ERIC L. GARNER, Bar No. 130665
eric.garner@bbklaw.com
CHRISTOPHER M. PISANO, Bar No. 192831
christopher.pisano@bbklaw.com
ALISON K. TOIVOLA, Bar No. 350252
alison.toivola@bbklaw.com
BEST BEST & KRIEGER LLP
300 South Grand Avenue, 25th Floor
Los Angeles, California 90071
Telephone: (213) 617-8100
Facsimile: (213) 617-7480

Attorneys for Defendant and Cross-Complainant
SHADOW MOUNTAIN RANCH, LLC

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF RIVERSIDE

Coordination Proceeding Special Title (Cal. Rules Of Court, Rule 3.550) MOJAVE BASIN WATER CASES	JCCP5265 CIV208568 (LEAD CASE NUMBER) Dept. 1, Riverside Superior Court Hon. Harold W. Hopp, Judge Presiding Case No. CIVSB 2218461 **SHADOW MOUNTAIN RANCH, LLC'S REQUEST FOR ADMISSIONS, SET TWO (2) TO THE MOJAVE WATER AGENCY** Action Filed: May 30, 1990 Amended Cross-Complaint Filed: April 30, 2026 Trial Date: January 15, 2027

THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER,

Plaintiff,

v.

All persons who are not presently parties to the comprehensive groundwater adjudication in *City of Barstow, et al., v. City of Adelanto, et al*., Riverside Superior Court Case No. CIV208568, and are either producing more than 10 acre-feet of Basin groundwater annually, or using Basin groundwater for unlawful purposes, and Does 1 through 2,000,

Defendants.

SHADOW MOUNTAIN RANCH, LLC,

Cross-Complainant,

v.

MOJAVE WATER AGENCY, The Fasoja Living Trust, Buddhist-Town LLC, S.E. Combined Services of California, Inc., Shunxing Weng, and Roes 1 through 10,

Cross-Defendants.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

PROPOUNDING PARTY(IES):	SHADOW MOUNTAIN RANCH, LLC Defendant and Cross-Complainant
RESPONDING PARTY(IES):	THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER Plaintiff and Cross-Defendant
SET NO.:	Two

Pursuant to Code of Civil Procedure section 2033.010 et seq., Defendant and Cross-Complainant SHADOW MOUNTAIN RANCH, LLC ("Propounding Party" or "SMR"), hereby propounds the following Request for Admissions, Set Two, on Plaintiff and Cross-Defendant THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER ("Responding Party" or "MWA") to respond to the following Request for Admissions in writing and under oath, within 30 days of service.

DEFINITIONS

A. "DEEP AQUIFER" means the deep, lower aquifer underlying the SMR PROPERTY, as described in the Declaration of Tony Morgan filed on November 6, 2023, attached hereto as **Exhibit A**.

B. "INPUT DATA" means all data, assumptions, parameters, files, reports, maps, cross-sections, well logs, geologic interpretations, hydrogeologic interpretations, and other information used, considered, or intended to be used in the MODEL.

C. "MODEL" means the groundwater modeling work referenced in the Watermaster's Trial Setting Conference Statement, filed April 2, 2026, along with supporting declarations of Leland P. McElhaney and David Peterson, including any regional groundwater model being performed, developed, calibrated, updated, reviewed, or commissioned by YOU concerning the Mojave Basin Area, Centro Subarea, Harper Dry Lake area, Harper Valley basin, the SMR PROPERTY, the SHALLOW AQUIFER, and/or the DEEP AQUIFER.

D. "MOJAVE BASIN" means Mojave River Groundwater Basin as defined in the JUDGMENT.

///

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

E. "SHALLOW AQUIFER" means the shallow, upper aquifer underlying the SMR PROPERTY, as described in the Declaration of Tony Morgan filed on November 6, 2023, attached hereto as **Exhibit A**.

F. "SMR" means Shadow Mountain Ranch, LLC.

G. "SMR AQUIFERS" means the SHALLOW AQUIFER and the DEEP AQUIFER.

H. "SMR PROPERTY" means the 631 acre property encompassing most of Section 5, T11N, R3W of the San Bernardino meridian and the surrounding areas north of Harper Dry Lake, a playa, and south of Black Mountain, an outcropping of basalt.

I. "SUBAREAS" means, collectively, the Este, Oeste, Alto, Centro, and Baja Subareas in the MOJAVE BASIN.

J. "YOU" or "YOUR" means Plaintiff and Cross-Defendant THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER including but not limited to their members, directors, agents, employees, attorneys, representatives, and any PERSON, as defined herein, acting on behalf of any member of THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER, individually and/or collectively and including any predecessor in interest.

REQUEST FOR ADMISSIONS

REQUEST FOR ADMISSION NO. 18:

Admit that the MODEL is a regional groundwater model, covering the entire MOJAVE BASIN, including all SUBAREAS.

REQUEST FOR ADMISSION NO. 19:

Admit that the MODEL is not focused solely on the Harper Dry Lake area.

REQUEST FOR ADMISSION NO. 20:

Admit that the MODEL is not focused specifically on the SMR PROPERTY.

REQUEST FOR ADMISSION NO. 21:

Admit that the only INPUT DATA specific to the SMR PROPERTY is data or information you received from SMR.

///

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

REQUEST FOR ADMISSION NO. 22:

Admit that the MODEL is not focused solely on the SHALLOW AQUIFER.

REQUEST FOR ADMISSION NO. 23:

Admit that the only INPUT DATA specific to the SHALLOW AQUIFER is data or information you received from SMR.

REQUEST FOR ADMISSION NO. 24:

Admit that the MODEL is not focused solely on the DEEP AQUIFER.

REQUEST FOR ADMISSION NO. 25:

Admit that the only INPUT DATA specific to the DEEP AQUIFER is data or information you received from SMR.

REQUEST FOR ADMISSION NO. 26:

Admit that the primary purpose of the MODEL is for the management of the MOJAVE BASIN.

Dated: June 5, 2026

BEST BEST & KRIEGER LLP

By: _____

ERIC L. GARNER
CHRISTOPHER M. PISANO
ALISON K. TOIVOLA

Attorneys for Defendant and Cross-Complainant
SHADOW MOUNTAIN RANCH, LLC

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

Exhibit A

Electronically FILED by Superior Court of California, County of Riverside on 11/06/2023 05:19 PM
Case Number CIV208568 0000075033641 - Jason B. Galkin, Executive Officer/Clerk of the Court By Dallas Vitito, Clerk

ERIC L. GARNER, Bar No. 130665
eric.garner@bbklaw.com
CHRISTOPHER M. PISANO, Bar No. 192831
christopher.pisano@bbklaw.com
ALISON K. TOIVOLA, Bar No. 350252
alison.toivola@bbklaw.com
BEST BEST & KRIEGER LLP
300 South Grand Avenue
25th Floor
Los Angeles, California 90071
Telephone: (213) 617-8100
Facsimile: (213) 617-7480

Attorneys for Specially-Appearing Petitioner Shadow Mountain Ranch, LLC

SUPERIOR COURT OF THE STATE OF CALIFORNIA

COUNTY OF RIVERSIDE

CITY OF BARSTOW, et al.,

Plaintiffs,

v.

CITY OF ADELANTO, et al.,

Defendants.

Lead Case No. CIV208568
JCCP5265 MOJAVE BASIN WATER CASES

Judge: Craig Riemer, Department 1

DECLARATION OF TONY MORGAN IN SUPPORT OF MOTION TO INTERPRET AND CLARIFY THE JUDGMENT

[Filed concurrently with:
1. Motion to Interpret/Clarify;
2. Declaration of Timothy Walsh;
3. Declaration of Christopher Pisano;
4. Request for Judicial Notice; and,
5. [Proposed] Order.]

Date: Jan. 8, 2024
Time: 8:30am
Dept: 1

Action Filed: May 30, 1990

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

DECLARATION OF TONY MORGAN

I, Tony Morgan, declare as follows:

1. I am a Vice President and Principal Hydrogeologist at Daniel B. Stephens & Associates, Inc. ("DBS&A"). I have personal knowledge of the facts set forth in this declaration and, if called as a witness, could competently testify to all matters set forth herein.

2. I make this declaration in support of Shadow Mountain Ranch, LLC's ("SMR") motion to interpret and clarify the scope of the January 10, 1996 Judgment and Physical Solution ("Motion").

QUALIFICATIONS AND EXPERIENCE

3. A true and correct copy of my curriculum vitae is attached to this declaration as Exhibit "1."

4. I have nearly 40 years of experience in water supply, water management, and hydrogeological programs for municipal, industrial, and agricultural application.

5. I hold a Bachelor of Science in Geology (Specialization in Hydrogeology and Quaternary Geology) from Indiana University. I also hold a Master of Arts (Quaternary Geology Specialization with Hydrogeology and Geotechnical Engineering Minors) from Indiana University.

6. I am a Professional Geologist in California (No. 4178).

7. I am also a Certified Hydrogeologist in California (No. 159).

8. I have taught hydrogeology courses to both undergraduate and graduate students at Indiana University, California State University – Fullerton, and California State University – San Bernardino. I have been on the Professional Advisory Board for California State University – San Bernardino since 2010.

9. I am on the Board of Directors for the American Ground Water Trust. I am a member of the National Ground Water Association and the Groundwater Resource Association of California. I am on the Groundwater Committee for the Association of California Water Agencies.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

10. Over my career as a consultant, including four years as the Deputy General Manager for Groundwater & Water Resources at United Water Conservation District, I have been involved in a broad range of projects related to groundwater supply development and management, including groundwater resource exploration and production.

11. The opinions contained in this declaration are supported by generally-accepted professional hydrogeologic principles and practices.

RETENTION BY SMR AND BEST BEST & KRIEGER LLP

12. In January 2019, SMR contracted DBS&A to conduct a phased comprehensive groundwater study for the SMR Property.[1]

13. DBS&A prepared several technical reports for SMR which analyzed groundwater production quantities, groundwater quality, groundwater inflow and outflow, groundwater flow gradients, and hydrologic connectivity (a) between the two groundwater aquifers underlying the SMR Property, and (b) between the SMR Property's groundwater aquifers and the rest of the Mojave Basin.

14. I was personally involved in the technical work and drafting of these various reports.

15. DBS&A was subsequently retained by Best Best & Krieger LLP on behalf of SMR to provide advice and render opinions in support of the above-referenced Motion in the above-captioned adjudication.

16. I am generally familiar with the above-captioned adjudication of the Mojave River Groundwater Basin ("Mojave Basin") in *City of Barstow, et al. v. City of Adelanto, et al.* (Riverside County Superior Court Case No. CIV208568), which began in 1990. I understand that final judgment was entered on January 10, 1996, through the Stipulated Judgment and Physical Solution, as later amended on December 5, 2002 ("Judgment"). I am aware that the Judgment established five distinct "hydrologic Subareas" in the Mojave Basin—Este, Oeste, Alto, Centro, and Baja—and managed each Subarea separately according to each Subarea's distinct

[1] SMR Property is defined below in paragraph 31.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

groundwater supplies and varying levels of hydrological connectivity to other Subareas. (Judgment at 5-6, § II(A)(3); 21, § II(C)(13); Ex. B.)

17. I am aware that each Subarea has different compliance requirements and obligations under the Judgment. (See, e.g., Judgment at 8, § II(A)(4)(f); 16, § II(C)(8)(a)-(c) [addressing Base Annual Production and associated rights in the Baja Subarea]; 9, § II(A)(4)(m) [separately defining the "Harper Lake Basin" in the Centro Subarea]; 13, § II(A)(4)(mm) [identifying the "Transition Zone" of the Alto Subarea].) I am aware that is because pumping in one part of the Mojave Basin may not impact other areas of the Mojave Basin due to the Mojave Basin's geologic diversity and hydrological variation. (See, e.g., Judgment at 6, § II(A)(3) ["Absent the construction of conveyance facilities, some Subareas may be deprived of an equitable share of the benefits made possible by the Physical Solution."].)

SUMMARY OF OPINIONS

18. The SMR Property is located in the Harper Valley basin, which is a closed watershed separated from the Mojave River watershed by faulting and low ridges.

19. There are at least two groundwater aquifers underlying the SMR Property: a shallow, upper aquifer ("shallow aquifer") and a deep, lower aquifer ("deep aquifer").

20. The deep aquifer has little to no hydrologic connectivity with the rest of the Mojave Basin based on, among other things, isotope data, water quality testing, static water level, and current understandings of hydrologic barriers and groundwater flow directions.

21. The shallow aquifer has little to no hydrologic connectivity with the rest of the Mojave Basin based on, among other things, water quality testing, static water level, and current understandings of hydrologic barriers and groundwater flow directions.

22. Historical pumping of the shallow aquifer by SMR and SMR's predecessors has had no documented impact on other wells or on the quantity or quality of groundwater in the Mojave Basin, and therefore has had no documented impact on the adjudicated pumping allocations under the Judgment.

23. The shallow and deep aquifers have little to no hydrologic connectivity between them based on, among other things, isotope data and water quality testing.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

24. The deep aquifer was first confirmed to underlie the SMR Property in 2022.

25. The deep aquifer was discovered after entry of the Judgment and was not included in the native safe yield in the Judgment.

26. The deep aquifer has never before been pumped to extract groundwater from underneath or near the SMR Property (other than those limited extractions for testing purposes as described in this declaration).

27. Because the deep aquifer under the SMR Property has little to no hydrologic connectivity to the rest of the Mojave Basin, pumping of the deep aquifer will not have an adverse impact on the groundwater in the Mojave Basin nor on the adjudicated pumping allocations under the Judgment should SMR be allowed to pump water from the deep aquifer.

28. The shallow aquifer under the SMR Property has little to no hydrologic connectivity to the rest of the Mojave Basin, and decades of historical pumping data indicate that pumping from the shallow aquifer has not had, and does not have, any documented impact on the Mojave Basin. Because of this lack of impact, continued pumping of the shallow aquifer by SMR will not have an adverse impact on the groundwater in the Mojave Basin nor on the adjudicated pumping allocations under the Judgment.

29. A summary table of the key factors analyzed and a graphical representation of their results is contained in Figures 1A and 1B.

SHADOW MOUNTAIN RANCH

30. The SMR Property is located within the rain-shadow of California's San Gabriel and San Bernardino Mountains in the Mojave Desert. The Mojave Desert is an internally drained wedge bound by the Garlock fault to the north and the northwest-southeast trending San Andreas fault. The landscape consists of isolated mountain ranges and sprawling desert plains extending into southern Nevada.

31. DBS&A's technical reviews for SMR covered a 631 acre property and the surrounding areas north of Harper Dry Lake, a playa, and south of Black Mountain, an outcropping of basalt ("SMR Property"). The SMR Property is roughly one square mile and

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

encompasses most of Section 5, T11N, R3W of the San Bernardino meridian. A map of the SMR Property and its general vicinity is in Figure 2.

32. The general geology of the SMR Property consists of alluvial fan deposits and basalt flows. Depth to basalt under the SMR Property ranges from about 190 feet below ground surface ("bgs") to 540 feet bgs in 12 wells on the SMR Property.

33. Aside from the Black Mountain basalt outcrop to the north of the SMR Property, topography in the area is relatively flat and gently slopes down to the Harper Dry Lake located to the southwest of the SMR Property.

34. The Mojave River, flowing southwest to northeast in its nearest reach, is approximately 13 miles southeast of the SMR Property.

35. The unincorporated community of Hinkley is located nine miles south of the SMR Property, and Barstow, the nearest city, is approximately 15 miles to the southeast of the SMR Property. The Mojave Solar Project (also known as the Abengoa Mojave Solar Project) is located on the south side of Harper Dry Lake, southwest of the SMR Property. Edwards Air Force Base property is located within 20 miles of the SMR Property to the southwest, west of Kramer Junction. SMR Property is located within Base airspace.

36. The SMR Property falls within the jurisdictional boundary of the Centro Subarea of the Mojave Basin. Certain waters within the Centro Subarea have been adjudicated since 1996 and are governed by a Watermaster appointed by the Court.

37. The Mojave Basin is currently designated as a "very low" priority basin according to the California Department of Water Resources ("DWR") since the majority of the Mojave Basin is adjudicated and therefore exempt from regulations required by the 2014 Sustainable Groundwater Management Act, commonly known as SGMA.

38. The SMR Property was formally known as Oasis Ranch, which contained additional acreage. Oasis Ranch operated as an active alfalfa farm and reported an estimated pumping of approximately 10,000 acre-feet ("AF") per year ("AFY") from its on-site wells. Other estimates of SMR Property pumping capacity have varied from 5,300 AFY to 9,300 AFY.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

39. The previous owner of the SMR Property, Curt Jahnke and Ace Exploration & Water Drilling Company, pumped quite extensively from the shallow aquifer, and water levels quickly recovered.

40. SMR has also pumped groundwater from the shallow aquifer.

METHODOLOGY

41. DBS&A performed various technical assessments of both the shallow and deep aquifers underlying the SMR Property.

42. DBS&A reviewed 20+ years of available studies, reports, models, and other engineering materials and information to assess the potential for fault lines, groundwater flow gradients, water quality, and other indicators of or barriers to hydrologic connectivity between the SMR Property and the rest of the Mojave Basin.

43. DBS&A analyzed test samples of groundwater quality from both the shallow aquifer and the deep aquifer and compared those results to other samples from throughout the Mojave Basin to assess hydrological connectivity. Among other items, DBS&A tested and analyzed the static water level, the prevalent chemical character of the water, and the presence of arsenic, boron, sulfate, chloride, sodium, and total dissolved solids ("TDS") in the water.

44. DBS&A also conducted groundwater sampling for isotopic analyses of, among other things, tritium and radiocarbon in both the shallow and deep aquifers. The sampling and laboratory analyses were performed as part of a geochemical characterization of both the deep aquifer and the shallow aquifer that has been historically used as an agricultural water supply. The isotopes selected for laboratory analyses serve as inherent indicators in all groundwater systems that are routinely used in characterizing groundwater ages, recharge, and depositional environment, including:

a. DBS&A analyzed the groundwater samples for tritium (TU) and radiocarbon (carbon-14) content. Groundwater samples containing tritium have been exposed to the atmosphere in the mid-1950s or later, when atmospheric atomic bomb testing released tritium into the atmosphere. Samples without tritium suggest the water has not been exposed to the

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

atmosphere since before the mid-1950s, so tritium presence is commonly used to identify "modern water."

b. DBS&A also performed radiocarbon analyses to age date groundwater samples (which can go back as far back as 24,000 years before present ("YBP")). Radiocarbon analyses are based on the principles of radioactive decay regarding the element carbon, in which residual radioactivity is measured from the breakdown of unstable isotope carbon-14 to stable isotopes carbon-12 and carbon-13. Carbon-14 dating is a primary geochemical tracer for determining groundwater residence time (when the water was last in contact with the atmosphere and went underground).

45. DBS&A staff conducted isotope sampling at two well locations on the SMR Property: (1) an existing irrigation well in the southwest quadrant of the SMR Property that was constructed in February 2019, screened in the shallow aquifer from 85 feet bgs to 286 feet bgs ("Well #3"); and (2) a newly-constructed monitoring well in the center of the SMR Property, screened in the deep aquifer from 520 feet bgs to 900 feet bgs ("Test Well"). The Test Well was constructed specifically to isolate the deep aquifer from the shallow aquifer.

SMR PROPERTY IS WITHIN THE HARPER VALLEY BASIN

46. DWR's Bulletin 118 (as amended) has designated the groundwater basin covering the SMR Property as the Harper Valley Groundwater Basin ("Harper Valley basin") with the corresponding Basin ID 6-47. The Harper Valley basin contains the Harper Dry Lake playa area.

47. The SMR Property is also located within the Centro Subarea of the Mojave Basin, as defined by the Judgment.

48. DWR's mapping of the Harper Valley basin is the more appropriate groundwater basin definition for the SMR Property when compared to the Centro Subarea for at least three reasons.

49. First, the Harper Valley basin has a smaller boundary that is more closely aligned with the SMR Property's boundaries. The Centro Subarea is substantially larger and over-

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

inclusive in both land size and geologic diversity, and is not an accurate approximation of the SMR Property's geology.

50. Second, there are geologic barriers between the Harper Valley basin and the rest of the Mojave Basin, especially where the Mojave River is located. These barriers limit the underground flow of Mojave River water into the Harper Valley basin. Because such flows are also limited or nonexistent into the SMR Property, the Harper Valley basin is also a better approximation of the SMR Property when assessing groundwater inflow.

51. Third, the Harper Valley basin is a closed watershed separated from the Mojave River watershed by faulting and low ridges. As a result, runoff generated from precipitation over the SMR Property does not flow into the Mojave River watershed, but instead flows into the lowest point in its watershed (i.e., Harper Dry Lake).

52. The SMR Property and the Harper Valley basin are not, however, synonymous. For example, the SMR Property is smaller than the Harper Valley basin, and the two areas likely have different sources of groundwater inflow.

SMR PROPERTY GROUNDWATER INFLOW AND OUTFLOW

Mojave River

53. The dominate source of groundwater recharge to upper aquifers in the Harper Valley basin is underflow of percolated Mojave River water that flows through gaps in the low bedrock hills. This opinion is supported by groundwater flow directions and gradients inferred from groundwater level contouring. In addition, lower TDS groundwater is observed along presumed groundwater flow paths extending northwest from beneath the Mojave River through the Red Hill gap and towards the playa. Reasonable underflow recharge estimates range from 1,000 AFY to 2,700 AFY.

54. Groundwater flow paths are generally down-gradient in the direction of the Harper Dry Lake playa area.

55. The SMR Property is located up-gradient from the Harper Dry Lake playa area. The SMR Property therefore is likely out of the direct flow path of percolated Mojave River water.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

56. These flow paths and gradients support the conclusion that underflow of percolated Mojave River groundwater does not reach and recharge the SMR Property.

57. Figure 3 provides a visual depiction of the Harper Dry Lake playa area and conceptualized groundwater flow paths. Figure 3 is a simplified Google Earth "cartoon-type" Harper Dry Lake playa area conceptual diagram, view obliquely north.

Precipitation

58. Limited recharge occurs from precipitation. Such recharge is poorly quantified and in general only occurs when seasonal rainfall exceeds 8 inches. Little to no precipitation ultimately reaches the groundwater because of the region's high evapotranspiration rates.

59. Barstow Fire Station precipitation gage records from 1981 to 2021 show an annual average precipitation of 4.84 inches per water year ("WY") and a median of 4.72 inches per WY. The wettest months are December through March, with sixty percent of the precipitation occurring in these four months.

60. The SMR Property falls within the 5 inches per year Parameter-elevation Regressions on Independent Slopes Model (PRISM) 1980 to 2010 average precipitation contour.

61. Annual potential evapotranspiration for the area, about 68 inches per year, greatly exceeds annual precipitation.

62. While precipitation may recharge the aquifers in wet years, precipitation values are typically too low to provide any meaningful recharge.

SMR PROPERTY GROUNDWATER HAS LITTLE TO NO HYDROLOGIC CONNECTIVITY WITH THE REST OF THE MOJAVE BASIN

Transmissivity

63. Historical groundwater pumping of the shallow aquifer has had no documented impact on the groundwater quantity or quality in the Mojave Basin. Therefore, because the shallow and deep aquifers have little to no hydrologic connectivity with the rest of the Mojave Basin, pumping of the deep aquifer will also have no impact on the Mojave Basin.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

64. Transmissivity and hydraulic conductivity estimates of the shallow aquifer beneath the SMR Property were determined in 2011 by Barto, and then reevaluated by DBS&A based on 2020 and 2021 shallow aquifer tests which evaluated the extent of groundwater drawdown.

65. Test results confirmed that offsite well 11N03W07D01S, located to the southwest of and outside of the SMR Property, is not affected by pumping from the shallow aquifer underneath the SMR Property. Specifically, this offsite well has not shown any impact from short-term pumping events at SMR Property.

66. Offsite well 11N03W16D01S, also located to the southwest of and outside of the SMR Property, is also not affected by pumping from the shallow aquifer underneath the SMR Property.

67. Despite the many decades and many thousands of AF of groundwater that have been pumped from the shallow aquifer underlying the SMR Property, no well has been identified as having been impacted by pumping at the SMR Property from approximately 1980 to the present.

68. This lack of any documented impact supports the conclusion that pumping from the SMR Property has not impacted and will not in the future impact the groundwater levels on SMR Property's or in the Mojave Basin, and, therefore, such pumping does not and will not impact the adjudicated groundwater in the Mojave Basin.

Water Quality

69. Water quality results in the Harper Dry Lake playa area within the Centro Basin generally contain TDS over 1,000 mg/L.

70. Water quality results from two United States Geological Survey ("USGS") wells, USGS 350049117122101 and USGS 345428117101701 (collectively, "USGS Wells"[2]), contain TDS of approximately 490 to 500 mg/L.

71. Well water samples taken from the shallow aquifer underlying the SMR Property showed that the water in the shallow aquifer contains TDS of approximately 700-800 mg/L.

[2] These are two groundwater wells monitored by USGS. They are located within the Mojave Basin south and east of the SMR Property.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

72. Higher TDS generally equates to a worse water quality. Therefore, the water quality of the shallow aquifer underlying the SMR Property is better than the water quality in the Harper Dry Lake playa area, but slightly worse than the water quality south and east of the SMR Property.

73. The difference in TDS indicates that the shallow aquifer underlying the SMR Property is hydrologically disconnected from the Harper Dry Lake playa area and the rest of the Mojave Basin.

74. The prevalent chemical character of the groundwater from the shallow aquifer is sodium chloride. The prevalent chemical character of the groundwater from USGS 350049117122101 and USGS 345428117101701 is sodium/potassium and bicarbonate.

75. The boron in the shallow aquifer is 3.2 mg/L. The boron in USGS 350049117122101 is 641 mg/L, and in USGS 345428117101701 is 164 mg/L.

76. The chloride in the shallow aquifer is 204 mg/L. The chloride in USGS 350049117122101 is 43.1 mg/L, and in USGS 345428117101701 is 63 mg/L.

77. The different chemical characters, boron levels, and chloride levels of groundwater samples from the shallow aquifer (Well #3) and the USGS Wells further indicate that the shallow aquifer underlying the SMR Property is hydrologically disconnected from the rest of the Mojave Basin.

Faults

78. Faults are often hydrological barriers to water connectivity, including within the Mojave Basin and its Subareas. (See Judgment at 29, § V(C)(28).)

79. There are several known mapped faults in the Harper Dry Lake playa area, including:

a. Harper Lake fault (Waterman fault on some maps)

b. Mt. General fault

c. Lenwood-Lockhard fault zone (unnamed north splays and main Lockhart fault)

80. These faults trend similar to the regional fault trend of northwest-southeast.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

81. Several reports noting transmissivity and conductance values used in USGS groundwater models identify these major faults as partial barriers to groundwater flow.

82. The mapped trace of the Harper Lake fault (Waterman fault) trends through the northeast corner of the SMR Property. The fault is not visible and does not have any known surface expressions (such as ridges or hills) on or near the SMR Property. This fault is identified by some investigators as a partial barrier to groundwater flow on the south end of its trace near the Mojave River along the boundary of the Centro and Baja Subareas.

83. Another splay, or outward spread, of the Harper Lake fault is mapped to the northwest and southeast of the SMR Property.

84. These faults have been mapped in other locations. Near the SMR Property, the locations of these faults have largely been inferred from groundwater flow models wherein a barrier (full or partial) to groundwater flow was needed to ensure that the models balanced out appropriately and replicated documented water level data. Some, but not all, of these inferred faults have been identified in the field.

85. A map of the relevant faults is contained in Figure 4.

THE TWO GROUNDWATER AQUIFERS UNDERLYING THE SMR PROPERTY HAVE LITTLE TO NO HYDROLOGIC CONNECTIVITY WITH EACH OTHER

86. There are at least two documented groundwater aquifers underlying the SMR Property.

87. The shallow aquifer beneath the SMR Property is 190 to 536 feet thick based on the depth to basalt reported for SMR Property wells, and contains fine-grained layers (silts and clays) typically 10-40 feet thick, but as much as 70 feet thick. This shallow aquifer ranges from confined to unconfined and is composed of alluvial sediments from the land surface down to a basalt layer associated with a regional volcanic flow event.

88. The shallow aquifer is the principal aquifer that has been used for historical irrigation extractions of groundwater on the SMR Property, as noted in paragraphs 38 to 40.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

89. All wells monitored on the SMR Property, along with all current known groundwater pumping in the Harper Dry Lake playa area, are all screened in the shallow aquifer, with the exception of the Test Well in the deep aquifer.[3]

90. In 2022, the deep aquifer was first encountered beneath the basalt layer underlying the SMR Property.

91. Figure 5 demonstrates the conceptual generalized geology underlying the SMR Property.

92. Well water samples taken from the deep aquifer underlying the SMR Property show that the water in the deep aquifer contains TDS at 4,700 mg/L.

93. TDS in the shallow aquifer was substantially lower, ranging from 700-800 mg/L, as noted in Figure 1B and paragraph 71, above.

94. A summary of the water quality differences between the shallow and deep aquifers is contained in Figures 1A and 1B. They include:

a. The shallow aquifer contains arsenic at 55 ug/L, whereas the deep aquifer contains arsenic at 22 ug/L.

b. The shallow aquifer contains boron at 3.2 mg/L, whereas the deep aquifer contains no presence of boron.

c. The shallow aquifer contains 165 mg/L of sulfate, whereas the deep aquifer contains 530 mg/L of sulfate.

d. The shallow aquifer contains 204 mg/L of chloride, whereas the deep aquifer contains 1,400 mg/L of chloride.

e. The shallow aquifer contains 233 mg/L of sodium, whereas the deep aquifer contains 530 mg/L of sodium.

95. The difference in TDS, arsenic, boron, sulfate, chloride, and sodium all demonstrate that the water quality varies substantially between the shallow and deep aquifers.

[3] SMR drilled an additional exploratory production well, which was screened in both the shallow and deep aquifer. That well was not used and is not currently in use.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

96. Isotope sampling further demonstrates that the water in the deep aquifer and the water in the shallow aquifer are hydrologically disconnected.

97. In 1995, USGS collected well water samples and analyzed those samples for, among other things, tritium and carbon-14 to determine the source, movement, and age of groundwater in the Mojave River basin area. The findings for tritium and carbon-14 included:

a. Groundwater in the Mojave River basin alluvial aquifer, consisting of river deposits along the present channel of the Mojave River, was determined to contain tritium and was recently recharged by the Mojave River.

b. Groundwater in the regional aquifer, which surrounds the alluvial aquifer and is underlain by older alluvium and fan deposits, near Summit Valley and in several underlying washes, was determined to contain tritium (although most of the water does not), and was recharged less than 2,400 years ago.

c. Groundwater in the regional aquifer even farther down-gradient and away from the Mojave River was recharged more than 20,000 years ago, and no significant recharge occurs under present climactic conditions.

98. The USGS concluded that, within the Mojave Basin, deeper aquifers were recharged under climatic conditions different from average conditions today and may be more than 20,000 years old. Shallower aquifers contain indicators of present climatic conditions and were recharged more recently.

99. USGS findings are consistent with DBS&A findings under the SMR Property.

100. DBS&A took samples from two wells—Well #3 and the Test Well—on the SMR Property and conducted similar tests to those completed by USGS. The results were consistent with the trends identified by USGS. Specifically, laboratory test results demonstrated the following (also depicted in Figure 1B):

a. The apparent radiocarbon age of the deep aquifer is 20,130 YBP, and the shallow aquifer is 7,220 YBP.

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

b. Tritium content in the deep aquifer is <0.64 TU, and in the shallow aquifer is <0.65 TU (essentially, tritium was not detected in either aquifer).

101. Radiocarbon (carbon-14) dating is a laboratory analysis that provides objective age estimates for various materials, including water. Carbon-14 is an isotope of the element carbon; it is unstable and weakly radioactive. Carbon-14 content decreases at a rate determined by the law of radioactive decay, therefore, radiocarbon dating is essentially a method designed to measure residual radioactivity.

102. The difference in the apparent radiocarbon ages of the water samples supports the idea that the water in the shallow and deep aquifers are of different ages.

103. The apparent radiocarbon ages further suggest that, given the shallow aquifer is dated to over 7,000 YBP and the deep aquifer is dated to over 20,000 YBP, these two aquifers have not received any recharge from the Mojave River for many thousands of years, demonstrating that both aquifers are hydrologically disconnected from the Mojave River and the adjudicated water of the Judgment.

104. The dramatically different radiocarbon ages implies little to no connection between the shallow and deep aquifers.

105. The absence of tritium in the shallow aquifer supports the conclusion that the shallow aquifer has not been recharged with modern water and therefore is hydrologically disconnected from the Mojave River and the adjudicated water of the Judgment.

106. The absence of tritium in the deep aquifer supports the conclusion that the deep aquifer is not being recharged with modern water from the Mojave River.

107. Based on geologic inference, the water in the deep aquifer is not moving much, if at all, and there is no known extraction of water via pumping from the deep aquifer. Therefore, the absence of tritium, radiocarbon age, and that there is no known outflow from the deep aquifer, support the conclusion that the water in the deep aquifer has an age of more than 20,000 YBP.

108. These analytical results support the conclusion that the shallow and deep aquifers are of different ages and are therefore separate aquifers with little to no hydrologic connectivity.

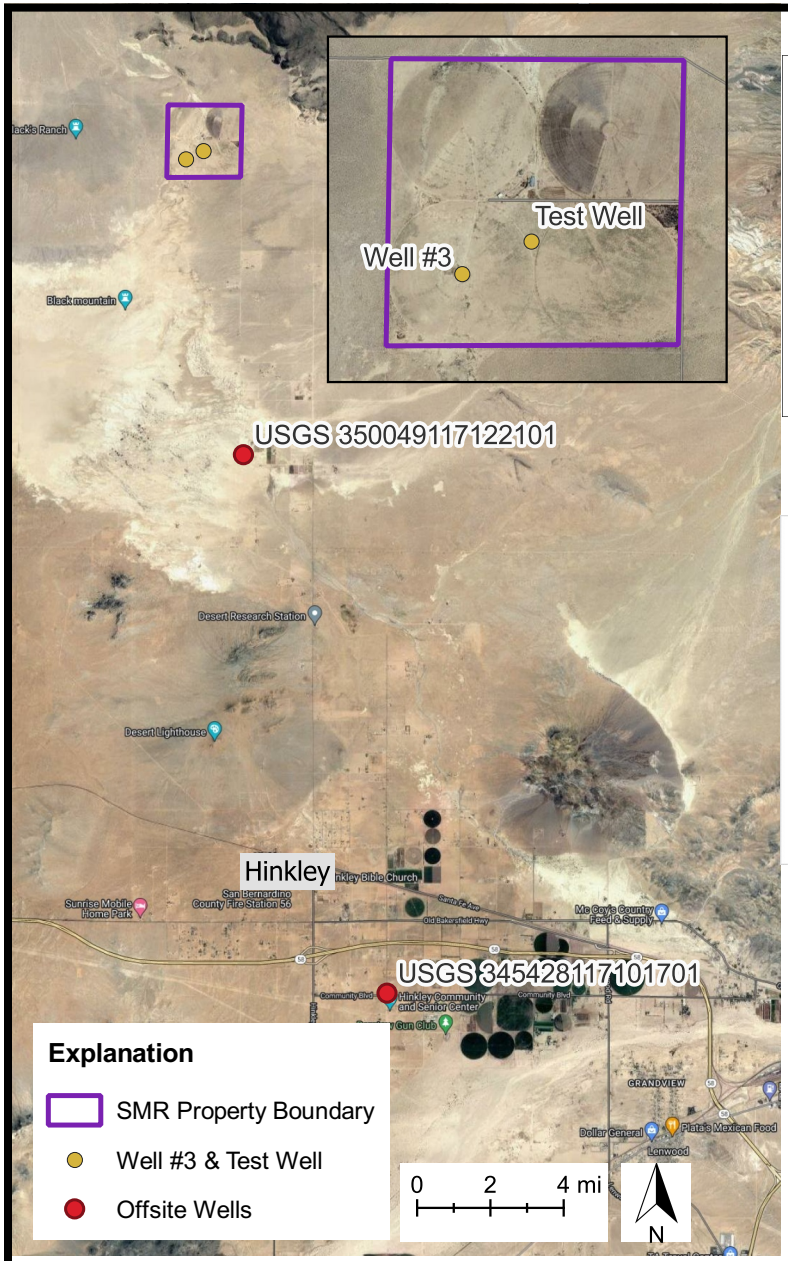
BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071

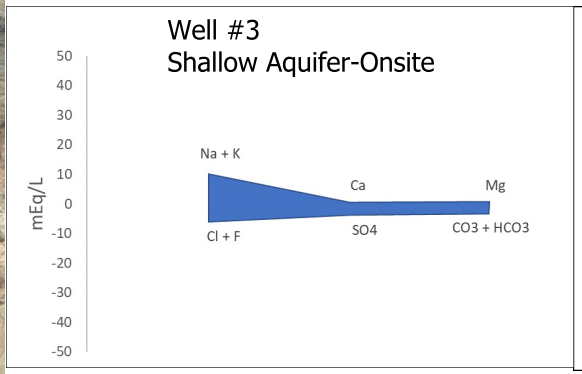
I declare under penalty of perjury under the laws of the State of California that the forgoing is true and correct.

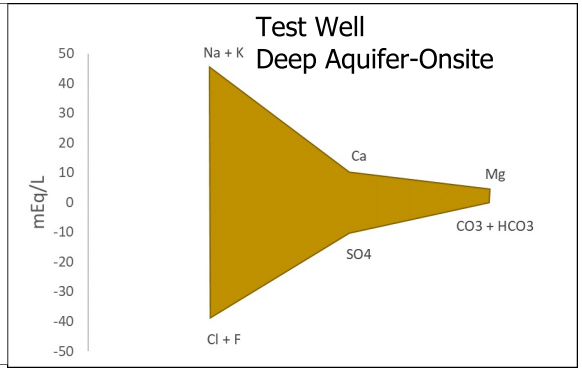
Executed this 1st day of November, 2023, at Ventura, California.

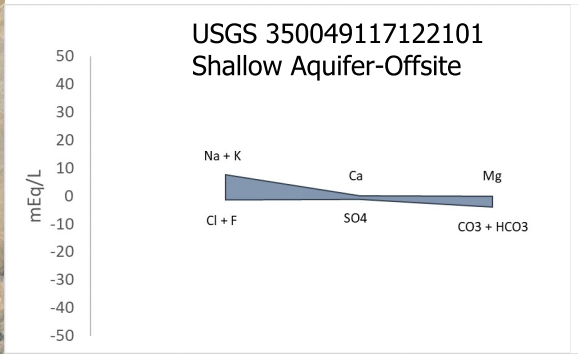
Tony Morgan

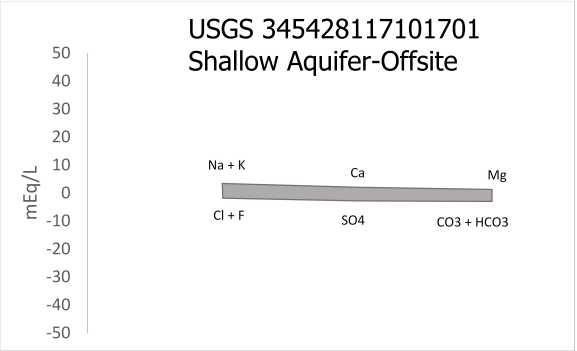
BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
300 SOUTH GRAND AVENUE, 25TH FLOOR
LOS ANGELES, CALIFORNIA 90071











Notes:
1. The Test Well is screened in the deep aquifer. Well #3 is screened in the shallow aquifer.
2. USGS Well 350049117122101 is 250 ft deep. USGS Well 345428117101701 is 122 ft deep.

Source: SMR Isotopic Data, nwis.waterdata.usgs.gov

SHADOW MOUNTAIN RANCH

Shallow and Deep Aquifer Comparison

C:\Users\1283\Documents\Projects\Shadow Mountain Ranch\MAPS\SMR Map.qgz

DBS&A
a Geo-Logic Company

10/25/2023

DB19.1031

Figure 1A

Well ID	Aquifer	Sample Date	Apparent Radiocarbon Age (YBP)	Tritium Content (TU)
Test Well	Deep	9/7/2022	20,130	<0.64
Well #3 New	Shallow	9/7/2022	7,220	<0.65

YBP = years before present
TU = tritium units, where 1 TU is equal to one atom of tritium (3H) per 1018 atoms of hydrogen (H)

	Test Well	Well #3	USGS 350049117122101	USGS 345428117101701
	Deep Aquifer	Shallow Aquifer	Total Depth 250 ft	Total Depth 122 ft
Prevalent Chemical Character	Sodium chloride	Sodium chloride	Sodium/Potassium & Bicarbonate	Sodium/Potassium & Bicarbonate
Total Dissolved Solids (mg/L)	4,700	800	~490	~500
Arsenic (ug/L)	22	55	39.6	0.65
Boron (mg/L)	NA	3.2	641	164
Sulfate (mg/L)	530	165	56.5	143
Chloride (mg/L)	1,400	204	43.1	63
Sodium (mg/L)	530	233	173	74.4
Static Water Level (ft below ground surface)	84.5*	79.75**	125.11***	109.35***

Water Level (WL)
* WL taken from well sounder on 3/17/2023 at 8:47am
** WL taken from Ranch Systems on 3/17/2023 at 08:45am
***WL measured by USGS on 4/19/2017 and 05/04/2017

Notes:
1. The Test Well is screened in the deep aquifer. Well #3 is screened in the shallow aquifer.
2. These analytical results support the hypothesis that the shallow and deep aquifers are of different ages and are therefore separate aquifers. The disparate apparent radiocarbon ages implies the groundwater flux between the aquifers, if any, is likely very small.
3. The chemical data also shows that the shallow and deep aquifers have significantly different chemical composition, suggesting little to no vertical connection between the two aquifers.

Source: SMR Isotopic Data, nwis.waterdata.usgs.gov

SHADOW MOUNTAIN RANCH

Shallow and Deep Aquifer Comparison

DBS&A
a Geo-Logic Company

10/25/2023 DB19.1031

Figure 1B

C:\Users\1283\Documents\Projects\Shadow Mountain Ranch\MAPS\SMR Map.ggz

Legend

Centro Subarea

0 7.5 15 mi

N

Notes:
1. Location of Shadow Mountain Ranch in the Centro Subarea

SHADOW MOUNTAIN RANCH

Site Location

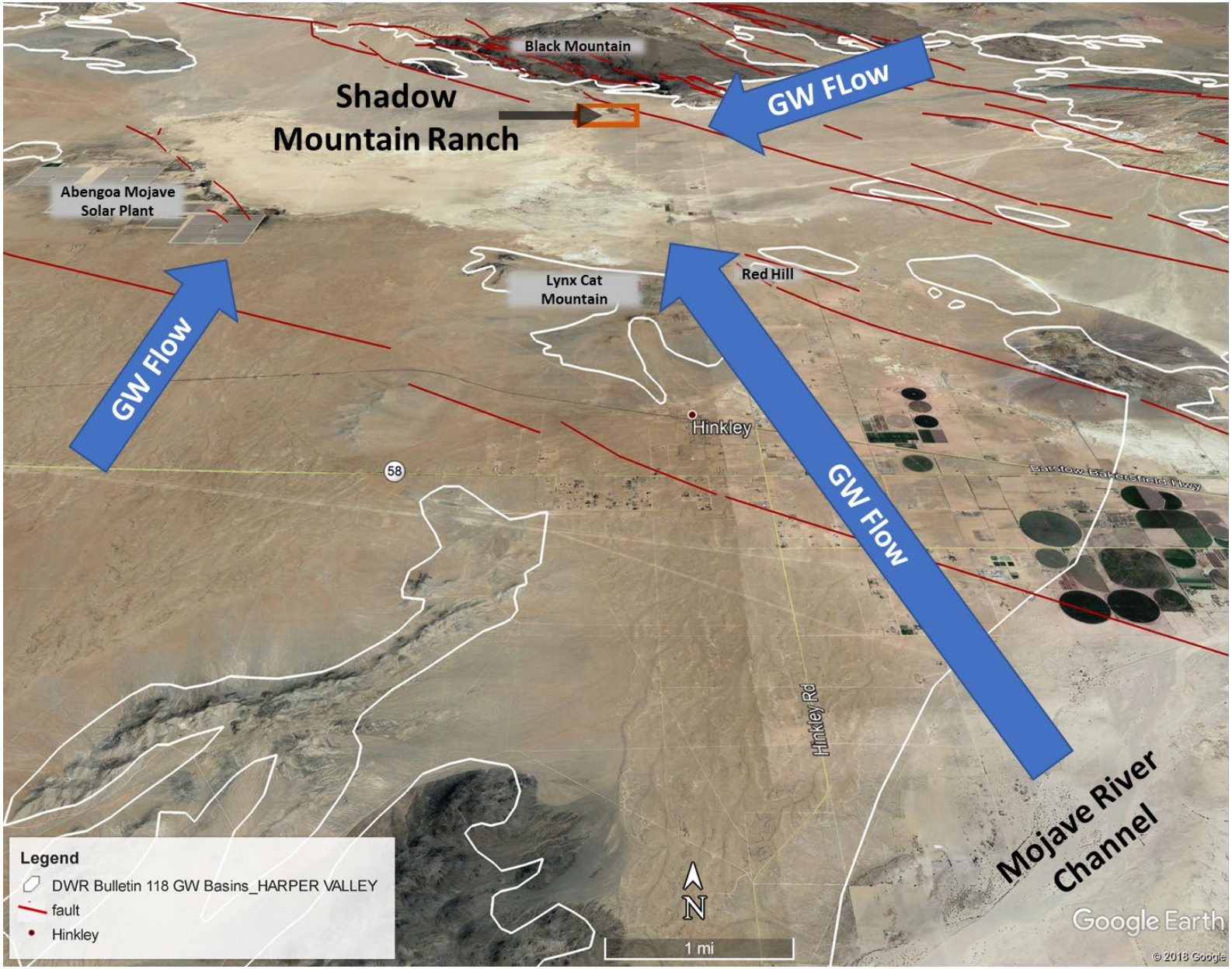
Figure 2

DBS&A
a Geo-Logic Company

10/25/2023

DB19.1031

C:\Users\1283\Documents\Projects\Shadow Mountain Ranch\MAPS\SMR Map.qgz



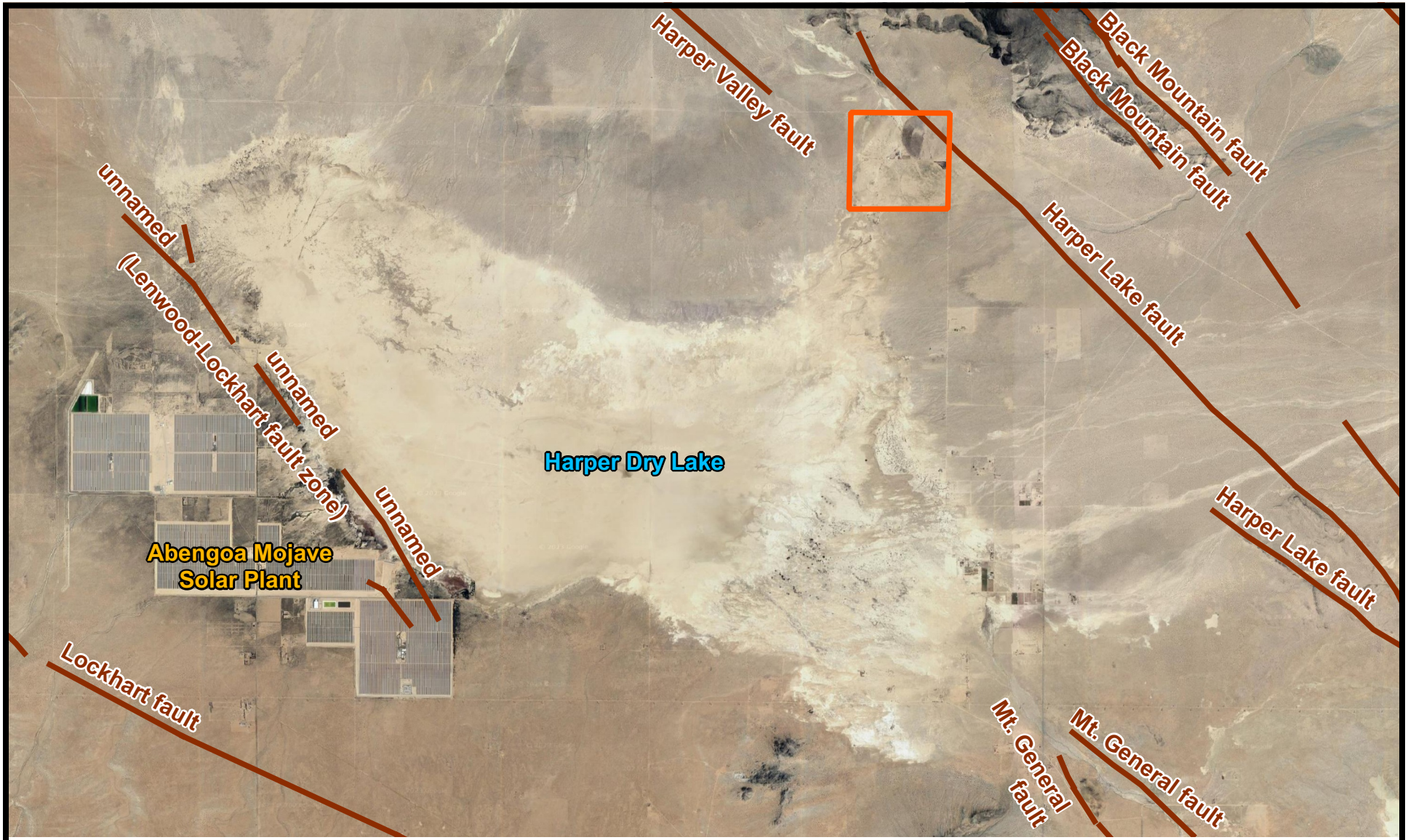
SHADOW MOUNTAIN RANCH

CONCEPTUAL GROUNDWATER FLOWPATHS

DBS&A a Geo-Logic Company

10/26/23

Figure 3



Explanation

CA Geological Survey Fault (MWA Region)

SMR Property Boundary

Source: Mojave Water Agency (https://www.mojavewater.org/data-maps/geospatial-library/)

0 1 2 mi

N

DBS&A
a Geo-Logic Company

10/26/2023

DB19.1031.00

SHADOW MOUNTAIN RANCH

Nearby Faults

Figure 4

K:\Projects\Water Resource Services\Public\DB19.1031.00 Shadow Mountain Ranch LLC\GIS\QGZs\Harper Dry Lake.qgz

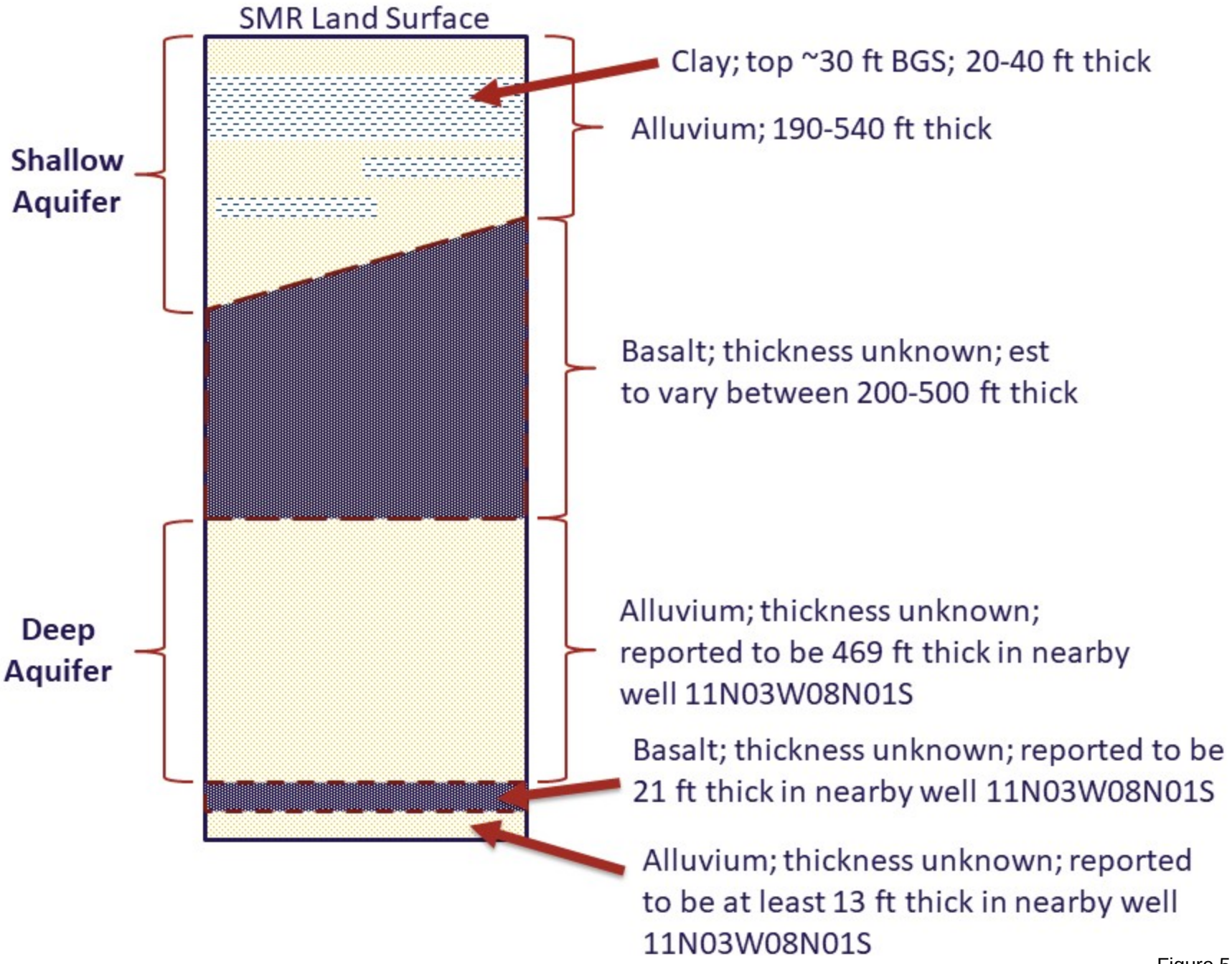

SMR Land Surface
Clay; top ~30 ft BGS; 20-40 ft thick
Alluvium; 190-540 ft thick
Shallow Aquifer
Basalt; thickness unknown; est to vary between 200-500 ft thick
Deep Aquifer
Alluvium; thickness unknown; reported to be 469 ft thick in nearby well 11N03W08N01S
Basalt; thickness unknown; reported to be 21 ft thick in nearby well 11N03W08N01S
Alluvium; thickness unknown; reported to be at least 13 ft thick in nearby well 11N03W08N01S

Figure 5

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
2855 E. GUASTI ROAD, SUITE 400
ONTARIO, CALIFORNIA 91761

PROOF OF SERVICE

I, Vanessa Guillen-Becerra, declare:

I am a citizen of the United States and employed in San Bernardino County, California. I am over the age of eighteen years and not a party to the within-entitled action. My business address is 2855 E. Guasti Road, Suite 400, Ontario, California 91761. On June 5, 2026, I served a copy of the within document(s):

SHADOW MOUNTAIN RANCH, LLC'S REQUEST FOR ADMISSIONS, SET TWO (2) TO THE MOJAVE WATER AGENCY, AS THE MOJAVE BASIN AREA WATERMASTER

☐ by transmitting via facsimile the document(s) listed above to the fax number(s) set forth below on this date before 5:00 p.m.

☒ by placing the document(s) listed above in a sealed envelope with postage thereon fully prepaid, the United States mail at Ontario, California addressed as set forth below.

☐ by placing the document(s) listed above in a sealed _____ envelope and affixing a pre-paid air bill, and causing the envelope to be delivered to a _____ agent for delivery.

☐ by personally delivering the document(s) listed above to the person(s) at the address(es) set forth below.

☒ by transmitting via e-mail or electronic transmission the document(s) listed above to the person(s) at the e-mail address(es) set forth below.

Please see attached Service List.

I am readily familiar with the firm's practice of collection and processing correspondence for mailing. Under that practice it would be deposited with the U.S. Postal Service on that same day with postage thereon fully prepaid in the ordinary course of business. I am aware that on motion of the party served, service is presumed invalid if postal cancellation date or postage meter date is more than one day after date of deposit for mailing in affidavit.

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

Executed on June 5, 2026, at Fontana, California.

Vanessa Guillen-Becerra

Service List

In re The Mojave Water Agency, as the Mojave Basin Area Watermaster v. All Persons Who are not parties to the comprehensive groundwater adjudication in the *City of Barstow, et al. v. City of Adelanto, et al., Riverside* Superior Court Case No. CIV208568, and are either producing more than 10 acre-feet of Basin groundwater annually, or using Basin groundwater for unlawful purposes, and Does 1 through 2,000

Riverside Superior Court Case No.: CIVSB 2218461 (transferred)
Mojave Basin Water Cases JCCP5265

Via E-Mail

Williams J. Brunick, Esq.
Leland P. McElhaney, Esq.
BRUNICK, MCELHANEY & KENNEDY PLC
1839 Commercenter West
P.O. Box 13130
San Bernardino, CA 92423-3130
Tel. No.: (909) 889-8301
Fax No.: (909) 388-1889
Email: bbrunick@bmklawplc.com
lmcelhaney@bmklawplc.com
jquihuis@bmklawplc.com

Attorneys for THE MOJAVE WATER AGENCY AS THE MOJAVE BASIN AREA WATERMASTER

Rob Bonta
Eric M. Katz
Noah Golden-Krasner
State of California Department of Justice
Office Of Attorney General
300 South Spring, Suite 1702
Los Angeles, CA 90013-1230
Tel No.: (213) 269-6343
Fax No.: (916-731-2128
Email: eric.katz@doj.ca.gov
noah.goldenkrasner@doj.ca.gov

Attorneys for CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Peter Kiel
LAW OFFICE OF PETER KIEL
PO Box 422
Petaluma, CA 94953-0422
Tel No.: (707) 387-0060
Email: pkiel@cawaterlaw.com
admin@cawaterlaw.com

Attorneys for CITY OF VICTORVILLE

Timothy Mahar Jr., Esq.
TINNELLY LAW GROUP
27101 Puerta Real Suite 250
Mission Viejo, CA 92691
Tel No.: (949) 588-0866
Email: tmahar@tinnellylaw.com

Attorneys for Specially-Appearing Petitioner SPRING VALLEY LAKE ASSOCIATES

Cameron H. Totten
Paul P. Cheng
Gene S. Lizaso
PPRC LAW, APC
790 E. Colorado Blvd., Suite 260
Pasadena, California 91101
Tel No.: (626) 356-8880
Fax No.: (888) 231-8196
Email: litigation@pprclaw.com

Attorneys for Defendant, WEILONG HUANG

Adrian Ochoa
Tracie E. Stender
SNELL & WILMER, LLP
3611 Valley Centre Drive, Suite 500
San Diego, CA 92130
Tel. No.: (858) 434-5020
Fax No.: (858) 434-5006
Email: tstender@swlaw.com

Attorney for Defendant S.E. COMBINED SERVICES OF CALIFORNIA, INC. *(erroneously sued as SE Combined Services, Inc.)*

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
2855 E. GUASTI ROAD, SUITE 400
ONTARIO, CALIFORNIA 91761

Geoffrey H. Yost
O'MELVENY & MYERS LLP
Two Embarcadero Center
28th Floor
San Francisco, California 94111-3823
Tel No.: (415) 984-8700
Fax No.: (415) 984-8701
Email: gyost@omm.com

Attorneys for Defendant Buddhist-Town, LLC.

Russell McGlothlin
O'MELVENY & MYERS LLP
1999 Avenue of the Stars
8th Floor
Los Angeles, California 90067-6035
Tel No. (310) 553-6700
Fax No. (310) 246-6779
Email: rmcglothlin@omm.com

Attorneys for Defendant Buddhist-Town, LLC.

James L. Markman
Kyle H. Brochard
Jacob C. Metz
RICHARDS, WATSON & GERSHON
A Professional Corporation
350 South Grand Avenue, 37th Floor
Los Angeles, California 90071
Tel: (213) 626-8484
Fax: (213) 626-0078
Email: jmarkman@rwglaw.com
kbrochard@rwglaw.com
jmetz@rwglaw.com

Attorneys for Defendant, THE FASOJA LIVING TRUST

Diana J. Carloni
Attorney at Law
21001 N. Tatum Blvd., Suite 1630-455
Phoenix, AZ 85050
Tel No. (760) 946-9910
Email: diana@carlonilaw.com

Attorneys for NEWBERRY SPRINGS REC. LAKES ASSN.

Jeffrey Ruesch
WATERMASTER SERVICES MANAGER
Mojave Water Agency
13846 Conference Center Drive
Apple Valley, CA 92307
E-Mail: watermaster@mojavewater.org

Via US MAIL

Shunxing Weng
135 W. Newmark Ave., Apt. A
Monterey Park, California 91754
Defendant, In Pro Per

Jasper Young Kim
2665 Amber Wood Place
Thousand Oaks, California 91362
Defendant, In Pro Per

Jae Hwan Lee
1520 James M. Wood Blvd
Los Angeles, California 90015
Defendant, In Pro Per

Kyung P. Kim
15565 Meridan Rd.
Lucerne Valley, CA 92336
Defendant, In Pro Per

BEST BEST & KRIEGER LLP
ATTORNEYS AT LAW
2855 E. GUASTI ROAD, SUITE 400
ONTARIO, CALIFORNIA 91761