange County, California.

2000

- Los Angeles Regional Water Quality Control Board ($25,000); *The San Gabriel River Watershed; GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach.*

IN-KIND DONATIONS for Research / Projects

- Supplies for Screen and Gravel Pack Analysis (est. $10,000); Donated by Johnson Screens
- DJI Phantom II (est. $2,500); Donated by Earth Forensics Inc.
- Woolly Mammoth (est. $500,000); Donated by Gregg Family Foundation
- Software (Visual Modflow) ($2,700); Donated by Earth Forensics Inc.
- Soil sampling supplies and equipment ($2,500); Donated by GeoProbe
- Deep Multiport Westbay Monitoring Well ($300,000); A deep multiport monitoring well was installed on the northwestern portion of campus to develop a long-term monitoring program for groundwater in the north Orange County groundwater basin. The well was installed with sampling ports in six different zones to 850 feet below ground level. The entire project was donated.
- Miscellaneous equipment supplies and laboratory analysis have been donated for many different projects ($50,000). These donations have been used for student thesis research and classroom activities.
- Sampling Truck (value $30,000). The vehicle is specially designed to collect water samples downhole – equipped with twin generators and a large-capacity hydraulic system. Donated by Earth Technologies, Inc.
- Ford F-250 Pickup ($8,000); Donated by URS Corporation
- Generator ($2,500); Donated by Aquifer Science and Technology
- Software (Waterloo Hydrogeologic – Visual Modflow, AquiferTest and Aquachem) ($10,000)
- Software (Groundwater Vistas) ($2,500+$2,250 for update)
- Conference table and chairs ($500); Donated by URS Corporation
- Arboretum Groundwater Study (approximately $10,000); Drilling and installation of 3 monitoring wells for the purpose of developing a curriculum for general hydrogeology. These wells are part of a larger project to interpret the hydrogeology of CSUF and the local area.

PROFESSIONAL PUBLICATIONS, ABSTRACTS, PRESENTATIONS and POSTERS

Peer-Reviewed Publications (Published, Accepted, Submitted)

1. **Laton, W.R.**, Figueroa, O., Foster, J.F., and Perez, R., 2025. *Historical Knowledge of the Toxicity of TCE in the United States*. Remediation 2025; v35-4: http://dx.doi.org/10.1002/rem.70032
2. **Laton, W.R.**, Perez, R., Foster, J.F., 2024, *UAV Thermal Mapping as a New Tool to Document Baseline Environmental Conditions: The California High-Speed Rail through the San Gabriel Mountains, California.* Groundwater Monitoring & Remediation. http://doi.org/10.1111/gwmr.12644
3. **Laton, W.R.**; Foster, J.H. 2023. *Abrupt Late Holocene Closure of San Elijo Lagoon, Northern San Diego County, California*. Coasts 2023, 3, 227-239. https://doi.org/10.3390/coasts3030014
4. **Laton, W.R.**, 2021. *Malibu, California: A Story of Wastewater, Politics, and Science*. The Professional Geologist. 2021; Vol. 58. No. 2, pages 15-19. USPS 590-810 and ISSN 0279-0521
5. **Laton W.R., 2019**. *New perspectives on horizontal to vertical well ratios for site cleanup*. Remediation. 2019; 30: 27–31. https://doi.org/10.1002/rem.21628
6. [2]D. Dailey, W. Sauck, M. Sultan, [2]A. Milewski, [2]M. Ahmed, **W.R. Laton**, R. Elkadiri, J. Foster, C. Schmidt, and T. Al Harbi., 2015. *Geophysical, geochemical, and remote sensing applications for a better understanding of the structural controls on groundwater flow in the Lucerne Valley, California.* Journal of Hydrology: Regional Studies 3 (2015) 211-232. https://doi.org/10.1016/j.ejrh.2014.12.002
7. **Laton, W.R.**, 2006. *Building Groundwater Monitoring Wells on Campus – A Case Study and Primer.* Journal of Geoscience Education (Vol. 54, No. 1), pgs 50-53. https://doi.org/10.5408/1089-9995-54.1.50
8. **Laton, W.R.**, Whitley, R.J., and Hromadka II, T.V., 2006. *A Methodology for Identifying the Potential Source of Groundwater Contamination in a Multiple Source Problem Using a New Mathematical Approach*. Hydrogeology Journal. https://doi.org/10.1007/s10040-006-0106-4
9. **Laton, W.R.**, Hromadka II, T.V. and Picciuto J.A., 2006. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. Hydrological Science and Technology, Volume 22, No.1-4.
10. **Laton, W.R.**, 2004. *Seepage, Flow, and Chemical Partitioning Between the City of Parchment Wellfield and the Kalamazoo River, Southern Michigan.* Journal of Floodplain Management (Vol. 4, No. 1), pgs 11-32.
11. Perez, R., Foster, J.F. and Laton, W.R., *Hydrostratigraphy of Victorville Fan and Water Resources Implications.* (in prep)
12. Laton, W.R. and Perez, R., *Delineation, Prediction, and Historical Estimation of Perchlorate Migration from an Industrial Site*. (in prep)
13. Laton, W.R., et al., *Well hydraulics, development, and longevity - glass beads versus natural filter material*. (in prep)

Guidebooks, Full Paper Proceedings, and Articles

1. Laton, W.R., Perez, R., and Bausch, D., 2018. Hazard Maps for Riverside County, California. San Diego Association of Geologists annual field trip guidebook (update of earlier version).
2. Laton, W.R. and Krstich, B., 2010. *Zoom Zoom, Public works managers are now using Google Earth to track environmental and water resources*. Public Works Online. (Public Works Manual 2010)
3. Laton, W.R., 2005. The Cutting Edge: "*Teaching Hydrogeology in the 21st Century*". NGWA-AGWSE News and Views. (article September 2005)
4. Jenson, J. and Laton, W.R., 2005. Second Annual Groundwater Summit. NGWA-AGWSE News and Views. (article September 2005)
5. Laton, W.R., 2004. *Building Ground Water Monitoring Wells on Campus: A Case Study and Primer*. NGWA-AGWSE News and Views. Vol. 1, Issue 1.
6. D. Bausch, E. Gath, T. Gonzales, and R. Laton, 2000. *GIS-Based Hazard Mapping and Loss Estimation in the Safety Element of the General Plan for Riverside County, California*. California: EERI 6th International Conference on Seismic Zonation, Riverside County, California.
7. Laton, W.R., [1]Perez, R., and Bausch, D., 2000. *New Hazard Maps for Riverside County, California*. San Diego Association of Geologists' Annual Field Trip Guidebook.
8. Laton, W.R., 1992. *Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement: Identification and Mapping*. OCEANS '92, Newport, Rhode Island.

Public Reports and White Papers

1. Laton, W.R., Foster, J., Perez, R., and Becker, M., 2020. *Phase I1 Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High-Speed Rail Authority.
2. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up*. EnRx.
3. Laton, W.R., 2016. *Phase 1 Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High-Speed Rail Authority.
4. Laton, W.R., 2016. *DTSC Aquifer Test Guidance*. Reviewer for draft guidance document.
5. Laton, W.R., 2012. *Disposal of Desalination Effluent; Deep-Well Injection Feasibility San Nicolas Island, California*. US Navy.
6. Foster, J., Laton, W.R., et al., 2008. *Geologic Map Series of Mojave Region*. (750, 500, 250, 24' and 15'). Mojave Water Agency. Revised series, Fall 2010.
7. Laton, W.R., Foster, J., et al., 2007. *Oeste Hydrologic Sub-Basin Report*. Mojave Water Agency.
8. Hromadka, II, T.V., Laton, W.R. and [2]Perez, R., 2006. *Hydrologic Data Report October 17-21, 2004 Storms.* Orange County Flood Control District.
9. Laton, W.R., Foster, J., et al., 2007. *Groundwater Atlas of Oeste Hydrologic Sub-basin*. Mojave Water Agency.
10. Laton, W.R., Foster, J., [2]Ebbs, V., [2]Blazevic, M., and [1]Napoli, N., 2007. *Harper Lake Hydrologic Sub-Basin Report*. Mojave Water Agency.
11. Laton, W.R., [1]Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Baja Hydrologic Sub-Basin to Afton Canyon Report*. Mojave Water Agency.
12. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Este to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
13. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Oeste to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
14. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Alto to Centro Hydrologic Sub-Basins Report*. Mojave Water Agency.
15. Laton, W.R., [1]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Centro to Baja Hydrologic Sub-Basins Report*. Mojave Water Agency.

16. Hromadka, II, T.V., Laton, W.R., and Picciuto, J.A., 2005. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. San Bernardino County Flood Control District.
17. Laton, W.R., Foster, J., et al., 2004. *Este Hydrologic Sub-Basin Report*. Mojave Water Agency.
18. Laton, W.R., Foster, J., et al., 2004. *Groundwater Atlas of Este Hydrologic Sub-basin*. Mojave Water Agency.
19. Laton, W.R., et al., 2004. *San Gabriel River Watershed Atlas*. Friends of the San Gabriel River.
20. Laton, W.R., et al., 2004. *San Gabriel River Watershed QAPP and Sampling Manual*. Friends of the San Gabriel River.
21. Laton, W.R, [2]Kendall, D. and [2]Lizzy, A., 2004. *Drilling Methods and Materials*. Online course material for NGWA.
22. [1]Blazevic, M. and Laton, W.R., 2004. *Mojave River Stream Gauging*. Mojave Water Agency
23. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy.
24. Laton, W.R. and Foster, J., 2001. *Sediment Quality and Depositional Environment of San Elijo Lagoon, San Diego County, California*. San Elijo Nature Conservancy and Fish and Wildlife Service.
25. Laton, W.R. and Foster, J., 2001. *Santa Clara River Watershed Inventory*. Los Angeles Regional Water Quality Control Board.
26. Laton, W.R. and Foster, J., 2000. *The San Gabriel River Watershed GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach*. Los Angeles Regional Water Quality Control Board.
27. Straw, W.T., [2]Hascall, A.P., [2]Laton, W.R., and [1]Dalman, M., 1997. *Groundwater – Surface Water Interaction Study in Ross Township*. City of Kalamazoo, Michigan.
28. Straw, W.T. and [2]Laton, W.R., 1993. *WMU Austin Lake Aeration Feasibility Study Evaluation*. City of Portage, Portage, Michigan.
29. Straw, W.T., [2]Wardwell, D.A. and [2]Laton, W.R., 1992. *An Evaluation of Undercurrent Stabilization Anchor System Installation at Douglas and Tawas City, Michigan*. Michigan Department of Natural Resources.

[1]Undergraduate Student
[2]Graduate Student

Abstracts, Presentations, and Posters

1. Woodard, B., Hanna, T., and Laton, W.R., 2026. *Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Construction.* (NGWA Groundwater Week)
2. Laton, W.R., 2026. *Public Water Supply Systems Overview*. (Halfmoon Education Course)
3. *[2]Kawasaki, J., Laton, W.R., and Hanna, T., 2025. *Comparative Analysis of Glass Beads and Sand Filter Packs during Mechanical Well Development*. (GRAC)
4. Laton, W.R., 2025. *From the Classroom to the Office/Field*. (AEHS – Soil, Water, Energy, and Air; Invited)
5. *[1]Woodard, B., and Laton, W.R., 2024. *The Requirements for Constructing a Favorable Recharge Well in San Juan Capistrano, CA.* (NGWA Expo, Student Poster Winner)
6. *[1]Ruiz, R., and Laton, W.R., 2024. *Finding Suitable Locations for Recharge Systems in and around Rancho Mission Viejo Riding Park, CA.* (NGWA Expo, Student Poster Winner)
7. *[2]Kawaski, J., Laton, W.R. and Hanna, T., 2024. *Are Man-Made Glass Beads Better than Silica Sands as Filter Packs in a Water Well?* (NGWA Expo)
8. *[1]DuCharme, B., Pham, C., and Laton, W.R., 2024. *Modeling of Percolation of An Alternative Absorbent Considered for PFAS Treatment During Managed Aquifer Recharge*. (NGWA Expo)
9. Laton, W.R., 2024. *25-Years of CSUF Research*. (Sac State Geology Department, Invited)

10. Hanna, T., Laton, W.R., and [2]Kawaski, 2023. *Physical Parameters Compared for the Installation and Development of Glass Bead and Natural Filter Packs*. (NGWA Expo)
11. Laton, W.R., 2022. *UAV Thermal Mapping to Develop Baseline Conditions for California High-Speed Rail through San Gabriel Mountains!* (SCGC Invited)
12. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (GRAC Invited)
13. Laton, W.R., 2021. *Working with that new Geologist in the field.* (NGWA Expo - workshop)
14. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (ENST Invited)
15. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* Florida Remediation Conference (recorded virtual presentation).
16. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2021. *Fundamentals of Horizontal Well Systems and Modeling Tools.* AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy (Virtual - Workshop)
17. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual - Presentation)
18. Laton, W.R., 2021. *Groundwater of California*. WMU Geology (Invited)
19. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2020. *Fundamentals of Horizontal Well Systems and Modeling Tools.* AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy (Virtual - Workshop)
20. Laton, W.R., 2020. *Groundwater of the States: California*. NGWA Webinar Series.
21. Laton, W.R., 2020. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual). (abstract/presentation)
22. Laton, W.R., 2020. *New Perspectives on Horizontal to Vertical Well Ratios for Site Cleanup*. 12th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Battelle, Portland, OR. (abstract/presentation) (*conference postponed*)
23. Laton, W.R., 2020. *Malibu California, Wastewater and Politics* Cal State University, Fresno, CA. (Invited)
24. *[2]Alonzo, T., Laton, W.R., Hanna, T., 2019. *Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Design and Construction*. NGWA Expo, Las Vegas, NV. (abstract/presentation) (Outstanding Research Award)
25. Laton, W.R., 2019. *The Concept of Sustainability and the Recruiting of Younger Millennials*. NGWA Expo, Las Vegas, NV. (workshop)
26. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up.* AEHS, 29th Annual International Conference on Soil, Water, Energy, and Air. San Diego, CA. (abstract/presentation)
27. Laton, W.R., 2018. *Take my Job*. NGWA Expo, Las Vegas, NV. (workshop)
28. Laton, W.R., 2018. *Groundwater – The Water Beneath Our Feet*. CSUF Fullerton Arboretum. (Invited)
29. *Perez, R. and *Laton, W.R., 2018. *The Use of UAVs for Groundwater Research.* California State University, San Bernardino. (Invited)
30. *Perez, R. and Laton, W.R., 2017. *UAV's for Use in Groundwater Resources*. NGWA Expo, Nashville, TN. (workshop)
31. Laton, W.R., 2017. *Introduction to Borehole Geophysics*. NGWA Expo, Nashville, TN. (workshop)
32. Laton, W.R., 2017. *Malibu California, Wastewater and Politics*. Southern California Chapter of AEG. (Invited)
33. Laton, W.R., 2017. *Low Altitude Photography Utilizing UAVs – Geologic and Hydrologic Applications*. Los Angeles Basin Geological Society. (Invited)
34. Laton, W.R., 2016. *Preparing for the Field, What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
35. Laton, W.R., 2016. *Wastewater, Politics and Science.* South Coast Geological Society (Invited).

36. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. Western Michigan University. (Invited)
37. Laton, W.R., 2016. *Holding Back the Ocean and Recharging Aquifers with Treated Wastewater.* Minnesota Groundwater Association, Annual Meeting. (Invited)
38. Laton, W.R., 2016. *UAV Mapping and Business Opportunities*. Ground Water Institute. Tucson, AZ. (Invited)
39. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. GSA Section meeting, Ontario, CA. (abstract/presentation)
40. *Perez, R., Laton, W.R., Cruikshank, M. and [1]Hugh, C., 2016. *UAV Imagery and Mapping: What are the Capabilities and Limitations?* SAGEEP 2016, Denver, CO. (abstract/presentation)
41. Laton, W.R., 2015. *Sounder Selection – Show and Tell*. NGWA Expo, Las Vegas, NV. (workshop)
42. Laton, W.R., 2015. *Preparing for the Field – What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
43. Laton, W.R., 2015. *Using Sand Tank Models to Explain Groundwater Flow*. NGWA Expo, Las Vegas, NV. (workshop)
44. Laton, W.R., 2015. *When does it make Sense to Learn from a Person vs. Learn from a Device?* NGWA Expo, Las Vegas, NV. (workshop)
45. Laton, W.R. and Perez, R., 2015. *Low Altitude Photography Utilizing UAV's*. Long Beach State University – GIS Day Mixer. (Invited)
46. *Laton, W.R., *Perez, R. and *Cruikshank, M., 2015. *Low Altitude Photography utilizing UAV's – Geologic and Hydrologic Applications.* IGS, Riverside, CA. (Invited)
47. Laton, W.R. 2015. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint and Drones for Use in Water Resources.* Mountain States Groundwater Expo, Laughlin, NV. (Invited)
48. Laton, W.R. 2015. *Backyard Soils*. Natural OC, Santa Ana, CA. (Invited)
49. Laton, W.R. 2014. *Using Google Earth for Hydrogeological Problem Solving.* NGWA Expo, Las Vegas, NV. (workshop)
50. Laton, W.R. and *Perez, R., 2013. *Got Geological Problems-How to Use Innovative Multimedia Applications to Identify and Analyze Them.* NGWA Expo, Nashville, TN. (workshop)
51. Laton, W.R., 2013. *Hydrogeology 101*. NGWA Expo, Nashville, TN. (lecture)
52. Laton, W.R., 2012. *Hydrogeology 101.* NGWA Expo, Las Vegas, NV. (lecture)
53. Laton, W.R., 2012. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
54. Laton, W.R., 2012. *Geothermal Forum: Business Success Through Excellent Performance – Hydrogeology (Really) Does Matter.* NGWA Expo, Las Vegas, NV (lecture)
55. Laton, W.R., 2011. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
56. *[2]Dailey, D.R., Sauck, W.A., Sultan, M., [2]Milewski, A., Laton, W.R. and Foster, J.H., 2011. *Geophysical and Remote Sensing Applications for better understanding of the Structural (Faults/Basement Uplifts) Controls on Groundwater Flow in the Lucerne Valley, California.* GSA Annual Meeting. (abstract/presentation)
57. Laton, W.R., 2011. *Implications of Surface Water/Groundwater Interaction or Groundwater and the Impacts on Surface Water Delivery.* Declining Groundwater Levels: Measuring, Monitoring, and Mitigation. NGWA Virtual Conference.
58. Laton, W.R., 2011. *Hydrogeology 101*. Santa Susana Field Laboratory seminar series. (workshop)
59. *[2]Barker, S., Laton, W.R. and Foster, J.H., 2010. *An investigation of potential surficial recharge in the Lucerne Valley groundwater basin, Mojave Desert, CA*. Anaheim, CA. GSA Abstract with Programs. Vol. 42, No. 4, p. 97, Paper No. 45-2.
60. Laton, W.R., 2010. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. GRA Webinar.
61. Laton, W.R., 2010. *Using Google Earth in Water Resources Research*. NGWA Webinar.

62. Laton, W.R., 2010. *Hydrogeology 101*. NGWA National McEllhiney Lecture 2010, Sponsored by the NGWAREF (Invited 7 presentations throughout the U.S.)
63. Laton, Richard, *[2]Al Harbi, Talal, Sauck, William A., Foster, John, Sultan, Mohamed, [2]Milewski, Adam, [2]Marsala, Peter, [2]Balekai, Rajesh, and [2]Salim, Hassan, 2009. *Use of Geophysical and Remote Sensing Data for a Better Understanding of the Hydrologic Role of Faults in the Mojave Desert*. GSA Annual Meeting. (abstract/poster)
64. Laton, W.R., 2009. *Using Google Earth*. NGWA Expo, New Orleans, LA. (workshop)
65. Laton, W.R., 2009. *Hydrogeology 101*. NGWA Expo, New Orleans, LA. (workshop)
66. Laton, W.R., 2009. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. NGWA National McEllhiney Lecture 2009, Sponsored by NGWAREF. (Invited 30+ presentations throughout North America)
67. Foster, J.H. and *Laton, W.R., 2008. *Groundwater Resources Sustainability in the Victorville Area: Results from the Oro Grande Wash Recharge Pilot Study.* Association of Engineering Geologist. (abstract/presentation)
68. *[1]Dailey, D., Laton, W.R., and Foster, J.H., 2008. *New Detailed Model for El Mirage Subsurface Geology, El Mirage, CA.* GRA Annual Meeting. (abstract/poster)
69. *[1]Velarde, J.C., Foster, J.H., and Laton, W.R., 2008. *The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County California.* GRA Annual Meeting. (abstract/poster)
70. *[2]Monzon, E. and Laton, W.R., 2008. *Estimating Applied Irrigation for Urban Landscapes in South Coast California, using Theoretical and Conventional Means.* GRA Annual Meeting. (abstract/poster)
71. *[2]Lizzi, A., Laton, W.R., Foster, J.H., 2008. *Evaluation of the Potential Groundwater Resources of A Confined Aquifer, San Diego County, California.* NGWA Groundwater Summit (abstract/presentation)
72. Laton, W.R., 2006. *Surface Water and Ground Water: How the Two Interact*. NGWA National Meeting. (Invited)
73. *[1]Cruikshank, M.J., Foster, J.H. and Laton W.R., 2006. *Presence of Deep High-Quality Ground Water in El Mirage Valley, San Bernardino County, California.* NGWA Groundwater Summit (abstract/poster) (NGWA, Outstanding Student Research Award)
74. *[2]Surko, T., Armstrong, P.A. and Laton, W.R., 2006. *Gravity Survey of Lucerne Valley Ground Water Basin, Mojave Desert, Southern California: Implications for Basin Geometry and Structure.* NGWA Groundwater Summit (abstract/presentation)
75. *[2]Barthel, P.S. and Laton, W.R., 2006. *Desert Studies Center: A Hydrogeologic Model and Water Budget.* NGWA Groundwater Summit (abstract/presentation)
76. Laton, W.R., 2005. *Methods to Determine Basin Yield*. GRA Groundwater Resources Series – Basin Yield and Overdraft: Scientific and Legal Perspective. (Invited)
77. Laton, W.R., 2005. *Borehole Logging from Sample Collection to Borehole Geophysics*. Presented at NSF Workshop on "*Teaching Hydrogeology in the 21st Century*". (presentation/lab write-up)
78. Laton, W.R., 2005. *Water Budget Analysis – A Story of Two Arid Region Groundwater Basins*. CEA-Crest Symposium on Arid Hydrology. (abstract/presentation)
79. *Laton, W.R., Hromadka, T., Yeager, M., Picciuto, J. and Whitely, B., 2005. *A New Method for Estimating Runoff Quantities for Flow and Volume-based BMP Design*. CASQA Conference. (abstract/presentation)
80. *[2]Lizzi, A.L., Laton, W.R. and Foster, J., 2005. *Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
81. *[2]Boeke, B., Laton, W.R. and Foster, J., 2005. *Groundwater Potential for Harper Dry Lake: Implications for Ground Water Availability in Harper Valley, San Bernardino County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
82. *[2]Kolstad, K. and Laton, W.R., 2005. *Hydrocarbon Soil Vapor: Actual vs Predicted*. NGWA 2005 Groundwater Summit. (abstract/poster)

83. *[1]Napoli, N. and Laton, W.R., 2005. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
84. *[2]Perez, R. Foster, J. and Laton, W.R., 2005. *The Redefining of a Groundwater Basin, Alto Sub Basin, Southwestern Mojave Desert, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
85. *[2]Surko, T.L., Armstrong, P. and Laton, W.R., 2005. *Gravity Survey of Lucerne Valley Groundwater Basin, Mojave Desert, Southern California: implications for basin geometry and structure*. NGWA 2005 Groundwater Summit. (abstract/poster)
86. *[1]Blazevic, M., [1]Napoli, N., Foster, J. and Laton, W.R., 2004. *Subsurface Geologic Investigation of a closed Alluvial Basin: Lucerne Valley, San Bernardino County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
87. *[1]Napoli, N., [1]Blazevic, M., Laton, W.R. and Foster, J., 2004. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
88. *[2]Perez, R., Foster, J. and Laton, W.R., 2004. *Just how deep is it? Alto Deep Well and its impacts to Alto Groundwater Sub-Basin Geology*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
89. [2]Hunt, S. and *Laton, W.R., 2004. *Update on Geochemical Analysis of the Central Basin, Los Angeles County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
90. *[2]Haj-Manouchehri, D. and Laton, W.R., 2003. *Water Quality in Relation to Watershed Management in the Lower San Gabriel River, Southern California.* WRI conference (abstract/poster)
91. Laton, W.R., 2003. *Lessons Learned; Groundwater Flow Model – Taylor Yard, Los Angeles*. South Coast Geological Society. October 6, 2003. (Invited)
92. *Laton, W.R. and [1]Dolmat, J., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. National Ground Water Conference. (abstract/TIPS)
93. [2]Figueroa, O. and *Laton, W.R., 2003. *Ground Water Modeling of a Coastal Aquifer Malibu, California*. National Ground Water Conference. (abstract/TIPS)
94. *[2]Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Water Level Monitoring, Lower Borrego Canyon Wash, Irvine CA*. National Ground Water Conference. (abstract/TIPS)
95. *[2]Hasegawa, S. and Laton, W.R., 2003. *Risk Assessment of Point and Non-Point Source Pollution on Water Resources along the Santa Ana River*. California Groundwater Conference. (abstract/poster)
96. *[1]Dolmat, J. and Laton, W.R., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. California Groundwater Conference. (abstract/poster)
97. *[2]Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Precipitation Induced Recharge Data Lower Borrego Canyon Wash, Orange County California*. California Groundwater Conference. (abstract/poster)
98. [2]Hunt, S. and *Laton, W.R., 2003. *Geochemical Analysis of the Central Basin, Los Angeles County, California*. California Groundwater Conference. (abstract/poster)
99. Laton, W.R., 2002. *Taylor Yard and Los Angeles River, Preliminary Groundwater and Surface Water Study Groundwater Model of Taylor Yard and Vicinity Los Angeles, California*. NGWA National Meeting. (abstract/poster)
100. [1]Otto Figueroa and *Laton, W.R., 2002. *Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California*. NGWA National Meeting. (abstract/poster)
101. *Laton, W.R., [2]Sean Hunt, and Foster, J., 2002. *The Impact of Groundwater – Surface Water Interaction on Contaminant Distribution, San Elijo Lagoon, California*. NGWA National Meeting. (abstract/poster)

102. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy. (Invited)
103. Laton, W.R., 2001. Distance Calibration of Earth Images – To design and develop a Web delivered lesson showing an Advance in Information Technology that can be used in a Science Learning Environment for In-service Teachers (online lesson plan).
104. Laton, W.R., 2001. *The Role of Groundwater in Geologic Hazards*. California Science Academy (CEA-Crest). (abstract/presentation)
105. Laton, W.R., 2001. *Natural Hazards Mapping, Thailand*. Thailand Geological Survey. (Invited)
106. Laton, W.R., 2001. *Subsidence evaluation and assessment, Bangkok, Thailand*. Thailand Geological Survey. (Invited)
107. [*]Laton, W.R., [*1]Perez, R., and [*1]Figueroa, O., 2000. *Natural Hazard Mapping – A GIS Approach*. CSUF Geology Department.
108. Laton, W.R., 2000. *Natural Hazards Assessment of Temecula, California*. San Diego Association of Geologists annual field trip. (Invited)
109. [*]Sauck, W. A., Laton, W.R., [2]Seng, D.L., and [2]Vandereide, M.A., 2000. *Ground-penetrating radar investigations of nearshore sediments of eastern Lake Michigan.* IAGLR 2000.
110. Laton, W.R., 1999. *Watershed Management and Sampling Protocol*. Korean Ministry of Environment and Environmental Management Corporation short course. (Invited)
111. Laton, W.R., 1999. *Environmental Sampling – what, when and why*. Port of Los Angeles, Environmental Group. (Invited)
112. Laton, W.R., 1998. *Single Point Pneumatic Slug Test, Soil Vapor Extraction (SVE) Testing During Initial Site Investigation*. Hazardous Waste Section, SMARTech '98, Raleigh, NC. (abstract/presentation)
113. Laton, W.R., 1998. *SimulProbe® Environmental Core Barrel*. EPA National Site Assessment Conference. Denver, CO. (Invited)
114. [*]Marcus, D.L., [2]Bonds, C.L. and Laton, W.R., 1997. *Rapid Screening using the SimulProbe Multimedia Sampler – Case Histories and Future Directions*. New England Environmental Exposition. (abstract/presentation)
115. *[2]Laton, W.R., [2]Hascall, A.P., [2]Atekewana, E.A., Hampton, D.R., 1996. *Seepage Meter Spatial and Temporal Variability in the Study of Groundwater Interaction with Surface Water Features*. American Geophysical Union, San Francisco, CA. (abstract/presentation)
116. [2]Laton, W.R., 1996. *Well Grouting Research*. Michigan Environmental Health Association, Ground Water Conference, Thompsonville, MI. (Invited)
117. [2]Laton, W.R., 1996. *SimulProbe Sampling in Contaminated Areas*. University of Michigan Summer Hydrogeology Field Course, Wortsmith Research Center, MI. (demonstration/presentation)
118. [*]Barnes, D.A., [2]Kovacich, M.S., [2]Limez, S., and [2]Laton, W.R., 1995. *Error Analysis in Great Lakes Beach Profile Surveying Techniques.* Canadian Coastal Conference, Dartmoth, Nova Scotia. (abstract/presentation)
119. [2]Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Colloquium on Environmental Earth Science, Western Michigan University, Kalamazoo, MI.
120. [2]Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Hi-Shots International Conference, Saint Louis, Missouri. (Invited)
121. [*]Mackey, S.D., Guy, D.E., [2]Laton, W.R., and [2]Kovacich, M., 1994. *Geologic Framework of an Eroded Lake Erie Coastal Marsh – Metzger Marsh, Ohio.* North-Central Geological Society of America, Kalamazoo, Michigan. (abstract/presentation)
122. [*]Vincent, R.K., [2]Laton, W.R. and [2]Sattler, J., 1993. *Detailed Modeling of Solid Waste Landfill Surface Water Run-off from High Resolution Elevation Data Automatically extracted From Stereo Photos Taken by a Camera on a Tethered Balloon Platform.* Association of Engineering Geologists, San Antonio, Texas. (abstract/presentation)

123. [2]Laton, W.R., 1993. *Site Characterization and Mapping Utilizing a Tethered Balloon System*. HI-SHOTS International Convention, Saint Louis, Missouri. (Invited)
124. [2]Laton, W.R., 1992. *Coastal Processes and Use of a Blimp*. Shoreline Erosion and Coastal Processes in Berrien County, Lake Michigan College Environmental Center, St. Joseph, Michigan. (abstract/presentation)
125. [*2]Laton, W.R. and Straw, W.T., 1992. *Small-Scale Coastal Cells; Identification and Mapping.* First Thematic Conference, Remote Sensing for Marine and Coastal Environments, New Orleans, Louisiana. (abstract/poster)
126. [2]Laton, W.R., 1991. *Undercurrent Stabilization Anchor Systems at Tawas on Lake Huron and Douglas on Lake Michigan – A One-Year Study*. Michigan Academy of Science, Ypsilanti, Michigan. (abstract/presentation)

[1]Undergraduate Student; [2]Graduate Student; * Presenter

SUPERVISED COMPLETED THESES

Student Name	Year	Degree	Thesis Title
Snyder, Syrus	2026	BS	Geotechnical Analysis of the 57 Freeway (From Imperial Highway to the 22 Freeway) to Make a Cross-Section and Identify Potential Hazards
Kawasaki, Jinka	2025	MS	Sizing of Glass Bead Filter Packs in Water Wells
Matamoros, Irvin	2025	MS	Groundwater-Surface Water Interaction Constrained Through High-Resolution Thermal Infrared Drone Imagery and Seepage Meter Data along the Santa Ana River, Norco, Riverside County, California
Pankratz, Garrett	2025	MS	Hydrology Study Using Handheld Thermal Instrument
Moss, Michael	2025	BS	Investigating the Crushability of Natural and Synthetic Materials by Size and Shape for Water Well Applications
Ducharme, Brian	2025	BS	Percolation Modeling of An Alternative Adsorbent Considered for PFAS Treatment During Managed Aquifer Recharge
Ruiz, Roberto	2025	BS	Finding Suitable Locations For Recharge Systems In And Around The Rancho Mission Viejo Riding Park, California
Woodard, Brennen	2025	BS	Evaluating Potential Recharge Sites Using Three-Dimensional Modeling In The Rancho Mission Viejo Riding Park, California
Gomez, Jaysen	2024	BS	Automated Grain Shape and Size Characterization from Digital Images Using Computer Vision Techniques
Villegas, Isaak	2023	BS	PFAS Chemical Monitoring in Orange County, California
Williams, Andrew	2023	MS-ENST	Monitoring Water Quality of a Wetland: A Case Study in Norco, CA
Montgomery, Jakob	2022	BS	Flowability of Filter Packing Materials Based on Grain Size and Fluid
Esparza, Nestor	2022	BS	Fate and Transport of Contaminants in the South Basin Plume
Velasco, Melissa	2022	BS	Chino Basin Dairy Farm Nitrate Contributions
Kreller, Ethan	2021	BS	Analysis of Caltrans Boring Logs to Evaluate the Shallow Subsurface Vulnerabilities
Nagata, Brayden	2021	BS	Relationship Between Groundwater, Selenium Concentration, and the Corcoran Clay, NW Fresno County, CA
Zeko, Mike	2021	BS	Pomona Perchlorate Study
Strohm, Chelsea	2021	MS-ENST	The Use of Physical Groundwater Models in Higher Education

Allen, Ronald	2020	BS	The Carboniferous and Pleistocene; An Analysis on the Genus Preset within Geologic Time
Rangel, Liliana	2020	BS	Water Budget of the San Gorgonio Mountains Mill Creek and Santa Ana River Water Basin
Martinez, Charles	2020	BS	Implications of Grain Size on Hydraulic Conductivity
Murphy, Patrick	2020	MS-ENST	Evaluating the Fate of Legacy 1,4-Dioxane and NDMA in Orange County's Coastal Aquifers
Severin, Vitoria	2020	MS-ENST	Analyzing the Mission Valley Aquifer as a Groundwater Source in San Diego, CA.
Barragan, Adrian	2019	BS	Examining the Water Quality from a Section of the Santiago Creek
Chacon, Diana	2019	MS	Thermal Infrared Remote Sensing for Water Temperature Assessment Along the Santa Ana River Using an Unmanned Aerial Vehicle (UAV) System
Alonzo, Terrinda	2018	BS	13-Year Analysis of Water Pressure and Chemical Changes from Well CSF-1, Fullerton, CA
Case, Aaron	2018	MS-ENST	Perchlorate in Urban and Industrial Environments
Cragg, Byron	2018	BS	Designing Scientific Payloads for Use on Extra-Planetary Rovers
Emilio, Chelsea	2018	MS-ENST	Urban Firework Fallout
Escobar, Adrian	2018	BS	Ground Source Heat Pump Potential Characterization for California State University, Fullerton
Lopez, Daniel	2018	MS-ENST	Should California Price Water as a Commodity to Increase Conservation?
Meadows, Adam	2018	BS	Investigation and Monitoring the Spread of Water Contaminates Using an Open-Source Database in the Orange County Area
Offner, Erica	2018	MS-ENST	Carbon Dioxide Levels in Water Vapor
Vanderwal, Joshua	2018	BS	Safety Element for Cal State University Fullerton – Understanding of Hazards Surrounding the Campus
Grajeda, Remington	2017	MS-ENST	Shaping Environmental Attitudes in Students: An Inquiry-based Approach
Kennedy, Taylor	2017	MS-ENST	Investigation of the Laguna Cell Beaches Using Lidar and Erosional Examination
Masters, John Paul	2017	MS-ENST	Subsurface Analysis of Orange County Water District's La Palma Groundwater Recharge Basin in Anaheim, California
Forester, Danielle	2017	BS	Water Budget and Audit: Premier Color Nursery
Ibarra, Nancy	2016	BS	Drilling Methodology: A Field Guide and its Use for the Drilling Industry
Pham, Christine	2016	MS-ENST	Efficacy of Capsaicin-based epoxy coating for preventing attachment of Quagga mussels (Dresissena Bugensis)
Battig, Lisa	2015	MS-ENST	An Educational Kit Elucidating the Connections Between Sanitation, Hygiene and Waterborne Disease
Masters, John Paul	2015	BS	Subsurface Analysis of fluvial sediments from the Holocene-Pleistocene Epochs at California State University, Fullerton, California
Natividad, Anthony	2015	BS	A Hydrogeological Survey of a Mountainous Region: The Significance of Monitoring a Water Budget at a Localized Source
Carreon, Rosangela	2014	MS-ENST	Remote Sensing Climatic Impact on Snow Cover for the San Gabriel Mountains in Southern California

Cortez, Lucy	2014	BS	Wetlands Delineation using Dendrochronology and Historical Rainfall Data to Cross-date the Climatic Stress Regimes in the Prado Dam Basin Located in Corona, Riverside County, California
Law, Natalie	2014	BA	Evolution and Growth of a Mitigation Wetland: A Case Study in Norco, California
Morlan, Randall	2014	MS	The Effects of Agricultural Activities on the Migration of the Hinkley Chromium Plume, San Bernardino County, California
Dubberke, Kirk	2013	BS	Malibu Creek Watershed – Aquifer Testing Analysis
Kennedy, Taylor	2013	BS	Metasomatism of the Bird Spring Formation near Slaughterhouse Springs, California
Irani, Fabian	2013	BS	The Use of Groundwater Fluctuations in a Tidal Zone for the Determination of Aquifer Properties
Lockhart, Benjamin	2013	MS-ENST	Colonial Nesting Seabirds in Burris Basin: Forage Prey Availability Assessment and Habitat Enhancement Suggestions
Maine, Lindsay	2013	MS-ENST	Media Blending: Which Combination is Best for Stormwater Discharge from Scrap Metal Recycling Operations?
Vavricka, Emily	2013	MS-ENST	A Forensic Evaluation of Dry Cleaners: A Case Study in Santa Ana, California
Cadaret, Erik	2012	BS	Hydrogeologic Investigation and Geochemistry Analysis of the Sheep Creek Fans Regional Aquifer, San Bernardino County, CA
Dotzer, Alec	2012	BS	Lithologic Analysis of a Soil Layer at Various Points via a Biosparge Pilot Test at a Contaminant Impacted Site in Coachella Valley, Riverside County, CA
Hoffman, Michael	2012	MS	Hydraulic Tomographic Modeling of the Yorba Linda Water Well Field, Yorba Linda, California
Martin, Allen	2012	MS-ENST	Lower Owens River Project, Recovery: A longitudinal imagery analysis of near river vegetation change along the Owens River, Owens Valley, Inyo County, California
Sickler, Heidi	2012	MS-ENST	Environmental Change in the Wetland Ecosystem of Fish Slough in Bishop, California Derived from Wetland Delineation Methods and Aerial Photography
Xayarath, Van	2012	MS-ENST	Orange County's Water Supply: A preliminary research to convert storm channels to natural bottom streams for basin recharge
Evans, Patrick James	2011	MS-ENST	Desalination in Southern California: The Inevitable wave of the future!
Rimbenieks, Mikaila	2011	MS-ENST	Quantifying Forest Natural Background and Road Sediment Yield in Big Bear Lake, California
Barker, Shelby	2010	MS	An Investigation of the Potential for Surficial Recharge in the Lucerne Valley Groundwater Basin, Mojave Desert, CA
Velarde, John	2009	BS	The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County, California
Carle, Chris	2009	BS	The Phase I Environmental Site Assessment
Luedy, Justin	2008	MS-ENST	Testing the Relationship of Dissolved Metals in Stormwater, Newport Beach, California
Barthel, Peggy	2008	MS	Water Budget and Hydrogeologic Model of Spring Flow at Limestone Hill, Zzyzx Desert Studies Center

Daley, Dale	2008	BS	Subsurface Mapping of the El Mirage Groundwater Barrier, San Bernardino County, California
Monzon, Eric	2008	MS-ENST	Estimating Applied Irrigation for Urban Landscapes in South Coast Southern California, Using Theoretical and Conventional Means
Ebbs, Veva	2008	MS-ENST	Quantification of Sub-Surface Groundwater Flow from Middle Mojave River Valley Basin into the Harper Lake Basin
Kolstad, Kenneth	2007	MS	Analysis of a Steady-State Model: Prediction of Trichloroethylene Vapor Concentration, Using Known Dissolved Phase Concentration
Lizzi, Anthony	2007	MS	Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California
Patschull, Eric	2007	MS	Evidence of a North Projecting Ancient Boulder Thalweg in Latest Quaternary Deposits of the Santa Ana River, Orange County, California
Cruikshank, Michael	2006	BS	Hydrogeological Investigation of an Open Alluvial Basin: Oeste Hydrologic Sub-basin, San Bernardino County, California
Dolmat, Joan	2006	BS	Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting
Hunt, Sean	2006	MS	Artificial Recharge as Possible Causes of Observed Long –Term Change in Transmissivity for the Aquifers of the San Pedro Formation in the Central Basin of the Greater Los Angeles Basin, California
Williams, Steve	2006	MS	Hydrogeologic Investigation of a Shallow Aquifer System with Emphasis on Precipitation Induced Groundwater
Surko, Tammy	2006	MS	Gravity survey of Lucerne Valley, San Bernardino County, Mojave Desert, southern California: implications for basin geometry and structure
Blazevic, Mike	2005	BS	Hydrogeological Investigation of a Closed Alluvial Basin: Lucerne Valley, San Bernardino County, California
Napoli, Nick	2005	BS	Change in Groundwater Storage in the Lucerne Valley Groundwater Sub-Basin — 1954 To 2002, Lucerne Valley, California
Nguyen, Chinh	2005	MS-ENST	Application of Convex Hull in Identifying Pollution Sources in the Central and West Coast Basins, Los Angeles County, California
Brendle, Christine	2004	BS	Remediation of Soil and Groundwater at a Former Service Station
Hajmanouchehri, Daneh	2004	MS-ENST	Water Quality in Relation to Watershed Management in The Lower San Gabriel River, Southern California
McCurdy, Jim	2004	MS-ENST	Water Chemistry and Groundwater Flow for the San Bernardino Mountains
Versluis, Patrick	2004	MS-ENST	The Fate of Perchlorate: A Look at Perchlorate Entering Orange County's Groundwater
Yuen, Pansy	2004	MS-ENST	Performance Assessment on Water Quality and Biological Effects of Urban Stormwater Runoff, Norco Hills Wetland, Riverside County, California
Evans, Rachel	2003	BS	Water Quality Analysis – Yellowstone National Park
Figueroa, Otto	2003	MS	Groundwater Flow Model of a Coastal Aquifer, Malibu, California
Hasegawa, Shuichi	2003	MS-ENST	Environmental Hazard Risk Assessment on Water Resources along the Santa Ana River
Kerza-Kwiatecki, Paul	2003	MS-ENST	Monitoring the Rocky Inter-Tidal Zone of Crystal Cove State Park; Creation of an interactive GIS bio-database
Springer, Ben	2003	MS-ENST	The Importance of Wetland Monitoring: A Case Study of a Restored Wetland in Norco, California

Thomas, Sean	2003	BS	Dewatering Plan for the El Toro Area
DeKraker, Dan	2003	BS	Development of a Ninth Grade Earth Science Course
Brand, Randy	2002	BS	Hydrogeologic and Geologic Considerations for Selected sites near the Santa Margarita, Upper Ysidora, and Lower Ysidora Groundwater Basins in Southern California
Figueroa, Otto	2002	BS	Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California
Rosales, Tom	2002	MS-ENST	An examination of the benefits and costs to implement the Municipal Storm Water Permit for Orange County – similarities and differences between coastal and inland cities
Schmucker, Kelly	2002	MS-ENST	Water Quality of a Wetland A Case Study in Norco, CA
Wiles, Steffy	2002	BS	Angels Camp – Gamma Ray Logging Examination and Correlation
Eckhart, Lance	2001	MS-ENST	Vertical Gradient Investigation of a Southern California Landfill
Fields, David	2001	BS	Orange County Groundwater Contour Maps for 2000
Rashidi-Fard, Shaghayegh	2001	BS	Water Quality Testing and Monitoring Program at the Santa Rosa Ecological Reserve
Vortis, Kevin	2001	BS	Geologic History of San Elijo Lagoon San Diego County, California
Mathew Blinstub	2000	MS-ENST	Spatial and Temporal Differences in Surface Water Quality in Newport Bay and San Diego Creek, Orange County, California, from 1976 to 1996

SELECTED SHORT COURSES AND WORKSHOPS ATTENDED

- Johnson Screens – Groundwater and Wells
- IGSHPA – Train the Trainer Course
- NGWA – Keeping the Pump Primed, Aquifer Sustainability
- AAPG – Environmental Regulatory Course
- Advanced Technologies for Accelerated Natural Attenuation
- Applied Microbiology – Understanding Bacterial Augmentation, Montreal, Canada
- Baroid Industrial Drilling Products – Drilling and Boring Fluids
- CWEA – How to Start, Perform, and Complete a Successful Public Works Water/Wastewater Project
- EPA – Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluations
- EPA – Natural Attenuation; EPA – Statistical Analysis of Ground Water Data (GRITSTAT)
- EPO/GRA – Aquifer Remediation: Bioremediation and Oxidation Technologies
- FEMA – Advanced HAZUS Training for GIS Professionals
- Managing Toxics in Michigan – Air, Waste and Remediation
- MGWA & MDPH – Ground Water & Wells Fundamentals
- Michigan Citizens Conference/Workshop on Great Lakes Areas of Concern
- NGWA – Remediation of Ground Water Contamination
- NSF – The Cutting Edge "*Teaching Hydrogeology in the 21st Century*"
- EPA - Protecting Water Quality through Land Use Planning & Zoning
- Reducing Risk in High Seismic Hazard Zones
- Seismic Reflection/Refraction Interpretation

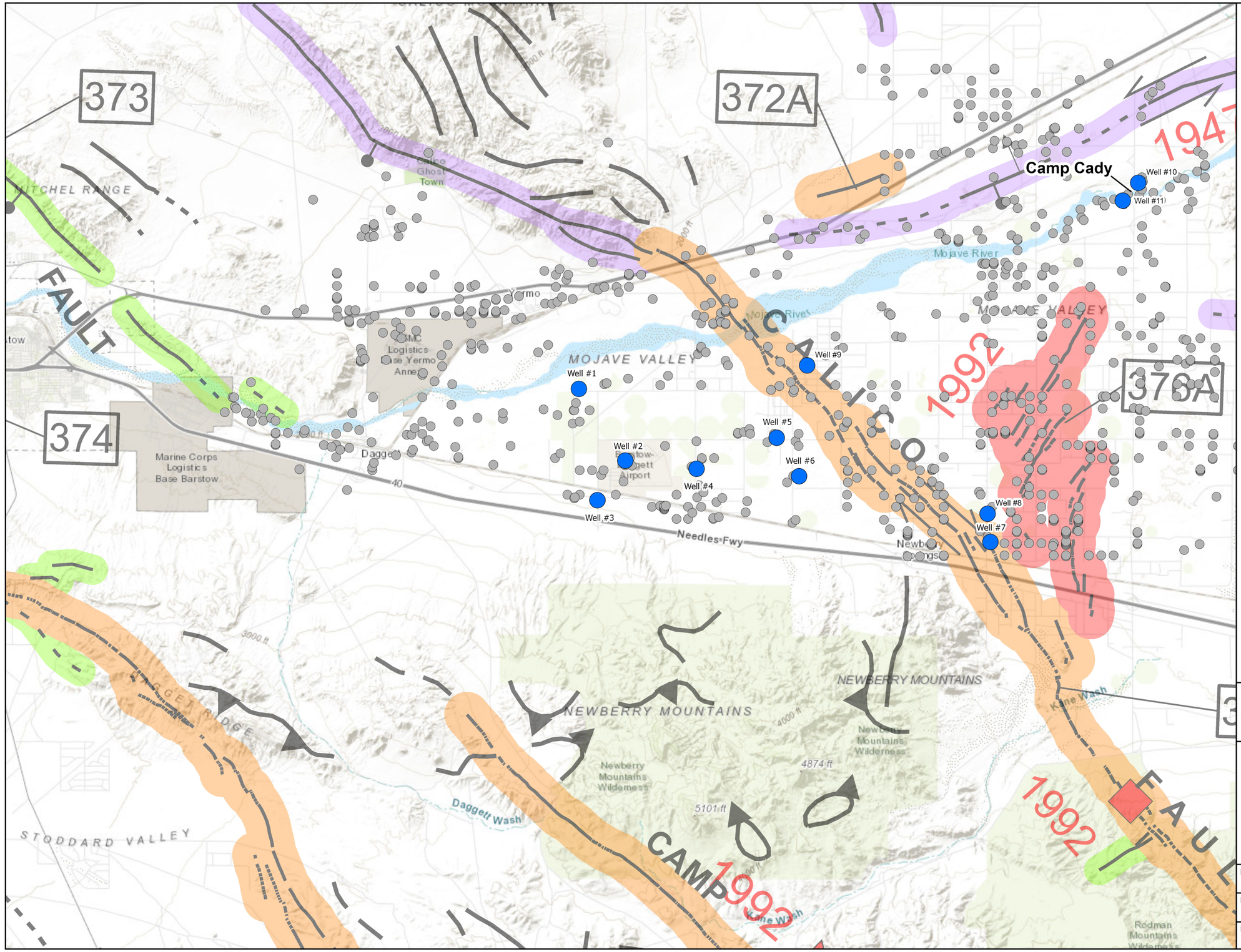
AFFILIATIONS

- California Groundwater Association
- Groundwater Resources Association of California
- International Association of Hydrogeology
- National Ground Water Association
- South Coast Geological Society
- International Ground Source Heat Pump Association
- American Institute of Professional Geologists

VOLUNTEER WORK

- WMU Spring Geobree (2021 – present)
- WMU Alumni Gathering (2019 - present)
- CSUF Alumni Fall Dinner (2013 - present)
- CSUF Geology Research Day (2017 - present)
- Santiago Middle School – Taught Plate Tectonics and Science (2018)
- Science Olympiad Assistant (2013 - 17)
- Elementary School presentations annually: "*The Water Cycle*"
- Little League: Coaching assistant, scorekeeper (2010 – 15)
- CSUF – Gerontology Seminar Series (2005)
- Boy Scouts of America Troop, Identification of Rocks (2000 – 2008)
- NGWA – Developed online Well Construction and Development Course (2004)
- El Dorado Nature Center – Provided expertise for a variety of activities.
- National Sanitary Foundation – Worked on a task force to rewrite standards for water well materials.

Exhibit “2”



LEGEND

- Groundwater Monitoring Well
- Other Monitoring Wells

NOTES

ESRI, 2026; USGS, 2025;
California Geological Survey, 2010.

earthforensics, inc.

Fault and Groundwater Monitoring Location Map

Newberry, CA

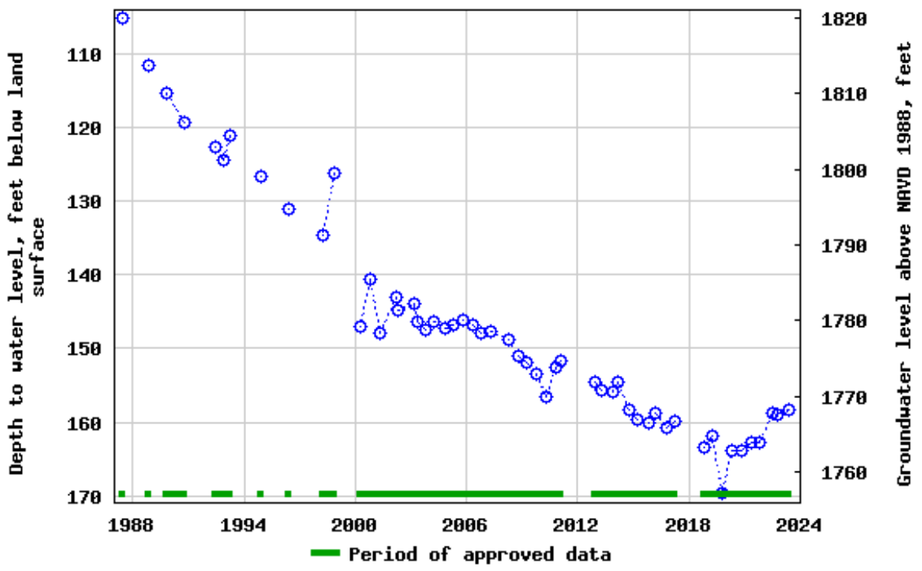
Date	Prepared By
July 20, 2026	DY

Project Name	Exhibit
Newberry_Water	02

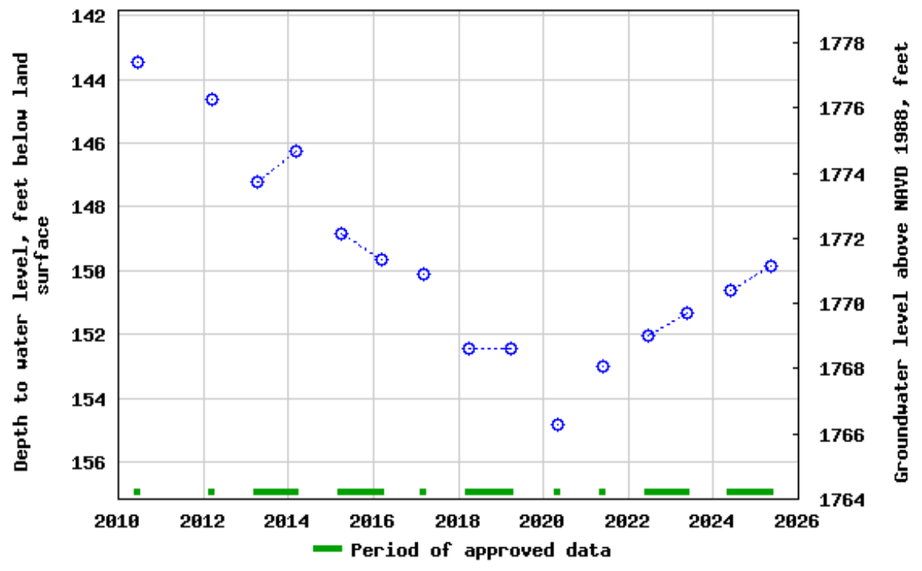
Project Number: 2018.245

Exhibit “3”

Well #1



Well #2



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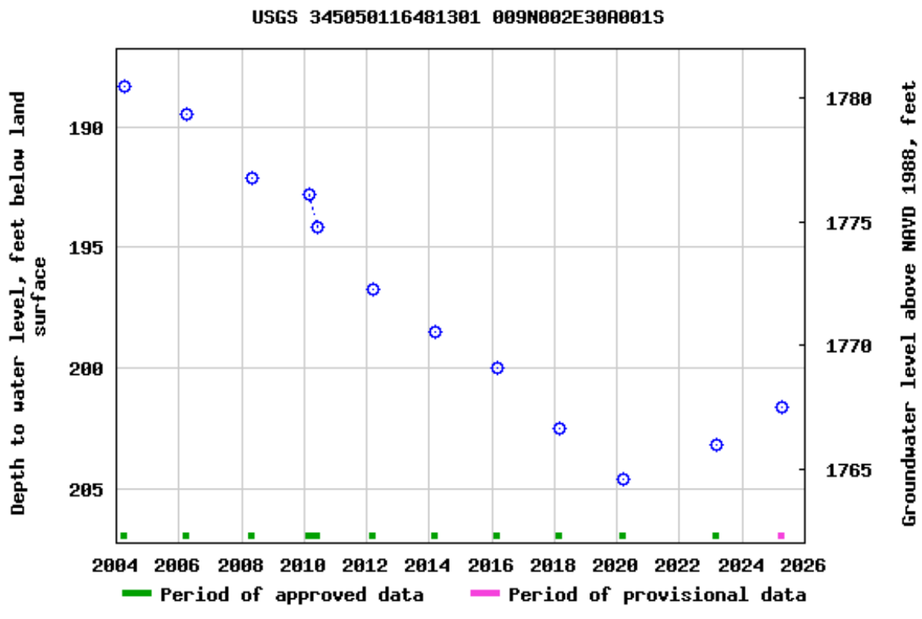

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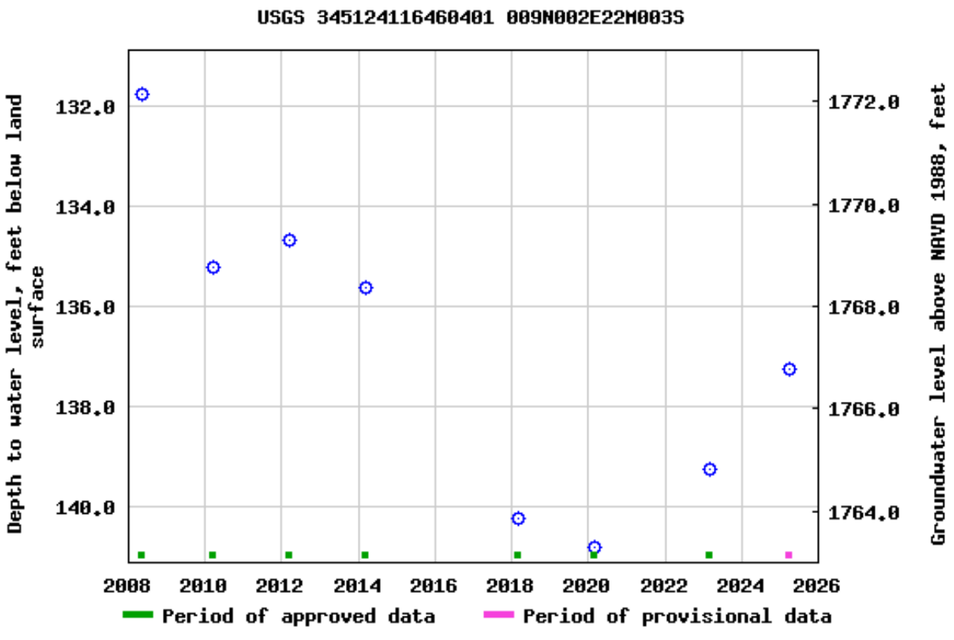


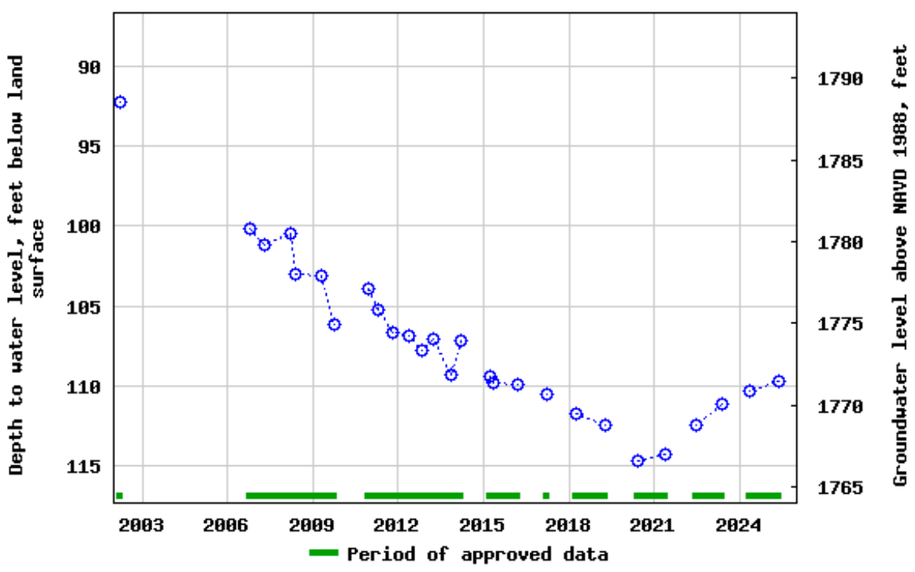
Source: USGS, 2025

earthforensics, inc.

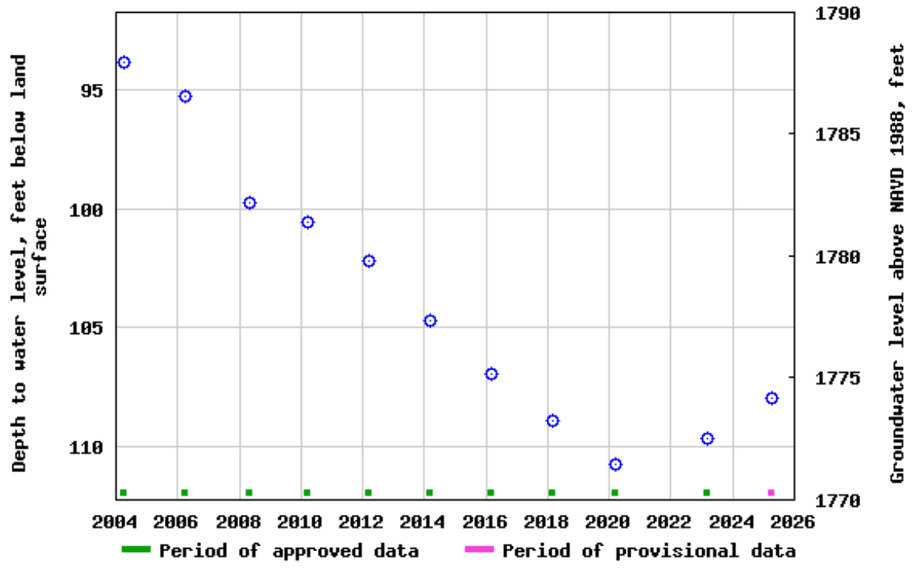
Exhibit 3a: USGS Well Graphs

Baja Sub-basin

Well #5



Well #6



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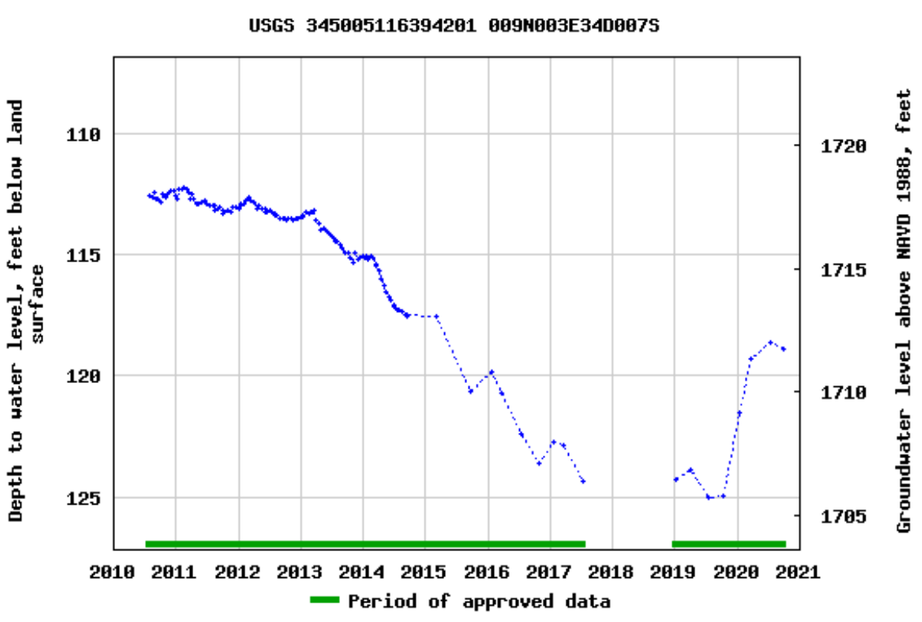
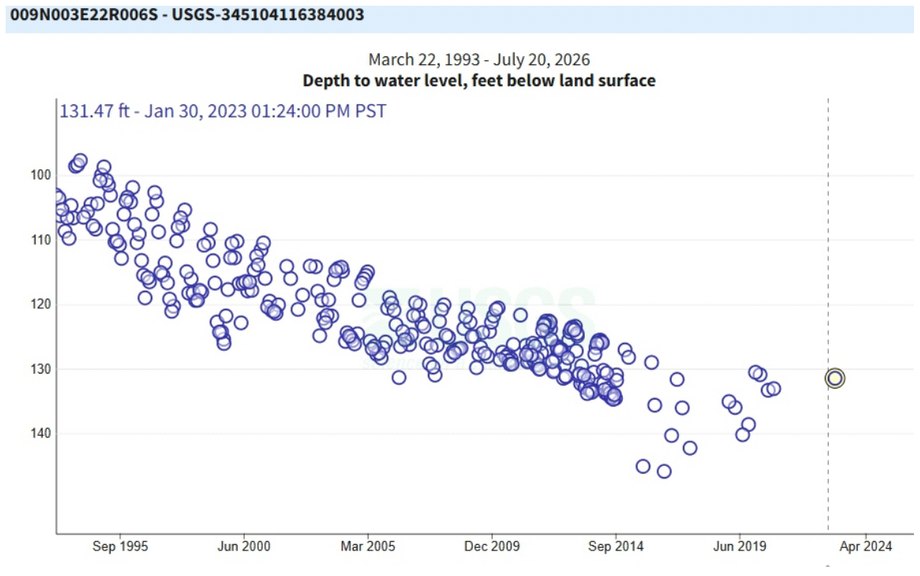


Source: USGS, 2025

Well #8



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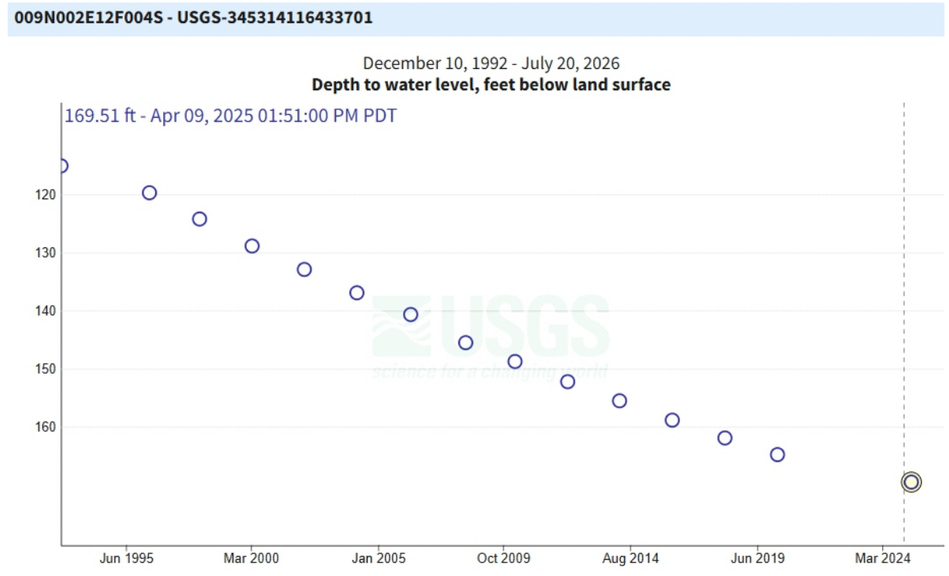

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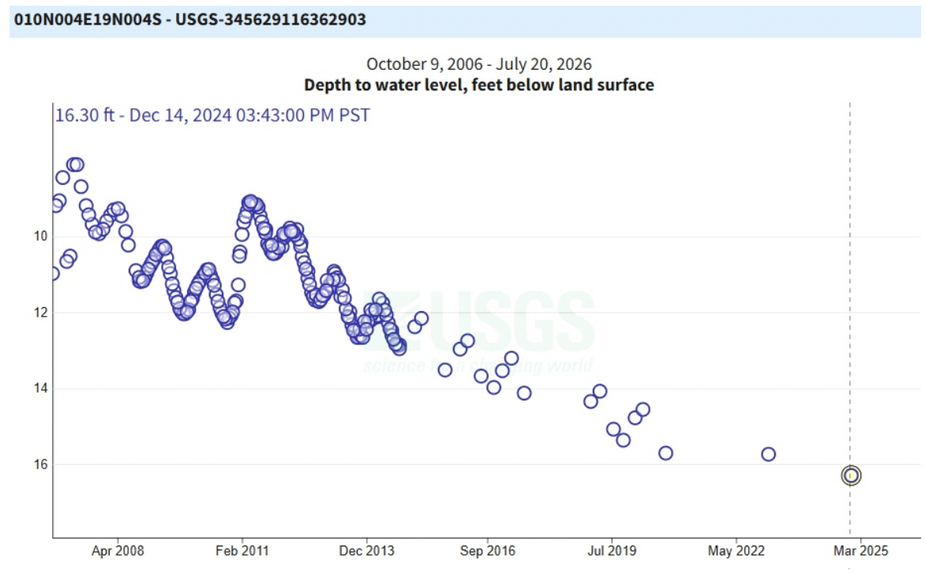
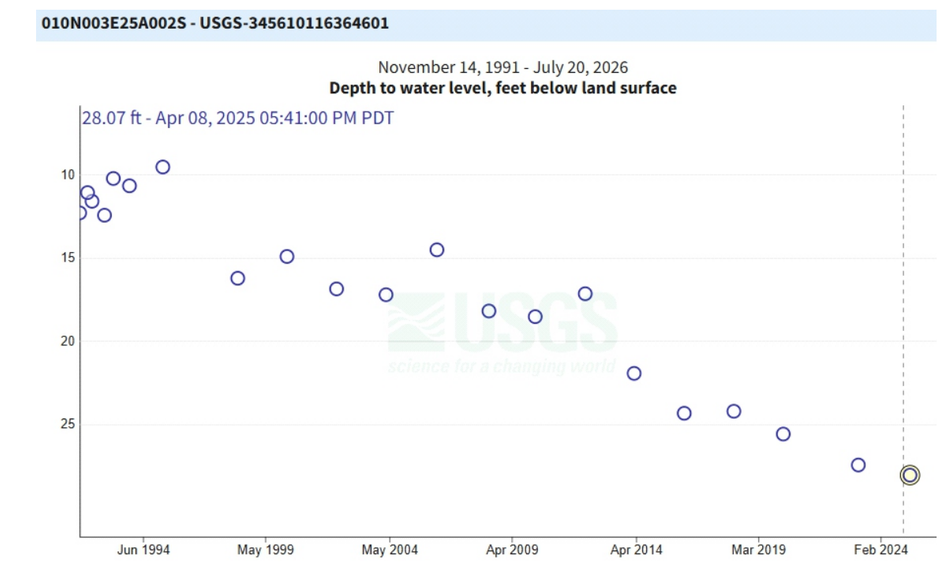


Well #11



Source: USGS, 2026

earthforensics, inc.

Figure 3c: USGS Well Graphs

Pierce County, Wisconsin

Exhibit “4”

Exhibit 4: Historical Annual Stream Gage Flow Data

Water Year	1909	1910	1911		1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
West Fork+Deep Creek	96,200	181,000	147,000		34,316	15,471	101,500	22,443	16,087	57,555	24,000	169,119	218,783	40,470	31,065	161,083	25,990	149,934	86,514	70,732	54,515	50,243	13,611	23,022	12,409	2,215	102,659	8,818	54,370	17,904	16,152	22,045	148,920
Upper Narrows						22,170	84,200																										
Lower Narrows	90,700	138,000	130,000			22,463	83,950	23,915	23,820	33,806	20,366	150,246	188,037	29,675	27,394	143,332	25,789	127,293	77,429	54,641	43,228	37,206	26,261	22,854	21,628	20,824	66,591	21,810	31,232	22,528	21,691	20,557	98,041
Point of Rocks	80,100	111,000	112,765																														
Wild Crossing																																	
Hodge						2,317	59,510																										
Barstow						0	37,374	0	0	1,184	0	103,879	138,094	550	0	96,003	100	90,974	36,155	22,087	12,577	2,876	0	0	0	0	12,514	0	0	0	0	0	20,067
Dagett																																	
Afton					947	1,267	18,850	1,000	1,000	1,000	1,000	54,070	72,200	1,000	1,000	49,900	1,000	47,200	18,200	10,800	6,720	1,000	1,000	1,000	1,000	1,000	2,190	990	953	913	901	752	2,784

Water Year	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
West Fork+Deep Creek	18,382	8,761	4,483	67,257	5,645	10,867	21,458	116,269	128,070	24,542	341,495	17,107	20,423	21,647	40,687	18,316	16,847	23,638	11,699	362,635	112,215	306,310	16,094	57,773	262,148	29,248	24,542	45,972	10,816	17,332	10,946	7,783	38,262
Upper Narrows																																	
Lower Narrows	20,341	19,229	18,904	26,756	17,034	17,052	16,797	51,010	74,212	18,745	291,090	23,117	20,416	22,733	34,750	17,737	16,651	20,126	28,235	209,082	72,324	228,918	23,167	35,330	189,173	26,932	21,067	16,941	14,479	16,072	11,511	8,905	10,932
Point of Rocks																																	
Wild Crossing									40,977	14	229,063	3,779																					
Hodge													0	660	4,387	4	0	0	10	147,472	31,855	171,580	0	10,136	148,124	1,962	0	3	0	0	0	0	0
Barstow	4	0	0	734	0	1	6	6,352	7,693	0	146,600	0	0	43	151	1	0	1	2	50,460	5,560	137,264	0	1	92,957	42	0	0	0	8	0	0	0
Dagett																																	
Afton	596	681	669	563	752	537	566	4,782	1,466	356	72,730	543	360	595	310	436	159	295	898	46,841	1,200	66,700	1,383	1,050	13,321	1,810	682	550	562	912	432	547	738
VVWRA																												4,346	4,635	5,502	6,369	6,971	7,308

Water Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
West Fork+Deep Creek	75,293	428,516	36,271	198,946	34,750	31,710	169,915	9,288	19,236	17,404	2,454	34,178	36,778	355,251	106,930	5,877	50,243	30,899	102,441	210,095	29,683	9,419	12,083	9,035	10,664	57,483	16,275	90,641	56,469	4,213	19,670	250,275	103,889	7,406
Upper Narrows																																		
Lower Narrows	24,470	285,388	10,932	113,301	11,004	8,181	83,473	9,412	6,972	5,618	4,554	6,248	5,372	192,575	27,221	4,937	9,122	4,366	19,185	126,405	9,484	7,312	6,784	5,611	4,952	9,629	3,786	27,511	15,421	4,923	3,967	96,577	41,339	6,856
Point of Rocks																																		
Wild Crossing																																		
Hodge	2,128	181,716																														84,415	41,700	0
Barstow	28	122,785	0	11,077	0	0	10,498	0	0	0	0	0	0	126,187	182	0	10	1	374	23,384	0	0	42	0	0	0	0	169	0	0	0	8,688	32	0
Dagett																																4,445	4	0
Afton	626	66,605	484	434	631	646	1,289	565	282	350	239	248	392	44,669	186	150	166	112	190	6,407	301	117	1,404	366	159	292	197	86	245	89	1144	1,028	140	24
VVWRA	7,428	7,356	7,789	7,958	8,512	8,728	9,378	8,776	9,065	9,306	9,739	10,317	11,425	13,255	13,568	13,086	13,881	13,664	14,555	14,868	14,724	14,338	12,918	12,942	12,990	13,279	12,870	13,719	13,719	13,346	15,095	14,274	14,290	

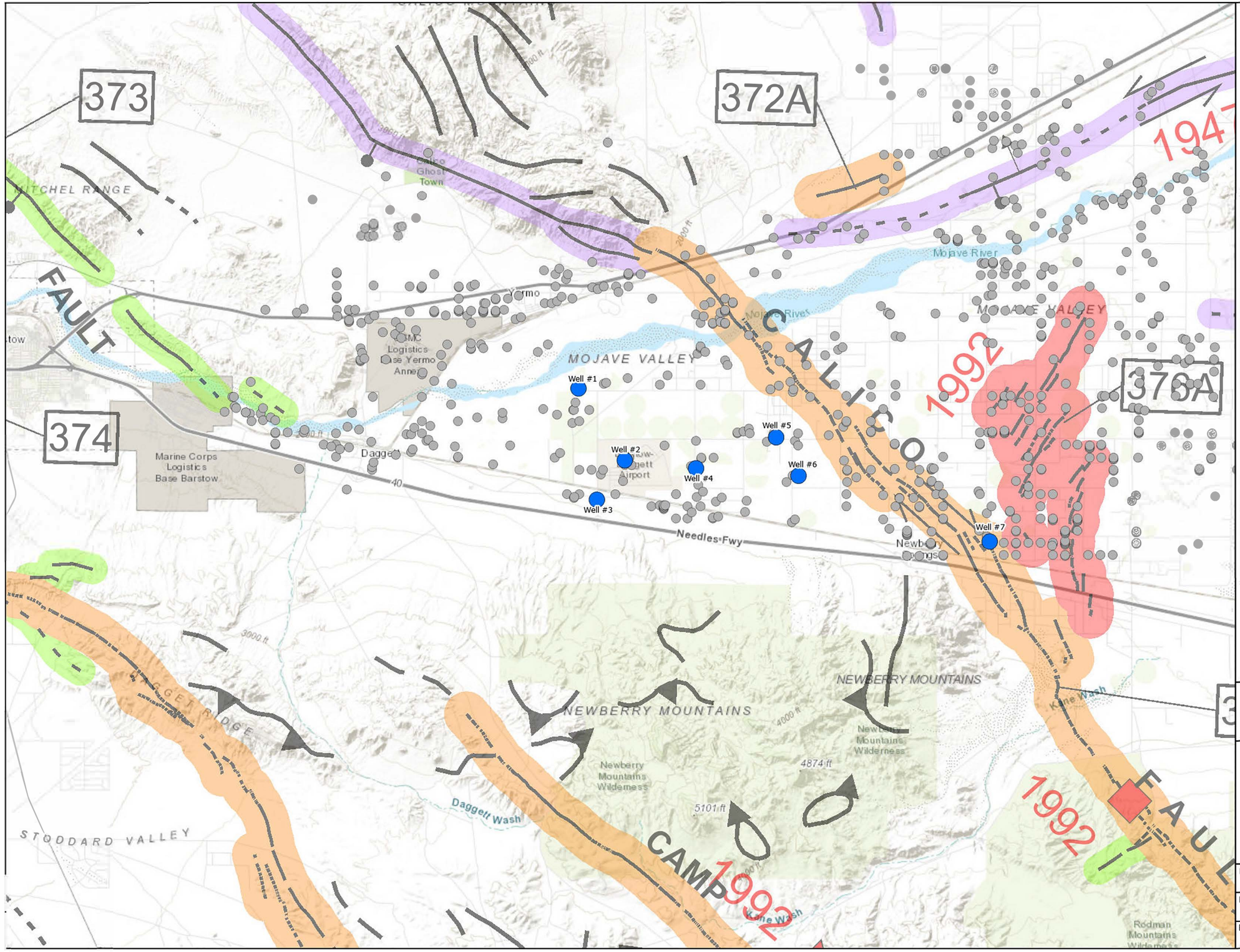
Incomplete, Estimated

LOW FLOW YEARS: Years where less than 29,000 AF measred at Lower Narrows

Years where over 29,000 AF, but less than 100,000 AF were measured at Lower Narrows

STOM YEARS: Years where over 100,000 AF were measured at Lower Narrows

Water Year [YEAR]= October 1, [YEAR-1] to Septeber 30, [YEAR]



LEGEND

- Groundwater Monitoring Well (See Figures 3b & 3c for Hydrographs)
- Other Monitoring Wells

NOTES

ESRI, 2025; USGS, 2025;
California Geological Survey, 2010.

earthforensics, inc.

USGS Wells

Newberry, CA

Date	Prepared By
October 3, 2025	DY

Project Name	Exhibit
Newberry_Water	03
Project Number	
2018.245	

Exhibit “5”

I, W. Richard Laton, declare as follows:

1. I am the Principal Hydrogeologist and President/Owner of Earth Forensics, Inc. I am an expert in the field of geology, hydrology, hydrogeology, environmental contamination, and contaminated site investigations. I possess extensive knowledge and experience in the areas of hydrogeology, soil and water contamination, water quality, corrective action, hydrology and surface water, site assessment, site investigation, site remediation, wetlands, coastal monitoring/geomorphology, environmental field sampling techniques and well hydraulics, waste management, as well as environmental remote sensing, aerial photographic interpretation/analysis and geographical information system (GIS). See Appendix A: CV.

2. My educational background that relates to this case is as follows: 1997 – Ph.D. in Hydrogeology, Western Michigan University; 1992 – M.S. in Environmental Earth Science, Western Michigan University; 1989 – B.A. in Earth Science, St. Cloud State University, Minnesota.

3. I am a licensed Professional Geologist in California, Alaska, Arizona, Illinois, Indiana, Florida, Minnesota, New York, North Carolina, Oregon, Pennsylvania, Texas and Washington. I am also a licensed Professional Hydrogeologist in both California and Washington. I am a Certified Professional Geologist with the American Institute of Professional Geologist as well as Certified Professional geologist for the European Union.

4. I am currently an Associate Professor of Hydrogeology in the Department of Geological Sciences, California State University, Fullerton, California. This is a continuation of a career that includes years of teaching, consulting, litigation support and management experience. My course topics encompass hydrogeology, water quality, environmental sampling, groundwater modeling, well hydraulics, remediation technologies, RCRA/CERCLA compliance,

meteorology, oceanography, geology, drilling and well construction, field hydrogeology, borehole and surface geophysics.

5. I have worked both as a consultant and researcher within the Mojave River area. This includes research conducted for and on the behalf of the Mojave Water Agency, in developing conceptual basin models and both geological and hydrogeological mapping. My work was pursuant to specific assignments and projects, resulting in reports, most of which were grant-funded and related solely to the specific purpose of the study. Additional work was performed for the Agency in determining the groundwater flow between basins and what if any changes had taken place at the time of the studies. This overall research resulted in no less than 16 public reports, 18+ presentations and 12+ theses. Consulting efforts have included the evaluation of blowing sand, mountain front recharge and surface flow as well as specific site evaluations for water resource supply.

6. I submitted a declaration in this matter on September 28, 2018. This supplemental declaration builds upon my previous declaration.

7. I have been asked and retained by Newberry Springs Recreational Lake Association (NSRLA) for the purpose of providing opinions (recommendation) on the following issues affecting the Baja groundwater subarea:

a. Overall net recharge between the Mojave River Dam and the Narrows has increased significantly since the operation began; and,
b. Potential decrease in flow volume through Barstow since the dams began operation.
c. Potential alternatives for increased recharge within the Baja subarea.

8. I am familiar with and have read the public documents and studies related to the Mojave River Adjudication, including the stipulated judgment, the amendments thereto and the various annual Watermaster Reports. As a result, thereof, I am aware that the various

stakeholders of the Mojave River Basin subareas stipulated to the entry of a Judgment in 1998, adjudicating water rights to landowners.

SURFACE WATER FLOW

9. The Mojave River is the primary natural pipeline of surface water, that supplies water throughout the subareas; Alto (and Alto-Transition), Centro, Bajo and Afton Canyon.

10. For the subareas of Centro and Bajo the largest unverified water resource is input from surface water inflows. Currently, the Watermaster uses 16,406 AFY (average inflow 1931-1990) as inflow into the Baja subarea, however when actual surface flow records from the USGS stream gage are used, only approximately 7,158 AFY of flow exists since the 1993-94 water year. This has led to an over estimation of inflow (recharge) of about 9,000 AFY. This over estimation may be due to effects from the construction and operations of the dams on downstream subareas.

11. Data exists at multiple stream gages along the Mojave River. These USGS gages for the most part exist at the top and bottom of the various subareas. By evaluating the flow into a basin and out from the basin, the change in flow is recharge to that subarea.

12. The stream gages have the following data:

- Mean Daily flow;
- Annual Peak flow;
- Annual average flow (Calendar Year);
- Annual average flow (Water Year);
- Annual total flow (Calendar Year); and,
- Annual total flow (Water Year).

13. Data exists from at least 1931– to the present in stream gages at the following locations (Figure 1):

- West Fork Mojave River near Hesperia CA (10261000)
- West Fork Mojave River Above Mojave River Forks Reservoir near Hesperia CA (10260950)

- Deer Creek near Hesperia (10260500)
- Mojave River at Lower Narrows (10261500)
- Mojave River at Barstow CA (10262500)
- Mojave River at Afton CA (10263000)

14. Additional data from Mojave Water Agency (MWA) annual reports on state water project (SWP) imports was subtracted from the annual flows. This water was purchased for the purpose of recharge within the Alto subarea and therefore should not be used within the calculation of natural recharge.

15. Other data tied to Victor Valley Wastewater Reclamation Authority (VVWRA) was added to the total flow between the lower narrows and Barstow. This surface water discharge does not appear to flow past the Helendale fault and into the Centro subarea.

16. The Cedar Springs and Mojave Forks Dams (or Mojave River Dam) have been in operation since 1971 and 1974, respectively. The Dams serve different purposes while the Cedar Springs Dam was installed as part of the State Water Project, the Mojave Forks was completed for the purpose of flood control.

RECHARGE ANALYSIS

17. The Watermaster has been using groundwater levels as a means of estimating the levels of groundwater basin storage, even though this particular procedure is not specifically called out in nor recommended in the Judgement. The procedure is an indicator of change in groundwater storage but used alone, may not provide accurate data.

18. It is hypothesized that the construction of upstream dams (Mojave Forks and Cedar Spring Dams) has impacted surface water flows of the Mojave River. As this is the primary source of water to the Baja subarea, this needs to be evaluated. Previously, this was looked at by Todd, 2013 and Wanger and Bonsignore in 2010.

19. Surface flow gage data was plotted from 1931 to present. Then the data leaving the subarea was subtracted from the water entering the subarea. This results in the amount of recharge between the two gages.

ALTO SUBAREA

20. The net annual recharge between Mojave Forks dam and the lower Narrows is shown on Figure 2a. The overall recharge since the completion of the dams has increased substantially in this subarea. This Figure would include recharge due to SWP imported waters.

21. To adjust for the net annual recharge for the impact of SWP imports, these were subtracted from the Figure 2a totals. This can be seen in Figure 2b. Despite this adjustment, the net recharge for the subarea is still significantly greater after the completion of the dams versus that of prior too.

CENTRO SUBAREA

22. The net annual recharge between lower Narrows and Barstow is shown on Figure 3a. The net annual recharge has decreased since the construction of the upstream dams. However, this does not include recharge due to discharges to the Mojave River by VVWRP.

23. To adjust for this net increase in recharge associated with VVWRP, discharge waters were added to the net annual flow as seen in Figure 3b. After this adjustment to the net annual flow, there still appears to be a decrease in recharge within the subarea.

24. In reviewing historical aerial photographs, it appears that the surface discharge from VVWRP does not make it past the Helendale fault (Alto-Centro boundary). The area between the lower narrows and the Helendale fault is known as the Alto-Transition Zone (TZ).

25. A review of annual peak flows at the lower narrows gage shows that the dam is controlling downstream flows (Figure 4). This is evident in the peak flows being attenuated since the construction of the dam.

26. By looking at the average daily flow by subarea, this reveals that there has been and still is ongoing changes due to the construction of the upstream dams. Table 1 provides the average daily flow of surface water at each of the subareas. This illustrates the flow has decreased both in Centro and Baja subareas. While increasing in Alto and at Afton Canyon.

27. Annual surface water flow in Baja subarea (Barstow to Afton Canyon) is shown in Figure 5. This figure illustrates that during large storm events, surface water arriving at the Afton Canyon gage is approximately 50% of the flow at the Barstow gage. In years with these large storm events, a significant amount of water is lost to Afton Canyon, rather than captured for use for the Baja subarea.

POTENTIAL MITIGATION

28. In my professional opinion other solutions need to be considered in order to minimize the overdraft in the Baja subarea and mitigate some of the inequitable assessments that currently affect the Baja subarea. Such solutions that should be considered are:

a. Additional data needs to be collected, particularly in the Helendale area of the TZ. This would provide for a better understanding of the waters entering the Centro subarea.

b. In order to capture and recharge the excess water the currently flows to Afton Canyon during large events the following are examples of how this can have achieved:

i. employ detention basins along the Mojave river
ii. employ rubber dams or
iii. other mechanisms to allow rapid infiltration into the subsurface.
iv. Elimination of tamarisk upstream of Baja Subarea
v. Reevaluate all upstream barriers to surface water flow to the Baja subarea – including potential upstream channelization
vi. Install flow meters on all Baja subarea producers

vii. Wastewater reuse

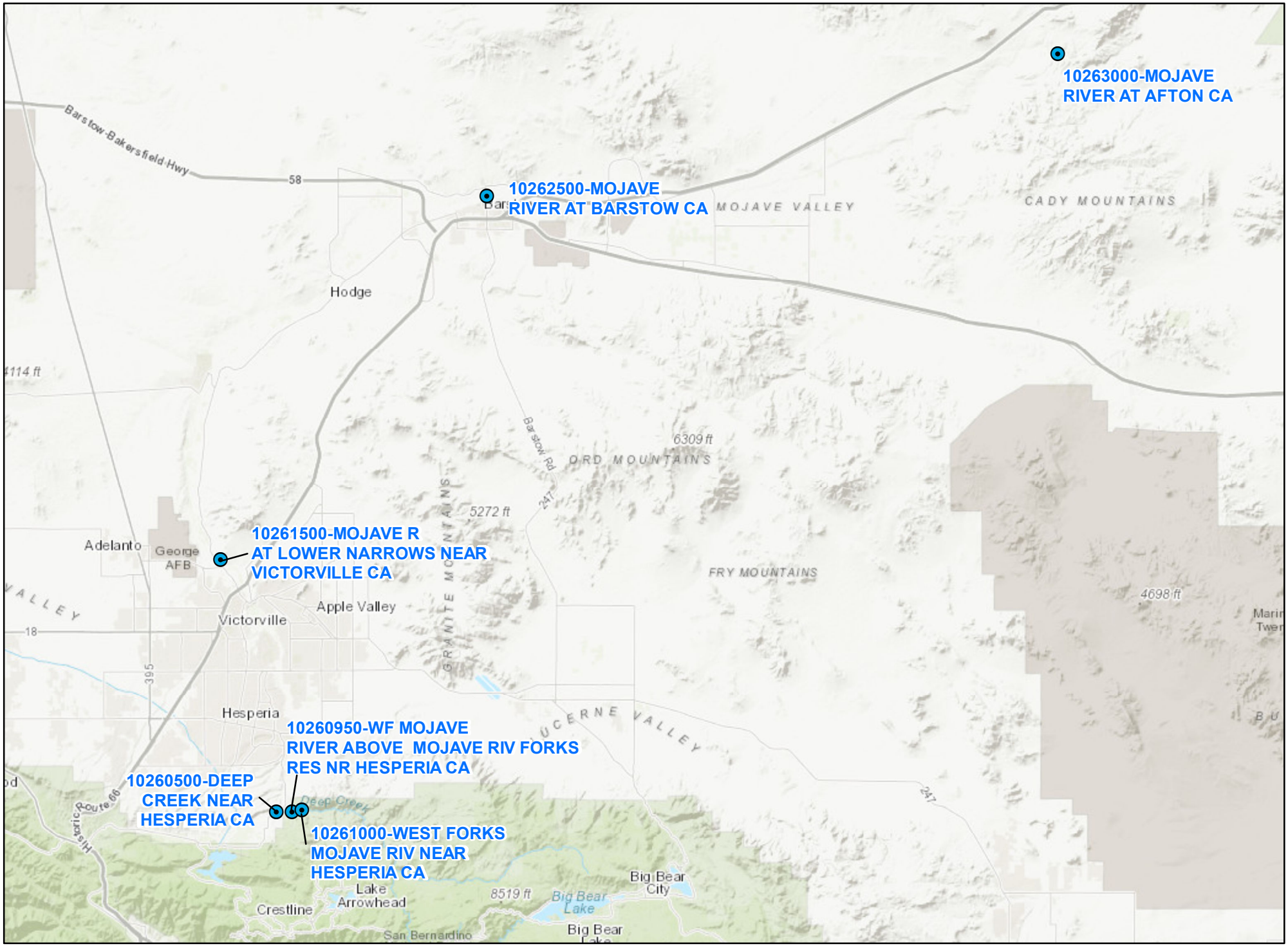
CONCLUDING REMARKS

29. Due to the continuing decreasing water levels within the Baja Sub-Basin it is important to re-analyze flow data for possible effects of the overall operations of the upstream dams and pumping. If there are any changes as the result of these ongoing operation the effects will propagate downstream through Alto to Centro and finally to Baja Sub-basins. As seen in the above discussion there have been effects from the construction and operations of the dams on downstream subareas.

This declaration sets forth my opinions and the information upon which I relied.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct and that I have executed this declaration on the 26th day of September 2019, at Santa Ana, California

Dr. W. Richard Laton, PG, CHg
President of Earth Forensics, Inc.
Principal Consultant, Hydrogeology



earthforensics, inc.

Figure 1: Stream Gage Locations

Figure 2a:
Net Annual Recharge
(Basin inflow at Forks-outflow through Narrows)

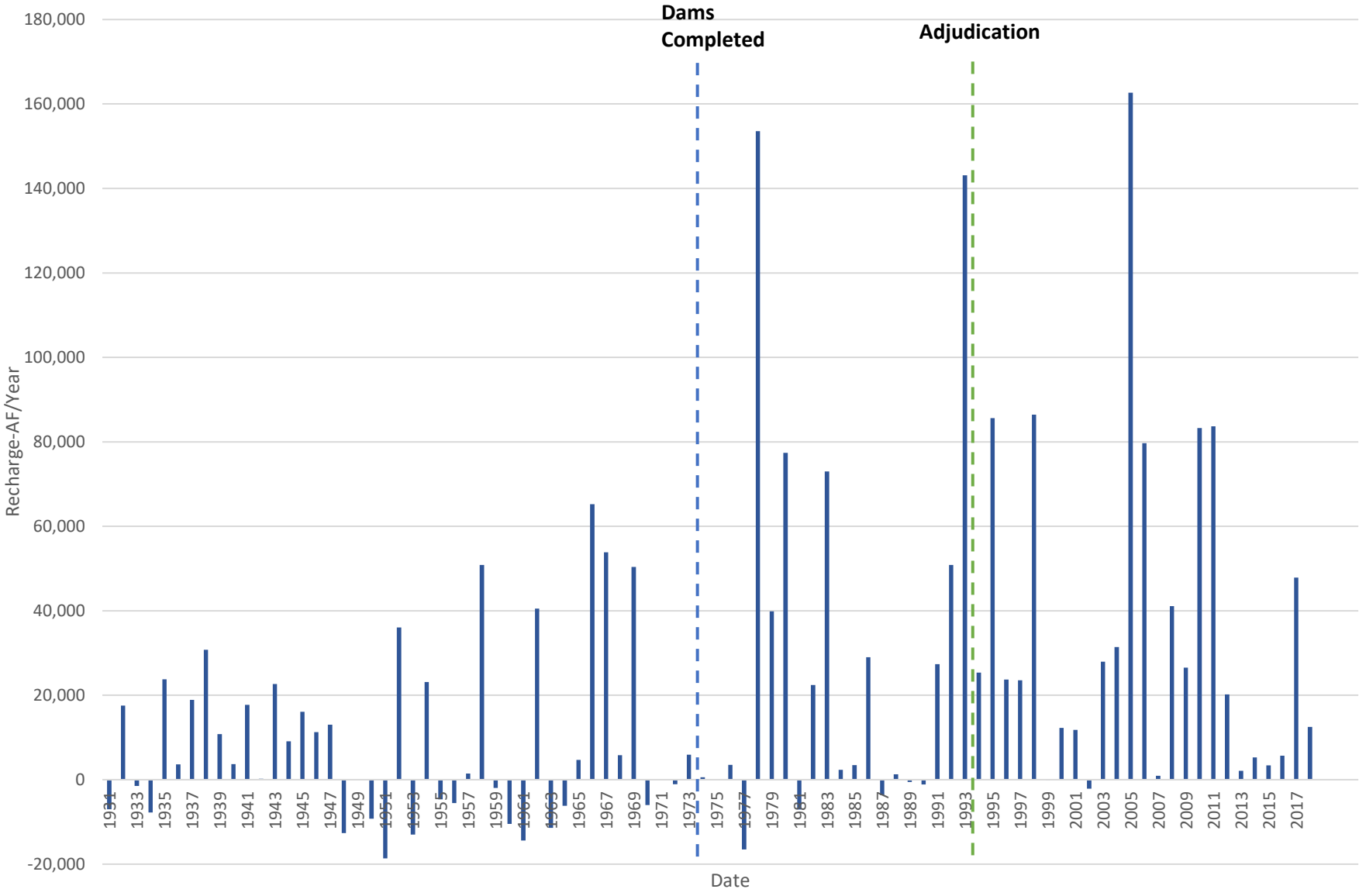


Figure 2b:
Net Annual Recharge
(Basin inflow at Forks-outflow through Narrows)
adjusted for SWP imported recharge

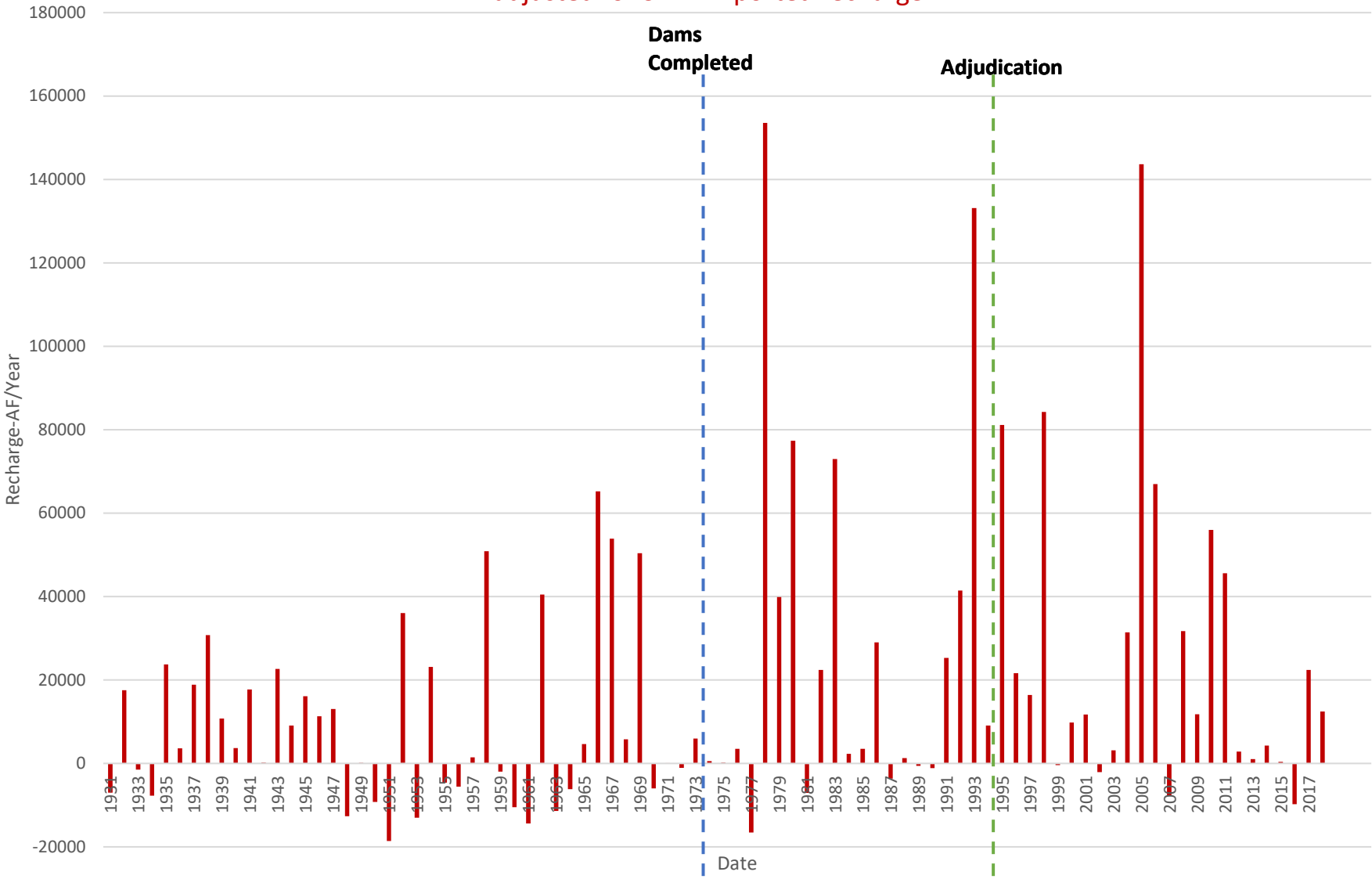


Figure 3a:
Net Annual Recharge
(Basin inflow at Narrows-outflow Barstow)

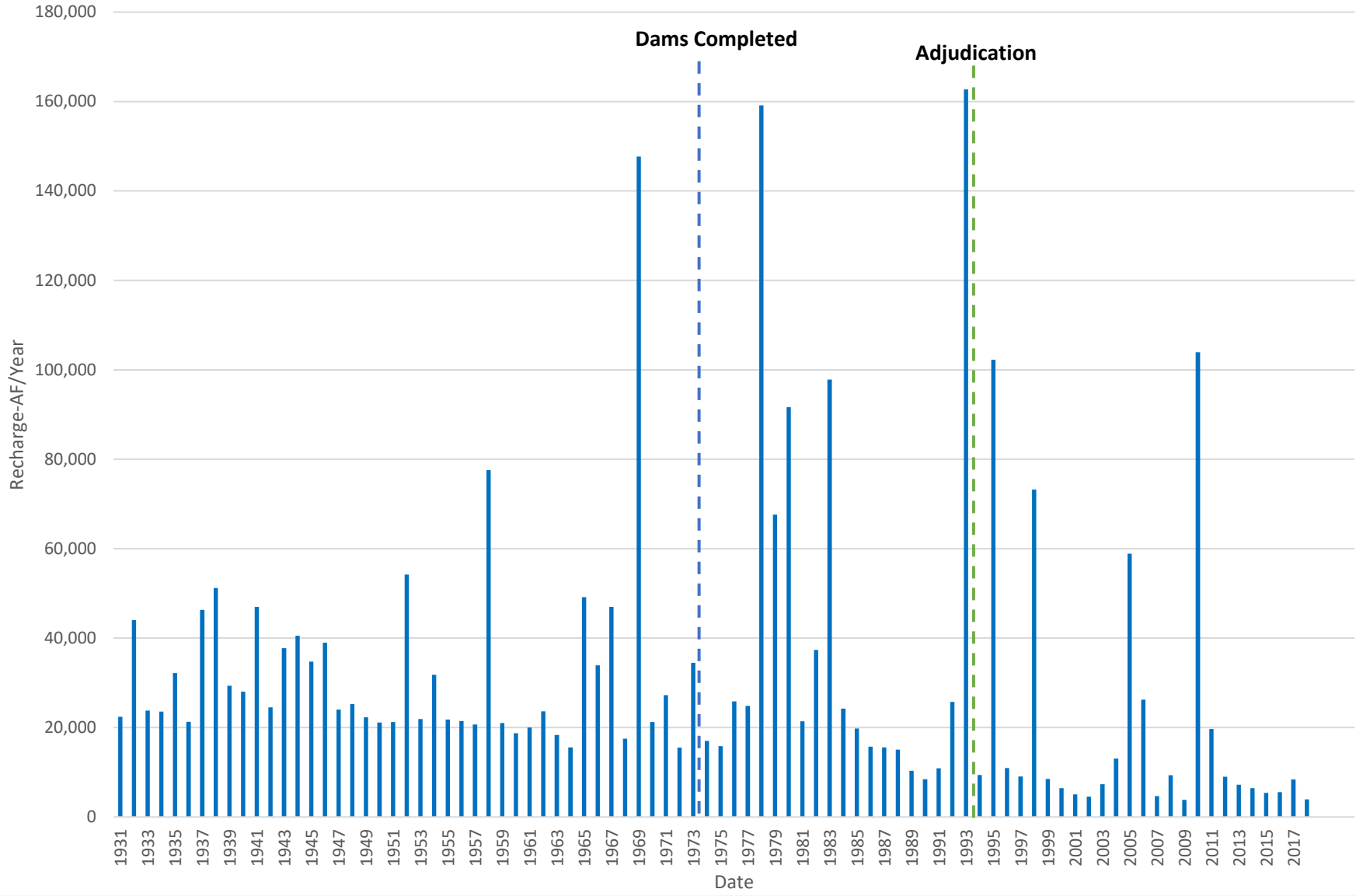


Figure 3b:
Net Annual Recharge
(Basin inflow at Narrows-outflow Barstow)
adjusted for VVWRA discharge

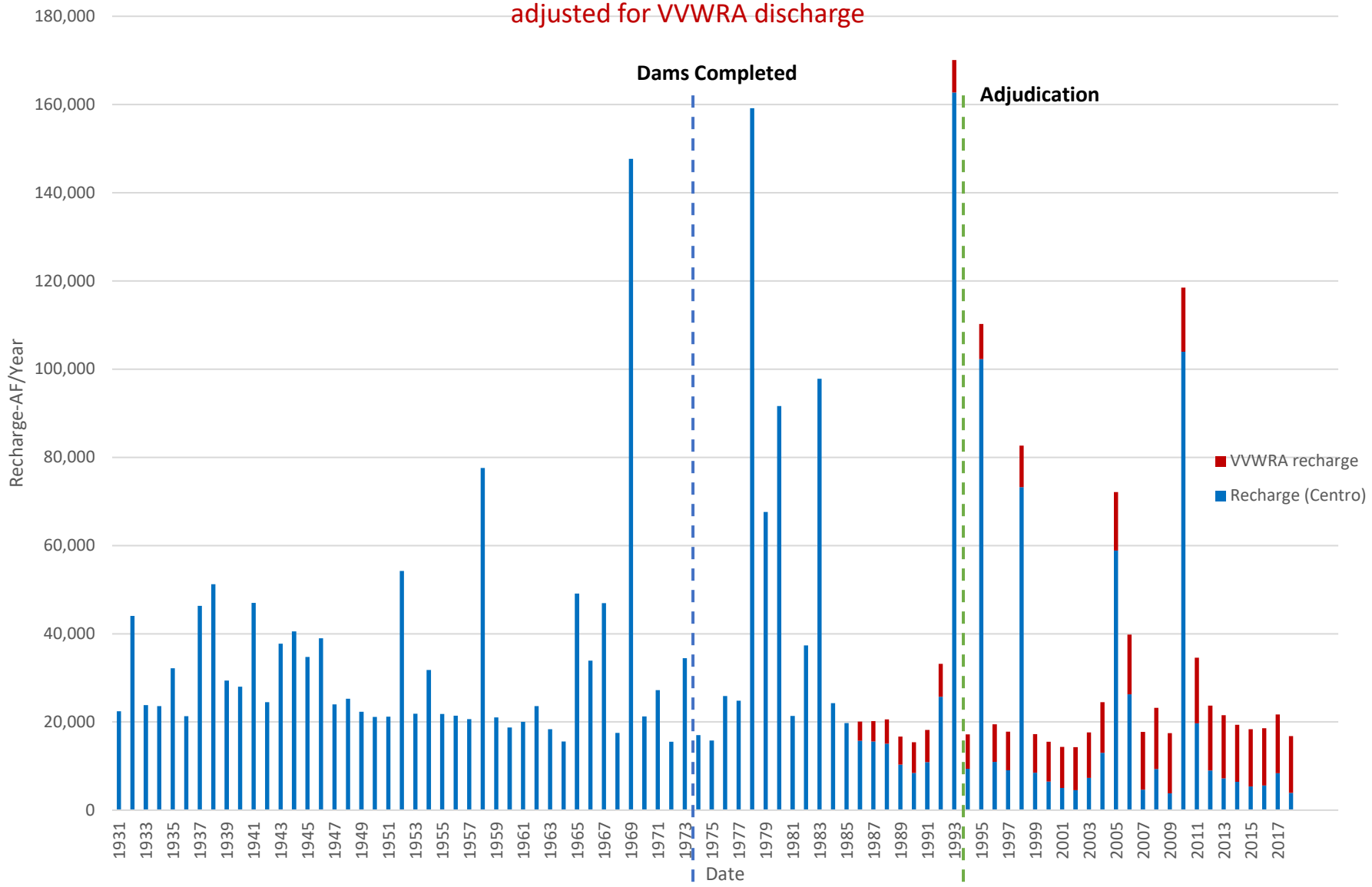


Figure 4:
Mojave River at Lower Narrows
1931-2018

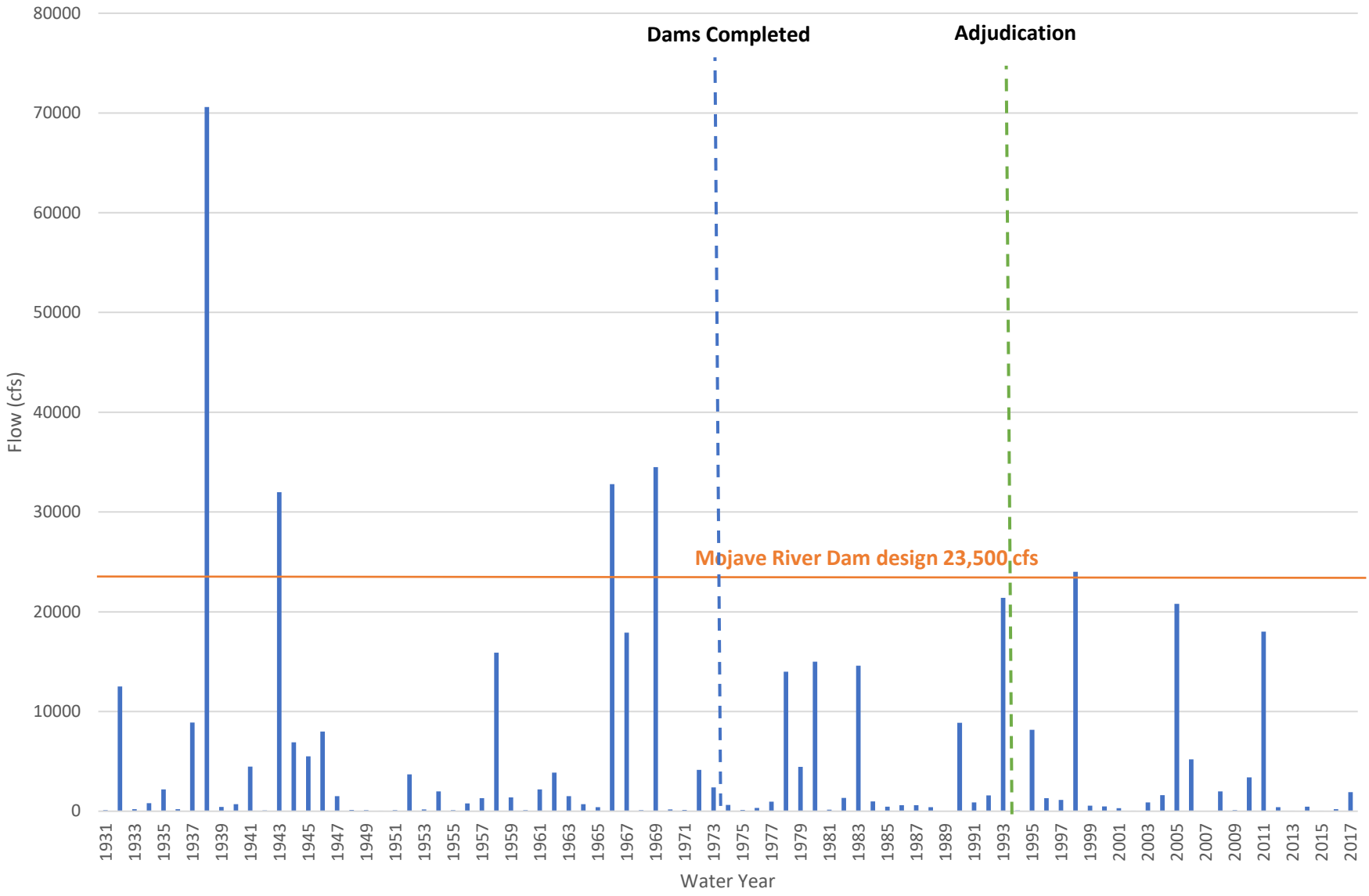


Figure 5:
Barstow Gage (inflow) and Afton Gage (outflow)
Flow

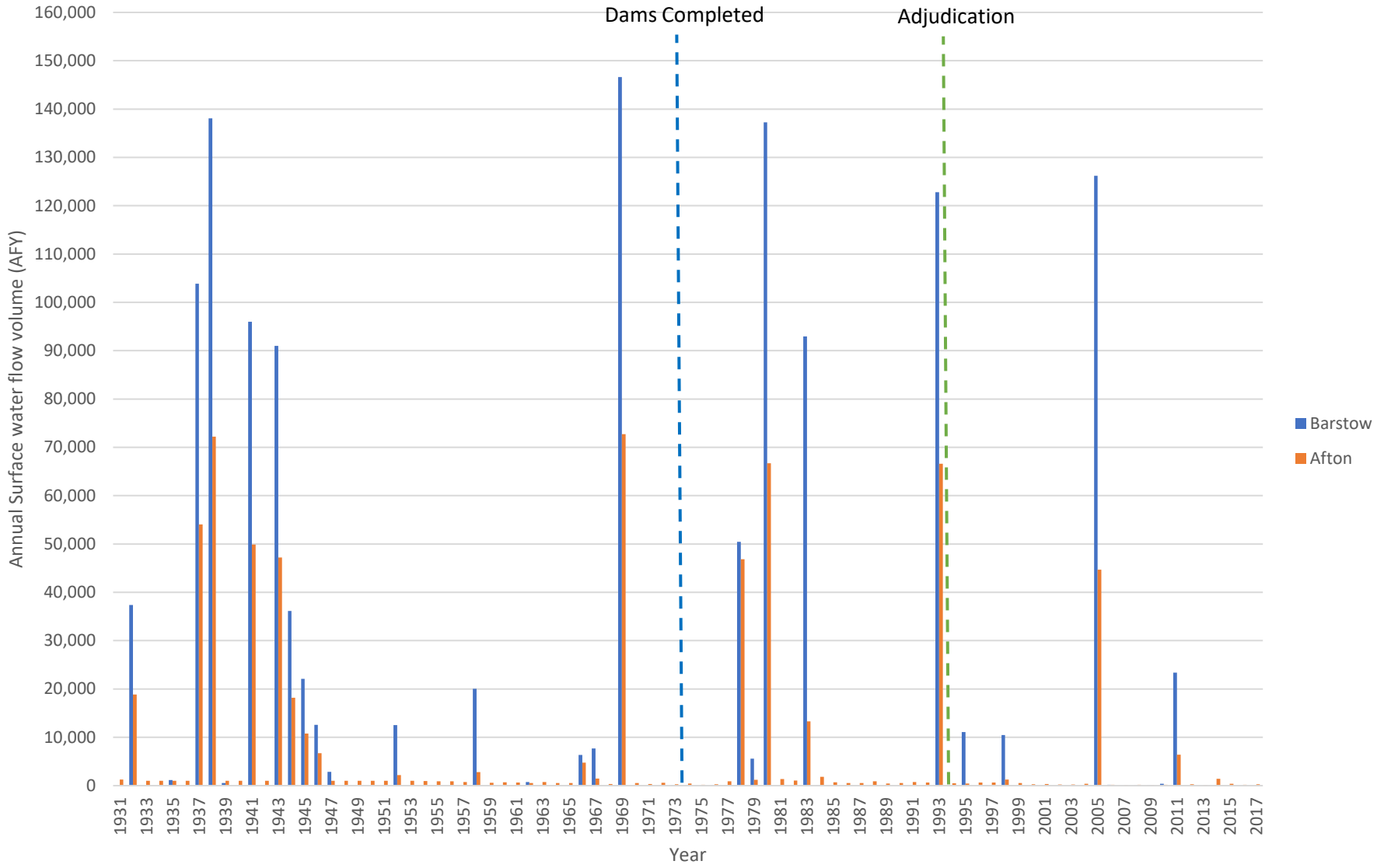


Table 1: Average Daily Flow (pre/post Dam)

	Gages	Pre-1974	Post-1974
10260500	Deer Creek	55.11	**73.77**
10260950/1000	West Forks	27.70	**35.97**
10261500	Lower narrows	**67.77**	60.85
10262500	Barstow	**23.11**	17.45
10263000	Afton	3.23	**5.95**

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Attorneys for Defendant
Newberry Springs Recreational Lakes Association

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF RIVERSIDE

RIVERSIDE HISTORIC COURTHOUSE

Coordination Proceeding Special Title (Cal. Rules of Court, Rule 3.550) MOJAVE BASIN WATER CASES	JCCP No. 5265 Case No. CIV 208568 Judge: Hon. Craig G. Riemer Dept: 1
CITY OF BARSTOW, Plaintiff, vs. CITY OF ADELANTO, et al., Defendant.	**DECLARATION OF W. RICHARD LATON IN SUPPORT OF NEWBERRY SPRINGS RECREATIONAL LAKES ASSOCIATION'S OPPOSITION TO WATERMASTER'S RENEWED MOTION FOR DETERMINATION OF HYDROLOGIC BASE PERIOD FOR CALCULATION OF PRODUCTION SAFE YIELD VALUES; MEMORANDUM OF POINTS AND AUTHORITIES** [*Filed concurrently with Opposition to Watermaster's Renewed Motion for Determination of Hydrologic Base Period For Calculation of Production Safe Yield Values and Memorandum of P's and A's;*] Date: March 18, 2026 Time: 8:30 a.m. Dept: 1 **Reservation No.: Per Court Order 2/20/2026** Date: February 20, 2026 Time: 8:30 am Dept: 1
AND RELATED CROSS ACTIONS	

/ / /

DECLARATION OF W. RICHARD LATON

I, W. Richard Laton, declare as follows:

1. I am the Principal Hydrogeologist and President/Owner of Earth Forensics, Inc. I am an expert in geology, hydrology, hydrogeology, environmental contamination, and contaminated site investigations. I possess extensive knowledge and experience in the areas of hydrogeology, soil and water contamination, water quality, corrective action, hydrology and surface water, site assessment, site investigation, site remediation, wetlands, coastal monitoring/geomorphology, environmental field sampling techniques, and well hydraulics, waste management, as well as environmental remote sensing, aerial photographic interpretation/analysis and geographical information system (GIS). See Curriculum Vitae of W. Richard Laton, a true and correct copy of which is enclosed herewith as **Exhibit 1**.

2. My educational background that relates to this case is as follows: 1997 – Ph.D. in Hydrogeology, Western Michigan University; 1992 – M.S. in Environmental Earth Science, Western Michigan University; 1989 – B.A. in Earth Science, St. Cloud State University, Minnesota.

3. I am a licensed Professional Geologist in California, Alaska, Arizona, Illinois, Indiana, Florida, Minnesota, New York, North Carolina, Oregon, Pennsylvania, Texas and Washington. I am also a licensed Professional Hydrogeologist in both California and Washington. I am a Certified Professional Geologist with the American Institute of Professional Geologists and a Certified Professional Geologist for the European Union.

4. I am a Professor of Hydrogeology in the Department of Geological Sciences at California State University, Fullerton, California where I've taught hydrogeology and related disciplines since 1999. My experience and expertise as a professor include years of teaching, consulting, litigation support, and management in hydrology and hydrogeology. My course topics include hydrogeology, water quality, environmental sampling, groundwater modeling, well hydraulics, remediation technologies, RCRA/CERCLA compliance and cleanups, meteorology, oceanography, geology, drilling and well construction, field hydrogeology, borehole geophysics, and surface geophysics. Through my years of experience and providing instruction, I have

extensive knowledge and understanding of groundwater and surface water relationships, particularly in Southern California and the Mojave Basin.

5. I have worked as a consultant and researcher within the Mojave River/Groundwater Basins and Sub-basins ("*Mojave Basin*"), including the Baja sub-basin, where I have conducted various monitoring and sampling of groundwater and geology. My experience in the Mojave Basin includes research conducted for and on behalf of the Mojave Water Agency ("*Agency*" or "*MWA*") to develop conceptual basin models and to map the geological and hydrogeological features of the Mojave Basin. Additional work, which I reviewed and commented upon, was performed by the Agency to determine groundwater flow between basins and whether, if any, changes had occurred at the time of the Agency's studies. This overall research, as detailed in my CV, resulted in no fewer than 16 public reports, multiple peer-reviewed papers, 18+ presentations, and 12+ theses on conditions and hydrogeology in the Mojave Basin. Consulting efforts have included, but are not limited to, the evaluation of blowing sand and its impacts on resources, groundwater replenishment from mountain-front recharge and surface flow, and site-specific evaluations for water resource supplies in various subbasins in the Mojave Basin.

6. I have been retained by Newberry Springs Recreational Lake Association ("*NSRLA*") as an expert for the purpose of providing expert opinions on the issues discussed herein, which primarily pertain to the Alto Transition Zone, Centro sub-basin, and Baja sub-basin, and the dearth of relevant data that is currently appropriate for use in establishing an alternative baseline as proposed in Mitsubishi and Watermaster's respective motions. I have reviewed both the Mitsubishi and Watermaster motions filed on February 24, and it is my opinion that the base periods requested in both are scientifically improper at this time for the Baja Sub-basin.

7. The motion by MWA to change the hydrologic base period for Production Safe Yield (PSY) and Free Production Allowance ("*FPA*") calculations in the Mojave Basin Area from the current baseline period of 1931-1990 to a proposed 2001-2020 is premature in the Baja sub-basin because there is simply not enough data to determine whether the current base period is appropriate in the Baja sub-basin, nor whether a different base period would better reflect current conditions in the aquifer and water sources that replenish it. Mitsubishi's motion suffers from the

same flaws with regard to the Baja sub-basin, at least until such time as MWA's data gathering and modeling efforts to better understand the relationship between the Baja and Centro sub-basins are completed.

8. Reasons Why the Proposed Adjustments to the Base Period Are Not Reasonable or Appropriate Given Current Conditions and the Dearth of Data in the Baja sub-basin. The proposed new base periods proposed by both Watermaster and Mitsubishi are inappropriate for several reasons.

a. First, as shown in the enclosed map and associated tables depicting seven Baja sub-basin wells, and their corresponding water levels, groundwater levels in the Baja sub-basin have been steadily increasing over the past 4-5 years, making the reductions in PSY that would potentially follow from adopting either the Watermaster or Mitsubishi Base Periods (both of which would result in approximately a 30% reduction in the PSY Base Period in Baja) illogical and unsupported by the best and most current information about the Baja sub-basin. Enclosed herewith as **Exhibit 2** is a true and correct copy of a map I prepared of the Baja sub-basin. It includes a plot of seven Baja sub-basin groundwater wells and tables showing recent groundwater level measurements for each of the seven wells depicted on the map. It defies logic and good scientific principles to potentially reduce safe yield by 30% or more in the Baja sub-basin at the same time as groundwater levels are increasing, while at the same time approving a revised base period that would increase safe yield in the sub-basin immediately upstream, Centro, by nearly 40 percent. Yet, as illustrated in the table that NSRLA's Mr. Jeff Gaastra and I prepared, entitled "*PSY Base Period Recalculation*," a true and correct copy of which is enclosed herewith as **Exhibit 3**, adopting either Watermaster or Mitsubishi's proposed base period would potentially result in such an anomalous outcome in two subbasins that are immediately adjacent to each other. Compounding this incongruity is the fact that, as Watermaster's expert Mr. Wagner recognizes in his declaration at pages 13-14, Watermaster's data in the Baja sub-basin is limited in the area of streamflow between the Centro and Baja sub-basins, and Mr. Wagner admits that "*the only reliable data available is pumping and water level measurements (which show recent recovery)*". Mr. Wagner is correct in this regard. The degree to which water travels between the Centro and

Baja sub-basins is poorly understood, owing in part to the poor reliability of the Barstow Stream Gage, which, for many years, was the only gage available to measure the flows leaving Centro and replenishing the Baja sub-area. The Barstow Gage is located in a wide area of the Mojave River that does not always measure outgoing flows when water is in the thalweg, and, compounded by its poor location, the gage has not been well-maintained over the years. The new gage at Daggett, is better, but it has only been in operation since approximately 2023. Thus, the new proposed baselines do not appear well calibrated to the ground conditions, particularly in the Baja sub-basin, and it is simply not possible to extrapolate what Watermaster has observed at the Forks to recharge conditions in both the Centro and Baja sub-basins.

b. Second, as demonstrated in the exhibit entitled Historical Annual Stream Gage Flow Data that I prepared after reviewing stream gage data in the Mojave Basin between 1909 and 2025, a true and correct copy of which is enclosed herewith as **Exhibit 4**, it takes a very wet year for stream flow to actually reach the Baja sub-basin, if the then existing gages were even able to detect the flows. Unlike the upper Mojave Basin, in sub-basins such as Alto that receive Mojave River flows nearly every year, surface flows to the Baja sub-basin are infrequent. However, in the very wet years when they do arrive, they can dramatically raise groundwater levels, enabling greater pumping. Thus, by removing nearly sixty years of data from the Base Period, an extended period that included numerous wet years, the Baja sub-basin loses out on numerous years where there was significant replenishment of the Baja sub-basin. Given the importance of the original base period in determining how much water potentially replenishes the Baja sub-basin, the better approach, if the Court desires to order a change prior to the completion of Watermaster's model, would be for the Court to simply extend the original base period through 2026 rather than selecting the more limited snapshots in time recommended by Watermaster and Mitsubishi.

c. Third, both motions fail to consider the impact of water rights transfers and land use changes in the Baja sub-basin that have reduced overall groundwater production, likely on a permanent basis. The purpose of calculating PSY is to provide an estimate of the mean annual amount of groundwater that can be pumped without causing a long-term net change in

groundwater storage. If groundwater levels are already on the rise, using the historic base period, imposing a new base period based on a period of relative dryness in other upstream sub-basins would not seem to accurately reflect the current hydrologic and cultural conditions in the Baja sub-basin. This will likely lead to an unnecessarily restrictive PSY calculation in the Baja sub-basin while authorizing pumping that may cause groundwater levels to drop in other sub-basins, such as the immediately adjacent Centro sub-basin, which would potentially be authorized an additional 10,000 acre-feet (AF) of pumping if either of the motions before the Court is approved. Indeed, the Watermaster's Motion appears to acknowledge the potential incongruity of its proposed new base period in the Baja sub-basin, observing that an appropriate hydrologic base period should include "*recent cultural conditions*" such as "*patterns of groundwater production, consumptive uses, and other relevant factors*," (Watermaster Motion at p.11), but then seemingly ignores these factors with its proposed revisions to the Base Period that are primarily tied to changes observed by Watermaster at the Forks. By NSRLA acquiring water rights from former agricultural operations, some of the largest historic water users in the Baja sub-basin have had their pumping rights reduced or eliminated. For example, in October of 2012, the MWA purchased 7,194 AF of water rights from the Genon Corporation; these rights are no longer being pumped and will presumably not be in the future. Additionally, the Newberry Spring Lake Association has purchased an additional 4,335 AF of water from persons who previously pumped groundwater from the Baja Sub-basin. This major change in "*groundwater production*" and "*consumptive use*" is a recent cultural condition that neither the proposed base period adequately reflects. The acquisition of rights by NSRLA has resulted in a substantial net decrease in water extraction throughout Baja, and it would be improper to use a historical base period that doesn't account for this fundamental shift in water usage occurring in the last four to five years, which Watermaster has acknowledged,[1] changes that should be reflected in the model that Watermaster

[1] Wagner Decl., Watermaster Statement of Reasons, enclosed with Mitsubishi Motion at MM 000856 ("In 1995, agricultural water production in Baja was about 35,200 acre-feet. By 2024, agricultural water production dropped to roughly 5,500 acre-feet. Watermaster's data on irrigated acreage shows some variability; however, irrigated areas show a steady downward trend during recent years. In 2000, irrigated crops were grown on 5,296 acres. By 2024, irrigated acreages were reduced to 1,779 acres. Watermaster concludes that agricultural pumping patterns and irrigated areas have changed during the last five years. This is consistent with the evidence

is working to complete as soon as September 2026 for Baja sub-basin. In the Baja sub-basin, solar farms have replaced sixteen 160-acre pivot irrigation devices on the west side of the Calico fault; this represents a significant cultural shift in the area, as solar energy uses little to no water. Watermaster's motion quotes the Mojave Judgment in stating that PSY calculations must be based on a period that includes "*given patterns of production, applied water, return flows and Consumptive Use . . . without resulting in a long-term net reduction of groundwater in storage in the Subarea."* (Watermaster Motion at p. 12.) However, neither proposed base period appears targeted to achieving this requirement of the Judgment, at least as pertains to water use in the Baja sub-basin.

d. The Watermaster's renewed motion claims that the proposed base period is representative of the long-term natural water supply is questionable for to Baja sub-basin because Watermaster's motion relies on data that are not located at the sub-basin boundaries. As noted herein, additional Mojave River stream gages have been installed only in the last 2 years and have been collecting data for approximately that time. The data from these stream gages is insufficient to draw conclusions about long-term hydrologic conditions. However, the motion refers to **Exhibit 2,** which charts Mojave River flow at the Forks from 1931-2024, but fails to mention that the most recent data points are based on these new gages or the older Barstow gage, which is currently used to estimate surface inflow to the Baja sub-basin. As noted above, and as Mr. Wagner admits in his most recent declaration at page 14, data from the Barstow gage and other stream gages are of questionable usefulness in evaluating conditions in the Baja sub-basin, as Mr. Wagner admits that in the Baja sub-basin, the "*only reliable data available is pumping and water level measurements (which show recent recovery).*"

9. It is essential to postpone any changes to the Base Period, and by extension adjustments to PSY, in the Baja sub-basin until more data is collected to ensure an accurate and reliable evaluation of the actual flows into and out of the Baja sub-basin. As Watermaster's renewed motion acknowledges at pg. 16, MWA is currently developing the Regional Mojave River Basin Model (RMRBM) that will help solve some of the data deficiencies that Watermaster

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of land use changes observed in Baja during the 2020 to 2024 period").

admits currently exist in the Baja sub-basin. It nevertheless urges the Court to approve Watermaster's motion anyway, with the assurance that "*after ongoing modeling is completed, the Court could then determine the appropriate hydrologic base period to be used for subsequent years, without Watermaster's reliance upon the 2001-2020 base period (for calculating PSY and FPA values for Water Year 2026-2027) having any precedential value as to that subsequent determination.*" This is a strange invitation to leap before looking, given the adjustments to PSY that would presumably flow from granting Watermaster's proposed revision to the base period, creating the risk of significant year-over-year deviations in PSY allocations without any material changes in hydrologic or land-use conditions.

10. Given the known data gaps in information about how and when water flows between the Centro and Baja sub-basins, combined with the fact that water levels in the Baja sub-basin are rising, it is prudent, at least in the Baja sub-basin, to wait for the completion and release of the RMRBM components for the Baja and Centro sub-basins, which could come as soon as September 2026, before revising the base period in the Baja sub-basin. Making a change to the base period now, based upon assumptions of drier conditions outside of the Baja sub-basin, only to potentially change the base period again a year or two later based upon the RMRBM, would be inefficient for the Court and the Parties before the Court while creating unnecessary instability in the overall water management process. The RMRBM is designed to provide the kind of detailed information necessary for a sound determination of the hydrologic base period for each sub-basin. The Court should allow this ongoing data-gathering and modeling process to play out in the Baja sub-basin before changing the base period, as neither motion provides a legitimate technical basis for a change in the Baja sub-basin before the completion of the RMRMB for the Baja and Centro sub-basins. Indeed, both motions largely ignore current conditions in the Baja sub-basin. Patience and the improving status quo are, therefore, the prudent course in the Baja sub-basin until the RMRBM is completed.

I declare under penalty of perjury of the laws of the State of California that the foregoing is true and correct and that I have executed this declaration on the 5th day of March 2026, in Santa Ana, California.

Dr. W. Richard Laton, PG, CHg
President of Earth Forensics, Inc.
Principal Consultant, Hydrogeology

EXHIBIT 1

earthforensics, inc.

W. RICHARD LATON, Ph.D.

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NORTH TUSTIN, CA 92705
714-296-4055
wlaton@earthforensics.com

VITAE

EDUCATION

Ph.D. (1997), Geology with an emphasis in Hydrogeology, Western Michigan University
Groundwater – Kalamazoo River Interaction near the Parchment City Well Field, Parchment, Michigan.

M.S. (1992), Environmental Earth Science (Coastal Geomorphology), Western Michigan University
Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement; Identification and Mapping.

B.A. (1989), Earth Science (Oceanography), Saint Cloud State University, Minnesota
Density Flow Analysis of Turbidity Currents.

PROFESSIONAL SUMMARY

Dr. Laton is an expert in the fields of geology/hydrology/hydrogeology. He is currently a Professor of Hydrogeology in the Department of Geological Sciences, California State University, Fullerton, the prestigious 2014 Ross Oliver Award winner and a 2024 NGWA Fellow. This career continuation includes years of teaching, consulting, litigation support, and management experience. Dr. Laton possesses extensive knowledge in the areas of geology, hydrogeology, fluvial geomorphology (including erosion and sediment transport), meteorology/climatology (including rainfall, RADAR analysis, and wind), hydrology and surface water, wetlands, coastal monitoring/geomorphology, natural hazards (such as land/mudslides, flooding, and earthquakes), soil and water contamination (fate and transport), CEQA, environmental field sampling techniques and well hydraulics-well design as well as environmental remote sensing/GIS. His classes at the university encompass topics such as water quality, environmental sampling, groundwater modeling, well hydraulics, oceanography, and basic geology. He enjoys introducing students to applied research and is the faculty advisor to many upper-level students. He has also consulted for numerous companies and agencies that need input on the above subjects and natural hazard assessment and mapping.

CERTIFICATIONS

California Geologist	(PG-7098)	California Hydrogeologist	(CHg-958)
Alaska Geologist	(PG-673)	Oregon Geologist	(G2153)
Arizona Geologist	(PG-42253)	Pennsylvania Geologist	(PG-5095)
Florida Geologist	(PG-2618)	Texas Geologist	(PG-10018)
Illinois Geologist	(196.001370)	Washington Geologist	(PG-2517)
Indiana Geologist	(LPG-2191)	Washington Hydrogeologist	(CHg-2517)
Minnesota Geologist	(PG-44868)		
New York Geologist	(PG-001222)	AIPG-Certified Geologist	(CPG-10544)
North Carolina Geologist	(PG-2614)	European Geologist	(N-1128)

SELECTED CONSULTING, RESEARCH, AND EMPLOYMENT EXPERIENCE

Professional Profile

2010 - Present, President of *Earth Forensics Inc.*
1995 - 2010, Partner (Owner Operator) with *Environmental Science & Planning, LLC*.
1998 - 2001 & 2007 - 2012, Senior Consultant with *Earth Consultants International*.
2001 - 2007, Consultant to *Hromadka & Associates*.
1996 - 1998, Senior Hydrogeologist with *SimulProbe Technologies.*

2010 – Present. ***Earth Forensics, Inc.*** President (www.earthforensics.com)
Project experience includes management, expert testimony, fieldwork, oversight, and training. Clients have included the State of California, various cities, private firms, law firms, and other consulting companies.

2025

- Honolulu, HI. Retained to provide expert opinions on contamination of groundwater.
- Fullerton, CA. Hired to review potential contamination as it relates to groundwater.
- Wisconsin. Retained to provide expert opinions as they relate to drilling, well design, and standard of care (Defense: Frost v Sams Well Drilling (Case: 2025CV000219)).
- Texas. Retained to provide expert opinions as they relate to the remote sensing of oil field operations (Defense: SynMax v Kayrros (Case No. 2:24-cv-0494)).
- Newport, CA. Retained to provide expert review and comments on a historical dry cleaner.
- Kalamazoo, MI. Hired to provide a review of several well-field geophysical surveys for the City.
- Mojave Desert, CA. Retained to provide insight into sand and dust movement via wind in and around a solar power plant; Declaration (Defense: Doles v Newberry Solar 1, et al. (Case No: 2135262)).
- Montrose, MO. Retained to provide expert opinions on coal combustion residuals (CCR) contamination of soil, groundwater, and surface water (Defense: Bauer v Evergy Metro, et al.)
- San Bernardino, CA. Hired to develop a Bain Monitoring Plan for TDS Solids.
- Wichita, KS. Retained to provide expert opinions associated with multiple contaminants in soil, groundwater, and soil vapor (vapor intrusion). Expert Report; Deposition (Plaintiff: Black and Tolson v Union Pacific Railroad (Case No: 6:23-cv-1218).

2024

- Camp Lejeune, NC. Hired to review and comment on expert reports associated with fate and transport and groundwater modeling.
- San Diego, CA. Hired to oversee several aquifer tests and develop a construction dewatering plan.
- Torrance, CA. Retained to provide expert opinion associated with groundwater, soil, and soil vapor contamination (PCE, TCE, and 1,1 DCE); Expert Report; Expert Rebuttal Report, Deposition (Defense: City of Torrance v Hi-Shear Corp (Case No: 2:17-cv-07732) (cross-complaint).
- Rolling Hills Estates, CA. Retained as an expert on groundwater and surface water impacts on a landslide.
- Encinitas, CA. Retained as an expert on flood damage.
- Los Angeles, CA. Retained as an expert on remediation, groundwater, soil, and soil vapor contamination (Defense: LA County Metro Transportation v California Drop Forge, et al., Case No. 2:23-cv01728-MWF-KS).
- Vernon, CA. Retained as an expert on groundwater and vapor pathways associated with VOCs, SVOCs, and metals (Superfund).
- Ypsilanti, MI. Retained to evaluate remedial efforts related to the factory.
- Palos Verde, CA. Retained to assess surface water and groundwater impacts on landslides. Multiple Cases; Mediation.

- Hicksville, NY. Retained to evaluate the groundwater model and fate and transport of contaminants.
- Port of Morrow, OR. Retained to evaluate nitrate contamination (Plaintiff, Pearson, et al., v Port of Morrow, et al., Case No.).

2023

- El Dorado County, CA. Hired and retained to evaluate rainfall runoff and slope stability (Plaintiff, Poipao, et al., v County of El Dorado, Case No. 2:23-cv-01265-CKD)
- Corbett, OR. Hired and retained to evaluate water well design and standard of care (Defense, Corbett Water District v SCS Engineers, et al., Case No.)
- Wausau, WI. Hired and retained to evaluate the fate and transport of PFAS/PFOS.
- Orange County, CA. Hired and retained to discuss groundwater flow (Plaintiff, Hadipour, et al., v Moulton Niguel Water District, Case No. 30-2020-01176360-CU-EI-CJC)
- Endicott, NY. Retained to evaluate the fate and transport of contamination. Expert Report, Rebuttal (Plaintiff, Brunelle et al., v Saint Gobain et al, Case No. 226-2022-cv-00416)).
- Oklahoma. Retained to evaluate PFAS/PFOS contamination statewide. Declaration
- Sarasota, CA. Retained as an expert on meteorology associated with flooding. Deposition and Trial Testimony (Plaintiff, Hedayati v Bhatnagar, Case No. 19CV357264).
- Maui, HI. Retained as an expert on GIS and meteorology associated with wildfires.
- New Cambria, KS. Retained as an expert on hydrogeology/geology/sampling, and fate and transport. Expert Report and Deposition (Defense, Grit v Koch Remediation & Environmental Services, et al.).
- Coronado, CA. Retained as an expert on surface water flow.
- Pacific Palisades, CA. Retained as an expert on groundwater (Plaintiff, Nash v Etco Homes, et al., Case No. 20SMCV01211).
- Los Angeles, CA. Retained as an expert on water sources and landslides.
- Claremont, CA. Hired to evaluate the source of high groundwater for multiple residential homes.
- San Diego, CA. Retained as an expert on water damage (Case No. 37-2023-00011116-CU-OR-CTL).
- San Diego, CA. Retained as an expert on flood damage.
- IL, IN, NM, FL, and LA. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Oceanside, CA. Hired to evaluate water issues surrounding a landslide.
- Dalton, NH. Hired by the City to review landfill permits and provide a written report.
- Orange County, CA. Hired to develop a dewatering plan for a landslide on an active landfill.
- Vernon, CA. Retained as an expert on groundwater and vapor pathways associated with VOCs, SVOCs, and metals. Expert Report, Rebuttal Report, Deposition and Trial (Plaintiffs, CA DTSC v NL Industries, Inc., et al., Case No. 2:20-cv-11293-SVW-JPRx).

2022

- Orange County, CA. Hired to evaluate data gaps in the environmental analysis of a landfill.
- Elysian, TX. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Inglewood, CA. Retained as an expert on non-karst sinkholes. (Plaintiff, Maiden v City of Inglewood, et al., Case No. 19STCV20008)
- Southern California. Retained as a hydrogeology/hydrology/meteorology expert for various wildfires (Plaintiff).
- Riverside, CA. Retained as an expert on surface water flow associated with flood damage (Defense, HSU et al., v County of Riverside, Case No. CVR12101209).
- California. Retained as an expert on hydrogeology/hydrology/geology, and meteorology associated with the Thomas Fire.

- Las Vegas, NV. Retained as an expert on water well design, drilling, development, and completion (Defense).
- Bakersfield, CA. Retained in association with oil field issues and leaking wells.
- Los Angeles County, CA. Retained as an expert on hydrogeology/hydrology and meteorology (Plaintiff, Werner, et al., v Azirian et al., Case No. 20smv01176).
- Union, IL. Retained as an expert on contamination from TCE and PCE in groundwater, soil, and soil vapor. Expert Report and Mediation (Plaintiff, Harper v TechAlloy Company, Inc., et al., Case No. 19-LA-307).
- Encinitas, CA. Retained as an expert in fluvial geomorphology (Defense, Trujillo et al., v City of Encinitas et al., Case No. 37-2021-00015834-cu-or-nc).
- Tampa, FL. Retained as an expert on Lead in the environment (Plaintiff, Brown v Gopher Resources, LLC et al., Case No.).
- Newton, MA. Retained as an expert in mapping and GIS.
- Los Angeles County, CA. Retained as an expert on hydrogeology/hydrology and meteorology (Defense, Bowmont Holding LLC, et al., v CAS Construction et al., Case No. 21SMCV01401).
- Riverside County. Retained as an expert on hydrology (Defense).
- Franklin, IN. Retained as an expert on groundwater and vapor pathways associated with VOCs. Expert Report, Expert Rebuttal Report, and Deposition (Plaintiff, Denny, et al., v Amphenol Corp, et al., Case No. 1:19CV-04757-JRS-DLP).
- Encinitas, CA. Retained as an expert on groundwater-surface water interaction in bluff areas. Declaration (Defense, Davis et al., v City of Encinitas et al., Case No. 37-2020-00030315-cu-np-nc).
- Illinois and Indiana. Hired to evaluate the potential groundwater impacts associated with CO_2 Sequestration.
- Maryland. Retained as an expert on impacted soil classification and potential for reuse (Defense, MCM Management Corp v DXI Construction, Case No. C-03-CV-21-003006).
- New Jersey and Pennsylvania. Retained as an expert on AFFF contamination within the public water supply (Plaintiff).
- Laguna Beach, CA. Retained as an expert on the water, including irrigation and construction moisture issues. Declaration and Mediation (Plaintiff, Woods Cove v Michael Liikala, Case No. 20-5685-DRC).

2021

- Santa Barbara County, CA. Retained as an expert on hydrogeology and water resource sustainability. Expert Report and Deposition (Plaintiff, Goleta Water District v Slippery Rock Ranch, LLC, Case No. 1487005).
- Pleasanton, CA. Retained as an expert in dry-cleaning operations and PCE/TCE contamination (Defense, Charles H Stoll v Timothy Ewing, et al., Case No. 3:17-cv-02226-JSC).
- Los Angeles County, CA. Cogswell Dam Review and Development of Dewatering Program.
- Santa Barbara, CA. Hydrogeological Evaluation for a Potential Cannabis Project.
- Vista, CA. Retained as an expert on wetlands and surface water flow (Defense, Goebel v City of Vista and State of California, et al., Case No. 37-2018-00058162-CU-PO-NC).
- Lake Elsinore, CA. Retained as an expert on surface water and debris flow (Defense, Gomes, et al., v County of Riverside, et al., Case No. RIC2003297).
- Bell Gardens, CA. Retained as an expert on remediation (Defense, Bell Gardens Avenue, LLC, et al., v 8000 Bell Gardens, LLC, et al., Case No. 20STCV26362).
- Canoga Park, CA. Retained as an expert on the fate, transport, and cleanup of TCE/PCE contamination. Declaration (Plaintiffs, Behar, et al., v Northrup Grumman et al., Case No 21-cv).

- Midwest City, OK. Retained as an expert associated with dry-cleaner operations and potential contamination. Declaration (Plaintiff, Weingarten Realty Investors, et al., v Brite Cleaners, Inc., et al., Case No. 5:18-cv-971-JD).
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense, Preciado v City of Encinitas, Case No. 37-2020-00037766-CU-EL-CTL).
- Merrimack, NH. Retained to review PFAS/PFOS contamination (Plaintiffs).
- East Chicago, IN. Retained to review and evaluate lead contamination. Expert Report (Plaintiffs, Alvarez, et al., v City of East Chicago et al. Case No. 2:16-cv-00525-PPS-PRC).
- Blades, DE. Retained to review PFAS/PFOS contamination (Plaintiffs).
- San Diego, CO. Retained as an expert in fluvial geomorphology. Declaration and Expert Report (Defense, Lodge v Barbanell, Case No. A265558-58).
- Encinitas, CA. Retained as an expert in fluvial geomorphology. Declaration (Defense, Gilligan v City of Encinitas, Case No. 37-2020-00038879-CU-EI-CTL).

2020

- Inglewood, CA. Retained as an expert in soil contamination. Expert Report (Plaintiff, TKG Management, Inc., et al., v Chubb Custom Insurance Company, et al., Case No. 2;19-cv-10986-AB-AS).
- Marinette, WI. Retained to review PFAS/PFOS contamination (Plaintiffs).
- Malibu, CA. Hired to review and report on multiple single-family homes' groundwater resources.
- Blythe, CA. Retained as an expert in surface water hydrology and canal flow (Plaintiff, Presley v Palo Verde Irrigation District).
- Hesperia, CA. Hired to review the City's water resources.
- Torrance, CA. Hired to develop a Conceptual Site Model for a former manufacturing facility.
- Michigan. Retained as an expert on the dam failure and resulting flooding (Plaintiffs).
- Los Angeles, CA. Retained as an expert in environmental consulting. Mediation (Defense, Madrone et al., v Odic Environmental, Case No. 19STCV27986).
- Central CA. Retained as an expert in hydrogeology and water resources.
- Orange County, CA. Hired to evaluate multiple historical dry-cleaning operations, including developing remedial options for cleanup.
- Chula Vista, CA. Retained as an expert associated with hydrology issues (Defense, Ludwig v City of Chula Vista, Case No. 37-2019-00034737-CU-EI-CTL).
- Laguna Niguel, CA. Hired to evaluate groundwater conditions associated with a landslide.

2019

- Newport Beach, CA. Hired to evaluate the risk posed by contaminated soil, soil vapor, and groundwater in the residential neighborhoods.
- Los Angeles, CA. Hired to evaluate the contaminated soil conditions along a freeway expansion.
- San Diego, CA. Hired to evaluate the hydrogeological conditions of the Mission Valley Project.
- Santa Barbara, CA. Retained as an expert associated with dry-cleaner operations and potential contamination. Expert Reports (Defense, Donald George, et al., v L&R Dry Cleaning, Case No. 5:14-cv-01872-DSF(SHx).
- Apple Valley, CA. Retained as an expert on hydrogeology and water resources (Plaintiffs).
- Cannonsville, NY. Retained as an expert on hydrogeology associated with an earthen dam. Expert Reports (Plaintiff, City of New York v Gomez et al., Index No. 451296/2018).
- Santa Paula, CA. Retained as an expert on hydrometeorological conditions related to the Montecito-Thomas Fire (Defense).
- La Jolla, CA. Retained as an expert associated with the flooding of a single-family residence (Plaintiff).
- Rancho Palos Verdes, CA. Hired to conduct a site assessment, remedial investigation, and work plan.

2018

- Bethpage, Long Island, NY. Retained as an expert associated with groundwater and soil gas contamination. Expert Report and Deposition (Plaintiff, Romano, et al., v Northrop Grumman et al., Case No. 16-cv-5760).
- San Bernardino County, CA. Hired to conduct a Phase 1 and hydrogeological assessment.
- Glen Ivy, CA. Retained as an expert associated with flood damage. (Defense, Glen Ivy Investments Inc., et al., v Shea Homes, Inc., et al., Case No: RIC 1313300).
- Norwalk, CA. Hired to develop a CSM and a work plan to evaluate the historical gas and dry-cleaning facility.
- Merced, CA. Retained as an expert on hydrogeology, groundwater seepage, and surface water. Deposition (Plaintiff, Thorp, et al., v Merced Irrigation District et al.).
- Portland, OR. Retained as an expert associated with a landslide (Defense).
- Los Osos, CA. Hired to develop an RAP associated with BTEX contamination.
- Newberry Springs, CA. Hired to evaluate the water budget and any shortcomings in the Mojave Judgment. Letter Reports and Multiple Declaration (Plaintiff, City of Barstow, et al., v City of Adelanto, et al., Case No: CIV 208568).
- New Mexico. Retained as an expert associated with field drilling operations and well design. Declaration (Defense).
- Houston, TX. Retained as an expert associated with flood damage from Hurricane Harvey (hydrology and meteorology) (Plaintiffs).
- Huntington Beach, CA. Retained as an expert on PCE contamination, fate, and transport associated with a dry-cleaner. Deposition (Defense, Chan Property v Misak Olgun et al., Case No 30-2018-00984600-CU-PO-CJC).
- Torrance, CA. Retained as an expert on the fate and transport of contamination emanating from refinery operations. Declaration and Deposition (Plaintiff, Goldstein v Exxon Mobil, et al., Case No 2:17-cv-02477-DSF (SKx)).
- Malibu, CA. Hired to assess potential single-residence groundwater well.
- Los Angeles, CA. Hired to perform Phase II site assessment at former dry cleaners.
- Santa Barbara, CA. Retained as an expert on PCE contamination, fate, and transport (Plaintiff).
- Whittier, CA. Hired to review Phase II associated with both residential and commercial property.

2017

- San Diego, CA. Retained as an expert in hydrology and meteorology (Defense, Anderson, et al., v Cortez et al., Case No 37-2016-00004134-CU-BC-CTL).
- Roxboro and Mayo, NC. Retained as an expert in hydrology, hydrogeology, and geology. Expert Reports and Deposition (Defense, Roanoke River Basin Association v Duke Energy Progress, LLC, Case No 1:16-cv-607 and No 1:17-cv-452).
- Inglewood, CA. Retained to review soil contaminated with arsenic and potential sources (Plaintiff).
- Torrance, CA. Hired to review the refinery's soil, water, and soil gas contaminant history.
- Bakersfield, CA. Hired to review water quality at the bottled water plant.
- Santa Barbara, CA. Hired to review the contaminant history of a former dry cleaner's facility.
- Glendale, CA. Hired to perform background research on a dry cleaner's facility.
- San Jose, CA. Hired to perform Phase II site investigation.
- Bishop, CA. Retained as an expert on hydrology and hydrogeology concerning the Round Fire (Defense).
- Thousand Palms, CA. Retained as an expert in hydrology and geomorphology (Defense, Hernandez v Huth, et al., Case No PSC 1501365).
- Beverly Shores, IN. Retained as an expert on well drilling, abandonment, and geothermal wells. Expert Report and Deposition (Defense, Salomon, et al., v Mark Scott Construction, et al., Case No 2:15-cv-464).

- Moraga, CA. Hired to review Phase II Soil Vapor Site Investigation.
- Long Beach, CA. Hired to review the Phase II soil and soil vapor site investigation.
- Huntington Beach, CA. Retained as an expert on PCE fate and transport. Deposition (Defense, 17892 Jamestown, et al., v Goldenwest Laundry, et al., Case No. 30-2014-00705041-CU-NP-CJC).
- City of Industry, CA. Hired to determine dewatering options, calculate volumes, and review disposal options.
- Lafayette, CA. Hired to review the Soil and Groundwater Management Plan.

2016

- San Jose, CA. Hired to review and perform site investigation in association with PCE.
- Los Angeles, CA. Hired to develop soil and groundwater sampling plans for CalTrans.
- Malibu, CA. Hired to review groundwater withdrawal impacts on a local stream.
- Malibu, CA. Hired to develop and survey several groundwater monitoring wells.
- Malibu, CA. Hired to oversee pilot drill holes for the City's water injection program.
- Anaheim, CA. Hired to review RI/FS of a former dry-cleaning facility.
- Santa Barbara, CA. Retained as an expert on PCE contamination fate and transport. Expert Report, Rebuttal Report, and Deposition (Defense, Goldberg, et al., v Goss-Jewett Company, et al., Case No. EDCV 14-1872DSF).
- Malibu, CA. Hired to install several monitoring wells and rehabilitate an existing well.

2015

- Denver, CO. Retained as an expert on water wells and hydraulic fracturing. Expert Report, Rebuttal Report, and Deposition (Defense, Hydro v Denver Southeast Suburban Water, and Sanitation District et al., Case No. 201CV30849).
- Orange County, CA. Retained as an expert on groundwater. Deposition (Defense, Kirk, et al., v Varco, et al., Case No. 30-2010-00423097).
- Orange County, CA. Hired to review the South Coast Water District Desalination Program, specifically the slant intake wells.
- Malibu, CA. Hired to oversee groundwater issues associated with a landslide.
- Malibu, CA. Hired to install several groundwater monitoring wells in association with WDR permit.
- Los Angeles County, CA. Retained to provide expert testimony regarding well abandonment (Defense, Golden State Water Company v. General Pump, et al.).
- Los Angeles County, CA. Retained to provide expert geology and hydrogeology testimony (Defense, C. Donald Albin, et al., v David Leu, et al., County of Los Angeles, Case No. TC027060).
- Los Angeles County, CA. EIR review and comments for wastewater plant and disposal.

2014

- Northern California. Phase II Site Investigation.
- Los Angeles County, CA. Retained to provide expert rebuttal testimony on regional hydrogeology. Expert Rebuttal Report (Defense, City of Cerritos et al., v Water Replenishment District of Southern California, Case No. BS128136).
- Los Angeles, CA. Hired to collect samples of both seepage water and treated effluent water.
- Loma Linda, CA. Retained to provide expert opinion on meteorological analysis (Plaintiff, SoCal Self-Storage – Loma Linda v City of Loma Linda, et al., Case No. CIVDS 1200111).
- Los Angeles, CA. Hired to review multiple potentially responsible parties' case files for the Los Angeles Department of Power and Water (Plaintiffs).
- Malibu, CA. Hired to abandon multiple groundwater monitoring wells.

2013

- San Diego, CA. Retained to provide expert testimony on surface water hydrology, geomorphology, and meteorological analysis (Defense, Jaffe v Bradshaw, et al., Case No. 37-2011-00055925-CU-PO-NC).

- Lancaster, CA. Hired to peer-review a groundwater model and subsidence issues.
- Malibu, CA. Hired to review wastewater treatment options.
- Malibu, CA. Hired to review and reply to EIR comments about wastewater discharge and hydrology, hydrogeology, and geology.
- Olivenhain Municipal Water District. Hired to evaluate groundwater resources. Conceptual Water Resource Evaluation.

2012

- Torrance, CA. Retained to provide expert testimony on groundwater seepage (Defense, Torrance Matrix Center Property Owners Association v Headlands Realty Corporation, et al., Case No. BC462023).
- Duncan, OK. Retained to provide expert testimony on the fate and transport of perchlorate and other contaminants of concern, geology, and hydrogeology. Expert Reports, Depositions, and Mediation Conferences (Plaintiff, Alexander, et al., v Halliburton Company, et al., Case No. 5:11-cv-01343-M).
- North Central Texas. Hired to evaluate the possible causation of potable water well failures.
- San Francisco, CA. Conducted evaluation of contaminated soils for CalTrans.
- Malibu, CA. Hired to conduct a groundwater investigation and model wastewater discharge into the subsurface. Includes the evaluation of ASR wells and groundwater-seawater interaction. Includes developing groundwater and surface water sampling protocols for long-term monitoring.
- Malibu, CA. Hired to conduct a groundwater investigation for a wastewater treatment system upgrade on a single-family residence.
- Fennville, MI. Retained to provide expert testimony on the fate and transport of contaminants of concern, geology, and hydrogeology. Expert Report and Deposition (Plaintiff, Barnes, et.al., v Birds Eye Foods, Case No. 1:10-cv-541).
- San Nicolas Island, CA. Hired to develop a white paper on the feasibility of deep-well brine injection.
- Long Beach, CA. Hired to develop calculations of dewatering operations for the Gerald Desmond Bridge Replacement Project.
- Malibu, CA. Hired to conduct quarterly and annual groundwater and effluent sampling of commercial property.

2011

- Orange County, CA. Retained to provide expert testimony on hydrogeology, TCE/PCE, perchlorate contaminant sources, and remediation. Deposition (Defense, Orange County Water District v Sabic Innovative Plastics, Case No. 30-2008-00078246-CU-TT-CXC).
- Parker Dam, CA. Semi-Annual Groundwater Reporting to the Bureau of Land Management.
- Baldwin Park, CA. Hired to oversee soil and groundwater sampling for CalTrans freeway expansion in association with FlatIron Corp., including both environmental and geotechnical sampling.
- Pomona, CA. Retained as a rebuttal expert to provide opinions on hydrogeology, contaminant sources (perchlorate), and historical fertilizer use. Expert Rebuttal Report and Trial Testimony (Defense, City of Pomona v SQM North America Corporation, Federal Court).
- Malibu, CA. Retained and hired to evaluate groundwater conditions of a landslide area in association with geotechnical mitigation. This included overseeing groundwater monitoring, drilling of monitoring wells, and meteorological assessment. Included Mediation (Defense).
- Laguna Beach, CA. Hired to photo-document coastal cave collapse.
- Baldwin Park, CA. Hired to evaluate the soil contamination of several stockpiles associated with FlatIron Corp. for road construction.
- Malibu, CA. Hired to evaluate and construct artificial recharge wells associated with the City's wastewater system. This included drilling test wells, aquifer testing, and water chemistry.

- San Jose, CA. Aided in the development of a construction proposal for FlatIron Corp.
- Riverside County, CA. Reviewed ADL reports for SEMA Construction Corp.
- Los Angeles County, CA. Provided a Hydrogeologic evaluation of the landslide-impacted area.
- City of Los Angeles and Riverside County, CA. Wrote ADL Reports for CalTrans.

2010

- Fullerton, CA. Retained to provide expert testimony on contamination sources and remedial alternatives (Plaintiff, M&H Realty Partners v Aerojet-General Corp et al., CA State Court).
- Carson, CA. Provided review of contaminated soil data and sampling plan for hydrocarbon investigation.
- Fresno, CA. Wastewater sampling at National Raisin Plant. Provide consulting services on wastewater reuse.
- Pleasant Hill, CA. Retained to provide expert assessment of BTEX/MTBE (Declaration (Plaintiff)).
- Victorville, CA. Hired to provide background information on Desert Knolls Wash.
- Placer County, CA. Retained to provide a hydrogeological assessment of the production well and its impact on neighboring domestic wells on behalf of the plaintiffs.
- Merced, CA. Retained as designated expert for Chromium VI contamination case. Work included providing hydrogeological analysis and guidance. Declarations, Expert Reports, Deposition, and Trial Testimony (Plaintiff, Abarca, et al., v. Merck-Federal Court).

1995 – 2010. ***Environmental Science & Planning, LLC.*** Partner (Owner Operator).
Project experience includes management, expert testimony, fieldwork, bid preparation, and consulting for public agencies and private companies in remediation, water resource evaluations, geophysical investigations, surface water management, sampling, and modeling. Selected consulting projects are as follows:

2008

- Torrance, CA. Provided expert analysis of dry-cleaner facility for commercial property.
- Long Beach, CA. Aided in developing a conceptual model of a manufacturing facility.
- Provide technical oversight and alternatives for San Bernardino County Flood Control.
- Orange County, CA. Retained as a designated expert on a single-family home associated with potential water issues (Defense).
- San Bernardino County, CA. Provided consulting services concerning the water supply to an area of single-family residences.
- Signal Hill, CA. Provided expert analysis of downhole video of the suspected drain.

2007

- La Jolla, CA. Retained as a designated expert on surface and groundwater issues related to landslides (Plaintiff).
- Long Beach, CA. Retained as a designated expert on surface and groundwater issues surrounding a coastal condominium complex (Plaintiff).
- Norco, CA. Provide expert oversight to Wildermuth Environmental, Inc., on surface water and groundwater sampling protocols and training.

2006

- Riverside, CA. Environmental Impact Report. Provided technical support on land development associated with an old mining claim.
- Irvine, CA. Environmental Engineering and Contracting. Provided support and review of CPT, ROST data for an environmental contamination project in Illinois.

2005

- Malibu, CA. Retained as a designated expert on the hydrogeologic analysis of existing wastewater systems. Included Deposition (Defense).
- Riverside, CA. Oversaw specialized soil and groundwater sampling for Layne Christenson.

2004

- Oakland, CA. Soil and groundwater sampling for CalTrans.
- California. Statistical analysis of lead in soil samples for CalTrans highway expansion.
- Carpinteria, CA. Retained as a wetland expert, including HEC-RAS modeling.

2002

- Playa Vista, CA. Developed methane mitigation plan for residential and commercial development. This included testifying before the County Commissioners.

1999 – 2000

- Norco, CA. Oversaw development of methane sampling and mitigation standards for Riverside, California.
- Norco/Corona, CA. Methane Mitigation Investigation.
- Long Beach, CA. Conducted both soil and groundwater sampling for Carlin Environmental Consulting.

1998 – 2001 & 2007 – 2012. ***Earth Consultants International, Inc.,*** Senior Consultant (www.earthconsultants.com). Work includes project management and hydrogeologist duties. Other activities include business development and marketing. Projects include wastewater, oil field seepage, methane mitigation, dewatering for construction purposes, EIR development, water resources investigations, watershed studies, and a regional groundwater GIS study for Riverside County.

2010

- Ocotillo/Coyote Wells, CA. Retained to review groundwater basin conditions associated with Wind Zero development (Testimony on behalf of Client – Imperial County).

1998 – Present: City of Malibu Specific Projects

- Hired to provide hydrogeologic services in association with a zero-discharge wastewater system. Aided in Salt Management Plan.
- Hired to provide hydrogeologic services associated with on-site wastewater, Miramar Investment Co.
- Retained to provide consulting services associated with wastewater discharge impacts to the subsurface at Malibu Racquet Club, Casa Malibu Inn, Wavebreak Restaurant, and Malibu Cantina Restaurant (Testimony on behalf of Client – LARWQCB).
- Retained by the City of Malibu to represent them in a surface water lawsuit (Defense).
- Oceanographic-Hydrogeological analysis and modeling of tidal fluctuations, storm surge, and impacts on a coastal development's wastewater discharge system.
- Conducted a regional groundwater study for the City of Malibu associated with a groundwater flow model of the downtown area. This includes fieldwork, data analysis, and modeling support (Testimony for Client – LARWQCB).
- Provided expert testimony for the City of Malibu on local groundwater conditions (Testimony on behalf of Client – LARWQCB).
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Crummer Property, Malibu, California.
- Hydrogeological Characterization and modeling of subsurface wastewater discharge (mounding) – Winter Canyon, Malibu, California.
- Hydrogeologic Characterization and testimony to wastewater discharge to subsurface – Malibu, California. (Testimony on behalf of Client – LARWQCB)
- Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for proposed wastewater treatment facility in downtown Malibu (Testimony on behalf of Client – LARWQCB).

- Hydrogeologic Characterization and Assessment of Wastewater Discharge Impacts for Thirteen Single-Family Residences' Proposed Construction in Trancas Canyon, Malibu, California.
- Groundwater study of Winter Canyon, Malibu, California, to determine the feasibility of using the canyon for wastewater disposal.
- Groundwater study of 200 acres in preparation for the Malibu Civic Center EIR.
- Provide expert witness testimony on sewer seepage and geology for the City of Malibu (Testimony on City of Malibu – LARWQB).

2001

- Developed Safety Elements for Newport Beach, Brea, Glendale, and Pasadena.

2000

- Los Angeles, CA. Playa Vista Corporation – Groundwater and Methane Migration Investigation on Playa Vista Property (Testimony for Client – City of Los Angeles).

1999

- Safety Element of the General Plan, Riverside County.
- Orange, CA. Environmental Impact Report – Geologic, Seismic, and Hydrologic Sections of the Environmental Impact Report for the Proposed Sully-Miller Fieldstone Project.
- Brea, CA. Feasibility investigation to review mitigation options for active crude oil seeps (tar) and methane generation.

2001- 2007. ***Hromadka & Associates***. Consultant
Provided litigation support, computer and physical modeling, expert report reviews, writing, and managing multiple cases and field-site inspections for the company.

2006

- San Diego, CA. PCB transport in San Diego Bay.
- San Francisco, CA. Physical model of apartment complex combined sewer and storm drain network.
- San Francisco, CA. Severe rainfall analysis for four storm events, including flooding.

2005

- Yorba Linda, CA. Analysis of sediment transport from a large grading project and nursery debris production at a school site.
- Irvine, CA. Groundwater uplift analysis of clogged filter fabric in the flexible lining and sediment transport in San Diego Creek in a 2-mile reach using flexible block lining.
- Torrance, CA. Sediment transport in Compton Creek downstream of the Montrose Plant. Transport analysis of sediment in major/minor events.
- Development of Volume-based BMP design procedure for San Bernardino County WQMP.
- Multi-lake hydrologic and water quality analysis at Lake Merced, California. Phosphates, nitrates, golf courses, coliform in groundwater, flood control, and risk reduction. Tunnel flow capacity analysis. Hydrologic balance analysis.
- Santa Rosa, CA. Transport and fate of TCE, PCE in surface water.
- Anaheim Hill, CA. Soil water transport and ET studies for several hundred residences. Water balance studies.
- Fullerton, CA. Soil water transport and ET studies for several dozen residences. Soil water flux in concrete.
- San Clemente, CA. Soil water transport and hydrologic balance analysis near landslides.
- Castaic Lake, CA. Soil water transport and hydrologic balance analysis of a residential tract.
- Oahu, HI. Groundwater plume transport, analysis of BTEX in rising groundwater, and tidal effects.
- Daly City and San Francisco, CA. Flooding and tunnel capacity analysis.

2004

- Tehachapi, CA. Analysis of TDS, cement Kiln dust, chlorinated hydrocarbons, BTEX, TCA, TCE, DCA, and DCE, groundwater flow in fractured and faulted media.
- Irvine, CA. Groundwater hydrostatic pressure analysis, waterproofing of the office center.
- Laguna Canyon, CA. Modeled Landslide.
- Fullerton, CA. Sediment and Debris production, transport, 50-acre watershed.
- Palm Springs, CA. Transport of Aeolian Sand, PM10, saltation, creep, and entrainment in the "*Blow Sand*" area.
- Water Quality holding time criteria development, 85 percent of average storm analysis, County of San Bernardino, Water Resources Division.

2003

- Torrance, CA. Sediment transport analysis between the city of Torrance and Santa Monica Bay. DDT transport.
- Analysis of TDS, viruses, bacteria, and raw sewage in New River and Salton Sea. Evaporation impacts on the Salton Sea salinity.
- San Clemente, CA. Analysis of landslide development.
- Henderson, NV. Analysis of soil water excess. Perchlorate sampling and analysis
- Review of perchlorate modeling and transport, Mid-Valley Landfill, San Bernardino County, California.
- Groundwater supply and TDS inflow levels into New River and Salton Sea, Imperial Valley, California.
- Henderson, NV. Man-made preferential pathways and groundwater transport in land development.
- Anaheim Hills, CA. Water Supply, soil water saturation, landscape methodology review, moisture accumulation, and percolation tests.
- San Diego, CA. Analysis of releases, BTEX, MTBE, lead, groundwater flow, plume evolution, soil gas, soil TPH, CPT/LIF, HydroPunch data at Mission Valley.

2002

- Honolulu, HI. Sediment transport and erosion.
- Las Vegas, NV. Debris and sediment flow in Duck Creek.
- Irvine, CA. Statistical analysis of all Orange County sediment and contaminant data, San Diego Creek watershed.
- Ontario, CA. Groundwater modeling and analysis of the Kaiser TDS plume.
- San Clemente, CA. Analysis of landslide hydrologic balance.

2001

- Irvine, CA. Stability of erosion control measures in San Diego Creek.
- Dana Point, CA. Erosion analysis of slope failures.
- Torrance, CA. Transport of DDT in surface water, groundwater, sediment, and atmosphere, M2000 transport of DDT from a chemical plant.
- San Diego, CA. Groundwater transport of fuel, free-product, in Mission Valley.

1996 – 1998, *SimulProbe Technologies*. Senior Hydrogeologist
Traveled extensively throughout North America and Europe, marketing various technologies. Promoted to head of marketing in the Midwest and Southwest regions. Responsibilities included budgeting, supervising staff, project management, and presenting to government officials and private contractors. My duties also included direct marketing to drilling firms and environmental consultants, supervising all sales personnel and marketing efforts, scheduling service calls and field operations, and assisting with R&D, field training, and site management.

Miscellaneous Projects

1995 – 1998, Project/Staff Geologist

- Kalamazoo, MI. Worked with United Environmental Technologies, Inc. to help develop sampling and well-construction protocols for various projects.
- Kalamazoo, MI. I worked for the GEM Regional Center at *Western Michigan University.* Conducted water budget analysis for a watershed located in Calhoun County.
- Kalamazoo, MI. Worked with the *Health Division of the Michigan Department of Environmental Quality* on well-grouting issues surrounding public and private water supplies.
- Kalamazoo, MI. I worked with the Michigan Department of Environmental Quality on the hydrogeological and geochemical aspects of the Panelyte site. This involved the use of geophysics and geochemical analysis for the detection and mapping of possible contaminants.
- Ross Township, MI. Retained through *Western Michigan University* by the City of Kalamazoo to determine the impact of a proposed wellfield on the surrounding surface water bodies (streams, lakes, and wetlands).

1993 – 1995

- Minden, MI. Retained by *Michigan Peat Company* to evaluate peat reserves. The evaluation involved sampling and mapping the peat reserves for litigation.
- Salem, IL. Retained by *Hi-Shots Aerial Photography Inc*., to setup and demonstrate internet capabilities for small businesses.
- Michigan. Retained by *Superior Environmental Corp*. to conduct EM-31 geophysical surveys. The surveys were designed to locate possible buried tanks in a downtown bank parking lot, a corner restaurant parking lot, fabrication/manufacturing buildings, and a former car dealership.
- Schoolcraft, MI. *Alpha GeoSciences Inc*. (Through Department of Geology, Western Michigan University). Hired to run a hollow stem auger drill rig. Three 30-foot wells were installed.
- Kalamazoo, MI. *Golder Associates Inc*. (through the Institute for Water Sciences, Western Michigan University) retained geophysical log monitoring wells within the KL-landfill CERCLA site using natural gamma radiation.
- Champaign/Urbana, IL. Conducted an aerial photographic survey of the Champaign/Urbana landfills to locate hot spots where possible sub-surface fires may be burning. The contract was funded through the *Illinois State Geological Survey.*
- Ann Arbor, MI. Conducted aerial photographic survey of a contaminated wetland for *Alpha GeoSciences Inc*. of Kalamazoo, Michigan. Provided site maps of monitoring wells and sampling locations.

1991 – 1993

- Sanibel Island, FL. Retained by the *City of Sanibel Island, Florida,* to evaluate coastal erosion along the Gulf Coast side of the island for litigation.
- Paris, France. Retained by *Littoral et Patrimoine* for projects in France and India. Evaluated coastal erosion and constructed possible solutions to ongoing erosion problems.
- Sandusky, OH. Designed a sediment coring program along the Sandusky River and part of Lake Erie for a project funded by the *Ohio Department of Natural Resources*. The sediment cores were used to define the sediment input from the Sandusky River and Lake Erie on adjacent estuaries/marshes.
- Three Rivers, MI. Retained by *Reid and Reid Law Offices*, Kalamazoo, Michigan, to evaluate the effects of the construction of a golf course and adjacent buildings on the water quality of Lake Templene for litigation.
- Portage, MI. Designed and coordinated the work on an aeration pilot project on Austin Lake. This project involved bottom sampling, coring, and sediment profiling. Collected and analyzed the

sediment and water samples for the *Ramco Company*. Prepared an independent report on the success of the entire project.

- Ludington, MI. Assisted on the Department of Geology's state-funded project involving erosion control monitoring of Undercurrent Stabilization systems.
- Michigan. Assisted the Western Michigan University Department of Geology on a state-funded project regarding erosion monitoring along Lakes Michigan and Huron.
- Wilmington, NC, and Plainwell, MI. Retained by Dr. Thomas Straw to analyze various meteorological parameters for a host of hydrology projects.
- Plainwell, MI. Retained by Dr. Thomas Straw to solve problems associated with a gravel pit operation.

1990 – 1991

- Atlanta, GA. Retained as a consultant by *Sutherland, Asbill & Brennan*, to address a wetland problem within one of *Mobil Land Development Company's* major developments. This included wetland hydrology, soil chemistry monitoring, and aerial photographic interpretation. Litigation support.
- Benton Harbor, MI. Member of Scientific Party – Great Lakes Mapping cruise of eastern Lake Michigan (United States Geological Survey cruise No. NPTN91-1). The resultant sediment samples were split between WMU and the USGS, allowing for research on Fourier shape analysis to possibly fingerprint sediment origin.
- Western Michigan University, Institute for Water Sciences. Research assistant on a USGS-funded project along the Lake Michigan shoreline.

1989 – 1990

- Western Michigan University. Worked with the Department of Geology on small construction projects and consulted on a State of Michigan-funded project addressing shoreline erosion.

1983 – 1989

- Hutchinson, MN. *3M Company*. Summer Intern - I worked at various jobs for the 3M Company, including being a heavy equipment operator, a plastic injection molding, and a VHS line operator.

TEACHING EXPERIENCE

2024 – Present California State University, Fullerton, CA
Professor of Hydrogeology. Responsible for teaching lower division classes in Hydrogeology (GEOL 436); Physical Geology (GEOL 101-GE); Water Crisis in California (GEOL 310T): Sedimentology and Stratigraphy (GEOL 321); Hydrology and Surface Processes (GEOL 335); Meteorology (GEOL 340-GE); Oceanography (GEOL 333-GE); Physical Geology (GEOL 101-GE) and Lab (GEOL 101L-GE); Field Camp (GEOL 481) and upper division classes in Groundwater Modeling; Environmental Sampling and Protocols; Well Hydraulics and Aquifer Analysis (GEOL 535T); Research Methods in Geology (501); Geology Seminar (GEOL 590).

2006 – 2024 California State University, Fullerton, CA
Associate Professor of Hydrogeology.

2015 –2026 Western Michigan University, Kalamazoo, MI.
Adjunct Associate Professor, Department of Geological and Environmental Sciences.

2000 – 2006 California State University, Fullerton, CA
Assistant Professor of Hydrogeology.

2001 – 2016, 2023-2025 Western Michigan University, Kalamazoo, MI
Responsible for the Summer Field Course in Hydrogeology. Teach at least a 1-week graduate-level field course(s) every year, including (1) Principles of Well Drilling and Installation; (2) Principles and Practices of Aquifer Testing; (3) Remediation Design and Implementation

1999 – 2000 California State University, Fullerton, CA
Part-time instructor. Responsible for Oceanography (GEOL 333) and Water Quality (GEOL 437).

1992 – 1996 Western Michigan University, Kalamazoo, MI
Graduate Student Instructor responsible for Hydrogeology (GEOL 435), Oceanography (GEOL 333), and Hydrogeology Summer Field Course (GEOL 535 a, b, c, d, e, and f). This field course consisted of six individual modules (40-Hour HAZWOPPER, Environmental Surface Geophysics, Principles of Well Drilling and Installation, Principles and Practices of Ground-Water Sampling and Monitoring, Principles and Practices of Aquifer Testing and Analysis, and Remediation Design and Implications). Other responsibilities included construction measurements and layouts for the Department of Engineering Technology. Responsible for the lab sequences only.

Other Teaching Experience

2025	Instructor – Groundwater & Wells Class, Large Capacity Water-Supply Wells Cradle to Grave
2021-23	Instructor – Gregg Drilling Field Day
2021	Instructor – California Public Water Supply Systems
2018	Instructor – CalGeo – Soil Logging and Litigation
2016-17	Instructor – SCGS – Soil Sampling and Classification Short-Course
2012	Instructor – NGWA Hydrogeology Field Methods Course: What you didn't learn in School. Andover, MN.
2010-11	Reviewer/Participant – Worked with Healthy Heroes, LLC, developing educational videos.
1996 – 98	Instructor – *Eight-hour OSHA HAZWOPER* supervisor course (29 CFR 1910.120 (e)(3).
1995	Hi-Shots International Conference. I taught short courses on environmental remote sensing utilizing a helium-filled tethered blimp.
1992	Kalamazoo, Michigan. Teaching Assistant for a course titled *Shoreline Geology and Processes*. Course sponsored by the Secondary Education of Michigan Summer (SEMS). This was a state-funded project.
1991	St. Joseph, Michigan, Berrien County. Teaching assistant for a Shoreline Geology and Processes course sponsored by the SEMS State-funded project.

Developed CSUF-Departmental Short Courses:

- GeoProbe Demonstration Days (2009 – 2011, 2017)
- Westbay Multiport Sampling (2004-09, 2017)
- CPT Demonstration Day – Gregg Drilling (2010)
- AMS Demonstration Day (2009)
- CPT Field Demonstration on Quality Environmental Site Investigation. (In-cooperation with Gregg Drilling) (2004)
- Environmental Sampling Procedures and Practices (2003)
- Borehole and Well Logging Interpretation (Taught at Layne Christenson) (2003)
- Baroid Industrial Drilling Products – Drilling and Boring Fluids (2002)
- GIS Course I & II – What is GIS and how can it be utilized in research (2001)
- FEMA – Advanced HAZUS Training for GIS Professionals (2001)

TEACHING PHILOSOPHY

As a professor, I aim to provide students with practical experience essential for building a successful career. In addition to providing the "*nuts and bolts*" of a subject, I encourage students to apply traditional knowledge to innovative approaches through applied research and hands-on experience. I aspire to motivate students by fostering participation in unique learning opportunities, many provided by local companies, agencies, and vendors willing to share their services and expertise.

Through private and government grants and contracts, I can provide multiple funding opportunities to my students, allowing them the means to spend more time on their academic studies and providing experience through field-related projects. My main research focus is groundwater hydrology and hydrogeology of arid environments. Most of my students directly participate in this research and can obtain either bachelor' or master's degrees through individual projects for which they are responsible.

I encourage my students to actively participate in professional organizations to build strategic partnerships and create a broad-reaching network of individuals and indispensable resources. Further, I encourage students to present abstracts and posters at local and national conferences and to publish their research as much as possible to stimulate educated discussions with their peers and accomplished professionals.

The best way to measure the effectiveness of my objectives and judge my goals is to elicit student feedback and evaluation. My students consistently rate me very high in their end-of-semester assessments. My biggest reward as a teacher is a lasting professional and personal relationship with my students. I enjoy working with and supporting students through their academic careers and feel honored when they graduate with a professional degree.

AWARDS, HONORS, SPECIAL QUALIFICATIONS

- NSM 2025 Outstanding Service Award
- NGWA 2024 Fellow Designation
- NGWA 2024 Robert Storm Intersectional Cooperation Award
- NGWA 2014 Ross L. Oliver Award
- NGWA 2014 Keith E. Anderson Award
- Western Michigan University 2011 – Distinguished Alumni Award
- NGWA 2009 McEllhiney Lecturer for Water Well Technology
- International Ground Source Heat Pump Association (IGSHPA) Accredited Trainer (20589-0709)
- Boy Scouts of America – Merit Badge Sponsor: Geology, Oceanography, Environmental Science, and Soil and Water Conservation
- CSUF – Student Association, Outstanding Academic Advisor (2003/04)
- CSUF – NSM Nominee for Outstanding Contributions to Student Success Award (2002/03 & 2003/04)
- Western Michigan University established a scholarship in my honor for the outstanding hydrology field camp students. Awarded annually since 1998.
- Western Michigan University, Department of Geology, Distinguished Service Award, 1997
- Western Michigan University Research Fellowship 1991-1992
- IEEE OCEANS 92' student paper finalist
- OSHA 40-Hour Hazwoper Supervisor, Active

NATIONAL AND UNIVERSITY COMMITTEES

- CSUF, Geology Club Faculty Advisor (2024 – present)
- CSUF, Hiring Committee for VP Government and Community Relations (2020)
- CSUF, Campaign Congress, 2020-2024
- CSUF, Strategic Planning Committee Member, 2019-2022
- CSUF, Hiring Committee for VP Advancement (2018)
- CSUF, University Advancement Committee Member, 2003-05; 2011-15; 2017-21 (chair 2017-20)
- CSUF, Freshman Pathways (Sustainability), Committee Member, 2013-2015
- CSUF, ENST Advisory Committee, 2004 - present
- WMU, Geosciences Advisory Council Member 2007 - present (Chair 2021-)
- GRAC – Educational Committee Member 2009 - 2020
- NWRI – Independent Advisory Panel; OCWD Santa Ana River Monitoring Program, 2006-2012
- Long Valley Hydrologic Advisory Committee, 2003-2009

NATIONAL GROUND WATER ASSOCIATION

- NGWA Research and Education Foundation, President, 2015-2017
- NGWA Research and Education Foundation, Board Member, 2010-2014, 2017-2018
- Scientists and Engineers Division, Past Chair 2012-2014
- Scientists and Engineers Division, Chair 2010-2012
- Scientists and Engineers Division, Vice-Chair, 2008-2010
- Scientists and Engineers Division, Board Member, 2004-2008; 2016-2020

- NGWA - McEllhiney Lecture Committee, 2014 - 2018 (chair 2014); 2019 - 2021
- NGWA – Board of Directors, 2008-2014
- NGWA – Professional Development Committee Member, 2000 - (chair 2009-2010)
- NGWA – Groundwater Summit Co-Chair (2006): Committee Member (2005, 2007-2012)

FUNDED GRANTS and CONTRACTS
(CSUF total to date through 2025: over $ 3,000,000)

2016-2020

- California High Speed Rail Authority ($500,000); Oversee Groundwater issues as they may pertain to the construction and operations of the California High Speed Rail. Including groundwater modeling review and deep groundwater monitoring.

2004 – 2014

- Mojave Water Agency ($2,099,000); *Grant for work on Water Resource Evaluation and Mapping – Mojave Desert Region* (Alto, Este, Oeste, and Centro Hydrologic Sub-areas).

2003

- Mojave Water Agency ($217,000); Water Resource Research within the Mojave Desert. Part of this project is to develop a GIS/Database inventory of all wells, groundwater elevations, and hydrogeochemistry of each basin within the boundaries of MWA. Specific portions of the grant were set aside to oversee, collect, and analyze data from a 2,500-foot-deep multiport monitoring well near Oro Grande Wash.
- Friends of the San Gabriel River ($32,000); *Citizens Monitoring Program Development and Implementation.* This was funded through a State of California Grant (Prop 50).

2002

- Mojave Water Agency ($57,405); *Groundwater Investigations to look at potential recharge areas throughout the Southern Mojave Desert Area.* Establish a digital well log inventory and bibliographic search of all documents on the MWA Water Agency. CSUF also developed a key well program for Lucerne Valley based on groundwater basin recharge.
- CSUF Service-Learning Mini-Grant ($1,500); *Integrating Service Learning into Advanced Environmental Geology.*
- Earth Consultants International, Inc. ($3,000); *Geologic Interpretation of borehole geophysics. Involves the gamma-ray logging and interpretation of subsurface geology.*

2001

- CSUF Service-Learning Mini-Grant ($3,000); *Integrating Service Learning into Advanced Hydrogeology Sampling.*
- San Elijo Lagoon Conservancy ($35,000); *Sediment Quality and Depositional Environment of San Elijo Lagoon.*
- Los Angeles Regional Water Quality Control Board ($31,000); *The Santa Clara River Watershed; GPS and Observational Report on the Santa Clara River*
- Grant to develop a web-based model on Distance Calibration of Earth Images ($800). This was part of the Advanced Technology in Science Learning Environments Grant through the Department of Biology.
- CSUF Summer Support Assistance ($5,000): This was summer support money to aid in sampling water and soil throughout Orange County, California.

2000

- Los Angeles Regional Water Quality Control Board ($25,000); *The San Gabriel River Watershed; GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach.*

IN-KIND DONATIONS for Research / Projects

- Supplies for Screen and Gravel Pack Analysis (est. $8,000); Donated by Johnson Screens
- DJI Phantom II (est. $2,500); Donated by Earth Forensics Inc.
- Woolly Mammoth (est. $500,000); Donated by Gregg Family Foundation
- Software (Visual Modflow) ($2,700); Donated by Earth Forensics Inc.
- Soil sampling supplies and equipment ($2,500); Donated by GeoProbe
- Deep Multiport Westbay Monitoring Well ($300,000); A deep multiport monitoring well was installed on the northwestern portion of campus to develop a long-term monitoring program for groundwater in the north Orange County groundwater basin. The well was installed with sampling ports at six different zones to 850 feet below ground level. The entire project was donated.
- Miscellaneous equipment supplies and laboratory analysis have been donated for many different projects ($50,000). These donations have been used for student thesis research and classroom activities.
- Sampling Truck (value $30,000). The vehicle is specially designed to collect water samples downhole – equipped with twin generators and a large-capacity hydraulic system. Donated by Earth Technologies, Inc.
- Ford F-250 Pickup ($8,000); Donated by URS Corporation
- Generator ($2,500); Donated by Aquifer Science and Technology
- Software (Waterloo Hydrogeologic – Visual Modflow, AquiferTest and Aquachem) ($10,000)
- Software (Groundwater Vistas) ($2,500+$2,250 for update)
- Conference table and chairs ($500); Donated by URS Corporation
- Arboretum Groundwater Study (approximately $10,000); Drilling and installation of 3 monitoring wells for the purpose of developing curriculum for general hydrogeology. These wells are part of a larger project to interpret the hydrogeology of CSUF and the local area.

PROFESSIONAL PUBLICATIONS, ABSTRACTS, PRESENTATIONS and POSTERS

Peer-Reviewed Publications (Published, Accepted, Submitted)

1. Laton, W.R., Figueroa, O., Foster, J.F., and Perez, R., 2025. *Historical Knowledge of the Toxicity of TCE in the United States*. Remediation 2025; v35-4: http://dx.doi.org/10.1002/rem.70032
2. Laton, W.R., Perez, R., Foster, J.F., 2024, *UAV Thermal Mapping as a New Tool to Document Baseline Environmental Conditions: The California High-Speed Rail through the San Gabriel Mountains, California.* Groundwater Monitoring & Remediation. http://doi.org/10.1111/gwmr.12644
3. Laton, W.R.; Foster, J.H. 2023. *Abrupt Late Holocene Closure of San Elijo Lagoon, Northern San Diego County, California*. Coasts 2023, 3, 227-239. https://doi.org/10.3390/coasts3030014
4. Laton, W.R., 2021. *Malibu, California: A Story of Wastewater, Politics, and Science*. The Professional Geologist. 2021; Vol. 58. No. 2, pages 15-19. USPS 590-810 and ISSN 0279-0521
5. Laton W.R., 2019. *New perspectives on horizontal to vertical well ratios for site cleanup*. Remediation. 2019; 30: 27–31. https://doi.org/10.1002/rem.21628
6. [2]D. Dailey, W. Sauck, M. Sultan, [2]A. Milewski, [2]M. Ahmed, W.R. Laton, R. Elkadiri, J. Foster, C. Schmidt, and T. Al Harbi., 2015. *Geophysical, geochemical, and remote sensing applications for a better understanding of the structural controls on groundwater flow in the Lucerne Valley, California.* Journal of Hydrology: Regional Studies 3 (2015) 211-232. https://doi.org/10.1016/j.ejrh.2014.12.002
7. Laton, W.R., 2006. *Building Groundwater Monitoring Wells on Campus – A Case Study and Primer.* Journal of Geoscience Education (Vol. 54, No. 1), pgs 50-53. https://doi.org/10.5408/1089-9995-54.1.50
8. Laton, W.R., Whitley, R.J., and Hromadka II, T.V., 2006. *A Methodology for Identifying the Potential Source of Groundwater Contamination in a Multiple Source Problem Using a New Mathematical Approach*. Hydrogeology Journal. https://doi.org/10.1007/s10040-006-0106-4
9. Laton, W.R., Hromadka II, T.V. and Picciuto J.A., 2006. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. Hydrological Science and Technology, Volume 22, No.1-4.
10. Laton, W.R., 2004. *Seepage, Flow, and Chemical Partitioning Between the City of Parchment Wellfield and the Kalamazoo River, Southern Michigan.* Journal of Floodplain Management (Vol. 4, No. 1), pgs 11-32.
11. Perez, R., Foster, J.F. and Laton, W.R., *Hydrostratigraphy of Victorville Fan and Water Resources Implications.* (in prep)

Guidebooks, Full Paper Proceedings, and Articles

1. Laton, W.R., Perez, R., and Bausch, D., 2018. Hazard Maps for Riverside County, California. San Diego Association of Geologists annual field trip guidebook (update of earlier version).
2. Laton, W.R. and Krstich, B., 2010. *Zoom Zoom, Public works managers are now using Google Earth to track environmental and water resources*. Public Works Online. (Public Works Manual 2010)
3. Laton, W.R., 2005. The Cutting Edge "*Teaching Hydrogeology in the 21st Century*". NGWA-AGWSE News and Views. (article September 2005)
4. Jenson, J. and Laton, W.R., 2005. Second Annual Groundwater Summit. NGWA-AGWSE News and Views. (article September 2005)
5. Laton, W.R., 2004. *Building Ground Water Monitoring Wells on Campus: A Case Study and Primer*. NGWA-AGWSE News and Views. Vol. 1, Issue 1.
6. D. Bausch, E. Gath, T. Gonzales, and R. Laton, 2000. *GIS-Based Hazard Mapping and Loss Estimation in the Safety Element of the General Plan for Riverside County, California*. California: EERI 6th International Conference on Seismic Zonation, Riverside County, California.
7. Laton, W.R., [1]Perez, R., and Bausch, D., 2000. *New Hazard Maps for Riverside County, California*. San Diego Association of Geologists annual field trip guidebook.
8. Laton, W.R., 1992. *Small-Scale Coastal Cells as Control Mechanisms on Sediment Movement; Identification and Mapping*. OCEANS '92, Newport, Rhode Island.

Public Reports and White Papers

1. Laton, W.R., Foster, J., Perez, R., and Becker, M., 2020. *Phase I1 Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High-Speed Rail Authority.
2. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up*. EnRx.
3. Laton, W.R., 2016. *Phase 1 Groundwater Study – Palmdale to Burbank Section of California High Speed Rail*. California High-Speed Rail Authority.
4. Laton, W.R., 2016. *DTSC Aquifer Test Guidance*. Reviewer for draft guidance document.
5. Laton, W.R., 2012. *Disposal of Desalination Effluent; Deep-Well Injection Feasibility San Nicolas Island, California*. US Navy.
6. Foster, J., Laton, W.R., et al., 2008. *Geologic Map Series of Mojave Region*. (750, 500, 250, 24' and 15'). Mojave Water Agency. Revised series, Fall 2010.
7. Laton, W.R., Foster, J., et al., 2007. *Oeste Hydrologic Sub-Basin Report*. Mojave Water Agency.
8. Hromadka, II, T.V., Laton, W.R. and [2]Perez, R., 2006. *Hydrologic Data Report October 17-21, 2004 Storms.* Orange County Flood Control District.
9. Laton, W.R., Foster, J., et al., 2007. *Groundwater Atlas of Oeste Hydrologic Sub-basin*. Mojave Water Agency.
10. Laton, W.R., Foster, J., [2]Ebbs, V., [2]Blazevic, M., and [1]Napoli, N., 2007. *Harper Lake Hydrologic Sub-Basin Report*. Mojave Water Agency.
11. Laton, W.R., [1]Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Baja Hydrologic Sub-Basin to Afton Canyon Report*. Mojave Water Agency.
12. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Este to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
13. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Oeste to Alto Hydrologic Sub-Basins Report*. Mojave Water Agency.
14. Laton, W.R., [2]Napoli, N., and Eckhart, L., 2006. *Flow between Basins –Alto to Centro Hydrologic Sub-Basins Report*. Mojave Water Agency.
15. Laton, W.R., [1]Napoli, N., and Eckhart, L., 2006. *Flow between Basins – Centro to Baja Hydrologic Sub-Basins Report*. Mojave Water Agency.

16. Hromadka, II, T.V., Laton, W.R., and Picciuto, J.A., 2005. *Estimating Runoff Quantities for Flow and Volume-based BMP Design*. San Bernardino County Flood Control District.
17. Laton, W.R., Foster, J., et al., 2004. *Este Hydrologic Sub-Basin Report*. Mojave Water Agency.
18. Laton, W.R., Foster, J., et al., 2004. *Groundwater Atlas of Este Hydrologic Sub-basin*. Mojave Water Agency.
19. Laton, W.R., et al., 2004. *San Gabriel River Watershed Atlas*. Friends of the San Gabriel River.
20. Laton, W.R., et al., 2004. *San Gabriel River Watershed QAPP and Sampling Manual*. Friends of the San Gabriel River.
21. Laton, W.R, [2]Kendall, D. and [2]Lizzy, A., 2004. *Drilling Methods and Materials*. Online course material for NGWA.
22. [1]Blazevic, M. and Laton, W.R., 2004. *Mojave River Stream Gauging*. Mojave Water Agency
23. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy.
24. Laton, W.R. and Foster, J., 2001. *Sediment Quality and Depositional Environment of San Elijo Lagoon, San Diego County, California*. San Elijo Nature Conservancy and Fish and Wildlife Service.
25. Laton, W.R. and Foster, J., 2001. *Santa Clara River Watershed Inventory*. Los Angeles Regional Water Quality Control Board.
26. Laton, W.R. and Foster, J., 2000. *The San Gabriel River Watershed GPS and Observational Report on the San Gabriel River from the Whittier Narrows region to Seal Beach*. Los Angeles Regional Water Quality Control Board.
27. Straw, W.T., [2]Hascall, A.P., [2]Laton, W.R., and [1]Dalman, M., 1997. *Groundwater – Surface Water Interaction Study in Ross Township*. City of Kalamazoo, Michigan.
28. Straw, W.T. and [2]Laton, W.R., 1993. *WMU Austin Lake Aeration Feasibility Study Evaluation*. City of Portage, Portage, Michigan.
29. Straw, W.T., [2]Wardwell, D.A. and [2]Laton, W.R., 1992. *An Evaluation of Undercurrent Stabilization Anchor System Installation at Douglas and Tawas City, Michigan*. Michigan Department of Natural Resources.

[1]Undergraduate Student
[2]Graduate Student

Abstracts, Presentations, and Posters

1. Laton, W.R., 2025. *From the Classroom to the Office/Field*. (AEHS – Soil, Water, Energy, and Air; Invited)
2. [*1]Woodard, B., and Laton, W.R., 2024. *The Requirements for Constructing a Favorable Recharge Well in San Juan Capistrano, CA.* (NGWA Expo, Student Poster Winner)
3. [*1]Ruiz, R., and Laton, W.R., 2024. *Finding Suitable Locations for Recharge Systems in and around Rancho Mission Viejo Riding Park, CA.* (NGWA Expo, Student Poster Winner)
4. [*2]Kawaski, J., Laton, W.R. and Hanna, T., 2024. *Are Man-Made Glass Beads Better than Silica Sands as Filter Packs in a Water Well?* (NGWA Expo)
5. [*1]DuCharme, B., Pham, C., and Laton, W.R., 2024. *Modeling of Percolation of An Alternative Absorbent Considered for PFAS Treatment During Managed Aquifer Recharge*. (NGWA Expo)
6. Laton, W.R., 2024. *25-Years of CSUF Research*. (Sac State Geology Department, Invited)
7. Hanna, T., Laton, W.R., and [2]Kawaski, 2023. *Physical Parameters Compared for the Installation and Development of Glass Bead and Natural Filter Packs*. (NGWA Expo)
8. Laton, W.R., 2022. *UAV Thermal Mapping to Develop Baseline Conditions for California High-Speed Rail through San Gabriel Mountains!* (SCGC Invited)
9. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (GRAC Invited)
10. Laton, W.R., 2021. *Working with that new Geologist in the field.* (NGWA Expo - workshop)

11. Laton, W.R., 2021. *20-Years of CSUF Research – From the Mojave to the Ocean*. (ENST Invited)
12. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* Florida Remediation Conference (recorded virtual presentation).
13. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2021. *Fundamentals of Horizontal Well Systems and Modeling Tools.* AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy (Virtual - Workshop)
14. Laton, W.R., 2021. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* AEHS, 30th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual - Presentation)
15. Laton, W.R., 2021. *Groundwater of California*. WMU Geology (Invited)
16. Laton, W.R., Havranek, T., Robinson, L. and Koenigsberg, S., 2020. *Fundamentals of Horizontal Well Systems and Modeling Tools.* AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy (Virtual - Workshop)
17. Laton, W.R., 2020. *Groundwater of the States: California*. NGWA Webinar Series.
18. Laton, W.R., 2020. *A Decision Tool to Determine if Horizontal Well Systems Can Replace Vertical Well Systems.* AEHS, 36th Annual International Conference on Soil, Sediments, Water, Energy, (Virtual). (abstract/presentation)
19. Laton, W.R., 2020. *New Perspectives on Horizontal to Vertical Well Ratios for Site Cleanup*. 12th International Conference on Remediation of Chlorinated and Recalcitrant Compounds, Battelle, Portland, OR. (abstract/presentation) (*conference postponed*)
20. Laton, W.R., 2020. *Malibu California, Wastewater and Politics* Cal State University, Fresno, CA. (Invited)
21. *2Alonzo, T., Laton, W.R., Hanna, T., 2019. *Comparing Natural Silica Sand and Glass Bead Filter Packs Used in Production Well Design and Construction*. NGWA Expo, Las Vegas, NV. (abstract/presentation) (Outstanding Research Award)
22. Laton, W.R., 2019. *The Concept of Sustainability and the Recruiting of Younger Millennials*. NGWA Expo, Las Vegas, NV. (workshop)
23. Laton, W.R., 2019. *Reconsidering Horizontal to Vertical Well Ratios for Site Clean-up.* AEHS, 29th Annual International Conference on Soil, Water, Energy, and Air. San Diego, CA. (abstract/presentation)
24. Laton, W.R., 2018. *Take my Job*. NGWA Expo, Las Vegas, NV. (workshop)
25. Laton, W.R., 2018. *Groundwater – The Water Beneath Our Feet*. CSUF Fullerton Arboretum. (Invited)
26. *Perez, R. and *Laton, W.R., 2018. *The Use of UAVs for Groundwater Research.* California State University, San Bernardino. (Invited)
27. *Perez, R. and Laton, W.R., 2017. *UAV's for Use in Groundwater Resources*. NGWA Expo, Nashville, TN. (workshop)
28. Laton, W.R., 2017. *Introduction to Borehole Geophysics*. NGWA Expo, Nashville, TN. (workshop)
29. Laton, W.R., 2017. *Malibu California, Wastewater and Politics*. Southern California Chapter of AEG. (Invited)
30. Laton, W.R., 2017. *Low Altitude Photography Utilizing UAVs – Geologic and Hydrologic Applications*. Los Angeles Basin Geological Society. (Invited)
31. Laton, W.R., 2016. *Preparing for the Field, What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
32. Laton, W.R., 2016. *Wastewater, Politics and Science.* South Coast Geological Society (Invited).
33. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. Western Michigan University. (Invited)
34. Laton, W.R., 2016. *Holding Back the Ocean and Recharging Aquifers with Treated Wastewater.* Minnesota Groundwater Association, Annual Meeting. (Invited)
35. Laton, W.R., 2016. *UAV Mapping and Business Opportunities*. Ground Water Institute. Tucson, AZ. (Invited)

36. Laton, W.R., 2016. *Malibu, California; A Story of Wastewater, Politics and Science*. GSA Section meeting, Ontario, CA. (abstract/presentation)
37. [*]Perez, R., Laton, W.R., Cruikshank, M. and [1]Hugh, C., 2016. *UAV Imagery and Mapping: What are the Capabilities and Limitations?* SAGEEP 2016, Denver, CO. (abstract/presentation)
38. Laton, W.R., 2015. *Sounder Selection – Show and Tell*. NGWA Expo, Las Vegas, NV. (workshop)
39. Laton, W.R., 2015. *Preparing for the Field – What to Take?* NGWA Expo, Las Vegas, NV. (workshop)
40. Laton, W.R., 2015. *Using Sand Tank Models to Explain Groundwater Flow*. NGWA Expo, Las Vegas, NV. (workshop)
41. Laton, W.R., 2015. *When does it make Sense to Learn from a Person vs. Learn from a Device?* NGWA Expo, Las Vegas, NV. (workshop)
42. Laton, W.R. and Perez, R., 2015. *Low Altitude Photography Utilizing UAV's*. Long Beach State University – GIS Day Mixer. (Invited)
43. [*]Laton, W.R., [*]Perez, R. and [*]Cruikshank, M., 2015. *Low Altitude Photography utilizing UAV's – Geologic and Hydrologic Applications.* IGS, Riverside, CA. (Invited)
44. Laton, W.R. 2015. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint and Drones for Use in Water Resources.* Mountain States Groundwater Expo, Laughlin, NV. (Invited)
45. Laton, W.R. 2015. *Backyard Soils*. Natural OC, Santa Ana, CA. (Invited)
46. Laton, W.R. 2014. *Using Google Earth for Hydrogeological Problem Solving.* NGWA Expo, Las Vegas, NV. (workshop)
47. Laton, W.R. and [*]Perez, R., 2013. *Got Geological Problems-How to Use Innovative Multimedia Applications to Identify and Analyze Them.* NGWA Expo, Nashville, TN. (workshop)
48. Laton, W.R., 2013. *Hydrogeology 101*. NGWA Expo, Nashville, TN. (lecture)
49. Laton, W.R., 2012. *Hydrogeology 101.* NGWA Expo, Las Vegas, NV. (lecture)
50. Laton, W.R., 2012. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
51. Laton, W.R., 2012. *Geothermal Forum: Business Success Through Excellent Performance – Hydrogeology (Really) Does Matter.* NGWA Expo, Las Vegas, NV (lecture)
52. Laton, W.R., 2011. *Using Sand Tank Models to Teach about Groundwater*. NGWA Expo, Las Vegas, NV. (workshop)
53. [*2]Dailey, D.R., Sauck, W.A., Sultan, M., [2]Milewski, A., Laton, W.R. and Foster, J.H., 2011. *Geophysical and Remote Sensing Applications for better understanding of the Structural (Faults/Basement Uplifts) Controls on Groundwater Flow in the Lucerne Valley, California.* GSA Annual Meeting. (abstract/presentation)
54. Laton, W.R., 2011. *Implications of Surface Water/Groundwater Interaction or Groundwater and the Impacts on Surface Water Delivery.* Declining Groundwater Levels: Measuring, Monitoring, and Mitigation. NGWA Virtual Conference.
55. Laton, W.R., 2011. *Hydrogeology 101*. Santa Susana Field Laboratory seminar series. (workshop)
56. [*2]Barker, S., Laton, W.R. and Foster, J.H., 2010. *An investigation of potential surficial recharge in the Lucerne Valley groundwater basin, Mojave Desert, CA*. Anaheim, CA. GSA Abstract with Programs. Vol. 42, No. 4, p. 97, Paper No. 45-2.
57. Laton, W.R., 2010. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. GRA Webinar.
58. Laton, W.R., 2010. *Using Google Earth in Water Resources Research*. NGWA Webinar.
59. Laton, W.R., 2010. *Hydrogeology 101*. NGWA National McEllhiney Lecture 2010, Sponsored by the NGWAREF (Invited 7 presentations throughout the U.S.)
60. Laton, Richard, [*2]Al Harbi, Talal, Sauck, William A., Foster, John, Sultan, Mohamed, [2]Milewski, Adam, [2]Marsala, Peter, [2]Balekai, Rajesh, and [2]Salim, Hassan, 2009. *Use of Geophysical and Remote Sensing Data for a Better Understanding of the Hydrologic Role of Faults in the Mojave Desert*. GSA Annual Meeting. (abstract/poster)
61. Laton, W.R., 2009. *Using Google Earth*. NGWA Expo, New Orleans, LA. (workshop)

62. Laton, W.R., 2009. *Hydrogeology 101*. NGWA Expo, New Orleans, LA. (workshop)
63. Laton, W.R., 2009. *Boring Logs – What's Important and What's Not: A Scientific Viewpoint*. NGWA National McEllhiney Lecture 2009, Sponsored by NGWAREF. (Invited 30+ presentations throughout North America)
64. Foster, J.H. and *Laton, W.R., 2008. *Groundwater Resources Sustainability in the Victorville Area: Results from the Oro Grande Wash Recharge Pilot Study.* Association of Engineering Geologist. (abstract/presentation)
65. *[1]Dailey, D., Laton, W.R., and Foster, J.H., 2008. *New Detailed Model for El Mirage Subsurface Geology, El Mirage, CA.* GRA Annual Meeting. (abstract/poster)
66. *[1]Velarde, J.C., Foster, J.H., and Laton, W.R., 2008. *The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County California.* GRA Annual Meeting. (abstract/poster)
67. *[2]Monzon, E. and Laton, W.R., 2008. *Estimating Applied Irrigation for Urban Landscapes in South Coast California, using Theoretical and Conventional Means.* GRA Annual Meeting. (abstract/poster)
68. *[2]Lizzi, A., Laton, W.R., Foster, J.H., 2008. *Evaluation of the Potential Groundwater Resources of A Confined Aquifer, San Diego County, California.* NGWA Groundwater Summit (abstract/presentation)
69. Laton, W.R., 2006. *Surface Water and Ground Water: How the Two Interact*. NGWA National Meeting. (Invited)
70. *[1]Cruikshank, M.J., Foster, J.H. and Laton W.R., 2006. *Presence of Deep High-Quality Ground Water in El Mirage Valley, San Bernardino County, California.* NGWA Groundwater Summit (abstract/poster) (NGWA, Outstanding Student Research Award)
71. *[2]Surko, T., Armstrong, P.A. and Laton, W.R., 2006. *Gravity Survey of Lucerne Valley Ground Water Basin, Mojave Desert, Southern California: Implications for Basin Geometry and Structure.* NGWA Groundwater Summit (abstract/presentation)
72. *[2]Barthel, P.S. and Laton, W.R., 2006. *Desert Studies Center: A Hydrogeologic Model and Water Budget.* NGWA Groundwater Summit (abstract/presentation)
73. Laton, W.R., 2005. *Methods to Determine Basin Yield*. GRA Groundwater Resources Series – Basin Yield and Overdraft: Scientific and Legal Perspective. (Invited)
74. Laton, W.R., 2005. *Borehole Logging from Sample Collection to Borehole Geophysics*. Presented at NSF Workshop on "*Teaching Hydrogeology in the 21st Century*". (presentation/lab write-up)
75. Laton, W.R., 2005. *Water Budget Analysis – A Story of Two Arid Region Groundwater Basins*. CEA-Crest Symposium on Arid Hydrology. (abstract/presentation)
76. *Laton, W.R., Hromadka, T., Yeager, M., Picciuto, J. and Whitely, B., 2005. *A New Method for Estimating Runoff Quantities for Flow and Volume-based BMP Design*. CASQA Conference. (abstract/presentation)
77. *[2]Lizzi, A.L., Laton, W.R. and Foster, J., 2005. *Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
78. *[2]Boeke, B., Laton, W.R. and Foster, J., 2005. *Groundwater Potential for Harper Dry Lake: Implications for Ground Water Availability in Harper Valley, San Bernardino County, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
79. *[2]Kolstad, K. and Laton, W.R., 2005. *Hydrocarbon Soil Vapor: Actual vs Predicted*. NGWA 2005 Groundwater Summit. (abstract/poster)
80. *[1]Napoli, N. and Laton, W.R., 2005. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
81. *[2]Perez, R. Foster, J. and Laton, W.R., 2005. *The Redefining of a Groundwater Basin, Alto Sub Basin, Southwestern Mojave Desert, California*. NGWA 2005 Groundwater Summit. (abstract/poster)
82. *[2]Surko, T.L., Armstrong, P. and Laton, W.R., 2005. *Gravity Survey of Lucerne Valley Groundwater Basin, Mojave Desert, Southern California: implications for basin geometry and structure*. NGWA 2005 Groundwater Summit. (abstract/poster)

83. *[1]Blazevic, M., [1]Napoli, N., Foster, J. and Laton, W.R., 2004. *Subsurface Geologic Investigation of a closed Alluvial Basin: Lucerne Valley, San Bernardino County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
84. *[1]Napoli, N., [1]Blazevic, M., Laton, W.R. and Foster, J., 2004. *Hydrogeologic Evaluation of a Desert Groundwater Basin; Lucerne Valley, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
85. *[2]Perez, R., Foster, J. and Laton, W.R., 2004. *Just how deep is it? Alto Deep Well and its impacts to Alto Groundwater Sub-Basin Geology*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
86. [2]Hunt, S. and *Laton, W.R., 2004. *Update on Geochemical Analysis of the Central Basin, Los Angeles County, California*. Groundwater Resources Association of California Annual Meeting. (abstract/poster)
87. *[2]Haj-Manouchehri, D. and Laton, W.R., 2003. *Water Quality in Relation to Watershed Management in the Lower San Gabriel River, Southern California.* WRI conference (abstract/poster)
88. Laton, W.R., 2003. *Lessons Learned; Groundwater Flow Model – Taylor Yard, Los Angeles*. South Coast Geological Society. October 6, 2003. (Invited)
89. *Laton, W.R. and [1]Dolmat, J., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. National Ground Water Conference. (abstract/TIPS)
90. [2]Figueroa, O. and *Laton, W.R., 2003. *Ground Water Modeling of a Coastal Aquifer Malibu, California*. National Ground Water Conference. (abstract/TIPS)
91. *[2]Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Water Level Monitoring, Lower Borrego Canyon Wash, Irvine CA*. National Ground Water Conference. (abstract/TIPS)
92. *[2]Hasegawa, S. and Laton, W.R., 2003. *Risk Assessment of Point and Non-Point Source Pollution on Water Resources along the Santa Ana River*. California Groundwater Conference. (abstract/poster)
93. *[1]Dolmat, J. and Laton, W.R., 2003. *Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting*. California Groundwater Conference. (abstract/poster)
94. *[2]Williams, S. and Laton, W.R., 2003. *Hydrogeologic Investigation of a Shallow Aquifer System Using Long Term Aquifer Tests and Precipitation Induced Recharge Data Lower Borrego Canyon Wash, Orange County California*. California Groundwater Conference. (abstract/poster)
95. [2]Hunt, S. and *Laton, W.R., 2003. *Geochemical Analysis of the Central Basin, Los Angeles County, California*. California Groundwater Conference. (abstract/poster)
96. Laton, W.R., 2002. *Taylor Yard and Los Angeles River, Preliminary Groundwater and Surface Water Study Groundwater Model of Taylor Yard and Vicinity Los Angeles, California*. NGWA National Meeting. (abstract/poster)
97. [1]Otto Figueroa and *Laton, W.R., 2002. *Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California*. NGWA National Meeting. (abstract/poster)
98. *Laton, W.R., [2]Sean Hunt, and Foster, J., 2002. *The Impact of Groundwater – Surface Water Interaction on Contaminant Distribution, San Elijo Lagoon, California*. NGWA National Meeting. (abstract/poster)
99. Laton, W.R., 2002. *Taylor Yard and Los Angeles River Preliminary Groundwater and Surface Water Study, Groundwater Model of Taylor Yard and Vicinity, Los Angeles, California*. California Coastal Conservancy. (Invited)
100. Laton, W.R., 2001. Distance Calibration of Earth Images – To design and develop a Web delivered lesson showing an Advance in Information Technology that can be used in a Science Learning Environment for In-service Teachers (online lesson plan).
101. Laton, W.R., 2001. *The Role of Groundwater in Geologic Hazards*. California Science Academy (CEA-Crest). (abstract/presentation)
102. Laton, W.R., 2001. *Natural Hazards Mapping, Thailand*. Thailand Geological Survey. (Invited)

103. Laton, W.R., 2001. *Subsidence evaluation and assessment, Bangkok, Thailand*. Thailand Geological Survey. (Invited)
104. *Laton, W.R., *1Perez, R., and *1Figueroa, O., 2000. *Natural Hazard Mapping – A GIS Approach*. CSUF Geology Department.
105. Laton, W.R., 2000. *Natural Hazards Assessment of Temecula, California*. San Diego Association of Geologists annual field trip. (Invited)
106. *Sauck, W. A., Laton, W.R., 2Seng, D.L., and 2Vandereide, M.A., 2000. *Ground-penetrating radar investigations of nearshore sediments of eastern Lake Michigan.* IAGLR 2000.
107. Laton, W.R., 1999. *Watershed Management and Sampling Protocol*. Korean Ministry of Environment and Environmental Management Corporation short course. (Invited)
108. Laton, W.R., 1999. *Environmental Sampling – what, when and why*. Port of Los Angeles, Environmental Group. (Invited)
109. Laton, W.R., 1998. *Single Point Pneumatic Slug Test, Soil Vapor Extraction (SVE) Testing During Initial Site Investigation*. Hazardous Waste Section, SMARTech '98, Raleigh, NC. (abstract/presentation)
110. Laton, W.R., 1998. *SimulProbe® Environmental Core Barrel*. EPA National Site Assessment Conference. Denver, CO. (Invited)
111. *Marcus, D.L., 2Bonds, C.L. and Laton, W.R., 1997. *Rapid Screening using the SimulProbe Multimedia Sampler – Case Histories and Future Directions*. New England Environmental Exposition. (abstract/presentation)
112. *2Laton, W.R., 2Hascall, A.P., 2Atekewana, E.A., Hampton, D.R., 1996. *Seepage Meter Spatial and Temporal Variability in the Study of Groundwater Interaction with Surface Water Features*. American Geophysical Union, San Francisco, CA. (abstract/presentation)
113. 2Laton, W.R., 1996. *Well Grouting Research*. Michigan Environmental Health Association, Ground Water Conference, Thompsonville, MI. (Invited)
114. 2Laton, W.R., 1996. *SimulProbe Sampling in Contaminated Areas*. University of Michigan Summer Hydrogeology Field Course, Wortsmith Research Center, MI. (demonstration/presentation)
115. *Barnes, D.A., 2Kovacich, M.S., 2Limez, S., and 2Laton, W.R., 1995. *Error Analysis in Great Lakes Beach Profile Surveying Techniques.* Canadian Coastal Conference, Dartmoth, Nova Scotia. (abstract/presentation)
116. 2Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Colloquium on Environmental Earth Science, Western Michigan University, Kalamazoo, MI.
117. 2Laton, W.R., 1995. *Environmental Uses of Low-Altitude Aerial Photography*. Hi-Shots International Conference, Saint Louis, Missouri. (Invited)
118. *Mackey, S.D., Guy, D.E., 2Laton, W.R., and 2Kovacich, M., 1994. *Geologic Framework of an Eroded Lake Erie Coastal Marsh – Metzger Marsh, Ohio.* North-Central Geological Society of America, Kalamazoo, Michigan. (abstract/presentation)
119. *Vincent, R.K., 2Laton, W.R. and 2Sattler, J., 1993. *Detailed Modeling of Solid Waste Landfill Surface Water Run-off from High Resolution Elevation Data Automatically extracted From Stereo Photos Taken by a Camera on a Tethered Balloon Platform.* Association of Engineering Geologists, San Antonio, Texas. (abstract/presentation)
120. 2Laton, W.R., 1993. *Site Characterization and Mapping Utilizing a Tethered Balloon System*. HI-SHOTS International Convention, Saint Louis, Missouri. (Invited)
121. 2Laton, W.R., 1992. *Coastal Processes and Use of a Blimp*. Shoreline Erosion and Coastal Processes in Berrien County, Lake Michigan College Environmental Center, St. Joseph, Michigan. (abstract/presentation)
122. *2Laton, W.R. and Straw, W.T., 1992. *Small-Scale Coastal Cells; Identification and Mapping.* First Thematic Conference, Remote Sensing for Marine and Coastal Environments, New Orleans, Louisiana. (abstract/poster)

123. [2]Laton, W.R., 1991. *Undercurrent Stabilization Anchor Systems at Tawas on Lake Huron and Douglas on Lake Michigan – A One-Year Study*. Michigan Academy of Science, Ypsilanti, Michigan. (abstract/presentation)

[1]Undergraduate Student; [2]Graduate Student; * Presenter

SUPERVISED COMPLETED THESES

Student Name	Year	Degree	Thesis Title
Moss, Michael	2025	BS	Investigating the Crushability of Natural and Synthetic Materials by Size and Shape for Water Well Applications
Ducharme, Brian	2025	BS	Percolation Modeling of An Alternative Adsorbent Considered for PFAS Treatment During Managed Aquifer Recharge
Ruiz, Roberto	2025	BS	Finding Suitable Locations For Recharge Systems In And Around The Rancho Mission Viejo Riding Park, California
Woodard, Brennen	2025	BS	Evaluating Potential Recharge Sites Using Three-Dimensional Modeling In The Rancho Mission Viejo Riding Park, California
Gomez, Jaysen	2024	BS	Automated Grain Shape and Size Characterization from Digital Images Using Computer Vision Techniques
Villegas, Isaak	2023	BS	PFAS Chemical Monitoring in Orange County, California
Williams, Andrew	2023	MS-ENST	Monitoring Water Quality of a Wetland: A Case Study in Norco, CA
Montgomery, Jakob	2022	BS	Flowability of Filter Packing Materials Based on Grain Size and Fluid
Esparza, Nestor	2022	BS	Fate and Transport of Contaminants in the South Basin Plume
Velasco, Melissa	2022	BS	Chino Basin Dairy Farm Nitrate Contributions
Kreller, Ethan	2021	BS	Analysis of Caltrans Boring Logs to Evaluate the Shallow Subsurface Vulnerabilities
Nagata, Brayden	2021	BS	Relationship Between Groundwater, Selenium Concentration, and the Corcoran Clay, NW Fresno County, CA
Zeko, Mike	2021	BS	Pomona Perchlorate Study
Strohm, Chelsea	2021	MS-ENST	The Use of Physical Groundwater Models in Higher Education
Allen, Ronald	2020	BS	The Carboniferous and Pleistocene; An Analysis on the Genus Preset within Geologic Time
Rangel, Liliana	2020	BS	Water Budget of the San Gorgonio Mountains Mill Creek and Santa Ana River Water Basin
Martinez, Charles	2020	BS	Implications of Grain Size on Hydraulic Conductivity
Murphy, Patrick	2020	MS-ENST	Evaluating the Fate of Legacy 1,4-Dioxane and NDMA in Orange County's Coastal Aquifers
Severin, Vitoria	2020	MS-ENST	Analyzing the Mission Valley Aquifer as a Groundwater Source in San Diego, CA.
Barragan, Adrian	2019	BS	Examining the Water Quality from a Section of the Santiago Creek
Chacon, Diana	2019	MS	Thermal Infrared Remote Sensing for Water Temperature Assessment Along the Santa Ana River Using an Unmanned Aerial Vehicle (UAV) System

Alonzo, Terrinda	2018	BS	13-Year Analysis of Water Pressure and Chemical Changes from Well CSF-1, Fullerton, CA
Case, Aaron	2018	MS-ENST	Perchlorate in Urban and Industrial Environments
Cragg, Byron	2018	BS	Designing Scientific Payloads for Use on Extra-Planetary Rovers
Emilio, Chelsea	2018	MS-ENST	Urban Firework Fallout
Escobar, Adrian	2018	BS	Ground Source Heat Pump Potential Characterization for California State University, Fullerton
Lopez, Daniel	2018	MS-ENST	Should California Price Water as a Commodity to Increase Conservation?
Meadows, Adam	2018	BS	Investigation and Monitoring the Spread of Water Contaminates Using an Open-Source Database in the Orange County Area
Offner, Erica	2018	MS-ENST	Carbon Dioxide Levels in Water Vapor
Vanderwal, Joshua	2018	BS	Safety Element for Cal State University Fullerton – Understanding of Hazards Surrounding the Campus
Grajeda, Remington	2017	MS-ENST	Shaping Environmental Attitudes in Students: An Inquiry-based Approach
Kennedy, Taylor	2017	MS-ENST	Investigation of the Laguna Cell Beaches Using Lidar and Erosional Examination
Masters, John Paul	2017	MS-ENST	Subsurface Analysis of Orange County Water District's La Palma Groundwater Recharge Basin in Anaheim, California
Forester, Danielle	2017	BS	Water Budget and Audit: Premier Color Nursery
Ibarra, Nancy	2016	BS	Drilling Methodology: A Field Guide and its Use for the Drilling Industry
Pham, Christine	2016	MS-ENST	Efficacy of Capsaicin-based epoxy coating for preventing attachment of Quagga mussels (Dresissena Bugensis)
Battig, Lisa	2015	MS-ENST	An Educational Kit Elucidating the Connections Between Sanitation, Hygiene and Waterborne Disease
Masters, John Paul	2015	BS	Subsurface Analysis of fluvial sediments from the Holocene-Pleistocene Epochs at California State University, Fullerton, California
Natividad, Anthony	2015	BS	A Hydrogeological Survey of a Mountainous Region: The Significance of Monitoring a Water Budget at a Localized Source
Carreon, Rosangela	2014	MS-ENST	Remote Sensing Climatic Impact on Snow Cover for the San Gabriel Mountains in Southern California
Cortez, Lucy	2014	BS	Wetlands Delineation using Dendrochronology and Historical Rainfall Data to Cross-date the Climatic Stress Regimes in the Prado Dam Basin Located in Corona, Riverside County, California
Law, Natalie	2014	BA	Evolution and Growth of a Mitigation Wetland: A Case Study in Norco, California
Morlan, Randall	2014	MS	The Effects of Agricultural Activities on the Migration of the Hinkley Chromium Plume, San Bernardino County, California
Dubberke, Kirk	2013	BS	Malibu Creek Watershed – Aquifer Testing Analysis
Kennedy, Taylor	2013	BS	Metasomatism of the Bird Spring Formation near Slaughterhouse Springs, California
Irani, Fabian	2013	BS	The Use of Groundwater Fluctuations in a Tidal Zone for the Determination of Aquifer Properties
Lockhart, Benjamin	2013	MS-ENST	Colonial Nesting Seabirds in Burris Basin: Forage Prey Availability Assessment and Habitat Enhancement Suggestions

Maine, Lindsay	2013	MS-ENST	Media Blending: Which Combination is Best for Stormwater Discharge from Scrap Metal Recycling Operations?
Vavricka, Emily	2013	MS-ENST	A Forensic Evaluation of Dry Cleaners: A Case Study in Santa Ana, California
Cadaret, Erik	2012	BS	Hydrogeologic Investigation and Geochemistry Analysis of the Sheep Creek Fans Regional Aquifer, San Bernardino County, CA
Dotzer, Alec	2012	BS	Lithologic Analysis of a Soil Layer at Various Points via a Biosparge Pilot Test at a Contaminant Impacted Site in Coachella Valley, Riverside County, CA
Hoffman, Michael	2012	MS	Hydraulic Tomographic Modeling of the Yorba Linda Water Well Field, Yorba Linda, California
Martin, Allen	2012	MS-ENST	Lower Owens River Project, Recovery: A longitudinal imagery analysis of near river vegetation change along the Owens River, Owens Valley, Inyo County, California
Sickler, Heidi	2012	MS-ENST	Environmental Change in the Wetland Ecosystem of Fish Slough in Bishop, California Derived from Wetland Delineation Methods and Aerial Photography
Xayarath, Van	2012	MS-ENST	Orange County's Water Supply: A preliminary research to convert storm channels to natural bottom streams for basin recharge
Evans, Patrick James	2011	MS-ENST	Desalination in Southern California: The Inevitable wave of the future!
Rimbenieks, Mikaila	2011	MS-ENST	Quantifying Forest Natural Background and Road Sediment Yield in Big Bear Lake, California
Barker, Shelby	2010	MS	An Investigation of the Potential for Surficial Recharge in the Lucerne Valley Groundwater Basin, Mojave Desert, CA
Velarde, John	2009	BS	The Geology of Spring Systems in the Vicinity of White Mountain/Silver Creek, Lucerne Valley, San Bernardino County, California
Carle, Chris	2009	BS	The Phase I Environmental Site Assessment
Luedy, Justin	2008	MS-ENST	Testing the Relationship of Dissolved Metals in Stormwater, Newport Beach, California
Barthel, Peggy	2008	MS	Water Budget and Hydrogeologic Model of Spring Flow at Limestone Hill, Zzyzx Desert Studies Center
Daley, Dale	2008	BS	Subsurface Mapping of the El Mirage Groundwater Barrier, San Bernardino County, California
Monzon, Eric	2008	MS-ENST	Estimating Applied Irrigation for Urban Landscapes in South Coast Southern California, Using Theoretical and Conventional Means
Ebbs, Veva	2008	MS-ENST	Quantification of Sub-Surface Groundwater Flow from Middle Mojave River Valley Basin into the Harper Lake Basin
Kolstad, Kenneth	2007	MS	Analysis of a Steady-State Model: Prediction of Trichloroethylene Vapor Concentration, Using Known Dissolved Phase Concentration
Lizzi, Anthony	2007	MS	Evaluation of the Potential Groundwater Resources of the Golem Well West Rancho Bernardo, San Diego County, California
Patschull, Eric	2007	MS	Evidence of a North Projecting Ancient Boulder Thalweg in Latest Quaternary Deposits of the Santa Ana River, Orange County, California
Cruikshank, Michael	2006	BS	Hydrogeological Investigation of an Open Alluvial Basin: Oeste Hydrologic Sub-basin, San Bernardino County, California

Dolmat, Joan	2006	BS	Deep Multiport Research Monitoring Well, CSF-1, Fullerton, CA: Stratigraphy, Lithology and Geologic Setting
Hunt, Sean	2006	MS	Artificial Recharge as Possible Causes of Observed Long –Term Change in Transmissivity for the Aquifers of the San Pedro Formation in the Central Basin of the Greater Los Angeles Basin, California
Williams, Steve	2006	MS	Hydrogeologic Investigation of a Shallow Aquifer System with Emphasis on Precipitation Induced Groundwater
Surko, Tammy	2006	MS	Gravity survey of Lucerne Valley, San Bernardino County, Mojave Desert, southern California: implications for basin geometry and structure
Blazevic, Mike	2005	BS	Hydrogeological Investigation of a Closed Alluvial Basin: Lucerne Valley, San Bernardino County, California
Napoli, Nick	2005	BS	Change in Groundwater Storage in the Lucerne Valley Groundwater Sub-Basin — 1954 To 2002, Lucerne Valley, California
Nguyen, Chinh	2005	MS-ENST	Application of Convex Hull in Identifying Pollution Sources in the Central and West Coast Basins, Los Angeles County, California
Brendle, Christine	2004	BS	Remediation of Soil and Groundwater at a Former Service Station
Hajmanouchehri, Daneh	2004	MS-ENST	Water Quality in Relation to Watershed Management in The Lower San Gabriel River, Southern California
McCurdy, Jim	2004	MS-ENST	Water Chemistry and Groundwater Flow for the San Bernardino Mountains
Versluis, Patrick	2004	MS-ENST	The Fate of Perchlorate: A Look at Perchlorate Entering Orange County's Groundwater
Yuen, Pansy	2004	MS-ENST	Performance Assessment on Water Quality and Biological Effects of Urban Stormwater Runoff, Norco Hills Wetland, Riverside County, California
Evans, Rachel	2003	BS	Water Quality Analysis – Yellowstone National Park
Figueroa, Otto	2003	MS	Groundwater Flow Model of a Coastal Aquifer, Malibu, California
Hasegawa, Shuichi	2003	MS-ENST	Environmental Hazard Risk Assessment on Water Resources along the Santa Ana River
Kerza-Kwiatecki, Paul	2003	MS-ENST	Monitoring the Rocky Inter-Tidal Zone of Crystal Cove State Park; Creation of an interactive GIS bio-database
Springer, Ben	2003	MS-ENST	The Importance of Wetland Monitoring: A Case Study of a Restored Wetland in Norco, California
Thomas, Sean	2003	BS	Dewatering Plan for the El Toro Area
DeKraker, Dan	2003	BS	Development of a Ninth Grade Earth Science Course
Brand, Randy	2002	BS	Hydrogeologic and Geologic Considerations for Selected sites near the Santa Margarita, Upper Ysidora, and Lower Ysidora Groundwater Basins in Southern California
Figueroa, Otto	2002	BS	Hydrogeologic Characterization and Assessment of Impacts of Wastewater Discharge for Proposed Construction, Trancas Canyon, Malibu, California
Rosales, Tom	2002	MS-ENST	An examination of the benefits and costs to implement the Municipal Storm Water Permit for Orange County – similarities and differences between coastal and inland cities
Schmucker, Kelly	2002	MS-ENST	Water Quality of a Wetland A Case Study in Norco, CA
Wiles, Steffy	2002	BS	Angels Camp – Gamma Ray Logging Examination and Correlation

Eckhart, Lance	2001	MS-ENST	Vertical Gradient Investigation of a Southern California Landfill
Fields, David	2001	BS	Orange County Groundwater Contour Maps for 2000
Rashidi-Fard, Shaghayegh	2001	BS	Water Quality Testing and Monitoring Program at the Santa Rosa Ecological Reserve
Vortis, Kevin	2001	BS	Geologic History of San Elijo Lagoon San Diego County, California
Mathew Blinstub	2000	MS-ENST	Spatial and Temporal Differences in Surface Water Quality in Newport Bay and San Diego Creek, Orange County, California, from 1976 to 1996

SELECTED SHORT COURSES, AND WORKSHOPS ATTENDED

- Johnson Screens – Groundwater and Wells
- IGSHPA – Train the Trainer Course
- NGWA – Keeping the Pump Primed, Aquifer Sustainability
- AAPG – Environmental Regulatory Course
- Advanced Technologies for Accelerated Natural Attenuation
- Applied Microbiology – Understanding Bacterial Augmentation, Montreal, Canada
- Baroid Industrial Drilling Products – Drilling and Boring Fluids
- CWEA – How to Start, Perform, and Complete a Successful Public Works Water/Wastewater Project
- EPA – Bioremediation of Hazardous Wastes: Research, Development, and Field Evaluations
- EPA – Natural Attenuation; EPA – Statistical Analysis of Ground Water Data (GRITSTAT)
- EPO/GRA – Aquifer Remediation: Bioremediation and Oxidation Technologies
- FEMA – Advanced HAZUS Training for GIS Professionals
- Managing Toxics in Michigan – Air, Waste and Remediation
- MGWA & MDPH – Ground Water & Wells Fundamentals
- Michigan Citizens Conference/Workshop on Great Lakes Areas of Concern
- NGWA – Remediation of Ground Water Contamination
- NSF – The Cutting Edge "*Teaching Hydrogeology in the 21st Century*"
- EPA - Protecting Water Quality through Land Use Planning & Zoning
- Reducing Risk in High Seismic Hazard Zones
- Seismic Reflection/Refraction Interpretation

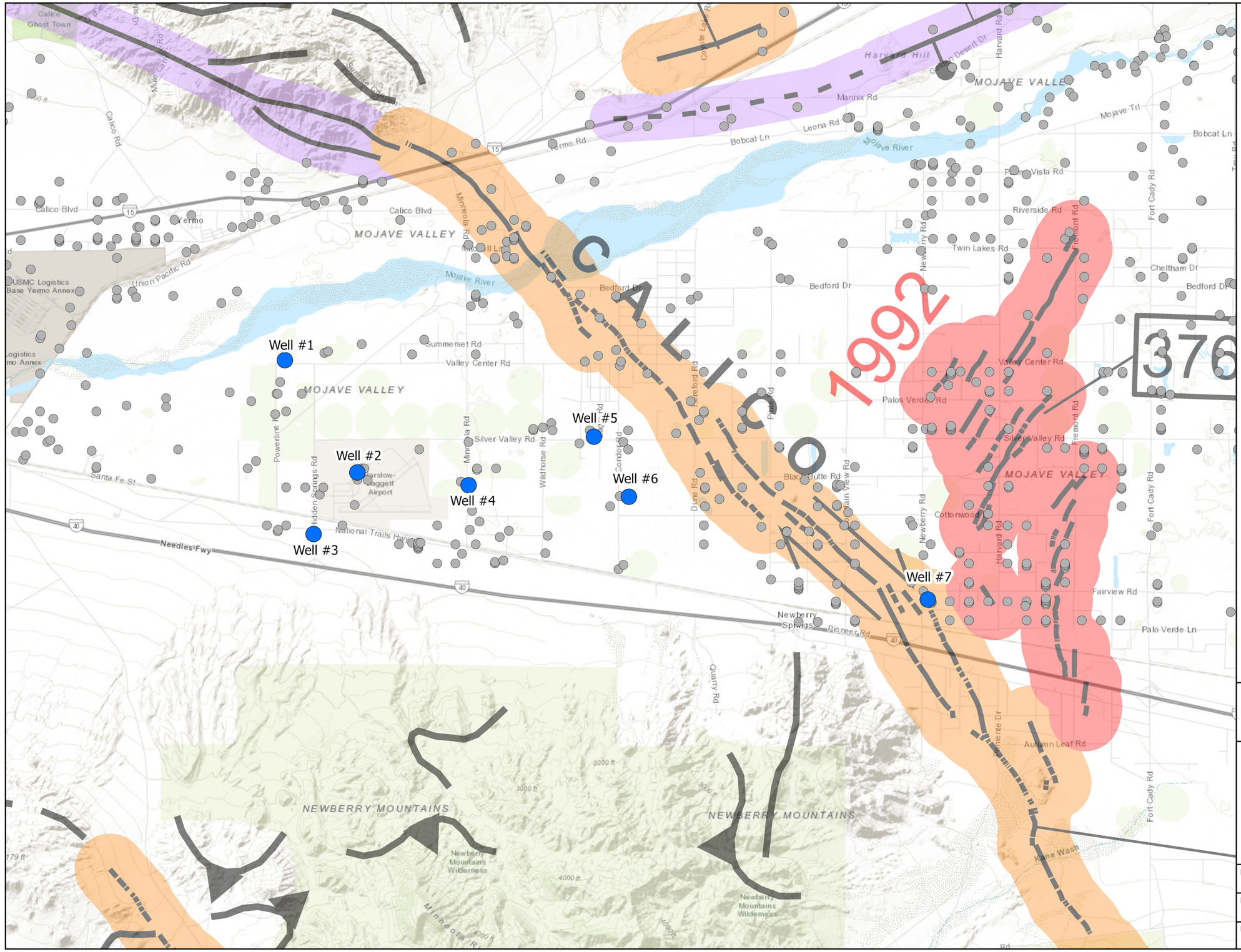
AFFILIATIONS

- California Groundwater Association
- Groundwater Resources Association of California
- International Association of Hydrogeology
- National Ground Water Association
- South Coast Geological Society
- International Ground Source Heat Pump Association
- American Institute of Professional Geologists

VOLUNTEER WORK

- WMU Spring Geobree (2021 – present)
- WMU Alumni Gathering (2019 - present)
- CSUF Alumni Fall Dinner (2013 - present)
- CSUF Geology Research Day (2017 - present)
- Santiago Middle School – Taught Plate Tectonics and Science (2018)
- Science Olympiad Assistant (2013 - 17)
- Elementary School presentations annually: "*The Water Cycle*"
- Little League: Coaching assistant, scorekeeper (2010 – 15)
- CSUF – Gerontology Seminar Series (2005)
- Boy Scouts of America Troop, Identification of Rocks (2000 – 2008)
- NGWA – Developed online Well Construction and Development Course (2004)
- El Dorado Nature Center – Provided expertise for a variety of activities.
- National Sanitary Foundation – Worked on a task force to rewrite standards for water well materials.

EXHIBIT 2



LEGEND

- Groundwater Monitoring Well (See Figures 3b & 3c for Hydrographs)
- Other Monitoring Wells

NOTES

ESRI, 2025; USGS, 2025;
California Geological Survey, 2010.

earthforensics, inc.

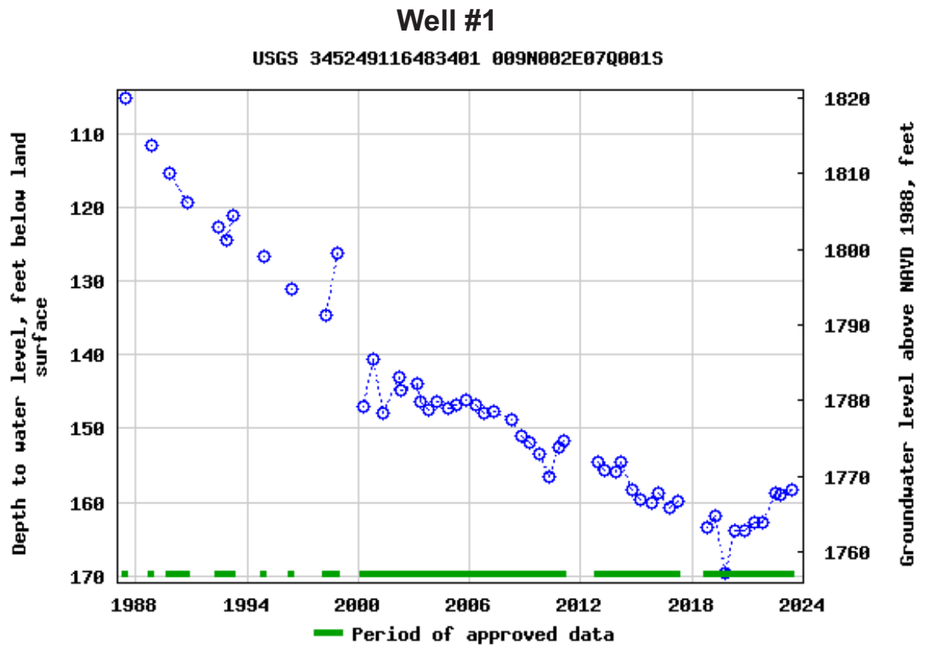
USGS Wells

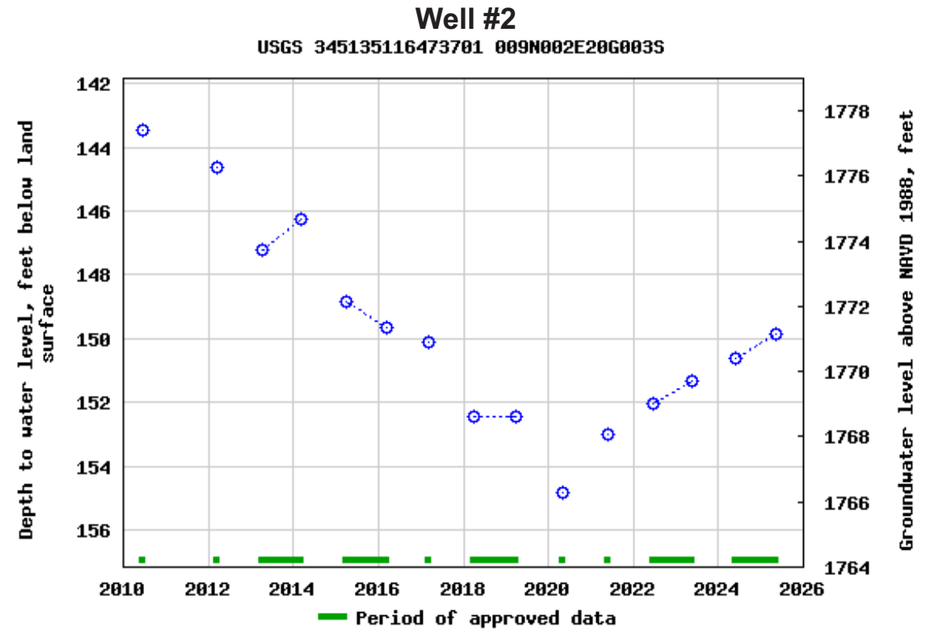
Newberry, CA

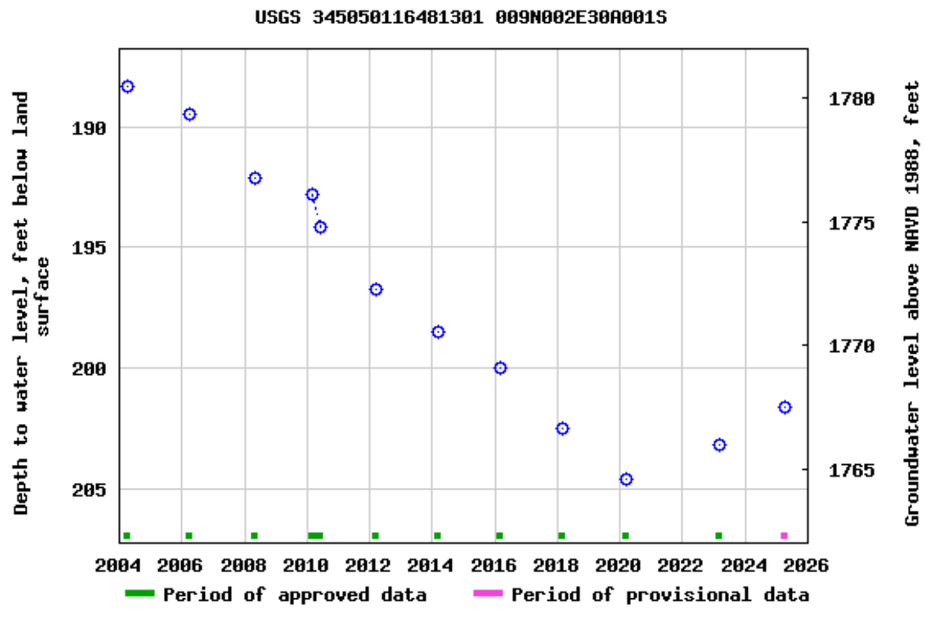
Date	Prepared By
October 2, 2025	DY

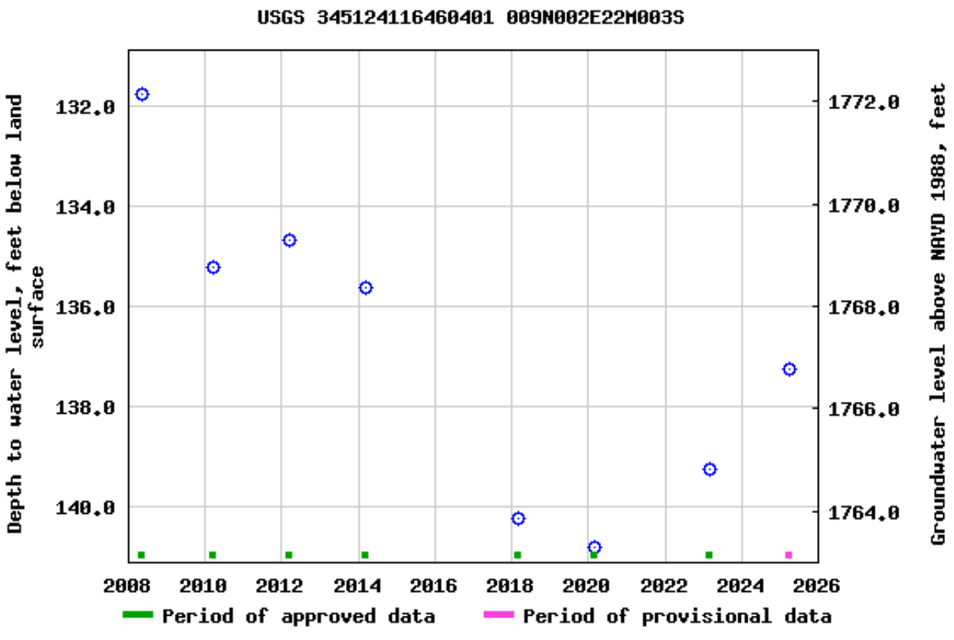
Project Name	Figure
Newberry_Water	03a

Project Number: 2018.245









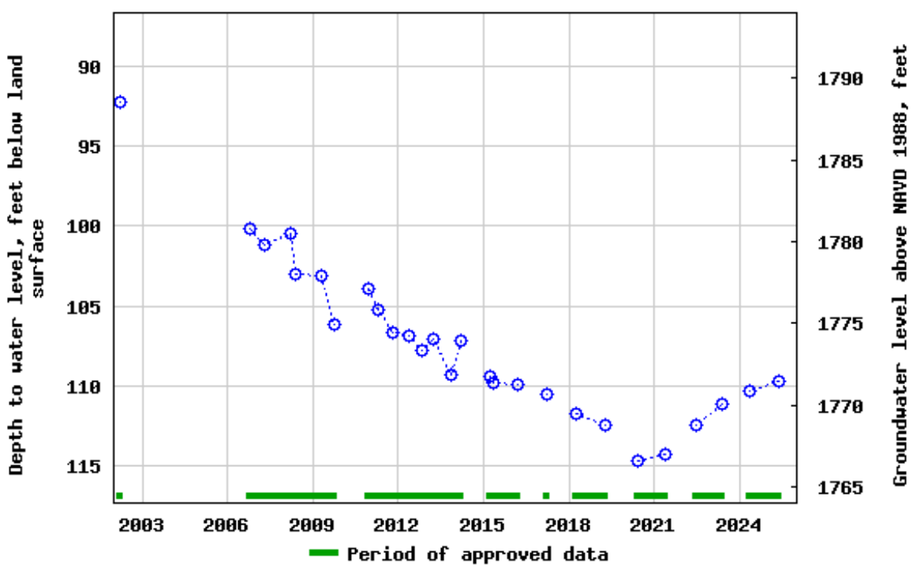
Source: USGS, 2025

earthforensics, inc.

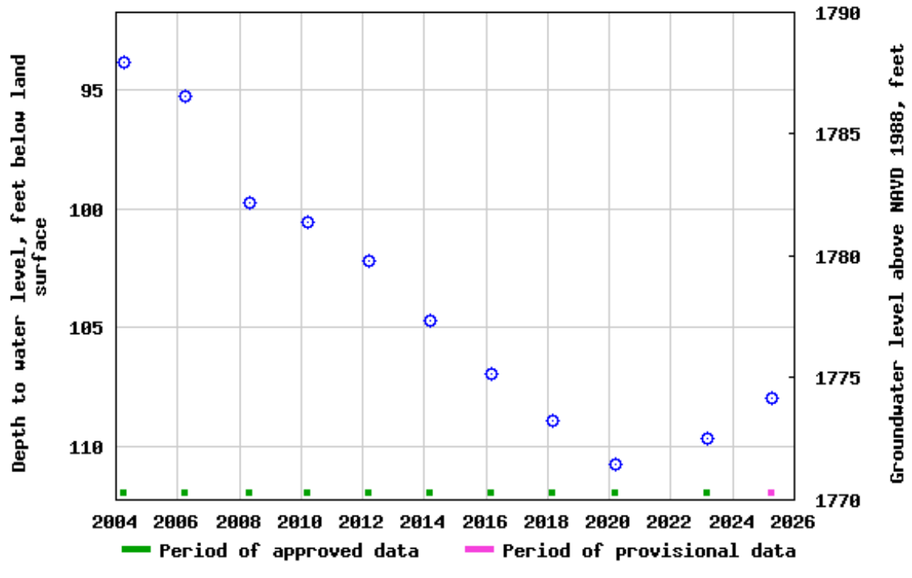
Figure 3b: USGS Well Graphs

Pierce County, Wisconsin

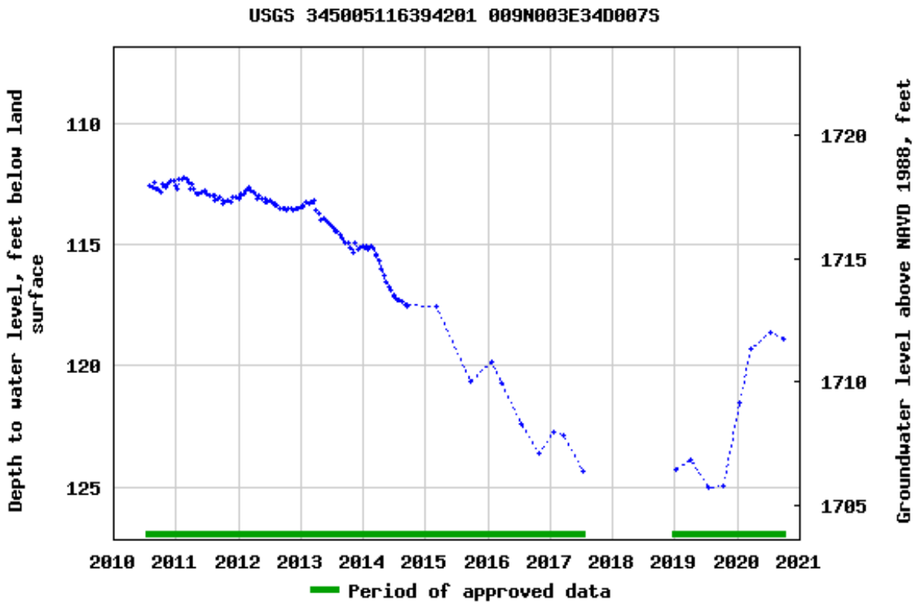
Well #5



Well #6



Well #7



Source: USGS, 2025

earthforensics, inc.

Figure 3c: USGS Well Graphs

Pierce County, Wisconsin

Exhibit 3: PSY Base Period Recalculation

	PSY based on 1931-1990 Base Period	PSY based on 2001-2020 Base Period	Difference	Percent Difference
Este	4,728	5,108	+ 380	+ 7.73%
Oeste	1,712	3,634	+ 1,922	+ 71.90%
Alto	64,406	62,233	- 2,173	- 3.43%
Centro	21,088	31,420	+ 10,332	+ 39.35%
Baja	14,544	10,866	- 3,678	- 28.95%

Exhibit 4

Exhibit 1: Historical Annual Stream Gage Flow Data

Water Year	1909	1910	1911		1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958
West Fork+Deep Creek	96,200	181,000	147,000		34,316	15,471	101,500	22,443	16,087	57,555	24,000	169,119	218,783	40,470	31,065	161,083	25,990	149,934	86,514	70,732	54,515	50,243	13,611	23,022	12,409	2,215	102,659	8,818	54,370	17,904	16,152	22,045	148,920
Upper Narrows						22,170	84,200																										
Lower Narrows	90,700	138,000	130,000			22,463	83,950	23,915	23,820	33,806	20,366	150,246	188,037	29,675	27,394	143,332	25,789	127,293	77,429	54,641	43,228	37,206	26,261	22,854	21,628	20,824	66,591	21,810	31,232	22,528	21,691	20,557	98,041
Point of Rocks	80,100	111,000	112,765																														
Wild Crossing																																	
Hodge						2,317	59,510																										
Barstow						0	37,374	0	0	1,184	0	103,879	138,094	550	0	96,003	100	90,974	36,155	22,087	12,577	2,876	0	0	0	0	12,514	0	0	0	0	0	20,067
Dagett																																	
Afton					947	1,267	18,850	1,000	1,000	1,000	1,000	54,070	72,200	1,000	1,000	49,900	1,000	47,200	18,200	10,800	6,720	1,000	1,000	1,000	1,000	1,000	2,190	990	953	913	901	752	2,784

Water Year	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
West Fork+Deep Creek	18,382	8,761	4,483	67,257	5,645	10,867	21,458	116,269	128,070	24,542	341,495	17,107	20,423	21,647	40,687	18,316	16,847	23,638	11,699	362,635	112,215	306,310	16,094	57,773	262,148	29,248	24,542	45,972	10,816	17,332	10,946	7,783	38,262
Upper Narrows																																	
Lower Narrows	20,341	19,229	18,904	26,756	17,034	17,052	16,797	51,010	74,212	18,745	291,090	23,117	20,416	22,733	34,750	17,737	16,651	20,126	28,235	209,082	72,324	228,918	23,167	35,330	189,173	26,932	21,067	16,941	14,479	16,072	11,511	8,905	10,932
Point of Rocks																																	
Wild Crossing									40,977	14	229,063	3,779																					
Hodge													0	660	4,387	4	0	0	10	147,472	31,855	171,580	0	10,136	148,124	1,962	0	3	0	0	0	0	0
Barstow	4	0	0	734	0	1	6	6,352	7,693	0	146,600	0	0	43	151	1	0	1	2	50,460	5,560	137,264	0	1	92,957	42	0	0	0	8	0	0	0
Dagett																																	
Afton	596	681	669	563	752	537	566	4,782	1,466	356	72,730	543	360	595	310	436	159	295	898	46,841	1,200	66,700	1,383	1,050	13,321	1,810	682	550	562	912	432	547	738
VVWRA																												4,346	4,635	5,502	6,369	6,971	7,308

Water Year	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
West Fork+Deep Creek	75,293	428,516	36,271	198,946	34,750	31,710	169,915	9,288	19,236	17,404	2,454	34,178	36,778	355,251	106,930	5,877	50,243	30,899	102,441	210,095	29,683	9,419	12,083	9,035	10,664	57,483	16,275	90,641	56,469	4,213	19,670	250,275	103,889	7,406
Upper Narrows																																		
Lower Narrows	24,470	285,388	10,932	113,301	11,004	8,181	83,473	9,412	6,972	5,618	4,554	6,248	5,372	192,575	27,221	4,937	9,122	4,366	19,185	126,405	9,484	7,312	6,784	5,611	4,952	9,629	3,786	27,511	15,421	4,923	3,967	96,577	41,339	6,856
Point of Rocks																																		
Wild Crossing																																		
Hodge	2,128	181,716																														84,415	41,700	0
Barstow	28	122,785	0	11,077	0	0	10,498	0	0	0	0	0	0	126,187	182	0	10	1	374	23,384	0	0	42	0	0	0	0	169	0	0	0	8,688	32	0
Dagett																																4,445	4	0
Afton	626	66,605	484	434	631	646	1,289	565	282	350	239	248	392	44,669	186	150	166	112	190	6,407	301	117	1,404	366	159	292	197	86	245	89	1144	1,028	140	24
VVWRA	7,428	7,356	7,789	7,958	8,512	8,728	9,378	8,776	9,065	9,306	9,739	10,317	11,425	13,255	13,568	13,086	13,881	13,664	14,555	14,868	14,724	14,338	12,918	12,942	12,990	13,279	12,870	13,719	13,719	13,346	15,095	14,274	14,290	

Incomplete, Estimated

LOW FLOW YEARS: Years where less than 29,000 AF measred at Lower Narrows
Years where over 29,000 AF, but less than 100,000 AF were measured at Lower Narrows
STOM YEARS: Years where over 100,000 AF were measured at Lower Narrows

Water Year [YEAR]= October 1, [YEAR-1] to Septeber 30, [YEAR]

PROOF OF SERVICE

STATE OF CALIFORNIA }
COUNTY OF SAN BERNARDINO}

I am employed in the County of the San Bernardino, State of California. I am over the age of 18 and not a party to the within action; my business address is 13846 Conference Center Drive, Apple Valley, California 92307.

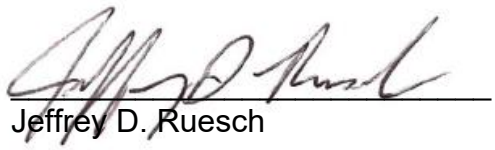
July 23, 2026, the document(s) described below were served pursuant to the Mojave Basin Area Watermaster's Rules and Regulations paragraph 8.B.2 which provides for service by electronic mail upon election by the Party or paragraph 10.D, which provides that Watermaster shall mail a postcard describing each document being served, to each Party or its designee according to the official service list, a copy of which is attached hereto, and which shall be maintained by the Mojave Basin Area Watermaster pursuant to Paragraph 37 of the Judgment. Served documents will be posted to and maintained on the Mojave Water Agency's internet website for printing and/ or download by Parties wishing to do so.

Document(s) filed with the court and served herein are described as follows:

Declaration of W. Richard Laton in Support of Opposition to Watermaster's Motion to Adjust the Free Production Allowance for the Baja Subarea for Water Year 2026-2027

_X_ (STATE) I declare under penalty of perjury under the laws of the State of California that the above is true and correct.

Executed on July 23, 2026 at Apple Valley, California.



Jeffrey D. Ruesch

Mojave Basin Area Watermaster Service List as of July 23, 2026

Attn: Roberto Munoz
35250 Yermo, LLC
11273 Palms Blvd., Ste. D.
Los Angeles, CA 90066-2122

Attn: John McCallum
Abshire, David V.
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Lucerne Valley, CA 92356-2059

(blopez@adelantoca.gov; dbuckingham@adelantoca.gov; irisramos@percwater.com;)
Adelanto, City Of (via email)
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Adelanto, CA 92301-1914

(adesdevon@gmail.com)
Ades, John and Devon (via email)

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Attn: Lori Clifton (lclifton@robar.com)
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Attn: Chun Soo and Wha Ja Ahn (chunsooahn@naver.com)
Ahn Revocable Living Trust (via email)
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P. O. Box 45
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Ake, Charles J. and Marjorie M.
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Barstow, CA 92311-6757

Attn: Beinni Le
American States Water Company
160 Via Verde, Ste. 100
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Anderson, Ross C. and Betty J.
13853 Oakmont Dr.
Victorville, CA 92395-4832

Attn: Daniel B. Smith (avfcwd@gmail.com)
Apple Valley Foothill County Water District (via email)
22545 Del Oro Road
Apple Valley, CA 92308-8206

Attn: Matthew Patterson
Apple Valley Heights County Water District
P. O. Box 938
Apple Valley, CA 92308-0938

Attn: Emely and Joe Saltmeris
Apple Valley View Mutual Water Company
P. O. Box 3680
Apple Valley, CA 92307-0072

Attn: Beatriz Torres
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14955 Dale Evans Parkway
Apple Valley, CA 92307-3061

(ArchibekFarms@gmail.com; Sandi.Archibek@gmail.com)
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41717 Silver Valley Road
Newberry Springs, CA 92365-9517

Avila, Angel and Evalia
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Attn: Sheré R. Bailey (LegalPeopleService@gmail.com)
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Attn: Daniel Shaw (barhwater@gmail.com)
Bar H Mutual Water Company (via email)
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Bar-Len Mutual Water Company (via email)
P. O. Box 77
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Attn: Curtis Palmer
Baron, Susan and Palmer, Curtis
141 Road 2390
Aztec, NM 87410-9322

Attn: Teddi Morad
Barstow Community Developers, LLC
24465 Stonechat Ct.
Valencia, CA 91355-3538

Attn: Jennifer Riley (hriley@barstowca.org)
Barstow, City of (via email)
220 East Mountain View Street -Suite A
Barstow, CA 92311

Bartels, Gwendolyn J.
1117 Meadow Lake Loop
Buhl, ID 83316-

Attn: Angelyn Bass (angelynbass@yahoo.com; avbassenterprises@gmail.com)
Bass Trust, Newton T. (via email)
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Santa Fe, NM 87502-2759

Mojave Basin Area Watermaster Service List as of July 23, 2026

Attn: Remo E. Bastianon
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Attn: Mike Beinschroth (Beinschroth@gmail.com)
Beinschroth Family Trust (via email)
18794 Sentenac Road
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Beinschroth Trust, Andy
6719 Deep Creek Road
Apple Valley, CA 92308-8711

Attn: Chuck Bell (Chuckb193@outlook.com; Chuckb193@outlook.com)
Bell, Charles H. Trust dated March 7, 2014 (via email)
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Lucerne Valley, CA 92356-0193

Best, Byron L.
21461 Camino Trebol
Lake Forest, CA 92630-2011

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P. O. Box 402564
Hesperia, CA 92340-2564

Bredelis, Ronald C. and Jean
P. O. Box 92
Newberry Springs, CA 92365-0092

Attn: Marvin Brommer
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9435 Strathmore Lane
Riverside, CA 92509-0941

Attn: Paul Johnson
Brown Family Trust Dated August 11, 1999
26776 Vista Road
Helendale, CA 92342-9789

Brown, Jennifer
10001 Choiceana Ave.
Hesperia, CA 92345

Bruneau, Karen
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Apple Valley, CA 92308-5104

Attn: Ian Bryant (irim@aol.com)
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8589 Volga River Circle
Fountain Valley, CA 92708-5536

(kjbco@yahoo.com)
Bush, Kevin (via email)
7768 Sterling Ave.
San Bernardino, CA 92410-4741

Attn: Kirstie Wright (Kirstie.Wright@associa.us)
Calico Lakes Homeowners Association (via email)
11860 Pierce Street, Suite 100
Riverside, CA 92505-5178

Attn: Donald Larson (Donald.Larson@dot.ca.gov; michael.lemke@dot.ca.gov)
California Department Of Transportation (via email)
175 W. Cluster
San Bernardino, CA 92408-1310

Attn: Robert W. Bowcock
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Oro Grande, CA 92368-0146

Attn: Leanna East (least@calportland.com)
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Gardena, CA 90249-4526

Mojave Basin Area Watermaster Service List as of July 23, 2026

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Alisa.Ellsworth@wildlife.ca.gov)
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Chino Hills, CA 91709-3175

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CDFW - Mojave Narrows Regional Park
268 W. Hospitality Lane, Suite 303
San Bernardino, CA 92408-3241

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askregion6@wildlife.ca.gov;
aaron.johnson@wildlife.ca.gov)
CDFW - Mojave River Fish Hatchery (via email)
12550 Jacaranda Avenue
Victorville, CA 92395-5183

Attn: Environmental
(valorie.moore@cemex.com;
jamiee.nido@cemex.com)
Cemex, Inc. (via email)
16888 North E. Street
Victorville, CA 92394-2999

Attn: Jennifer Cutler
Center Water Company
P. O. Box 616
Lucerne Valley, CA 92356-0616

Attn: Nancy Ryman
Chamisal Mutual Water Company
P. O. Box 1444
Adelanto, CA 92301-2779

Attn: Carl Pugh (talk2betty@aol.com;
cpugh3@aol.com)
Cheyenne Lake, Inc. (via email)
44660 Valley Center Rd.
Newberry Springs, CA 92365-

Attn: Byung Koo Chin
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Blue Jay, CA 92317-4513

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Come Mission, Inc.
9965 Baker Road
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Conner, William H.
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Agua Dulce, CA 91390-4577

Contratto, Ersula
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Apple Valley, CA 92308-4550

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P. O. Box 922
Lucerne Valley, CA 92356

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Attn: Alan L. De Jong
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Mojave Basin Area Watermaster Service List as of July 23, 2026

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Lucerne Valley, CA 92356-0392

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Desert Girlz LLC (via email)
P. O. Box 709
Lucerne Valley, CA 92356-0709

Attn: Denise Courtney
Desert Springs Mutual Water Company
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Attn: Debby Wyatt
DLW Revocable Trust
13830 Choco Rd.
Apple Valley, CA 92307-5525

Attn: Judith Dolch-Partridge, Trustee
Dolch Living Trust Robert and Judith
4181 Kramer Lane
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Donaldson, Jerry and Beverly
16736 B Road
Delta, CO 81416-8501

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12372 E Parks Road
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Attn: Gary Juatco
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RRG CM, 926 N Sycamore Ave Ste 725
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Friend, Joseph and Deborah
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Fundamental Christian Endeavors, Inc. (via email)
49191 Cherokee Road
Newberry Springs, CA 92365

Gabrych Family Trust dated October 9, 2007
2006 Old Highway 395
Fallbrook, CA 92028

Gabrych Family Trust dated October 9, 2007
2006 Old Highway 395
Fallbrook, CA 92028-8816

Gaeta, Miguel and Maria
9366 Joshua Avenue
Lucerne Valley, CA 92356-8273

Attn: Jay Storer
Gaeta, Trinidad
10551 Dallas Avenue
Lucerne Valley, CA 92356

Mojave Basin Area Watermaster Service List as of July 23, 2026

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GenOn California South, LP (via email)
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Attn: Toby Moore (toby.moore@gswater.com)
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San Dimas, CA 91773-5121

Attn: Manoucher Sarbaz
Golf Investments LLC
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Attn: Scot Gasper
Gordon Acres Water Company
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Attn: Donald F. Hanify
Hanify, Michael D., dba - White Bear Ranch
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Mojave Basin Area Watermaster Service List as of July 23, 2026

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Helendale, CA 92342-0249

Attn: Jeff Gallistel
Hendley, Rick and Barbara
P. O. Box 972
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Hinkley, CA 92347-9613

Attn: Jeremy McDonald (jmcdonald@cityofhesperia.us)
Hesperia - Golf Course, City of (via email)
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Hesperia, CA 92345-3493

Attn: Janie Martines (janiemartines@gmail.com)
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10 Western Road
Wheatland, WY 82201-8936

Attn: Jeremy McDonald (jmcdonald@cityofhesperia.us)
Hesperia Water District (via email)
9700 7th Avenue
Hesperia, CA 92345-3493

Attn: Jeremy McDonald (tsouza@cityofhesperia.us)
Hesperia, City of (via email)
9700 Seventh Avenue
Hesperia, CA 92345-3493

Attn: Carabeth Carter ()
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Ehrenberg, AZ 85334-0455

Attn: Lisset Sardeson
Hi Desert Mutual Water Company
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Daggett, CA 92327-0272

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Attn: Katherine Hill (Khill9@comcast.net)
Hill Family Trust and Hill's Ranch, Inc. (via email)
84 Dewey Street
Ashland, OR 97520-

Attn: Anne Roark
Hitchin Lucerne, Inc.
PO Box 749
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Ho, Ting-Seng and Ah-Git
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22832 Buendia
Mission Viejo, CA 92691-

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Attn: Weiya Noble
Holy Heavenly Lake, LLC
10111 Choiceana Avenue
Hesperia, CA 92345-5361

Attn: May Hong
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Attn: Sandra D. Hood
Hood Family Trust
2142 W Paseo Del Mar
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Attn: Barry Horton
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47716 Fairview Road
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Horton, Kell A.
PO Box 52
Newberry Springs, CA 92365-0052

Attn: Ester Hubbard
Hubbard, Ester and Mizuno, Arlean
47722 Kiloran St.
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Attn: Paul Johnson
Huerta, Hector
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Attn: Ralph Hunt
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Mojave Basin Area Watermaster Service List as of July 23, 2026

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3224 West 111th Street
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Attn: James Jackson Jr.
Jackson, James N. Jr Revocable Living Trust
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Attn: Lawrence Dean (ldean28296@aol.com)
Jackson, Ray Revocable Trust No. 45801 (via email)
P.O. Box 8250
Redlands, CA 92375-1450

Attn: Audrey Goller (audrey.goller@newportpacific.com)
Jamboree Housing Corporation (via email)
15940 Stoddard Wells Rd - Office
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Attn: Tomas Janovsky (virginiajanovsky@yahoo.com; tomjanovsky@yahoo.com)
Janovsky Revocable Trust No. 1 (via email)
17241 Bullock Street
Encino, CA 91316-1437

Attn: Bobby Boytor (bboytorjrwc@outlook.com;)
Jess Ranch Water Company (via email)
PO Box 542
Trabuco Canyon, CA 92678-0542

Attn: Cynthia Mahoney (cyndisue87@yahoo.com)
Johnson, Carlean F. Trust Dated 10/29/2004 (via email)
8626 Deep Creek Road
Apple Valley, CA 92308-8769

Attn: Paul Johnson (johnsonfarming@gmail.com)
Johnson, Paul - Industrial (via email)
10456 Deep Creek Road
Apple Valley, CA 92308-8330

Johnson, Ronald
1156 Clovis Circle
Dammeron Valley, UT 84783-5211

Attn: Lawrence W. Johnston
Johnston, Harriet and Johnston, Lawrence W.
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Hesperia, CA 92340-1472

Attn: Magdalena Jones (mygoldenbiz9@gmail.com)
Jones Trust dated March 16, 2002 (via email)
35424 Old Woman Springs Road
Lucerne Valley, CA 92356-7237

Attn: Paul Jordan
Jordan Family Trust
1650 Silver Saddle Drive
Barstow, CA 92311-2057

Attn: Ray Gagné
Jubilee Mutual Water Company
P. O. Box 1016
Lucerne Valley, CA 92356

Attn: Jilin Xiao
Jujube Valley Farm, Inc.
19 Pemberly
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Attn: Cherie Casey (ccasey@jrcwd.org)
Juniper Riviera County Water District (via email)
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11584 East End Avenue
Chino, CA 91710-

Attn: Robert R. Kasner (Robertkasner@aol.com)
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Attn: Ryan Gross (rgross@lakearrowheadcsd.com)
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Mojave Basin Area Watermaster Service List as of July 23, 2026

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La Puente, CA 91744-4816

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Attn: Robert Lawrence Jr.
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Attn: Anna K. Lee (kimyung830@gmail.com; aklee219@gmail.com)
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Lee, et al., Sepoong and Woo Poong
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42727 Holcomb Trl
Newberry Springs, CA 92365

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4474 W. Cheyenne Drive
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Attn: Brad Francke
LHC Alligator, LLC
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Attn: Billy Liang
Liang, Yuan - I and Tzu - Mei Chen
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Attn: Michael Reese (Michael.Reese@libertyutilities.com)
Liberty Utilities (Apple Valley Ranchos Water) Corp. (via email)
P. O. Box 7005
Apple Valley, CA 92307

Attn: James Lin
Lin, Kuan Jung and Chung, Der-Bing
2026 Turnball Canyon
Hacienda Heights, CA 91745-

Attn: Manshan Gan
Lo, et al.
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Lucerne Valley, CA 92356-

Attn: Dean Low (lowgo.dean@gmail.com)
Low, Dean (via email)
3 Panther Creek Ct.
Henderson, NV 89052-

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Attn: Parviz Omidvar (pomidvar@roadrunner.com)
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Mojave Basin Area Watermaster Service List as of July 23, 2026

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19332 Balan Road
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Attn: Doug Kerns (dkerns@mojavewater.org)
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