

DAGGETT COMMUNITY SERVICES DISTRICT  
**FEASIBILITY STUDY**

SAN BERNARDINO COUNTY, CA  
JUNE 2024

**PREPARED FOR:**

Daggett Community Services District  
Daggett, California

**PREPARED BY:**

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## APPENDICES

- Appendix A – Technical Memorandum – Hydrogeologic Assessment
- Appendix B – Water Quality Notices

# ABBREVIATIONS

ADD	Average Day Demand
AF	Acre-feet
BAP	Base Annual Production
Caltrans	California Department of Transportation
CSD	Community Services District
CEQA	California Environmental Quality Act
DCSD	Daggett Community Services District
DFA	Division of Financial Assistance
EHS	San Bernardino County Division of Environmental Health Services
FPA	Free Production Allowance
gpd	gallons per day
gph	gallons per hour
gpm	gallons per minute
hp	horsepower
GSWC	Golden State Water Company
LF	linear feet
LUY	Liberty Utilities – Yermo
MCL	Maximum Contaminant Level
MDD	Maximum Day Demand
MHI	Median Household Income
MWA	Mojave Water Agency
NEPA	National Environmental Policy Act
pCi/L	picocuries per liter
PSY	Production Safe Yield
PHD	Peak Hour Demand
PVC	Polyvinyl Chloride
PZ1	Pressure Zone 1
PZ2	Pressure Zone 2
SDWIS	Safe Drinking Water Information System
SWCRB	State Water Resources Control Board
USMC	United States Marine Corps

# 1 INTRODUCTION AND BACKGROUND

This feasibility study has been prepared to assess potential alternatives to address identified deficiencies with the existing Daggett Community Service District (Daggett CSD or DCSD) water distribution system, including water supply reliability, water quality concerns, and aging infrastructure. A vicinity map showing the location and boundary of the DCSD water system, the boundary of the adjacent Golden State Water Company – Barstow (GSWC Barstow) water system, and boundaries of these two water systems in relation to the County of San Bernardino is provided in Figure 1-1. The California State Water Resources Control Board (SWRCB) has initiated this feasibility study under the Technical Assistance program to investigate viable alternatives for delivering clean and safe drinking water to the community of Daggett.

## 1.1 DAGGETT COMMUNITY SERVICES DISTRICT

Daggett CSD is located on Interstate 40, approximately 10 miles east of the City of Barstow, CA, within the community of Daggett, in San Bernardino County, California. Daggett CSD is authorized by the Local Agency Formation Commission for San Bernardino County to provide water, street lighting, fire protection, and park and recreation services. DCSD provides potable water to approximately 795 people through a total of 184 residential connections and 12 commercial connections. All connections within the water system are metered, and all of the meters were replaced in 2017. Daggett CSD operations are run by a Board of Directors who hold monthly meetings each year.

### 1.1.1 COMMUNITY DESCRIPTION

Daggett is an unincorporated community located in San Bernardino County, California that is located on Interstate 40, approximately 10 miles east of the City of Barstow CA. The community's population of approximately 200 are served through the DCSD. Daggett has a median household income (MHI) of \$46,785 based on 2021 American Community Survey Data.

### 1.1.2 EXISTING FACILITIES

DCSD facilities consist of one active groundwater well, one inactive groundwater well, one active water storage tank, one inactive water storage tank, one booster pump station, water meters, and a distribution system. A map of these facilities is shown on Figure 1-2.

#### 1.1.2.1 WATER RIGHTS

The community of Daggett is entirely reliant on groundwater. DCSD is located in the Mojave Basin Area, which is an adjudicated region that has defined water production rights. The area was placed under the authority of the Mojave Water Agency (MWA), who was appointed as the Watermaster for the area by the Riverside Superior Court in January 1996. The Mojave Basin Area consists of five distinct but hydrologically interrelated subareas. Each subarea in the Mojave Basin was found to be in overdraft.

To maintain proper water balances in each subarea, the court established a base annual production right (BAP) to every water producer in the area using over 10 acre-feet (AF) of water based on historical production from 1986 to 1990. Producers using 10 AF or less were determined to be exempt from the litigation. Each individual producer is assigned a free production allowance (FPA), which is a percentage of their BAP that is set annually by the Court based on the recommendation of the Watermaster. Each subarea of the Mojave Basin Area has a separate FPA. The FPA will be continually reduced until it comes within five percent of the production safe yield (PSY), which is determined to be the highest annual amount of water that can be produced from a subarea without resulting in a long-term net reduction of groundwater storage in the subarea. Any water that is pumped in excess of a producer's FPA must be replaced by the producer either by purchasing replacement water from the Watermaster or by acquiring another producer's unused FPA from the same subarea. Unused FPA can be sold or carried over to the next year. The most recent Watermaster replacement water cost was \$565/acre-foot for the water year of 2022-2023, while the tentative rate for the 2023-2024 water year is planned to be \$624/acre-foot and will be confirmed by the MWA in February 2025.

DCSD is located in the Baja Subarea of the Mojave Basin Area, which has the lowest FPA setting of all subareas by a significant margin. The FPA for the Baja Subarea for the 2023-2024 water year was set at 20.5% of the BAP, while the next lowest FPA was 50% of the BAP for the Alto and Oeste Subareas. Since the Baja Subarea FPA is within five percent of the PSY, future reductions to the FPA are not anticipated. The latest available report from the Watermaster is from the 2022-2023 water year. DCSD had a BAP of 504 AF. However, since the FPA for Baja Subarea was set at 20.5% of the BAP, this only gave DCSD an FPA of 104 AF. DCSD had a verified production of 220 AF for the 2022-2023 water year, 116 AF over their allotment of 104 AF for the year. The annual verified production for the DCSD water system over the past 10 years is shown below in Table 1-1. To supplement their FPA, DCSD purchases water from third parties as necessary.

**Table 1-1. DCSD Historical Annual Verified Production**

Water Year	Base Annual Production (AF)	Free Production Allowance (% of BAP)	Free Production Allowance (AF)	Annual Verified Production (AF)	Exceedance of FPA (AF)
2013-2014	304	57.5	175	244	69
2014-2015	304	55	168	267	99
2015-2016	304	50	152	276	124
2016-2017	304	45	137	223	86
2017-2018	304	40	122	216	94
2018-2019	304	35	107	219	112
2019-2020	304	30	92	237	145
2020-2021	504*	25	126	237	111
2021-2022	504	22.5	114	202	88
2022-2023	504	20.5	104	220	116

\*Note: DCSD Purchased two separate permanent BAP transfers of 100 AF from third parties

### 1.1.2.2 WATER SUPPLY SOURCES

DCSD has two groundwater wells, with only one in operation. Well 7 is the active well while Well 6 is the inactive well. Wells 2, 4, and 5 have been abandoned while Wells 1 and 3 have been destroyed. When both Well 7 and Well 6 were active, Well 7 was the primary well while Well 6 was used as a backup supply.

The wells have experienced water quality issues with uranium and gross alpha. DCSD was issued a compliance order for uranium in 2017. Water quality issues are further expanded upon in Section 2.2.

Well 7 and Well 6 are both located in the Mojave River flood plain. Both well sites experience flooding issues during storm events. In addition, both sites are inaccessible during flood events. The Well 6 site was damaged because of recent flooding and is currently offline.

Well 7 was drilled in 2002 with an original estimated yield of 1,000 gallons per minute (gpm) according to the well completion report. It is equipped with a 100 horsepower (hp) motor and has a current estimated yield of 800 gpm which was confirmed during a site visit in September 2023. The pressure at the well head is 120 psi and the well is able to send water to the tank site without the use of booster pumps.

Well 6 was drilled in 1998 with an original estimated yield of 1,500 gpm according to the well completion report. It is equipped with a 100 hp motor and had an estimated yield of approximately 400 gpm before being taken offline. Currently, Well 6 is unable to start because of site electrical issues and damage caused by storms in March 2023. Well 6 also had major sanding issues. The sanding issues at Well 6 are attributed to the casing being installed

incorrectly or an improper casing type for the site soil conditions based on discussions with DCSD. Down-hole analysis of Well 6 also revealed that the casing has severe corrosion damage.

### **1.1.2.3 WATER STORAGE**

The DCSD water system contains two water storage tanks identified as Tank 1 and Tank 2. However, only Tank 1 is currently operational. Both of the tanks were bought in a used condition and past their useful life. Both tanks have moderate to severe corrosion issues. In addition, neither of the tanks meet current structural requirements for the State of California.

The tank site is located approximately 1,000 feet northwest of the well sites on a hillside. It is accessible from a rugged approximately 4,000 feet long unpaved road off of Daggett-Yermo Road. The access road is only traversable by off-road and all-terrain vehicles. The location of the road is shown on Figure 1-2.

Tank 1 was installed in 1957 and is a welded steel tank with a capacity of 150,000 gallons. It has a diameter of 28 feet and a height of 32 feet. The tank coating is in poor shape and there are several uncoated surfaces on the tank where coating has peeled away entirely.

Tank 2 was installed in 1977 and is a bolted steel tank with a capacity of 200,000 gallons. It has a diameter of 38 feet and a height of 24 feet. Tank 2 is not currently operational because of a roof collapse around 10 years ago.

### **1.1.2.4 WATER TREATMENT**

There are currently no water treatment facilities in the DCSD system. Previously, chlorine was manually added to Tank 1 on a monthly basis when bacteriological samples were taken. However, the practice was ordered to be discontinued following a San Bernardino County Division of Environmental Health Services water system inspection. The inspection stated that the system was not permitted to disinfect on a regular basis and that addition of chlorine would alter the results of bacteriological samples.

### **1.1.2.5 WATER DISTRIBUTION SYSTEM**

The DCSD water system includes approximately 46,300 linear feet of pipe ranging from 3 to 8 inches in diameter and includes asbestos concrete pipe, ductile iron pipe, and polyvinyl chloride (PVC) pipe. There are no records for the installation date of the distribution system, but it is assumed to have been installed when Tank 1 was installed in 1957.

The water system consists of two pressure zones, Pressure Zone 1 (PZ1) and Pressure Zone 2 (PZ2). PZ1 consists of most of Central Daggett customers and customers north of Daggett at the Daggett-Yermo Road intersection with Interstate 15. PZ1 is pressurized by storage Tank 1 and PZ2 is pressurized by a booster pump station with a hydropneumatic tank and serves residential connections at the southern end of the system as shown on Figure 1-2. According to the engineering report prepared by the California Rural Water Association in 2020, the booster pump station is unreliable and needs to be manually monitored and adjusted frequently to maintain adequate pressure in PZ2.

There is an 8-inch water main that was installed in 2000 to provide water to the area north of Daggett. The pipeline extends approximately 10,000 feet north from Well 7 to the intersection of the Daggett-Yermo Road and I-15 and serves the Silver Valley High School and commercial business in the area.

#### **1.1.2.5.1 SYSTEM CAPACITY**

The DCSD system capacity is governed by their single operational well and storage tank. The water production of the system is 800 gpm which is provided entirely by Well 7. The system has a storage capacity of 150,000 gallons which is provided entirely by Tank 1.

### 1.1.3 EXISTING WATER SYSTEM DEMANDS

Demand factors calculated in the following sections are taken from the California Code of Regulations, Title 22, Division 4, Chapter 16 California Waterworks Standards (Title 22) provided by SWRCB and followed by the County of San Bernadino. Since the DCSD system serves less than 1,000 service connections, Section 64554(a)(2) of that code is used to determine storage capacity requirements. Monthly water usage data is available; therefore Section 64554(b)(2) is used to determine average day demand (ADD), maximum day demand (MDD), and peak hour demand (PHD).

Title 22 requirements normally require water usage data during the past ten years to obtain the MDD for the water system. However, consistent water usage data from the past ten years is not available for the DCSD system. Only data from water years 2016-2017 and 2021-2022 is available. The data from water year 2016-2017 was obtained from the report prepared by the California Rural Water Association and is a monthly water usage data set. The data from the water year 2021-2022 was obtained from MWA and is a daily water usage data set.

Analyzing the MDD using the water year 2016-2017 data results in an MDD of 475,007 gallons per day (gpd), which is based on the average flow during the month with the highest water usage. Analyzing the MDD using the water year 2021-2022 data results in an MDD of 404,000 gpd, which is found by identifying the day with the highest usage in the past ten years, which occurred in June 2022.

To be conservative, data from the water year 2016-2017 will be used to analyze DCSD’s water demands for the purposes of this report since it results in a higher demand than the water year 2021-2022. It also appears to better represent DCSD’s current water usage. The annual water usage for the water year 2021-2022 was 202 AF as shown in Table 1-1, which is the lowest usage in the past ten years.

Water usage data for the water year 2016-2017 is summarized below in Table 1-2, while water usage data for the water year 2021-2022 is summarized below in Table 1-3. For the water year 2016-2017, DCSD delivered 72,626,000 gallons (222.9 AF) of water to its customers. The meter rolled over between December 2016 and January 2017.

**Table 1-2. DCSD Water Production - Water Year 2016-2017**

Month	Initial Pump Reading (gal)	Final Pump Reading (gal)	Monthly Production (gal)	Monthly Production (AF)	Average Daily Production (gal)
November	95,012,200	99,918,100	4,905,900	15.1	163,530
December	99,818,100	103,079,400	3,261,300	10.0	105,203
January	3,079,400	5,239,300	2,159,900	6.6	69,674
February	5,239,300	8,382,100	3,142,800	9.6	112,243
March	8,382,100	13,274,100	4,892,000	15.0	157,806
April	13,274,100	19,003,500	5,729,400	17.6	190,980
May	19,003,500	26,307,200	7,303,700	22.4	235,603
June	26,307,200	34,673,700	8,366,500	25.7	278,883
July	34,673,700	44,490,500	9,816,800	30.1	316,671
August	44,490,500	53,807,800	9,317,300	28.6	300,558
September	53,807,800	61,041,600	7,233,800	22.2	241,127
October	61,041,600	67,538,200	6,496,600	19.9	209,568
Annual			72,626,000	222.9	198,975

**Table 1-3. DCSD Water Production - Water Year 2021-2022**

Month	Initial Pump Reading (gal)	Final Pump Reading (gal)	Monthly Production (gal)	Monthly Production (AF)	Average Daily Production (gal)
October	57,516,000	62,943,000	5,427,000	16.7	175,065
November	62,943,000	66,821,000	3,878,000	11.9	129,267
December	66,821,000	71,119,000	4,298,000	13.2	138,645
January	71,119,000	75,501,000	4,382,000	13.4	141,355
February	75,501,000	79,284,000	3,783,000	11.6	135,107
March	79,284,000	83,610,000	4,326,000	13.3	139,548
April	83,610,000	88,915,000	5,305,000	16.3	176,833
May	88,915,000	95,150,000	6,235,000	19.1	201,129
June	95,150,000	102,501,000	7,351,000	22.6	245,033
July	102,501,000	110,010,000	7,509,000	23.0	242,226
August	110,010,000	116,999,000	6,989,000	21.4	225,452
September	116,999,000	123,521,000	6,522,000	20.0	217,400
Annual			66,005,000	202.6	180,836

### 1.1.3.1 AVERAGE DAY DEMAND

The highest month of demand for the DCSD water system occurred in July 2017, with 9,816,800 gallons delivered. Based on the July data, the ADD during the maximum month of the water system is estimated to be 316,671 gpd, or 220 gpm.

### 1.1.3.2 MAXIMUM DAY DEMAND

The MDD is determined by multiplying the ADD by a peaking factor that is a minimum of 1.5. Using this methodology, the MDD for the DCSD water system is 475,007 gpd, or 330 gpm.

### 1.1.3.3 FIRE FLOW REQUIREMENTS

Fire flow requirements are set by Appendix B of the California Building Code. Based on a visual inspection, fire flow demands within DCSD are likely to be governed by buildings located in the Silver Valley High School complex. The largest building in the complex has an area of approximately 15,000 square feet and is assumed to be Type IIIB construction. Per Table B105.1(2) in Appendix B, the fire flow requirement is assumed to be 2,500 gpm for 2 hours, or a total volume of 300,000 gallons if storage is utilized.

### 1.1.3.4 PEAK HOUR DEMAND

The PHD is determined by finding the average hourly flow during MDD and multiplying by a peaking factor that is a minimum of 1.5. Using this methodology, the average hourly flow during MDD is 19,792 gallons per hour (gph), and the PHD is 29,688 gph, or 495 gpm.

### 1.1.3.5 INDUSTRIAL AND COMMERCIAL USERS

The DCSD water system has approximately 12 commercial water users. The types of commercial users that are served by the water system include the following:

- Convenience stores
- General retail
- Restaurants
- Hotels
- Post office

- Silver Valley High School

### 1.1.3.6 WATER SYSTEM DEMANDS SUMMARY

The ADD, MDD, fire flow demand, and PHD of DCSD are all summarized in Table 1-4.

**Table 1-4. Summary of DCSD Water System Demands**

DEMAND TYPE	RESULT (GPM)
ADD	220
MDD	330
Fire Flow	2,500 (2 hours)
PHD	495

## 1.1.4 EXISTING OPERATIONS AND MAINTENANCE PRACTICES

DCSD has limited operations and maintenance practices for their water system due to their lack of funding and access to qualified operators. They recently hired a D1 grade Operator Rodger Smith, who works on the water system about once per month.

Under normal operations, the water system is operated using an open loop level sensor in Tank 1 to start and stop Well 7. A pressure switch at the booster pump station controls the operation of the booster pumps to maintain pressure in PZ2. Previously, the storage tank level sensor was not working correctly. As a result, Tank 1 was manually filled by Well 7 multiple times per day. The control system was recently repaired, and the system has returned to normal operations.

The water system does not have any monitoring, alarm, remote operation, or data acquisition capabilities. In addition, DCSD has no data recording system to track water system operation or water production.

## 1.2 GOLDEN STATE WATER COMPANY – BARSTOW

GSWC Barstow is an investor-owned public utility company that provides potable water service to the City of Barstow and surrounding unincorporated areas. The water system serves a population of approximately 33,028 people through a total of 8,249 residential connections and 707 commercial connections. All of the connections within the water system are metered. GSWC provides water service to over one million people in over 80 communities throughout California. The Barstow system is within GSWC’s Region 3 billing category, which serves over 100,000 connections.

The nearby Marine Corps Logistics Base Barstow – Nebo Annex (USMC Nebo) purchases their water supply from GSWC Barstow and manages their own water distribution system. The base has a connection point and master meter located near the west gate of the base. The USMC Nebo water system serves a population of approximately 1,150 people through a total of 136 residential connections, 58 commercial connections, and 225 institutional connections. The service connections are unmetered. USMC Nebo is charged for water based on the master meter noted above.

### 1.2.1 COMMUNITY DESCRIPTIONS

#### 1.2.1.1 GOLDEN STATE WATER COMPANY – BARSTOW AREA

GSWC Barstow serves the city of Barstow and surrounding unincorporated areas of the Mojave Desert such as Lenwood. The land use is primarily residential, with some commercial and industrial use. Customers in Barstow are billed under the GSWC Region 3 rate sheet. Operational expenses for service within Region 3 are spread across the 100,000 customers served within that region.

### **1.2.1.2 MARINE CORPS LOGISTICS BASE BARSTOW**

The Marine Corps Logistics Base Barstow is a United States Marine Corps supply and maintenance installation located east of Barstow. It is comprised of three sites: the Nebo Annex, the Yermo Annex (USMC Yermo), and a firing range. The Nebo Annex is located approximately 2 miles east of Barstow and functions as the base headquarters. The Yermo annex is located approximately 2 miles west of the community of Yermo and 5 miles northeast of the Nebo Annex and functions primarily as a storage and industrial complex. The firing range is located directly southeast of the Nebo annex.

Both the USMC Nebo and USMC Yermo water systems are classified as non-transient non-community systems. USMC Nebo purchases their water supply from GSWC Barstow, while USMC Yermo utilizes on-site groundwater wells for their water supply.

## **1.2.2 EXISTING FACILITIES**

According to the engineering report prepared by the California Rural Water Association, the GSWC Barstow water system consists of 11 active wells, 9 water storage tanks, and 17 pressure zones. The system has several inactive wells due to nitrate contamination. However, the water system did not have any violations according to the 2022 Consumer Confidence Report.

### **1.2.2.1 WATER RIGHTS**

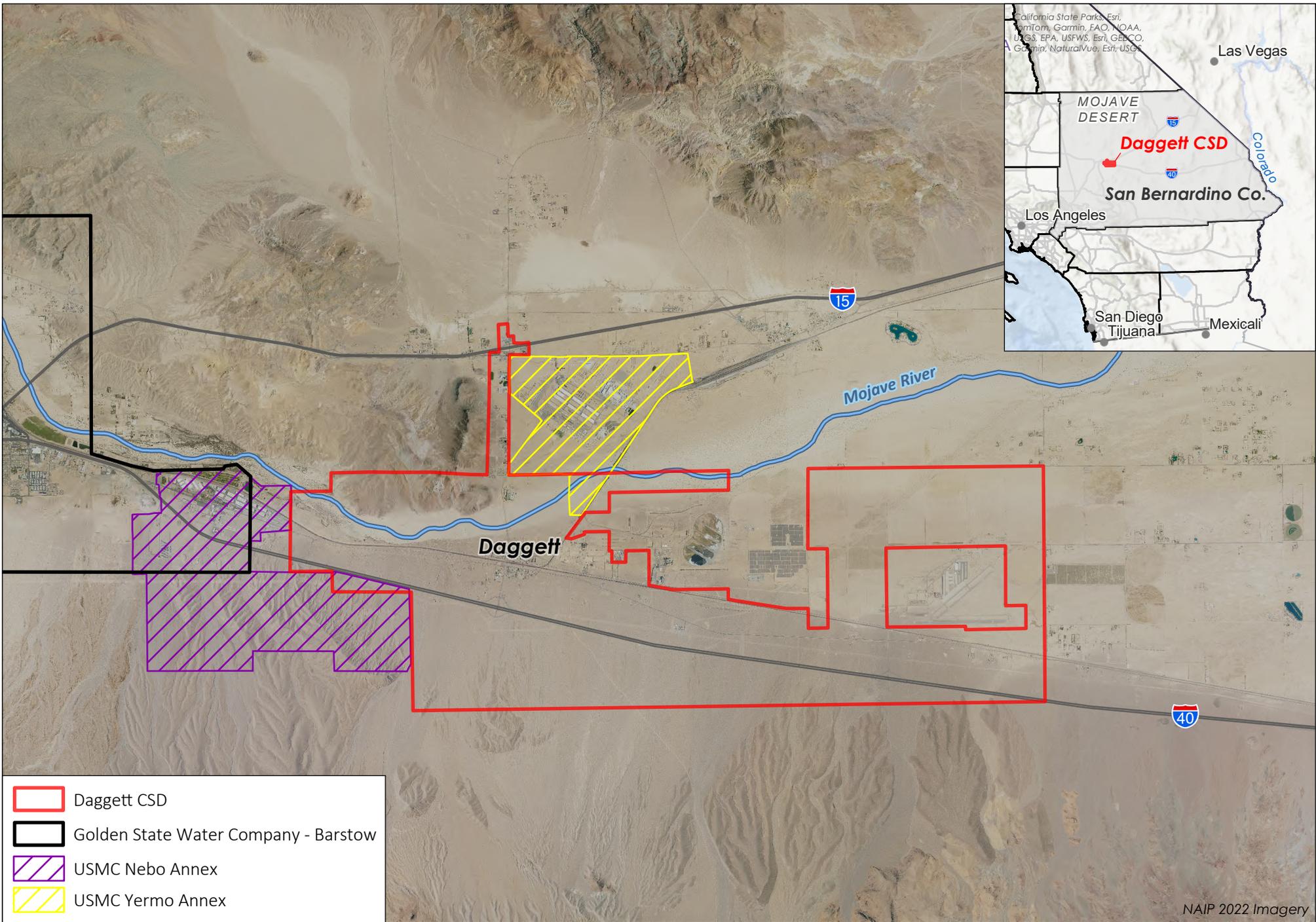
GSWC Barstow is located in the Centro Subarea of the Mojave Basin Area. In the 2022-2023 water year, GSWC Barstow had a BAP of 14,407 AF. Since the Centro Subarea FPA was set at 60% of the BAP, they had a FPA of 8,645 AF. The FPA will remain at 60% of the BAP for the 2023-2024 water year. GSWC Barstow had a verified production of 5,416 AF for the 2022-2023 water year, which was 3,229 AF less than their FPA. Their historic water usage typically varies between 5,000 to 6,000 AF. GSWC Barstow has no current issues with water allotment since their verified production is well under their FPA.

## **1.2.3 EXISTING OPERATIONS AND MAINTENANCE PRACTICES**

GSWC Barstow system has nine certified operators. The chief operator has T3 and D5 certifications. Water operations include meter reading, operations and maintenance support, and construction management. The system has a cross control connection program, flushing program, valve exercise program, and storage tank inspection and cleaning program. GSWC can also access operation and maintenance staff from other water systems they manage for emergencies.

## **1.3 SUPPLY AND DEMAND COMPARISON**

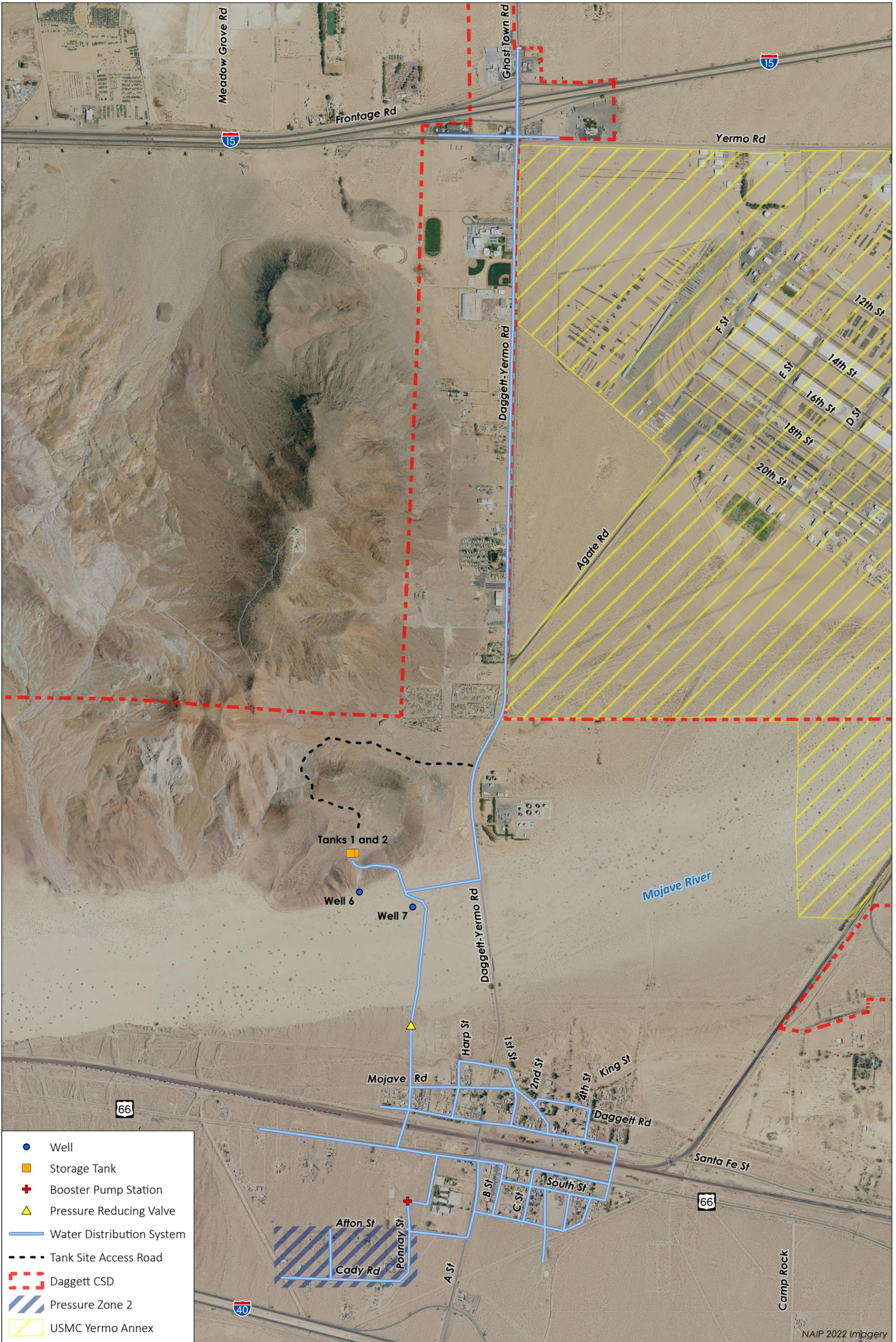
The DCSD water system does not have adequate storage to meet the community's water demands or fire storage. Tank 1 is the only operational tank in the water system and has a storage capacity of 150,000 gallons. In addition, the tank is in poor condition and is past its useful design life. Under Title 22 requirements, DCSD shall have a storage capacity equal or greater to its MDD of 495,007 gpd plus the fire flow demand of 300,000 gallons. To meet MDD plus fire flow requirements, DCSD would need a minimum storage capacity of 795,007 gallons. DCSD is short of meeting their required storage by approximately 645,007 gallons. They are also unable to meet their ADD of 316,671 gpd. As a result, the tank is filled multiple times per day. GSWC has stated that they have the capacity to meet the water demands for DCSD system users.



## Daggett Community Services District

Figure 1-1. Vicinity Map

PROVOST & PRITCHARD



### Daggett Community Services District

Figure 1-2. Existing DCSD Facilities

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## 2 PROBLEM DESCRIPTION

The Daggett CSD water system has a variety of issues including water supply reliability, water supply allotment, water quality concerns, and aging infrastructure. These issues are discussed in greater depth in the following sections.

### 2.1 LACK OF RESILIENCY

Currently, the DCSD water system lacks a reliable secondary water supply source. With only one well and one water storage tank operational, the system is at a severe risk of being without a water supply and being unable to meet fire flow demand. Flooding recently damaged the Well 6 well site, rendering it inoperable. Since both well sites are in the Mojave River flood plain, the Well 7 site is also at risk for flooding damage. The water storage tank supplies pressure to almost the entire water distribution system and needs to be refilled 2 to 3 times per day on average. This puts the system at a severe risk of being unable to provide fire flow demand during high domestic demand periods. Additionally, both of the well sites lack backup power, which puts the community at risk of not having a water supply during power outages.

### 2.2 WATER SYSTEM RELIABILITY

The DCSD water system also lacks reliability primarily due to aging system infrastructure. Tank 1 has heavy corrosion damage and is past its useful life. Much of the distribution system is assumed to have been constructed when Tank 1 was installed in 1957. The isolation valves throughout the distribution system have not been maintained and some valves are not operable. Also, the system does not have enough valves to isolate various parts of the distribution system. There are also several dead end pipes in the distribution system that can lead to water quality issues.

### 2.3 INACCESSIBILITY

The well sites and the tank site are both located in areas that have accessibility issues. Well 7 and Well 6 are both located in the Mojave River flood plain and are inaccessible during flood events. The tank site is only accessible from a rugged 4,000 feet long unpaved road between the tank site and Daggett-Yermo Road. Because of the rough terrain, an off-road or all-terrain vehicle is required to reach the tank site. In addition, the access road is located on several properties that are not owned by DCSD. DCSD does not have access easements for any of the properties that the access road crosses.

### 2.4 WATER QUALITY

The San Bernardino County Division of Environmental Health Services (EHS) has an agreement with the SWRCB for administration and enforcement of Federal and State statutes and regulations for any water systems under 200 service connections, such as Daggett CSD.

The DCSD water system experiences water quality issues. Both Well 7 and Well 6 exceed the Maximum Contaminant Levels (MCL) for uranium and gross alpha. The 2022 Consumer Confidence Report states that Well 7 is in violation of the arsenic MCL. However, this is believed to be a reporting error because it does not match up with the reported arsenic concentration values on the Safe Drinking Water Information System (SDWIS) database. The values from the SDWIS database are reported directly from the labs, and the reported arsenic concentration levels have never been close to exceeding the MCL, including the sample taken in 2022. In 2016, EHS issued a notice to DCSD requiring one sample of uranium to be taken and quarterly monitoring for gross alpha until results of four consecutive quarterly samples of gross alpha do not exceed the MCL. Following this notice, DCSD was issued Compliance Order No. 05\_66\_17C\_048\_3600086\_02 in 2017 due to levels of uranium above the MCL in the water system. The MCL for uranium is 20 picocuries per liter (pCi/L) and the average range of uranium from Well 7 was found to be between 28.7 and 39.8 pCi/L beginning in 2017. All water samples from either well have exceeded the MCLs for uranium and gross since the notice was issued. Water quality notices and orders are included as Appendix B.

## 2.5 SENATE BILL 552

Senate Bill No. 552 (SB 552) was approved by the Governor of California on September 23, 2021. The bill requires certain drought resiliency measures of all “small water suppliers”<sup>1</sup>. The following list presents several questions that provide insight into the community’s ability to meet those requirements.

- Is the system able to ensure continuous operations during power failures with adequate backup electrical power supply?
  - *No – the DCSD water system does not have a backup electrical power supply. See Section 2.1.*
- Does the system have at least one backup source of water supply, or a water system intertie, that meets current water quality requirements and is sufficient to meet average daily demand?
  - *No – the DCSD water system does not have a sufficient backup source of water. The water system only has one active well after flooding issues damaged the electrical controls for its backup well. See Section 1.1.2.2.*
- Has the system metered each service connection, and does it monitor for water loss due to leakages?
  - *Yes – the DCSD system is metered at each service connection. However, data is manually collected from DCSD from all meters. As a result, DCSD is unable to address leaks in a timely matter.*
- Does the system have source system capacity, treatment system capacity if necessary, and distribution system capacity to meet fire flow requirements?
  - *No – the DCSD water does not have adequate storage capacity to meet fire flow requirements.*

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<sup>1</sup> Pursuant to the Water Code, a “small water supplier” is defined as any community water system serving 15 to 2,999 service connections, inclusive, and that provides less than 3,000 acre-feet of water annually.

## 3 ALTERNATIVES DISCUSSION

The following is a discussion of potential alternatives to address the issues described in Section 2, i.e., water supply reliability, water supply allotment, water quality concerns, and aging infrastructure.

A description of each alternative along with a discussion of alternative-specific requirements is included. In addition, a summary of alternatives has been included to provide a recommendation on the next steps that should be taken. The following alternatives have been considered for the DCSD water system:

- *Alternative 1: Full consolidation with GSWC Barstow – pipeline through USMC Nebo Base*
- *Alternative 2: Full consolidation with GSWC Barstow – pipeline around USMC Nebo Base*
- *Alternative 3: Improve DCSD Infrastructure and managerial consolidation with GSWC Barstow*
- *Alternative 4: Improve DCSD Infrastructure, no change in system management*
- *Alternative 5: Full consolidation with Liberty Utilities – Yermo*

### 3.1 ALTERNATIVE 1 – FULL CONSOLIDATION WITH GSWC BARSTOW – PIPELINE THROUGH USMC NEBO BASE

#### 3.1.1 DESCRIPTION

This alternative includes the full consolidation of the DCSD water system into the GSWC Barstow water system. It involves the construction of approximately 22,500 linear feet (LF) (4.25 miles) of 12-inch water main starting from the intersection of the National Trails Highway and Cape Gloucester Avenue at the west end of the USMC Nebo base, crossing the Union Pacific Railroad tracks, continuing between the railroad and the USMC Nebo golf course, crossing the Union Pacific Railroad tracks at the east end of the USMC Nebo base, then continuing along the National Trails Highway to connect the DCSD water system to the GSWC Barstow water system directly. A new 12-inch master water meter would be installed at the connection to the GSWC water system. This alternative will also require the construction of a new water storage tank and booster pump station in DCSD. For the DCSD water system, Tank 1, Tank 2, and the existing booster pump station would be demolished, while Well 6 and Well 7 would be destroyed. The existing meters in the DCSD water system would be upgraded to allow them to be read remotely.

This alternative would involve the transfer of water from the Centro Subarea (GSWC Barstow) to the Baja Subarea (Daggett CSD) in the adjudicated Mojave Basin Area. Water would be pumped from the Centro Subarea and ultimately recharged in the Baja Subarea. As a result, DCSD would have to pay a makeup obligation fee for all water that is exported from the Centro Subarea. There are no current water systems that cross subarea boundaries besides the Phelan Piñon Hills Community Services District water system, which existed before the adjudication in 1996 and was grandfathered in. Therefore, MWA would need to conduct a special study using individual DCSD customer data to determine the exact fee required. The MWA suggested that the replacement water fee could be used as a minimum baseline for the water transfer costs, but that the final rate would likely be higher. DCSD's water usage has varied between 200 and 240 AF for recent years. Based on the projected water replacement rate of \$624/AF, there would be a minimum annual cost of approximately \$150,000 for water delivered to DCSD from the GSWC – Barstow water system. However, DCSD would no longer need to purchase replacement water for exceedances of their FPA. This would offset a portion of the annual costs.

GSWC has indicated that they are a willing water system consolidation partner for DCSD. Upon consolidation, the DCSD water system would no longer be a recognized water system. GSWC would become the sole operator and manager of the water distribution equipment and facilities previously owned by DCSD. DCSD would no longer provide water services, but would continue to provide street lighting, fire protection, and park and recreation services. Implementation of this alternative would be subject to approval by DCSD, GSWC, USMC, the SWRCB, and the MWA.

An alternate pipeline alignment going directly through the USMC Nebo base along the National Trails Highway was considered for this alternative. However, this alignment was not selected because it would require approximately 9,500 LF of the pipeline alignment to be constructed directly through the base and would disrupt USMC operations

during construction. The selected alignment that is between the railroad and the golf course would be easier to access and would not require as much disruption to USMC operations.

The components of this project alternative are shown on Figure 3-1.

### 3.1.2 ENVIRONMENTAL IMPACTS

Environmental impacts related to this project would be temporary and related to construction.

- Noise will be generated during construction. Construction hours of operation will be limited to daytime in conformance with any local ordinances to minimize impacts to residents.
- Dust prevention measures will be implemented to prevent the nuisance of airborne particulates and comply with the Mojave Desert Air Quality Management District requirements during construction.
- Best management practices will be employed to prevent storm water pollution during construction. Construction will comply with local requirements and statewide general construction permit (if applicable)
- Environmental compliance documents for compliance with the California Environmental Quality Act (CEQA) and federal crosscutting requirements would be necessary for this project to comply with funding program requirements that include federal funds. It is assumed that an Initial Study / Mitigated Negative Declaration would be the appropriate level of environmental document required for this project.
- Traffic control will be implemented throughout the project area to minimize impacts to neighboring properties during construction. Lane closures may be required on the National Trails Highway.
- A biological investigation would be conducted to identify any potential protected endangered species within the project area.

### 3.1.3 LAND REQUIREMENTS

Work between the Union Pacific Railroad Tracks and the USMC Nebo golf would require access easements from both entities. Work along the National Trails Highway would be within the County of San Bernardino right of way and require an encroachment permit. The water storage tank and booster pump station would be constructed on land already owned by DCSD such as the Daggett Community Center parcel.

### 3.1.4 CONSTRUCTION OR SITE CONSIDERATIONS

The transmission main will require two separate crossings of the Union Pacific Railroad tracks. The crossing will need to be installed per Union Pacific Railroad standards and will require a jack and bore installation with a steel casing pipe.

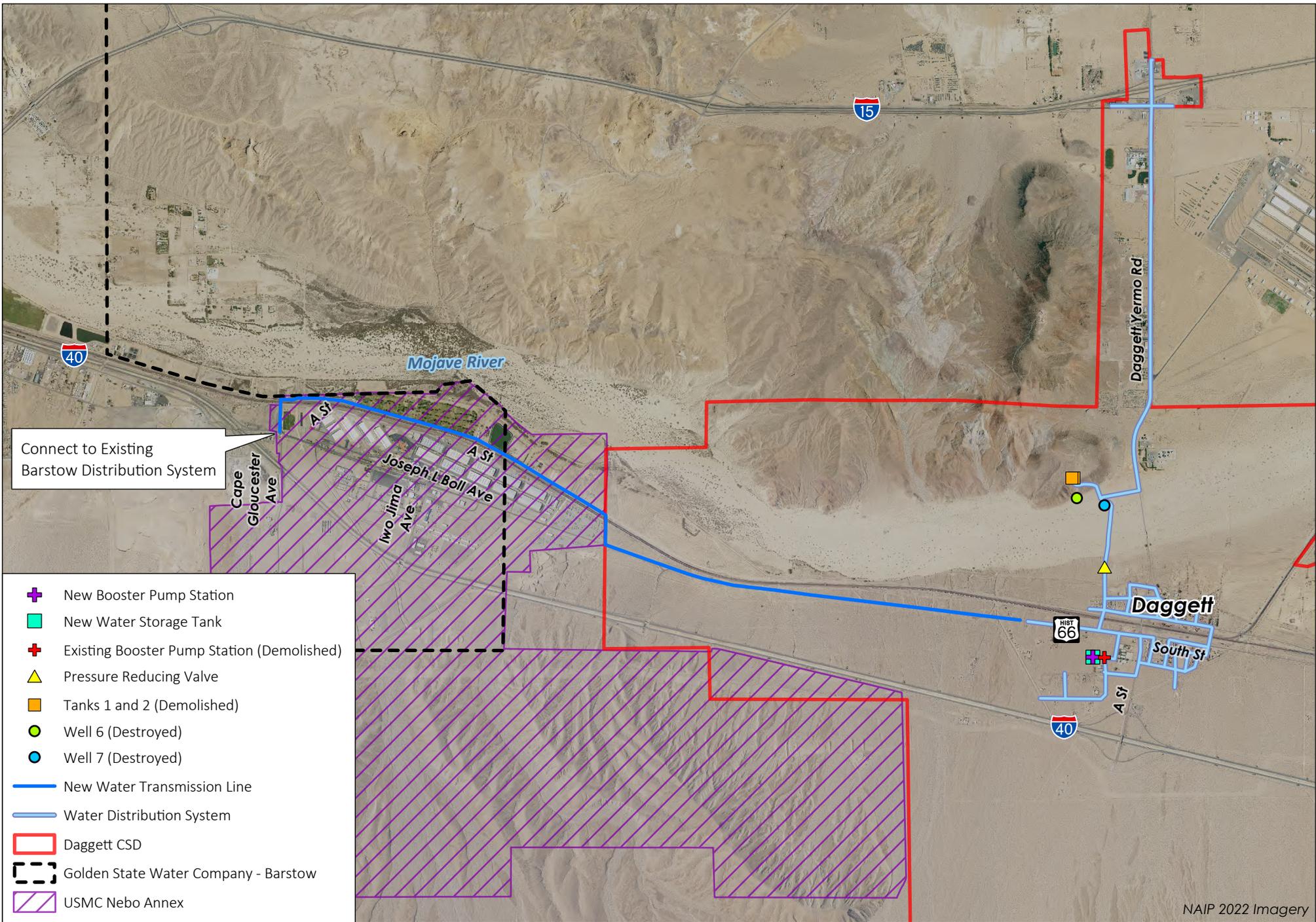
### 3.1.5 COST ESTIMATE

Table 3-1. Alternative 1 Project Cost Summary

ITEM DESCRIPTION	ESTIMATED COST
Construction Costs	\$7,458,500
Non-Construction Costs	\$1,715,000
Contingency (25%)	\$9,323,500
<b>Total Project Cost</b>	<b>\$11,038,500</b>
<b>Estimated Monthly Billing Rate per Connection</b>	<b>\$67.13</b>

The billing rate assumes that Daggett customers would pay the same rate as GSWC Region 3 customers (currently about \$67.00 per month for 9 hcf for residential connections). That Region 3 rate would increase slightly to cover

the cost of the water transfer as required by MWA (i.e., \$150,000 per year ÷ 100,000 customers ÷ 12 months per year = \$0.13 per month).



Connect to Existing Barstow Distribution System

- + New Booster Pump Station
- New Water Storage Tank
- + Existing Booster Pump Station (Demolished)
- ▲ Pressure Reducing Valve
- Tanks 1 and 2 (Demolished)
- Well 6 (Destroyed)
- Well 7 (Destroyed)
- New Water Transmission Line
- Water Distribution System
- Daggett CSD
- Golden State Water Company - Barstow
- USMC Nebo Annex

NAIP 2022 Imagery



### Daggett Community Services District

Figure 3-1. Alternative 1 Schematic

**PROVOST & PRITCHARD**

## 3.2 ALTERNATIVE 2 – FULL CONSOLIDATION WITH GSWC BARSTOW – PIPELINE AROUND USMC NEBO BASE

### 3.2.1 DESCRIPTION

This alternative includes the full consolidation of the DCSD water system into the GSWC Barstow water system. It involves the construction of approximately 37,000 LF (7 miles) of 12-inch water main starting from the intersection of Muriel Drive and Guadalupe Drive, continuing eastward long Pipeline Road, crossing underneath Interstate 40 along Nebo Street, and along the National Trails Highway to connect the DCSD water system to the GSWC Barstow water system directly. A new 12-inch master water meter would be installed near the end of the new transmission pipeline before entering the community of Daggett. This alternative will also require the construction of a new water storage tank and booster pump station in DCSD. For the DCSD water system, Tank 1, Tank 2, and the existing booster pump station would be demolished, while Well 6 and Well 7 would be destroyed. The existing meters in the DCSD water system would be upgraded to allow them to be read remotely.

Since the pipeline would involve the transfer of water from the Centro Subarea (GSWC Barstow) to the Baja Subarea (Daggett CSD), this alternative would be subject to the same fees to the MWA that are described in Section 3.1.1.

GSWC has indicated that they are a willing water system consolidation partner for DCSD. Upon consolidation, the DCSD water system would no longer be a recognized water system. GSWC would become the sole operator and manager of the water distribution equipment and facilities previously owned by DCSD. DCSD would no longer provide water services, but would continue to provide street lighting, fire protection, and park and recreation services. Implementation of this alternative would be subject to approval by DCSD, GSWC, USMC, the SWRCB, and the MWA.

One other pipeline alignment was considered for this alternative, but it was determined to be infeasible. A brief description of the alignment and the reason it was not considered feasible follows below:

A 24,000 LF (4.5 miles) transmission pipeline alignment connection upstream of the USMC Nebo base master water meter and running along Interstate 40, then continuing along Nebo Street and the National Trails highway before connecting to the DCSD water system was considered. However, this option was determined to be infeasible because it would require 12,000 LF of pipeline inside the California Department of Transportation's (Caltrans) right of way and included several bridge crossings.

The components of this project alternative are shown on Figure 3-2.

### 3.2.2 ENVIRONMENTAL IMPACTS

Environmental impacts related to this project would be temporary and related to construction.

- Noise will be generated during construction. Construction hours of operation will be limited to daytime in conformance with any local ordinances to minimize impacts to residents.
- Dust prevention measures will be implemented to prevent the nuisance of airborne particulates and comply with the Mojave Desert Air Quality Management District requirements during construction.
- Best management practices will be employed to prevent storm water pollution during construction. Construction will comply with local requirements and statewide general construction permit (if applicable)
- Environmental compliance documents for compliance with the CEQA and federal crosscutting requirements would be necessary for this project to comply with funding program requirements that include federal funds. It is assumed that an Initial Study / Mitigated Negative Declaration would be the appropriate level of environmental document required for this project.
- Traffic control will be implemented throughout the project area to minimize impacts to neighboring properties during construction. Lane closures may be required on the National Trails Highway.
- A biological investigation would be conducted to identify any potential protected endangered species within the project area.

### 3.2.3 LAND REQUIREMENTS

Work along Pipeline Road would require permanent access easements from property owners along the alignment and from the USMC Nebo Base. Work along Nebo Street and the National Trails Highway would be within the County of San Bernardino right of way and require an encroachment permit. The water storage tank and booster pump station would be constructed on land already owned by DCSD such as the Daggett Community Center parcel. Work along Pipeline Road would require access easements from property owners along the alignment and from the USMC Nebo Base.

### 3.2.4 CONSTRUCTION OR SITE CONSIDERATIONS

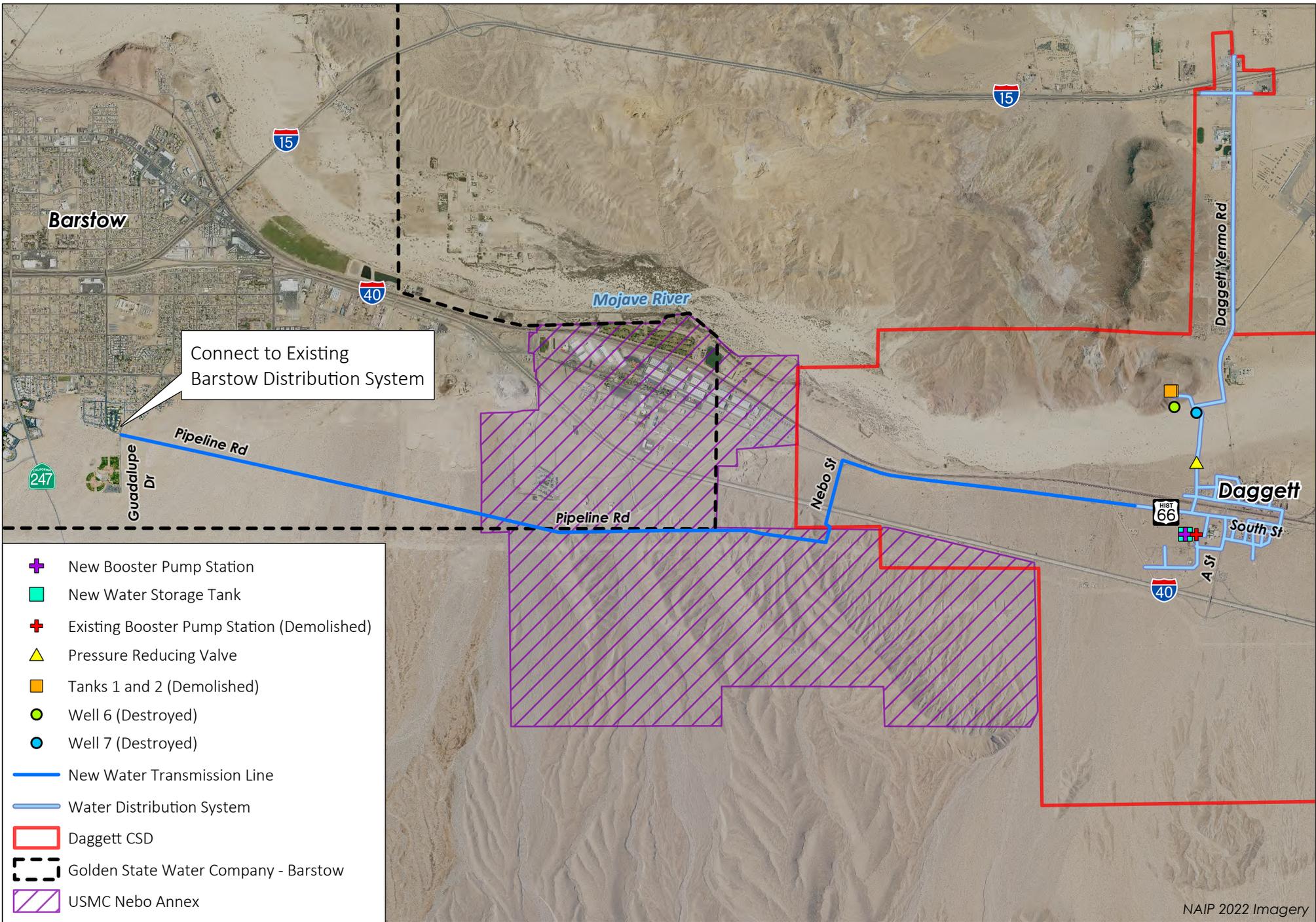
A portion of the Pipeline Road transmission main alignment seems to be inside the USMC firing range property bordering the USMC Nebo base. However, it appears to be outside the fence line for the firing range. Therefore, the pipeline along Pipeline Road would not be installed inside the firing range but would still be on USMC property.

### 3.2.5 COST ESTIMATE

Table 3-2. Alternative 2 Project Cost Summary

ITEM DESCRIPTION	ESTIMATED COST
Construction Costs	\$9,452,000
Non-Construction Costs	\$2,174,000
Contingency (25%)	\$2,363,000
<b>Total Project Cost</b>	<b>\$13,989,000</b>
<b>Estimated Monthly Billing Rate per Connection</b>	<b>\$67.13</b>

The billing rate assumes that Daggett customers would pay the same rate as GSWC Region 3 customers (currently about \$67.00 per month for 9 hcf for residential connections). That Region 3 rate would increase slightly to cover the cost of the water transfer as required by MWA (i.e., \$150,000 per year ÷ 100,000 customers ÷ 12 months per year = \$0.13 per month).



## Daggett Community Services District

Figure 3-2. Alternative 2 Schematic

PROVOST &  
PRITCHARD

## 3.3 ALTERNATIVE 3 – IMPROVE DCSD INFRASTRUCTURE AND MANAGERIAL CONSOLIDATION WITH GSWC BARSTOW

### 3.3.1 DESCRIPTION

This alternative involves the improvement of DCSD water distribution infrastructure and the managerial consolidation of the DCSD water system to GSWC. It includes the construction of a uranium and gross alpha treatment system, a new water storage tank, a new well, and a new booster pump station. The treatment system will treat water from both the new well and existing Well 7. The new water storage tank will meet MDD and fire flow storage requirements. The new booster pump station would replace the existing booster pump station and would be located near the new water storage tank discharge. For the existing water system, Tank 1, Tank 2, and the existing booster pump station would be demolished, while Well 6 would be destroyed. The existing meters in the DCSD water system would be upgraded to allow them to be read remotely.

The engineering report prepared by the California Rural Water Association in 2020 found that the most viable solution for DCSD water system was a managerial consolidation with GSWC. However, DCSD received notification from GSWC in April 2023 that GSWC was no longer a willing participant in managerial consolidation, primarily due to the need for wellhead treatment for this option. Managerial consolidation would require careful consideration of the operations and maintenance costs associated with this treatment.

If managerial consolidation were to happen, the DCSD water system would no longer be a recognized water system. GSWC would become the sole operator and manager of the water distribution equipment and facilities previously owned by DCSD. DCSD would no longer provide water services, but would continue to provide street lighting, fire protection, and park and recreation services. Implementation of this alternative would be subject to approval by DCSD, GSWC, and the SWRCB.

The components of this project alternative are shown on Figure 3-3.

### 3.3.2 ENVIRONMENTAL IMPACTS

Environmental impacts related to this project would be temporary and related to construction.

- Noise will be generated during construction. Construction hours of operation will be limited to daytime in conformance with any local ordinances to minimize impacts to residents.
- Dust prevention measures will be implemented to prevent the nuisance of airborne particulates and comply with the Mojave Desert Air Quality Management District requirements during construction.
- Best management practices will be employed to prevent storm water pollution during construction. Construction will comply with local requirements and statewide general construction permit (if applicable)
- Environmental compliance documents for compliance with the CEQA and federal crosscutting requirements would be necessary for this project to comply with funding program requirements that include federal funds. It is assumed that an Initial Study / Mitigated Negative Declaration would be the appropriate level of environmental document required for this project.
- A biological investigation would be conducted to identify any potential protected endangered species within the project area.

### 3.3.3 LAND REQUIREMENTS

The new water storage tank, new well, new booster pump station, and new wellhead treatment facilities should all be located on the same site. A technical memorandum prepared in June 2024 by Provost & Pritchard Consulting Group stated that the best location for a new well would be northwest of the intersection of Mojave Road and Sierra Way. This technical memorandum is included as Appendix A. This location is not owned by DCSD and would require land to be purchased. However, both DCSD and GSWC have acquired an easement from the property owner.

### 3.3.4 CONSTRUCTION OR SITE CONSIDERATIONS

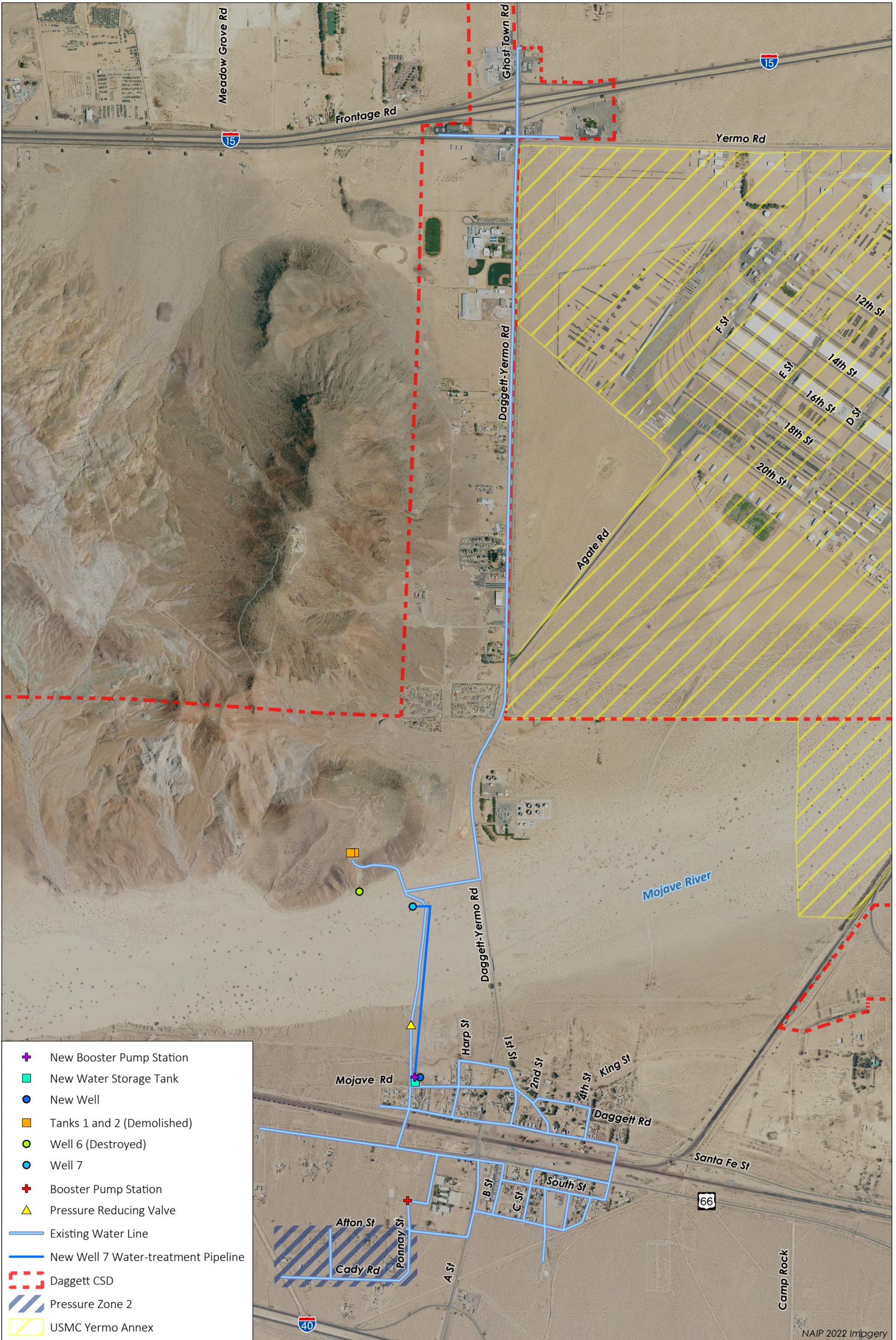
There are no abnormal construction or site considerations necessary for Alternative 3.

### 3.3.5 COST ESTIMATE

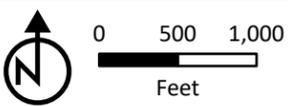
**Table 3-3. Alternative 3 Project Cost Summary**

ITEM DESCRIPTION	ESTIMATED COST
Construction Costs	\$5,605,000
Non-Construction Costs	\$1,568,000
Contingency (25%)	\$1,704,000
<b>Total Project Cost</b>	<b>\$10,086,000</b>
<b>Estimated Monthly Billing Rate per Connection</b>	<b>\$67.09</b>

The billing rate assumes that Daggett customers would pay the same rate as GSWC Region 3 customers (currently about \$67.00 per month for 9 hcf for residential connections). That Region 3 rate would increase slightly to cover the cost of the uranium treatment media replacement (i.e., \$102,500 per year ÷ 100,000 customers ÷ 12 months per year = \$0.09 per month). Besides the media replacement, other operational costs for managing the uranium treatment system are assumed to be covered by the Region 3 water rates. However, a treatment system would require additional service trips, additional sampling events, and occasional service interruptions. These additional operations and maintenance costs would ultimately increase water rates across the GSWC Region 3 service area.



- + New Booster Pump Station
- New Water Storage Tank
- New Well
- Tanks 1 and 2 (Demolished)
- Well 6 (Destroyed)
- Well 7
- + Booster Pump Station
- ▲ Pressure Reducing Valve
- Existing Water Line
- New Well 7 Water-treatment Pipeline
- Daggett CSD
- Pressure Zone 2
- USMC Yermo Annex



### Daggett Community Services District

Figure 3-3. Alternatives 3 and 4 Schematic

PROVOST & PRITCHARD

## **3.4 ALTERNATIVE 4 – IMPROVE DCSD INFRASTRUCTURE, NO CHANGE IN SYSTEM MANAGEMENT**

### **3.4.1 DESCRIPTION**

This alternative involves the improvement of DCSD water distribution infrastructure. It involves the construction of a uranium and gross alpha treatment system, a new water storage tank, a new well, and a new booster pump station. The water treatment system would treat water from both the new well and existing Well 7. The new water storage tank will meet MDD and fire flow storage requirements. The new booster pump station would replace the existing booster pump station and would be located near the new water storage tank discharge. For the existing water system, Tank 1, Tank 2, and the existing booster pump station would be demolished, while Well 6 would be destroyed. The existing meters in the DCSD water system should be upgraded to allow them to be read remotely, although that is not required to meet the goals of this Report.

Under this alternative, DCSD would retain ownership of the water system and would continue to operate it in a similar manner as before. However, the addition of water treatment facilities to the water system would require DCSD to hire an operator with a T2 or T3 SWRCB certification to be able to operate the system.

The components of this project alternative are shown on Figure 3-3.

### **3.4.2 ENVIRONMENTAL IMPACTS**

Environmental impacts related to this project would be temporary and related to construction.

- Noise will be generated during construction. Construction hours of operation will be limited to daytime in conformance with any local ordinances to minimize impacts to residents.
- Dust prevention measures will be implemented to prevent the nuisance of airborne particulates and comply with the Mojave Desert Air Quality Management District requirements during construction.
- Best management practices will be employed to prevent storm water pollution during construction. Construction will comply with local requirements and statewide general construction permit (if applicable)
- Environmental compliance documents for compliance with the CEQA and federal crosscutting requirements would be necessary for this project to comply with funding program requirements that include federal funds. It is assumed that an Initial Study / Mitigated Negative Declaration would be the appropriate level of environmental document required for this project.
- A biological investigation would be conducted to identify any potential protected endangered species within the project area.

### **3.4.3 LAND REQUIREMENTS**

The new water storage tank, new well, new booster pump station, and new wellhead treatment facilities should all be located on the same site. A technical memorandum prepared in February 2024 by Provost & Pritchard Consulting Group stated that the best location for a new well would be northwest of the intersection of Mojave Road and Sierra Way. This technical memorandum is included as Appendix A. This location is not owned by DCSD and would require land to be purchased. However, both DCSD and GSWC have acquired an easement from the property owner.

### **3.4.4 CONSTRUCTION OR SITE CONSIDERATIONS**

There are no abnormal construction or site considerations necessary for Alternative 4.

### 3.4.5 COST ESTIMATE

Table 3-4. Alternative 4 Project Cost Summary

ITEM DESCRIPTION	ESTIMATED COST
Construction Costs	\$6,381,000
Non-Construction Costs	\$1,467,000
Contingency (25%)	\$1,595,000
<b>Total Project Cost</b>	<b>\$9,443,000</b>
<b>Estimated Monthly Billing Rate per Connection</b>	<b>\$98.59</b>

The billing rate assumes that Daggett customers would continue to pay the current Daggett water rate (currently about \$48.00 per month for 9 hcf) plus the cost of uranium treatment divided across the 184 connections of the Daggett community (estimated to be \$102,500 per year for media replacement services). Besides the media replacement, other operational costs for managing the uranium treatment system are assumed to be added to the Daggett water rates.

## 3.5 ALTERNATIVE 5 – FULL CONSOLIDATION WITH LIBERTY UTILITIES – YERMO

Liberty Utilities provides potable water service to the nearby community of Yermo, which is approximately 4 miles northeast of Daggett. The water system serves a population of 1,049 through 257 residential and 30 commercial metered connections. Previously, the water system was run by the Yermo Community Services District. Liberty Utilities acquired the water system in Summer 2015.

The water system consists of three wells, three water storage tanks with a total of 15,000 gallons of storage, and approximately 30,000 lineal feet of water lines ranging in size from 2-inches to 6-inches. The wells have a combined yield of 570 gpm. However, the system cannot meet fire flow requirements because of insufficient well and storage capacity. In addition, the water system cannot withstand the pressure for fire flow requirements.

The Liberty Utilities – Yermo (LUY) water system has a BAP of 453 AF. The system had an FPA of 93 AF and an annual verified production of 84 AF for the 2022-2023 water year.

The LUY water system does not have any water quality issues according to the later consumer confidence report.

Liberty Utilities also provides potable water service to the town of Apple Valley which is located approximately 30 miles southwest of Daggett. The Apple Valley water system serves a population of 62,890 through 18,899 residential and 1,879 commercial connections. Liberty Utilities can utilize operators from the Apple Valley system for emergencies in the Yermo system.

### 3.5.1 DESCRIPTION

This alternative includes the full consolidation of the DCSD water system with the LUY water system. It involves connecting the DCSD water system to the LUY water system via the construction of approximately 10,500 LF of 8-inch water from the eastern end of the DCSD water system at the intersection of Daggett-Yermo Road and Yermo Road, to the western end of the LUY water system along Yermo Road. Since LUY does not have the capacity to consolidate with DCSD without additional infrastructure improvements, this alternative will also require the construction of a uranium and gross alpha treatment system, a new water storage tank, a new well, and booster pump station to meet the demands of both Daggett and Yermo. The water treatment system would treat water from both the new well and existing Well 7. For the existing Daggett CSD water system, Tank 1, Tank 2, and the existing booster pump station would be demolished, while Well 6 would be destroyed. The existing meters in the DCSD water system would be upgraded to allow them to be read remotely.

This alternative would only be considered if the MWA determined the consolidation of the DCSD water system with the GSWC Barstow water system was infeasible due to being in different subareas of the Mojave Basin Area. This project also would have a high cost compared to other alternatives because it would require the construction of water system improvements in Daggett as well as a transmission main to Yermo. According to the engineering report prepared by the California Rural Water Association, LUY did not think that consolidation was feasible at the time because of the amount of infrastructure improvements needed for the project and the anticipated rate increases for both Daggett and Yermo.

### 3.5.2 COST ESTIMATE

Table 3-5. Alternative 5 Project Cost Summary

ITEM DESCRIPTION	ESTIMATED COST
Construction Costs	\$8,372,500
Non-Construction Costs	\$1,926,000
Contingency (25%)	\$2,093,000
<b>Total Project Cost</b>	<b>\$12,391,500</b>
<b>Estimated Monthly Billing Rate per Connection</b>	<b>\$103.04</b>

The billing rate assumes that Daggett customers would pay the same rate as LUY customers (currently about \$85.36 per month for 9 hcf for residential connections). That rate would increase to cover the cost of the uranium treatment media replacement (i.e., \$102,5000 per year ÷ 483 customers ÷ 12 months per year = \$17.68 per month). Besides the media replacement, other operational costs for managing the uranium treatment system are assumed to be covered by the LIY water rates. However, a treatment system would require additional service trips, additional sampling events, and occasional service interruptions. These additional operations and maintenance costs would ultimately increase water rates across the LIY area.

## 4 SUMMARY AND NEXT STEPS

### 4.1 FEASIBILITY SUMMARY

Five potentially feasible alternatives were analyzed for this study: three full physical consolidation options, one managerial consolidation, and one treatment option without consolidation. Two consolidations would be with the GSWC Barstow water system, while the other would be with the LUY water system. A cost summary of all the potentially feasible alternatives is shown below in Table 4-1. The Division of Financial Assistance (DFA) has a funding cap of \$60,000 per residential connection. With 184 residential connections, the potential funding cap for Daggett is \$11,040,000. Three of the potentially feasible alternatives are under the funding cap.

**Table 4-1. Cost Summary of Alternatives**

ITEM DESCRIPTION	TOTAL PROJECT COST	ESTIMATED MONTHLY BILLING RATE	COST PER RESIDENTIAL CONNECTION
Alternative 1 – Physical Consolidation through USMC Nebo Base	\$11,038,500	\$67.13	\$59,991
Alternative 2 – Physical Consolidation Bypassing USMC Nebo Base	\$13,989,000	\$67.13	\$76,027
Alternative 3 – Managerial Consolidation	\$10,086,000	\$67.09	\$54,815
Alternative 4 – Improve DCSD Infrastructure	\$9,443,000	\$98.59	\$51,321
Alternative 5 – Physical Consolidation with LUY	\$12,391,500	\$103.04	\$67,345

#### 4.1.1 PHYSICAL CONSOLIDATION THROUGH USMC NEBO BASE (ALT. 1)

Alternative 1 is considered feasible. Physical consolidation with the GSWC Barstow system via a transmission main through the Nebo Base would address resiliency, reliability, and water quality issues currently experienced by the community of Daggett. Capital costs for this alternative are estimated to be \$11.0M, or approximately \$60,000 per connection. Water rates for this alternative would average about \$67 per month (based on the current GSWC Region 3 rate sheet). The USMC Nebo base indicated that a pipeline around the north side of the base would be acceptable. A tie-in to the eastern side of the Base was originally considered to reduce the length of the transmission pipeline needed, but USMC representatives stated that at times their operators need to shut off the Base’s entire water supply for repair and maintenance, which would also disrupt Daggett’s water supply. The USMC did not want to be responsible for interruptions to the water supply of Daggett.

#### 4.1.2 PHYSICAL CONSOLIDATION BYPASSING USMC NEBO BASE (ALT. 2)

Alternative 2 is not considered feasible. Although physical consolidation with the GSWC Barstow system would address resilience, reliability, and water quality issues experienced by the community of Daggett, costs would exceed the potential funding cap. Capital costs for this alternative are estimated to be \$14.0M, or approximately \$76,000 per connection. Water rates for this alternative would average about \$67 per month. In addition, this alternative would require construction and maintenance easements within Caltrans right-of-way, USMC property near the Base’s live fire range, and other property owners along the lengthy pipeline alignment. The uncertainty surrounding the permitting process could result in significant project delays and unforeseen construction costs.

### **4.1.3 MANAGERIAL CONSOLIDATION (ALT. 3)**

Alternative 3 is not considered feasible, primarily because GSWC has indicated that they are not a willing partner for a managerial consolidation due to the need for the construction of a wellhead treatment system in Daggett and the additional operations and sampling costs. Managerial consolidation would address resiliency, reliability, and water quality issues currently experienced by the community of Daggett, although existing Well 7 would need to remain in service. Since Well 7 is located in the Mojave River floodplain, continued reliance on this well introduces significant long-term risks to both resiliency and reliability. Capital costs for this alternative are estimated to be \$10.0M, or approximately \$55,000 per connection.

### **4.1.4 IMPROVED DCSD INFRASTRUCTURE (ALT. 4)**

Alternative 4 is not considered feasible because of financial and managerial concerns. Installing a new well and wellhead treatment system would address resiliency, reliability, and water quality issues currently experienced by the community of Daggett, although existing Well 7 would need to remain in service. Since Well 7 is located in the Mojave River floodplain, continued reliance on this well introduces significant long-term risks to both resiliency and reliability. Furthermore, the feasibility of this option assumes that the Daggett community will continue to operate the water system. Capital costs for this alternative are estimated to be \$9.4M, or approximately \$51,000 per connection. With the addition of a treatment system, a water rate study would need to be initiated to determine a new monthly water rate for DCSD customers. Based on an estimate of treatment system costs, water rates would increase from the current average of \$48 per month to approximately \$99 per month (assuming a customer usage of 9 hcf and grant funds for the capital costs necessary to construct the new facilities). This alternative would drastically increase customer water rates and require additional O&M due to the proposed new facilities. In addition, DFA is mainly focused on funding consolidation projects. As a result, the funding potential of this alternative would be lower than the consolidation alternatives. While this option is physically feasible and would address many of the problems regarding the DCSD water system, it is not financially or managerially feasible.

### **4.1.5 PHYSICAL CONSOLIDATION WITH LUY (ALT. 5)**

Alternative 5 is not considered feasible because of costs exceeding the potential funding cap, large potential rate increases, and LUY being an uncertain consolidation partner. In addition, the LUY water system is also much smaller and less reliable than the GSWC Barstow water system. Physical consolidation with LUY would address resiliency, reliability, and water quality issues experienced by the community of Daggett, but it is not considered feasible for the reasons listed above. Capital costs for this alternative are estimated to be \$12.4M, or approximately \$67,000 per connection.

## **4.2 NEXT STEPS**

Potential next steps are described below, generally involving decision making processes by the stakeholder agencies involved and indicate the intent to move forward with one of the alternatives.

### **4.2.1 COMMUNITY ENGAGEMENT**

The findings of this report should be presented to the community of Daggett, along with water rate information and/or any additional assessments that GSWC may charge existing DCSD customers in addition to the water rates already established. For Alternatives 4 and 5, a water rate study would be required since the addition of wellhead treatment would increase operation and maintenance costs for the community.

### **4.2.2 AGENCY ACCEPTANCE**

The DCSD, GSWC, San Bernardino Local Agency Formation Commission, EHS, SWRCB – Division of Financial Assistance, SWRCB – Division of Drinking Water, USMC, and MWA, should provide comment and direction on which alternatives would be acceptable and fundable (by the SWRCB) prior to proceeding.

If a consolidation option is selected, initiation of a water service agreement (referred to as Asset Purchase Agreements by GSWC) and terms should be initiated as part of the next steps.

### **4.2.3 FUTURE DELIVERABLES AND PROCESS**

If a preferred project is identified by the stakeholders, deliverables that will be required are listed below:

- Engineering Report: additional sections can be appended to this Feasibility Study to allow it to conform to the requirements of an Engineering Report, as required by the SWRCB funding application process.
- Environmental Documents: CEQA and possibly National Environmental Policy Act (NEPA) compliance documents will be required for the selected project depending on the funding source.
- Construction Documents: Plans, Specifications, and an Engineer’s Opinion of Probable Construction Cost would be prepared for the selected project.
- Depending on the funding source selected, a Drinking Water State Revolving Fund, Application for Financial Assistance – Construction could be prepared and submitted to the SWRCB – DFA for review and processing. This could lead to a funding agreement to construct the improvements.
- LAFCo documents to adjust boundaries of the DCSD water system and/or GSWC Barstow water system.
- Water service agreement/Asset Purchase Agreement between DCSD and GSWC Barstow.
- Water rate study and/or Proposition 218 election if new or expanded water rates are needed.

## 5 BIBLIOGRAPHY/REFERENCES

California Rural Water Association. (2020). *Engineering Report Daggett Community Services District*.

Mojave Water Agency. (2024). *Thirtieth Annual Report of the Mojave Basin Area Watermaster Water Year 2022-23*.

State of California. (2023). *California Regulations Related to Drinking Water – Chapter 16 California Water Works Standards*, 2017: Department of Health Care Services.

# **APPENDIX A – TECHNICAL MEMORANDUM – HYDROGEOLOGIC ASSESSMENT**

# PROVOST & PRITCHARD CONSULTING GROUP

455 W Fir Ave • Clovis, CA 93611 • (559) 449-2700  
www.provostandpritchard.com

## TECHNICAL MEMORANDUM

**To:** California State Water Resources Control Board

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**From:** Shawn Vaughn, PG/CHG

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**Subject:** Limited Evaluation of Hydrogeology for Daggett Community Services District

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**Date:** February 21, 2024

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### INTRODUCTION:

This memo presents a limited assessment to evaluate potential locations for a new source well for the Daggett Community Services District (DCSD). Given the hydrogeologic constraints of the DCSD area, the potential for groundwater production is a primary concern in siting potential well locations with likely water quality being a secondary consideration.

### BACKGROUND:

The DCSD is located within the community of Daggett in San Bernardino County on Interstate 40, approximately 10 miles east of Barstow, California. DCSD provides water service to approximately 795 people through 184 residential connections and 12 commercial connections. The water supply is currently provided by two active wells, identified as Well 06 and Well 07.

Well 07 was installed in 2002 and has a current estimated yield of approximately 800 gallons per minute (gpm). The original estimated yield from Well 07 was approximately 1,000 gpm. Well 06 was installed in 1998 and is connected to the system but currently pumps sediment and is not a viable water supply. Prior to pumping sediment, Well 06 had an estimated yield of approximately 400 gpm, down from the original yield of 1,500 gpm. These wells are located in the bed of the Mojave River, are subject to inundation during infrequent ephemeral flows, produce poor quality water (Gross Alpha, Sulfate, High TDS, and Iron), and are severely corroded. Well 07 was installed to a depth of 285 feet and Well 06 to a depth of 300 feet.

The DCSD has an additional five inactive or destroyed wells (Well 01 through Well 05) that are not connected to the system. Wells 02, 04, and 05 have been abandoned. Wells 01 and 03 have been destroyed. Locations of existing and former DCSD wells are shown on **Figure 1**.

DCSD has been issued a compliance order due to levels of uranium above the Maximum Contaminant Level (MCL) in the water system. The MCL for uranium is 20 picocuries per liter (pCi/L). Uranium concentrations in groundwater from Well 07 have ranged from 28.7 to 39.8 pCi/L.

## REVIEWED DOCUMENTS

Much of the information presented in this evaluation came from the Hydrogeological Assessment Report prepared by the California Rural Water Association (CRWA, 2020), the USGS Mojave River Basin GW Model Report (Stamos, 2021), and a previous evaluation prepared by Provost & Pritchard (2022). Other sources of information include input from DCSD and California Department of Water Resources (DWR) online databases.

## GEOLOGY OF HYDROGEOLOGY

### Geologic Setting

In its 2020 report, CRWA described the major geologic features of the DSCD area as follows:

- Deposits from the Mojave River wash are inset and atop Quaternary-age alluvial fan deposits correlating with the Mojave River running in an approximately east-west direction through Daggett.
- Elephant Mountain, located to the north of Daggett, was described as sitting atop a Tertiary age intrusive andesite with associated breccia. Reportedly, the east side Elephant Mountain has an abandoned uranium prospect in the andesite.
- The andesite contains tuff breccia, andesite/dacite breccia, felsite basalt, conglomerate sandstone, limestone, and shale.
- The rocks dip mainly to the southwest at between 50 and 60 degrees.
- Folding is evident to the northwest of Elephant Mountain.
- Alluvial fan deposits from the Newberry Mountains and Daggett Ridge lie to the south of Daggett.
- The Newberry Mountains and Daggett Ridge are underlain by a series of Tertiary volcanics that overlay Cretaceous granite, quartz monzonite, gabbro and aplite dikes.
- Camp Rock Fault and Lenwood Fault trend northwest-southwest through the area.

A geologic map is presented as **Figure 2** of this memo. A cross-section from the USGS Mojave River Basin GW Model Report that transects the DCSD study area is superimposed on the map. As shown on the map, from Daggett, the Younger Mojave River Alluvium (Qya) extends north to approximately Interstate 15. Recent Mojave River Alluvium (Qra) lies in the middle of the Qya and is oriented in an approximate east-west direction. The Qra represents the dry bed of the modern Mojave River channel. The USGS cross-section indicates that the Qra is up to approximately 40 to 50 feet thick in the middle of the channel and that the Qya extends to a depth of approximately 200 feet. Older Alluvium of the Ancestral Mojave River (Qtoa) lies below the Qya to a depth of approximately 400 feet below which are volcanic rocks (Tv). The Younger Mojave Alluvium (Qya) provides the best and most consistent opportunity to provide sufficient water production for wells.

### Groundwater Levels

The USGS routinely measures water levels in a monitoring well located in the riverbed near the identified potential well location between Mojave Road and the Mojave River. The well location is shown on **Figure 1**. A hydrograph of groundwater depths collected between 1993 and 2023 is included in **Attachment A**. As shown in the hydrograph, groundwater levels in the area have steadily declined at a rate of approximately 2 feet per year since monitoring began. The most recent groundwater measurement collected in January 2023 indicates the current groundwater depth in the area is around 166 feet.

### Soil Boring Logs

DWR Well Completion Reports (WCR) were reviewed for Wells 06 and Well 07 (**Attachment B**). The Well 06 WCR shows medium to coarse grained sand with occasional cobblestones from the surface to a depth of 290 feet and then sandy clay from 290 feet to 321 feet. The Well 07 WCR shows fine to medium sand with gravel and cobblestones from the surface to 180 feet and then sandy clay from 180 feet to 320 feet. An electric log

(e-log) was found for Well 07 which correlates well with the logged coarse-grained materials to a depth of 180 feet and relatively finer grained materials below that to 320 feet. The e-log indicates relatively thin layers of the finest grained materials exist at depths of approximately 200 feet and 285 feet. The Hydrogeological Assessment Report prepared by the California Rural Water Association (CRWA, 2020) discusses an additional WCR for the USGS test well located in the riverbed near Wells 06 and 07 (**Figure 1**). According to the CRWA description, similar soils were encountered as in Wells 06 and 07 to a depth of approximately 400 feet at which point a breccia bedrock was encountered.

Wells 06 and 07 appear likely to have tapped into the Younger Mojave River Alluvium (Qya) and the deeper Older Alluvium of the Ancestral Mojave River (Qtoa), which consist of unconsolidated sand to sandy gravel with relatively high inferred hydraulic conductivity and transmissivity. Clay zones are intermittent and tend to be relatively thin and discontinuous. (CRWA, 2020).

## SITING OF WELLS

CRWA and USGS hydrogeologic sources have made clear the importance of new supply wells within the Mojave River Groundwater Basin being located near the Mojave River to take advantage of the relatively higher yields these deposits have over the adjacent alluvial fan deposits. As additional criteria, new supply wells should be located outside of the Mojave River floodplain due to flooding concerns during ephemeral flows.

Five potential test well areas for new production wells have previously been suggested by the community, project stakeholders and/or the Daggett Engineering Report. These locations are shown on **Figures 1 and 2**. Three of the proposed locations are located north of Daggett in the Younger Mojave River Alluvium (Qya). One of these three locations is situated between Mojave Road in Daggett and the Mojave River, one is situated between Daggett Road in Daggett and the Mojave River, the other is between Interstate 15 and Calico Blvd. The other two offered potential locations are within the alluvial fan deposits adjacent to the Qya where there is less potential to find sufficient water production for wells.

## FINDINGS

The Younger Alluvium deposits of the Mojave River appear likely to be able to produce the required groundwater production. The river channel deposits would likely be most productive, but new production wells should be sited outside the Mojave River floodplain. Finding water of substantially better quality than Wells 06 and 07 while also staying close to the river to obtain enough water quantity is probably not likely.

The geology of these younger alluvial materials may be problematic for test well zone sampling as there will likely be few, if any, significant clay layers to seal against for depth discrete groundwater quality sampling. Additionally, groundwater quality is not expected to vary much throughout the vertical profile of wellbores in these materials due to the probable general homogeneity of the alluvium. Well depths within the younger alluvium (Qya) will likely extend into the older alluvium of the ancestral Mojave River (Qtoa) and be limited in total depths of 400 to 500 feet before volcanic bedrock materials (Tv) are encountered.

## RECOMMENDATIONS

It is considered unlikely that test wells will find both sufficient water and acceptable water quality. The sites outside the younger alluvium are very unlikely to be successful and the sites near the riverbed will mostly likely have the same water quality issues as Wells 06 and 07. Zone sampling or mitigating depths with poor water quality by sealing off strata will probably not be possible in these areas due to the lack of fine-grained materials in the subsurface to seal against. The site located between Interstate 15 and Calico Blvd would likely have different water quality than Wells 06 and 07 but the potential for other water quality issues still exists. Additionally, this area would probably not provide sufficient water as it is near the edge of the younger alluvium and the formations are likely to be shallow in that area.

If drilling is to proceed, it should occur at the three proposed test well areas that lie within the Younger Mojave River Alluvium (Qya). The two areas with the greatest likelihood of sufficient water volume are along Mojave Road, just north of the DSCD Primary Service Area and north of Daggett Road, adjacent to Well 05 (**Figures 1 and 2**). It is expected that the groundwater quality in these areas will be similar to that of Well 06 and Well 07. The area with the next greatest likelihood of sufficient water production is north of Interstate 15 at the intersection of Ghost Town Road. This site is less likely to produce sufficient water volumes due to its distance from the Mojave River channel. It is expected that the water quality at this site will be different from that of Well 06 or Well 07 but unknown until sampled. If a single area must be selected, the site along Mojave Road is recommended.

Test well(s) should be drilled by the direct rotary method to a depth of up to 500 feet (the maximum anticipated depth of volcanic bedrock materials). Once a test well borehole is completed Provost & Pritchard would direct the drilling contractor in performing zone sampling of the test hole based on the drill cuttings and geophysical logging. Upon completion of zone sampling the test well would be destroyed. Pending evaluation of the test well data, the installation and construction of a production well would occur under a separate mobilization.

## REFERENCES

- BESST Inc. (2021). GAMA Daggett Uranium and Nitrate PowerPoint Slide Deck.
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- California Rural Water Association. (2020). Water Supply Improvements Daggett Community Services District.
- Provost & Pritchard Consulting Group. (2022). Hydrogeologic Data Review and Well Drilling Recommendations.
- San Bernadino County. (2020). Small Water System Annual Inspection San Bernadino County Public Health Environmental Health Services.
- San Bernadino County. (2021). Small Water System Sanitary Survey San Bernadino County Public Health Environmental Health Services.
- Stamos, Christina L. (2001). Simulation of Ground-Water Flow in the Mojave River Basin, California, Water-Resources Investigations Report 01-4002 Version 3. Sacramento: United States Geological Survey.

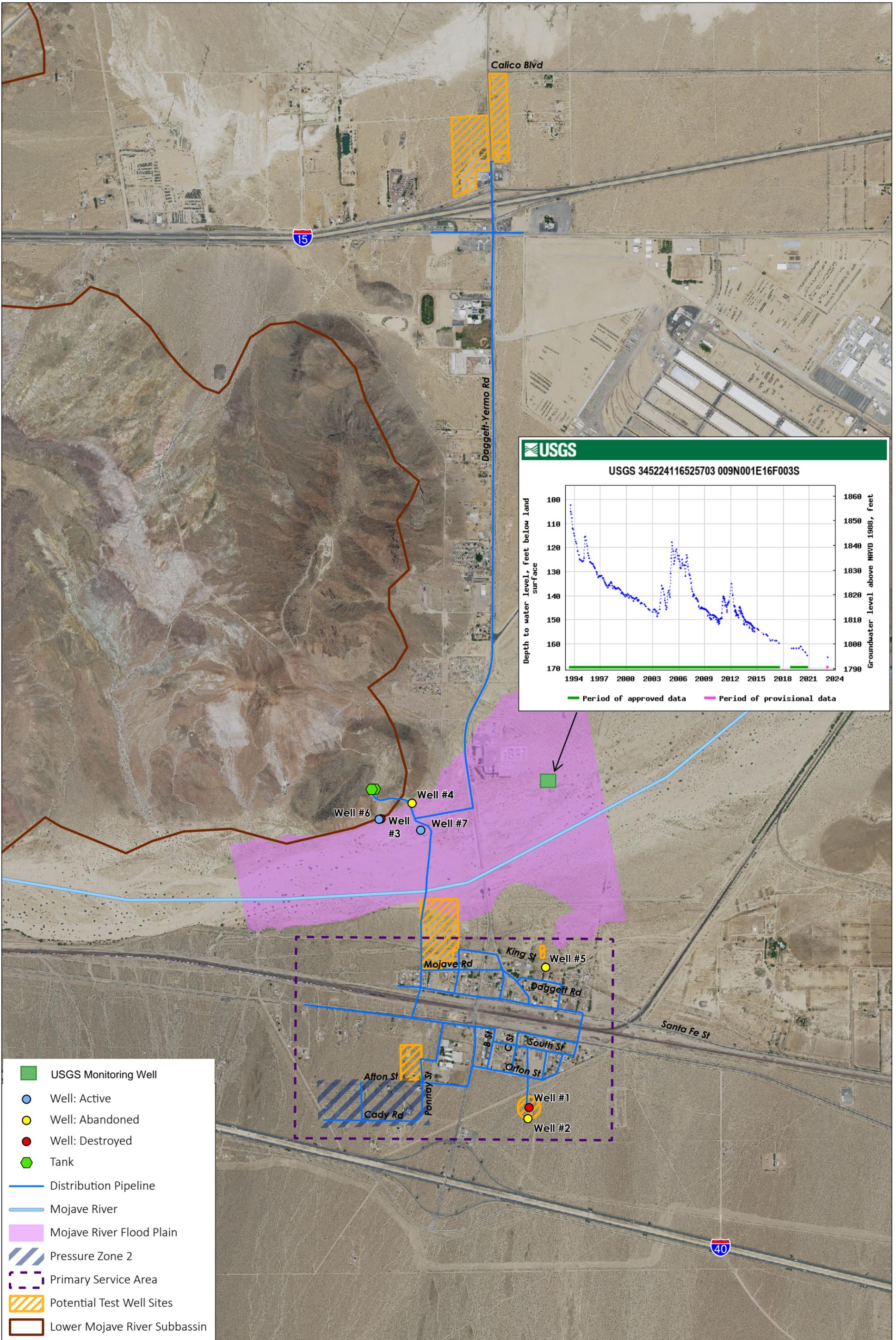
### Enclosures:

Figure 1 – Site Map

Figure 2 – Geologic Map

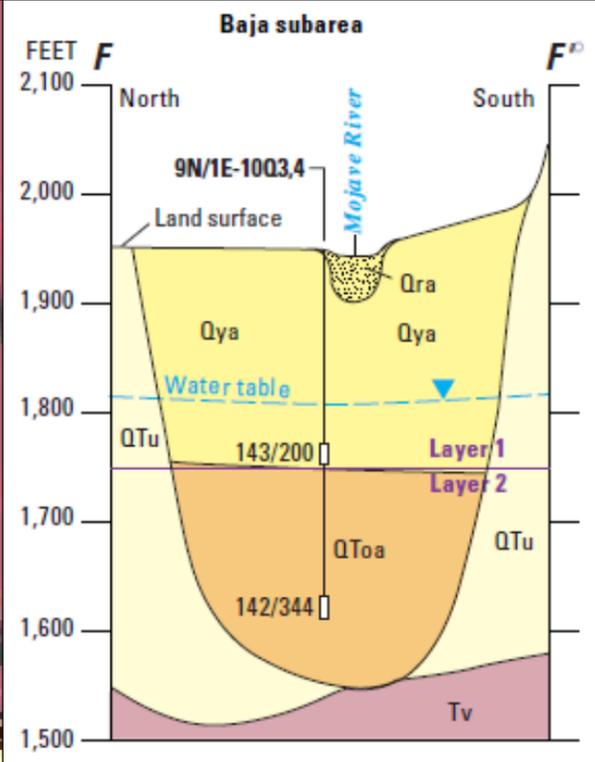
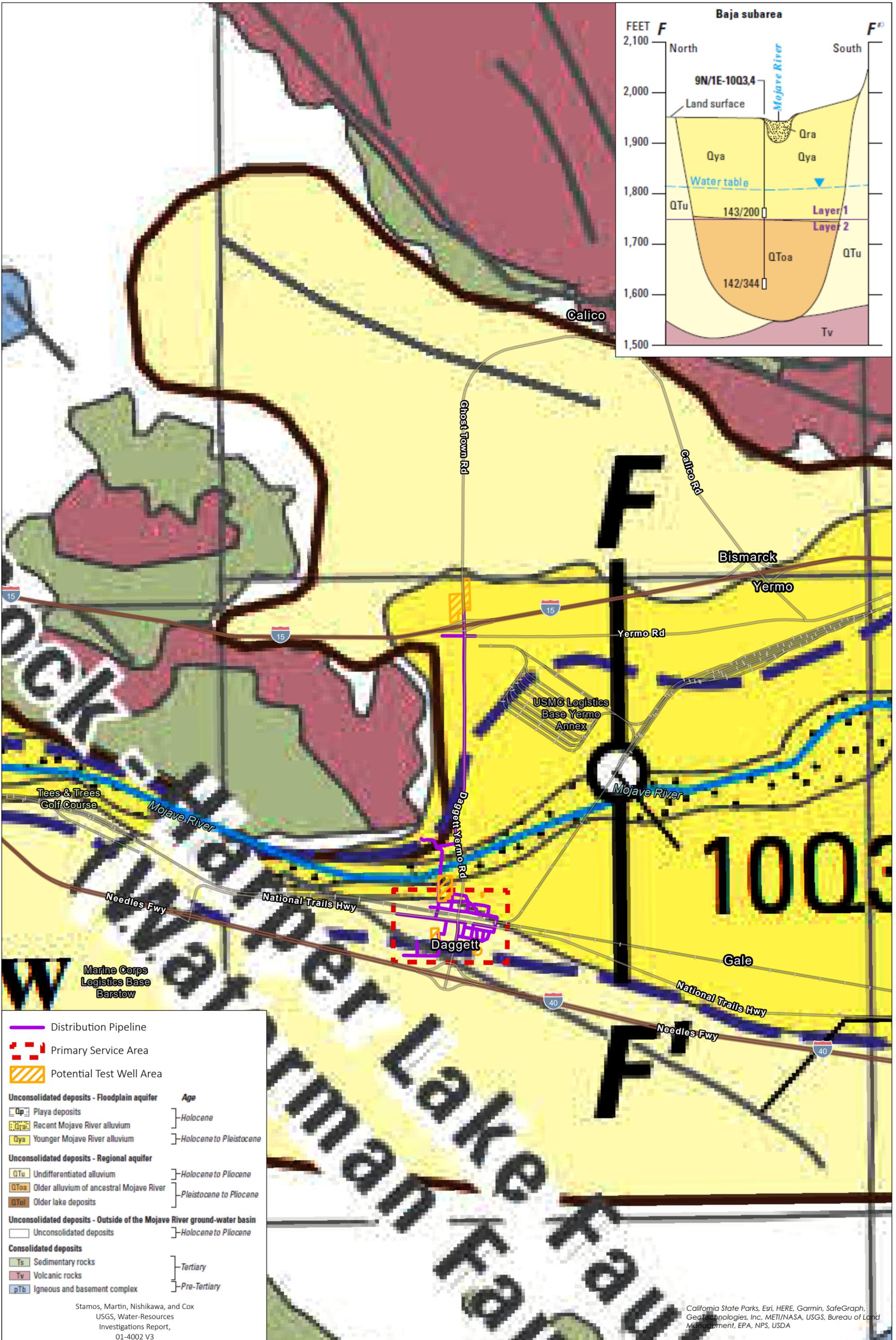
Attachment A – USGS Monitoring Well Hydrograph

Attachment B – Well Completion Reports



**Daggett Community Service District**  
Figure 1: Site Map

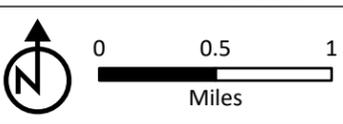
**PROVOST & PRITCHARD**



- Distribution Pipeline
  - Primary Service Area
  - Potential Test Well Area
- Unconsolidated deposits - Floodplain aquifer**
- |                               |                           |
|-------------------------------|---------------------------|
| Playa deposits                | } Holocene                |
| Recent Mojave River alluvium  |                           |
| Younger Mojave River alluvium | } Holocene to Pleistocene |
- Unconsolidated deposits - Regional aquifer**
- |  |                           |
|--|---------------------------|
| Undifferentiated alluvium                | } Holocene to Pliocene    |
| Older alluvium of ancestral Mojave River |                           |
| Older lake deposits                      | } Pleistocene to Pliocene |
- Unconsolidated deposits - Outside of the Mojave River ground-water basin**
- |                         |                        |
|-------------------------|------------------------|
| Unconsolidated deposits | } Holocene to Pliocene |
|-------------------------|------------------------|
- Consolidated deposits**
- |                              |                |
|------------------------------|----------------|
| Sedimentary rocks            | } Tertiary     |
| Volcanic rocks               |                |
| Igneous and basement complex | } Pre-Tertiary |

Stamos, Martin, Nishikawa, and Cox  
 USGS, Water-Resources  
 Investigations Report,  
 01-4002 V3

California State Parks, Esri, HERE, Garmin, SafeGraph,  
 GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land  
 Management, EPA, NPS, USDA



**Daggett Community Service District**  
 Figure 2: Geologic Map

**PROVOST &  
 PRITCHARD**

Site Number: 345224116525703  
Latitude (NAD83): 34.87381389  
Longitude (NAD83): -116.8837222  
Site Info: [USGS Site Info](#)

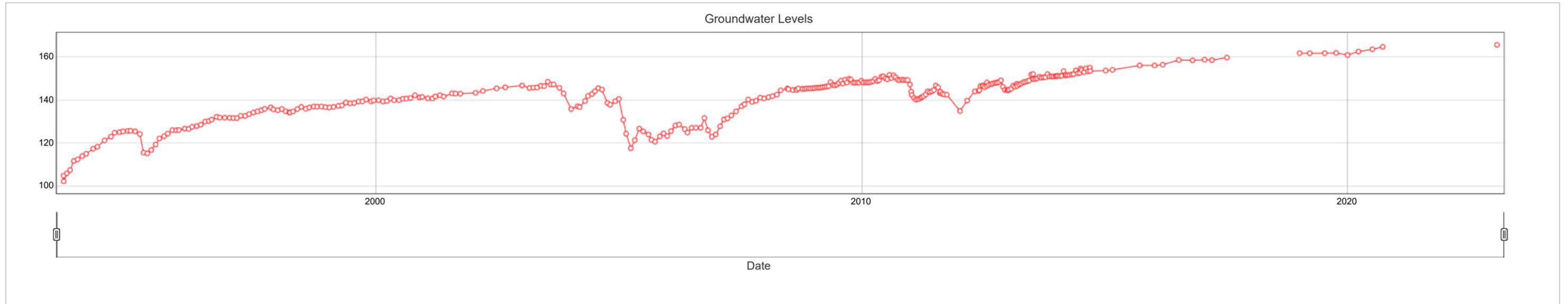


### Groundwater Elevation

Water Year Type

Date: (hover to see values)

— Depth to water level 345224116525703



View Water Level Table

345224116525703

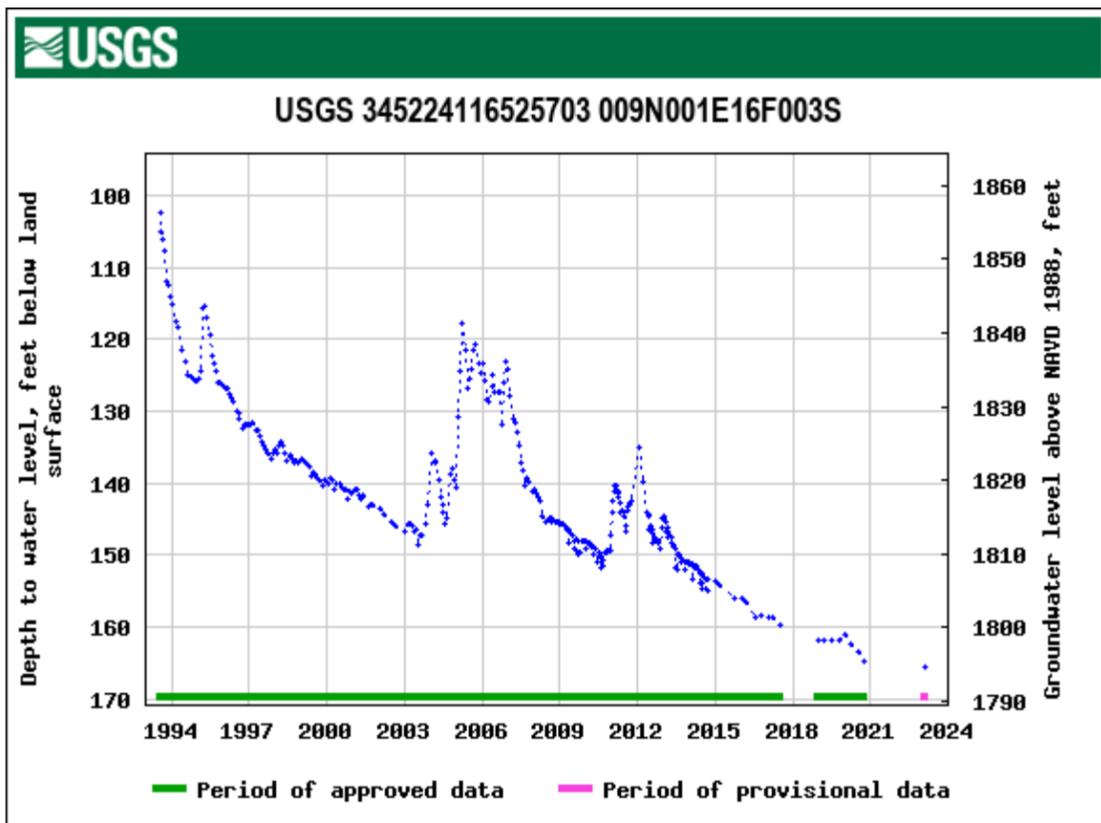
Search:

Date

▲ Depth to water level

2019-10-09	161.89
2020-01-03	160.96
2020-03-25	162.53
2020-07-08	163.58
2020-09-24	164.73

Showing 1 to 337 of 337 entries





Owner ID	DAG001P
StWellNo	09N/01E-17H03
APN	0516-061-03
Owner's Designation	WELL #06
WellAddress	
Producer	Daggett Community Services District
Property Owner	Daggett Community Services District
Address	P. O. Box 308
	DAGGETT CA 92327
Well Use	MUNICIPAL
DRILLER	
OTHER NAME	

ORIGINAL  
File with DWR

e log

STATE OF CALIFORNIA  
**WELL COMPLETION REPORT**

Refer to Instruction Pamphlet

No. **e000550**

DWR USE ONLY -- DO NOT FILL IN

09N01E16M004S  
STATE WELL NO./STATION NO.

LATITUDE LONGITUDE

APN/TRS/OTHER

Page 1 of 1

Owner's Well No. 7

Date Work Began 5/15/02, Ended 7/12/02

Local Permit Agency San Bernardino Co.

Permit No. 2002050303

Permit Date 5/9/02

**GEOLOGIC LOG**

ORIENTATION (✓)  VERTICAL  HORIZONTAL  ANGLE  (SPECIFY)

DRILLING METHOD ROTARY FLUID Water

DEPTH FROM SURFACE DESCRIPTION

Ft. to Ft. Describe material, grain, size, color, etc.

0	3	Top Soil
3	180	Med & Fine Sand w/Gravel & Cobble Stones
180	220	Sandy Clay
220	320	Red Sandy Clay

RECEIVED  
MOJAVE WATER AGENCY  
03 FEB 27 AM 9:34

1/4 mi west  
Yermo Dig Rd.

**WELL LOCATION**

Address \_\_\_\_\_

City Daggett CA 92327

County San Bernardino

APN Book 516 Page 151 Parcel 02

Township 9 N Range 1 E Section 16

Latitude \_\_\_\_\_

**LOCATION SKETCH**

NORTH

WEST EAST

SOUTH

Yermo Daggett Rd.

ACTIVITY (✓)

NEW WELL

MODIFICATION/REPAIR

Deepen

Other (Specify) \_\_\_\_\_

DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USES (✓)

WATER SUPPLY

Domestic  Public

Irrigation  Industrial

MONITORING

TEST WELL

CATHODIC PROTECTION

HEAT EXCHANGE

DIRECT PUSH

INJECTION

VAPOR EXTRACTION

SPARGING

REMEDICATION

OTHER (SPECIFY) \_\_\_\_\_

**WATER LEVEL & YIELD OF COMPLETED WELL**

DEPTH TO FIRST WATER \_\_\_\_\_ (Ft.) BELOW SURFACE

DEPTH OF STATIC WATER LEVEL 145 (Ft.) & DATE MEASURED 7/12/02

ESTIMATED YIELD 1000 (GPM) & TEST TYPE Pump

TEST LENGTH 8 (Hrs.) TOTAL DRAWDOWN \_\_\_\_\_ (Ft.)

May not be representative of a well's long-term yield.

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	CASING (S)							
		TYPE (✓)				MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
BLANK	SCREEN	CONDUCTOR	FILL PIPE						
0	165	22	✓			STEEL	14	.250	
165	285	22		✓		Stainless St	14	.050	

DEPTH FROM SURFACE Ft. to Ft.	ANNULAR MATERIAL TYPE			
	CE- MENT (✓)	BEN- TONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	50	✓		
50	285			6x16 silica

- ATTACHMENTS (✓)**
- Geologic Log
  - Well Construction Diagram
  - Geophysical Log(s)
  - Soil/Water Chemical Analysis
  - Other \_\_\_\_\_
- ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

**CERTIFICATION STATEMENT**

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME DESERT EMPIRE DRILLING  
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

3890 Lenwood Rd. Barstow CA 92311  
ADDRESS CITY STATE ZIP

Signed [Signature] DATE SIGNED 11/02/02 C-57 LICENSE NUMBER 432905  
WELL DRILLER/AUTHORIZED REPRESENTATIVE

0000550



09N/01E-16A  
ELECTRIC LOG  
GAMMA RAY

Job No. 10282  
Company DESERT EMPIRE DRILLING  
Well CSD #7 1/4 mi w/6 Verme Daggett Rd  
Field DAGGETT APN 1516 151002  
County SAN BERNARDINO State CA

Location: NORTH OF I40 ON DAGGETT RD.  
Other Services: NONE

Sec.	Typ.	Rge.	Elevation above perm. datum	Elevation K.B. D.F. G.L.
Permanent Datum	G.L.			
Log Measured From	G.L.	0		
Drilling Measured From	G.L.			
Date		5-22-02		
Run Number		ONE		
Depth Diller		320'		
Depth Logger		320'		
Bottom Logged Interval		319'		
Top Log Interval		40'		
Casing Diller		N/A		
Casing Logger		N/A		
Bit Size		12 1/4"		
Type Fluid in Hole		BENTONITE		
Density / Viscosity		N/A		
pH / Fluid Loss		N/A		
Source of Sample		N/A		
Rim @ Meas. Temp		N/A		
Rimc @ Meas. Temp		N/A		
Source of Rimf / Rimc		N/A		
Rim @ BHT		N/A		
Time Circulation Stopped		11:30 AM		
Time Logger on Bottom		1:30 PM		
Max. Recorded Temperature		N/A		
Equipment Number		PS-2		
Location		LA		
Recorded By		LAPORTE		
Witnessed By		WARREN		

<<< Field Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

Comments

ELOG Calibration Report

Serial: D1  
Model: DTQ  
Shop Calibration Performed: Fri Mar 22 12:40:47 2002  
Before Survey Verification Performed: Mon May 13 11:03:51 2002  
After Survey Verification Performed: Mon Dec 17 12:59:04 2001

Shop Calibration

	Readings		References			Results	
	Zero	Cal	Zero	Cal		Gain	Offset
Short	8.772	99.604	10.200	102.200	Ohm-m	1.013	1.316
Long	7.607	96.408	10.200	102.200	Ohm-m	1.036	-12.319
IEE	134.028	6672.889	counts	0.147	7.303	A	
VSN	141.241	7472.694	counts	2.694	142.533	V	
VIN	97.120	1895.241	counts	1.852	36.149	V	

e000550

Short	8.772	99.604		10.200	102.200	Ohm-m	1.013	1.316
Long	7.607	96.408		10.200	102.200	Ohm-m	1.036	-12.319
IEE	134.028	6672.889	counts	0.147	7.303	A		
VSN	141.241	7472.694	counts	2.694	142.533	V		
VLN	97.120	1895.241	counts	1.852	36.149	V		

Before Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	119.988	99.912		93.797	99.675	Ohm-m	-0.293	128.928
Long	228.784	99.545		101.119	101.119	Ohm-m	1.214	-19.708
IEE	85.417	6556.907	counts	0.093	7.176	A		
VSN	115.148	7360.231	counts	2.196	140.387	V		
VLN	54.889	1833.306	counts	1.047	34.968	V		

After Survey Verification

	Readings			References			Results	
	Zero	Cal		Zero	Cal		Gain	Offset
Short	101.644	99.713		100.016	99.730	Ohm-m	0.148	84.962
Long	269.700	101.218		101.234	101.234	Ohm-m	0.975	2.531
IEE	130.102	6640.654	counts	0.142	7.268	A		
VSN	148.574	7439.393	counts	2.834	141.897	V		
VLN	98.556	1887.935	counts	1.880	36.010	V		

After Survey Verification compared to Before Survey Calibration

	Zero			Cal		
	Before	After		Before	After	
Short	93.797	100.016	Ohm-m	99.675	99.730	Ohm-m
Long	257.988	265.528	Ohm-m	101.119	101.234	Ohm-m

Gamma Ray Calibration Report

Serial Number: D1  
 Tool Model: ELOG  
 Performed: Mon Dec 17 12:54:42 2001

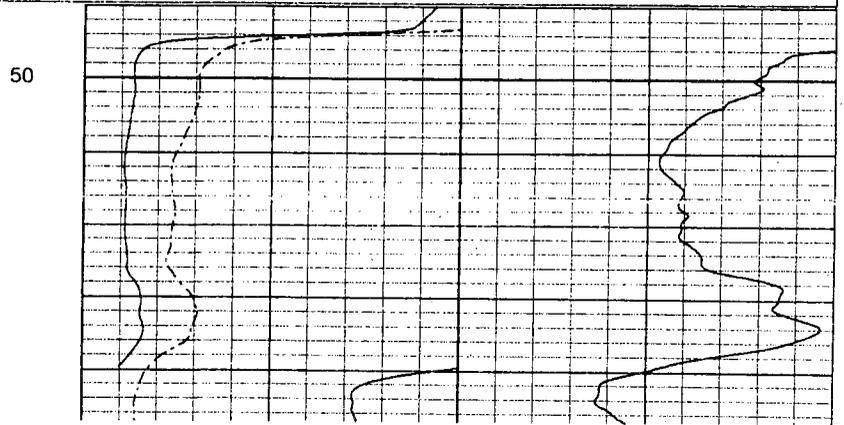
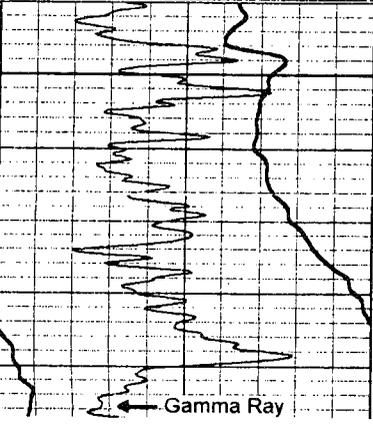
Calibrator Value: 162 GAPI

Background Reading: 167.616 cps  
 Calibrator Reading: 722.887 cps

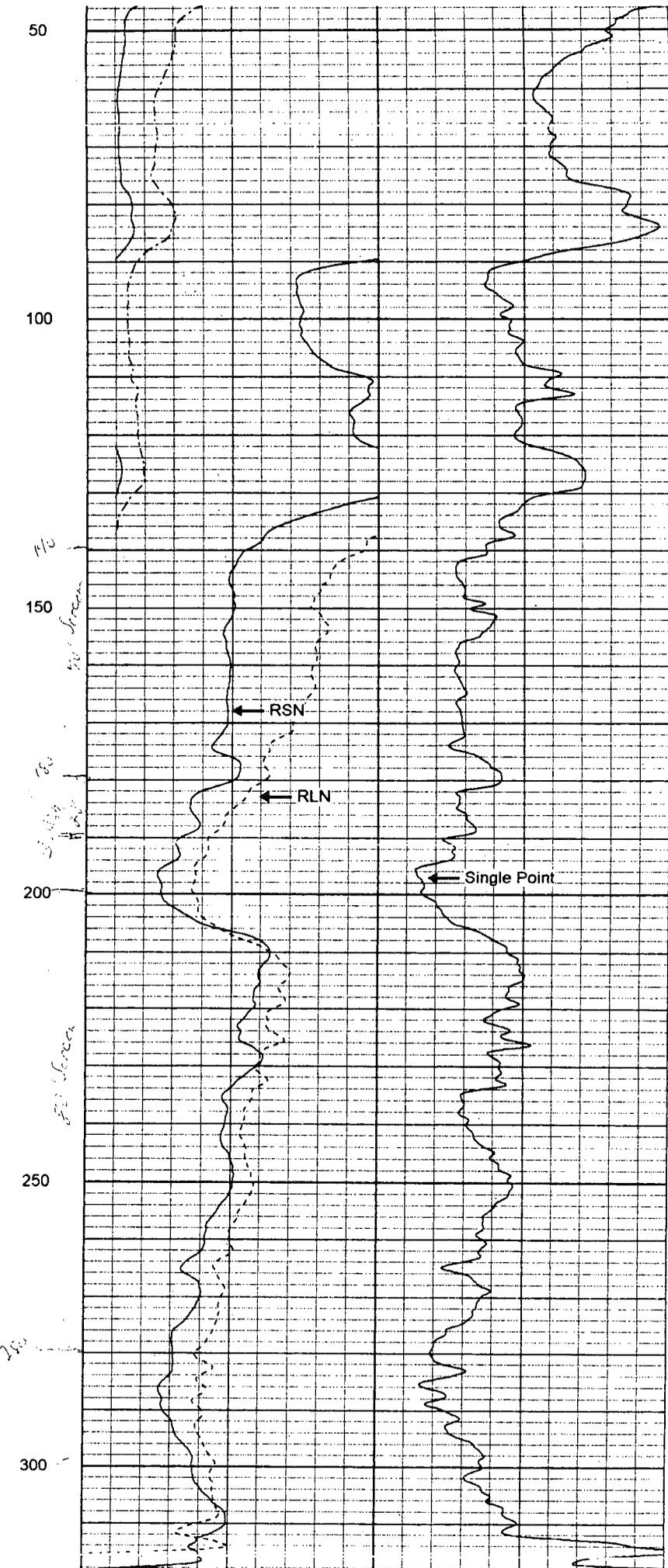
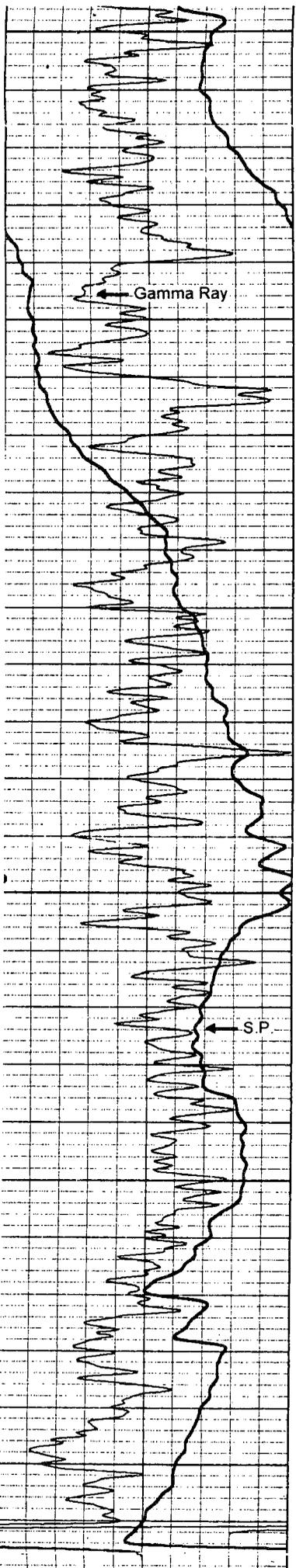
Sensitivity: 0.291749 GAPI/cps

Database File: 10282.db  
 Dataset Pathname: DesrEmp1/CSD7/Elog/pass1.1  
 Presentation Format: elog  
 Dataset Creation: Wed May 22 14:13:36 2002 by Calc 6.0  
 Charted by: Depth in Feet scaled 1:240

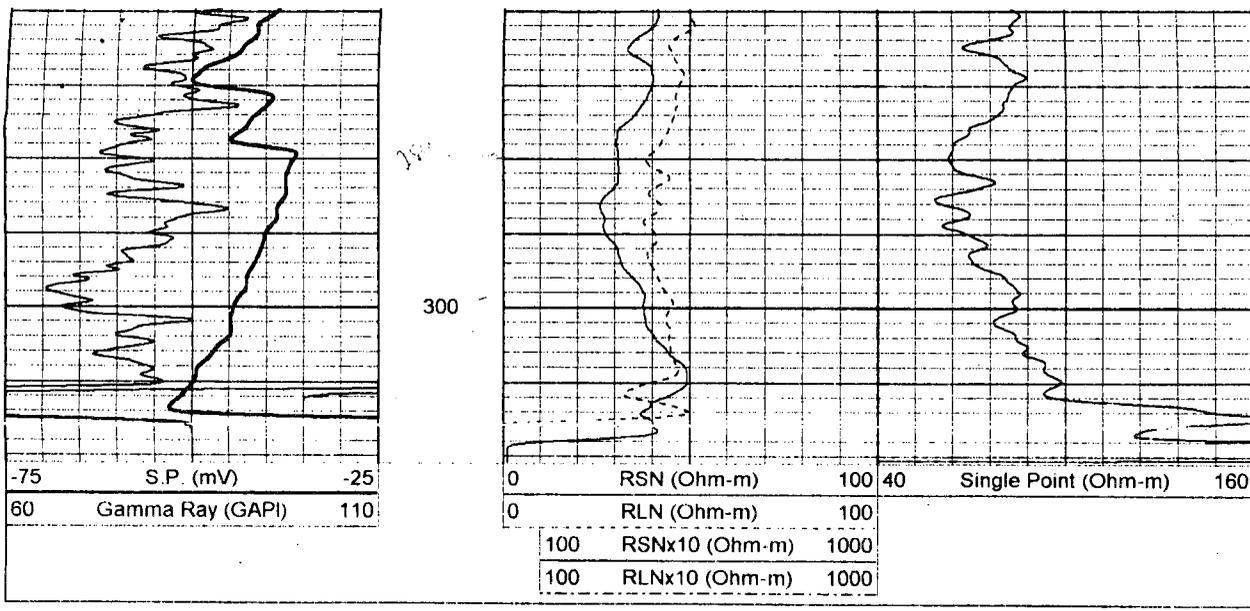
-75	S.P. (mV)	-25	0	RSN (Ohm-m)	100	40	Single Point (Ohm-m)	160
60	Gamma Ray (GAPI)	110	0	RLN (Ohm-m)	100			
			100	RSNx10 (Ohm-m)	1000			
			100	RLNx10 (Ohm-m)	1000			



e000550



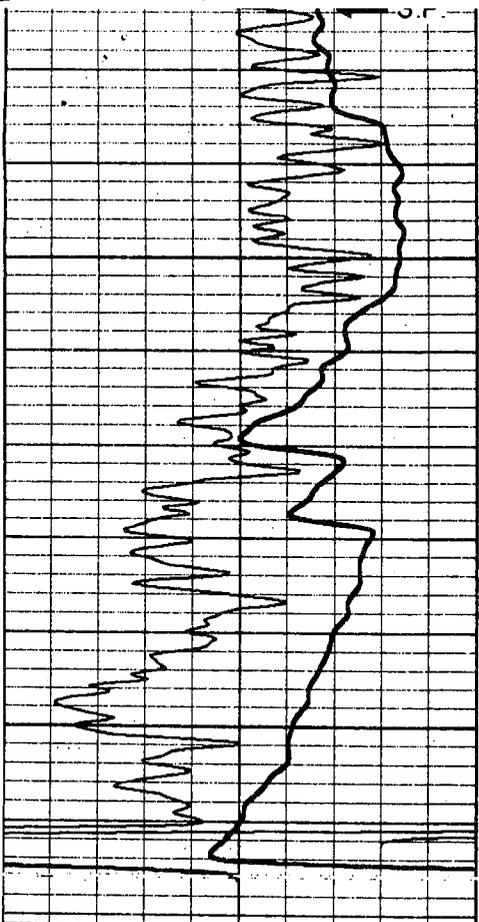
e000550



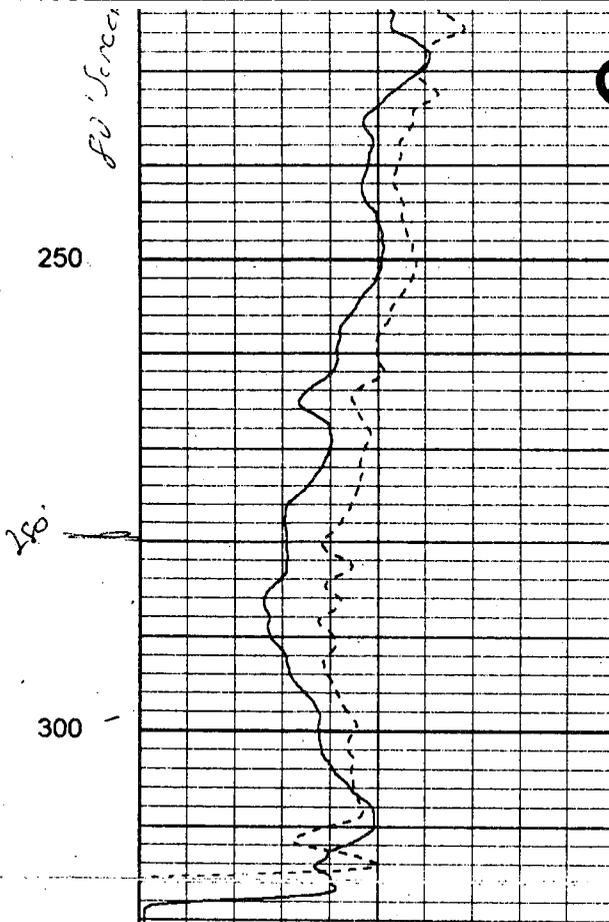
120 screen SS. 0.50 10" 25"  
 160 ft Bank 14" 25"  
 200 Bank  
 4-14-00

10/10/10 @ AOL.com  
 @ Kelly Pipe Co

e000550



-75	S.P. (mV)	-25
60	Gamma Ray (GAPI)	110



0	RSN (Ohm-m)	100	40	Single Point (Ohm-m)	160
0	RLN (Ohm-m)	100			
100	RSNx10 (Ohm-m)	1000			
100	RLNx10 (Ohm-m)	1000			

4-40'  
 1-20'  
 120' 14" screen SS. .050 10" well rings  
 160 ft Blank  
 20 ft Blank  
 14" .250  
 4-14" collar

aglattley@aol.com  
 @ Kelly Pipe.com

# **APPENDIX B – WATER QUALITY NOTICES**



## Public Health Environmental Health Services

**Trudy Raymundo**  
Director

**Corwin Porter, MPH, REHS**  
Assistant Director

**Maxwell Ohikhuare, MD**  
Health Officer

**Josh Dugas, REHS**  
Division Chief

November 22, 2017

System No. 3600086

Daggett Community Services District  
Attention: Ms. Melissa Martin, Administrator  
333703 Second Street  
Daggett, CA 92327

Enclosed is Citation No. 05\_66\_17C\_048\_3600086\_02 issued to the Daggett Community Services District water system.

Any person or entity who is aggrieved by a citation, order or decision issued by the Division of Environmental Health Service (DEHS) under Article 8 (commencing with Health and Safety Code, Section 116625) or Article 9 (commencing with Health and Safety Code, Section 116650), of the Safe Drinking Water Act (Chapter 4, Part 12, Division 104, of the Health and Safety Code) may file a petition with the State Water Board for reconsideration of the citation, order or decision. Appendix 1 to the enclosed citation contains the relevant statutory provisions for filing a petition for reconsideration. (Health and Safety Code, Section 116701).

Petitions must be received by the State Board within 30 days of the issuance of the citation, order or decision by the DEHS. The date of issuance is the date when the DEHS mails a copy of the citation, order or decision. If the 30th day falls on a Saturday, Sunday, or state holiday, the petition is due the following business day. Petitions must be received by 5:00 p.m.

Information regarding filing petitions is available at:

[http://www.waterboards.ca.gov/drinking\\_water/programs/petitions/index.shtml](http://www.waterboards.ca.gov/drinking_water/programs/petitions/index.shtml)

A handwritten signature in black ink, appearing to read "D. Alaniz".

David Alaniz, REHS  
Environmental Health Specialist  
Division of Environmental Health Services  
San Bernardino County

Certified Mail No. 7008 1830 0003 3043 3425

Cc: Eric J. Zuniga, PE, SWRCB by email at [dwpdist13@waterboards.ca.gov](mailto:dwpdist13@waterboards.ca.gov)

**San Bernardino County  
Department of Public Health  
DIVISION OF ENVIRONMENTAL HEALTH SERVICES**

IN RE: Daggett Community Services District  
Water System No.: 3600086

TO: Daggett Community Services District  
Attention: Ms. Melissa Martin, Administrator  
333703 Second Street  
Daggett, CA 92327

**CITATION NO.: 05\_66\_17C\_048\_3600086\_02  
FOR VIOLATION OF HEALTH AND SAFETY CODE SECTION 116555 (a) (1) AND THE  
PRIMARY DRINKING WATER STANDARD FOR URANIUM**

**Issued** November 22, 2017

The Division of Environmental Health Services (hereinafter "Division"), hereby issues this citation (hereinafter "Order") pursuant to Section 116555 of the California Health and Safety Code (hereinafter "CHSC") to Daggett Community Services District (hereinafter "CSD") and its owner of record for violation of CHSC section 116555(a) (1) and Title 22, California Code of Regulations (hereinafter "CCR"), Section 64442.

**APPLICABLE AUTHORITIES**

The applicable statutes and regulations are provided in Attachment A, attached hereto and incorporated by reference.

**STATEMENT OF FACTS**

The Water System is a "Community Services District" created under the State of California's Community Services District Law, as described in Government Code, Sections §61000-61850, CCR. The CSD is permitted as a community public water system as defined in CHSC, Section 116275 (i). The CSD provides daily water service to approximately a population of 795 people via 195 service connections in the unincorporated community known as Daggett, San Bernardino County, California. The CSD utilizes one (1) active groundwater well (Well 7) and one (1) standby groundwater well (Well 06) as its source of domestic water. Title 22, CCR, Division 4, Chapter 15, Article 5, establishes primary drinking water standards and monitoring and reporting requirements for radioactive constituents. All public water systems must comply with the maximum contaminant level (MCL) for uranium of 20 pCi/L, as established in Title 22 CCR Section 64442. The current running annual average (RAA) from Well 7 on November 10, 2017 was established at an average uranium concentration of 28.7 pCi/L as shown in Table 1.

**Table 1: Uranium Analysis Result (pCi/L) and RAA**

Well 1	12/28/2016	03/09/2017	2017Q2	2017Q3	RAA (pCi/L)
PS Code 3600086-007	26.3	31	FTM*	FTM*	28.7

\*Failed to monitor

**DETERMINATIONS**

Based on the above Statement of Facts, the Division has determined that the CSD and its owner of record have violated CHSC, Section 116555 and Title 22, CCR, Section 64442 water produced by Well 7 exceeded the uranium MCL.

**DIRECTIVES**

The CSD and its owner of record are hereby directed to take the following actions:

1. On or before **December 31, 2019**, comply with Title 22, CCR, and Section 64442 and remain in compliance.
2. On or before **December 31, 2017** submit a written response to the Division indicating its agreement to comply with the directives of this Order and the revised Corrective Action Plan addressed herein.
3. Commencing on the date of service of this Order, provide quarterly public notification in accordance with Attachment B, hereto, of the CSD's failure to meet the uranium MCL. The quarterly notification must include the most recent quarterly uranium results.
4. Commencing on the date of service of this Order, submit proof of each public notification conducted in compliance with Directive No. 3, herein above, within 10 days following quarter of notification , using the form provided as Attachment C, hereto, or by using a similar notification format.
5. Commencing on the date of service of this Order collect quarterly samples for uranium from Well 7 as required by Section 64442 of Title 22, CCR, and ensure that the analytical results are reported to the Division electronically (PS Code 3600086-007) by the analyzing laboratory no later than the 10th day following the month in which the analysis was completed.
6. Prepare for the Division approval a Corrective Action Plan identifying improvements to the water system designed to correct the water quality problem (violation of the uranium MCL) and ensure that the CSD delivers water to consumers that meets primary drinking water standards. The plan shall include a time schedule for completion of each of the phases of the project such as design, construction, and startup, and a date as of which the CSD will be in compliance with the uranium MCL.
7. On or before **March 31, 2018** submit the revised Corrective Action Plan required under Directive No. 6, above, to the Division's offices located at 385 North Arrowhead Avenue, 2nd Floor, San Bernardino, CA 92415.
8. Timely perform the Division-approved revised Corrective Action Plan and each and every element of said plan according to the time schedule set forth therein.

9. On or before **January 10, 2018** and every three months thereafter, submit a report to the Division in the form provided as Attachment D, hereto, showing actions taken during the previous calendar three months to comply with the revised Corrective Action Plan.
10. Not later than ten (10) days following the date of compliance with the uranium MCL, demonstrate to the Division that the water delivered by the CSD complies with the uranium MCL.
11. Notify the Division in writing no later than five (5) days prior to the deadline for performance of any Directive set forth herein if the CSD anticipates it will not timely meet such performance deadline.

All submittals required by this Order shall be addressed to:

David Alaniz, REHS  
Environmental Health Specialist  
Division of Environmental Health Services  
385 North Arrowhead Avenue, San Bernardino, CA 92415

As used in this Order, the date of issuance shall be the date of this Order; and the Date of service shall be the date of service of this Order, personal or by certified mail, on the CSD.

The Division reserves the right to make such modifications to this Order and/or to issue such further order(s) as it may deem necessary to protect public health and safety. Such modifications may be issued as amendments to this Order and shall be deemed effective upon issuance.

Nothing in this Order relieves CSD or its owner of record of its obligation to meet the requirements of the California SDWA, or any regulation, standard, permit or order issued thereunder.

#### **PARTIES BOUND**

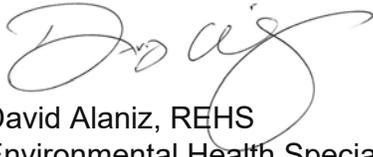
This Order shall apply to and be binding upon the CSD, its owners, shareholders, officers, directors, agents, employees, contractors, successors, and assignees.

#### **SEVERABILITY**

The Directives of this Order are severable, and the CSD and its owner of record shall comply with each and every provision hereof, notwithstanding the effectiveness of any other provision.

#### **FURTHER ENFORCEMENT ACTION**

The California SDWA authorizes the Division to issue a citation with assessment of administrative penalties to a public water system for violation or continued violation of the requirements of the California SDWA or any regulation, permit, standard, citation, or order issued or adopted thereunder including, but not limited to, failure to correct a violation identified in a citation or compliance order. The California SDWA also authorizes the Division to take action to suspend or revoke a permit that has been issued to a public water system if the public water system has violated applicable law or regulations or has failed to comply with an order of the Division. The Division does not waive any further enforcement action by issuance of this Order.



David Alaniz, REHS  
Environmental Health Specialist  
Division of Environmental Health Services  
San Bernardino County

Certified Mail No. 7008 1830 0003 3043 3425

Attachments:

Attachment A: Applicable Authorities

Attachment B: Tier 2 Public Notification Instructions and Template

Attachment C: Proof of Notification Template

Attachment D: Quarterly Progress Report Template

Applicable Statutes and Regulations  
Citation No. 05\_66\_17C\_019\_3600226\_02 Violation of Uranium MCL

**CHSC, Section 116275(h) states in relevant part:**

(h) "Public water system" means a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year.

**CHSC, Section 116275(i) states in relevant part:**

(i) "Community water system" means a public water system that serves at least 15 service connections used by yearlong residents or regularly serves at least 25 yearlong residents of the area served by the system.

**CHSC, Section 116555(a)(1) states in relevant part:**

(a) Any person who owns a public water system shall ensure that the system does all of the following:

- (1) Complies with primary and secondary drinking water standards.

**CHSC, Section 116655 states in relevant part:**

(a) Whenever the department determines that any person has violated or is violating this chapter, or any permit, regulation, or standard issued or adopted pursuant to this chapter, the director may issue an order doing any of the following:

- (1) Directing compliance forthwith.
- (2) Directing compliance in accordance with a time schedule set by the department.
- (3) Directing that appropriate preventive action be taken in the case of a threatened violation.

(b) An order issued pursuant to this section may include, but shall not be limited to , any or all of the following requirements:

- (1) That the existing plant, works, or system be repaired, altered, or added to.
- (2) That purification or treatment works be installed.
- (3) That the source of the water supply be changed.
- (4) That no additional service connection be made to the system.
- (5) That the water supply, the plant, or the system be monitored.
- (6) That a report on the condition and operation of the plant, works, system, or water supply be submitted to the department.

**Section 116701 (Petitions to Orders and Decisions) states:**

(a) Within 30 days of issuance of an order or decision issued by the deputy director under Article 8 (commencing with Section 116625) or Article 9 (commencing with Section 116650), an aggrieved person may petition the state board for reconsideration. Where the order or decision of the deputy director is issued after a hearing under Chapter 5 (commencing with Section 11500) of Part 1 of Division 3 of Title 2 of the Government Code, this section shall apply instead of Section 11521 of the Government Code.

(b) The petition shall include the name and address of the petitioner, a copy of the order or decision for which the petitioner seeks reconsideration, identification of the reason the petitioner alleges the issuance of the order was inappropriate or improper, the specific action the petitioner requests, and other information as the state board may prescribe. The petition shall be accompanied by a statement of points and authorities of the legal issues raised by the petition.

(c) The evidence before the state board shall consist of the record before the deputy director and any other relevant evidence that, in the judgment of the state board, should be considered to implement the policies of this chapter. The state board may, in its discretion, hold a hearing for receipt of additional evidence. (d) The state board may refuse to reconsider the order or decision if the petition fails to raise substantial issues that are appropriate for review, may deny the petition upon a determination that the issuance of the order or decision was appropriate and proper, may set aside or modify the order or decision, or take other appropriate action. The state board's action pursuant to this subdivision shall constitute the state board's completion of its reconsideration.

- (e) The state board, upon notice and hearing, if a hearing is held, may stay in whole or in part the effect of the order or decision of the deputy director.
- (f) If an order of the deputy director is subject to reconsideration under this section, the filing of a petition for reconsideration is an administrative remedy that must be exhausted before filing a petition for writ of mandate under Section 116625 or 116700.

**Title 22, CCR, Section 64442 (hereinafter "Section 64442"), states in relevant part:**

- (a) Each community and nontransient-noncommunity water system (system) shall comply with the primary MCLs in Table 64442 in the drinking water supplied to the public and use the DLRs for reporting monitoring results:

**Table 64442  
Radionuclide Maximum Contaminant Levels (MCLs)  
and Detection Levels for Purposes of Reporting (DLRs)**

<i>Radionuclide</i>	<i>MCL</i>	<i>DLR</i>
Radium-226	5 pCi/L (combined radium-226 & -228)	1 pCi/L
Radium-228		1 pCi/L
Gross Alpha particle activity (excluding radon and uranium)	15 pCi/L	3 pCi/L
Uranium	20 pCi/L	1 pCi/L

- (g) If any sample result is greater than an MCL:
  - (1) For a system monitoring less than quarterly, quarterly samples shall be collected and analyzed to determine compliance, pursuant to subsection (h);
  - (2) For a system that already has four consecutive quarterly results, compliance shall be determined pursuant to subsection (h).
  - (3) The system shall monitor quarterly until the results of four consecutive quarterly sample results do not exceed the MCL.
- (h) A system with one or more sample results greater than an MCL shall determine compliance with the MCL as follows:
  - (1) At each sampling site, based on the analytical results for that site. Any confirmation sample result shall be averaged with the initial result.
  - (2) Using all monitoring results collected under this section during the previous 12 months, even if more than the minimum required number of samples was collected.
  - (3) By a running annual average of four consecutive quarters of sampling results. Averages shall be rounded to the same number of significant figures as the MCL for which compliance is being determined.
    - (A) If any sample result will cause the annual average at any sample site to exceed the MCL, the system shall be out of compliance immediately upon receiving the result;
    - (B) If a system has not analyzed the required number of samples, compliance shall be determined by the average of the samples collected at the site during the most recent 12 months; and
    - (C) If a sample result is less than the DLR in table 64442, zero shall be used to calculate the annual average, unless a gross alpha particle activity is being used in lieu of radium-226,

total radium, and/or uranium. In that case, if the gross alpha particle activity result is less than the DLR,  $\frac{1}{2}$  the DLR shall be used to calculate the annual average.

- (4) If compositing is allowed at a sampling site, by the results of a composite of four consecutive quarterly samples.
- (5) If the system can provide documentation that a sample was subject to sampling or analytical errors, the State Board may invalidate the result based on its review of the documentation, the sampling result, and the historical sampling data.
- (6) Each system shall ensure that the laboratory analyzing its samples collected for compliance with this article calculates and reports the sample-specific Minimum Detectable Activity at the 95% confidence level (MDA95) along with the sample results. The MDA95 shall not exceed the DLR and shall be calculated as described in ANSI N42.23 Measurement and Associated Instrumentation Quality Assurance for Radiobioassay Laboratories, Appendix A.7.6 (September 10, 1995).

Since exceeding chemical or radiological maximum contaminant levels (MCLs) is a Tier 2 violation, you must provide public notice to persons served as soon as practical but within 30 days after you learn of the violation [California Code of Regulations Title 22, Chapter 15, Section 64463.4(b)]. **Each water system required to give public notice must submit the notice to San Bernardino County, Division of Environmental Health Services (DEHS) for approval prior to distribution or posting, unless otherwise directed by the DEHS [64463(b)].**

**Notification Methods**

You must use the methods summarized in the table below to deliver the notice to consumers. If you mail, post, or hand deliver, print your notice on letterhead, if available.

<i>If You Are a...</i>	<i>You Must Notify Consumers by...</i>	<i>...and By One or More of the Following Methods to Reach Persons Not Likely to be Reached by the Previous Method...</i>
Community Water System [64463.4(c)(1)]	Mail or direct delivery <sup>(a)</sup>	Publication in a local newspaper
		Posting in conspicuous public places served by the water system or on the Internet <sup>(b)</sup>
		Delivery to community organizations
Non-Community Water System [64463.4(c)(2)]	Posting in conspicuous locations throughout the area served by the water system <sup>(b)</sup>	Publication in a local newspaper or newsletter distributed to customers
		Email message to employees or students
		Posting on the Internet or intranet <sup>(b)</sup>
		Direct delivery to each customer

(a) Notice must be distributed to each customer receiving a bill including those that provide their drinking water to others (e.g., schools or school systems, apartment building owners, or large private employers), and other service connections to which water is delivered by the water system.

(b) Notice must be posted in place for as long as the violation or occurrence continues, but in no case less than seven days.

The notice attached is appropriate for the methods described above. However, you may wish to modify it before using it for posting. If you do, you must still include all the required elements and leave the health effects and notification language in italics unchanged. This language is mandatory [64465].

**Multilingual Requirement**

The notice must (1) be provided in English, Spanish, and the language spoken by any non-English-speaking group exceeding 10 percent of the persons served by the water system and (2) include a telephone number or address where such individuals may contact the water system for assistance. If any non-English-speaking group exceeds 1,000 persons served by the water system, but does not exceed 10 percent served, the notice must (1) include information in the appropriate language(s) regarding the importance of the notice and (2) contain the telephone number or address where such individuals may contact the water system to obtain a translated copy of the notice from the water system or assistance in the appropriate language.

## **Population Served**

Make sure it is clear who is served by your water system -- you may need to list the areas you serve.

## **Corrective Action**

In your notice, describe corrective actions you are taking. Do not use overly technical terminology when describing treatment methods. Listed below are some steps commonly taken by water systems with chemical or radiological violations. Use one or more of the following actions, if appropriate, or develop your own:

- “We are working with San Bernardino County, Division of Environmental Health Services to evaluate the water supply and researching options to correct the problem. These options may include treating the water to remove [contaminant] or connecting to [system]’s water supply.”
- “We have stopped using the contaminated well. We have increased pumping from other wells, and we are investigating drilling a new well.”
- “We will increase the frequency at which we test the water for [contaminant].”
- “We have since taken samples at this location and had them tested. They show that we meet the standards.”

## **After Issuing the Notice**

Send a copy of each type of notice and a certification that you have met all the public notice requirements to the DDW within ten days after you issue the notice [64469(d)]. You should also issue a follow-up notice in addition to meeting any repeat notice requirements the DDW sets.

It is recommended that you notify health professionals in the area of the violation. People may call their doctors with questions about how the violation may affect their health, and the doctors should have the information they need to respond appropriately.

It is a good idea to issue a “problem corrected” notice when the violation is resolved.

**IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER**

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien.

## Daggett Community Services District Has Levels of Uranium Above the Drinking Water Standard

Our water system recently violated a drinking water standard. Although this is not an emergency, as our customers, you have a right to know what you should do, what happened, and what we are doing to correct this situation.

We routinely monitor for the presence of drinking water contaminants. Water sample results received on [date] showed uranium levels of [level and units]. This is above the standard, or maximum contaminant level (MCL), of 20 pCi/L.

**What should I do?**

- **You do not need to use an alternative water supply (e.g., bottled water).**
- This is not an immediate risk. If it had been, you would have been notified immediately. However, some people who drink water containing uranium in excess of the MCL over many years may have kidney problems or an increased risk of getting cancer.
- If you have other health issues concerning the consumption of this water, you may wish to consult your doctor.

**What happened? What is being done?**

[Describe corrective action]. We anticipate resolving the problem within [estimated time frame].

For more information, please contact [name of contact] at [phone number] or [mailing address].

*Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this public notice in a public place or distributing copies by hand or mail.*

**Secondary Notification Requirements**

Upon receipt of notification from a person operating a public water system, the following notification must be given within 10 days [Health and Safety Code Section 116450(g)]:

- **SCHOOLS:** Must notify school employees, students, and parents (if the students are minors).
- **RESIDENTIAL RENTAL PROPERTY OWNERS OR MANAGERS** (including nursing homes and care facilities): Must notify tenants.
- **BUSINESS PROPERTY OWNERS, MANAGERS, OR OPERATORS:** Must notify employees of businesses located on the property.

This notice is being sent to you by Daggett Community Services District.  
State Water System ID#: 3600086. Date distributed: \_\_\_\_\_.

### Certification of Completion of Public Notification

\*Due to the Division of Environmental Health Services within 10 days of issuance of notice to customers

This form, when completed and returned to San Bernardino County, Division of Environmental Health Services (385 North Arrowhead Ave, 2<sup>nd</sup> Floor, San Bernardino, CA 92415 or fax to 909-387-4323), serves as certification that public notification to water users was completed as required by Title 22, California Code of Regulations, Sections 64463-64465.

Public Water System Name: \_\_\_\_\_

Public Water System No.: \_\_\_\_\_

The notice was mailed to users on: \_\_\_\_\_

A copy of the notice is attached.

The notice was hand delivered to water customers on: \_\_\_\_\_

A copy of the notice is attached.

The notice was published in the local newspaper on: \_\_\_\_\_

A copy of the newspaper notice is attached.

The notice was published in conspicuous places on: \_\_\_\_\_

A copy of the notice is attached.

A list of locations the notice was posted is attached.

The notice was delivered to community organizations on: \_\_\_\_\_

A copy of the notice is attached. A list of community organizations the notice was delivered to is attached.

I hereby certify that the above information is factual.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Disclosure: Be advised that Section 116725 and 116730 of the California Health and Safety Code state that any person who knowingly makes any false statement on any report or document submitted for the purpose of compliance with the attached order may be liable for a civil penalty not to exceed five thousand dollars (\$5,000) for separate violation each day that the violation continues. In addition, the violators may be prosecuted in criminal court and, upon conviction, be punished by a fine of not more than \$25,000 for each day of violation, or be imprisoned in the county jail not to exceed one year, or by both the fine and imprisonment.

# Quarterly Progress Report

Water System: <b>Daggett Community Services District</b>	Water System No.: <b>3600086</b>
Compliance Order No.: <b>05_66_17C_048_3600086_02</b>	Violation: <b>Uranium MCL</b>
Calendar Quarter:	Date Prepared:

This form should be prepared and signed by Water System personnel with appropriate authority to implement the directives of the Compliance Order and the Corrective Action Plan. Please attach additional sheets as necessary. The quarterly progress report must be submitted by the 10th day of each subsequent quarter, to San Bernardino County, Division of Environmental Health Services.

## Summary of Compliance Plan:

## Tasks completed in the reporting quarter:

## Tasks remaining to complete:

Anticipated compliance date: \_\_\_\_\_

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



## Public Health Environmental Health Services

**Trudy Raymundo**  
Director

**Corwin Porter, MPH, REHS**  
Assistant Director

**Maxwell Ohikhuare, M.D.**  
Health Officer

**Josh Dugas, REHS**  
Division Chief

10/24/2016

Daggett Community Services District  
33703 2nd St.  
Daggett, CA 92327

Water System Number: 3600086

### WATER QUALITY MONITORING – Gross Alpha and Uranium

Environmental Health Services has received and reviewed the results of the water quality analyses for the Daggett Community Services District. The water sample was obtained from Well 7 on 10/7/2016.

Analysis result shows the gross alpha level for raw water (well) is greater than the maximum contaminant level (MCL). The MCL for gross alpha is 15 pCi/L. The analyses results showed gross alpha at 48 pCi/L. Per Title 22 § 64442 (g)(3), "The system shall monitor quarterly until the results of four consecutive quarterly sample results do not exceed the MCL". Quarterly samples are due **January 2017, April 2017, July 2017.**

In addition to quarterly sampling for Gross Alpha, one sample must be taken and analyzed for Uranium in **January 2017.**

After four consecutive quarterly samples are less than the MCL, the water system may request EHS reduce the monitoring frequency. Conversely, if four consecutive quarterly samples exceed the MCL then a compliance plan shall be developed and submitted to EHS detailing how the water system plans to achieve compliance with Section 64422 Title 22 requirements.

If you have any questions, please contact the Safe Drinking Water Section at (800) 442-2283.

A handwritten signature in blue ink that reads "Casey Salazar".

Casey Salazar  
San Bernardino County  
Environmental Health Services  
Land Use Protection Program

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