



# Annual Surveillance Report January 2022 to December 2022 for San Joaquin Dam DSOD Dam No. 1029

Irvine, California

Submitted to:  
Irvine Water District  
Dams & Storage  
15600 Sand Canyon Avenue  
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May 2, 2023  
GEI Project No. 1901888

Consulting May 2, 2023  
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Scientists

Ms. Danielle Drake,  
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Irvine Ranch Water District  
15600 Sand Canyon Avenue  
Irvine, CA 92618

**Re: San Joaquin Dam, DSOD Dam No. 1029-000  
Annual Surveillance Report from January 2022 to December 2022**

Dear Ms. Drake:

GEI Consultants, Inc. (GEI) is pleased to submit this Annual Surveillance Report for San Joaquin Dam covering the period from January 2022 to December 2022. This report is part of the scope of work described under our Professional Service Agreement between Irvine Ranch Water District (District) and GEI Consultants Inc. (GEI) dated February 11, 2019.

We appreciate this opportunity to provide the District with our services. Please contact Emerson Revolorio at [erevolorio@geiconsultants.com](mailto:erevolorio@geiconsultants.com) or Rich Sanchez at [rsanchez@geiconsultants.com](mailto:rsanchez@geiconsultants.com) with any questions.

Sincerely,

**GEI CONSULTANTS, INC.**



Richard Sanchez, P.E.  
Principal Engineer



Emerson Revolorio, P.E.  
Project Engineer

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Inspection Photographs of San Joaquin Dam - December 13, 2022

Reservoir Dam Valve Exercising Table

CNC Survey Report

West Drain Sediment Gradation Test Results

## **Acronyms and Abbreviations**

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AC	asphalt concrete
CCTV	closed Circuit Television
CML&C	cement-mortar-lined and coated
District	Irvine Ranch Water District
DSOD	State of California, Department of Water Resources, Division of Safety of Dams
El, EL, Elev	elevation
ft	feet
GEI	GEI Consultants, Inc.
gpm	gallons per minute
gal/min	gallons per minute
H:V	Horizontal to Vertical
ID	identification
in.	inches
liter/min	liters per min
MWD	Metropolitan Water District
MW	monitoring well
NAVD 88	North American Vertical Datum of 1988
NGVD 29	National Geodetic Vertical Datum of 1929
No.	number
NOAA	National Oceanic and Atmospheric Administration
P.E.	Professional Engineer
P or Piez	Piezometer
RCP	reinforced concrete pipe
Res.	Reservoir
VW or VB	Vibrating Wire
W.S.	water surface
YR	year



## 1.0 Introduction and Background

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### 1.1 General

This report presents the results of the dam safety monitoring and surveillance program for San Joaquin Dam (labeled as San Joaquin Reservoir Dam in the Division of Safety of Dams [DSOD] jurisdiction list) conducted by the Irvine Ranch Water District (District) and GEI Consultants, Inc. (GEI) for the period between January 2022 through December 2022. It includes a review of previous surveillance reports, a compilation of the field measurements, observations, and conclusions related to the general condition and safety of the dam. In addition, recommendations are provided for continued operation, surveillance and monitoring of the dam. This report is submitted as part of the jurisdictional requirements of DSOD.

This report includes graphical summaries of the field measurements of water levels in the piezometers and monitoring wells, seepage flows, and dam movement measurements. It also contains tabulated data of the field measurements of water levels in the piezometers and monitoring wells, seepage flow rates, silt and field survey measurements.

Figure 1 is a plan view of the dam and reservoir with a representative cross section of San Joaquin Dam. Figure 2 is a site plan of the dam and reservoir. Figures 3 through 6 are plans showing locations of piezometers, monitoring wells, and survey monuments. As used in this report, the left and right designations are as viewed looking downstream.

The vertical datum indicated on the as-built plans and project documents for San Joaquin Dam and Reservoir is the National Geodetic Vertical Datum of 1929 (NGVD 29). The reservoir water surface elevation and instrumentation data are currently being read based on the vertical datum of North American Vertical Datum of 1988 (NAVD 88). The height difference between datums is 2.375 ft and this same amount is to be added to elevations in NGVD 29 to obtain elevations in NAVD 88 for the San Joaquin Dam and Reservoir.

### 1.2 Dam and Reservoir

San Joaquin Dam and Reservoir were constructed in 1966 by the Irvine Ranch Water District (District) as a potable water storage facility. The facility was owned by a consortium of nine local water agencies including the District and the Metropolitan Water District of Southern California (MWD). The District subsequently acquired complete ownership of the dam and reservoir and converted it in 2004 from a potable facility to a reclaimed water facility. The conversion project components are detailed in as-built drawings approved by DSOD.

San Joaquin Dam is a zoned earthfill embankment located in Orange County, California. As-built plans show the dam crest is at Elevation of 476.0 ft (NGVD 29), with a crest length of 873

ft and a crest width of 30 ft. The height of the dam is 224 ft excluding 3 ft of camber at the center of the dam. The dam crest and upstream face are lined with asphalt concrete (AC). The reservoir is lined with compacted impervious earthen material which is overlaid by the AC. The upstream face of the dam has a slope gradient of 3H:1V with a bench at Elevation 420.0 ft (NGVD 29). The downstream face has a slope gradient of 2.25H:1V with three benches at Elevations 420.0 ft, 360.0 ft, and 300.0 ft (NGVD 29).

The watershed contributing to the reservoir has a drainage area of only 0.3 square miles, with water mostly diverted into the reservoir. The reservoir area is 50 acres, and the reservoir storage capacity is 3,036 acre-feet.

### **1.3 Spillway**

The spillway consists of two rectangular overpour drop inlets located near each abutment. The inlets are comprised of reinforced concrete structures with the control at Elevation 470.5 ft (NGVD 29), providing 5.5 ft of total freeboard. Each drop inlet is connected to a 48-inch reinforced concrete pipe. The reinforced concrete pipe transports the spillway flow of water which converge into a combined energy dissipation reinforced concrete box located in the stream channel downstream of the toe of the dam.

### **1.4 Outlet Works**

The outlet works intake structure consists of an inclined 60-inch-diameter mortar-lined and coated, welded steel pipe located beneath the reservoir slope (northeast) near the right end of the dam. There are four multi-level screened intake valves: a 24-inch butterfly valve at Elevation 360 ft (Outlet Valve #4), and three 48-inch-diameter valves at Elevations 380, 415, and 450 ft (Outlet Valves #3, 2, and 1, respectively) (NGVD 29). A 60-inch butterfly valve (Outlet Valve #5) is also located at the transition from the 60-inch-diameter steel intake pipe to the 60-inch-diameter outlet conduit near the right upstream groin toe area of the dam. The outlet conduit is a mortar-lined and coated, welded steel pipe that is concrete-encased and extends under the dam to a concrete blowoff structure near the downstream toe of the dam. The blowoff structure contains two 12-inch-diameter emergency blowoff valves located in series to minimize water waste when exercised. Water released from the blowoff valves drains into the east storm drain.

All five outlet valves and the two downstream blowoff valves were exercised during the 2022 review period. The District provided a Reservoir Dam Valve Exercising summary table which states that May 25, 2022, was the last time the valves were exercised.

## 2.0 Instrumentation Measurements

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### 2.1 General

The District normally operates the reservoir below Elevation 470.0 ft (NGVD 29) which is 0.5 foot below the spillways' crest. The reservoir is considered full by the District at this elevation. The crest of the dam is at Elevation 476.0 ft (NGVD 29) or 478.38 ft (NAVD 88), and the crest elevation of each of the two spillway inlets is at 470.5 ft (NGVD 29) or 472.88 ft (NAVD 88). An annual cycle of seasonal lowering of the reservoir during the spring and summer, and then refilling during the winter is the typical pattern of the District's operation at this reservoir.

Throughout this report, instrumentation measurements and readings that remained within historical limits and followed historical trends will be classified as normal. Historical limit is classified as the range between maximum and minimum water levels within the past ten years.

The elevation of the water surface in the reservoir is recorded each time a field visit is made to collect instrumentation data. Based on the ten-year historical data from January 2012 through December 2022, the reservoir water surface elevation varied from a minimum Elevation of 395 ft to a maximum Elevation of 472.05 ft. The exception was on July 5, 2019, where the reservoir level was recorded as 39.40 ft. This reading was an error and most likely should have been 394 ft. During this review period (2022), the reservoir water surface elevation varied from a minimum Elevation of 407.3 ft to a maximum Elevation of 467.8 ft. The reservoir elevations that were recorded on the same dates as instrumentation data was taken are shown in Tables 5 through 10, (NAVD 88). The reservoir water surface elevations during the 2022 review period remained within historical limits.

### 2.2 Instrumentation

Several types of instrumentation are being monitored at the dam and reservoir, including vibrating wire piezometers, pneumatic piezometers, open-well piezometers/monitoring wells, seepage monitoring flow points, and survey monuments. Instrumentation measurements and readings are typically made by District personnel on a monthly basis except for surveys which have been performed annually in past years. The District has been having problems with the data logger associated with the vibrating wire piezometers (VB-1 through VB-8) located on the upstream side of the dam starting in 2018. Based on the conversion formula the digital readings starting in 2018 are not resulting in reliable piezometer levels and are considered erroneous when compared to historical readings. In addition, during several months in 2021 (Table 6) error digital readings of -9999.00 were recorded. For this review period, the District provided GEI

with calibration sheets and the general formula for estimating the piezometer elevation level. GEI calculated the piezometer elevation levels using the information provided and the values were either negative or not within the top AC elevation and piezometer tip elevation. GEI considers the vibrating wire piezometer readings to still be erroneous.

The following is a summary of the instrumentation at San Joaquin Dam and Reservoir:

1. Eight vibrating wire piezometers, identified as VB-1 through VB-8, were installed in 2004. The locations of these piezometers are on the upstream side of the dam and are shown in Figure 3. These vibrating wire piezometers were placed in the dam, drilled to depth, grouted to the surface, and covered with asphalt and are considered permanent installations.
2. Twenty pneumatic piezometers were installed in 1965. These pneumatic piezometers are located in the dam embankment and abutments. They are grouped into sets of piezometers, identified as the C, LA, LR, RA, and RR series. Their locations are also shown in Figure 3.
3. Six open-well piezometers, identified as CP-1A and-1B, CP-2A and-2B, and CP-3A and- 3B, were installed in 1977 on the upstream perimeter end of the reservoir. The locations of the piezometers are shown in Figure 4.
4. Eight monitoring wells, identified as MW-1 through MW-8, were installed also around the perimeter of the reservoir in 2004. The locations of these wells are shown in Figures 4 and 5.
5. Flow rates are obtained at eight seepage monitoring stations. The flow points, which consist of V-notch weirs, are located as shown in Figure 2. They are identified as the East Drain, West Drain, Filter Drain, Upstream Collector Drain No. 1, Upstream Collector Drain No. 2, Downstream Toe Drain, and Floor Drain. An eighth seepage monitoring location is noted as the right groin drain (6/16/08 drain).
6. There were originally 36 survey monuments installed at the dam in 2004 as part of the reservoir conversion project. The original survey monuments are grouped into sets, identified as the SA, SB, SC, SD, SE, and SF sets. The SF series monuments (SF-1, SF-2 and SF-3) are located along the upstream toe of the dam and there is no data available for this series because they are submerged under the water. The SE series monuments (SE-1, SE-2, SE-3, SE-4, SE-5, SE-6 and SE-7) are located inside the reservoir and cannot be surveyed while the water surface elevation is above 423.0 ft (NAVD 88). SA-4, SE-1, and SE-4 are no longer being surveyed because they were destroyed. Because eight of the 33 active monuments are usually under water, there are currently 25 survey monuments being surveyed by the

District typically on an annual basis. The locations of the survey monuments are shown in Figure 6.

## **2.3 Piezometers and Monitoring wells**

Tabulated data since 2007 for piezometer and monitoring well measurements are presented in Table 5. Table 6 presents the vibrating water piezometer measurements since 2007. Table 7 contains the pneumatic piezometer measurements since 2007 as well.

Figures 7 through 11 present graphs of measured water levels in the reservoir, piezometers, and monitoring wells during the 2-year period from January 2021 through December 2022. Figures 12 through 16 present graphs of historical measured water levels in the reservoir, piezometers, and monitoring wells since 2012.

Figures 17 and 18 normally would be graphs of piezometer elevation levels based on the readings obtained from the vibrating wire piezometers, but due to problems with the data logger associated with these piezometers these Figures are only showing reservoir level measurements. As previously discussed, the digital readings starting in 2018 that were recorded are not resulting in reliable piezometer levels and not comparing well with previous levels. It is believed the digital readings are not correct. In addition, during several months in 2021 (Table 6) error digital readings were recorded. For this review period, the District provided GEI with calibration sheets and the general formula for estimating the piezometer elevation level. GEI calculated the piezometer elevation levels using the information provided and the results were erroneous negative piezometer elevations. Based on the review of this information, the District should start planning in the near future on abandoning the vibrating wire piezometers and installing new piezometers to monitor the saturation level through the upstream embankment zones 1, 2 and 3. Figures 19 and 20 are graphs of historical piezometer levels based on the readings obtained from the vibrating wire piezometers since 2012.

Figures 21 through 25 present graphs of piezometer levels based on the readings obtained from the pneumatic piezometers during the 2-year period from January 2021 through December 2022. Figures 26 through 30 present the historical water levels based on readings obtained from the pneumatic piezometers since 2012.

### **2.3.1 Open-Well Piezometers (CP-1A & CP-1B Through CP-3A & CP-3B)**

Data from the open-well piezometers (CP-1A, CP-1B, CP-2A, CP-2B, CP-3A and CP-3B) are collected monthly by the District. Table 5 presents the piezometer level data collected from these piezometers since 2007. Figures 7 and 12 are presentations of the piezometer levels in Piezometers CP-1A, CP-1B, CP-3A, and CP-3B, while Figures 8 and 13 are presentations of the piezometer levels in Piezometers CP-2A and CP-2B.

Table 1 provides the ranges between maximum and minimum water levels in each piezometer (CP-1A, CP-1B, CP-2A, CP-2B, CP-3A and CP-3B) based on trends from the ten-year historical data from January 2011 through December 2021, the ranges between maximum and minimum water levels during the 2021 review period, and the ranges between maximum and minimum water levels during the 2022 review period. Outlier readings with isolated spikes or drops were omitted and were not included in the maximum and minimum water level range.

**Table 1. Open-Well Piezometers – Maximum and Minimum Water Level Ranges**

Piezometer	2011-2021 10-year Maximum and Minimum Range (ft)	2021 Review Period Maximum and Minimum Range (ft)	2022 Review Period Maximum and Minimum Range (ft)	Comment
CP-1A	8.7	3.1	3.3	
CP-1B	1.2	0.3	6.2	Reading on 1/27/2022 was 5.5 ft above historical max. This was an isolated reading and the piezometer water level returned back to trend and historic range values.
CP-2A	8.3	5.1	10.9	Reading on 5/26/2022 was 3.8 ft below historical min. This was an isolated reading and the piezometer water level returned back to within historic range values.
CP-2B	3.2	1.9	10.4	Reading on 5/26/2022 was 8.1 ft above historical max. This was an isolated reading and the piezometer water level returned back to within historic range values. Reading was taken during the annual inspection to confirm the piezometer water level followed historical trends.
CP-3A	7.0	2.3	1.4	
CP-3B	5.3	1.4	8.2	Reading on 10/25/2022 was 6 ft above historical max. This was an isolated reading and the piezometer water level returned back to within historic range values.

Piezometer levels in all six open-well piezometers continue to follow past historic trends throughout the 2022 review period with changes due to reservoir level changes. There were readings in Piezometers CP-1B, CP-2A, CP-2B and CP-3B where one reading was either above the historical maximum or below the historical minimum reading. These readings were isolated since the readings returned back to historical trends based on the next month’s reading. All levels in the open-well piezometers remained within historical limits except for the ones identified in Table 1.

### **2.3.2 Monitoring Wells (MW-1 Through MW-8)**

The water levels in the eight Monitoring Wells MW-1 through MW-8 were measured once per month throughout the 2022 review period. Table 5 presents the historical water-level data obtained for these monitoring wells since 2007. Graphs of the water levels for the 2-year period

from January 2021 through December 2022 are shown in Figures 9, 10 and 11. The historical water levels since 2011 are presented in Figures 14, 15, and 16.

Table 2 provides the ranges between maximum and minimum water levels in each monitoring well (MW-1 through MW-8) based on trends from the ten-year historical data from January 2011 through December 2021, the ranges between maximum and minimum water levels during the 2021 review period, and the ranges between maximum and minimum water levels during the 2022 review period. Outlier readings with isolated spikes or drops were not included in the maximum and minimum monitoring well water level range.

**Table 2. Monitoring Wells – Maximum and Minimum Water Level Ranges**

Monitoring Well	2011-2021 10-year Maximum and Minimum Range (ft)	2021 Review Maximum and Minimum Range (ft)	2022 Review Period Maximum and Minimum Range (ft)	Comment
MW-1	4.8	1.3	1.0	
MW-2	6.0	1.0	0.6	
MW-3	5.3	2.3	2.1	Water levels have been reported below the record bottom of well elevation. The well is considered dry.
MW-4	2.3	0.8	1.1	Water levels have been reported near the record bottom of well or below the record bottom of well elevation. It was verified as dry during inspection.
MW-5	18.6	11.2	9.5	Reading was taken during inspection and confirmed the water level was following historical trends.
MW-6	6.3	6.1	5.0	Water levels have been reported near the record bottom of well or below the record bottom of well elevation. It was verified as dry during inspection.
MW-7	9.2	1.0	2.0	
MW-8	11.3	1.5	1.8	

During this 2022 review period the water levels in all monitoring wells followed historic trends. It was observed that water levels reported at MW-3, MW-4 and MW-6 were either below the bottom of well elevation or near it. GEI considers the wells to be dry based on review of the data, conversations with IRWD staff, and measurements performed during the annual inspection. Monitoring Well MW-5 was the most responsive to reservoir water level changes. Monitoring Well MW-8 levels continued to be above the reservoir water surface elevation because it is located in the subdivision above the reservoir and could be influenced by landscape runoff.

### **2.3.3 Vibrating Wire Piezometers (VB-1 Through VB-8)**

There are eight vibrating wire piezometers within the upstream side of the dam embankment, and they are read at a terminal station located on the crest of the dam. Data from the vibrating wire piezometers normally is collected by the District approximately once per month. Graphs of piezometer level elevations based on readings obtained from Vibrating Wire Piezometers VB-1, VB-2, VB-5, and VB-6 would typically be shown in Figures 17 and 19 while graphs of piezometer levels in Vibrating Wire Piezometers VB-3, VB-4, VB-7, and VB-8 would

be typically shown in Figures 18 and 20. As previously noted Figures 17 and 18 are only noting reservoir levels due to the data logger problems starting in 2018.

The digital readings for all vibrating wire piezometers starting in 2018 are resulting in unreliable piezometer levels and not comparing well with previous levels. It is believed the digital readings, or their conversion are not correct. In addition, during several months in 2021 (Table 6) error digital readings were noted by the District. For this review period, the District provided GEI with calibration sheets and the general formula for estimating the piezometer elevation level. GEI calculated the piezometer levels using the information provided resulting in erroneous readings. As mentioned above, the District should start planning in the near future on abandoning the vibrating wire piezometers and installing new piezometers. Figures 19 and 20 are graphs of historical piezometer levels based on the readings obtained from the vibrating wire piezometers since 2012.

### ***2.3.4 Pneumatic Piezometers (C, LA, RA, and RR Series)***

The pneumatic piezometers within the dam embankment and in the abutments are read at terminal stations located on the downstream face of the dam. Pneumatic piezometers are read by the District approximately once per month. The pneumatic piezometer levels are provided in Table 7 for the historical period since 2007. Plots representing the water-level elevations based on readings obtained from pneumatic piezometers C-1 through C-4 are shown in Figures 21 and 26, while plots representing the piezometer level elevations for pneumatic piezometers C-5 through C-8 are shown in Figures 22 and 27. Plots representing the piezometer level elevations based on readings obtained from pneumatic piezometers C-9, RR-2, LR-1, LR-2, LR-3, and LR-4 are shown in Figures 23 and 28, while plots representing the piezometer level elevations for pneumatic piezometers LA-1 and LA-2 are shown in Figures 24 and 29. Plots representing the piezometer level elevations based on readings obtained from pneumatic piezometers RA-1, RA-2, RA-3, and RA-4 are shown in Figures 25 and 30.

Table 3 provides the ranges between maximum and minimum water levels in each pneumatic piezometer based on trends from the ten-year historical data from January 2011 through December 2021, the ranges between maximum and minimum piezometer levels during the 2021 review period, and the ranges between maximum and minimum piezometer levels during the 2022 review period. Outlier readings with isolated spikes or drops were not included in the maximum and minimum piezometer level range.



**Table 3. Pneumatic Piezometers – Maximum and Minimum Water Level Ranges**

Pneumatic Piezometer	Last 10-year Maximum and Minimum Range (ft)	2021 Review Period Maximum and Minimum Range (ft)	2022 Review Period Maximum and Minimum Range (ft)	Comment
C-1	34.0	7.0	0	Readings reported were below the record bottom of piezometer tip elevation.
C-2	7.0	2.0	2.0	Readings reported on 1/27/2022, 4/26/2022 to 6/28/2022 and 9/28/2022 were at the historical max.
C-3	5.0	3.0	1.2	Readings reported on 1/27/2022, 3/23/2022, 4/26/2022, 6/28/2022 and 7/26/2022 were at the historical max. Readings reported on 9/28/2022 and 10/25/2022 were below the record bottom of piezometer tip elevation.
C-4	74.0	62.0	58.0	
C-5	8.0	2.0	1.0	
C-6	22.0	15.0	17.0	Reading reported on 4/26/2022 was at the historical max. This was an isolated reading and the piezometer water level returned back to within historic range values.
C-7	4.0	2.0	0	Readings reported were below the record bottom of piezometer tip elevation.
C-8	20.0	10.0	16.0	
C-9	11.0	1.0	0	Readings reported were below the record bottom of piezometer tip elevation.
RR-2	81.0	70.0	54.0	Reading from 2/23/2022 omitted due to zero reading.
LA-1	80.0	70.0	64.0	
LA-2	33.0	24.0	18.4	Readings reported between 7/26/2022 and 10/25/2022 were below the record bottom of piezometer tip elevation.
RA-1	48.0	42.0	40.0	Reading reported on 1/27/2022 was at the historical max. This was an isolated reading and the piezometer water level returned to within historic range values.
RA-2	29.0	23.0	21.0	
RA-3	66.0	58.0	52.0	
RA-4	18.0	18.0	0	All readings were zero.
LR-1	7.0	4.0	4.0	Reading reported on 6/28/2022 was at historical max and reading on 9/28/2022 was above the historical max by 1 foot. The piezometer water levels appear to be following a trend and historic range values.
LR-2	6.0	4.0	3.0	
LR-3	84.0	72.0	68.0	Zero reading on 12/20/2022
LR-4	44.0	35.0	31.0	Readings reported between 7/26/2022 and 12/20/2022 were below the record bottom of piezometer tip elevation.

Multiple pneumatic piezometers were reporting piezometer levels below the bottom of piezometer tip elevations, and zero readings. During the inspection, GEI tried to exercise the control and relief valves at the pneumatic piezometer vault box at the lower bench of the dam. GEI was unable to exercise the valves because they were not functioning. During the inspection, IRWD said the gauge readings have not been fluctuating and the pneumatic piezometers have not

been maintained. GEI recommends that all pneumatic piezometers be maintained per manufacture's requirements and re-calibrated.

## **2.4 Subdrain Flow Rates**

Subdrain flows are measured by the District at eight seepage monitoring stations. The flows from the East Drain, West Drain, and Filter Drain are measured at three separate V-notch weirs in the blow-off structure near the downstream toe of the dam. The flows from the Upstream Collector Drain Nos. 1 and 2 are measured at two V-notch weirs at the downstream toe of the dam. The flows from the Downstream Toe Drain and the Floor Drain are measured in two separate V-notch weirs adjacent to the energy dissipator structure. An eighth seepage monitoring location is also measured near the outlet structure referred to as the right groin drain (6/16/08 drain). The locations of the seepage monitoring weirs are shown in Figure 2. The flow data from the weirs is collected monthly by the District.

Tabulated data for the historical period since 2007 is presented in Table 8. Figures 31 and 32 are graphs representing the seepage flow rates for the 2-year period from January 2021 through December 2022. Figures 33 and 34 are graphs representing the seepage flow rates for the historical ten years' period from 2012 to 2022.

Table 4 provides maximum and minimum flow rates from each drain based on trends from the ten-year historical data from January 2011 through December 2021, maximum and minimum flow rates during the 2021 review period, and maximum and minimum flow rates during the 2022 review period:

**Table 4. Subdrain Flow Rates – Maximum and Minimum Flow Rate Ranges**

Subdrain	2011-2021 10-year Maximum and Minimum (gpm)	2021 Review Maximum and Minimum (gpm)	2022 Review Period Maximum and Minimum (gpm)
East Drain	63.9 (2/25/2015) to 8.1 (10/26/2011)	44.4 (3/23/2021) to 10.2 (9/29/2021)	45.8 (1/27/2022) to 10.2 (10/25/2022)
West Drain	74.9 (3/29/2011) to 13.7 (12/22/2020)	44.2 (3/29/2011) to 16.7 (9/29/2021)	43.2 (4/26/2022) to 14.7 (10/25/2022)
Filter Drain	12.9 (3/29/2011) to 3.0 (11/25/2021)	7.5 (1/27/2021) to 3.0 (11/25/2021)	7.9 (7/26/2022) to 5.9 (12/20/2022)
Upstream Collector Drain #1	0.7 (4/27/2011) to 0	Dry	Dry
Upstream Collector Drain #2	0.2 (8/24/2011) to 0	Dry	Dry
Downstream Toe Drain	4.1 (4/29/2020) to 1.1 (8/24/2021)	2.5 (1/27/2021) to 1.1 (8/24/2021)	8.0 (5/26/2022) to 0.66 (1/27/2022)
Floor Drain	10.6 (6/26/2012) to 2.2 (8/24/2021)	5.3 (3/23/2021) to 2.2 (8/24/2021)	5.3 (8/25/2022) to 1.2 (1/27/2022)
Right Groin Drain	2.3 (2/1/2011) to 0 (5/26/2011)	0.39 (3/23/2021) to 0.14 (8/24/2021)	0.5 (1/27/2022) to 0.16 (9/28/2022)

During the 2022 report period, the flows discharged from the East Drain and the West Drain tracked the reservoir closely, while the flows discharged from the Downstream Toe Drain and the Floor Drain also responded to the reservoir water level changes and rainfall. The Downstream Toe Drain had a peak flow of 8.0 gpm on 5/26/2022 which was above the historical max reading. GEI considers this an isolated reading since the flow rates returned to the historical trend. Discharges from the Upstream Collector Drains #1 and #2 did not show any response to the reservoir water surface elevation changes and remained at zero. In addition, the Filter and Right Groin Drains showed slight responses to the reservoir water level changes.

The Upstream Collector Drains were dry during the inspection and have been dry for several years. GEI reviewed a Closed-Circuit Television (CCTV) inspection report that was conducted in November 2022 by V&A Consulting Engineers (V&A Consulting Engineers, 2022). The inspection did not encounter any major obstructions in the pipes that would prevent the flow of water. The CCTV tractor was unable to traverse the 90-degree turn where the toe drains connect to the perforated drain collector.

Based on GEI's review of the seepage flow data, the flow rates and the flow patterns are within historical limits and patterns, and there are no indications of any adverse conditions at the dam due to the monitored seepage amounts.

#### **2.4.1 Sediment Collection (East, West, and Filter Drains)**

During the 2022 review period, the District provided sediment accumulation data for the West Drain for March, April, May, September and November. The sediment weight in the September

reading measured 39.96 lbs. GEI alerted the District because this is a significant increase from previous months. The District informed GEI that this was a typo in documentation but was unable to confirm the actual weight since the sample was discarded. The District took another sample in November and recorded a weight of 13.4 lbs. GEI considers this another significant amount of sediment. GEI was unable to verify the amount of sediment since it was also thrown away. Monthly readings are required to provide a more thorough review of the impact of sedimentation accumulation at the West drain. It was reported sediment amounts have not been collected and measured on a regular basis. During the 2022 inspection, the District reported that samples are typically thrown away or stored in their storage yard. Table 9 provides the recorded sedimentation measurements. The measurements are not being taken on a consistent interval and gaps exist. The last set of sedimentation measurements during 2022 was on November 24, 2022.

The District performed a hydrometer analysis on the sediment material collected in January 2023. The sediment material is a low plasticity sandy silt and is within the gradation limits of the zone 1 impervious material shown in the project as-built plans. The results of the hydrometer analysis are shown in the appendix of this report. See conclusions and recommendations for further discussion on observed sedimentation.

## 2.5 Movement Surveys

The District performed an initial survey of the horizontal and vertical movements at the dam in 2004 using the NGVD 29 vertical datum. Beginning in 2005, all surveys were referenced to the NAVD 88 vertical datum. Surveys are normally performed annually with the exceptions in 2017 and 2021. No surveys were conducted in calendar year 2017 and 2021. A survey was conducted during November 2022 that has been included in this report. The survey report is provided in the Appendix of this report.

Tabulated data for the surveying of horizontal and vertical movement since 2004 are presented in Table 10. Figures 35 and 39 are graphs representing the horizontal and vertical movements for survey monuments SA-1 through SA-3. Figures 36 and 40 are graphs representing the horizontal and vertical movements for survey monuments SB-1 through SB-7. Figures 37 and 41 are graphs representing the horizontal and vertical movements for survey monuments SC-1 through SC-8. Figures 38 and 42 are graphs representing the horizontal and vertical movements for survey monuments SD-1 through SD-7. The SE-series and SF-series survey monuments are not shown in the tables or graphs because these monuments are located on the lower upstream face of the dam and are normally submerged under the water in the reservoir.

As noted above, a survey was performed in November 2022 that has been included in this report. The survey data for the 2022 review period has been evaluated and followed historic trends. The survey monuments at the crest (SD-1 to SD-7) showed downstream horizontal movement and settlement. The horizontal movement varied from 0.12 to 0.24 inches with an average of 0.16 inches. Settlement varied from 0.23 to 0.32 inches with an average of 0.28

inches. The survey monuments at the first downstream bench (SC-1 to SC-8) showed upstream horizontal movement and settlement. The horizontal movement varied from 0 to 0.24 inches with an average of 0.13 inches. Settlement varied from 0.3 to 0.5 inches with an average of 0.37 inches. These small measure amount of movement have been observed in the past and appear to be within historical changes due to accuracy survey, reservoir water level changes and temperature changes. Based on GEI's review of the historical data and the inspection, there was no significant or unusual movement occurring at the dam.

## 3.0 Field Evaluations

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### 3.1 Field Evaluation of December 13, 2022

A field evaluation and inspection were performed by Richard Sanchez and Emerson Revolorio of GEI, Danielle Drake, Marina Lindsey and Alex Ledesma of the District on December 13, 2022. The reservoir level was reported at Elevation 434 ft (NAVD 88). Weather conditions were cool and partly cloudy with temperature in the high 40s. Photos taken by GEI are included in the Appendix of this report.

#### 3.1.1 Dam

The upstream slope asphalt concrete lining above the reservoir water level showed signs of recent patchwork repair to address the localized areas with fatigue cracking and large potholes, see Photos 1-2. The condition of the crest appeared to be in similar conditions to what was observed during the April 2022 inspection. The crest of the dam was walked and based on the inspection observations; the asphalt concrete crest surface, curbs, and guard rail had no unusual signs of movement or distress, see Photo 3. The AC paving did have some areas where there is noticeable shrinkage-expansion temperature type cracking that was longstanding based on previous inspections of the dam, see Photos 4 and 5. The curbs on the upstream side of the crest had some areas with minor cracks and spalling at joints due to expansion/contraction, see Photo 6. These areas will need to be repaired but not considered a problem to the safety of the dam. No signs of slope instability were seen on the dam surfaces or abutment areas. The District reported it had rained the days before this inspection. The embankment downstream slope was saturated due to the recent rains and the downstream slope was inspected from select points, see Photos 7-10. During the inspection, GEI tried to exercise the pneumatic piezometers' control and relief valves but was unsuccessful because they were locked or not working properly, see Photos 11 and 12. According to the District, the gauge readings have not been fluctuating and need to be re-calibrated. The District also mentioned that the pneumatic piezometers have not been maintained. No active rodent activity was seen on the dam. During the inspection, GEI discovered that most of the rodent control feeder boxes on the dam were empty. The downstream slope had no signs of instability or distress areas, see Photos 7-10. The downstream toe area of the dam was also inspected, and no unusual signs were seen. During the inspection, GEI observed a small amount of seepage exiting the toe area of the dam and trickling into the stilling basin, which has been observed on previous inspections, see Photo 13. Significant corrosion was observed on the safety handrails and ladders at energy dissipator structure, see Photo 14 and 15. The District mentioned that there were times during the review year where reservoir water level was dropped by 3 feet per day. GEI checked the readings at MW-4, MW-5, MW-6 and CP-2B and didn't find any issues. Overall, the condition of the dam remains largely unchanged from the

conditions observed during the April 18, 2022, inspection. Overall, the dam was well maintained with no signs of instability or distress.

### **3.1.2 Reservoir Liner**

During the inspection, the District informed GEI about reservoir liner cracking and movement at the left south end of the reservoir. GEI observed 2 to 3 inches of traverse separation cracking along the south liner. GEI also observed ~2-inches of longitudinal cracking along the liner, see Photos 16-18. A geotechnical investigation was performed by Ninyo & Moore on November 2, 2022, to evaluate the reservoir liner cracking. In their Geotechnical Evaluation report (Ninyo & Moore, 2022), Ninyo & Moore concluded that the majority of the cracking was due to long-term shrinkage of the asphalt concrete. It is recommended the cracks be sealed to prevent any rainfall water infiltration that might exacerbate the cracks. The District should also continue monitoring the cracking and liner movement. Since the reservoir liner cracking and movement is at the left south end of the reservoir, GEI does not consider this to be an immediate dam safety issue but continue maintenance (sealing of cracks) and monitoring of these cracks is recommended.

### **3.1.3 Spillway**

The two drop box inlet spillways were inspected on each end of the upstream slope of the dam and were clear and fully functional, see Photo 19 and 20. The concrete surfaces were examined and found in good condition. The entrances to the two 48-inch reinforced concrete pipe (RCP) conduits were clear. The exit at the dissipator structure was also clear, see Photo 14. During the inspection, GEI observed overgrown vegetation downstream of the dissipator structure at the exit channel, that the District is monitoring and cutting back when necessary. The dissipator concrete structure had no visual signs of structural deficiencies and was clear for water flow. Overall, the condition of the spillway and dissipator structure remains largely unchanged from the conditions observed during the April 18, 2022, inspection.

### **3.1.4 Outlet Works**

The upstream outlet controls and 24-inch, 60-inch, and three 48-inch butterfly valves located on the slope of the reservoir at various levels, with pneumatic controls were not exercised during the inspection. The District stated the outlet valves have not been repaired. According to the District, outlet valve #4 is not working, #3 and #2 are leaking but working, #1 and #5 are blown out and not working, and Outlet valve #5 is always open. The District stated that a work ticket was submitted a few years back.

The downstream blowoff valves were not exercised during the inspection but the District reported they were fully exercised on May 25, 2022.

### **3.1.5 Seepage**

There were no signs of abnormal seepage observed on the downstream slope, along the groins, or along the toe of the dam. The following seepage or dry conditions were observed and noted during the inspection, see Photos 21-22:

East = 17.03 gpm	U/S Collector Drains #1 and #2 = Dry	
West = 22.83 gpm	Right Groin Drain = 0.38 gpm	
Filter = 6.15 gpm	D/S Toe = 1.9 gpm	Floor Drain = 10.3 gpm

Above seepage amount are considered within historic levels. The Upstream Collector Drains #1 and #2 were dry and the exposed steel was corroded, see Photo 21. The District has been providing GEI with recent sedimentation measurement data from the West drain. During the inspection, the District mentioned that they had thrown away the recent sediment deposits from the West Drain. The seepage water observed at the Floor, Toe and Right Groin (6/16/08 drain) drains was clear.



## 4.0 Conclusions and Recommendations

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### 4.1 Conclusions

- 1) Based on the review of available instrumentation data and the field inspection, the dam does not appear to have signs of structural deficiencies, seepage, or instability.
- 2) The upstream slope asphalt concrete lining above the reservoir water level showed signs of recent patchwork repair to address the localized areas with fatigue cracking and large potholes.
- 3) Spillway approaches, control structures and entrances and exit were clear with no structural deficiencies seen.
- 4) The District informed GEI about reservoir liner cracking and movement at the left south end of the reservoir. GEI observed 2 to 3 inches of traverse separation cracking along the south liner. GEI also observed ~2-inches of longitudinal wide cracking along the liner. Ninyo & Moore concluded that the majority of the cracking was due to long-term shrinkage of the asphalt concrete.
- 5) The District mentioned that there were times during the review year where reservoir water level was dropped by 3 feet per day. This is within the existing drawdown program established for San Joaquin Dam.
- 6) Water levels reported at MW-3, MW-4 and MW-6 were either below the bottom of well elevation or near it. GEI considers the wells to be dry based on review of the data and observations during the inspection.
- 7) GEI checked the readings at MW-4, MW-5, MW-6 and CP-2B and didn't find any issues.
- 8) The data logger associated with the vibrating wire piezometers is still producing erroneous values. Performing conversation calculations with the information the District provided result in erroneous values.
- 9) Multiple pneumatic piezometers were reporting piezometer levels below the bottom of piezometer tip elevations, and zero readings.
- 10) The pneumatic piezometers' readings could not be checked during the inspection due to poor maintenance of the piezometer read-out equipment. The control valves and relief valves could not be turned because they have not been maintained. The gauge readings have not been fluctuating.

- 11) The pneumatic piezometer gauge boxes are heavily corroded.
- 12) The four of the upstream outlet valves and two blowoff valves were not exercised during the December 13, 2022, inspection. Based on inspection discussions, the outlet valves have not been repaired since the April 2022 inspection. During the inspection, GEI discovered that outlet valve #4 is not working, #3 and #2 have leaks in their hydraulic lines but working, #1 and #5 are also not working. Outlet valve #5 is always open. The District stated that a work ticket to fix the valves and hydraulic lines was submitted a few years back.
- 13) The 2022 survey data was reviewed, and the horizontal and vertical survey movement measurements were found normal within historical values and trends. GEI observed horizontal movement and settlement at the dam crest and first downstream bench. These small measure amount of movement have been observed in the past and appear to be within historical changes due to accuracy survey, reservoir water level changes and temperature changes.
- 14) The AC pavement on the dam crest looked similar to what was observed during the inspection in April 2022.
- 15) The concrete curbs on the upstream crest looked similar to what was observed during the inspection in April 2022.
- 16) The overgrown vegetation downstream and adjacent to the energy dissipator structure appeared unchanged since the April 2022 inspection.
- 17) There was a lack of poison at most rodent control feeder boxes.
- 18) Sedimentation samples from the west drain were not available and reported thrown out. Sedimentation being removed from the drains has not been measured in regular intervals.
- 19) The handrails and ladders at the energy dissipation structure are heavily corroded and need to be replaced.
- 20) The collector drains outfalls are dry and exposed steel was corroded.
- 21) It was reported it had rained the days before this inspection. The embankment downstream slope was saturated due to the recent rains.
- 22) GEI recorded seepage readings at all seepage drains. The seepage amounts were within past historical levels and seepage water was clear.

## 4.2 Recommendations

- 1) The District should start planning in the near future on abandoning the vibrating wire piezometers and installing new piezometers to monitor the saturation level across the upstream embankment zones 1, 2, and 3.
- 2) Surveyor needs to include the reservoir elevation, air temperature and weather conditions with future surveys so that survey movement data can be further evaluated.
- 3) The District should continue to follow the existing drawdown program.
- 4) The District should continue monitoring of the liner cracking and movement. AC liner cracks should be filled with flexible joint sealant.
- 5) The District should make a comment in their piezometer data report indicating when a well or piezometer is dry.
- 6) The pneumatic piezometers need re-calibration and gauge boxes maintained.
- 7) The four upstream outlet valves and two blowoff valves need to be repaired.
- 8) GEI recommends a camera inspection of both spillway conduits be performed at 10-year intervals.
- 9) Repair the minor concrete spalling observed at concrete curb joints.
- 10) The District needs to measure, and record sedimentation being removed from the drains monthly. Upon the District performing a soil gradation analysis of the sedimentation material being collected, the results are to be compared to materials used in the construction of the dam and reservoir perimeter.
- 11) Continue exercising the outlet control valves and emergency blowoffs annually and keep a log showing dates of exercising that can be reviewed during inspections.
- 12) Fill rodent abatement traps with poison and maintain.
- 13) Repair corroded metal equipment, for example piezometer gauge boxes, ladders, and safety handrails near outlet facilities.
- 14) Repair broken corroded collector drains.
- 15) During normal operations at the reservoir, District personnel shall continue observing the condition of the dam and appurtenances, looking for signs of distress or movement, increased seepage, or other unusual conditions. Any unusual observations should be

reported immediately to the Dam Safety Engineer.

- 16) GEI recommends continuing following IRWD's Dam Safety Program Guidelines after a 4.0 earthquake.

**San Joaquin Dam Action Item Summary**

<b>Item</b>	<b>Location</b>	<b>Maintenance</b>	<b>Measures</b>
Vibrating Wire Piezometers (VWP)	Dam upstream face	Error readings	The District should start planning in the near future on abandoning the vibrating wire piezometers and installing new piezometers to monitor the saturation level across the upstream embankment zones 1, 2, and 3.
Movement Surveys	Throughout dam	Need additional information	Provide reservoir elevation, air temperature and weather conditions during each survey.
Reservoir Liner Cracking	Left south end of the reservoir	Reservoir liner cracking and movement	The District to continue monitoring of the liner cracking and movement. Liner cracks should be filled with flexible joint sealant.
Piezometer Data	Throughout dam and reservoir	N/A	Make a comment in the piezometer data report indicating when a well or piezometer is dry.
Pneumatic piezometers	Throughout dam	The control and relief valves are locked, and the gauge readings have not been fluctuating	Need to be maintained and re-calibrate.
Outlet valves	Control house	Outlet valves are not working and leaking at hydraulic control lines	Repair valves.
AC pavement	Dam crest	Shrinkage-expansion temperature cracking	Repair AC pavement by filling in cracks and creating a smooth surface.
Spillway Conduits	Right and Left Spillway Inlets	General Inspection	Conduct a camera inspection of conduits
Rodent control feeder boxes	Throughout dam	Lack of poison in rodent control feeder boxes	Fill and maintain rodent control feeder boxes with poison
West Drain	V-notch weirs at blowoff structure	Minor sedimentation has been measured in the past	Monitor and record amount of sedimentation monthly.
Concrete curbs	Upstream side of crest	Curbs have minor cracks and spalling at joints.	Repair concrete spalling at curbs

Item	Location	Maintenance	Measures
Handrails, ladders, and vault boxes for pneumatic piezometers	Above the energy dissipation structure and along benches	Significant corrosion was observed along safety handrails and ladder near the dissipation structure and at vault boxes for the pneumatic piezometers	Repair corroded handrails, ladders, and equipment boxes
Collector drains	Lower bench at the downstream toe of the dam	The drains are heavily corroded and dry	Repair corroded drains

## 5.0 Limitations

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This report presents observations made, conclusions drawn, and opinions formed from (1) a visual inspection of the San Joaquin Dam and its appurtenant structures, and (2) a review of instrumentation data, including piezometer levels, survey data and seepage rates, collected by the District. The purpose of the inspection and review is to assess the safety of the structure for continuing operation. Reuse of this report for any other purposes, in part or in whole, is at the sole risk of the user.

In the context intended above, the term “safety” is interpreted to be restricted specifically to major structural and control features of the project in regard to their adequacy against possible catastrophic failure due to natural or operational events. No consideration is given herein to those public safety aspects related to voluntary occupancy or use of project features in such manner as to result in personal mishaps.

The undersigned who performed the inspection and reviewed the instrumentation data and prepared this report, desire that it be clearly understood that the conclusions regarding the condition and safety of the dam and related facilities are not guaranteed but do represent our best judgment. Inevitably, such judgment must be recognized to be affected to an uncertain degree by the practical limitations that affect all dam evaluations, relative principally to approximate knowledge of the existing properties of the structures and their foundations, the potential for storm or seismic damage, and the uncertainties that are known to exist in estimating margins of this report represents the results of our surveillance program for San Joaquin Dam, covering safety.

The conclusions and professional opinions presented herein were developed by GEI Consultants, Inc. for the Irvine Ranch Water District in accordance with generally accepted engineering principles and practices. We make no other warranty, either expressed or implied.

## 6.0 References

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Genterra, 2018, Annual Surveillance Report January 2017 through December 2017 San Joaquin Dam DSOD Dam No. 1029-000, Newport Beach, CA, by Genterra Consultants Inc., November 26, 2018.

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## Tables

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		88.70	399.10		66.20	422.80	
2/27/2007	426.80		88.70	399.10		63.00	426.00	
3/28/2007	438.80		88.80	399.00		66.80	422.20	
4/26/2007	450.90		88.20	399.60		66.60	422.40	
5/23/2007	461.40		88.00	399.80		66.90	422.10	
6/27/2007	457.20		87.10	400.70		66.10	422.90	
7/26/2007	445.50		87.30	400.50		65.80	423.20	
8/28/2007	434.60		86.90	400.90		65.50	423.50	
9/25/2007	416.80		86.90	400.90		65.40	423.60	
10/24/2007	404.50		86.70	401.10		65.00	424.00	
11/27/2007	422.20		86.70	401.10		65.60	423.40	
1/3/2008	443.20		86.40	401.40		65.40	423.60	
1/29/2008	452.20		86.50	401.30		65.04	423.96	
2/27/2008	460.80		85.90	401.90		64.70	424.30	
3/26/2008	468.00		85.70	402.10		63.90	425.10	
4/29/2008	468.60		83.70	404.10		62.90	426.10	
5/29/2008	464.70		84.70	403.10		62.60	426.40	
6/26/2008	455.70		84.20	403.60		61.90	427.10	
7/29/2008	447.30	0.00	84.00	403.80		61.20	427.80	
8/28/2008	438.80	0.00	83.50	404.30		58.20	430.80	
9/26/2008	430.70	0.00	83.30	404.50		60.90	428.10	
10/29/2008	412.50	0.00	83.40	404.40		61.10	427.90	
11/25/2008	404.70	2.60	83.30	404.50		60.70	428.30	
12/30/2008	440.90	3.42	83.40	404.40		61.00	428.00	
1/28/2009	463.70	0.17	83.00	404.80		61.00	428.00	
2/25/2009	470.10	3.35	82.60	405.20		60.80	428.20	
3/26/2009	469.40	0.19	82.20	405.60		60.60	428.40	
4/29/2009	466.90	0.07	82.20	405.60		60.70	428.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	81.90	405.90		60.70	428.30	
5/29/2009	465.00	0.00	81.80	406.00		60.60	428.40	
6/30/2009	460.20	0.00	81.30	406.50		60.60	428.40	
7/30/2009	451.10	0.00	81.20	406.60		60.10	428.90	
8/25/2009	440.10	0.00	81.00	406.80		59.90	429.10	
9/30/2009	432.20	0.00	81.10	406.70		59.85	429.15	
10/29/2009	431.40	0.53	81.20	406.60		60.30	428.70	
12/1/2009	427.40	0.00	81.10	406.70		60.90	428.10	
12/29/2009	448.10	2.06	81.36	406.40		61.30	427.70	
1/27/2010	465.60	4.62	80.90	406.90		61.50	427.50	
2/25/2010	470.20	2.51	81.40	406.40		61.50	427.50	
3/29/2010	465.70	0.99	80.60	407.20		61.40	427.60	
4/4/2010	465.00		80.50	407.30		61.40	427.60	
4/27/2010	468.40	1.23	80.50	407.30		61.20	427.80	
5/27/2010	463.30	0.05	80.70	407.10		61.60	427.40	
6/30/2010	454.70	0.00	80.50	407.30		61.60	427.40	
7/28/2010	445.60	0.00	80.60	407.20		61.60	427.40	
8/31/2010	437.10	0.00	80.80	407.00		62.20	426.80	
9/29/2010	422.70	0.00	80.60	407.20		62.30	426.70	
10/27/2010	426.40	2.38	81.00	406.80		62.80	426.20	
11/29/2010	439.80	0.97	81.50	406.30		63.40	425.60	
12/30/2010	456.60	8.62	80.90	406.90		63.10	425.90	
2/1/2011	468.90	0.92	80.60	407.20		62.90	426.10	
2/23/2011	469.00	0.99	80.60	407.20		62.80	426.20	
3/29/2011	470.30	2.93	80.50	407.30		62.50	426.50	
4/27/2011	464.80	0.19	80.25	407.60		62.55	426.45	
5/26/2011	457.30	0.48	80.10	407.70		62.60	426.40	
6/28/2011	443.50	0.05	79.90	407.90		62.70	426.30	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	80.25	407.60		62.80	426.20	
8/24/2011	418.00	0.00	80.40	407.40		62.90	426.10	
9/27/2011	400.90	0.12	80.60	407.20		63.30	425.70	
10/26/2011	402.20	1.25	81.20	406.60		63.90	425.10	
11/30/2011	425.10	1.38	81.30	406.50		63.80	425.20	
12/21/2011	435.70	0.32	81.50	406.30		64.20	424.80	
1/24/2012	441.40	0.53	81.70	406.10		64.70	424.30	
2/28/2012	448.40	0.42	82.10	405.70		65.20	423.80	
3/26/2012	452.70	1.06	81.80	406.00		64.90	424.10	
4/23/2012	463.40	1.32	81.40	406.40		64.80	424.20	
5/30/2012	457.30	0.02	81.50	406.30		64.70	424.30	
6/13/2012	452.90	0.02	81.30	406.50		64.70	424.30	
6/26/2012	450.20	0.00	81.40	406.40		64.90	424.10	
7/24/2012	439.80	0.00	81.60	406.20		65.10	423.90	
8/8/2012	437.60	0.12	81.50	406.30		64.30	424.70	
8/22/2012	433.40	0.00	81.55	406.30		65.20	423.80	
8/29/2012	431.30	0.00	81.50	406.30		65.10	423.90	
9/25/2012	420.80	0.00	81.75	406.10		65.30	423.70	
10/31/2012	412.30	0.26	82.30	405.50		65.50	423.50	
11/27/2012	420.80	0.58	82.90	404.90		65.70	423.30	
12/18/2012	448.00	1.44	82.30	405.50		65.30	423.70	
1/29/2013	468.60	1.18	82.40	405.40		65.50	423.50	
2/28/2013	469.20	0.30	81.90	405.90		64.80	424.20	
3/27/2013	468.30	0.50	81.35	406.50		64.70	424.30	
4/25/2013	462.70	0.00	81.20	406.60		64.60	424.40	
5/21/2013	454.20	0.00	81.10	406.70		64.60	424.40	
6/25/2013	439.30	0.00	81.20	406.60		64.75	424.25	
7/23/2013	431.50	0.00	81.40	406.40		64.80	424.20	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	81.70	406.10		64.90	424.10	
9/24/2013	404.00	0.00	82.00	405.80		65.00	424.00	
10/29/2013	400.60	0.00	82.50	405.30		65.40	423.60	
11/26/2013	407.90	0.44	83.00	404.80		69.70	419.30	Omitted
12/19/2013	425.80	0.54	82.50	405.30		66.40	422.60	
1/28/2014	439.70	0.00	83.20	404.60		66.50	422.50	
2/25/2014	449.70	0.83	83.20	404.60		66.70	422.30	
3/26/2014	465.10		83.00	404.80		66.80	422.20	
3/28/2014	465.70	1.15	83.20	404.60		66.90	422.10	
4/29/2014	465.30	0.43	82.90	404.90		66.90	422.10	
5/28/2014	450.60	0.00	82.90	404.90		66.90	422.10	
6/25/2014	440.10	0.00	82.80	405.00		67.90	421.10	
7/29/2014	431.20	0.00	83.00	404.80		67.00	422.00	
8/26/2014	419.50	0.02	83.20	404.60		67.20	421.80	
9/23/2014	405.30	0.00	83.30	404.50		67.00	422.00	
10/29/2014	400.90	0.00	83.60	404.20		66.80	422.20	
11/25/2014	410.90	0.25	84.20	403.60		67.30	421.70	
12/30/2014	430.60	2.94	83.80	404.00		66.90	422.10	
1/27/2015	466.70	0.83	83.70	404.10		67.10	421.90	
2/25/2015	468.90	0.69	83.40	404.40		67.10	421.90	
3/26/2015	465.90	0.61	83.10	404.70		66.80	422.20	
4/28/2015	465.70	0.20	82.50	405.30		66.50	422.50	
5/28/2015	466.40	1.08	82.50	405.30		66.30	422.70	
6/30/2015	454.50	0.00	82.00	405.80		66.10	422.90	
7/28/2015	445.60	0.00	82.20	405.60		65.90	423.10	
8/28/2015	437.60	0.00	82.20	405.60		66.00	423.00	
9/24/2015	426.90	1.51	82.40	405.40		65.80	423.20	
10/27/2015	415.40	0.49	82.70	405.10		66.00	423.00	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	83.00	404.80		66.70	422.30	
12/22/2015	425.50	0.69	83.10	404.70		66.90	422.10	
1/27/2016	463.60	2.86	83.10	404.70		67.50	421.50	
2/25/2016	468.90	0.25	83.50	404.30		67.30	421.70	
3/30/2016	468.00	1.44	82.80	405.00		62.20	426.80	Omitted
4/28/2016	461.30	0.30	82.70	405.10		67.20	421.80	
5/25/2016	451.30	0.18	82.85	405.00		67.30	421.70	
6/28/2016	414.10	0.00	82.80	405.00		67.30	421.70	
7/27/2016	434.20	0.00	82.80	405.00		67.40	421.60	
8/23/2016	418.60	0.00	83.30	404.50		67.50	421.50	
9/27/2016	406.40	0.00	83.40	404.40		67.30	421.70	
10/26/2016	404.00	0.48	84.00	403.80		67.40	421.60	
11/22/2016	413.60	1.13	84.40	403.40		67.70	421.30	
12/20/2016	441.10	3.48	84.60	403.20		67.65	421.35	
1/26/2017	471.60	5.67	84.50	403.30		67.70	421.30	
2/24/2017	472.05	3.95	84.10	403.70		67.50	421.50	
2/25/2017	472.00		84.05	403.80		67.45	421.55	
2/26/2017	472.00		84.10	403.70		67.40	421.60	
2/27/2017	472.00		83.90	403.90		67.50	421.50	
2/28/2017	471.90		83.90	403.90		68.21	420.79	
3/1/2017	471.90		84.20	403.60		67.60	421.40	
3/2/2017	471.90		84.00	403.80		67.36	421.64	
3/29/2017	467.90	0.10	83.70	404.10		67.30	421.70	
4/27/2017	457.60	0.04	83.30	404.50		67.10	421.90	
5/23/2017	453.50	0.43	83.40	404.40		67.10	421.90	
6/21/2017	447.40	0.00	83.20	404.60		66.80	422.20	
7/26/2017	435.10	0.00	83.40	404.40		66.80	422.20	
8/25/2017	420.10	0.00	83.40	404.40		66.10	422.90	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	83.60	404.20		65.60	423.40	
10/26/2017	395.00	0.00	83.80	404.00		66.30	422.70	
11/28/2017	409.00	0.09	84.00	403.80		66.20	422.80	
12/20/2017	416.80	0.00	84.50	403.30		66.60	422.40	
1/24/2018	434.50	1.31	84.40	403.40		65.90	423.10	
2/21/2018	443.10	0.29	84.20	403.60		67.10	421.90	
3/29/2018	453.00	1.28	84.10	403.70		67.40	421.60	
4/26/2018	449.10	0.05	84.00	403.80		67.30	421.70	
5/31/2018	453.10	0.20	83.80	404.00		67.40	421.60	
6/28/2018	448.20	0.00	83.70	404.10		67.30	421.70	
7/25/2018	440.40	0.00	83.60	404.20		66.00	423.00	
8/22/2018	427.10	0.00	83.70	404.10		66.90	422.10	
9/27/2018	439.60	0.00	84.30	403.50		67.10	421.90	
10/18/2018	405.30	0.90	84.20	403.60		67.30	421.70	
11/28/2018	408.60	1.19	84.50	403.30		67.80	421.20	
12/19/2018	436.00	1.99	84.70	403.10		67.50	421.50	
1/30/2019	463.80	4.71	84.40	403.40		67.40	421.60	
2/27/2019	466.20	6.55	84.30	403.50		67.30	421.70	
3/27/2019	463.30	1.34	84.00	403.80		66.60	422.40	
4/29/2019	453.00	0.13	83.40	404.40		66.80	422.20	
5/30/2019	451.80	0.64	83.40	404.40		66.50	422.50	
6/26/2019	446.20	0.01	83.30	404.50		66.30	422.70	
7/5/2019	39.40	0.00	83.40	404.40		66.30	422.70	
7/30/2019	434.80	0.00	82.80	405.00		66.10	422.90	
8/27/2019	424.40	0.00	82.60	405.20		66.20	422.80	
9/26/2019	405.60	0.00	82.80	405.00		66.50	422.50	
10/22/2019	400.50	0.00	83.00	404.80		66.40	422.60	
11/26/2019	412.80	3.13	83.00	404.80		66.70	422.30	

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	83.30	404.50		66.80	422.20	
1/28/2020	465.40	0.20	82.90	404.90		66.80	422.20	
2/26/2020	459.60	0.14	82.70	405.10		66.40	422.60	
3/24/2020	470.70	3.49	82.60	405.20		66.70	422.30	
4/29/2020	467.60	3.65	81.80	406.00		66.10	422.90	
5/27/2020	459.10	0.02	81.60	406.20		65.80	423.20	
6/23/2020	447.00	0.00	81.70	406.10		65.30	423.70	
7/30/2020	434.00	0.00	81.70	406.10		68.50	420.50	
8/26/2020	417.70	0.00	81.70	406.10		66.00	423.00	
9/29/2020	403.60	0.00	82.40	405.40		66.40	422.60	
10/28/2020	404.50	0.00	82.50	405.30		67.60	421.40	
11/24/2020	413.50	0.42	82.80	405.00		67.00	422.00	
12/22/2020	408.00	1.13	83.00	404.80		67.00	422.00	
1/27/2021	435.60	2.25	83.30	404.50		67.20	421.80	
2/25/2021	457.30	0.05	82.90	404.90		66.70	422.30	
3/23/2021	465.90	1.36	82.70	405.10		67.60	421.40	
4/27/2021	462.10	0.04	82.50	405.30		67.00	422.00	
5/26/2021	455.00	0.03	82.50	405.30		66.80	422.20	
6/30/2021	437.90	0.00	82.20	405.60		66.60	422.40	
7/29/2021	423.60	0.07	62.50	425.30	Omitted	66.90	422.10	
8/24/2021	408.00	0.00	82.30	405.50		67.00	422.00	
9/29/2021	398.00	0.04	82.90	404.90		67.10	421.90	
10/26/2021	417.00	0.87	83.40	404.40		67.20	421.80	
11/25/2021	427.90	0.00	83.20	404.60		67.20	421.80	
12/21/2021	427.90	4.77	83.50	404.30		67.20	421.80	
1/27/2022	467.80	0.07	83.20	404.60		67.10	421.90	
2/23/2022	464.80	0.29	82.90	404.90		67.20	421.80	
3/23/2022	464.40	1.08	82.70	405.10		67.10	421.90	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-1			MW-2		
Top of Well Elevation -->			487.80			489.00		
Bottom of Well Elevation -->			363.20			409.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	82.40	405.40		67.00	422.00	
5/26/2022	464.80	0.08	82.30	405.50		66.90	422.10	
6/28/2022	457.30	0.00	82.40	405.40		67.00	422.00	
7/26/2022	440.70	0.00	82.50	405.30		67.10	421.90	
8/25/2022	429.50	0.05	82.50	405.30		67.10	421.90	
9/28/2022	410.80	0.35	82.70	405.10		67.20	421.80	
10/25/2022	407.30	0.35	83.30	404.50		67.30	421.70	
11/23/2022	427.00	0.80	83.10	404.70		67.40	421.60	
12/20/2022	441.90	2.14	83.90	403.90		67.50	421.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		86.50	422.50		43.40	446.50	Dry
2/27/2007	426.80		87.50	421.50		45.50	444.40	Dry
3/28/2007	438.80		86.90	422.10				Dry
4/26/2007	450.90		87.60	421.40		45.30	444.60	
5/23/2007	461.40		86.90	422.10		45.70	444.20	Dry
6/27/2007	457.20		86.90	422.10		45.70	444.20	Dry
7/26/2007	445.50		86.60	422.40		45.70	444.20	Dry
8/28/2007	434.60		86.90	422.10		45.20	444.70	Dry
9/25/2007	416.80		87.00	422.00		45.30	444.60	Dry
10/24/2007	404.50		86.90	422.10		45.70	444.20	
11/27/2007	422.20		86.90	422.10		45.20	444.70	Dry
1/3/2008	443.20		86.90	422.10		45.20	444.50	Dry
1/29/2008	452.20		86.90	422.10		45.25	444.70	Dry
2/27/2008	460.80		86.60	422.40		45.40	444.40	Dry
3/26/2008	468.00		86.90	422.10		45.20	444.60	Dry
4/29/2008	468.60		88.00	421.00		45.50	444.70	Dry
5/29/2008	464.70		87.00	422.00		45.30	444.50	Dry
6/26/2008	455.70		86.30	422.70		45.20	444.70	Dry
7/29/2008	447.30	0.00	87.00	422.00		45.40	444.70	Dry
8/28/2008	438.80	0.00	89.30	419.70		45.20	444.70	Dry
9/26/2008	430.70	0.00	89.60	419.40		45.20	444.70	Dry
10/29/2008	412.50	0.00	87.50	421.50		45.20	444.70	Dry
11/25/2008	404.70	2.60	86.90	422.10		45.20	444.70	Dry
12/30/2008	440.90	3.42	86.90	422.10		45.20	444.70	Dry
1/28/2009	463.70	0.17	86.70	422.30		45.20	444.70	Dry
2/25/2009	470.10	3.35	85.40	423.60		45.10	444.80	Dry
3/26/2009	469.40	0.19	86.50	422.50		45.20	444.70	Dry
4/29/2009	466.90	0.07	86.80	422.20		45.40	444.50	Dry

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	87.20	421.80		45.20	444.70	Dry
5/29/2009	465.00	0.00	85.30	423.70		45.30	444.60	Dry
6/30/2009	460.20	0.00	87.00	422.00		45.40	444.50	Dry
7/30/2009	451.10	0.00	87.00	422.00		45.20	444.70	Dry
8/25/2009	440.10	0.00	86.40	422.60		45.20	444.70	Dry
9/30/2009	432.20	0.00	87.00	422.00		45.20	444.70	Dry
10/29/2009	431.40	0.53	87.04	421.96		45.25	444.70	Dry
12/1/2009	427.40	0.00	88.60	420.40		45.70	444.20	Dry
12/29/2009	448.10	2.06	87.00	422.00		45.25	444.70	Dry
1/27/2010	465.60	4.62	88.60	420.40		45.00	444.90	Dry
2/25/2010	470.20	2.51	87.00	422.00		45.20	444.70	Dry
3/29/2010	465.70	0.99	87.20	421.80		45.20	444.70	Dry
4/4/2010	465.00		87.10	421.90		45.30	444.60	Dry
4/27/2010	468.40	1.23	88.60	420.40		45.30	444.60	Dry
5/27/2010	463.30	0.05	86.90	422.10		45.30	444.60	Dry
6/30/2010	454.70	0.00	87.00	422.00		45.00	444.90	Dry
7/28/2010	445.60	0.00	87.10	421.90		45.20	444.70	Dry
8/31/2010	437.10	0.00	87.10	421.90		45.30	444.60	Dry
9/29/2010	422.70	0.00	87.00	422.00		45.30	444.60	Dry
10/27/2010	426.40	2.38	86.90	422.10		45.30	444.60	Dry
11/29/2010	439.80	0.97	88.50	420.50		45.20	444.70	Dry
12/30/2010	456.60	8.62	87.40	421.60		45.40	444.50	Dry
2/1/2011	468.90	0.92	87.00	422.00		45.20	444.70	
2/23/2011	469.00	0.99	87.10	421.90		45.25	444.70	Dry
3/29/2011	470.30	2.93	87.30	421.70		45.20	444.70	Dry
4/27/2011	464.80	0.19	87.00	422.00		45.25	444.70	Dry
5/26/2011	457.30	0.48	88.20	420.80		45.30	444.60	Dry
6/28/2011	443.50	0.05	88.00	421.00		45.30	444.60	Dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	88.30	420.70		45.25	444.70	Dry
8/24/2011	418.00	0.00	87.00	422.00		45.20	444.70	Dry
9/27/2011	400.90	0.12	87.30	421.70		45.25	444.70	Dry
10/26/2011	402.20	1.25	88.50	420.50		45.80	444.10	
11/30/2011	425.10	1.38	87.00	422.00		45.20	444.70	
12/21/2011	435.70	0.32	88.30	420.70		45.60	444.30	
1/24/2012	441.40	0.53	87.00	422.00		45.20	444.70	
2/28/2012	448.40	0.42	88.20	420.80		45.60	444.30	
3/26/2012	452.70	1.06	86.90	422.10		45.20	444.70	
4/23/2012	463.40	1.32	86.30	422.70		45.80	444.10	
5/30/2012	457.30	0.02	86.60	422.40		46.40	443.50	
6/13/2012	452.90	0.02	86.60	422.40		45.25	444.70	
6/26/2012	450.20	0.00	89.50	419.50		45.30	444.60	
7/24/2012	439.80	0.00	88.80	420.20		46.50	443.40	
8/8/2012	437.60	0.12	88.80	420.20		46.20	443.70	
8/22/2012	433.40	0.00	86.90	422.10		45.20	444.70	
8/29/2012	431.30	0.00	86.10	422.90		45.30	444.60	
9/25/2012	420.80	0.00	87.00	422.00		45.20	444.70	
10/31/2012	412.30	0.26	89.40	419.60		46.40	443.50	
11/27/2012	420.80	0.58	86.90	422.10		45.10	444.80	
12/18/2012	448.00	1.44	86.80	422.20		45.30	444.60	
1/29/2013	468.60	1.18	88.80	420.20		46.50	443.40	
2/28/2013	469.20	0.30	86.90	422.10		46.70	443.20	
3/27/2013	468.30	0.50	87.10	421.90		45.20	444.70	
4/25/2013	462.70	0.00	87.00	422.00		45.25	444.70	
5/21/2013	454.20	0.00	86.90	422.10		45.20	444.70	
6/25/2013	439.30	0.00	87.00	422.00		45.20	444.70	
7/23/2013	431.50	0.00	87.10	421.90		45.30	444.60	Dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	86.90	422.10		45.20	444.70	Dry
9/24/2013	404.00	0.00	86.90	422.10		45.00	444.90	Dry
10/29/2013	400.60	0.00	87.30	421.70		45.30	444.60	Dry
11/26/2013	407.90	0.44	87.30	421.70		45.20	444.70	Dry
12/19/2013	425.80	0.54	86.70	422.30		45.20	444.70	Dry
1/28/2014	439.70	0.00	86.70	422.30		45.20	444.70	Dry
2/25/2014	449.70	0.83	86.70	422.30		45.30	444.60	
3/26/2014	465.10		88.70	420.30		45.40	444.50	Dry
3/28/2014	465.70	1.15	87.00	422.00		45.20	444.70	
4/29/2014	465.30	0.43	89.10	419.90		45.10	444.80	Dry
5/28/2014	450.60	0.00	86.80	422.20		45.20	444.70	Dry
6/25/2014	440.10	0.00	86.90	422.10		45.10	444.80	
7/29/2014	431.20	0.00	88.30	420.70		45.30	444.60	Dry
8/26/2014	419.50	0.02	86.90	422.10		45.20	444.70	Dry
9/23/2014	405.30	0.00	86.80	422.20		44.60	445.30	Dry
10/29/2014	400.90	0.00	88.10	420.90		45.30	444.60	Dry
11/25/2014	410.90	0.25	86.80	422.20		45.20	444.70	Dry
12/30/2014	430.60	2.94	86.80	422.20		45.20	444.70	Dry
1/27/2015	466.70	0.83	88.30	420.70		45.30	444.60	Dry
2/25/2015	468.90	0.69	86.80	422.20		45.20	444.70	Dry
3/26/2015	465.90	0.61	86.90	422.10		45.10	444.80	
4/28/2015	465.70	0.20	87.00	422.00		45.20	444.70	Dry
5/28/2015	466.40	1.08	88.30	420.70		45.50	444.40	Dry
6/30/2015	454.50	0.00	87.00	422.00		45.20	444.70	Dry
7/28/2015	445.60	0.00	86.90	422.10		45.20	444.70	Dry
8/28/2015	437.60	0.00	86.90	422.10		45.00	444.90	
9/24/2015	426.90	1.51	86.90	422.10		45.20	444.70	Dry
10/27/2015	415.40	0.49	87.30	421.70		45.30	444.60	Dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	87.00	422.00		45.20	444.70	
12/22/2015	425.50	0.69	87.80	421.20		45.50	444.40	Dry
1/27/2016	463.60	2.86	87.00	422.00		45.30	444.60	Dry
2/25/2016	468.90	0.25	87.20	421.80		44.80	445.10	
3/30/2016	468.00	1.44	87.10	421.90		45.30	444.60	Dry
4/28/2016	461.30	0.30	88.30	420.70		44.40	445.50	Dry
5/25/2016	451.30	0.18	87.00	422.00		45.30	444.60	Dry
6/28/2016	414.10	0.00	87.10	421.90		45.20	444.70	Dry
7/27/2016	434.20	0.00	87.20	421.80		45.40	444.50	Dry
8/23/2016	418.60	0.00	86.80	422.20		45.20	444.70	Dry
9/27/2016	406.40	0.00	87.20	421.80		45.40	444.50	Dry
10/26/2016	404.00	0.48	86.30	422.70		45.30	444.60	Dry
11/22/2016	413.60	1.13	88.30	420.70		45.40	444.50	Dry
12/20/2016	441.10	3.48	88.30	420.70		45.30	444.60	Dry
1/26/2017	471.60	5.67	84.40	424.60		45.20	444.70	Dry
2/24/2017	472.05	3.95	88.30	420.70		45.30	444.60	Dry
2/25/2017	472.00		88.30	420.70		45.20	444.70	Dry
2/26/2017	472.00		88.30	420.70		45.20	444.70	Dry
2/27/2017	472.00		88.30	420.70		45.20	444.70	Dry
2/28/2017	471.90		88.00	421.00		45.30	444.60	Dry
3/1/2017	471.90		87.00	422.00		45.20	444.70	Dry
3/2/2017	471.90		86.90	422.10		45.30	444.60	Dry
3/29/2017	467.90	0.10	87.20	421.80		45.10	444.80	Dry
4/27/2017	457.60	0.04	86.90	422.10		45.10	444.80	Dry
5/23/2017	453.50	0.43	88.30	420.70		45.30	444.60	Dry
6/21/2017	447.40	0.00	87.10	421.90		45.20	444.70	Dry
7/26/2017	435.10	0.00	87.70	421.30		45.30	444.60	Dry
8/25/2017	420.10	0.00	86.90	422.10		45.20	444.70	Dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	86.70	422.30		45.30	444.60	Dry
10/26/2017	395.00	0.00	86.80	422.20		45.40	444.50	Dry
11/28/2017	409.00	0.09	86.90	422.10		45.30	444.60	Dry
12/20/2017	416.80	0.00	87.20	421.80		45.00	444.90	Dry
1/24/2018	434.50	1.31	88.50	420.50		45.70	444.20	Dry
2/21/2018	443.10	0.29	84.20	424.80		45.50	444.40	
3/29/2018	453.00	1.28	86.50	422.50		45.00	444.90	Dry
4/26/2018	449.10	0.05	88.30	420.70		45.30	444.60	Dry
5/31/2018	453.10	0.20	87.20	421.80		45.20	444.70	Dry
6/28/2018	448.20	0.00	86.90	422.10		45.10	444.80	Dry
7/25/2018	440.40	0.00	70.60	438.40	Omitted	45.40	444.50	Dry
8/22/2018	427.10	0.00	87.00	422.00		45.30	444.60	Dry
9/27/2018	439.60	0.00	87.00	422.00		45.30	444.60	Dry
10/18/2018	405.30	0.90	87.00	422.00		45.30	444.60	Dry
11/28/2018	408.60	1.19	86.90	422.10		45.50	444.40	Dry
12/19/2018	436.00	1.99	88.30	420.70		45.20	444.70	
1/30/2019	463.80	4.71	88.7	420.30	Dry	45.3	444.60	Dry
2/27/2019	466.20	6.55	87.8	421.20	Dry	45.5	444.40	Dry
3/27/2019	463.30	1.34	86.9	422.10	Dry	45.2	444.70	Dry
4/29/2019	453.00	0.13	88.7	420.30	Dry	45.3	444.60	Dry
5/30/2019	451.80	0.64	87.8	421.20	Dry	45.4	444.50	Dry
6/26/2019	446.20	0.01	88	421.00	Dry	45.4	444.50	Dry
7/5/2019	39.40	0.00	87.1	421.90	Dry	45.3	444.60	Dry
7/30/2019	434.80	0.00	87.2	421.80		45.3	444.60	Dry
8/27/2019	424.40	0.00	88.70	420.30		45.30	444.60	Dry
9/26/2019	405.60	0.00	87.00	422.00	Dry	45.30	444.60	Dry
10/22/2019	400.50	0.00	88.30	420.70	Dry	45.20	444.70	Dry
11/26/2019	412.80	3.13	87.90	421.10	Dry	45.40	444.50	Dry

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	86.70	422.30		45.40	444.50	Dry
1/28/2020	465.40	0.20	88.70	420.30	Dry	45.10	444.80	Dry
2/26/2020	459.60	0.14	87.00	422.00		46.02	443.88	
3/24/2020	470.70	3.49	86.90	422.10		45.30	444.60	
4/29/2020	467.60	3.65	88.20	420.80		45.70	444.20	
5/27/2020	459.10	0.02	88.60	420.40		45.20	444.70	
6/23/2020	447.00	0.00	87.10	421.90		45.30	444.60	
7/30/2020	434.00	0.00	88.50	420.50		45.60	444.30	
8/26/2020	417.70	0.00	86.70	422.30		45.10	444.80	
9/29/2020	403.60	0.00	88.30	420.70		45.30	444.60	
10/28/2020	404.50	0.00	87.70	421.30		45.50	444.40	
11/24/2020	413.50	0.42	87.00	422.00		45.10	444.80	
12/22/2020	408.00	1.13	87.00	422.00		45.40	444.50	
1/27/2021	435.60	2.25	88.30	420.70		45.60	444.30	
2/25/2021	457.30	0.05	88.30	420.70		45.70	444.20	
3/23/2021	465.90	1.36	86.90	422.10		45.20	444.70	
4/27/2021	462.10	0.04	89.10	419.90		45.60	444.30	
5/26/2021	455.00	0.03	88.20	420.80		45.30	444.60	
6/30/2021	437.90	0.00	86.80	422.20		45.40	444.50	
7/29/2021	423.60	0.07	87.10	421.90		44.90	445.00	
8/24/2021	408.00	0.00	87.10	421.90		45.70	444.20	
9/29/2021	398.00	0.04	87.00	422.00		45.40	444.50	
10/26/2021	417.00	0.87	86.90	422.10		45.30	444.60	
11/25/2021	427.90	0.00	87.50	421.50		45.10	444.80	
12/21/2021	427.90	4.77	88.90	420.10		44.90	445.00	
1/27/2022	467.80	0.07	86.90	422.10	Dry	45.10	444.80	Almost dry
2/23/2022	464.80	0.29	88.30	420.70	Dry	45.30	444.60	Almost dry
3/23/2022	464.40	1.08	86.90	422.10	Dry	45.10	444.80	Almost dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-3			MW-4		
Top of Well Elevation -->			509.00			489.90		
Bottom of Well Elevation -->			423.00			444.50		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	87.30	421.70	Dry	45.30	444.60	Almost dry
5/26/2022	464.80	0.08	87.80	421.20	Dry	45.70	444.20	Dry
6/28/2022	457.30	0.00	86.70	422.30	Dry	45.20	444.70	Almost dry
7/26/2022	440.70	0.00	88.70	420.30	Dry	45.30	444.60	Almost dry
8/25/2022	429.50	0.05	88.70	420.30	Dry	45.30	444.60	Almost dry
9/28/2022	410.80	0.35	88.80	420.20	Dry	46.20	443.70	Dry
10/25/2022	407.30	0.35	86.90	422.10	Dry	45.20	444.70	Almost dry
11/23/2022	427.00	0.80	87.30	421.70	Dry	45.20	444.70	Almost dry
12/20/2022	441.90	2.14	88.40	420.60		45.40	444.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		74.50	414.90		78.60	402.80	
2/27/2007	426.80		75.00	414.40		82.50	398.90	
3/28/2007	438.80		73.50	415.90				
4/26/2007	450.90		71.20	418.20		83.20	398.20	
5/23/2007	461.40		67.50	421.90		84.00	397.40	
6/27/2007	457.20		64.80	424.60		76.40	405.00	
7/26/2007	445.50		66.20	423.20		79.80	401.60	
8/28/2007	434.60		68.80	420.60		76.20	405.20	
9/25/2007	416.80		71.10	418.30		76.40	405.00	
10/24/2007	404.50		73.50	415.90		78.00	403.40	
11/27/2007	422.20		75.00	414.40		76.33	405.07	
1/3/2008	443.20		73.60	415.80		76.33	398.90	
1/29/2008	452.20		70.71	418.70		76.33	404.90	
2/27/2008	460.80		67.40	422.00		76.33	404.70	
3/26/2008	468.00		64.40	425.00		76.33	404.90	
4/29/2008	468.60		60.50	428.90		76.33	400.00	
5/29/2008	464.70		61.60	427.80		76.33	404.40	
6/26/2008	455.70		62.50	426.90		76.33	404.90	
7/29/2008	447.30	0.00	65.40	424.00		76.33	398.10	
8/28/2008	438.80	0.00	66.90	422.50		76.33	394.90	
9/26/2008	430.70	0.00	68.50	420.90		76.33	396.80	
10/29/2008	412.50	0.00	70.70	418.70		76.33	405.00	
11/25/2008	404.70	2.60	71.50	417.90		76.33	405.00	
12/30/2008	440.90	3.42	73.70	415.70		76.33	405.00	
1/28/2009	463.70	0.17	67.80	420.00		76.33	405.00	
2/25/2009	470.10	3.35	63.40	421.60		76.33	405.00	
3/26/2009	469.40	0.19	60.90	426.00		76.33	405.00	
4/29/2009	466.90	0.07	60.50	428.50		76.33	405.00	

Notes:

1. Readings in red are classified as erroneous.
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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	60.70	428.90		76.33	404.90	
5/29/2009	465.00	0.00	60.80	428.70		76.33	405.10	
6/30/2009	460.20	0.00	62.20	428.60		76.33	405.00	
7/30/2009	451.10	0.00	63.70	427.20		76.33	405.10	
8/25/2009	440.10	0.00	65.80	425.70		76.33	405.10	
9/30/2009	432.20	0.00	68.00	423.60		76.33	405.10	
10/29/2009	431.40	0.53	69.62	421.40		76.33	404.90	
12/1/2009	427.40	0.00	71.00	429.80		76.33	405.00	
12/29/2009	448.10	2.06	71.36	428.40		76.33	405.00	
1/27/2010	465.60	4.62	67.20	427.00		76.33	405.00	
2/25/2010	470.20	2.51	62.60	428.00		76.33	405.10	
3/29/2010	465.70	0.99	61.50	426.80		76.33	405.10	
4/4/2010	465.00		61.50	427.90		76.33	405.10	
4/27/2010	468.40	1.23	61.70	427.90		76.33	405.10	
5/27/2010	463.30	0.05	61.40	427.70		76.33	405.10	
6/30/2010	454.70	0.00	62.80	428.00		76.33	405.10	
7/28/2010	445.60	0.00	64.90	426.60		76.33	405.10	
8/31/2010	437.10	0.00	67.20	424.50		76.33	405.10	
9/29/2010	422.70	0.00	68.60	422.20		76.33	405.10	
10/27/2010	426.40	2.38	70.50	418.90		76.33	405.10	
11/29/2010	439.80	0.97	71.70	417.70		76.33	405.10	
12/30/2010	456.60	8.62	68.80	420.60		76.33	397.50	
2/1/2011	468.90	0.92	63.40	426.00		76.33	405.00	
2/23/2011	469.00	0.99	62.18	427.20		76.33	405.10	
3/29/2011	470.30	2.93	60.90	428.50		76.30	405.10	
4/27/2011	464.80	0.19	60.95	428.50		76.30	405.10	
5/26/2011	457.30	0.48	62.50	426.90		76.30	405.10	
6/28/2011	443.50	0.05	64.60	424.80		76.30	405.10	

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PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	67.20	422.20		76.20	405.20	
8/24/2011	418.00	0.00	69.00	420.40		76.30	405.10	
9/27/2011	400.90	0.12	71.45	418.00		76.30	405.10	
10/26/2011	402.20	1.25	73.20	416.20		76.30	404.90	
11/30/2011	425.10	1.38	73.00	416.40		76.30	405.10	
12/21/2011	435.70	0.32	73.60	415.80		76.30	405.10	
1/24/2012	441.40	0.53	70.10	419.30		76.30	405.10	
2/28/2012	448.40	0.42	68.40	421.00		76.30	405.10	
3/26/2012	452.70	1.06	67.50	421.90		76.30	405.10	
4/23/2012	463.40	1.32	64.40	425.00		76.30	405.10	
5/30/2012	457.30	0.02	62.70	426.70		76.30	405.10	
6/13/2012	452.90	0.02	63.00	426.40		76.30	405.10	
6/26/2012	450.20	0.00	63.80	425.60		76.30	405.10	
7/24/2012	439.80	0.00	65.90	423.50		76.30	405.10	
8/8/2012	437.60	0.12	66.80	422.60		76.30	405.10	
8/22/2012	433.40	0.00	67.70	421.70		76.30	405.10	
8/29/2012	431.30	0.00	67.90	421.50		76.30	405.10	
9/25/2012	420.80	0.00	68.00	421.40		76.30	405.10	
10/31/2012	412.30	0.26	72.10	417.30		76.30	405.10	
11/27/2012	420.80	0.58	73.40	416.00		76.30	405.10	
12/18/2012	448.00	1.44	72.40	417.00		76.30	405.10	
1/29/2013	468.60	1.18	63.20	426.20		76.30	405.10	
2/28/2013	469.20	0.30	60.70	428.70		76.30	405.10	
3/27/2013	468.30	0.50	59.85	429.60		76.30	405.10	
4/25/2013	462.70	0.00	60.00	429.40		76.60	404.80	
5/21/2013	454.20	0.00	61.40	428.00		76.60	404.80	
6/25/2013	439.30	0.00	64.50	424.90		76.6	404.80	
7/23/2013	431.50	0.00	66.80	422.60		76.60	404.80	

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JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	68.50	420.90		76.30	405.10	
9/24/2013	404.00	0.00	71.20	418.20		76.50	404.90	
10/29/2013	400.60	0.00	72.90	416.50		76.60	404.80	
11/26/2013	407.90	0.44	74.80	414.60		76.30	405.10	
12/19/2013	425.80	0.54	73.20	416.20		76.30	405.10	
1/28/2014	439.70	0.00	71.60	417.80		76.30	405.10	
2/25/2014	449.70	0.83	69.10	420.30		76.60	404.80	
3/26/2014	465.10		64.20	425.20		76.60	404.80	
3/28/2014	465.70	1.15	64.00	425.40		76.30	405.10	
4/29/2014	465.30	0.43	61.30	428.10		76.40	405.00	
5/28/2014	450.60	0.00	62.60	426.80		76.50	404.90	
6/25/2014	440.10	0.00	65.00	424.40		76.30	405.10	
7/29/2014	431.20	0.00	67.40	422.00		76.50	404.90	
8/26/2014	419.50	0.02	69.10	420.30		76.30	405.10	
9/23/2014	405.30	0.00	71.20	418.20		76.30	405.10	
10/29/2014	400.90	0.00	73.30	416.10		76.60	404.80	
11/25/2014	410.90	0.25	75.50	413.90		76.40	405.00	
12/30/2014	430.60	2.94	74.50	414.90		76.30	405.10	
1/27/2015	466.70	0.83	64.80	424.60		76.60	404.80	
2/25/2015	468.90	0.69	60.50	428.90		76.50	404.90	
3/26/2015	465.90	0.61	59.10	430.30		76.30	405.10	
4/28/2015	465.70	0.20	59.00	430.40		76.30	405.10	
5/28/2015	466.40	1.08	58.50	430.90		76.60	404.80	
6/30/2015	454.50	0.00	59.70	429.70		76.30	405.10	
7/28/2015	445.60	0.00	62.60	426.80		76.40	405.00	
8/28/2015	437.60	0.00	64.90	424.50		76.30	405.10	
9/24/2015	426.90	1.51	66.90	422.50		76.20	405.20	
10/27/2015	415.40	0.49	69.10	420.30		76.30	405.10	

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JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	70.60	418.80		76.30	405.10	
12/22/2015	425.50	0.69	71.60	417.80		76.50	404.90	
1/27/2016	463.60	2.86	67.60	421.80		76.20	405.20	
2/25/2016	468.90	0.25	61.10	428.30		76.60	404.80	
3/30/2016	468.00	1.44	58.80	430.60		76.30	405.10	
4/28/2016	461.30	0.30	58.90	430.50		76.60	404.80	
5/25/2016	451.30	0.18	61.30	428.10		76.30	405.10	
6/28/2016	414.10	0.00	63.40	426.00		76.40	405.00	
7/27/2016	434.20	0.00	65.50	423.90		76.20	405.20	
8/23/2016	418.60	0.00	67.90	421.50		76.20	405.20	
9/27/2016	406.40	0.00	69.80	419.60		76.50	404.90	
10/26/2016	404.00	0.48	72.00	417.40		76.30	405.10	
11/22/2016	413.60	1.13	73.20	416.20		76.60	404.80	
12/20/2016	441.10	3.48	72.40	417.00		76.60	404.80	
1/26/2017	471.60	5.67	61.80	427.60		76.30	405.10	
2/24/2017	472.05	3.95	57.60	431.80		76.60	404.80	
2/25/2017	472.00		57.50	431.90		76.60	404.80	
2/26/2017	472.00		57.25	432.20		76.60	404.80	
2/27/2017	472.00		57.10	432.30		76.40	405.00	
2/28/2017	471.90		57.25	432.20		76.70	404.70	
3/1/2017	471.90		57.30	432.10		76.50	404.90	
3/2/2017	471.90		57.20	432.20		76.30	405.10	
3/29/2017	467.90	0.10	56.90	432.50		76.30	405.10	
4/27/2017	457.60	0.04	58.30	431.10		76.30	405.10	
5/23/2017	453.50	0.43	60.50	428.90		76.60	404.80	
6/21/2017	447.40	0.00	61.60	427.80		76.30	405.10	
7/26/2017	435.10	0.00	64.50	424.90		76.30	405.10	
8/25/2017	420.10	0.00	66.70	422.70		76.30	405.10	

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SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	69.20	420.20		76.40	405.00	
10/26/2017	395.00	0.00	71.00	418.40		76.30	405.10	
11/28/2017	409.00	0.09	72.50	416.90		76.60	404.80	
12/20/2017	416.80	0.00	73.40	416.00		76.20	405.20	
1/24/2018	434.50	1.31	72.30	417.60		78.50	402.90	
2/21/2018	443.10	0.29	69.60	420.30		76.30	405.10	
3/29/2018	453.00	1.28	66.10	423.30		76.60	404.80	
4/26/2018	449.10	0.05	65.30	424.10		76.60	404.80	
5/31/2018	453.10	0.20	64.80	424.60		76.30	405.10	
6/28/2018	448.20	0.00	64.60	424.80		76.10	405.30	
7/25/2018	440.40	0.00	65.60	423.80		77.70	403.70	
8/22/2018	427.10	0.00	67.70	421.70		76.60	404.80	
9/27/2018	439.60	0.00	70.70	418.70		76.30	405.10	
10/18/2018	405.30	0.90	72.50	416.90		76.30	405.10	
11/28/2018	408.60	1.19	73.90	415.50		76.40	405.00	
12/19/2018	436.00	1.99	74.60	414.80		76.30	405.10	
1/30/2019	463.80	4.71	66.20	423.20		76.60	404.80	Dry
2/27/2019	466.20	6.55	61.80	427.60		78.60	402.80	Dry
3/27/2019	463.30	1.34	60.60	428.80		76.30	405.10	Dry
4/29/2019	453.00	0.13	61.65	427.75		76.60	404.80	Dry
5/30/2019	451.80	0.64	62.90	426.50		76.40	405.00	Dry
6/26/2019	446.20	0.01	63.80	425.60		76.30	405.10	Dry
7/5/2019	39.40	0.00	64.30	425.10		76.00	405.40	Dry
7/30/2019	434.80	0.00	65.80	423.60		79.00	402.40	Dry
8/27/2019	424.40	0.00	67.70	421.70		76.60	404.80	Dry
9/26/2019	405.60	0.00	69.90	419.50		76.30	405.10	Dry
10/22/2019	400.50	0.00	72.20	417.20		78.60	402.80	Dry
11/26/2019	412.80	3.13	72.70	416.70		78.50	402.90	Dry

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**JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	72.30	417.10		76.40	405.00	
1/28/2020	465.40	0.20	62.90	426.50		79.60	401.80	Dry
2/26/2020	459.60	0.14	61.70	427.70		81.20	400.20	
3/24/2020	470.70	3.49	60.60	428.80		76.50	404.90	
4/29/2020	467.60	3.65	58.10	431.30		82.00	399.40	
5/27/2020	459.10	0.02	59.20	430.20		80.20	401.20	
6/23/2020	447.00	0.00	61.70	427.70		76.40	405.00	
7/30/2020	434.00	0.00	64.70	424.70		79.30	402.10	
8/26/2020	417.70	0.00	66.70	422.70		76.30	405.10	
9/29/2020	403.60	0.00	69.40	420.00		76.60	404.80	
10/28/2020	404.50	0.00	71.20	418.20		77.00	404.40	
11/24/2020	413.50	0.42	72.00	417.40		76.00	405.40	
12/22/2020	408.00	1.13	72.40	417.00		76.30	405.10	
1/27/2021	435.60	2.25	72.80	416.60		81.20	400.20	
2/25/2021	457.30	0.05	66.60	422.80		79.80	401.60	
3/23/2021	465.90	1.36	63.90	425.50		76.40	405.00	
4/27/2021	462.10	0.04	62.00	427.40		76.30	405.10	
5/26/2021	455.00	0.03	62.80	426.60		82.30	399.10	
6/30/2021	437.90	0.00	64.70	424.70		76.40	405.00	
7/29/2021	423.60	0.07	67.30	422.10		76.30	405.10	
8/24/2021	408.00	0.00	69.00	420.40		78.60	402.80	
9/29/2021	398.00	0.04	71.40	418.00		76.30	405.10	
10/26/2021	417.00	0.87	73.20	416.20		76.50	404.90	
11/25/2021	427.90	0.00	71.60	417.80		78.40	403.00	
12/21/2021	427.90	4.77	71.20	418.20		76.20	405.20	
1/27/2022	467.80	0.07	62.60	426.80		76.30	405.10	
2/23/2022	464.80	0.29	61.85	427.55		76.60	404.80	Dry
3/23/2022	464.40	1.08	62.10	427.30		76.30	405.10	

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Monitoring Well -->			MW-5			MW-6		
Top of Well Elevation -->			489.40			481.40		
Bottom of Well Elevation -->			406.50			404.90		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	60.60	428.80		76.30	405.10	
5/26/2022	464.80	0.08	60.30	429.10		76.00	405.40	
6/28/2022	457.30	0.00	60.60	428.80		79.30	402.10	Dry
7/26/2022	440.70	0.00	62.70	426.70		76.60	404.80	Dry
8/25/2022	429.50	0.05	65.30	424.10		76.60	404.80	Dry
9/28/2022	410.80	0.35	67.80	421.60		76.90	404.50	Dry
10/25/2022	407.30	0.35	69.80	419.60		76.30	405.10	
11/23/2022	427.00	0.80	66.10	423.30		76.10	405.30	
12/20/2022	441.90	2.14	69.70	419.70		81.00	400.40	Dry

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		20.00	443.30		17.80	495.00	
2/27/2007	426.80		21.10	442.20		19.20	493.60	
3/28/2007	438.80		20.30	443.00		20.40	492.40	
4/26/2007	450.90		20.20	443.10		19.90	492.90	
5/23/2007	461.40		20.50	442.80		20.00	492.80	
6/27/2007	457.20		20.80	442.50		19.80	493.00	
7/26/2007	445.50		20.60	442.70		19.00	493.80	
8/28/2007	434.60		20.20	443.10		18.60	494.20	
9/25/2007	416.80		20.40	442.90		18.40	494.40	
10/24/2007	404.50		20.20	443.10		18.70	494.10	
11/27/2007	422.20		20.40	442.90		18.90	493.90	
1/3/2008	443.20		19.20	444.10		18.60	494.20	
1/29/2008	452.20		19.87	443.40		18.46	494.30	
2/27/2008	460.80		19.00	444.30		18.10	494.70	
3/26/2008	468.00		18.40	444.90		18.00	494.80	
4/29/2008	468.60		17.90	445.40		18.00	494.80	
5/29/2008	464.70		18.30	445.00		19.00	493.80	
6/26/2008	455.70		18.10	445.20		18.70	494.10	
7/29/2008	447.30	0.00	18.40	444.90		18.40	494.40	
8/28/2008	438.80	0.00	18.40	444.90		18.70	494.10	
9/26/2008	430.70	0.00	18.60	444.70		18.30	494.50	
10/29/2008	412.50	0.00	18.50	444.80		19.20	493.60	
11/25/2008	404.70	2.60	18.70	444.60		19.10	493.70	
12/30/2008	440.90	3.42	18.40	444.90		18.50	494.30	
1/28/2009	463.70	0.17	17.50	445.80		18.20	494.60	
2/25/2009	470.10	3.35	17.00	446.30		17.80	495.00	
3/26/2009	469.40	0.19	16.40	446.90		17.80	495.00	
4/29/2009	466.90	0.07	17.20	446.10		18.30	494.50	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	17.50	445.80		18.50	494.30	
5/29/2009	465.00	0.00	17.70	445.60		18.60	494.20	
6/30/2009	460.20	0.00	17.90	445.40		18.60	494.20	
7/30/2009	451.10	0.00	18.10	445.20		19.50	493.30	
8/25/2009	440.10	0.00	18.00	445.30		19.80	493.00	
9/30/2009	432.20	0.00	18.50	444.80		19.80	493.00	
10/29/2009	431.40	0.53	19.20	444.10		19.50	493.30	
12/1/2009	427.40	0.00	19.40	443.90		19.80	493.00	
12/29/2009	448.10	2.06	19.80	443.50		19.81	493.00	
1/27/2010	465.60	4.62	19.80	443.50		19.80	493.00	
2/25/2010	470.20	2.51	19.70	443.60		18.30	494.50	
3/29/2010	465.70	0.99	19.00	444.30		18.30	494.50	
4/4/2010	465.00		18.80	444.50		17.90	494.90	
4/27/2010	468.40	1.23	18.80	444.50		18.00	494.80	
5/27/2010	463.30	0.05	18.90	444.40		19.40	493.40	
6/30/2010	454.70	0.00	19.00	444.30		18.80	494.00	
7/28/2010	445.60	0.00	19.50	443.80		19.10	493.70	
8/31/2010	437.10	0.00	19.60	443.70		19.40	493.40	
9/29/2010	422.70	0.00	19.70	443.60		20.00	492.80	
10/27/2010	426.40	2.38	20.00	443.30		20.10	492.70	
11/29/2010	439.80	0.97	20.70	442.60		20.10	492.70	
12/30/2010	456.60	8.62	19.00	444.30		19.40	493.40	
2/1/2011	468.90	0.92	18.30	445.00		18.30	494.50	
2/23/2011	469.00	0.99	17.55	445.80		18.18	494.60	
3/29/2011	470.30	2.93	17.10	446.20		17.60	495.20	
4/27/2011	464.80	0.19	16.65	446.70		17.72	495.10	
5/26/2011	457.30	0.48	16.70	446.60		18.10	494.70	
6/28/2011	443.50	0.05	16.90	446.40		18.40	494.40	

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	17.40	445.90		18.60	494.20	
8/24/2011	418.00	0.00	17.70	445.60		19.20	493.60	
9/27/2011	400.90	0.12	17.90	445.40		19.65	493.20	
10/26/2011	402.20	1.25	18.30	445.00		19.90	492.90	
11/30/2011	425.10	1.38	17.70	445.60		19.30	493.50	
12/21/2011	435.70	0.32	18.00	445.30		19.40	493.40	
1/24/2012	441.40	0.53	18.70	444.60		19.50	493.30	
2/28/2012	448.40	0.42	19.40	443.90		20.00	492.80	
3/26/2012	452.70	1.06	19.40	443.90		19.90	492.90	
4/23/2012	463.40	1.32	19.20	444.10		19.70	493.10	
5/30/2012	457.30	0.02	19.30	444.00		19.50	493.30	
6/13/2012	452.90	0.02	19.20	444.10		19.30	493.50	
6/26/2012	450.20	0.00	19.20	444.10		19.30	493.50	
7/24/2012	439.80	0.00	19.40	443.90		19.70	493.10	
8/8/2012	437.60	0.12	19.30	444.00		19.60	493.20	
8/22/2012	433.40	0.00	19.30	444.00		19.40	493.40	
8/29/2012	431.30	0.00	19.10	444.20		19.20	493.60	
9/25/2012	420.80	0.00	19.10	444.20		19.30	493.50	
10/31/2012	412.30	0.26	19.40	443.90		20.10	492.70	
11/27/2012	420.80	0.58	19.40	443.90		20.40	492.40	
12/18/2012	448.00	1.44	19.20	444.10		20.45	492.40	
1/29/2013	468.60	1.18	19.80	443.50		21.10	491.70	
2/28/2013	469.20	0.30	19.80	443.50		21.40	491.40	
3/27/2013	468.30	0.50	19.75	443.60		21.55	491.30	
4/25/2013	462.70	0.00	19.60	443.70		21.60	491.20	
5/21/2013	454.20	0.00	19.80	443.50		21.70	491.10	
6/25/2013	439.30	0.00	20.00	443.30		22.25	490.60	
7/23/2013	431.50	0.00	20.10	443.20		22.35	490.50	

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	20.10	443.20		22.40	490.40	
9/24/2013	404.00	0.00	20.20	443.10		22.40	490.40	
10/29/2013	400.60	0.00	20.40	442.90		22.65	490.20	
11/26/2013	407.90	0.44	20.50	442.80		23.40	489.40	
12/19/2013	425.80	0.54	20.30	443.00		23.60	489.20	
1/28/2014	439.70	0.00	20.60	442.70		23.60	489.20	
2/25/2014	449.70	0.83	20.60	442.70		23.50	489.30	
3/26/2014	465.10		20.55	442.80		22.95	489.90	
3/28/2014	465.70	1.15	20.70	442.60		23.20	489.60	
4/29/2014	465.30	0.43	20.50	442.80		22.90	489.90	
5/28/2014	450.60	0.00	20.70	442.60		23.30	489.50	
6/25/2014	440.10	0.00	20.80	442.50		23.80	489.00	
7/29/2014	431.20	0.00	21.00	442.30		23.50	489.30	
8/26/2014	419.50	0.02	20.90	442.40		24.20	488.60	
9/23/2014	405.30	0.00	20.90	442.40		24.50	488.30	
10/29/2014	400.90	0.00	21.30	442.00		24.85	488.00	
11/25/2014	410.90	0.25	21.50	441.80		25.20	487.60	
12/30/2014	430.60	2.94	21.35	442.00		24.10	488.70	
1/27/2015	466.70	0.83	21.55	441.80		25.00	487.80	
2/25/2015	468.90	0.69	21.30	442.00		25.20	487.60	
3/26/2015	465.90	0.61	21.40	441.90		25.60	487.20	
4/28/2015	465.70	0.20	21.00	442.30		26.00	486.80	
5/28/2015	466.40	1.08	21.10	442.20		25.80	487.00	
6/30/2015	454.50	0.00	21.90	441.40		26.30	486.50	
7/28/2015	445.60	0.00	22.30	441.00		26.70	486.10	
8/28/2015	437.60	0.00	22.80	440.50		27.20	485.60	
9/24/2015	426.90	1.51	23.60	439.70		27.40	485.40	
10/27/2015	415.40	0.49	23.90	439.40		27.60	485.20	

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	24.20	439.10		27.90	484.90	
12/22/2015	425.50	0.69	24.80	438.50		28.30	484.50	
1/27/2016	463.60	2.86	25.80	437.50		28.50	484.30	
2/25/2016	468.90	0.25	25.10	438.20		25.90	486.90	
3/30/2016	468.00	1.44	24.90	438.40		27.60	485.20	
4/28/2016	461.30	0.30	25.00	438.30		28.00	484.80	
5/25/2016	451.30	0.18	24.80	438.50		28.35	484.50	
6/28/2016	414.10	0.00	24.40	438.90		28.50	484.30	
7/27/2016	434.20	0.00	24.30	439.00		28.90	483.90	
8/23/2016	418.60	0.00	24.50	438.80		28.20	484.60	
9/27/2016	406.40	0.00	24.80	438.50		27.20	485.60	
10/26/2016	404.00	0.48	25.40	437.90		28.20	484.60	
11/22/2016	413.60	1.13	25.70	437.60		28.05	484.80	
12/20/2016	441.10	3.48	25.65	437.70		27.20	485.60	
1/26/2017	471.60	5.67	25.20	438.10		25.10	487.70	
2/24/2017	472.05	3.95	24.20	439.10		24.10	488.70	
2/25/2017	472.00		24.05	439.30		24.15	488.70	
2/26/2017	472.00		23.85	439.50		24.20	488.60	
2/27/2017	472.00		23.90	439.40		24.30	488.50	
2/28/2017	471.90		23.90	439.40		24.10	488.70	
3/1/2017	471.90		23.90	439.40		24.10	488.70	
3/2/2017	471.90		23.90	439.40		24.00	488.80	
3/29/2017	467.90	0.10	22.70	440.60		23.10	489.70	
4/27/2017	457.60	0.04	22.00	441.30		23.10	489.70	
5/23/2017	453.50	0.43	22.00	441.30		23.30	489.50	
6/21/2017	447.40	0.00	21.70	441.60		23.30	489.50	
7/26/2017	435.10	0.00	21.80	441.50		23.30	489.50	
8/25/2017	420.10	0.00	21.70	441.60		23.10	489.70	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	21.90	441.40		23.30	489.50	
10/26/2017	395.00	0.00	21.70	441.60		23.50	489.30	
11/28/2017	409.00	0.09	22.00	441.30		23.30	489.50	
12/20/2017	416.80	0.00	22.30	441.00		23.40	489.40	
1/24/2018	434.50	1.31	22.10	441.20		22.50	490.30	
2/21/2018	443.10	0.29	22.20	441.10		22.40	490.40	
3/29/2018	453.00	1.28	22.20	441.10		22.60	490.20	
4/26/2018	449.10	0.05	22.20	441.10		22.80	490.00	
5/31/2018	453.10	0.20	22.10	441.20		22.70	490.10	
6/28/2018	448.20	0.00	22.20	441.10		22.90	489.90	
7/25/2018	440.40	0.00	22.00	441.30		22.60	490.20	
8/22/2018	427.10	0.00	22.20	441.10		22.50	490.30	
9/27/2018	439.60	0.00	22.20	441.10		22.10	490.70	
10/18/2018	405.30	0.90	22.20	441.10		21.40	491.40	
11/28/2018	408.60	1.19	22.30	441.00		21.30	491.50	
12/19/2018	436.00	1.99	22.30	441.00		20.80	492.00	
1/30/2019	463.80	4.71	21.60	441.70		20.40	492.40	
2/27/2019	466.20	6.55	20.80	442.50		19.40	493.40	
3/27/2019	463.30	1.34	18.10	445.20		19.40	493.40	
4/29/2019	453.00	0.13	17.70	445.60		18.25	494.55	
5/30/2019	451.80	0.64	17.60	445.70		18.40	494.40	
6/26/2019	446.20	0.01	17.80	445.50		18.80	494.00	
7/5/2019	39.40	0.00	18.00	445.30		19.10	493.70	
7/30/2019	434.80	0.00	18.20	445.10		18.90	493.90	
8/27/2019	424.40	0.00	18.50	444.80		18.90	493.90	
9/26/2019	405.60	0.00	19.10	444.20		19.60	493.20	
10/22/2019	400.50	0.00	19.80	443.50		20.30	492.50	
11/26/2019	412.80	3.13	19.70	443.60		21.30	491.50	

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SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	20.20	443.10		21.20	491.60	
1/28/2020	465.40	0.20	20.80	442.50		19.20	493.60	
2/26/2020	459.60	0.14	19.00	444.30		20.60	492.20	
3/24/2020	470.70	3.49	19.10	444.20		20.20	492.60	
4/29/2020	467.60	3.65	19.30	444.00		19.20	493.60	
5/27/2020	459.10	0.02	17.50	445.80		19.00	493.80	
6/23/2020	447.00	0.00	17.50	445.80		19.50	493.30	
7/30/2020	434.00	0.00	17.90	445.40		19.30	493.50	
8/26/2020	417.70	0.00	18.20	445.10		19.40	493.40	
9/29/2020	403.60	0.00	19.00	444.30		20.50	492.30	
10/28/2020	404.50	0.00	19.50	443.80		21.30	491.50	
11/24/2020	413.50	0.42	19.80	443.50		21.20	491.60	
12/22/2020	408.00	1.13	20.20	443.10		21.90	490.90	
1/27/2021	435.60	2.25	20.60	442.70		21.70	491.10	
2/25/2021	457.30	0.05	20.20	443.10		22.00	490.80	
3/23/2021	465.90	1.36	20.30	443.00		22.00	490.80	
4/27/2021	462.10	0.04	20.50	442.80		22.00	490.80	
5/26/2021	455.00	0.03	20.80	442.50		21.90	490.90	
6/30/2021	437.90	0.00	20.80	442.50		21.60	491.20	
7/29/2021	423.60	0.07	21.00	442.30		21.20	491.60	
8/24/2021	408.00	0.00	20.50	442.80		21.10	491.70	
9/29/2021	398.00	0.04	20.60	442.70		21.50	491.30	
10/26/2021	417.00	0.87	20.90	442.40		21.80	491.00	
11/25/2021	427.90	0.00	20.90	442.40		22.20	490.60	
12/21/2021	427.90	4.77	21.20	442.10		22.60	490.20	
1/27/2022	467.80	0.07	20.80	442.50		22.50	490.30	
2/23/2022	464.80	0.29	20.60	442.70		22.80	490.00	
3/23/2022	464.40	1.08	20.90	442.40		23.00	489.80	

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SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			MW-7			MW-8		
Top of Well Elevation -->			463.30			512.80		
Bottom of Well Elevation -->			397.30			419.80		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	20.30	443.00		22.80	490.00	
5/26/2022	464.80	0.08	20.60	442.70		22.60	490.20	
6/28/2022	457.30	0.00	21.10	442.20		22.50	490.30	
7/26/2022	440.70	0.00	21.30	442.00		22.90	489.90	
8/25/2022	429.50	0.05	21.50	441.80		23.20	489.60	
9/28/2022	410.80	0.35	21.70	441.60		23.60	489.20	
10/25/2022	407.30	0.35	22.00	441.30		24.10	488.70	
11/23/2022	427.00	0.80	22.00	441.30		24.20	488.60	
12/20/2022	441.90	2.14	22.30	441.00		24.30	488.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		38.40	446.00		37.30	447.00	
2/27/2007	426.80		38.30	446.10		37.50	446.80	
3/28/2007	438.80		38.30	446.10				
4/26/2007	450.90		38.00	446.40		37.00	447.30	
5/23/2007	461.40		37.90	446.50		37.30	447.00	
6/27/2007	457.20		38.00	446.40		37.30	447.00	
7/26/2007	445.50		38.20	446.20		37.30	447.00	
8/28/2007	434.60		38.50	445.90		37.30	447.00	
9/25/2007	416.80		38.90	445.50		37.30	447.00	
10/24/2007	404.50		39.20	445.20		37.20	447.10	
11/27/2007	422.20		39.40	445.00		37.20	447.10	
1/3/2008	443.20		39.30	445.10		37.40	446.90	
1/29/2008	452.20		39.00	445.40		37.24	447.10	
2/27/2008	460.80		38.50	445.90		37.30	447.00	
3/26/2008	468.00		38.20	446.20		37.20	447.10	
4/29/2008	468.60		37.70	446.70		37.30	447.00	
5/29/2008	464.70		37.90	446.50		37.00	447.30	
6/26/2008	455.70		37.90	446.50		37.10	447.20	
7/29/2008	447.30	0.00	38.20	446.20		37.30	447.00	
8/28/2008	438.80	0.00	38.30	446.10		33.50	450.80	
9/26/2008	430.70	0.00	38.50	445.90		37.60	446.70	
10/29/2008	412.50	0.00	38.90	445.50		37.20	447.10	
11/25/2008	404.70	2.60	39.00	445.40		37.30	447.00	
12/30/2008	440.90	3.42	39.00	445.40		37.20	447.10	
1/28/2009	463.70	0.17	38.20	446.20		37.30	447.00	
2/25/2009	470.10	3.35	38.00	446.40		37.00	447.30	
3/26/2009	469.40	0.19	38.00	446.40		37.30	447.00	
4/29/2009	466.90	0.07	38.10	446.30		37.30	447.00	

Notes:

1. Readings in red are classified as erroneous.
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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	37.90	446.50		37.20	447.10	
5/29/2009	465.00	0.00	37.90	446.50		37.20	447.10	
6/30/2009	460.20	0.00	37.90	446.50		37.40	446.90	
7/30/2009	451.10	0.00	38.00	446.40		37.20	447.10	
8/25/2009	440.10	0.00	38.10	446.30		37.20	447.10	
9/30/2009	432.20	0.00	38.60	445.80		37.20	447.10	
10/29/2009	431.40	0.53	38.95	445.50		37.25	447.10	
12/1/2009	427.40	0.00	39.20	445.20		37.30	447.00	
12/29/2009	448.10	2.06	39.21	445.20		37.25	447.10	
1/27/2010	465.60	4.62	38.70	445.70		37.20	447.10	
2/25/2010	470.20	2.51	38.20	446.20		37.30	447.00	
3/29/2010	465.70	0.99	38.30	446.10		37.10	447.20	
4/4/2010	465.00		38.10	446.30		37.30	447.00	
4/27/2010	468.40	1.23	38.00	446.40		37.30	447.00	
5/27/2010	463.30	0.05	38.00	446.40		37.20	447.10	
6/30/2010	454.70	0.00	38.10	446.30		37.30	447.00	
7/28/2010	445.60	0.00	38.50	445.90		37.30	447.00	
8/31/2010	437.10	0.00	38.90	445.50		37.30	447.00	
9/29/2010	422.70	0.00	39.20	445.20		37.40	446.90	
10/27/2010	426.40	2.38	39.50	444.90		37.30	447.00	
11/29/2010	439.80	0.97	39.70	444.70		37.20	447.10	
12/30/2010	456.60	8.62	38.80	445.60		35.70	448.60	
2/1/2011	468.90	0.92	38.30	446.10		37.20	447.10	
2/23/2011	469.00	0.99	38.00	446.40		37.25	447.10	
3/29/2011	470.30	2.93	37.70	446.70		36.80	447.50	
4/27/2011	464.80	0.19	37.52	446.90		37.23	447.10	
5/26/2011	457.30	0.48	37.60	446.80		37.30	447.00	
6/28/2011	443.50	0.05	37.80	446.60		37.20	447.10	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	38.15	446.30		36.60	447.10	
8/24/2011	418.00	0.00	38.40	446.00		37.20	447.10	
9/27/2011	400.90	0.12	38.80	445.60		37.30	447.00	
10/26/2011	402.20	1.25	38.80	445.60		36.80	447.50	
11/30/2011	425.10	1.38	39.10	445.30		36.60	447.70	
12/21/2011	435.70	0.32	39.50	444.90		37.20	447.10	
1/24/2012	441.40	0.53	39.00	445.40		37.20	447.10	
2/28/2012	448.40	0.42	39.20	445.20		37.30	447.00	
3/26/2012	452.70	1.06	39.00	445.40		37.20	447.10	
4/23/2012	463.40	1.32	38.60	445.80		37.50	446.80	
5/30/2012	457.30	0.02	38.50	445.90		37.30	447.00	
6/13/2012	452.90	0.02	38.40	446.00		37.30	447.00	
6/26/2012	450.20	0.00	38.50	445.90		37.40	446.90	
7/24/2012	439.80	0.00	38.90	445.50		37.40	446.90	
8/8/2012	437.60	0.12	38.90	445.30		37.40	446.90	
8/22/2012	433.40	0.00	39.10	445.50		36.70	447.60	
8/29/2012	431.30	0.00	39.00	445.40		37.20	447.10	
9/25/2012	420.80	0.00	39.10	445.30		37.20	447.10	
10/31/2012	412.30	0.26	39.60	444.80		37.40	446.90	
11/27/2012	420.80	0.58	39.90	444.50		37.30	447.00	
12/18/2012	448.00	1.44	39.35	445.10		37.00	447.30	
1/29/2013	468.60	1.18	38.40	446.00		37.40	446.90	
2/28/2013	469.20	0.30	38.00	446.40		37.40	446.90	
3/27/2013	468.30	0.50	38.10	446.30		37.25	447.10	
4/25/2013	462.70	0.00	38.40	446.00		37.30	447.00	
5/21/2013	454.20	0.00	38.80	445.60		37.30	447.00	
6/25/2013	439.30	0.00	39.30	445.10		37.10	447.20	
7/23/2013	431.50	0.00	39.80	444.60		36.60	447.70	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	64.10	420.30	Omitted	37.50	446.80	
9/24/2013	404.00	0.00	40.70	443.70		37.20	447.10	
10/29/2013	400.60	0.00	41.00	443.40		37.20	447.10	
11/26/2013	407.90	0.44	41.30	443.10		37.20	447.10	
12/19/2013	425.80	0.54	41.00	443.40		37.40	446.90	
1/28/2014	439.70	0.00	40.90	443.50		37.40	446.90	
2/25/2014	449.70	0.83	40.60	443.80		37.25	447.10	
3/26/2014	465.10		39.90	444.50		37.30	447.00	
3/28/2014	465.70	1.15	39.90	444.50		37.20	447.10	
4/29/2014	465.30	0.43	39.70	444.70		37.30	447.00	
5/28/2014	450.60	0.00	39.80	444.60		37.20	447.10	
6/25/2014	440.10	0.00	39.90	444.50		37.10	447.20	
7/29/2014	431.20	0.00	40.30	444.10		37.20	447.10	
8/26/2014	419.50	0.02	40.50	443.90		37.30	447.00	
9/23/2014	405.30	0.00	40.60	443.80		37.20	447.10	
10/29/2014	400.90	0.00	41.30	443.10		37.30	447.10	
11/25/2014	410.90	0.25	41.60	442.80		37.20	447.20	
12/30/2014	430.60	2.94	41.10	443.30		37.10	447.10	
1/27/2015	466.70	0.83	39.55	444.90		37.20	447.00	
2/25/2015	468.90	0.69	39.10	445.30		37.30	447.00	
3/26/2015	465.90	0.61	39.20	445.20		37.30	447.10	
4/28/2015	465.70	0.20	39.00	445.40		34.20	447.00	
5/28/2015	466.40	1.08	39.20	445.20		37.30	447.00	
6/30/2015	454.50	0.00	39.30	445.10		37.20	447.00	
7/28/2015	445.60	0.00	39.70	444.70		37.30	447.10	
8/28/2015	437.60	0.00	40.20	444.20		37.30	447.00	
9/24/2015	426.90	1.51	40.70	443.70		37.20	447.00	
10/27/2015	415.40	0.49	41.30	443.10		37.20	447.10	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	41.50	442.90		37.30	447.10	
12/22/2015	425.50	0.69	41.65	442.80		37.30	447.00	
1/27/2016	463.60	2.86	40.50	443.90		37.30	447.00	
2/25/2016	468.90	0.25	39.80	444.60		37.30	447.00	
3/30/2016	468.00	1.44	39.70	444.70		37.20	447.00	
4/28/2016	461.30	0.30	39.90	444.50		37.30	447.10	
5/25/2016	451.30	0.18	40.28	444.10		37.25	447.00	
6/28/2016	414.10	0.00	40.60	443.80		37.20	447.10	
7/27/2016	434.20	0.00	41.20	443.20		37.30	447.10	
8/23/2016	418.60	0.00	41.80	442.60		37.30	447.00	
9/27/2016	406.40	0.00	42.50	441.90		37.20	447.00	
10/26/2016	404.00	0.48	42.80	441.60		37.20	447.10	
11/22/2016	413.60	1.13	43.40	441.00		37.20	447.10	
12/20/2016	441.10	3.48	42.95	441.50		37.30	447.10	
1/26/2017	471.60	5.67	40.80	443.60		37.20	447.10	
2/24/2017	472.05	3.95	40.20	444.20		37.20	447.10	
2/25/2017	472.00		40.15	444.30		37.20	447.10	
2/26/2017	472.00		40.10	444.30		37.20	447.10	
2/27/2017	472.00		40.10	444.30		37.30	447.00	
2/28/2017	471.90		40.20	444.20		37.30	447.00	
3/1/2017	471.90		40.20	444.20		37.30	447.00	
3/2/2017	471.90		40.10	444.30		37.20	447.10	
3/29/2017	467.90	0.10	40.00	444.40		37.20	447.10	
4/27/2017	457.60	0.04	40.10	444.30		37.20	447.10	
5/23/2017	453.50	0.43	40.30	444.10		37.20	447.10	
6/21/2017	447.40	0.00	40.50	443.90		37.20	447.10	
7/26/2017	435.10	0.00	40.70	443.70		37.20	447.10	
8/25/2017	420.10	0.00	40.90	443.50		37.10	447.20	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	41.50	442.90		37.30	447.00	
10/26/2017	395.00	0.00	42.20	442.20		37.20	447.10	
11/28/2017	409.00	0.09	42.30	442.10		37.20	447.10	
12/20/2017	416.80	0.00	42.10	442.30		37.30	447.00	
1/24/2018	434.50	1.31	41.70	442.70		37.80	446.50	
2/21/2018	443.10	0.29	41.00	443.40		37.20	447.10	
3/29/2018	453.00	1.28	40.40	444.00		37.20	447.10	
4/26/2018	449.10	0.05	40.60	443.80		37.30	447.00	
5/31/2018	453.10	0.20	40.70	443.70		37.20	447.10	
6/28/2018	448.20	0.00	40.70	443.70		37.30	447.00	
7/25/2018	440.40	0.00	40.60	443.80		37.40	446.90	
8/22/2018	427.10	0.00	41.60	442.80		37.30	447.00	
9/27/2018	439.60	0.00	42.50	441.90		37.20	447.10	
10/18/2018	405.30	0.90	43.00	441.40		37.30	447.00	
11/28/2018	408.60	1.19	43.20	441.20		37.40	446.90	
12/19/2018	436.00	1.99	43.10	441.30		37.10	447.20	
1/30/2019	463.80	4.71	40.75	443.65		37.30	447.00	Dry
2/27/2019	466.20	6.55	39.90	444.50		37.20	447.10	Dry
3/27/2019	463.30	1.34	39.50	444.90		37.40	446.90	Dry
4/29/2019	453.00	0.13	39.40	445.00		37.20	447.10	Dry
5/30/2019	451.80	0.64	39.20	445.20		37.20	447.10	Dry
6/26/2019	446.20	0.01	39.20	445.20		37.20	447.10	Dry
7/5/2019	39.40	0.00	37.30	447.10		26.50	457.80	Omitted
7/30/2019	434.80	0.00	39.20	445.20		37.20	447.10	Dry
8/27/2019	424.40	0.00	39.40	445.00		34.20	450.10	Dry, Omitted
9/26/2019	405.60	0.00	39.90	444.50		37.10	447.20	Dry
10/22/2019	400.50	0.00	40.40	444.00		37.20	447.10	Dry
11/26/2019	412.80	3.13	46.00	438.40	Omitted	37.20	447.10	Dry

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	40.00	444.40		37.20	447.10	Dry
1/28/2020	465.40	0.20	38.60	445.80		37.10	447.20	
2/26/2020	459.60	0.14	38.60	445.80		37.20	447.10	
3/24/2020	470.70	3.49	38.40	446.00		37.10	447.20	
4/29/2020	467.60	3.65	37.90	446.50		37.20	447.10	
5/27/2020	459.10	0.02	38.20	446.20		37.20	447.10	
6/23/2020	447.00	0.00	38.70	445.70		37.40	446.90	
7/30/2020	434.00	0.00	39.20	445.20		37.30	447.00	
8/26/2020	417.70	0.00	39.50	444.90		37.10	447.20	
9/29/2020	403.60	0.00	40.10	444.30		37.30	447.00	
10/28/2020	404.50	0.00	40.50	443.90		37.20	447.10	
11/24/2020	413.50	0.42	40.40	444.00		37.00	447.30	
12/22/2020	408.00	1.13	40.40	444.00		37.10	447.20	
1/27/2021	435.60	2.25	40.10	444.30		37.20	447.10	
2/25/2021	457.30	0.05	39.00	445.40		37.10	447.20	
3/23/2021	465.90	1.36	38.90	445.50		37.30	447.00	
4/27/2021	462.10	0.04	38.50	445.90		37.20	447.10	
5/26/2021	455.00	0.03	38.80	445.60		37.20	447.10	
6/30/2021	437.90	0.00	39.30	445.10		37.30	447.00	
7/29/2021	423.60	0.07	39.80	444.60		37.40	446.90	
8/24/2021	408.00	0.00	40.20	444.20		37.30	447.00	
9/29/2021	398.00	0.04	40.90	443.50		37.10	447.20	
10/26/2021	417.00	0.87	41.60	442.80		37.30	447.00	
11/25/2021	427.90	0.00	40.60	443.80		37.20	447.10	
12/21/2021	427.90	4.77	40.30	444.10		37.20	447.10	
1/27/2022	467.80	0.07	39.00	445.40		31.10	453.20	Above hist max
2/23/2022	464.80	0.29	39.00	445.40		37.20	447.10	
3/23/2022	464.40	1.08	39.30	445.10		37.20	447.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-1A			CP-1B		
Top of Well Elevation -->			484.40			484.30		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	39.30	445.10		37.00	447.30	
5/26/2022	464.80	0.08	39.50	444.90		37.20	447.10	
6/28/2022	457.30	0.00	39.90	444.50		37.30	447.00	
7/26/2022	440.70	0.00	40.40	444.00		37.20	447.10	
8/25/2022	429.50	0.05	40.95	443.45		37.20	447.10	
9/28/2022	410.80	0.35	41.70	442.70		37.30	447.00	
10/25/2022	407.30	0.35	42.20	442.20		37.10	447.20	
11/23/2022	427.00	0.80	42.30	442.10		37.20	447.10	
12/20/2022	441.90	2.14	42.00	442.40		37.30	447.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		38.20	449.50		39.70	448.00	
2/27/2007	426.80		37.40	450.30		39.70	448.00	
3/28/2007	438.80		36.40	451.30		39.40	448.30	
4/26/2007	450.90		35.10	452.60		38.90	448.80	
5/23/2007	461.40		34.20	453.50		38.50	449.20	
6/27/2007	457.20		35.30	452.40		38.50	449.20	
7/26/2007	445.50		36.60	451.10		38.80	448.90	
8/28/2007	434.60		37.00	450.70		39.00	448.70	
9/25/2007	416.80		37.80	449.90		39.40	448.30	
10/24/2007	404.50		38.00	449.70		39.30	448.40	
11/27/2007	422.20		37.40	450.30		39.20	448.50	
1/3/2008	443.20		35.40	452.30		38.60	449.10	
1/29/2008	452.20		34.25	453.50		38.42	449.20	
2/27/2008	460.80		33.10	454.60		37.90	449.80	
3/26/2008	468.00		32.30	455.40		37.50	450.20	
4/29/2008	468.60		32.20	455.50		37.00	450.70	
5/29/2008	464.70		33.90	453.80		37.40	450.30	
6/26/2008	455.70		34.70	453.00		37.60	450.10	
7/29/2008	447.30	0.00	35.40	452.30		38.20	449.50	
8/28/2008	438.80	0.00	35.80	451.90		38.40	449.30	
9/26/2008	430.70	0.00	36.00	451.70		38.30	449.40	
10/29/2008	412.50	0.00	36.30	451.40		38.30	449.40	
11/25/2008	404.70	2.60	36.00	451.70		38.30	449.40	
12/30/2008	440.90	3.42	33.60	454.10		37.90	449.80	
1/28/2009	463.70	0.17	30.80	456.90		37.00	450.70	
2/25/2009	470.10	3.35	30.20	457.50		36.00	451.70	
3/26/2009	469.40	0.19	30.70	457.00		36.20	451.50	
4/29/2009	466.90	0.07	31.30	456.40		36.60	451.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	31.20	456.50		36.60	451.10	
5/29/2009	465.00	0.00	31.50	456.20		36.60	451.10	
6/30/2009	460.20	0.00	32.10	455.60		37.10	450.60	
7/30/2009	451.10	0.00	32.70	455.00		37.30	450.40	
8/25/2009	440.10	0.00	33.20	454.50		37.40	450.30	
9/30/2009	432.20	0.00	33.15	454.60		37.60	450.10	
10/29/2009	431.40	0.53	32.74	455.00		37.62	450.00	
12/1/2009	427.40	0.00	32.60	455.10		37.70	450.00	
12/29/2009	448.10	2.06	30.66	457.00		37.31	450.30	
1/27/2010	465.60	4.62	27.40	460.30		36.60	451.10	
2/25/2010	470.20	2.51	27.70	460.00		36.10	451.60	
3/29/2010	465.70	0.99	29.40	458.30		36.50	451.20	
4/4/2010	465.00		29.20	458.50		36.40	451.30	
4/27/2010	468.40	1.23	28.60	459.10		36.20	451.50	
5/27/2010	463.30	0.05	29.80	457.90		36.40	451.30	
6/30/2010	454.70	0.00	30.50	457.20		36.70	451.00	
7/28/2010	445.60	0.00	31.00	456.70		37.00	450.70	
8/31/2010	437.10	0.00	31.30	456.40		37.20	450.50	
9/29/2010	422.70	0.00	31.30	456.40		37.20	450.50	
10/27/2010	426.40	2.38	31.20	456.50		37.20	450.50	
11/29/2010	439.80	0.97	30.00	457.70		37.10	450.60	
12/30/2010	456.60	8.62	25.70	462.00		35.50	452.20	
2/1/2011	468.90	0.92	26.00	461.70		35.30	452.40	
2/23/2011	469.00	0.99	26.48	461.20		35.58	452.10	
3/29/2011	470.30	2.93	26.50	461.20		35.40	452.30	
4/27/2011	464.80	0.19	27.87	459.80		35.67	452.00	
5/26/2011	457.30	0.48	28.60	459.10		36.00	451.70	
6/28/2011	443.50	0.05	29.80	457.90		36.30	451.40	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	30.35	457.40		36.60	451.10	
8/24/2011	418.00	0.00	30.60	457.10		36.70	451.00	
9/27/2011	400.90	0.12	30.60	457.10		36.70	451.00	
10/26/2011	402.20	1.25	30.80	456.90		36.90	450.80	
11/30/2011	425.10	1.38	29.50	458.20		36.40	451.30	
12/21/2011	435.70	0.32	29.10	458.60		36.60	451.10	
1/24/2012	441.40	0.53	28.50	459.20		36.40	451.30	
2/28/2012	448.40	0.42	28.50	459.20		36.60	451.10	
3/26/2012	452.70	1.06	27.80	459.90		36.60	451.10	
4/23/2012	463.40	1.32	26.70	461.00		35.70	452.00	
5/30/2012	457.30	0.02	28.30	459.40		36.00	451.70	
6/13/2012	452.90	0.02	28.80	458.90		36.00	451.70	
6/26/2012	450.20	0.00	29.10	458.60		36.10	451.60	
7/24/2012	439.80	0.00	30.00	457.70		36.70	451.00	
8/8/2012	437.60	0.12	29.80	457.90		36.60	451.10	
8/22/2012	433.40	0.00	29.95	457.80		36.50	451.20	
8/29/2012	431.30	0.00	30.00	457.70		36.40	451.30	
9/25/2012	420.80	0.00	30.10	457.60		36.40	451.30	
10/31/2012	412.30	0.26	30.60	457.10		36.80	450.90	
11/27/2012	420.80	0.58	30.30	457.40		36.80	450.90	
12/18/2012	448.00	1.44	27.90	459.80		36.00	451.70	
1/29/2013	468.60	1.18	26.20	461.50		35.80	451.90	
2/28/2013	469.20	0.30	26.90	460.80		35.50	452.20	
3/27/2013	468.30	0.50	27.50	460.20		35.40	452.30	
4/25/2013	462.70	0.00	28.90	458.80		35.80	451.90	
5/21/2013	454.20	0.00	29.70	458.00		36.20	451.50	
6/25/2013	439.30	0.00	30.60	457.10		36.50	451.20	
7/23/2013	431.50	0.00	30.70	457.00		36.70	451.00	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	31.30	456.40		36.80	450.90	
9/24/2013	404.00	0.00	31.20	456.50		36.90	450.80	
10/29/2013	400.60	0.00	31.00	456.70		36.70	451.00	
11/26/2013	407.90	0.44	30.90	456.80		37.00	450.70	
12/19/2013	425.80	0.54	29.90	457.80		36.50	451.20	
1/28/2014	439.70	0.00	29.00	458.70		36.50	451.20	
2/25/2014	449.70	0.83	28.25	459.50		36.20	451.50	
3/26/2014	465.10		26.75	461.00		35.70	452.00	
3/28/2014	465.70	1.15	26.80	460.90		35.80	451.90	
4/29/2014	465.30	0.43	27.60	460.10		35.80	451.90	
5/28/2014	450.60	0.00	29.80	457.90		36.30	451.40	
6/25/2014	440.10	0.00	30.40	457.30		36.50	451.20	
7/29/2014	431.20	0.00	30.70	457.00		36.70	451.00	
8/26/2014	419.50	0.02	31.10	456.60		36.80	450.90	
9/23/2014	405.30	0.00	31.30	456.40		36.80	450.90	
10/29/2014	400.90	0.00	31.30	456.40		36.90	450.80	
11/25/2014	410.90	0.25	31.20	456.50		37.10	450.60	
12/30/2014	430.60	2.94	26.20	461.50		36.65	451.00	
1/27/2015	466.70	0.83	26.50	461.20		35.70	452.00	
2/25/2015	468.90	0.69	27.00	460.70		35.50	452.20	
3/26/2015	465.90	0.61	28.10	459.60		35.60	452.10	
4/28/2015	465.70	0.20	28.00	459.70		35.70	452.00	
5/28/2015	466.40	1.08	20.10	457.60		35.70	452.00	
6/30/2015	454.50	0.00	29.80	457.90		36.10	451.60	
7/28/2015	445.60	0.00	30.20	457.50		36.30	451.40	
8/28/2015	437.60	0.00	30.50	457.20		36.60	451.10	
9/24/2015	426.90	1.51	30.80	456.90		36.70	451.00	
10/27/2015	415.40	0.49	30.90	456.80		36.80	450.90	

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	30.80	456.90		36.80	450.90	
12/22/2015	425.50	0.69	29.90	457.80		36.50	451.20	
1/27/2016	463.60	2.86	26.25	461.50		36.15	451.50	
2/25/2016	468.90	0.25	26.70	461.00		35.50	452.20	
3/30/2016	468.00	1.44	26.75	461.00		35.10	452.60	
4/28/2016	461.30	0.30	28.20	459.50		35.70	452.00	
5/25/2016	451.30	0.18	29.05	458.70		36.20	451.50	
6/28/2016	414.10	0.00	29.30	458.40		36.20	451.50	
7/27/2016	434.20	0.00	29.70	458.00		36.40	451.30	
8/23/2016	418.60	0.00	30.30	457.40		36.65	451.00	
9/27/2016	406.40	0.00	30.40	457.30		36.70	451.00	
10/26/2016	404.00	0.48	30.30	457.40		36.70	451.00	
11/22/2016	413.60	1.13	29.95	457.80		36.80	450.90	
12/20/2016	441.10	3.48	28.10	459.60		36.45	451.20	
1/26/2017	471.60	5.67	24.10	463.60		35.20	452.50	
2/24/2017	472.05	3.95	24.80	462.90		34.60	453.10	
2/25/2017	472.00		24.80	462.90		34.45	453.20	
2/26/2017	472.00		24.85	462.90		34.40	453.30	
2/27/2017	472.00		25.40	462.30		34.40	453.30	
2/28/2017	471.90		24.90	462.80		34.50	453.20	
3/1/2017	471.90		24.90	462.80		34.40	453.30	
3/2/2017	471.90		25.14	462.60		34.70	453.00	
3/29/2017	467.90	0.10	26.30	461.40		35.00	452.70	
4/27/2017	457.60	0.04	27.60	460.10		35.70	452.00	
5/23/2017	453.50	0.43	27.80	459.90		35.90	451.80	
6/21/2017	447.40	0.00	28.10	459.60		35.90	451.80	
7/26/2017	435.10	0.00	28.70	459.00		36.20	451.50	
8/25/2017	420.10	0.00	28.00	459.70		36.20	451.50	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	29.10	458.60		36.40	451.30	
10/26/2017	395.00	0.00	29.20	458.50		36.30	451.40	
11/28/2017	409.00	0.09	28.60	459.10		36.30	451.40	
12/20/2017	416.80	0.00	28.50	459.20		36.40	451.30	
1/24/2018	434.50	1.31	27.10	460.60		36.00	451.70	
2/21/2018	443.10	0.29	26.50	461.20		35.90	451.80	
3/29/2018	453.00	1.28	25.90	461.80		35.60	452.10	
4/26/2018	449.10	0.05	26.20	461.50		35.80	451.90	
5/31/2018	453.10	0.20	26.40	461.30		35.80	451.90	
6/28/2018	448.20	0.00	27.40	460.30		35.90	451.80	
7/25/2018	440.40	0.00	28.00	459.70		35.90	451.80	
8/22/2018	427.10	0.00	28.80	458.90		36.20	451.50	
9/27/2018	439.60	0.00	29.40	458.30		36.40	451.30	
10/18/2018	405.30	0.90	29.50	458.20		36.40	451.30	
11/28/2018	408.60	1.19	29.30	458.40		36.50	451.20	
12/19/2018	436.00	1.99	37.80	449.90	Omitted	36.10	451.60	
1/30/2019	463.80	4.71	24.10	463.60		37.00	450.70	
2/27/2019	466.20	6.55	24.00	463.70		24.30	463.40	Omitted
3/27/2019	463.30	1.34	25.10	462.60		35.30	452.40	
4/29/2019	453.00	0.13	26.10	461.60		35.40	452.30	
5/30/2019	451.80	0.64	25.70	462.00		35.40	452.30	
6/26/2019	446.20	0.01	25.90	461.80		35.50	452.20	
7/5/2019	39.40	0.00	36.00	451.70	Omitted	11.10	476.60	Omitted
7/30/2019	434.80	0.00	26.50	461.20		35.60	452.10	
8/27/2019	424.40	0.00	26.80	460.90		35.60	452.10	
9/26/2019	405.60	0.00	27.30	460.40		36.10	451.60	
10/22/2019	400.50	0.00	27.40	460.30		35.90	451.80	
11/26/2019	412.80	3.13	27.20	460.50		35.60	452.10	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	24.80	462.90		35.20	452.50	
1/28/2020	465.40	0.20	23.30	464.40		34.70	453.00	
2/26/2020	459.60	0.14	24.90	462.80		35.00	452.70	
3/24/2020	470.70	3.49	23.00	464.70		34.90	452.80	
4/29/2020	467.60	3.65	23.40	464.30		33.90	453.80	
5/27/2020	459.10	0.02	25.10	462.60		34.60	453.10	
6/23/2020	447.00	0.00	26.20	461.50		35.20	452.50	
7/30/2020	434.00	0.00	26.80	460.90		35.30	452.40	
8/26/2020	417.70	0.00	27.30	460.40		35.30	452.40	
9/29/2020	403.60	0.00	27.60	460.10		35.60	452.10	
10/28/2020	404.50	0.00	27.50	460.20		35.80	451.90	
11/24/2020	413.50	0.42	27.10	460.60		35.50	452.20	
12/22/2020	408.00	1.13	27.20	460.50		35.50	452.20	
1/27/2021	435.60	2.25	25.80	461.90		35.50	452.20	
2/25/2021	457.30	0.05	24.00	463.70		34.80	452.90	
3/23/2021	465.90	1.36	23.40	464.30		35.70	452.00	
4/27/2021	462.10	0.04	24.80	462.90		34.80	452.90	
5/26/2021	455.00	0.03	25.90	461.80		35.10	452.60	
6/30/2021	437.90	0.00	27.40	460.30		35.50	452.20	
7/29/2021	423.60	0.07	28.20	459.50		35.70	452.00	
8/24/2021	408.00	0.00	28.30	459.40		35.80	451.90	
9/29/2021	398.00	0.04	28.50	459.20		35.80	451.90	
10/26/2021	417.00	0.87	28.30	459.40		36.70	451.00	
11/25/2021	427.90	0.00	27.30	460.40		35.80	451.90	
12/21/2021	427.90	4.77	25.70	462.00		35.50	452.20	
1/27/2022	467.80	0.07	24.20	463.50		34.70	453.00	
2/23/2022	464.80	0.29	25.30	462.40		35.00	452.70	
3/23/2022	464.40	1.08	25.30	462.40		35.20	452.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-2A			CP-2B		
Top of Well Elevation -->			487.70			487.70		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	25.30	462.40		34.90	452.80	
5/26/2022	464.80	0.08	35.10	452.60	Below hist min	25.80	461.90	Above hist max
6/28/2022	457.30	0.00	26.90	460.80		35.50	452.20	
7/26/2022	440.70	0.00	28.20	459.50		35.90	451.80	
8/25/2022	429.50	0.05	28.40	459.30		36.00	451.70	
9/28/2022	410.80	0.35	28.80	458.90		36.10	451.60	
10/25/2022	407.30	0.35	28.70	459.00		36.20	451.50	
11/23/2022	427.00	0.80	27.50	460.20		36.00	451.70	
12/20/2022	441.90	2.14	26.40	461.30		36.00	451.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		15.50	470.50		19.90	466.10	
2/27/2007	426.80		15.50	470.50		20.30	465.70	
3/28/2007	438.80		15.60	470.40		20.30	465.70	
4/26/2007	450.90		15.10	470.90		20.20	465.80	
5/23/2007	461.40		15.20	470.80		20.40	465.60	
6/27/2007	457.20		15.50	470.50		20.50	465.50	
7/26/2007	445.50		15.90	470.10		20.50	465.50	
8/28/2007	434.60		16.00	470.00		20.60	465.40	
9/25/2007	416.80		16.40	469.60		20.80	465.20	
10/24/2007	404.50		16.70	469.30		20.80	465.20	
11/27/2007	422.20		16.70	469.30		21.10	464.90	
1/3/2008	443.20		16.60	469.40		20.90	465.10	
1/29/2008	452.20		16.21	469.80		21.11	464.90	
2/27/2008	460.80		15.90	470.10		20.60	465.40	
3/26/2008	468.00		15.60	470.40		20.60	465.40	
4/29/2008	468.60		15.40	470.60		20.00	466.00	
5/29/2008	464.70		15.50	470.50		20.30	465.70	
6/26/2008	455.70		15.40	470.60		20.20	465.80	
7/29/2008	447.30	0.00	15.60	470.40		20.20	465.80	
8/28/2008	438.80	0.00	15.90	470.10		20.30	465.70	
9/26/2008	430.70	0.00	15.90	470.10		20.30	465.70	
10/29/2008	412.50	0.00	16.00	470.00		20.20	465.80	
11/25/2008	404.70	2.60	16.10	469.90		20.20	465.80	
12/30/2008	440.90	3.42	15.90	470.10		20.40	465.60	
1/28/2009	463.70	0.17	15.30	470.70		20.10	465.90	
2/25/2009	470.10	3.35	14.90	471.10		19.00	467.00	
3/26/2009	469.40	0.19	14.60	471.40		19.50	466.50	
4/29/2009	466.90	0.07	14.60	471.40		19.70	466.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	466.70	0.00	14.40	471.60		19.40	466.60	
5/29/2009	465.00	0.00	14.40	471.60		19.40	466.60	
6/30/2009	460.20	0.00	14.50	471.50		19.30	466.70	
7/30/2009	451.10	0.00	14.50	471.50		19.30	466.70	
8/25/2009	440.10	0.00	14.50	471.50		19.20	466.80	
9/30/2009	432.20	0.00	14.60	471.40		19.30	466.70	
10/29/2009	431.40	0.53	14.69	471.30		19.48	466.50	
12/1/2009	427.40	0.00	14.90	471.10		19.80	466.20	
12/29/2009	448.10	2.06	14.72	471.30		19.65	466.40	
1/27/2010	465.60	4.62	14.20	471.80		19.40	466.60	
2/25/2010	470.20	2.51	13.80	472.20		19.20	466.80	
3/29/2010	465.70	0.99	13.70	472.30		18.00	468.00	
4/4/2010	465.00		13.70	472.30		18.40	467.60	
4/27/2010	468.40	1.23	13.60	472.40		18.90	467.10	
5/27/2010	463.30	0.05	13.60	472.40		18.80	467.20	
6/30/2010	454.70	0.00	13.60	472.40		18.70	467.30	
7/28/2010	445.60	0.00	13.70	472.30		18.90	467.10	
8/31/2010	437.10	0.00	14.00	472.00		19.00	467.00	
9/29/2010	422.70	0.00	13.80	472.20		18.90	467.10	
10/27/2010	426.40	2.38	13.90	472.10		19.00	467.00	
11/29/2010	439.80	0.97	13.70	472.30		19.20	466.80	
12/30/2010	456.60	8.62	12.60	473.40		18.20	467.80	
2/1/2011	468.90	0.92	11.90	474.10		17.90	468.10	
2/23/2011	469.00	0.99	11.64	474.40		17.81	468.20	
3/29/2011	470.30	2.93	11.10	474.90		17.40	468.60	
4/27/2011	464.80	0.19	10.85	475.20		17.00	469.00	
5/26/2011	457.30	0.48	10.80	475.20		16.90	469.10	
6/28/2011	443.50	0.05	10.70	475.30		16.70	469.30	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/29/2011	425.10	0.00	10.80	475.20		16.70	469.30	
8/24/2011	418.00	0.00	10.80	475.20		16.70	469.30	
9/27/2011	400.90	0.12	11.00	475.00		16.70	469.30	
10/26/2011	402.20	1.25	11.10	474.90		17.20	468.80	
11/30/2011	425.10	1.38	10.80	475.20		16.70	469.30	
12/21/2011	435.70	0.32	10.90	475.10		16.90	469.10	
1/24/2012	441.40	0.53	10.50	475.50		17.00	469.00	
2/28/2012	448.40	0.42	10.60	475.40		17.40	468.60	
3/26/2012	452.70	1.06	10.50	475.50		17.30	468.70	
4/23/2012	463.40	1.32	10.50	475.50		17.40	468.60	
5/30/2012	457.30	0.02	10.40	475.60		17.10	468.90	
6/13/2012	452.90	0.02	10.50	475.50		17.00	469.00	
6/26/2012	450.20	0.00	10.60	475.40		17.10	468.90	
7/24/2012	439.80	0.00	11.00	475.00		17.80	468.20	
8/8/2012	437.60	0.12	11.10	474.90		17.50	468.50	
8/22/2012	433.40	0.00	11.15	474.90		17.55	468.50	
8/29/2012	431.30	0.00	11.20	474.80		17.50	468.50	
9/25/2012	420.80	0.00	11.30	474.70		17.60	468.40	
10/31/2012	412.30	0.26	11.80	474.20		18.10	467.90	
11/27/2012	420.80	0.58	11.80	474.20		18.20	467.80	
12/18/2012	448.00	1.44	11.65	474.40		18.00	468.00	
1/29/2013	468.60	1.18	11.30	474.70		18.30	467.70	
2/28/2013	469.20	0.30	11.20	474.80		18.20	467.80	
3/27/2013	468.30	0.50	11.20	474.80		18.00	468.00	
4/25/2013	462.70	0.00	11.40	474.60		18.20	467.80	
5/21/2013	454.20	0.00	11.90	474.10		18.40	467.60	
6/25/2013	439.30	0.00	12.00	474.00		18.65	467.40	
7/23/2013	431.50	0.00	12.40	473.60		18.80	467.20	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/21/2013	418.00	0.00	13.00	473.00		19.10	466.90	
9/24/2013	404.00	0.00	13.00	473.00		19.20	466.80	
10/29/2013	400.60	0.00	13.10	472.90		19.40	466.60	
11/26/2013	407.90	0.44	13.20	472.80		19.50	466.50	
12/19/2013	425.80	0.54	12.90	473.10		19.20	466.80	
1/28/2014	439.70	0.00	12.70	473.30		19.50	466.50	
2/25/2014	449.70	0.83	12.70	473.30		19.60	466.40	
3/26/2014	465.10		12.55	473.50		19.60	466.40	
3/28/2014	465.70	1.15	12.60	473.40		19.70	466.30	
4/29/2014	465.30	0.43	12.80	473.20		19.60	466.40	
5/28/2014	450.60	0.00	13.10	472.90		19.60	466.40	
6/25/2014	440.10	0.00	13.20	472.80		19.80	466.20	
7/29/2014	431.20	0.00	13.50	472.50		20.10	465.90	
8/26/2014	419.50	0.02	13.70	472.30		20.30	465.70	
9/23/2014	405.30	0.00	13.80	472.20		20.20	465.80	
10/29/2014	400.90	0.00	14.10	471.90		20.50	465.50	
11/25/2014	410.90	0.25	14.30	471.70		20.90	465.10	
12/30/2014	430.60	2.94	14.00	472.00		20.50	465.50	
1/27/2015	466.70	0.83	13.10	472.90		20.30	465.70	
2/25/2015	468.90	0.69	12.70	473.30		20.10	465.90	
3/26/2015	465.90	0.61	12.70	473.30		19.90	466.10	
4/28/2015	465.70	0.20	12.80	473.20		19.80	466.20	
5/28/2015	466.40	1.08	12.90	473.10		20.00	466.00	
6/30/2015	454.50	0.00	13.10	472.90		20.00	466.00	
7/28/2015	445.60	0.00	13.30	472.70		20.10	465.90	
8/28/2015	437.60	0.00	13.60	472.40		20.20	465.80	
9/24/2015	426.90	1.51	13.80	472.20		20.50	465.50	
10/27/2015	415.40	0.49	14.10	471.90		20.70	465.30	

Notes:

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**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/19/2015	412.90	0.09	14.20	471.80		20.80	465.20	
12/22/2015	425.50	0.69	14.40	471.60		20.80	465.20	
1/27/2016	463.60	2.86	14.10	471.90		21.10	464.90	
2/25/2016	468.90	0.25	14.20	471.80		20.90	465.10	
3/30/2016	468.00	1.44	13.60	472.40		20.80	465.20	
4/28/2016	461.30	0.30	13.80	472.20		20.80	465.20	
5/25/2016	451.30	0.18	14.15	471.90		21.05	465.00	
6/28/2016	414.10	0.00	14.40	471.60		21.10	464.90	
7/27/2016	434.20	0.00	14.60	471.40		21.30	464.70	
8/23/2016	418.60	0.00	14.90	471.10		21.40	464.60	
9/27/2016	406.40	0.00	15.20	470.80		21.50	464.50	
10/26/2016	404.00	0.48	15.50	470.50		21.80	464.20	
11/22/2016	413.60	1.13	15.45	470.60		21.95	464.10	
12/20/2016	441.10	3.48	15.35	470.70		22.05	464.00	
1/26/2017	471.60	5.67	14.20	471.80		21.70	464.30	
2/24/2017	472.05	3.95	13.65	472.40		21.10	464.90	
2/25/2017	472.00		13.55	472.50		21.00	465.00	
2/26/2017	472.00		13.50	472.50		20.90	465.10	
2/27/2017	472.00		20.40	472.10		13.90	465.60	
2/28/2017	471.90		13.50	472.50		21.00	465.00	
3/1/2017	471.90		13.60	472.40		21.20	464.80	
3/2/2017	471.90		13.60	472.40		21.10	464.90	
3/29/2017	467.90	0.10	13.40	472.60		20.70	465.30	
4/27/2017	457.60	0.04	13.30	472.70		20.30	465.70	
5/23/2017	453.50	0.43	13.40	472.60		20.50	465.50	
6/21/2017	447.40	0.00	13.30	472.70		20.40	465.60	
7/26/2017	435.10	0.00	13.50	472.50		20.50	465.50	
8/25/2017	420.10	0.00	13.60	472.40		20.40	465.60	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2017	407.10	0.00	13.80	472.20		20.60	465.40	
10/26/2017	395.00	0.00	14.10	471.90		20.60	465.40	
11/28/2017	409.00	0.09	13.70	472.30		20.70	465.30	
12/20/2017	416.80	0.00	13.80	472.20		20.90	465.10	
1/24/2018	434.50	1.31	13.30	472.70		20.50	465.50	
2/21/2018	443.10	0.29	13.00	473.00		20.40	465.60	
3/29/2018	453.00	1.28	12.50	473.50		20.20	465.80	
4/26/2018	449.10	0.05	12.50	473.50		20.10	465.90	
5/31/2018	453.10	0.20	12.30	473.70		20.00	466.00	
6/28/2018	448.20	0.00	12.50	473.50		20.00	466.00	
7/25/2018	440.40	0.00	12.60	473.40		19.20	466.80	
8/22/2018	427.10	0.00	13.10	472.90		20.10	465.90	
9/27/2018	439.60	0.00	13.40	472.60		20.50	465.50	
10/18/2018	405.30	0.90	13.50	472.50		20.70	465.30	
11/28/2018	408.60	1.19	13.80	472.20		21.40	464.60	
12/19/2018	436.00	1.99	13.60	472.40		21.00	465.00	
1/30/2019	463.80	4.71	22.30	463.70	Omitted	12.40	473.60	Omitted
2/27/2019	466.20	6.55	11.50	474.50		19.40	466.60	
3/27/2019	463.30	1.34	11.20	474.80		19.50	466.50	
4/29/2019	453.00	0.13	11.10	474.90		18.90	467.10	
5/30/2019	451.80	0.64	11.00	475.00		19.60	466.40	
6/26/2019	446.20	0.01	10.80	475.20		18.70	467.30	
7/5/2019	39.40	0.00	18.80	467.20	Omitted	83.40	402.60	Omitted
7/30/2019	434.80	0.00	10.90	475.10		18.60	467.40	
8/27/2019	424.40	0.00	10.90	475.10		18.50	467.50	
9/26/2019	405.60	0.00	11.10	474.90		18.50	467.50	
10/22/2019	400.50	0.00	11.00	475.00		18.60	467.40	
11/26/2019	412.80	3.13	11.00	475.00		18.50	467.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/18/2019	447.40	4.44	10.70	475.30		18.70	467.30	
1/28/2020	465.40	0.20	9.80	476.20		18.20	467.80	
2/26/2020	459.60	0.14	9.60	476.40		17.80	468.20	
3/24/2020	470.70	3.49	9.50	476.50		18.20	467.80	
4/29/2020	467.60	3.65	8.60	477.40		17.00	469.00	
5/27/2020	459.10	0.02	8.60	477.40		16.90	469.10	
6/23/2020	447.00	0.00	8.90	477.10		17.20	468.80	
7/30/2020	434.00	0.00	8.90	477.10		17.10	468.90	
8/26/2020	417.70	0.00	9.00	477.00		17.10	468.90	
9/29/2020	403.60	0.00	9.35	476.65		17.40	468.60	
10/28/2020	404.50	0.00	9.50	476.50		17.70	468.30	
11/24/2020	413.50	0.42	9.30	476.70		17.60	468.40	
12/22/2020	408.00	1.13	9.40	476.60		17.70	468.30	
1/27/2021	435.60	2.25	9.20	476.80		17.80	468.20	
2/25/2021	457.30	0.05	8.80	477.20		17.40	468.60	
3/23/2021	465.90	1.36	8.70	477.30		17.70	468.30	
4/27/2021	462.10	0.04	8.50	477.50		17.20	468.80	
5/26/2021	455.00	0.03	8.80	477.20		17.40	468.60	
6/30/2021	437.90	0.00	9.20	476.80		17.70	468.30	
7/29/2021	423.60	0.07	9.50	476.50		17.80	468.20	
8/24/2021	408.00	0.00	9.70	476.30		17.90	468.10	
9/29/2021	398.00	0.04	10.10	475.90		18.10	467.90	
10/26/2021	417.00	0.87	10.80	475.20		18.60	467.40	
11/25/2021	427.90	0.00	9.70	476.30		18.40	467.60	
12/21/2021	427.90	4.77	10.00	476.00		18.40	467.60	
1/27/2022	467.80	0.07	9.20	476.80		18.10	467.90	
2/23/2022	464.80	0.29	9.20	476.80		18.00	468.00	
3/23/2022	464.40	1.08	9.20	476.80		18.00	468.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 5  
SAN JOAQUIN DAM  
PIEZOMETER AND MONITORING WELL WATER LEVEL MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Monitoring Well -->			CP-3A			CP-3B		
Top of Well Elevation -->			486.00			486.00		
Bottom of Well Elevation -->								
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/26/2022	467.10	0.03	9.20	476.80		17.90	468.10	
5/26/2022	464.80	0.08	9.20	476.80		18.00	468.00	
6/28/2022	457.30	0.00	9.40	476.60		18.10	467.90	
7/26/2022	440.70	0.00	9.80	476.20		18.30	467.70	
8/25/2022	429.50	0.05	10.00	476.00		18.50	467.50	
9/28/2022	410.80	0.35	10.40	475.60		18.60	467.40	
10/25/2022	407.30	0.35	10.60	475.40		10.80	475.20	Above hist max.
11/23/2022	427.00	0.80	10.50	475.50		18.80	467.20	
12/20/2022	441.90	2.14	10.30	475.70		19.00	467.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/31/2007	405.80		3067.70				3050.60			
2/27/2007	426.80		3059.10				3041.10			
3/28/2007	438.80		3050.60				3019.50			
4/26/2007	450.90		3040.70				2984.20			
5/23/2007	461.40		3029.00				2946.80			
6/27/2007	457.20		3024.40				2946.90			
7/26/2007	445.50		3025.30				2951.10			
8/28/2007	434.60		3031.40				2972.40			
9/25/2007	416.80		3043.10				3001.00			
10/24/2007	404.50		3055.70				3076.40			
11/27/2007	422.20		3052.20				3027.40			
1/3/2008	443.20		3004.50	92.04	392.04		2994.10	30.26	430.26	
1/29/2008	452.20		3032.10	85.04	385.04		2967.30	31.79	431.79	
2/27/2008	460.80		3016.60	89.00	389.00		2941.00	32.68	432.68	
3/26/2008	468.00		3083.50	71.98	371.98		2918.80	31.40	431.40	
4/29/2008	468.60		3005.20	91.87	391.87		2908.00	28.35	428.35	
5/29/2008	464.70		3003.80	92.22	392.22		2910.90	23.03	423.03	
6/26/2008	455.70		3007.50	91.20	391.20		2924.80	16.38	416.38	
7/29/2008	447.30	0.00	3013.80	89.59	389.59		2943.30	9.55	409.55	
8/28/2008	438.80	0.00	3020.30	88.07	388.07		2960.80	17.52	417.52	
9/26/2008	430.70	0.00	3026.00	86.64	386.64		2975.90	14.16	414.16	
10/29/2008	412.50	0.00	3041.50	82.71	382.71		3007.20	7.15	407.15	
11/25/2008	404.70	2.60	3051.80	80.10	380.10		3024.60	3.22	403.22	
12/30/2008	440.90	3.42	3037.00	83.86	383.86		3008.40	6.88	406.88	
1/28/2009	463.70	0.17	3010.10	90.64	390.64		2951.70	19.54	419.54	
2/25/2009	470.10	3.35	2988.80	95.96	395.96		2912.40	28.20	428.20	
3/26/2009	469.40	0.19	2973.50	99.76	399.76		2903.20	30.21	430.21	
4/29/2009	466.90	0.07	2938.80	108.30	408.30		2903.10	30.24	430.24	
5/18/2009	466.70	0.00	2938.00	108.41	408.41		2904.00	30.04	430.04	
5/29/2009	465.00	0.00	2941.80	107.57	407.57		2907.10	29.36	429.36	
6/30/2009	460.20	0.00	2947.30	106.22	406.22		2914.70	27.70	427.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	2960.50	102.89	402.89		2929.70	24.40	424.40	
8/25/2009	440.10	0.00	2979.90	98.08	398.08		2950.40	19.83	419.83	
9/30/2009	432.20	0.00	2996.20	94.12	394.12		2970.30	15.41	415.41	
10/29/2009	431.40	0.53	3003.20	92.29	392.29		2979.70	13.31	413.31	
12/1/2009	427.40	0.00	3014.10	89.58	389.58		2990.70	10.85	410.85	
12/29/2009	448.10	2.06	3000.70	92.99	392.99		2971.40	15.16	415.16	
1/27/2010	465.60	4.62	2978.90	98.42	398.42		2927.90	24.79	424.79	
2/25/2010	470.20	2.51	2957.30	103.76	403.76		2899.70	30.98	430.98	
3/29/2010	465.70	0.99	2963.60	102.13	402.13		2901.20	30.65	430.65	
4/4/2010	465.00		2965.40	101.76	401.76		2902.50	30.37	430.37	
4/27/2010	468.40	1.23	2964.60	101.96	401.96		2899.00	31.13	431.13	
5/27/2010	463.30	0.05	2972.00	100.13	400.13		2903.00	30.26	430.26	
6/30/2010	454.70	0.00	2988.10	96.14	396.14		2923.60	25.74	425.74	
7/28/2010	445.60	0.00	2996.90	93.86	393.86		2936.90	22.81	422.81	
8/31/2010	437.10	0.00	3008.70	90.99	390.99		2957.90	18.16	418.16	
9/29/2010	422.70	0.00	3024.50	87.01	387.01		2983.40	12.48	412.48	
10/27/2010	426.40	2.38	3027.60	86.23	386.23		2995.00	9.89	409.89	
11/29/2010	439.80	0.97	3021.40	87.80	387.80		2982.50	12.68	412.68	
12/30/2010	456.60	8.62	3003.30	92.34	392.34		2948.30	20.29	420.29	
2/1/2011	468.90	0.92	2964.00	102.11	402.11		2903.00	30.26	430.26	
2/23/2011	469.00	0.99	2960.70	102.92	402.92		2896.00	31.79	431.79	
3/29/2011	470.30	2.93	2956.90	103.12	403.12		2891.90	32.68	432.68	
4/27/2011	464.80	0.19	2967.20	101.22	401.22		2897.80	31.40	431.40	
5/26/2011	457.30	0.48	2983.40	97.21	397.21		2911.70	28.35	428.35	
6/28/2011	443.50	0.05	3003.20	92.37	392.37		2935.90	23.03	423.03	
7/29/2011	425.10	0.00	3020.90	87.92	387.92		2965.90	16.38	416.38	
8/24/2011	418.00	0.00	3037.00	83.77	383.77		2996.50	9.55	409.55	
9/27/2011	400.90	0.12	3051.40	80.22	380.22		3021.30	3.97	403.97	
10/26/2011	402.20	1.25	3054.30	79.46	379.46		3031.70	1.62	401.62	
11/30/2011	425.10	1.38	3044.00	82.08	382.08		3023.20	3.54	403.54	
12/21/2011	435.70	0.32	3037.90	83.63	383.63		3009.50	6.63	406.63	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	3033.00	84.87	384.87		2985.60	11.99	411.99	
2/28/2012	448.40	0.42	3024.00	87.14	387.14		2957.40	18.27	418.27	
3/26/2012	452.70	1.06	3020.60	88.00	388.00		2947.20	20.53	420.53	
4/23/2012	463.40	1.32	2997.40	93.82	393.82		2919.70	26.60	426.60	
5/30/2012	457.30	0.02	2993.10	94.89	394.89		2915.50	27.52	427.52	
6/13/2012	452.90	0.02	2990.80	95.46	395.46		2934.00	10.36	410.36	
6/26/2012	450.20	0.00	3001.00	92.92	392.92		2928.70	24.62	424.62	
7/24/2012	439.80	0.00	3013.40	89.81	389.81		2947.10	20.56	420.56	
8/8/2012	437.60	0.12	3016.90	88.93	388.93		2954.90	18.83	418.83	
8/22/2012	433.40	0.00	3021.00	87.90	387.90		2963.10	17.01	417.01	
8/29/2012	431.30	0.00	3023.40	87.29	387.29		2967.60	16.01	416.01	
9/25/2012	420.80	0.00	3025.20	86.84	386.84		2971.50	15.14	415.14	
10/31/2012	412.30	0.26	3042.30	82.51	382.51		3006.10	7.39	407.39	
11/27/2012	420.80	0.58	3041.20	82.79	382.79		3010.60	6.38	406.38	
12/18/2012	448.00	1.44	3025.00	86.89	386.89		2985.80	11.95	411.95	
1/29/2013	468.60	1.18	2956.00	101.40	401.40		2909.30	27.96	427.96	
2/28/2013	469.20	0.30	2943.50	104.47	404.47		2893.60	31.39	431.39	
3/27/2013	468.30	0.50	2944.50	104.22	404.22		2891.40	31.87	431.87	
4/25/2013	462.70	0.00	2960.30	100.34	400.34		2894.70	31.15	431.15	
5/21/2013	454.20	0.00	2982.70	94.82	394.82		2909.30	27.96	427.96	
6/25/2013	439.30	0.00	3008.30	88.42	388.42		2936.10	22.07	422.07	
7/23/2013	431.50	0.00	3018.50	85.84	385.84		2951.40	18.86	418.86	
8/21/2013	418.00	0.00	3032.20	82.40	382.40		2973.60	13.75	413.75	
9/24/2013	404.00	0.00	3047.20	78.59	378.59		2997.00	8.52	408.52	
10/29/2013	400.60	0.00	3052.30	77.29	377.29		3005.50	6.61	406.61	
11/26/2013	407.90	0.44				Wires unplugged	3010.30	5.53	405.53	
12/19/2013	425.80	0.54				Wires unplugged	3007.70	6.11	406.11	
1/28/2014	439.70	0.00	3035.60		384.14		2970.70		415.29	
2/25/2014	449.70	0.83	3027.90		386.08		2944.10		421.19	
3/26/2014	465.10		2989.60		395.68		2898.30		431.25	
3/28/2014	465.70	1.15	2985.70		396.66		2894.60		432.06	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	2972.90		399.83		2878.70		435.52	
5/28/2014	450.60	0.00	3001.50		392.71		2900.40		430.79	
6/25/2014	440.10	0.00	3015.30		389.25		2921.90		426.08	
7/29/2014	431.20	0.00	3024.20		387.02		2942.30		421.59	
8/26/2014	419.50	0.02	3034.00		384.56		2964.10		416.76	
9/23/2014	405.30	0.00	3046.60		381.36		2988.60		411.30	
10/29/2014	400.90	0.00	3052.40		379.91		3001.90		408.32	
11/25/2014	410.90	0.25	3050.00		380.52		3007.00		407.18	
12/30/2014	430.60	2.94	3039.70		383.18		2997.90		409.23	
1/27/2015	466.70	0.83	3006.70		391.45		2913.00		428.05	
2/25/2015	468.90	0.69	2998.80		393.42		2878.80		435.51	
3/26/2015	465.90	0.61	2988.70		395.94		2874.00		436.55	
4/28/2015	465.70	0.20	2995.50		394.23		2874.30		436.49	
5/28/2015	466.40	1.08	2996.10		394.11		2871.30		437.14	
6/30/2015	454.50	0.00	3005.00		391.86		2889.10		433.27	
7/28/2015	445.60	0.00	3012.70		389.93		2910.80		428.53	
8/28/2015	437.60	0.00	3018.60		388.48		2928.90		424.56	
9/24/2015	426.90	1.51	3027.00		386.40		2951.00		419.69	
10/27/2015	415.40	0.49	3036.60		383.93		2974.20		414.52	
11/19/2015	412.90	0.09	3040.70		382.90		2986.30		411.82	
12/22/2015	425.50	0.69	3038.60		383.43		2987.07		411.66	
1/27/2016	463.60	2.86	3017.96		388.63		2931.15		424.06	
2/25/2016	468.90	0.25	3009.78		390.67		2885.40		434.08	
3/30/2016	468.00	1.44	3005.78		391.67		2870.78		437.25	
4/28/2016	461.30	0.30	3007.99		391.11		2878.68		435.53	
5/25/2016	451.30	0.18	3013.12		389.82		2898.47		431.22	
6/28/2016	414.10	0.00	3017.70		388.67		2917.70		427.01	
7/27/2016	434.20	0.00	3024.70		386.91		2936.50		422.87	
8/23/2016	418.60	0.00	3035.41		384.20		2964.24		416.73	
9/27/2016	406.40	0.00	3047.11		381.25		2990.48		410.88	
10/26/2016	404.00	0.48	3051.02		380.26		3003.23		408.03	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	3048.07		381.02		3006.57		407.28	
12/20/2016	441.10	3.48	3033.41		384.73		2981.77		412.84	
1/26/2017	471.60	5.67	3011.61		390.22		2900.67		430.76	
2/24/2017	472.05	3.95	3007.20		391.32		2872.81		436.82	
2/25/2017	472.00		3007.04		391.36		2872.45		436.90	
2/26/2017	472.00		3007.17		391.33		2872.02		436.99	
2/27/2017	472.00		3007.06		391.36		2872.13		436.96	
2/28/2017	471.90		3007.02		391.37		2871.54		437.09	
3/1/2017	471.90		3007.11		391.34		2871.54		437.09	
3/2/2017	471.90		3006.69		391.45		2870.57		437.30	
3/29/2017	467.90	0.10	3007.03		391.35		2871.74		437.04	
4/27/2017	457.60	0.04	3011.00		390.35		2888.70		433.35	
5/23/2017	453.50	0.43	3013.77		389.65		2901.51		430.56	
6/21/2017	447.40	0.00	3016.94		388.85		2913.05		428.03	
7/26/2017	435.10	0.00	3024.22		387.02		2937.66		422.62	
8/25/2017	420.10	0.00	3035.09		384.28		2966.31		416.27	
9/27/2017	407.10	0.00	3044.81		381.83		2988.98		411.22	
10/26/2017	395.00	0.00	3058.99		378.23		3004.20		407.81	
11/28/2017	409.00	0.09	3053.41		379.66		3013.87		405.64	
12/20/2017	416.80	0.00	3046.72		381.36		3010.17		406.47	
1/24/2018	434.50	1.31	3039.95				2997.62			
2/21/2018	443.10	0.29	3034.97				2971.51			
3/29/2018	453.00	1.28	3027.73				2943.47			
4/26/2018	449.10	0.05	3027.18				2931.40			
5/31/2018	453.10	0.20	3072.64				2922.64			
6/28/2018	448.20	0.00	3022.94				2922.72			
7/25/2018	440.40	0.00	3025.51				2934.39			
8/22/2018	427.10	0.00	3031.31				2953.63			
9/27/2018	439.60	0.00	3044.77				2986.66			
10/18/2018	405.30	0.90	3049.15				3003.92			
11/28/2018	408.60	1.19	3049.77				3010.53			

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	3036.44				2997.81			
1/30/2019	463.80	4.71	3019.03				2933.26			
2/27/2019	466.20	6.55	3013.81				2898.84			
3/27/2019	463.30	1.34	3013.30				2894.43			
4/29/2019	453.00	0.13	3016.61				2909.16			
5/30/2019	451.80	0.64	3015.23				2917.35			
6/26/2019	446.20	0.01	3019.03				2933.26			
7/5/2019	39.40	0.00	3020.90							
7/30/2019	434.80	0.00	3025.58							
8/27/2019	424.40	0.00	3032.59							
9/26/2019	405.60	0.00	3046.87							
10/22/2019	400.50	0.00	3052.86							
11/26/2019	412.80	3.13	3049.20							
12/18/2019	447.40	4.44	336.44				2997.81			
1/28/2020	465.40	0.20	3019.02				2933.24			
2/26/2020	459.60	0.14	3015.40				2908.90			
3/24/2020	470.70	3.49	3009.80				2891.30			
4/29/2020	467.60	3.65	3007.33				2882.64			
5/27/2020	459.10	0.02	3009.61				2896.45			
6/23/2020	447.00	0.00	3015.28				2918.67			
7/30/2020	434.00	0.00	3023.85				2947.81			
8/26/2020	417.70	0.00	3036.09				2977.84			
9/29/2020	403.60	0.00	3049.41				3004.49			
10/28/2020	404.50	0.00	3052.71				3015.75			
11/24/2020	413.50	0.42	3047.38				3017.40			
12/22/2020	408.00	1.13	3051.32				3022.66			
1/27/2021	435.60	2.25	3037.99	21.00			3011.14			
2/25/2021	457.30	0.05	3024.04	20.70			2916.15			
3/23/2021	465.90	1.36	3016.72	20.50			2925.72			
4/27/2021	462.10	0.04	3014.33	20.40			2908.33			
5/26/2021	455.00	0.03	3016.59	20.30			2919.42			

VBW data logger is crashing. Repairs are in planning.

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-1				VB-2			
Top of AC Elevation -->			371.00				407.00			
Piezo. Tip Elevation -->			357.00				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	3024.05	20.30			2948.87			
7/29/2021	423.60	0.07	3032.39	20.40			2969.69			
8/24/2021	408.00	0.00	3044.82	20.50			2997.61			
9/29/2021	398.00	0.04	3054.47	20.90			3015.75			
10/26/2021	417.00	0.87	3053.11	15.20			3017.21			
11/25/2021	427.90	0.00	-9999.00	16.60		VB wire data logger malfunction.	-9999.00			VB wire data logger malfunction.
12/21/2021	427.90	4.77	-9999.00	16.80		VB wire data logger parts on order.	-9999.00			VB wire data logger parts on order.
1/27/2022	467.80	0.07	4488.51	16.90			4101.78	17.30		
2/23/2022	464.80	0.29	4350.72	17.50			4228.05	17.80		
3/23/2022	464.40	1.08	4329.53	12.60			4632.68	13.60		
4/26/2022	467.10	0.03	4718.21	12.90			4717.12	13.10		
5/26/2022	464.80	0.08	4762.81	12.50			4756.93	12.90		
6/28/2022	457.30	0.00	4797.74	12.80			4801.47	13.00		
7/26/2022	440.70	0.00	4908.53	12.10			4909.66	12.30		
8/25/2022	429.50	0.05	5138.78	10.30			5117.02	10.80		
9/28/2022	410.80	0.35	4185.80	30.40			4522.47	32.30		
10/25/2022	407.30	0.35	4167.43	29.80			4212.84	30.20		
11/23/2022	427.30	0.80	3033.54	16.10			3004.46	16.30		
12/20/2022	441.90	2.14	3025.24	12.10			2984.25	12.20		

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/31/2007	405.80		3162.20				3081.10			
2/27/2007	426.80		3163.00				3079.90			
3/28/2007	438.80		3162.80				3078.60			
4/26/2007	450.90		3163.60				3036.60			
5/23/2007	461.40		3163.40				3014.00			
6/27/2007	457.20		3163.80				3049.40			
7/26/2007	445.50		3163.60				3054.40			
8/28/2007	434.60		3163.90				3067.20			
9/25/2007	416.80		3163.20				3073.10			
10/24/2007	404.50		3163.00				3077.00			
11/27/2007	422.20		3163.00				3078.60			
1/3/2008	443.20		3163.00	0.37	398.37		3083.30	38.77	438.77	
1/29/2008	452.20		3162.70	0.45	398.45		3058.40	44.72	444.72	
2/27/2008	460.80		3163.10	0.34	398.34		3016.10	54.77	454.77	
3/26/2008	468.00		3163.10	0.34	398.34		2480.10	169.87	569.87	
4/29/2008	468.60		3163.90	0.11	398.11		2974.80	64.42	464.42	
5/29/2008	464.70		3163.30	0.24	398.24		2990.00	60.84	460.84	
6/26/2008	455.70		3163.60	0.18	398.18		3022.60	53.23	453.23	
7/29/2008	447.30	0.00	3163.20	0.29	398.29		3051.20	46.45	446.45	
8/28/2008	438.80	0.00	3164.20	0.02	398.02		3062.90	43.81	443.81	
9/26/2008	430.70	0.00	3163.50	0.22	398.22		3067.40	42.65	442.65	
10/29/2008	412.50	0.00	3163.20	0.31	398.31		3071.10	41.78	441.78	
11/25/2008	404.70	2.60	3163.10	0.34	398.34		3073.50	41.18	441.18	
12/30/2008	440.90	3.42	3163.30	0.29	398.29		3078.50	39.92	439.92	
1/28/2009	463.70	0.17	3162.40	0.53	398.53		3003.20	57.82	457.82	
2/25/2009	470.10	3.35	3162.90	0.39	398.39		2965.70	66.56	466.56	
3/26/2009	469.40	0.19	3163.70	0.17	398.17		2967.20	66.19	466.19	
4/29/2009	466.90	0.07	3163.10	0.33	398.33		2975.50	64.27	464.27	
5/18/2009	466.70	0.00	3163.00	0.35	398.35		2977.00	63.92	463.92	
5/29/2009	465.00	0.00	3163.60	0.19	398.19		2987.80	61.41	461.41	
6/30/2009	460.20	0.00	3163.80	0.13	398.13		3004.30	57.54	457.54	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	3163.60	0.18	398.18		3034.00	50.55	450.55	
8/25/2009	440.10	0.00	3163.50	0.21	398.21		3056.30	45.25	445.25	
9/30/2009	432.20	0.00	3163.80	0.14	398.14		3063.20	43.65	443.65	
10/29/2009	431.40	0.53	3163.40	0.25	398.25		3067.90	42.52	442.52	
12/1/2009	427.40	0.00	3163.60	0.20	398.20		3072.10	41.57	441.57	
12/29/2009	448.10	2.06	3163.30	0.28	398.28		3069.10	42.18	442.18	
1/27/2010	465.60	4.62	3163.90	0.12	398.12		2989.70	60.98	460.98	
2/25/2010	470.20	2.51	3162.80	0.42	398.42		2961.30	67.57	467.57	
3/29/2010	465.70	0.99	3163.50	0.22	398.22		2977.80	63.73	463.73	
4/4/2010	465.00		3163.40	0.25	398.25		2980.60	63.07	463.07	
4/27/2010	468.40	1.23	3163.50	0.27	398.27		2968.40	65.99	465.99	
5/27/2010	463.30	0.05	3163.00	0.35	398.35		2986.00	61.81	461.81	
6/30/2010	454.70	0.00	3163.50	0.21	398.21		3028.10	51.92	451.92	
7/28/2010	445.60	0.00	3163.30	0.26	398.26		3045.70	47.76	447.76	
8/31/2010	437.10	0.00	3163.50	0.21	398.21		3057.70	44.93	444.93	
9/29/2010	422.70	0.00	3163.80	0.13	398.13		3062.10	43.87	443.87	
10/27/2010	426.40	2.38	3163.40	0.24	398.24		3067.00	42.70	442.70	
11/29/2010	439.80	0.97	3162.20	0.57	398.57		3068.60	42.31	442.31	
12/30/2010	456.60	8.62	3164.10	0.06	398.06		3032.30	50.94	450.94	
2/1/2011	468.90	0.92	3163.00	0.36	398.36		2968.00	26.01	466.01	
2/23/2011	469.00	0.99	3162.80	0.41	398.41		2964.10	26.90	466.90	
3/29/2011	470.30	2.93	3162.90	0.37	398.37		2957.70	28.40	468.40	
4/27/2011	464.80	0.19	3163.10	0.32	398.32		2979.30	23.35	463.35	
5/26/2011	457.30	0.48	3162.80	0.39	398.39		3007.40	16.79	456.79	
6/28/2011	443.50	0.05	3163.60	0.17	398.17		3045.90	7.68	447.68	
7/29/2011	425.10	0.00	3163.10	0.31	398.31		3055.70	5.38	445.38	
8/24/2011	418.00	0.00	3163.40	0.23	398.23		3059.30	4.57	444.57	
9/27/2011	400.90	0.12	3163.10	0.32	398.32		3064.10	3.48	443.48	
10/26/2011	402.20	1.25	3163.40	0.24	398.24		3066.60	2.76	442.76	
11/30/2011	425.10	1.38	3163.60	0.19	398.19		3068.80	2.26	442.26	
12/21/2011	435.70	0.32	3163.00	0.36	398.36		3071.70	1.54	441.54	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	3162.70	0.44	398.44		3071.10	1.68	441.68	
2/28/2012	448.40	0.42	3162.70	0.43	398.43		3053.20	5.95	445.95	
3/26/2012	452.70	1.06	3162.50	0.48	398.48		3042.10	8.59	448.59	
4/23/2012	463.40	1.32	3162.80	0.39	398.39		2991.30	20.56	460.56	
5/30/2012	457.30	0.02	3162.60	0.44	398.44		3009.00	16.42	456.42	
6/13/2012	452.90	0.02	3163.40	0.23	398.23		3022.80	13.16	453.16	
6/26/2012	450.20	0.00	3163.10	0.31	398.31		3031.80	11.04	451.04	
7/24/2012	439.80	0.00	3162.60	0.47	398.47		3050.90	6.52	446.52	
8/8/2012	437.60	0.12	3163.10	0.33	398.33		3051.90	6.32	446.32	
8/22/2012	433.40	0.00	3162.90	0.36	398.36		3056.50	5.32	445.32	
8/29/2012	431.30	0.00	3163.30	0.26	398.26		3058.20	4.92	444.92	
9/25/2012	420.80	0.00	3163.60	0.19	398.19		3062.20	3.84	443.84	
10/31/2012	412.30	0.26	3162.30	0.54	398.54		3066.70	2.96	442.96	
11/27/2012	420.80	0.58	3161.80	0.73	398.73		3070.00	2.02	442.02	
12/18/2012	448.00	1.44	3162.70	0.44	398.44		3068.10	2.37	442.37	
1/29/2013	468.60	1.18	3161.70	0.71	398.71		2966.90	26.27	466.27	
2/28/2013	469.20	0.30	3162.30	0.55	398.55		2960.20	27.79	467.79	
3/27/2013	468.30	0.50	3162.40	0.52	398.52		2963.50	27.03	467.03	
4/25/2013	462.70	0.00	3162.20	0.57	398.57		2981.10	22.92	462.92	
5/21/2013	454.20	0.00	3162.40	0.50	398.50		3016.70	14.60	454.60	
6/25/2013	439.30	0.00	3162.20	0.55	398.55		3053.00	6.02	446.02	
7/23/2013	431.50	0.00	3162.00	0.61	398.61		3057.70	4.93	444.93	
8/21/2013	418.00	0.00	3162.30	0.53	398.53		3060.90	4.21	444.21	
9/24/2013	404.00	0.00	3162.50	0.48	398.48		3064.50	3.38	443.38	
10/29/2013	400.60	0.00	3162.10	0.60	398.60		3069.00	2.37	442.37	
11/26/2013	407.90	0.44	3161.50	0.77	398.77		3072.60	1.37	441.37	
12/19/2013	425.80	0.54	3162.90	0.42	398.42		3075.30	0.73	440.73	
1/28/2014	439.70	0.00	3161.80		398.67		3074.00		440.99	
2/25/2014	449.70	0.83	3162.00		398.62		3058.30		444.74	
3/26/2014	465.10		3161.80		398.66		2984.10		462.26	
3/28/2014	465.70	1.15	3161.20		398.82		2980.00		463.22	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	3161.90		398.63		2977.00		463.92	
5/28/2014	450.60	0.00	3162.00		398.60		3030.60		451.32	
6/25/2014	440.10	0.00	3162.00		398.61		3052.60		446.10	
7/29/2014	431.20	0.00	3161.50		398.75		3058.40		444.75	
8/26/2014	419.50	0.02	3161.80		398.68		3061.80		444.16	
9/23/2014	405.30	0.00	3161.60		398.73		3064.50		443.56	
10/29/2014	400.90	0.00	3161.50		398.77		3070.50		442.11	
11/25/2014	410.90	0.25	3160.20		399.13		3074.80		440.85	
12/30/2014	430.60	2.94	3161.60		398.80		3078.60		440.03	
1/27/2015	466.70	0.83	3161.10		398.88		2978.20		463.69	
2/25/2015	468.90	0.69	3160.90		398.93		2963.50		467.09	
3/26/2015	465.90	0.61	3161.10		398.88		2974.10		464.63	
4/28/2015	465.70	0.20	3161.60		398.75		2976.20		464.14	
5/28/2015	466.40	1.08	3161.40		398.80		2973.70		464.73	
6/30/2015	454.50	0.00	3161.60		398.74		3017.10		454.59	
7/28/2015	445.60	0.00	3161.40		398.79		3047.50		447.36	
8/28/2015	437.60	0.00	3161.10		398.88		3057.60		444.96	
9/24/2015	426.90	1.51	3161.00		398.96		3061.00		444.31	
10/27/2015	415.40	0.49	3161.30		398.84		3086.60		438.24	
11/19/2015	412.90	0.09	3160.50		399.06		3090.70		437.02	
12/22/2015	425.50	0.69	3161.68		398.74		3094.29		436.21	
1/27/2016	463.60	2.86	3160.29		399.11		3018.88		454.14	
2/25/2016	468.90	0.25	3160.87		398.95		2985.15		462.03	
3/30/2016	468.00	1.44	3161.26		398.84		2984.84		462.10	
4/28/2016	461.30	0.30	3161.56		398.76		3012.59		455.59	
5/25/2016	451.30	0.18	3160.43		399.06		3049.04		446.97	
6/28/2016	414.10	0.00	3161.03		398.89		3070.88		441.79	
7/27/2016	434.20	0.00	3160.80		398.95		3078.30		440.12	
8/23/2016	418.60	0.00	3160.65		398.99		3082.53		439.17	
9/27/2016	406.40	0.00	3160.63		399.00		3087.44		437.99	
10/26/2016	404.00	0.48	3160.50		399.05		3090.40		437.27	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	3160.67		399.01		3092.04		436.84	
12/20/2016	441.10	3.48	3159.80		399.24		3093.59		436.37	
1/26/2017	471.60	5.67	3159.30		399.38		2976.99		463.98	
2/24/2017	472.05	3.95	3160.02		399.19		2971.88		465.12	
2/25/2017	472.00		3159.68		399.27		2971.58		465.19	
2/26/2017	472.00		3160.09		399.16		2971.99		465.09	
2/27/2017	472.00		3160.10		399.16		2971.99		465.06	
2/28/2017	471.90		3160.84		398.96		2972.98		464.86	
3/1/2017	471.90		3160.24		399.12		2971.86		465.09	
3/2/2017	471.90		3159.45		399.34		2971.67		465.16	
3/29/2017	467.90	0.10	3160.28		399.11		2987.31		461.49	
4/27/2017	457.60	0.04	3160.50		399.04		3026.10		452.38	
5/23/2017	453.50	0.43	3160.48		399.04		3117.73		430.38	
6/21/2017	447.40	0.00	3161.03		398.89		3063.65		443.49	
7/26/2017	435.10	0.00	3159.94		399.18		3078.88		439.96	
8/25/2017	420.10	0.00	3160.80		398.95		3083.07		439.01	
9/27/2017	407.10	0.00	3161.46		398.78		3088.29		437.79	
10/26/2017	395.00	0.00	3161.31		398.83		3090.24		437.31	
11/28/2017	409.00	0.09	3161.01		398.92		3096.24		435.80	
12/20/2017	416.80	0.00	3160.51		399.06		3099.02		435.07	
1/24/2018	434.50	1.31	3160.37				3099.64			
2/21/2018	443.10	0.29	3160.56				3096.22			
3/29/2018	453.00	1.28	3160.64				3066.36			
4/26/2018	449.10	0.05	3160.65				3066.28			
5/31/2018	453.10	0.20	3161.37				3055.75			
6/28/2018	448.20	0.00	3136.14				3066.57			
7/25/2018	440.40	0.00	3160.88				3076.99			
8/22/2018	427.10	0.00	3160.67				3082.41			
9/27/2018	439.60	0.00	3161.01				3087.28			
10/18/2018	405.30	0.90	3161.04				3092.63			
11/28/2018	408.60	1.19	3160.58				3096.07			

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	3160.04				3097.94			
1/30/2019	463.80	4.71	3161.13				3016.30			
2/27/2019	466.20	6.55	3160.52				2990.35			
3/27/2019	463.30	1.34	3161.04				3013.16			
4/29/2019	453.00	0.13	3161.38				3046.09			VBW data logger is crashing. Repairs are in planning.
5/30/2019	451.80	0.64	3161.42				3034.07			
6/26/2019	446.20	0.01	3161.13				3016.30			
7/5/2019	39.40	0.00								
7/30/2019	434.80	0.00								
8/27/2019	424.40	0.00								
9/26/2019	405.60	0.00								
10/22/2019	400.50	0.00								
11/26/2019	412.80	3.13								
12/18/2019	447.40	4.44	3160.04				3097.94			
1/28/2020	465.40	0.20	3161.12				3016.29			
2/26/2020	459.60	0.14	3161.80				3024.40			
3/24/2020	470.70	3.49	3162.40				2978.40			
4/29/2020	467.60	3.65	3162.43				2987.75			
5/27/2020	459.10	0.02	3162.77				3021.61			
6/23/2020	447.00	0.00	3162.53				3061.70			
7/30/2020	434.00	0.00	3162.58				3079.59			
8/26/2020	417.70	0.00	3163.26				3081.89			
9/29/2020	403.60	0.00	3162.43				3086.43			
10/28/2020	404.50	0.00	3162.21				3089.52			
11/24/2020	413.50	0.42	3162.43				3093.25			
12/22/2020	408.00	1.13	3162.34				3096.11			
1/27/2021	435.60	2.25	3162.44				3096.57			
2/25/2021	457.30	0.05	3162.81				3043.00			
3/23/2021	465.90	1.36	3163.02				3000.12			
4/27/2021	462.10	0.04	3162.85				3012.43			
5/26/2021	455.00	0.03	3162.31				3046.19			

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-3				VB-4			
Top of AC Elevation -->			421.50				448.00			
Piezo. Tip Elevation -->			399.50				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	3162.96				3076.31			
7/29/2021	423.60	0.07	3162.28				3079.16			
8/24/2021	408.00	0.00	3162.40				3083.40			
9/29/2021	398.00	0.04	3162.23				3087.10			
10/26/2021	417.00	0.87	3162.31				3087.71			
11/25/2021	427.90	0.00	-9999.00				-9999.00			VB wire data logger malfunction.
12/21/2021	427.90	4.77	-9999.00				-9999.00			VB wire data logger parts on order.
1/27/2022	467.80	0.07	3982.00	17.70			4019.21	17.70		
2/23/2022	464.80	0.29	4052.62	18.00			4047.55	18.10		
3/23/2022	464.40	1.08	4634.63	13.30			4619.47	13.70		
4/26/2022	467.10	0.03	4720.41	12.70			4719.51	13.20		
5/26/2022	464.80	0.08	4758.99	13.10			4748.99	13.20		
6/28/2022	457.30	0.00	4798.77	13.20			4790.42	13.30		
7/26/2022	440.70	0.00	4933.42	11.70			5003.15	11.80		
8/25/2022	429.50	0.05	5123.76	11.10			3080.27	11.10		
9/28/2022	410.80	0.35	4421.30	32.70			4846.71	32.20		
10/25/2022	407.30	0.35	4223.26	30.30			4216.24	30.40		
11/23/2022	427.30	0.80	3161.78	15.80			3089.30	16.00		
12/20/2022	441.90	2.14	3161.13	12.20			3090.44	12.20		

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/31/2007	405.80		3052.90							
2/27/2007	426.80		2975.00							
3/28/2007	438.80		2916.50							
4/26/2007	450.90		2864.50							
5/23/2007	461.40		2817.40							
6/27/2007	457.20		2866.60							
7/26/2007	445.50		2875.60							
8/28/2007	434.60		2919.20							
9/25/2007	416.80		2986.00							
10/24/2007	404.50		3036.40							
11/27/2007	422.20		2992.00							
1/3/2008	443.20		2894.90		438.34					
1/29/2008	452.20		2854.10		447.17		3005.00		420.64	
2/27/2008	460.80		2818.20		454.82		2976.70		427.06	
3/26/2008	468.00		2784.90		461.83					
4/29/2008	468.60		2780.60		462.73					
5/29/2008	464.70		2795.90		459.50		2944.40		434.31	
6/26/2008	455.70		2831.80		451.93		2960.10		430.80	
7/29/2008	447.30	0.00	2866.80		444.44		2980.50		426.21	
8/28/2008	438.80	0.00	2904.30		436.34		2999.10		421.99	
9/26/2008	430.70	0.00	2935.00		429.58		3014.60		418.45	
10/29/2008	412.50	0.00	3002.50		414.43		3044.50		411.56	
11/25/2008	404.70	2.60	3035.00		406.98		3060.70		407.80	
12/30/2008	440.90	3.42	2916.70		433.55		3047.30		410.91	
1/28/2009	463.70	0.17	2807.60		457.09		2990.00		424.05	
2/25/2009	470.10	3.35	2774.50		464.02		2946.10		433.93	
3/26/2009	469.40	0.19	2776.20		463.63		2936.10		436.16	
4/29/2009	466.90	0.07	2784.60		461.90		2936.30		436.12	
5/18/2009	466.70	0.00	2786.00		461.61		2937.00		435.96	
5/29/2009	465.00	0.00	2797.20		459.26		2941.10		435.05	
6/30/2009	460.20	0.00	2814.40		455.64		2949.90		433.09	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	2851.00		447.85		2966.50		429.36	
8/25/2009	440.10	0.00	2895.60		438.21		2988.20		424.46	
9/30/2009	432.20	0.00	2929.20		430.86		3008.60		419.82	
10/29/2009	431.40	0.53	2935.00		429.57		3018.70		417.50	
12/1/2009	427.40	0.00	2953.90		425.32		3029.40		415.04	
12/29/2009	448.10	2.06	2873.30		443.04		3012.70		418.88	
1/27/2010	465.60	4.62	2796.20		459.49		2966.40		429.39	
2/25/2010	470.20	2.51	2772.60		464.41		2936.00		436.16	
3/29/2010	465.70	0.99	2790.40		460.65		2938.20		435.67	
4/4/2010	465.00		2792.60		460.18		2939.80		435.34	
4/27/2010	468.40	1.23	2779.20		463.11		2936.10		436.13	
5/27/2010	463.30	0.05	2800.00		458.66		2940.00		435.27	
6/30/2010	454.70	0.00	2847.10		448.65		2963.10		430.10	
7/28/2010	445.60	0.00	2873.20		443.04		2977.10		426.96	
8/31/2010	437.10	0.00	2910.10		435.04		2998.30		422.16	
9/29/2010	422.70	0.00	2967.70		422.28		3023.70		416.36	
10/27/2010	426.40	2.38	2962.60		423.38		3035.00		413.75	
11/29/2010	439.80	0.97	2908.50		435.37		3025.20		416.01	
12/30/2010	456.60	8.62	2836.60		450.92		2991.90		423.61	
2/1/2011	468.90	0.92	2782.00		462.45		2942.50		434.71	
2/23/2011	469.00	0.99	2776.70		463.54		2936.80		435.98	
3/29/2011	470.30	2.93	2770.70		464.79		2931.60		437.13	
4/27/2011	464.80	0.19	2794.60		459.77		2938.10		435.68	
5/26/2011	457.30	0.48	2824.80		453.40		2953.30		432.30	
6/28/2011	443.50	0.05	2881.70		441.17		2977.90		426.77	
7/29/2011	425.10	0.00	2941.90		427.98		3008.30		419.87	
8/24/2011	418.00	0.00	3001.00		414.71		3037.90		413.08	
9/27/2011	400.90	0.12	3048.20		403.97		3060.70		407.81	
10/26/2011	402.20	1.25	3053.40		402.70		3069.60		405.72	
11/30/2011	425.10	1.38	2982.10		418.98		3064.70		406.86	
12/21/2011	435.70	0.32	2933.30		429.86		3056.20		408.83	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	2900.60		437.07		3030.10		414.87	
2/28/2012	448.40	0.42	2866.20		444.53		2999.00		421.98	
3/26/2012	452.70	1.06	2849.60		448.10		2988.80		424.30	
4/23/2012	463.40	1.32	2804.70		457.65		2959.30		430.95	
5/30/2012	457.30	0.02	2825.80		453.20		2955.20		431.87	
6/13/2012	452.90	0.02	2845.10		449.08		2963.40		430.03	
6/26/2012	450.20	0.00	2856.30		446.67		2969.40		428.68	
7/24/2012	439.80	0.00	2898.30		437.58		2988.60		424.36	
8/8/2012	437.60	0.12	2909.30		435.19		2996.40		422.59	
8/22/2012	433.40	0.00	2925.70		431.61		3004.60		420.73	
8/29/2012	431.30	0.00	2934.70		429.64		3009.00		419.72	
9/25/2012	420.80	0.00	2982.10		418.98		3021.40		416.88	
10/31/2012	412.30	0.26	3008.40		413.08		3046.60		411.08	
11/27/2012	420.80	0.58	2991.70		416.82		3051.30		410.00	
12/18/2012	448.00	1.44	2883.10		440.91		3030.40		414.81	
1/29/2013	468.60	1.18	2781.70		462.53		2949.20		433.22	
2/28/2013	469.20	0.30	2777.10		463.46		2933.30		436.76	
3/27/2013	468.30	0.50	2780.30		462.76		2931.00		437.26	
4/25/2013	462.70	0.00	2798.30		458.99		2938.70		435.55	
5/21/2013	454.20	0.00	2836.60		450.90		2954.90		431.94	
6/25/2013	439.30	0.00	2894.60		438.35		2986.00		424.93	
7/23/2013	431.50	0.00	2926.20		431.47		3004.70		420.70	
8/21/2013	418.00	0.00	2978.40		419.85		3029.70		414.98	
9/24/2013	404.00	0.00	3033.80		407.26		3055.10		409.11	
10/29/2013	400.60	0.00	3047.90		404.04		3066.20		406.53	
11/26/2013	407.90	0.44	3036.10		406.70		3071.80		405.21	
12/19/2013	425.80	0.54	2973.50		420.95		3063.50		407.15	
1/28/2014	439.70	0.00	2904.80		436.16		3039.50		412.70	
2/25/2014	449.70	0.83	2860.40		445.80		3009.40		419.62	
3/26/2014	465.10		2793.50		460.04		2960.10		430.78	
3/28/2014	465.70	1.15	2789.00		460.99		2956.20		431.65	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	2788.40		461.10		2939.20		435.45	
5/28/2014	450.60	0.00	2850.30		447.97		2962.10		430.33	
6/25/2014	440.10	0.00	2893.50		438.62		2983.70		425.46	
7/29/2014	431.20	0.00	2929.30		430.79		3003.60		420.95	
8/26/2014	419.50	0.02	2974.50		420.81		3024.40		416.21	
9/23/2014	405.30	0.00	3028.00		408.78		3048.00		410.74	
10/29/2014	400.90	0.00	3049.10		403.76		3060.90		407.76	
11/25/2014	410.90	0.25	3027.90		408.60		3065.70		406.64	
12/30/2014	430.60	2.94	2960.20		423.97		3055.70		408.98	
1/27/2015	466.70	0.83	2789.20		460.99		2971.80		428.16	
2/25/2015	468.90	0.69	2775.60		463.83		2937.10		435.93	
3/26/2015	465.90	0.61	2787.40		461.35		2932.70		436.90	
4/28/2015	465.70	0.20	2788.70		461.05		2932.70		436.90	
5/28/2015	466.40	1.08	2786.70		461.51		2929.00		437.73	
6/30/2015	454.50	0.00	2836.10		451.07		2947.30		433.65	
7/28/2015	445.60	0.00	2873.70		442.97		2969.60		428.66	
8/28/2015	437.60	0.00	2905.10		436.13		2987.30		424.66	
9/24/2015	426.90	1.51	2950.00		426.23		3009.00		419.72	
10/27/2015	415.40	0.49	2995.10		416.23		3030.80		414.75	
11/19/2015	412.90	0.09	3012.80		412.06		3043.80		411.73	
12/22/2015	425.50	0.69	2973.77		420.86		3043.85		411.71	
1/27/2016	463.60	2.86	2810.16		456.54		2992.70		423.44	
2/25/2016	468.90	0.25	2778.86		463.10		2941.28		435.00	
3/30/2016	468.00	1.44	2778.46		463.18		2925.94		438.41	
4/28/2016	461.30	0.30	2809.03		456.75		2934.25		436.56	
5/25/2016	451.30	0.18	2850.06		448.01		2954.44		432.05	
6/28/2016	414.10	0.00	2884.16		440.65		2973.70		427.72	
7/27/2016	434.20	0.00	2922.10		432.36		2992.17		423.55	
8/23/2016	418.60	0.00	2980.42		419.38		3018.64		417.51	
9/27/2016	406.40	0.00	3033.58		407.30		3044.78		411.49	
10/26/2016	404.00	0.48	3048.70		403.81		3055.10		409.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	3023.53		409.59		3058.41		408.38	
12/20/2016	441.10	3.48	2918.66		433.15		3040.23		412.55	
1/26/2017	471.60	5.67	2771.84		464.60		2953.45		432.29	
2/24/2017	472.05	3.95	2767.24		465.54		2925.06		438.60	
2/25/2017	472.00		2767.01		465.58		2924.57		438.71	
2/26/2017	472.00		2767.46		465.49		2924.16		438.80	
2/27/2017	472.00		2767.31		465.52		2924.02		438.83	
2/28/2017	471.90		2768.30		465.31		2923.73		438.90	
3/1/2017	471.90		2767.52		465.47		2924.67		438.69	
3/2/2017	471.90		2767.23		465.53		2922.65		439.14	
3/29/2017	467.90	0.10	2784.31		461.95		2924.16		438.80	
4/27/2017	457.60	0.04	2826.30		453.07		2941.70		434.90	
5/23/2017	453.50	0.43	2846.14		448.84		2954.91		431.95	
6/21/2017	447.40	0.00	2872.23		443.23		2966.15		429.42	
7/26/2017	435.10	0.00	2922.05		432.37		2990.05		424.03	
8/25/2017	420.10	0.00	2981.67		419.09		3012.74		418.86	
9/27/2017	407.10	0.00	3027.11		408.78		3040.78		412.41	
10/26/2017	395.00	0.00	3063.05		400.49		3054.84		409.16	
11/28/2017	409.00	0.09	2828.52		452.72		3060.62		407.81	
12/20/2017	416.80	0.00	2998.56		415.27		3055.46		409.02	
1/24/2018	434.50	1.31	2943.98				3046.11			
2/21/2018	443.10	0.29	2901.14				3030.22			
3/29/2018	453.00	1.28	2855.13				2995.99			
4/26/2018	449.10	0.05	2828.01				2881.36			
5/31/2018	453.10	0.20	2852.89				2973.27			
6/28/2018	448.20	0.00	2872.28				2972.82			
7/25/2018	440.40	0.00	2904.83				2983.70			
8/22/2018	427.10	0.00	2950.76				3002.00			
9/27/2018	439.60	0.00	3023.87				3035.05			
10/18/2018	405.30	0.90	3046.04				3051.05			
11/28/2018	408.60	1.19	3039.88				3055.58			

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	2951.35				3042.36			
1/30/2019	463.80	4.71	2815.04				2982.42			
2/27/2019	466.20	6.55	2797.92				2945.39			
3/27/2019	463.30	1.34	2816.66				2940.82			
4/29/2019	453.00	0.13	2953.17				2955.81			
5/30/2019	451.80	0.64	2928.10				2952.61			
6/26/2019	446.20	0.01	2815.13				2982.42			
7/5/2019	39.40	0.00								
7/30/2019	434.80	0.00								
8/27/2019	424.40	0.00								
9/26/2019	405.60	0.00								
10/22/2019	400.50	0.00								
11/26/2019	412.80	3.13								
12/18/2019	447.40	4.44	2951.35				3042.46			
1/28/2020	465.40	0.20	2815.12				2982.40			
2/26/2020	459.60	0.14	2830.70				2951.70			
3/24/2020	470.70	3.49	2782.80				2934.80			
4/29/2020	467.60	3.65	2792.97				2923.33			
5/27/2020	459.10	0.02	2829.34				2937.04			
6/23/2020	447.00	0.00	2878.14				2959.04			
7/30/2020	434.00	0.00	2934.11				2987.26			
8/26/2020	417.70	0.00	2997.42				3016.35			
9/29/2020	403.60	0.00	3054.08				3042.87			
10/28/2020	404.50	0.00	3067.82				3051.49			
11/24/2020	413.50	0.42	3030.96				3055.34			
12/22/2020	408.00	1.13	3045.74				3060.14			
1/27/2021	435.60	2.25	2952.21				3050.64			
2/25/2021	457.30	0.05	2849.80				3009.37			
3/23/2021	465.90	1.36	2808.74				2968.95			
4/27/2021	462.10	0.04	2822.62				2948.82			
5/26/2021	455.00	0.03	2861.60				2957.07			

VBW data logger is crashing. Repairs are in planning.

VBW data logger is crashing. Repairs are in planning.

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-5				VB-6			
Top of AC Elevation -->			402.00				408.00			
Piezo. Tip Elevation -->			392.80				392.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	2926.26				2985.40			
7/29/2021	423.60	0.07	2974.84				3005.63			
8/24/2021	408.00	0.00	3036.59				3034.54			
9/29/2021	398.00	0.04	3076.13				3051.09			
10/26/2021	417.00	0.87	3072.10				3052.24			
11/25/2021	427.90	0.00	-9999.00			VB wire data logger malfunction.	-9999.00			VB wire data logger malfunction.
12/21/2021	427.90	4.77	-9999.00			VB wire data logger parts on order.	-9999.00			VB wire data logger parts on order.
1/27/2022	467.80	0.07	-9999.00	17.80			3804.51	17.80		
2/23/2022	464.80	0.29	3918.35	18.10			3940.32	18.20		
3/23/2022	464.40	1.08	4847.81	13.60			4625.22	13.00		
4/26/2022	467.10	0.03	4848.72	13.20			4711.65	13.70		
5/26/2022	464.80	0.08	4853.04	13.00			4742.93	13.40		
6/28/2022	457.30	0.00	4884.42	13.40			4789.00	13.30		
7/26/2022	440.70	0.00	5104.71	11.50			5010.67	11.40		
8/25/2022	429.50	0.05	4962.90	11.50			5104.14	11.30		
9/28/2022	410.80	0.35	4183.48	32.60			3785.33	32.60		
10/25/2022	407.30	0.35	-999999	30.30			4212.16	30.40		
11/23/2022	427.30	0.80	5405.46	16.10			5262.61	15.90		
12/20/2022	441.90	2.14	5395.47	12.10			5295.36	12.30		

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/31/2007	405.80		3083.20				3060.10			
2/27/2007	426.80		3083.20				3062.20			
3/28/2007	438.80						3062.80			
4/26/2007	450.90		3083.30				3062.40			
5/23/2007	461.40		3083.40				3057.40			
6/27/2007	457.20		3083.80				3048.30			
7/26/2007	445.50		3083.60				3048.50			
8/28/2007	434.60						3049.70			
9/25/2007	416.80		3083.80				3050.30			
10/24/2007	404.50						3053.40			
11/27/2007	422.20		3083.90				3056.80			
1/3/2008	443.20		3083.60		400.84		3061.00		440.94	
1/29/2008	452.20		3083.40		400.88		3063.40		440.32	
2/27/2008	460.80		3083.60		400.84		3060.50		440.96	
3/26/2008	468.00		3083.60		400.84		3043.50		444.94	
4/29/2008	468.60		3083.70		400.81		3026.80		448.86	
5/29/2008	464.70		3083.90		400.76		3024.30		449.44	
6/26/2008	455.70		3084.00		400.74		3031.20		447.84	
7/29/2008	447.30	0.00	3084.10		400.72		3038.50		446.16	
8/28/2008	438.80	0.00	3084.20		400.69		3042.10		445.38	
9/26/2008	430.70	0.00	3084.20		400.69		3044.90		444.78	
10/29/2008	412.50	0.00	3084.00		400.74		3048.20		444.04	
11/25/2008	404.70	2.60	3083.90		400.75		3051.30		443.19	
12/30/2008	440.90	3.42	3083.40		400.88		3056.10		442.13	
1/28/2009	463.70	0.17	3083.20		400.93		3055.40		442.22	
2/25/2009	470.10	3.35	3083.30		400.91		3035.40		446.91	
3/26/2009	469.40	0.19	3083.50		400.86		3024.60		449.41	
4/29/2009	466.90	0.07	3083.50		400.86		3020.60		450.33	
5/18/2009	466.70	0.00	3082.00		401.22		3021.00		450.23	
5/29/2009	465.00	0.00	3083.70		400.81		3022.20		449.95	
6/30/2009	460.20	0.00	3083.90		400.74		3027.00		448.83	

Notes:

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**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	3083.90		400.74		3034.20		447.14	
8/25/2009	440.10	0.00	3084.00		400.73		3038.40		446.19	
9/30/2009	432.20	0.00	3084.10		400.72		3042.30		445.32	
10/29/2009	431.40	0.53	3083.90		400.75		3045.90		444.44	
12/1/2009	427.40	0.00	3083.70		400.80		3050.20		443.54	
12/29/2009	448.10	2.06	3083.40		400.87		3054.20		442.50	
1/27/2010	465.60	4.62	3083.40		400.87		3050.60		443.32	
2/25/2010	470.20	2.51	3083.30		400.89		3029.40		448.31	
3/29/2010	465.70	0.99	3083.40		400.86		3023.50		449.63	
4/4/2010	465.00		3083.40		400.87		3023.80		449.58	
4/27/2010	468.40	1.23	3083.30		400.88		3021.30		450.13	
5/27/2010	463.30	0.05	3083.00		400.95		3021.00		450.20	
6/30/2010	454.70	0.00	3083.60		400.81		3031.70		447.71	
7/28/2010	445.60	0.00	3083.60		400.82		3036.30		446.64	
8/31/2010	437.10	0.00	3083.70		400.80		3040.50		445.70	
9/29/2010	422.70	0.00	3083.90		400.76		3043.30		445.08	
10/27/2010	426.40	2.38	3083.70		400.80		3045.80		444.46	
11/29/2010	439.80	0.97	3083.10		400.95		3049.00		443.70	
12/30/2010	456.60	8.62	3083.10		400.94		3050.30		443.36	
2/1/2011	468.90	0.92	3083.00		400.96		3032.00		447.64	
2/23/2011	469.00	0.99	3082.80		401.00		3023.60		449.60	
3/29/2011	470.30	2.93	3082.90		400.97		3014.70		451.66	
4/27/2011	464.80	0.19	3088.20		399.69		3014.30		451.74	
5/26/2011	457.30	0.48	3083.10		400.92		3020.80		450.23	
6/28/2011	443.50	0.05	3083.40		400.85		3027.90		448.58	
7/29/2011	425.10	0.00	3083.70		400.79		3029.60		448.22	
8/24/2011	418.00	0.00	3083.60		400.82		3029.10		448.37	
9/27/2011	400.90	0.12	3083.40		400.89		3027.20		448.89	
10/26/2011	402.20	1.25	3083.10		400.95		3028.20		448.61	
11/30/2011	425.10	1.38	3082.70		401.04		3031.00		447.94	
12/21/2011	435.70	0.32	3082.60		401.06		3033.70		447.28	

Notes:

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**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	3083.20		400.91		3036.90		446.51	
2/28/2012	448.40	0.42	3083.30		400.81		3038.60		446.08	
3/26/2012	452.70	1.06	3083.70		400.79		3038.20		446.21	
4/23/2012	463.40	1.32	3083.80		400.75		3030.70		447.91	
5/30/2012	457.30	0.02	3083.90		400.73		3020.20		450.39	
6/13/2012	452.90	0.02	3084.10		400.69		3021.50		450.09	
6/26/2012	450.20	0.00	3084.20		400.66		3022.40		449.87	
7/24/2012	439.80	0.00	3084.10		400.70		3024.10		449.57	
8/8/2012	437.60	0.12	3084.20		400.67		3025.00		449.33	
8/22/2012	433.40	0.00	3084.30		400.66		3025.40		449.27	
8/29/2012	431.30	0.00	3084.40		400.64		3025.50		449.25	
9/25/2012	420.80	0.00	3084.00		400.73		3027.00		448.92	
10/31/2012	412.30	0.26	3084.10		400.72		3028.30		448.61	
11/27/2012	420.80	0.58	3083.60		400.86		3031.10		448.08	
12/18/2012	448.00	1.44	3083.40		400.87		3033.90		447.25	
1/29/2013	468.60	1.18	3083.00		400.96		3018.10		450.93	
2/28/2013	469.20	0.30	3093.10		398.52		3004.30		454.12	
3/27/2013	468.30	0.50	3083.40		400.85		2998.80		455.34	
4/25/2013	462.70	0.00	3083.60		400.80		2699.30		521.34	
5/21/2013	454.20	0.00	3083.60		400.81		3007.80		453.30	
6/25/2013	439.30	0.00	3084.10		400.69		3015.90		451.40	
7/23/2013	431.50	0.00	3084.10		400.70		3019.20		450.69	
8/21/2013	418.00	0.00	3084.10		400.69		3021.60		450.15	
9/24/2013	404.00	0.00	3084.00		400.73		3023.50		449.73	
10/29/2013	400.60	0.00	3083.80		400.80		3026.40		449.09	
11/26/2013	407.90	0.44	3083.30		400.90		3029.70		448.27	
12/19/2013	425.80	0.54	3083.30		400.92		3032.80		447.62	
1/28/2014	439.70	0.00	3083.10		400.94		3036.90		446.52	
2/25/2014	449.70	0.83	3083.10		400.94		3038.00		446.25	
3/26/2014	465.10		3082.90		400.98		3027.30		448.75	
3/28/2014	465.70	1.15	3083.00		400.96		3024.90		449.31	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	3083.20		400.91		3010.20		452.74	
5/28/2014	450.60	0.00	3083.20		400.91		3016.20		451.35	
6/25/2014	440.10	0.00	3083.40		400.86		3019.70		450.54	
7/29/2014	431.20	0.00	3083.40		400.87		3022.20		450.01	
8/26/2014	419.50	0.02	3083.40		400.89		3023.40		449.78	
9/23/2014	405.30	0.00	3083.40		400.87		3024.50		449.65	
10/29/2014	400.90	0.00	3083.10		400.97		3026.50		449.08	
11/25/2014	410.90	0.25	3082.70		401.05		3029.40		448.37	
12/30/2014	430.60	2.94	3082.70		401.08		3032.20		447.85	
1/27/2015	466.70	0.83	3082.20		401.17		3025.20		449.32	
2/25/2015	468.90	0.69	3082.40		401.11		3008.20		453.28	
3/26/2015	465.90	0.61	3082.50		401.09		3001.40		454.84	
4/28/2015	465.70	0.20	3082.70		401.04		2999.60		455.28	
5/28/2015	466.40	1.08	3082.70		401.05		2996.90		455.92	
6/30/2015	454.50	0.00	3082.70		401.04		3005.20		453.99	
7/28/2015	445.60	0.00	3082.00		401.21		3012.30		452.32	
8/28/2015	437.60	0.00	3082.70		401.05		3015.80		451.53	
9/24/2015	426.90	1.51	3082.00		401.23		3018.00		451.16	
10/27/2015	415.40	0.49	3082.70		401.07		3021.20		450.36	
11/19/2015	412.90	0.09	3082.70		401.06		3023.70		449.72	
12/22/2015	425.50	0.69	3082.21		401.17		3029.19		448.53	
1/27/2016	463.60	2.86	3081.63		401.31		3030.50		448.14	
2/25/2016	468.90	0.25	3081.70		401.29		3012.31		452.36	
3/30/2016	468.00	1.44	3081.96		401.22		2999.64		455.28	
4/28/2016	461.30	0.30	3082.13		401.18		3001.02		454.94	
5/25/2016	451.30	0.18	3082.16		401.17		3009.91		452.87	
6/28/2016	414.10	0.00	3081.49		401.33		3016.37		451.38	
7/27/2016	434.20	0.00	3082.40		401.11		3018.40		450.97	
8/23/2016	418.60	0.00	3082.90		400.99		3019.75		450.72	
9/27/2016	406.40	0.00	3082.08		401.19		3022.43		450.14	
10/26/2016	404.00	0.48	3081.90		401.24		3025.10		449.52	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6**  
**SAN JOAQUIN DAM**  
**VIBRATING WIRE PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	3081.70		401.29		3028.17		448.80	
12/20/2016	441.10	3.48	3081.55		401.33		3031.56		447.97	
1/26/2017	471.60	5.67	3081.10		401.44		3014.56		451.88	
2/24/2017	472.05	3.95	3081.04		401.45		2999.46		455.35	
2/25/2017	472.00		3081.08		401.44		2998.95		455.47	
2/26/2017	472.00		3081.09		401.44		2992.11		457.05	
2/27/2017	472.00		3081.09		401.44		2992.67		456.92	
2/28/2017	471.90		3081.21		401.41		2998.07		455.67	
3/1/2017	471.90		3081.14		401.42		2996.94		455.94	
3/2/2017	471.90		3080.93		401.47		2997.18		455.87	
3/29/2017	467.90	0.10	3080.93		401.47		2995.28		456.28	
4/27/2017	457.60	0.04	3081.00		401.45		3003.50		454.35	
5/23/2017	453.50	0.43	3081.02		401.44		3010.76		452.65	
6/21/2017	447.40	0.00	3081.04		401.44		3015.40		451.59	
7/26/2017	435.10	0.00	3080.91		401.47		3018.38		450.96	
8/25/2017	420.10	0.00	3080.63		401.54		3019.85		450.68	
9/27/2017	407.10	0.00	3081.57		401.31		3019.85		450.73	
10/26/2017	395.00	0.00	3080.57		401.56		3025.12		449.51	
11/28/2017	409.00	0.09	3080.87		401.49		3028.84		448.63	
12/20/2017	416.80	0.00	3079.92		401.72		3031.95		447.87	
1/24/2018	434.50	1.31	3079.20				3035.62			
2/21/2018	443.10	0.29	3079.49				3037.59			
3/29/2018	453.00	1.28	3079.41				3038.89			
4/26/2018	449.10	0.05	3079.56				3039.02			
5/31/2018	453.10	0.20	3079.88				3036.50			
6/28/2018	448.20	0.00	3066.95				3036.75			
7/25/2018	440.40	0.00	2080.05				3033.11			
8/22/2018	427.10	0.00	3080.07				3031.48			
9/27/2018	439.60	0.00	3080.05				3031.53			
10/18/2018	405.30	0.90	3162.28				3033.61			
11/28/2018	408.60	1.19	3162.26				3036.07			

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	3162.26				3037.87			
1/30/2019	463.80	4.71	3162.28				3037.78			
2/27/2019	466.20	6.55	3162.28				3021.12			
3/27/2019	463.30	1.34	3162.28				3114.76			
4/29/2019	453.00	0.13	-999999.0				3019.45			
5/30/2019	451.80	0.64	-999999.0				3134.62			
6/26/2019	446.20	0.01	-999999.0				3037.78			
7/5/2019	39.40	0.00								
7/30/2019	434.80	0.00								
8/27/2019	424.40	0.00								
9/26/2019	405.60	0.00								
10/22/2019	400.50	0.00								
11/26/2019	412.80	3.13								
12/18/2019	447.40	4.44	-999999.0				3037.88			
1/28/2020	465.40	0.20	-999999.0				3037.76			
2/26/2020	459.60	0.14	-999999.0				3021.00			
3/24/2020	470.70	3.49	-999999.0				3009.90			
4/29/2020	467.60	3.65	0.00				2998.05			
5/27/2020	459.10	0.02	0.00				3004.15			
6/23/2020	447.00	0.00	0.00				3012.75			
7/30/2020	434.00	0.00	0.00				3018.14			
8/26/2020	417.70	0.00	0.00				3020.66			
9/29/2020	403.60	0.00	0.00				3023.01			
10/28/2020	404.50	0.00	0.00				3025.18			
11/24/2020	413.50	0.42	0.00				3028.78			
12/22/2020	408.00	1.13	0.00				3032.10			
1/27/2021	435.60	2.25	-999999.00				3036.57			
2/25/2021	457.30	0.05	-999999.00				3037.04			
3/23/2021	465.90	1.36	-999999.00				3027.79			
4/27/2021	462.10	0.04	-999999.00				3017.07			
5/26/2021	455.00	0.03	3082.56				3019.55			

VBW data logger is crashing. Repairs are in planning.

VBW data logger is crashing. Repairs are in planning.

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 6  
SAN JOAQUIN DAM  
VIBRATING WIRE PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Vibrating Wire Piezo. -->			VB-7				VB-8			
Top of AC Elevation -->			422.00				452.50			
Piezo. Tip Elevation -->			402.00				441.00			
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment	Reading (Hz)	Temp (C°)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	-999999.00				3023.19			
7/29/2021	423.60	0.07	3082.78				3024.28			
8/24/2021	408.00	0.00	-999999.00				3025.29			
9/29/2021	398.00	0.04	3082.63				3027.93			
10/26/2021	417.00	0.87	3740.84				3027.63			
11/25/2021	427.90	0.00	3740.84			VB wire data logger malfunction.	-9999.00			VB wire data logger malfunction.
12/21/2021	427.90	4.77	3804.40			VB wire data logger parts on order.	3552.86			VB wire data logger parts on order.
1/27/2022	467.80	0.07	3964.17	18.80			3826.72	17.90		
2/23/2022	464.80	0.29	4040.18	19.10			3920.62	18.20		
3/23/2022	464.40	1.08	4627.66	13.10			4634.76	13.00		
4/26/2022	467.10	0.03	4705.83	13.40			4726.53	12.90		
5/26/2022	464.80	0.08	4752.22	13.10			4769.15	13.10		
6/28/2022	457.30	0.00	4796.95	13.10			4769.14	13.40		
7/26/2022	440.70	0.00	4983.95	11.90			5003.18	12.00		
8/25/2022	429.50	0.05	5103.58	11.20			5116.59	11.30		
9/28/2022	410.80	0.35	3941.89	34.10			3801.66	32.70		
10/25/2022	407.30	0.35	4230.67	31.10			4224.50	30.50		
11/23/2022	427.30	0.80	5265.90	16.90			-999999.00	17.30		
12/20/2022	441.90	2.14	5294.72	12.40			-999999.00	12.60		

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		48.00	353.10		34.00	338.50	
2/27/2007	426.80		48.00	353.10		32.00	336.50	
3/28/2007	438.80		48.00	353.10		34.00	338.50	
4/26/2007	450.90		48.00	353.10		34.00	338.50	
5/23/2007	461.40		50.00	355.10		36.00	340.50	
6/27/2007	457.20		50.00	355.10		35.00	339.50	
7/26/2007	445.50		52.00	357.10		36.00	340.50	
8/28/2007	434.60		52.00	357.10		36.00	340.50	
9/25/2007	416.80		50.00	355.10		35.00	339.50	
10/24/2007	404.50		50.00	355.10		36.00	340.50	
11/27/2007	422.20		48.00	353.10		35.00	339.50	
1/3/2008	443.20		50.00	355.10		37.00	341.50	
1/29/2008	452.20		51.00	356.10		36.00	340.50	
2/27/2008	460.80		52.00	357.10		38.00	342.50	
3/26/2008	468.00		52.00	357.10		38.00	342.50	
4/29/2008	468.60		52.00	357.10		38.00	342.50	
5/29/2008	464.70		52.00	357.10		36.00	340.50	
6/26/2008	455.70		52.00	357.10		37.00	341.50	
7/29/2008	447.30	0.00	53.00	358.10		38.00	342.50	
8/28/2008	438.80	0.00	54.00	359.10		38.00	342.50	
9/26/2008	430.70	0.00	53.00	358.10		36.00	340.50	
10/29/2008	412.50	0.00	52.00	357.10		38.00	342.50	
11/25/2008	404.70	2.60	50.50	355.60		36.00	340.50	
12/30/2008	440.90	3.42	51.00	356.10		38.00	342.50	
1/28/2009	463.70	0.17	52.00	357.10		38.00	342.50	
2/25/2009	470.10	3.35	52.00	357.10		37.00	341.50	
3/26/2009	469.40	0.19	54.00	359.10		40.00	344.50	
4/29/2009	466.90	0.07	54.00	359.10		40.00	344.50	
5/18/2009	466.70	0.00	54.00	359.10		40.00	344.50	
5/29/2009	465.00	0.00	52.00	357.10		36.00	340.50	
6/30/2009	460.20	0.00	54.00	359.10		40.00	344.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7**  
**SAN JOAQUIN DAM**  
**PNEUMATIC PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	55.00	360.10		40.00	344.50	
8/25/2009	440.10	0.00	54.00	359.10		40.00	344.50	
9/30/2009	432.20	0.00	54.00	359.10		38.00	342.50	
10/29/2009	431.40	0.53	52.00	357.10		40.00	344.50	
12/1/2009	427.40	0.00	53.00	358.10		39.00	343.50	
12/29/2009	448.10	2.06	54.00	359.10		39.00	343.50	
1/27/2010	465.60	4.62	52.00	357.10		39.00	343.50	
2/25/2010	470.20	2.51	56.00	361.10		40.00	344.50	
3/29/2010	465.70	0.99	54.00	359.10		40.00	344.50	
4/4/2010	465.00		55.00	360.10		40.00	344.50	
4/27/2010	468.40	1.23	55.00	360.10		40.00	344.50	
5/27/2010	463.30	0.05	56.00	361.10		40.00	344.50	
6/30/2010	454.70	0.00	56.00	361.10		40.00	344.50	
7/28/2010	445.60	0.00	56.00	361.10		40.00	344.50	
8/31/2010	437.10	0.00	56.00	361.10		41.00	345.50	
9/29/2010	422.70	0.00	55.00	360.10		40.00	344.50	
10/27/2010	426.40	2.38	56.00	361.10		40.00	344.50	
11/29/2010	439.80	0.97	55.00	360.10		41.00	345.50	
12/30/2010	456.60	8.62	56.00	361.10		40.00	344.50	
2/1/2011	468.90	0.92	56.00	361.10		41.00	345.50	
2/23/2011	469.00	0.99	56.00	361.10		41.00	345.50	
3/29/2011	470.30	2.93	55.00	360.10		40.00	344.50	
4/27/2011	464.80	0.19	56.00	361.10		41.00	345.50	
5/26/2011	457.30	0.48	54.00	359.10		42.00	346.50	
6/28/2011	443.50	0.05	54.00	359.10		41.00	345.50	
7/29/2011	425.10	0.00	54.00	359.10		40.00	344.50	
8/24/2011	418.00	0.00	52.00	357.10		41.00	345.50	
9/27/2011	400.90	0.12	51.00	356.10		40.00	344.50	
10/26/2011	402.20	1.25	50.00	355.10		38.00	342.50	
11/30/2011	425.10	1.38	51.00	356.10		40.00	344.50	
12/21/2011	435.70	0.32	51.00	356.10		40.00	344.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7**  
**SAN JOAQUIN DAM**  
**PNEUMATIC PIEZOMETER MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	50.00	355.10		39.00	343.50	
2/28/2012	448.40	0.42	44.00	349.10		39.00	343.50	
3/26/2012	452.70	1.06	49.00	354.10		40.00	344.50	
4/23/2012	463.40	1.32	48.00	353.10		40.00	344.50	
5/30/2012	457.30	0.02	49.00	354.10		40.00	344.50	
6/13/2012	452.90	0.02	48.00	353.10		40.00	344.50	
6/26/2012	450.20	0.00	50.00	355.10		40.00	344.50	
7/24/2012	439.80	0.00	48.00	353.10		40.00	344.50	
8/8/2012	437.60	0.12	48.00	353.10		40.00	344.50	
8/22/2012	433.40	0.00	48.00	353.10		40.00	344.50	
8/29/2012	431.30	0.00	49.00	354.10		40.00	344.50	
9/25/2012	420.80	0.00	49.00	354.10		40.00	344.50	
10/31/2012	412.30	0.26	47.00	352.10		40.00	344.50	
11/27/2012	420.80	0.58	48.00	353.10		40.00	344.50	
12/18/2012	448.00	1.44	48.00	353.10		40.00	344.50	
1/29/2013	468.60	1.18	49.00	354.10		40.00	344.50	
2/28/2013	469.20	0.30	50.00	355.10		40.00	344.50	
3/27/2013	468.30	0.50	50.00	355.10		41.00	345.50	
4/25/2013	462.70	0.00	49.00	354.10		38.00	342.50	
5/21/2013	454.20	0.00	49.00	354.10		40.00	344.50	
6/25/2013	439.30	0.00	49.00	354.10		40.00	344.50	
7/23/2013	431.50	0.00	49.00	354.10		40.00	344.50	
8/21/2013	418.00	0.00	49.00	354.10		40.00	344.50	
9/24/2013	404.00	0.00	48.00	353.10		41.00	345.50	
10/29/2013	400.60	0.00	45.00	350.10		40.00	344.50	
11/26/2013	407.90	0.44	44.00	349.10		39.00	343.50	
12/19/2013	425.80	0.54	45.00	350.10		40.00	344.50	
1/28/2014	439.70	0.00	45.00	350.10		39.00	343.50	
2/25/2014	449.70	0.83	45.00	350.10		40.00	344.50	
3/26/2014	465.10		46.00	351.10		40.00	344.50	
3/28/2014	465.70	1.15	45.00	350.10		40.00	344.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	46.00	351.10		40.00	344.50	
5/28/2014	450.60	0.00	44.00	349.10		40.00	344.50	
6/25/2014	440.10	0.00	45.00	350.10		41.00	345.50	
7/29/2014	431.20	0.00	44.00	349.10		40.00	344.50	
8/26/2014	419.50	0.02	44.00	349.10		40.00	344.50	
9/23/2014	405.30	0.00	42.00	347.10		37.00	341.50	
10/29/2014	400.90	0.00	42.00	347.10		40.00	344.50	
11/25/2014	410.90	0.25	41.00	346.10		39.00	343.50	
12/30/2014	430.60	2.94	41.00	346.10		38.00	342.50	
1/27/2015	466.70	0.83	43.00	348.10		40.00	344.50	
2/25/2015	468.90	0.69	43.00	348.10		40.00	344.50	
3/26/2015	465.90	0.61	44.00	349.10		42.00	346.50	
4/28/2015	465.70	0.20	43.00	348.10		41.00	345.50	
5/28/2015	466.40	1.08	42.00	347.10		41.00	345.50	
6/30/2015	454.50	0.00	43.00	348.10		42.00	346.50	
7/28/2015	445.60	0.00	42.00	347.10		41.00	345.50	
8/28/2015	437.60	0.00	43.00	348.10		42.00	346.50	
9/24/2015	426.90	1.51	42.00	347.10		41.00	345.50	
10/27/2015	415.40	0.49	42.00	347.10		41.00	345.50	
11/19/2015	412.90	0.09	39.00	344.10		40.00	344.50	
12/22/2015	425.50	0.69	37.00	342.10		41.00	345.50	
1/27/2016	463.60	2.86	39.00	344.10		41.00	345.50	
2/25/2016	468.90	0.25	39.00	344.10		42.00	346.50	
3/30/2016	468.00	1.44	38.00	343.10		43.00	347.50	
4/28/2016	461.30	0.30	39.00	344.10		42.00	346.50	
5/25/2016	451.30	0.18	38.00	343.10		42.00	346.50	
6/28/2016	414.10	0.00	38.00	343.10		42.00	346.50	
7/27/2016	434.20	0.00	38.00	343.10		42.00	346.50	
8/23/2016	418.60	0.00	36.00	341.10		42.00	346.50	
9/27/2016	406.40	0.00	36.00	341.10		42.00	346.50	
10/26/2016	404.00	0.48	34.00	339.10		41.00	345.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	32.00	337.10		41.00	345.50	
12/20/2016	441.10	3.48	35.00	340.10		40.00	344.50	
1/26/2017	471.60	5.67	38.00	343.10		41.00	345.50	
2/24/2017	472.05	3.95	37.00	342.10		42.00	346.50	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		37.00	342.10		42.00	346.50	
2/28/2017	471.90		39.00	344.10		43.00	347.50	
3/1/2017	471.90		37.00	342.10		42.00	346.50	
3/2/2017	471.90		37.00	342.10		43.00	347.50	
3/29/2017	467.90	0.10	38.00	343.10		44.00	348.50	
4/27/2017	457.60	0.04	37.00	342.10		43.00	347.50	
5/23/2017	453.50	0.43	36.00	341.10		42.00	346.50	
6/21/2017	447.40	0.00	38.00	343.10		44.00	348.50	
7/26/2017	435.10	0.00	36.00	341.10		43.00	347.50	
8/25/2017	420.10	0.00	35.00	340.10		42.00	346.50	
9/27/2017	407.10	0.00	34.00	339.10		42.00	346.50	
10/26/2017	395.00	0.00	33.00	338.10		41.00	345.50	
11/28/2017	409.00	0.09	32.00	337.10		41.00	345.50	
12/20/2017	416.80	0.00	32.00	337.10		40.00	344.50	
1/24/2018	434.50	1.31	36.00	341.10		42.00	346.50	
2/21/2018	443.10	0.29	22.00	327.10		42.00	346.50	
3/29/2018	453.00	1.28	34.00	339.10		42.00	346.50	
4/26/2018	449.10	0.05	31.00	336.10		42.00	346.50	
5/31/2018	453.10	0.20	32.00	337.10		42.00	346.50	
6/28/2018	448.20	0.00	32.00	337.10		42.00	346.50	
7/25/2018	440.40	0.00	32.00	337.10		42.00	346.50	
8/22/2018	427.10	0.00	32.00	337.10		41.00	345.50	
9/27/2018	439.60	0.00	32.00	337.10		42.00	346.50	
10/18/2018	405.30	0.90	30.00	335.10		42.00	346.50	
11/28/2018	408.60	1.19	30.00	335.10		42.00	346.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	33.00	338.10		44.00	348.50	
1/30/2019	463.80	4.71	34.00	339.10		44.00	348.50	
2/27/2019	466.20	6.55	31.00	336.10		41.00	345.50	
3/27/2019	463.30	1.34	32.00	337.10		42.00	346.50	
4/29/2019	453.00	0.13	34.00	339.10		43.00	347.50	
5/30/2019	451.80	0.64	33.00	338.10		43.00	347.50	
6/26/2019	446.20	0.01	34.00	339.10		43.00	347.50	
7/5/2019	39.40	0.00	32.00	337.10		42.00	346.50	
7/30/2019	434.80	0.00	23.00	328.10		44.00	348.50	
8/27/2019	424.40	0.00	32.00	337.10		43.00	347.50	
9/26/2019	405.60	0.00	30.00	335.10		42.00	346.50	
10/22/2019	400.50	0.00	30.00	335.10		40.00	344.50	
11/26/2019	412.80	3.13	31.00	336.10		42.00	346.50	
12/18/2019	447.40	4.44	31.00	336.10		42.00	346.50	
1/28/2020	465.40	0.20	34.00	339.10		42.00	346.50	
2/26/2020	459.60	0.14	34.00	339.10		44.00	348.50	
3/24/2020	470.70	3.49	34.00	339.10		44.00	348.50	
4/29/2020	467.60	3.65	33.00	338.10		44.00	348.50	
5/27/2020	459.10	0.02	34.00	339.10		44.00	348.50	
6/23/2020	447.00	0.00	34.00	339.10		44.00	348.50	
7/30/2020	434.00	0.00	23.00	328.10		44.00	348.50	
8/26/2020	417.70	0.00	33.00	338.10		44.00	348.50	
9/29/2020	403.60	0.00	30.00	335.10		42.00	346.50	
10/28/2020	404.50	0.00	30.00	335.10		42.00	346.50	
11/24/2020	413.50	0.42	31.00	336.10		42.00	346.50	
12/22/2020	408.00	1.13	30.00	335.10		42.00	346.50	
1/27/2021	435.60	2.25	30.00	335.10		42.00	346.50	
2/25/2021	457.30	0.05	32.00	337.10		42.00	346.50	
3/23/2021	465.90	1.36	33.00	338.10		44.00	348.50	
4/27/2021	462.10	0.04	36.00	341.10		43.00	347.50	
5/26/2021	455.00	0.03	32.00	337.10		44.00	348.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-1			C-2		
Piezo. Tip Elevation -->			357.10			339.80		
Zero Gage Reading -->			52.00			35.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	32.00	337.10		42.00	346.50	
7/29/2021	423.60	0.07	31.00	336.10		43.00	347.50	
8/24/2021	408.00	0.00	30.00	335.10		42.00	346.50	
9/29/2021	398.00	0.04	30.00	335.10		42.00	346.50	
10/26/2021	417.00	0.87	29.00	334.10		42.00	346.50	
11/25/2021	427.90	0.00	30.00	335.10		42.00	346.50	
12/21/2021	427.90	4.77	32.00	337.10		42.00	346.50	
1/27/2022	467.80	0.07	36.00	341.10	Dry?	44.00	348.50	At hist max
2/23/2022	464.80	0.29	34.00	339.10	Dry?	43.00	347.50	
3/23/2022	464.40	1.08	35.00	340.10	Dry?	43.00	347.50	
4/26/2022	467.10	0.03	34.00	339.10	Dry?	44.00	348.50	At hist max
5/26/2022	464.80	0.08	34.00	339.10	Dry?	44.00	348.50	At hist max
6/28/2022	457.30	0.00	34.00	339.10	Dry?	44.00	348.50	At hist max
7/26/2022	440.70	0.00	34.00	339.10	Dry?	43.00	347.50	
8/25/2022	429.50	0.05	34.00	339.10	Dry?	43.00	347.50	
9/28/2022	410.80	0.35	33.00	338.10	Dry?	44.00	348.50	At hist max
10/25/2022	407.30	0.35	32.00	337.10	Dry?	42.00	346.50	
11/23/2022	427.30	0.80	31.00	336.10	Dry?	42.00	346.50	
12/20/2022	441.90	2.14	35.00	340.10		42.00	346.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		57.00	361.50		34.00	399.10	
2/27/2007	426.80		56.00	360.50		58.60	423.70	
3/28/2007	438.80		57.00	361.50		68.00	433.10	
4/26/2007	450.90		58.00	362.50		80.00	445.10	
5/23/2007	461.40		58.00	362.50		92.00	457.10	
6/27/2007	457.20		58.00	362.50		88.00	453.10	
7/26/2007	445.50		59.00	363.50		77.00	442.10	
8/28/2007	434.60		59.00	363.50		67.00	432.10	
9/25/2007	416.80		58.00	362.50		50.00	415.10	
10/24/2007	404.50		58.00	362.50		38.00	403.10	
11/27/2007	422.20		56.00	360.50		50.00	415.10	
1/3/2008	443.20		57.00	361.50		73.00	438.10	
1/29/2008	452.20		58.00	362.50		82.00	447.10	
2/27/2008	460.80		59.00	363.50		91.00	456.10	
3/26/2008	468.00		59.00	363.50		98.00	463.10	
4/29/2008	468.60		58.20	362.70		99.90	465.00	
5/29/2008	464.70		58.00	362.50		95.00	460.10	
6/26/2008	455.70		59.00	363.50		87.00	452.10	
7/29/2008	447.30	0.00	59.50	364.00		79.00	444.10	
8/28/2008	438.80	0.00	60.00	364.50		72.00	437.10	
9/26/2008	430.70	0.00	59.00	363.50		64.00	429.10	
10/29/2008	412.50	0.00	58.00	362.50		44.00	409.10	
11/25/2008	404.70	2.60	58.00	362.50		37.00	402.10	
12/30/2008	440.90	3.42	58.00	362.50		70.00	435.10	
1/28/2009	463.70	0.17	58.00	362.50		93.00	458.10	
2/25/2009	470.10	3.35	58.00	362.50		100.00	465.10	
3/26/2009	469.40	0.19	60.00	364.50		100.00	465.10	
4/29/2009	466.90	0.07	60.00	364.50		98.00	463.10	
5/18/2009	466.70	0.00	59.00	363.50		97.00	462.10	
5/29/2009	465.00	0.00	59.00	363.50		95.00	460.10	
6/30/2009	460.20	0.00	59.00	363.50		90.00	455.10	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	60.00	364.50		82.00	447.10	
8/25/2009	440.10	0.00	59.00	363.50		71.00	436.10	
9/30/2009	432.20	0.00	58.00	362.50		63.00	428.10	
10/29/2009	431.40	0.53	59.00	363.50		63.00	428.10	
12/1/2009	427.40	0.00	58.00	362.50		59.00	424.10	
12/29/2009	448.10	2.06	58.00	362.50		78.00	443.10	
1/27/2010	465.60	4.62	58.00	362.50		95.00	460.10	
2/25/2010	470.20	2.51	59.00	363.50		100.00	465.10	
3/29/2010	465.70	0.99	58.00	362.50		96.00	461.10	
4/4/2010	465.00		60.00	364.50		96.00	461.10	
4/27/2010	468.40	1.23	59.00	363.50		99.00	464.10	
5/27/2010	463.30	0.05	60.00	364.50		94.00	459.10	
6/30/2010	454.70	0.00	59.00	363.50		86.00	451.10	
7/28/2010	445.60	0.00	60.00	364.50		78.00	443.10	
8/31/2010	437.10	0.00	59.00	363.50		68.00	433.10	
9/29/2010	422.70	0.00	58.00	362.50		56.00	421.10	
10/27/2010	426.40	2.38	60.00	364.50		56.00	421.10	
11/29/2010	439.80	0.97	59.00	363.50		70.00	435.10	
12/30/2010	456.60	8.62	59.00	363.50		85.00	450.10	
2/1/2011	468.90	0.92	60.00	364.50		99.00	464.10	
2/23/2011	469.00	0.99	60.00	364.50		100.00	465.10	
3/29/2011	470.30	2.93	60.00	364.50		100.00	465.10	
4/27/2011	464.80	0.19	60.00	364.50		96.00	461.10	
5/26/2011	457.30	0.48	60.00	364.50		89.00	454.10	
6/28/2011	443.50	0.05	60.00	364.50		75.00	440.10	
7/29/2011	425.10	0.00	60.00	364.50		60.00	425.10	
8/24/2011	418.00	0.00	59.00	363.50		46.00	411.10	
9/27/2011	400.90	0.12	58.00	362.50		34.00	399.10	
10/26/2011	402.20	1.25	59.00	363.50		32.00	397.10	
11/30/2011	425.10	1.38	58.00	362.50		55.00	420.10	
12/21/2011	435.70	0.32	58.00	362.50		66.00	431.10	

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  2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	58.00	362.50		51.00	416.10	
2/28/2012	448.40	0.42	59.00	363.50		80.00	445.10	
3/26/2012	452.70	1.06	58.00	362.50		82.00	447.10	
4/23/2012	463.40	1.32	58.00	362.50		92.00	457.10	
5/30/2012	457.30	0.02	59.00	363.50		88.00	453.10	
6/13/2012	452.90	0.02	58.00	362.50		84.00	449.10	
6/26/2012	450.20	0.00	60.00	364.50		80.00	445.10	
7/24/2012	439.80	0.00	59.00	363.50		70.00	435.10	
8/8/2012	437.60	0.12	58.00	362.50		70.00	435.10	
8/22/2012	433.40	0.00	59.00	363.50		66.00	431.10	
8/29/2012	431.30	0.00	60.00	364.50		63.00	428.10	
9/25/2012	420.80	0.00	58.00	362.50		55.00	420.10	
10/31/2012	412.30	0.26	58.00	362.50		44.00	409.10	
11/27/2012	420.80	0.58	59.00	363.50		50.00	415.10	
12/18/2012	448.00	1.44	60.00	364.50		76.00	441.10	
1/29/2013	468.60	1.18	59.00	363.50		98.00	463.10	
2/28/2013	469.20	0.30	60.00	364.50		100.00	465.10	
3/27/2013	468.30	0.50	60.00	364.50		99.00	464.10	
4/25/2013	462.70	0.00	58.00	362.50		94.00	459.10	
5/21/2013	454.20	0.00	59.00	363.50		86.00	451.10	
6/25/2013	439.30	0.00	59.00	363.50		70.00	435.10	
7/23/2013	431.50	0.00	60.00	364.50		62.00	427.10	
8/21/2013	418.00	0.00	59.00	363.50		50.00	415.10	
9/24/2013	404.00	0.00	59.00	363.50		37.00	402.10	
10/29/2013	400.60	0.00	57.00	361.50		33.00	398.10	
11/26/2013	407.90	0.44	56.00	360.50		36.00	401.10	
12/19/2013	425.80	0.54	56.00	360.50		55.00	420.10	
1/28/2014	439.70	0.00	57.00	361.50		70.00	435.10	
2/25/2014	449.70	0.83	57.00	361.50		80.00	445.10	
3/26/2014	465.10		58.00	362.50		95.00	460.10	
3/28/2014	465.70	1.15	58.00	362.50		96.00	461.10	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	58.00	362.50		96.00	461.10	
5/28/2014	450.60	0.00	57.00	361.50		82.00	447.10	
6/25/2014	440.10	0.00	58.00	362.50		72.00	437.10	
7/29/2014	431.20	0.00	57.00	361.50		63.00	428.10	
8/26/2014	419.50	0.02	58.00	362.50		52.00	417.10	
9/23/2014	405.30	0.00	56.00	360.50		38.00	403.10	
10/29/2014	400.90	0.00	56.00	360.50		33.00	398.10	
11/25/2014	410.90	0.25	56.00	360.50		40.00	405.10	
12/30/2014	430.60	2.94	57.00	361.50		59.00	424.10	
1/27/2015	466.70	0.83	57.00	361.50		96.00	461.10	
2/25/2015	468.90	0.69	57.00	361.50		99.00	464.10	
3/26/2015	465.90	0.61	58.00	362.50		97.00	462.10	
4/28/2015	465.70	0.20	57.00	361.50		97.00	462.10	
5/28/2015	466.40	1.08	57.00	361.50		97.00	462.10	
6/30/2015	454.50	0.00	58.00	362.50		86.00	451.10	
7/28/2015	445.60	0.00	57.00	361.50		78.00	443.10	
8/28/2015	437.60	0.00	57.00	361.50		70.00	435.10	
9/24/2015	426.90	1.51	57.00	361.50		59.00	424.10	
10/27/2015	415.40	0.49	57.00	361.50		48.00	413.10	
11/19/2015	412.90	0.09	56.00	360.50		43.00	408.10	
12/22/2015	425.50	0.69	57.00	361.50		55.00	420.10	
1/27/2016	463.60	2.86	57.00	361.50		93.00	458.10	
2/25/2016	468.90	0.25	57.00	361.50		100.00	465.10	
3/30/2016	468.00	1.44	58.00	362.50		100.00	465.10	
4/28/2016	461.30	0.30	58.00	362.50		92.00	457.10	
5/25/2016	451.30	0.18	58.00	362.50		84.00	449.10	
6/28/2016	414.10	0.00	57.00	361.50		76.00	441.10	
7/27/2016	434.20	0.00	57.00	361.50		66.00	431.10	
8/23/2016	418.60	0.00	57.00	361.50		51.00	416.10	
9/27/2016	406.40	0.00	57.00	361.50		40.00	405.10	
10/26/2016	404.00	0.48	57.00	361.50		36.00	401.10	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	56.00	360.50		42.00	407.10	
12/20/2016	441.10	3.48	56.00	360.50		70.00	435.10	
1/26/2017	471.60	5.67	57.00	361.50		101.00	466.10	
2/24/2017	472.05	3.95	58.00	362.50		103.00	468.10	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		58.00	362.50		102.00	467.10	
2/28/2017	471.90		58.00	362.50		103.00	468.10	
3/1/2017	471.90		58.00	362.50		103.00	468.10	
3/2/2017	471.90		58.00	362.50		102.00	467.10	
3/29/2017	467.90	0.10	58.00	362.50		100.00	465.10	
4/27/2017	457.60	0.04	58.00	362.50		89.00	454.10	
5/23/2017	453.50	0.43	58.00	362.50		85.00	450.10	
6/21/2017	447.40	0.00	58.00	362.50		80.00	445.10	
7/26/2017	435.10	0.00	58.00	362.50		67.00	432.10	
8/25/2017	420.10	0.00	57.00	361.50		51.00	416.10	
9/27/2017	407.10	0.00	57.00	361.50		40.00	405.10	
10/26/2017	395.00	0.00	56.00	360.50		29.00	394.10	
11/28/2017	409.00	0.09	57.00	361.50		39.00	404.10	
12/20/2017	416.80	0.00	55.00	359.50		46.00	411.10	
1/24/2018	434.50	1.31	58.00	362.50		64.00	429.10	
2/21/2018	443.10	0.29	56.00	360.50		73.00	438.10	
3/29/2018	453.00	1.28	56.00	360.50		84.00	449.10	
4/26/2018	449.10	0.05	57.00	361.50		80.00	445.10	
5/31/2018	453.10	0.20	57.00	361.50		84.00	449.10	
6/28/2018	448.20	0.00	57.00	361.50		80.00	445.10	
7/25/2018	440.40	0.00	57.00	361.50		71.00	436.10	
8/22/2018	427.10	0.00	57.00	361.50		60.00	425.10	
9/27/2018	439.60	0.00	57.00	361.50		42.00	407.10	
10/18/2018	405.30	0.90	57.00	361.50		37.00	402.10	
11/28/2018	408.60	1.19	56.00	360.50		40.00	405.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	57.00	361.50		66.00	431.10	
1/30/2019	463.80	4.71	58.00	362.50		94.00	459.10	
2/27/2019	466.20	6.55	59.00	363.50		98.00	463.10	
3/27/2019	463.30	1.34	58.00	362.50		94.00	459.10	
4/29/2019	453.00	0.13	58.00	362.50		88.00	453.10	
5/30/2019	451.80	0.64	58.00	362.50		82.00	447.10	
6/26/2019	446.20	0.01	58.00	362.50		78.00	443.10	
7/5/2019	39.40	0.00	57.00	361.50		75.00	440.10	
7/30/2019	434.80	0.00	58.00	362.50		67.00	432.10	
8/27/2019	424.40	0.00	58.00	362.50		57.00	422.10	
9/26/2019	405.60	0.00	57.00	361.50		38.00	403.10	
10/22/2019	400.50	0.00	56.00	360.50		34.00	399.10	
11/26/2019	412.80	3.13	56.00	360.50		42.00	407.10	
12/18/2019	447.40	4.44	58.00	362.50		95.00	460.10	
1/28/2020	465.40	0.20	58.00	362.50		94.00	459.10	
2/26/2020	459.60	0.14	58.00	362.50		91.00	456.10	
3/24/2020	470.70	3.49	58.00	362.50		100.00	465.10	
4/29/2020	467.60	3.65	59.00	363.50		98.00	463.10	
5/27/2020	459.10	0.02	59.00	363.50		90.00	455.10	
6/23/2020	447.00	0.00	58.00	362.50		80.00	445.10	
7/30/2020	434.00	0.00	58.00	362.50		66.00	431.10	
8/26/2020	417.70	0.00	58.00	362.50		52.00	417.10	
9/29/2020	403.60	0.00	57.00	361.50		36.00	401.10	
10/28/2020	404.50	0.00	57.00	361.50		34.00	399.10	
11/24/2020	413.50	0.42	57.00	361.50		46.00	411.10	
12/22/2020	408.00	1.13	56.00	360.50		41.00	406.10	
1/27/2021	435.60	2.25	58.00	362.50		66.00	431.10	
2/25/2021	457.30	0.05	58.00	362.50		88.00	453.10	
3/23/2021	465.90	1.36	58.00	362.50		96.00	461.10	
4/27/2021	462.10	0.04	59.00	363.50		92.00	457.10	
5/26/2021	455.00	0.03	59.00	363.50		85.00	450.10	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-3			C-4		
Piezo. Tip Elevation -->			363.30			392.80		
Zero Gage Reading -->			58.80			27.70		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	58.00	362.50		70.00	435.10	
7/29/2021	423.60	0.07	58.00	362.50		55.00	420.10	
8/24/2021	408.00	0.00	58.00	362.50		40.00	405.10	
9/29/2021	398.00	0.04	67.00	371.50	Omitted	34.00	399.10	
10/26/2021	417.00	0.87	56.00	360.50		46.00	411.10	
11/25/2021	427.90	0.00	58.00	362.50		59.00	424.10	
12/21/2021	427.90	4.77	58.00	362.50		78.00	443.10	
1/27/2022	467.80	0.07	60.00	364.50	At hist max	98.00	463.10	
2/23/2022	464.80	0.29	59.00	363.50		96.00	461.10	
3/23/2022	464.40	1.08	60.00	364.50	At hist max	94.00	459.10	
4/26/2022	467.10	0.03	60.00	364.50	At hist max	98.00	463.10	
5/26/2022	464.80	0.08	59.00	363.50		96.00	461.10	
6/28/2022	457.30	0.00	60.00	364.50	At hist max	89.00	454.10	
7/26/2022	440.70	0.00	60.00	364.50	At hist max	73.00	438.10	
8/25/2022	429.50	0.05	59.00	363.50		62.00	427.10	
9/28/2022	410.80	0.35	58.00	362.50	Dry?	44.00	409.10	
10/25/2022	407.30	0.35	58.00	362.50	Dry?	40.00	405.10	
11/23/2022	427.30	0.80	59.00	363.50	Almost Dry	57.00	422.10	
12/20/2022	441.90	2.14	51.00	355.50	Dry?	72.00	437.10	

Notes:  
1. Readings in red are classified as erroneous.  
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		11.00	375.50		32.00	396.50	
2/27/2007	426.80		12.00	376.50		34.00	398.50	
3/28/2007	438.80		12.00	376.50		34.00	398.50	
4/26/2007	450.90		12.00	376.50		37.00	401.50	
5/23/2007	461.40		12.00	376.50		42.00	406.50	
6/27/2007	457.20		12.00	376.50		48.00	412.50	
7/26/2007	445.50		12.00	376.50		48.00	412.50	
8/28/2007	434.60		13.00	377.50		46.00	410.50	
9/25/2007	416.80		12.00	376.50		40.00	404.50	
10/24/2007	404.50		11.00	375.50		37.00	401.50	
11/27/2007	422.20		11.00	375.50		36.00	400.50	
1/3/2008	443.20		12.00	376.50		39.00	403.50	
1/29/2008	452.20		12.00	376.50		42.00	406.50	
2/27/2008	460.80		12.00	376.50		46.00	410.50	
3/26/2008	468.00		12.00	376.50		51.00	415.50	
4/29/2008	468.60		12.50	377.00		55.00	419.50	
5/29/2008	464.70		12.00	376.50		55.00	419.50	
6/26/2008	455.70		12.00	376.50		54.00	418.50	
7/29/2008	447.30	0.00	16.00	380.50		50.00	414.50	
8/28/2008	438.80	0.00	12.00	376.50		48.00	412.50	
9/26/2008	430.70	0.00	12.00	376.50		46.00	410.50	
10/29/2008	412.50	0.00	14.00	378.50		40.00	404.50	
11/25/2008	404.70	2.60	12.00	376.50		38.00	402.50	
12/30/2008	440.90	3.42	12.00	376.50		40.00	404.50	
1/28/2009	463.70	0.17	12.00	376.50		43.00	407.50	
2/25/2009	470.10	3.35	12.00	376.50		50.00	414.50	
3/26/2009	469.40	0.19	12.50	377.00		55.00	419.50	
4/29/2009	466.90	0.07	12.00	376.50		56.00	420.50	
5/18/2009	466.70	0.00	13.00	377.50		56.00	420.50	
5/29/2009	465.00	0.00	12.00	376.50		55.00	419.50	
6/30/2009	460.20	0.00	13.00	377.50		55.00	419.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	14.00	378.50		53.00	417.50	
8/25/2009	440.10	0.00	12.00	376.50		48.00	412.50	
9/30/2009	432.20	0.00	12.00	376.50		45.00	409.50	
10/29/2009	431.40	0.53	13.00	377.50		44.00	408.50	
12/1/2009	427.40	0.00	13.00	377.50		41.00	405.50	
12/29/2009	448.10	2.06	13.00	377.50		43.00	407.50	
1/27/2010	465.60	4.62	14.00	378.50		47.00	411.50	
2/25/2010	470.20	2.51	14.00	378.50		54.00	418.50	
3/29/2010	465.70	0.99	13.00	377.50		55.00	419.50	
4/4/2010	465.00		14.00	378.50		56.00	420.50	
4/27/2010	468.40	1.23	14.00	378.50		55.00	419.50	
5/27/2010	463.30	0.05	15.00	379.50		56.00	420.50	
6/30/2010	454.70	0.00	14.00	378.50		53.00	417.50	
7/28/2010	445.60	0.00	14.00	378.50		51.00	415.50	
8/31/2010	437.10	0.00	14.00	378.50		47.00	411.50	
9/29/2010	422.70	0.00	14.00	378.50		42.00	406.50	
10/27/2010	426.40	2.38	14.00	378.50		42.00	406.50	
11/29/2010	439.80	0.97	14.00	378.50		42.00	406.50	
12/30/2010	456.60	8.62	16.00	380.50		45.00	409.50	
2/1/2011	468.90	0.92	15.00	379.50		51.00	415.50	
2/23/2011	469.00	0.99	17.00	381.50		55.00	419.50	
3/29/2011	470.30	2.93	16.00	380.50		56.00	420.50	
4/27/2011	464.80	0.19	17.00	381.50		56.00	420.50	
5/26/2011	457.30	0.48	17.00	381.50		54.00	418.50	
6/28/2011	443.50	0.05	17.00	381.50		51.00	415.50	
7/29/2011	425.10	0.00	16.00	380.50		46.00	410.50	
8/24/2011	418.00	0.00	16.00	380.50		42.00	406.50	
9/27/2011	400.90	0.12	16.00	380.50		38.00	402.50	
10/26/2011	402.20	1.25	14.00	378.50		36.00	400.50	
11/30/2011	425.10	1.38	16.00	380.50		36.00	400.50	
12/21/2011	435.70	0.32	18.00	382.50		38.00	402.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	17.00	381.50		39.00	403.50	
2/28/2012	448.40	0.42	14.00	378.50		40.00	404.50	
3/26/2012	452.70	1.06	17.00	381.50		44.00	408.50	
4/23/2012	463.40	1.32	18.00	382.50		50.00	414.50	
5/30/2012	457.30	0.02	18.00	382.50		52.00	416.50	
6/13/2012	452.90	0.02	17.00	381.50		51.00	415.50	
6/26/2012	450.20	0.00	18.00	382.50		52.00	416.50	
7/24/2012	439.80	0.00	18.00	382.50		50.00	414.50	
8/8/2012	437.60	0.12	18.00	382.50		48.00	412.50	
8/22/2012	433.40	0.00	18.00	382.50		47.00	411.50	
8/29/2012	431.30	0.00	18.00	382.50		46.00	410.50	
9/25/2012	420.80	0.00	17.00	381.50		46.00	410.50	
10/31/2012	412.30	0.26	17.00	381.50		40.00	404.50	
11/27/2012	420.80	0.58	17.00	381.50		39.00	403.50	
12/18/2012	448.00	1.44	17.00	381.50		42.00	406.50	
1/29/2013	468.60	1.18	18.00	382.50		50.00	414.50	
2/28/2013	469.20	0.30	19.00	383.50		55.00	419.50	
3/27/2013	468.30	0.50	18.00	382.50		57.00	421.50	
4/25/2013	462.70	0.00	18.00	382.50		56.00	420.50	
5/21/2013	454.20	0.00	18.00	382.50		55.00	419.50	
6/25/2013	439.30	0.00	18.00	382.50		50.00	414.50	
7/23/2013	431.50	0.00	18.00	382.50		46.00	410.50	
8/21/2013	418.00	0.00	18.00	382.50		42.00	406.50	
9/24/2013	404.00	0.00	18.00	382.50		39.00	403.50	
10/29/2013	400.60	0.00	18.00	382.50		36.00	400.50	
11/26/2013	407.90	0.44	18.00	382.50		35.00	399.50	
12/19/2013	425.80	0.54	18.00	382.50		36.00	400.50	
1/28/2014	439.70	0.00	18.00	382.50		38.00	402.50	
2/25/2014	449.70	0.83	18.00	382.50		40.00	404.50	
3/26/2014	465.10		19.00	383.50		47.00	411.50	
3/28/2014	465.70	1.15	19.00	383.50		47.00	411.50	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	20.00	384.50		54.00	418.50	
5/28/2014	450.60	0.00	19.00	383.50		52.00	416.50	
6/25/2014	440.10	0.00	19.00	383.50		50.00	414.50	
7/29/2014	431.20	0.00	19.00	383.50		46.00	410.50	
8/26/2014	419.50	0.02	18.00	382.50		43.00	407.50	
9/23/2014	405.30	0.00	18.00	382.50		39.00	403.50	
10/29/2014	400.90	0.00	18.00	382.50		37.00	401.50	
11/25/2014	410.90	0.25	18.00	382.50		36.00	400.50	
12/30/2014	430.60	2.94	18.00	382.50		37.00	401.50	
1/27/2015	466.70	0.83	20.00	384.50		44.00	408.50	
2/25/2015	468.90	0.69	19.00	383.50		52.00	416.50	
3/26/2015	465.90	0.61	20.00	384.50		55.00	419.50	
4/28/2015	465.70	0.20	20.00	384.50		57.00	421.50	
5/28/2015	466.40	1.08	19.00	383.50		56.00	420.50	
6/30/2015	454.50	0.00	19.00	383.50		55.00	419.50	
7/28/2015	445.60	0.00	19.00	383.50		51.00	415.50	
8/28/2015	437.60	0.00	18.00	382.50		48.00	412.50	
9/24/2015	426.90	1.51	19.00	383.50		44.00	408.50	
10/27/2015	415.40	0.49	19.00	383.50		42.00	406.50	
11/19/2015	412.90	0.09	18.00	382.50		39.00	403.50	
12/22/2015	425.50	0.69	18.00	382.50		39.00	403.50	
1/27/2016	463.60	2.86	19.00	383.50		44.00	408.50	
2/25/2016	468.90	0.25	20.00	384.50		50.00	414.50	
3/30/2016	468.00	1.44	20.00	384.50		55.00	419.50	
4/28/2016	461.30	0.30	20.00	384.50		56.00	420.50	
5/25/2016	451.30	0.18	20.00	384.50		54.00	418.50	
6/28/2016	414.10	0.00	18.00	382.50		50.00	414.50	
7/27/2016	434.20	0.00	20.00	384.50		48.00	412.50	
8/23/2016	418.60	0.00	20.00	384.50		44.00	408.50	
9/27/2016	406.40	0.00	20.00	384.50		40.00	404.50	
10/26/2016	404.00	0.48	19.00	383.50		37.00	401.50	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	19.00	383.50		36.00	400.50	
12/20/2016	441.10	3.48	19.00	383.50		39.00	403.50	
1/26/2017	471.60	5.67	20.00	384.50		45.00	409.50	
2/24/2017	472.05	3.95	20.00	384.50		54.00	418.50	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		20.00	384.50		54.00	418.50	
2/28/2017	471.90		20.00	384.50		55.00	419.50	
3/1/2017	471.90		20.00	384.50		55.00	419.50	
3/2/2017	471.90		20.00	384.50		55.00	419.50	
3/29/2017	467.90	0.10	20.00	384.50		57.00	421.50	
4/27/2017	457.60	0.04	20.00	384.50		56.00	420.50	
5/23/2017	453.50	0.43	20.00	384.50		53.00	417.50	
6/21/2017	447.40	0.00	20.00	384.50		53.00	417.50	
7/26/2017	435.10	0.00	20.00	384.50		49.00	413.50	
8/25/2017	420.10	0.00	19.00	383.50		43.00	407.50	
9/27/2017	407.10	0.00	20.00	384.50		42.00	406.50	
10/26/2017	395.00	0.00	19.00	383.50		36.00	400.50	
11/28/2017	409.00	0.09	19.00	383.50		36.00	400.50	
12/20/2017	416.80	0.00	18.00	382.50		35.00	399.50	
1/24/2018	434.50	1.31	18.00	382.50		36.00	400.50	
2/21/2018	443.10	0.29	20.00	384.50		38.00	402.50	
3/29/2018	453.00	1.28	20.00	384.50		42.00	406.50	
4/26/2018	449.10	0.05	20.00	384.50		44.00	408.50	
5/31/2018	453.10	0.20	20.00	384.50		48.00	412.50	
6/28/2018	448.20	0.00	20.00	384.50		48.00	412.50	
7/25/2018	440.40	0.00	20.00	384.50		48.00	412.50	
8/22/2018	427.10	0.00	20.00	384.50		45.00	409.50	
9/27/2018	439.60	0.00	20.00	384.50		40.00	404.50	
10/18/2018	405.30	0.90	19.00	383.50		38.00	402.50	
11/28/2018	408.60	1.19	19.00	383.50		38.00	402.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	20.00	384.50		38.00	402.50	
1/30/2019	463.80	4.71	20.00	384.50		44.00	408.50	
2/27/2019	466.20	6.55	21.00	385.50		50.00	414.50	
3/27/2019	463.30	1.34	20.00	384.50		52.00	416.50	
4/29/2019	453.00	0.13	20.00	384.50		53.00	417.50	
5/30/2019	451.80	0.64	20.00	384.50		52.00	416.50	
6/26/2019	446.20	0.01	20.00	384.50		50.00	414.50	
7/5/2019	39.40	0.00	19.00	383.50		49.00	413.50	
7/30/2019	434.80	0.00	20.00	384.50		48.00	412.50	
8/27/2019	424.40	0.00	20.00	384.50		44.00	408.50	
9/26/2019	405.60	0.00	18.00	382.50		39.00	403.50	
10/22/2019	400.50	0.00	18.00	382.50		38.00	402.50	
11/26/2019	412.80	3.13	19.00	383.50		36.00	400.50	
12/18/2019	447.40	4.44	20.00	384.50		40.00	404.50	
1/28/2020	465.40	0.20	20.00	384.50		47.00	411.50	
2/26/2020	459.60	0.14	20.00	384.50		50.00	414.50	
3/24/2020	470.70	3.49	20.00	384.50		54.00	418.50	
4/29/2020	467.60	3.65	20.00	384.50		57.00	421.50	
5/27/2020	459.10	0.02	20.00	384.50		56.00	420.50	
6/23/2020	447.00	0.00	20.00	384.50		52.00	416.50	
7/30/2020	434.00	0.00	20.00	384.50		48.00	412.50	
8/26/2020	417.70	0.00	20.00	384.50		44.00	408.50	
9/29/2020	403.60	0.00	19.00	383.50		39.00	403.50	
10/28/2020	404.50	0.00	19.00	383.50		37.00	401.50	
11/24/2020	413.50	0.42	20.00	384.50		37.00	401.50	
12/22/2020	408.00	1.13	22.00	386.50		35.00	399.50	
1/27/2021	435.60	2.25	18.00	382.50		37.00	401.50	
2/25/2021	457.30	0.05	20.00	384.50		41.00	405.50	
3/23/2021	465.90	1.36	20.00	384.50		45.00	409.50	
4/27/2021	462.10	0.04	20.00	384.50		51.00	415.50	
5/26/2021	455.00	0.03	20.00	384.50		52.00	416.50	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-5			C-6		
Piezo. Tip Elevation -->			379.40			392.00		
Zero Gage Reading -->			14.90			27.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	20.00	384.50		49.00	413.50	
7/29/2021	423.60	0.07	19.00	383.50		45.00	409.50	
8/24/2021	408.00	0.00	19.00	383.50		40.00	404.50	
9/29/2021	398.00	0.04	20.00	384.50		38.00	402.50	
10/26/2021	417.00	0.87	19.00	383.50		37.00	401.50	
11/25/2021	427.90	0.00	19.00	383.50		38.00	402.50	
12/21/2021	427.90	4.77	20.00	384.50		40.00	404.50	
1/27/2022	467.80	0.07	20.00	384.50		48.00	412.50	
2/23/2022	464.80	0.29	20.00	384.50		52.00	416.50	
3/23/2022	464.40	1.08	20.00	384.50		55.00	419.50	
4/26/2022	467.10	0.03	20.00	384.50		57.00	421.50	At hist max
5/26/2022	464.80	0.08	20.00	384.50		56.00	420.50	
6/28/2022	457.30	0.00	20.00	384.50		46.00	410.50	
7/26/2022	440.70	0.00	20.00	384.50		51.00	415.50	
8/25/2022	429.50	0.05	20.00	384.50		48.00	412.50	
9/28/2022	410.80	0.35	20.00	384.50		42.00	406.50	
10/25/2022	407.30	0.35	20.00	384.50		40.00	404.50	
11/23/2022	427.30	0.80	19.00	383.50		40.00	404.50	
12/20/2022	441.90	2.14	20.00	384.50		42.00	406.50	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		18.00	321.90		17.00	440.10	
2/27/2007	426.80		20.00	323.90		18.00	441.10	
3/28/2007	438.80		19.00	322.90		16.00	439.10	
4/26/2007	450.90		18.00	321.90		16.00	439.10	
5/23/2007	461.40		19.00	322.90		20.00	443.10	
6/27/2007	457.20		18.00	321.90		22.00	445.10	
7/26/2007	445.50		18.00	321.90		22.00	445.10	
8/28/2007	434.60		19.00	322.90		22.00	445.10	
9/25/2007	416.80		18.00	321.90		21.00	444.10	
10/24/2007	404.50		19.00	322.90		20.00	443.10	
11/27/2007	422.20		18.00	321.90		18.00	441.10	
1/3/2008	443.20		18.00	321.90		16.00	439.10	
1/29/2008	452.20		18.00	321.90		17.00	440.10	
2/27/2008	460.80		19.00	322.90		19.00	442.10	
3/26/2008	468.00		19.00	322.90		26.00	449.10	
4/29/2008	468.60		18.00	321.90		31.00	454.10	
5/29/2008	464.70		18.00	321.90		32.00	455.10	
6/26/2008	455.70		18.00	321.90		28.00	451.10	
7/29/2008	447.30	0.00	18.50	322.40		26.00	449.10	
8/28/2008	438.80	0.00	18.00	321.90		25.00	448.10	
9/26/2008	430.70	0.00	19.00	322.90		23.00	446.10	
10/29/2008	412.50	0.00	18.00	321.90		22.00	445.10	
11/25/2008	404.70	2.60	18.00	321.90		20.00	443.10	
12/30/2008	440.90	3.42	19.00	322.90		20.00	443.10	
1/28/2009	463.70	0.17	18.00	321.90		20.00	443.10	
2/25/2009	470.10	3.35	18.00	321.90		27.00	450.10	
3/26/2009	469.40	0.19	19.00	322.90		31.00	454.10	
4/29/2009	466.90	0.07	19.00	322.90		32.00	455.10	
5/18/2009	466.70	0.00	19.00	322.90		32.00	455.10	
5/29/2009	465.00	0.00	20.00	323.90		30.00	453.10	
6/30/2009	460.20	0.00	19.00	322.90		30.00	453.10	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	19.00	322.90		28.00	451.10	
8/25/2009	440.10	0.00	18.00	321.90		25.00	448.10	
9/30/2009	432.20	0.00	18.00	321.90		22.00	445.10	
10/29/2009	431.40	0.53	19.00	322.90		22.00	445.10	
12/1/2009	427.40	0.00	19.00	322.90		20.00	443.10	
12/29/2009	448.10	2.06	19.00	322.90		20.00	443.10	
1/27/2010	465.60	4.62	18.00	321.90		22.00	445.10	
2/25/2010	470.20	2.51	19.00	322.90		30.00	453.10	
3/29/2010	465.70	0.99	18.00	321.90		31.00	454.10	
4/4/2010	465.00		18.00	321.90		32.00	455.10	
4/27/2010	468.40	1.23	19.00	322.90		31.00	454.10	
5/27/2010	463.30	0.05	18.00	321.90		32.00	455.10	
6/30/2010	454.70	0.00	18.00	321.90		28.00	451.10	
7/28/2010	445.60	0.00	18.00	321.90		26.00	449.10	
8/31/2010	437.10	0.00	19.00	322.90		24.00	447.10	
9/29/2010	422.70	0.00	19.00	322.90		22.00	445.10	
10/27/2010	426.40	2.38	19.00	322.90		21.00	444.10	
11/29/2010	439.80	0.97	19.00	322.90		22.00	445.10	
12/30/2010	456.60	8.62	20.00	323.90		21.00	444.10	
2/1/2011	468.90	0.92	19.00	322.90		28.00	451.10	
2/23/2011	469.00	0.99	19.00	322.90		30.00	453.10	
3/29/2011	470.30	2.93	18.00	321.90		34.00	457.10	
4/27/2011	464.80	0.19	20.00	323.90		33.00	456.10	
5/26/2011	457.30	0.48	19.00	322.90		30.00	453.10	
6/28/2011	443.50	0.05	19.00	322.90		26.00	449.10	
7/29/2011	425.10	0.00	18.00	321.90		25.00	448.10	
8/24/2011	418.00	0.00	19.00	322.90		25.00	448.10	
9/27/2011	400.90	0.12	20.00	323.90		24.00	447.10	
10/26/2011	402.20	1.25	18.00	321.90		21.00	444.10	
11/30/2011	425.10	1.38	19.00	322.90		20.00	443.10	
12/21/2011	435.70	0.32	19.00	322.90		20.00	443.10	

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SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	19.00	322.90		20.00	443.10	
2/28/2012	448.40	0.42	19.00	322.90		18.00	441.10	
3/26/2012	452.70	1.06	19.00	322.90		19.00	442.10	
4/23/2012	463.40	1.32	18.00	321.90		22.00	445.10	
5/30/2012	457.30	0.02	19.00	322.90		27.00	450.10	
6/13/2012	452.90	0.02	18.00	321.90		25.00	448.10	
6/26/2012	450.20	0.00	19.00	322.90		25.00	448.10	
7/24/2012	439.80	0.00	20.00	323.90		24.00	447.10	
8/8/2012	437.60	0.12	19.00	322.90		24.00	447.10	
8/22/2012	433.40	0.00	19.00	322.90		24.00	447.10	
8/29/2012	431.30	0.00	20.00	323.90		24.00	447.10	
9/25/2012	420.80	0.00	19.00	322.90		22.00	445.10	
10/31/2012	412.30	0.26	20.00	323.90		22.00	445.10	
11/27/2012	420.80	0.58	18.00	321.90		20.00	443.10	
12/18/2012	448.00	1.44	20.00	323.90		20.00	443.10	
1/29/2013	468.60	1.18	20.00	323.90		27.00	450.10	
2/28/2013	469.20	0.30	20.00	323.90		32.00	455.10	
3/27/2013	468.30	0.50	20.00	323.90		33.00	456.10	
4/25/2013	462.70	0.00	18.00	321.90		32.00	455.10	
5/21/2013	454.20	0.00	19.00	322.90		29.00	452.10	
6/25/2013	439.30	0.00	19.00	322.90		26.00	449.10	
7/23/2013	431.50	0.00	19.00	322.90		24.00	447.10	
8/21/2013	418.00	0.00	20.00	323.90		24.00	447.10	
9/24/2013	404.00	0.00	19.00	322.90		24.00	447.10	
10/29/2013	400.60	0.00	19.00	322.90		22.00	445.10	
11/26/2013	407.90	0.44	18.00	321.90		21.00	444.10	
12/19/2013	425.80	0.54	19.00	322.90		21.00	444.10	
1/28/2014	439.70	0.00	19.00	322.90		20.00	443.10	
2/25/2014	449.70	0.83	20.00	323.90		20.00	443.10	
3/26/2014	465.10		20.00	323.90		24.00	447.10	
3/28/2014	465.70	1.15	19.00	322.90		24.00	447.10	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	19.00	322.90		30.00	453.10	
5/28/2014	450.60	0.00	19.00	322.90		26.00	449.10	
6/25/2014	440.10	0.00	19.00	322.90		25.00	448.10	
7/29/2014	431.20	0.00	19.00	322.90		24.00	447.10	
8/26/2014	419.50	0.02	19.00	322.90		24.00	447.10	
9/23/2014	405.30	0.00	19.00	322.90		24.00	447.10	
10/29/2014	400.90	0.00	20.00	323.90		23.00	446.10	
11/25/2014	410.90	0.25	19.00	322.90		21.00	444.10	
12/30/2014	430.60	2.94	19.00	322.90		20.00	443.10	
1/27/2015	466.70	0.83	20.00	323.90		24.00	447.10	
2/25/2015	468.90	0.69	19.00	322.90		31.00	454.10	
3/26/2015	465.90	0.61	20.00	323.90		32.00	455.10	
4/28/2015	465.70	0.20	19.00	322.90		32.00	455.10	
5/28/2015	466.40	1.08	19.00	322.90		32.00	455.10	
6/30/2015	454.50	0.00	19.00	322.90		31.00	454.10	
7/28/2015	445.60	0.00	19.00	322.90		26.00	449.10	
8/28/2015	437.60	0.00	19.00	322.90		25.00	448.10	
9/24/2015	426.90	1.51	19.00	322.90		25.00	448.10	
10/27/2015	415.40	0.49	19.00	322.90		24.00	447.10	
11/19/2015	412.90	0.09	19.00	322.90		23.00	446.10	
12/22/2015	425.50	0.69	19.00	322.90		21.00	444.10	
1/27/2016	463.60	2.86	20.00	323.90		20.00	443.10	
2/25/2016	468.90	0.25	19.00	322.90		30.00	453.10	
3/30/2016	468.00	1.44	18.00	321.90		34.00	457.10	
4/28/2016	461.30	0.30	18.00	321.90		32.00	455.10	
5/25/2016	451.30	0.18	20.00	323.90		28.00	451.10	
6/28/2016	414.10	0.00	18.00	321.90		25.00	448.10	
7/27/2016	434.20	0.00	18.00	321.90		25.00	448.10	
8/23/2016	418.60	0.00	20.00	323.90		24.00	447.10	
9/27/2016	406.40	0.00	20.00	323.90		24.00	447.10	
10/26/2016	404.00	0.48	19.00	322.90		22.00	445.10	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	19.00	322.90		22.00	445.10	
12/20/2016	441.10	3.48	20.00	323.90		21.00	444.10	
1/26/2017	471.60	5.67	19.00	322.90		29.00	452.10	
2/24/2017	472.05	3.95	18.00	321.90		34.00	457.10	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		19.00	322.90		34.00	457.10	
2/28/2017	471.90		19.00	322.90		34.00	457.10	
3/1/2017	471.90		19.00	322.90		34.00	457.10	
3/2/2017	471.90		18.00	321.90		38.00	461.10	
3/29/2017	467.90	0.10	19.00	322.90		36.00	459.10	
4/27/2017	457.60	0.04	19.00	322.90		32.00	455.10	
5/23/2017	453.50	0.43	18.00	321.90		28.00	451.10	
6/21/2017	447.40	0.00	18.00	321.90		28.00	451.10	
7/26/2017	435.10	0.00	19.00	322.90		26.00	449.10	
8/25/2017	420.10	0.00	19.00	322.90		24.00	447.10	
9/27/2017	407.10	0.00	20.00	323.90		24.00	447.10	
10/26/2017	395.00	0.00	19.00	322.90		24.00	447.10	
11/28/2017	409.00	0.09	19.00	322.90		21.00	444.10	
12/20/2017	416.80	0.00	18.00	321.90		21.00	444.10	
1/24/2018	434.50	1.31	20.00	323.90		20.00	443.10	
2/21/2018	443.10	0.29	19.00	322.90		20.00	443.10	
3/29/2018	453.00	1.28	18.00	321.90		20.00	443.10	
4/26/2018	449.10	0.05	18.00	321.90		19.00	442.10	
5/31/2018	453.10	0.20	20.00	323.90		20.00	443.10	
6/28/2018	448.20	0.00	20.00	323.90		21.00	444.10	
7/25/2018	440.40	0.00	18.00	321.90		21.00	444.10	
8/22/2018	427.10	0.00	19.00	322.90		20.00	443.10	
9/27/2018	439.60	0.00	18.00	321.90		22.00	445.10	
10/18/2018	405.30	0.90	19.00	322.90		21.00	444.10	
11/28/2018	408.60	1.19	20.00	323.90		20.00	443.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	20.00	323.90		22.00	445.10	
1/30/2019	463.80	4.71	20.00	323.90		20.00	443.10	
2/27/2019	466.20	6.55	19.00	322.90		28.00	451.10	
3/27/2019	463.30	1.34	18.00	321.90		30.00	453.10	
4/29/2019	453.00	0.13	19.00	322.90		28.00	451.10	
5/30/2019	451.80	0.64	19.00	322.90		26.00	449.10	
6/26/2019	446.20	0.01	19.00	322.90		25.00	448.10	
7/5/2019	39.40	0.00	18.00	321.90		24.00	447.10	
7/30/2019	434.80	0.00	19.00	322.90		24.00	447.10	
8/27/2019	424.40	0.00	20.00	323.90		23.00	446.10	
9/26/2019	405.60	0.00	19.00	322.90		23.00	446.10	
10/22/2019	400.50	0.00	18.00	321.90		22.00	445.10	
11/26/2019	412.80	3.13	19.00	322.90		21.00	444.10	
12/18/2019	447.40	4.44	19.00	322.90		21.00	444.10	
1/28/2020	465.40	0.20	22.00	325.90		26.00	449.10	
2/26/2020	459.60	0.14	19.00	322.90		27.00	450.10	
3/24/2020	470.70	3.49	20.00	323.90		30.00	453.10	
4/29/2020	467.60	3.65	20.00	323.90		35.00	458.10	
5/27/2020	459.10	0.02	19.00	322.90		33.00	456.10	
6/23/2020	447.00	0.00	18.00	321.90		28.00	451.10	
7/30/2020	434.00	0.00	20.00	323.90		26.00	449.10	
8/26/2020	417.70	0.00	18.00	321.90		26.00	449.10	
9/29/2020	403.60	0.00	19.00	322.90		24.00	447.10	
10/28/2020	404.50	0.00	19.00	322.90		23.00	446.10	
11/24/2020	413.50	0.42	18.00	321.90		22.00	445.10	
12/22/2020	408.00	1.13	18.00	321.90		22.00	445.10	
1/27/2021	435.60	2.25	18.00	321.90		20.00	443.10	
2/25/2021	457.30	0.05	19.00	322.90		20.00	443.10	
3/23/2021	465.90	1.36	20.00	323.90		25.00	448.10	
4/27/2021	462.10	0.04	18.00	321.90		30.00	453.10	
5/26/2021	455.00	0.03	19.00	322.90		28.00	451.10	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-7			C-8		
Piezo. Tip Elevation -->			324.90			440.60		
Zero Gage Reading -->			21.00			17.50		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	18.00	321.90		24.00	447.10	
7/29/2021	423.60	0.07	19.00	322.90		24.00	447.10	
8/24/2021	408.00	0.00	19.00	322.90		24.00	447.10	
9/29/2021	398.00	0.04	18.00	321.90		24.00	447.10	
10/26/2021	417.00	0.87	19.00	322.90		22.00	445.10	
11/25/2021	427.90	0.00	19.00	322.90		21.00	444.10	
12/21/2021	427.90	4.77	18.00	321.90		22.00	445.10	
1/27/2022	467.80	0.07	18.00	321.90	Dry?	30.00	453.10	
2/23/2022	464.80	0.29	18.00	321.90	Dry?	30.00	453.10	
3/23/2022	464.40	1.08	18.00	321.90	Dry?	31.00	454.10	
4/26/2022	467.10	0.03	18.00	321.90	Dry?	34.00	457.10	
5/26/2022	464.80	0.08	19.00	322.90	Dry?	33.00	456.10	
6/28/2022	457.30	0.00	19.00	322.90	Dry?	21.00	444.10	Dropped 12'
7/26/2022	440.70	0.00	18.00	321.90	Dry?	37.00	460.10	increased 16'
8/25/2022	429.50	0.05	19.00	322.90	Dry?	28.00	451.10	Dropped 9'
9/28/2022	410.80	0.35	20.00	323.90	Dry?	25.00	448.10	
10/25/2022	407.30	0.35	18.00	321.90	Dry?	24.00	447.10	
11/23/2022	427.30	0.80	19.00	322.90	Dry?	22.00	445.10	
12/20/2022	441.90	2.14	20.00	323.90	Dry?	24.00	447.10	

- Notes:
1. Readings in red are classified as erroneous.
  2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		59.00	362.90		33.00	396.30	
2/27/2007	426.80					52.00	415.30	
3/28/2007	438.80		20.00	323.90		62.00	425.30	
4/26/2007	450.90		59.00	362.90		74.00	437.30	
5/23/2007	461.40		60.00	363.90		84.00	447.30	
6/27/2007	457.20		60.00	363.90		81.00	444.30	
7/26/2007	445.50		60.00	363.90		74.00	437.30	
8/28/2007	434.60		60.00	363.90		65.00	428.30	
9/25/2007	416.80		60.00	363.90		48.00	411.30	
10/24/2007	404.50		60.00	363.90		35.00	398.30	
11/27/2007	422.20		58.00	361.90		46.00	409.30	
1/3/2008	443.20		60.00	363.90		67.00	430.30	
1/29/2008	452.20		60.00	363.90		76.00	439.30	
2/27/2008	460.80		60.00	363.90		84.00	447.30	
3/26/2008	468.00		60.00	363.90		91.00	454.30	
4/29/2008	468.60		60.00	363.90		92.00	455.30	
5/29/2008	464.70		60.00	363.90		90.00	453.30	
6/26/2008	455.70		60.00	363.90		82.00	445.30	
7/29/2008	447.30	0.00	61.00	364.90		75.00	438.30	
8/28/2008	438.80	0.00	60.00	363.90		68.00	431.30	
9/26/2008	430.70	0.00	61.00	364.90		60.00	423.30	
10/29/2008	412.50	0.00	60.00	363.90		44.00	407.30	
11/25/2008	404.70	2.60	60.00	363.90		36.00	399.30	
12/30/2008	440.90	3.42	60.00	363.90		65.00	428.30	
1/28/2009	463.70	0.17	58.00	361.90		86.00	449.30	
2/25/2009	470.10	3.35	58.00	361.90		90.00	453.30	
3/26/2009	469.40	0.19	60.00	363.90		92.00	455.30	
4/29/2009	466.90	0.07	59.00	362.90		91.00	454.30	
5/18/2009	466.70	0.00	59.00	362.90		92.00	455.30	
5/29/2009	465.00	0.00	59.00	362.90		90.00	453.30	
6/30/2009	460.20	0.00	60.00	363.90		85.00	448.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	60.00	363.90		79.00	442.30	
8/25/2009	440.10	0.00	59.00	362.90		69.00	432.30	
9/30/2009	432.20	0.00	58.00	361.90		61.00	424.30	
10/29/2009	431.40	0.53	59.00	362.90		60.00	423.30	
12/1/2009	427.40	0.00	58.00	361.90		56.00	419.30	
12/29/2009	448.10	2.06	58.00	361.90		74.00	437.30	
1/27/2010	465.60	4.62	58.00	361.90		90.00	453.30	
2/25/2010	470.20	2.51	58.00	361.90		94.00	457.30	
3/29/2010	465.70	0.99	58.00	361.90		91.00	454.30	
4/4/2010	465.00		58.00	361.90		90.00	453.30	
4/27/2010	468.40	1.23	59.00	362.90		93.00	456.30	
5/27/2010	463.30	0.05	58.00	361.90		90.00	453.30	
6/30/2010	454.70	0.00	58.00	361.90		82.00	445.30	
7/28/2010	445.60	0.00	58.00	361.90		74.00	437.30	
8/31/2010	437.10	0.00	59.00	362.90		67.00	430.30	
9/29/2010	422.70	0.00	53.00	356.90		52.00	415.30	
10/27/2010	426.40	2.38	58.00	361.90		56.00	419.30	
11/29/2010	439.80	0.97	58.00	361.90		66.00	429.30	
12/30/2010	456.60	8.62	58.00	361.90		80.00	443.30	
2/1/2011	468.90	0.92	57.00	360.90		91.00	454.30	
2/23/2011	469.00	0.99	58.00	361.90		93.00	456.30	
3/29/2011	470.30	2.93	56.00	359.90		94.00	457.30	
4/27/2011	464.80	0.19	58.00	361.90		90.00	453.30	
5/26/2011	457.30	0.48	58.00	361.90		84.00	447.30	
6/28/2011	443.50	0.05	58.00	361.90		73.00	436.30	
7/29/2011	425.10	0.00	57.00	360.90		58.00	421.30	
8/24/2011	418.00	0.00	58.00	361.90		46.00	409.30	
9/27/2011	400.90	0.12	58.00	361.90		34.00	397.30	
10/26/2011	402.20	1.25	57.00	360.90		32.00	395.30	
11/30/2011	425.10	1.38	58.00	361.90		52.00	415.30	
12/21/2011	435.70	0.32	57.00	360.90		62.00	425.30	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	56.00	359.90		67.00	430.30	
2/28/2012	448.40	0.42	47.00	350.90	Omitted	72.00	435.30	
3/26/2012	452.70	1.06	46.00	349.90	Omitted	76.00	439.30	
4/23/2012	463.40	1.32	55.00	358.90		87.00	450.30	
5/30/2012	457.30	0.02	56.00	359.90		82.00	445.30	
6/13/2012	452.90	0.02	55.00	358.90		78.00	441.30	
6/26/2012	450.20	0.00	56.00	359.90		78.00	441.30	
7/24/2012	439.80	0.00	55.00	358.90		69.00	432.30	
8/8/2012	437.60	0.12	56.00	359.90		67.00	430.30	
8/22/2012	433.40	0.00	56.00	359.90		63.00	426.30	
8/29/2012	431.30	0.00	56.00	359.90		61.00	424.30	
9/25/2012	420.80	0.00	56.00	359.90		61.00	424.30	
10/31/2012	412.30	0.26	56.00	359.90		44.00	407.30	
11/27/2012	420.80	0.58	56.00	359.90		49.00	412.30	
12/18/2012	448.00	1.44	57.00	360.90		79.00	442.30	
1/29/2013	468.60	1.18	56.00	359.90		91.00	454.30	
2/28/2013	469.20	0.30	56.00	359.90		92.00	455.30	
3/27/2013	468.30	0.50	55.00	358.90		92.00	455.30	
4/25/2013	462.70	0.00	54.00	357.90		88.00	451.30	
5/21/2013	454.20	0.00	56.00	359.90		80.00	443.30	
6/25/2013	439.30	0.00	55.00	358.90		68.00	431.30	
7/23/2013	431.50	0.00	55.00	358.90		61.00	424.30	
8/21/2013	418.00	0.00	56.00	359.90		50.00	413.30	
9/24/2013	404.00	0.00	55.00	358.90		38.00	401.30	
10/29/2013	400.60	0.00	52.00	355.90		33.00	396.30	
11/26/2013	407.90	0.44	51.00	354.90		38.00	401.30	
12/19/2013	425.80	0.54	52.00	355.90		53.00	416.30	
1/28/2014	439.70	0.00	52.00	355.90		66.00	429.30	
2/25/2014	449.70	0.83	52.00	355.90		75.00	438.30	
3/26/2014	465.10		52.00	355.90		88.00	451.30	
3/28/2014	465.70	1.15	51.00	354.90		89.00	452.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	52.00	355.90		90.00	453.30	
5/28/2014	450.60	0.00	51.00	354.90		76.00	439.30	
6/25/2014	440.10	0.00	52.00	355.90		68.00	431.30	
7/29/2014	431.20	0.00	52.00	355.90		60.00	423.30	
8/26/2014	419.50	0.02	52.00	355.90		50.00	413.30	
9/23/2014	405.30	0.00	52.00	355.90		38.00	401.30	
10/29/2014	400.90	0.00	52.00	355.90		33.00	396.30	
11/25/2014	410.90	0.25	51.00	354.90		40.00	403.30	
12/30/2014	430.60	2.94	51.00	354.90		57.00	420.30	
1/27/2015	466.70	0.83	51.00	354.90		88.00	451.30	
2/25/2015	468.90	0.69	50.00	353.90		90.00	453.30	
3/26/2015	465.90	0.61	51.00	354.90		99.00	462.30	
4/28/2015	465.70	0.20	51.00	354.90		90.00	453.30	
5/28/2015	466.40	1.08	50.00	353.90		90.00	453.30	
6/30/2015	454.50	0.00	51.00	354.90		80.00	443.30	
7/28/2015	445.60	0.00	50.00	353.90		72.00	435.30	
8/28/2015	437.60	0.00	50.00	353.90		66.00	429.30	
9/24/2015	426.90	1.51	50.00	353.90		57.00	420.30	
10/27/2015	415.40	0.49	51.00	354.90		46.00	409.30	
11/19/2015	412.90	0.09	50.00	353.90		43.00	406.30	
12/22/2015	425.50	0.69	50.00	353.90		54.00	417.30	
1/27/2016	463.60	2.86	49.00	352.90		86.00	449.30	
2/25/2016	468.90	0.25	50.00	353.90		91.00	454.30	
3/30/2016	468.00	1.44	49.00	352.90		92.00	455.30	
4/28/2016	461.30	0.30	49.00	352.90		86.00	449.30	
5/25/2016	451.30	0.18	30.00	333.90	Omitted	76.00	439.30	
6/28/2016	414.10	0.00	48.00	351.90		71.00	434.30	
7/27/2016	434.20	0.00	50.00	353.90		62.00	425.30	
8/23/2016	418.60	0.00	49.00	352.90		50.00	413.30	
9/27/2016	406.40	0.00	50.00	353.90		38.00	401.30	
10/26/2016	404.00	0.48	49.00	352.90		35.00	398.30	

- Notes:
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  2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	48.00	351.90		43.00	406.30	
12/20/2016	441.10	3.48	49.00	352.90		67.00	430.30	
1/26/2017	471.60	5.67	49.00	352.90		91.00	454.30	
2/24/2017	472.05	3.95	49.00	352.90		92.00	455.30	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		49.00	352.90		92.00	455.30	
2/28/2017	471.90		50.00	353.90		93.00	456.30	
3/1/2017	471.90		50.00	353.90		93.00	456.30	
3/2/2017	471.90		49.00	352.90		92.00	455.30	
3/29/2017	467.90	0.10	50.00	353.90		89.00	452.30	
4/27/2017	457.60	0.04	50.00	353.90		82.00	445.30	
5/23/2017	453.50	0.43	49.00	352.90		77.00	440.30	
6/21/2017	447.40	0.00	49.00	352.90		70.00	433.30	
7/26/2017	435.10	0.00	50.00	353.90		63.00	426.30	
8/25/2017	420.10	0.00	49.00	352.90		50.00	413.30	
9/27/2017	407.10	0.00	50.00	353.90		38.00	401.30	
10/26/2017	395.00	0.00	49.00	352.90		30.00	393.30	
11/28/2017	409.00	0.09	49.00	352.90		38.00	401.30	
12/20/2017	416.80	0.00	48.00	351.90		44.00	407.30	
1/24/2018	434.50	1.31	48.00	351.90		56.00	419.30	
2/21/2018	443.10	0.29	49.00	352.90		68.00	431.30	
3/29/2018	453.00	1.28	48.00	351.90		74.00	437.30	
4/26/2018	449.10	0.05	48.00	351.90		74.00	437.30	
5/31/2018	453.10	0.20	49.00	352.90		77.00	440.30	
6/28/2018	448.20	0.00	49.00	352.90		74.00	437.30	
7/25/2018	440.40	0.00	48.00	351.90		68.00	431.30	
8/22/2018	427.10	0.00	48.00	351.90		56.00	419.30	
9/27/2018	439.60	0.00	48.00	351.90		36.00	399.30	
10/18/2018	405.30	0.90	49.00	352.90		36.00	399.30	
11/28/2018	408.60	1.19	48.00	351.90		38.00	401.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	48.00	351.90		60.00	423.30	
1/30/2019	463.80	4.71	50.00	353.90		86.00	449.30	
2/27/2019	466.20	6.55	50.00	353.90		88.00	451.30	
3/27/2019	463.30	1.34	38.00	341.90	Omitted	86.00	449.30	
4/29/2019	453.00	0.13	48.00	351.90		78.00	441.30	
5/30/2019	451.80	0.64	48.00	351.90		76.00	439.30	
6/26/2019	446.20	0.01	49.00	352.90		73.00	436.30	
7/5/2019	39.40	0.00	48.00	351.90		69.00	432.30	
7/30/2019	434.80	0.00	49.00	352.90		64.00	427.30	
8/27/2019	424.40	0.00	49.00	352.90		52.00	415.30	
9/26/2019	405.60	0.00	49.00	352.90		37.00	400.30	
10/22/2019	400.50	0.00	48.00	351.90		32.00	395.30	
11/26/2019	412.80	3.13	48.00	351.90		40.00	403.30	
12/18/2019	447.40	4.44	49.00	352.90		71.00	434.30	
1/28/2020	465.40	0.20	50.00	353.90		84.00	447.30	
2/26/2020	459.60	0.14	48.00	351.90		84.00	447.30	
3/24/2020	470.70	3.49	48.00	351.90		91.00	454.30	
4/29/2020	467.60	3.65	49.00	352.90		90.00	453.30	
5/27/2020	459.10	0.02	49.00	352.90		82.00	445.30	
6/23/2020	447.00	0.00	48.00	351.90		72.00	435.30	
7/30/2020	434.00	0.00	49.00	352.90		62.00	425.30	
8/26/2020	417.70	0.00	48.00	351.90		44.00	407.30	
9/29/2020	403.60	0.00	48.00	351.90		34.00	397.30	
10/28/2020	404.50	0.00	48.00	351.90		32.00	395.30	
11/24/2020	413.50	0.42	47.00	350.90		40.00	403.30	
12/22/2020	408.00	1.13	47.00	350.90		34.00	397.30	
1/27/2021	435.60	2.25	48.00	351.90		62.00	425.30	
2/25/2021	457.30	0.05	48.00	351.90		80.00	443.30	
3/23/2021	465.90	1.36	48.00	351.90		88.00	451.30	
4/27/2021	462.10	0.04	47.00	350.90		82.00	445.30	
5/26/2021	455.00	0.03	48.00	351.90		80.00	443.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			C-9			RR-2		
Piezo. Tip Elevation -->			357.00			393.20		
Zero Gage Reading -->			53.10			29.90		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	47.00	350.90		64.00	427.30	
7/29/2021	423.60	0.07	48.00	351.90		53.00	416.30	
8/24/2021	408.00	0.00	48.00	351.90		40.00	403.30	
9/29/2021	398.00	0.04	47.00	350.90		18.00	381.30	
10/26/2021	417.00	0.87	47.00	350.90		45.00	408.30	
11/25/2021	427.90	0.00	48.00	351.90		56.00	419.30	
12/21/2021	427.90	4.77	48.00	351.90		70.00	433.30	
1/27/2022	467.80	0.07	47.00	350.90	Dry?	86.00	449.30	
2/23/2022	464.80	0.29	47.00	350.90	Dry?	0.00		Error
3/23/2022	464.40	1.08	47.00	350.90	Dry?	84.00	447.30	
4/26/2022	467.10	0.03	47.00	350.90	Dry?	88.00	451.30	
5/26/2022	464.80	0.08	48.00	351.90	Dry?	88.00	451.30	
6/28/2022	457.30	0.00	48.00	351.90	Dry?	82.00	445.30	
7/26/2022	440.70	0.00	48.00	351.90	Dry?	68.00	431.30	
8/25/2022	429.50	0.05	48.00	351.90	Dry?	57.00	420.30	
9/28/2022	410.80	0.35	49.00	352.90	Dry?	42.00	405.30	
10/25/2022	407.30	0.35	48.00	351.90	Dry?	34.00	397.30	
11/23/2022	427.30	0.80	48.00	351.90	Dry?	54.00	417.30	
12/20/2022	441.90	2.14	49.00	352.90	Dry?	54.00	417.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		36.00	399.90		11.00	433.70	
2/27/2007	426.80		58.00	421.90		52.00	474.70	
3/28/2007	438.80		59.00	422.90		11.00	433.70	
4/26/2007	450.90		81.00	444.90		14.00	436.70	
5/23/2007	461.40		92.00	455.90		28.00	450.70	
6/27/2007	457.20		88.00	451.90		25.00	447.70	
7/26/2007	445.50		76.00	439.90		17.00	439.70	
8/28/2007	434.60		66.00	429.90		15.00	437.70	
9/25/2007	416.80		47.00	410.90		14.00	436.70	
10/24/2007	404.50		33.00	396.90		14.00	436.70	
11/27/2007	422.20		51.00	414.90		13.00	435.70	
1/3/2008	443.20		72.00	435.90		11.00	433.70	
1/29/2008	452.20		82.00	445.90		18.00	440.70	
2/27/2008	460.80		90.00	453.90		27.00	449.70	
3/26/2008	468.00		98.00	461.90		36.00	458.70	
4/29/2008	468.60		99.50	463.40		38.00	460.70	
5/29/2008	464.70		95.00	458.90		35.00	457.70	
6/26/2008	455.70		86.00	449.90		27.00	449.70	
7/29/2008	447.30	0.00	78.00	441.90		20.00	442.70	
8/28/2008	438.80	0.00	70.00	433.90		14.00	436.70	
9/26/2008	430.70	0.00	62.00	425.90		15.00	437.70	
10/29/2008	412.50	0.00	42.00	405.90		14.00	436.70	
11/25/2008	404.70	2.60	36.00	399.90		14.00	436.70	
12/30/2008	440.90	3.42	61.00	424.90		14.00	436.70	
1/28/2009	463.70	0.17	94.00	457.90		31.00	453.70	
2/25/2009	470.10	3.35	100.00	463.90		39.00	461.70	
3/26/2009	469.40	0.19	100.00	463.90		40.00	462.70	
4/29/2009	466.90	0.07	98.00	461.90		36.00	458.70	
5/18/2009	466.70	0.00	97.00	460.90		37.00	459.70	
5/29/2009	465.00	0.00	95.00	458.90		32.00	454.70	
6/30/2009	460.20	0.00	91.00	454.90		31.00	453.70	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	81.00	444.90		22.00	444.70	
8/25/2009	440.10	0.00	70.00	433.90		16.00	438.70	
9/30/2009	432.20	0.00	61.00	424.90		14.00	436.70	
10/29/2009	431.40	0.53	62.00	425.90		15.00	437.70	
12/1/2009	427.40	0.00	57.00	420.90		15.00	437.70	
12/29/2009	448.10	2.06	79.00	442.90		16.00	438.70	
1/27/2010	465.60	4.62	96.00	459.90		34.00	456.70	
2/25/2010	470.20	2.51	101.00	464.90		40.00	462.70	
3/29/2010	465.70	0.99	96.00	459.90		37.00	459.70	
4/4/2010	465.00		96.00	459.90		36.00	458.70	
4/27/2010	468.40	1.23	98.00	461.90		38.00	460.70	
5/27/2010	463.30	0.05	94.00	457.90		34.00	456.70	
6/30/2010	454.70	0.00	84.00	447.90		26.00	448.70	
7/28/2010	445.60	0.00	78.00	441.90		19.00	441.70	
8/31/2010	437.10	0.00	67.00	430.90		16.00	438.70	
9/29/2010	422.70	0.00	54.00	417.90		16.00	438.70	
10/27/2010	426.40	2.38	57.50	421.40		15.50	438.20	
11/29/2010	439.80	0.97	70.00	433.90		13.00	435.70	
12/30/2010	456.60	8.62	84.00	447.90		25.00	447.70	
2/1/2011	468.90	0.92	98.00	461.90		39.00	461.70	
2/23/2011	469.00	0.99	99.00	462.90		39.00	461.70	
3/29/2011	470.30	2.93	100.00	463.90		40.00	462.70	
4/27/2011	464.80	0.19	96.00	459.90		36.00	458.70	
5/26/2011	457.30	0.48	88.00	451.90		29.00	451.70	
6/28/2011	443.50	0.05	74.00	437.90		18.00	440.70	
7/29/2011	425.10	0.00	59.00	422.90		16.00	438.70	
8/24/2011	418.00	0.00	44.00	407.90		16.00	438.70	
9/27/2011	400.90	0.12	31.00	394.90		15.00	437.70	
10/26/2011	402.20	1.25	32.00	395.90		13.00	435.70	
11/30/2011	425.10	1.38	55.00	418.90		15.00	437.70	
12/21/2011	435.70	0.32	66.00	429.90		16.00	438.70	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	72.00	435.90		15.00	437.70	
2/28/2012	448.40	0.42	78.00	441.90		16.00	438.70	
3/26/2012	452.70	1.06	82.00	445.90		21.00	443.70	
4/23/2012	463.40	1.32	95.00	458.90		32.00	454.70	
5/30/2012	457.30	0.02	89.00	452.90		29.00	451.70	
6/13/2012	452.90	0.02	84.00	447.90		24.00	446.70	
6/26/2012	450.20	0.00	80.00	443.90		22.00	444.70	
7/24/2012	439.80	0.00	70.00	433.90		16.00	438.70	
8/8/2012	437.60	0.12	68.00	431.90		16.00	438.70	
8/22/2012	433.40	0.00	69.00	432.90		16.00	438.70	
8/29/2012	431.30	0.00	62.00	425.90		16.00	438.70	
9/25/2012	420.80	0.00	60.00	423.90		15.00	437.70	
10/31/2012	412.30	0.26	44.00	407.90		16.00	438.70	
11/27/2012	420.80	0.58	51.00	414.90		15.00	437.70	
12/18/2012	448.00	1.44	80.00	443.90		16.00	438.70	
1/29/2013	468.60	1.18	100.00	463.90		38.00	460.70	
2/28/2013	469.20	0.30	100.00	463.90		40.00	462.70	
3/27/2013	468.30	0.50	98.00	461.90		39.00	461.70	
4/25/2013	462.70	0.00	94.00	457.90		34.00	456.70	
5/21/2013	454.20	0.00	84.00	447.90		25.00	447.70	
6/25/2013	439.30	0.00	69.00	432.90		16.00	438.70	
7/23/2013	431.50	0.00	63.00	426.90		16.00	438.70	
8/21/2013	418.00	0.00	49.00	412.90		16.00	438.70	
9/24/2013	404.00	0.00	35.00	398.90		15.00	437.70	
10/29/2013	400.60	0.00	32.00	395.90		14.00	436.70	
11/26/2013	407.90	0.44	39.00	402.90		14.00	436.70	
12/19/2013	425.80	0.54	56.00	419.90		14.00	436.70	
1/28/2014	439.70	0.00	70.00	433.90		14.00	436.70	
2/25/2014	449.70	0.83	80.00	443.90		18.00	440.70	
3/26/2014	465.10		95.00	458.90		24.00	446.70	
3/28/2014	465.70	1.15	96.00	459.90		34.00	456.70	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	96.00	459.90		36.00	458.70	
5/28/2014	450.60	0.00	80.00	443.90		23.00	445.70	
6/25/2014	440.10	0.00	70.00	433.90		15.00	437.70	
7/29/2014	431.20	0.00	62.00	425.90		15.00	437.70	
8/26/2014	419.50	0.02	50.00	413.90		15.00	437.70	
9/23/2014	405.30	0.00	36.00	399.90		15.00	437.70	
10/29/2014	400.90	0.00	31.00	394.90		14.00	436.70	
11/25/2014	410.90	0.25	41.00	404.90		14.00	436.70	
12/30/2014	430.60	2.94	59.00	422.90		15.00	437.70	
1/27/2015	466.70	0.83	97.00	460.90		36.00	458.70	
2/25/2015	468.90	0.69	100.00	463.90		38.00	460.70	
3/26/2015	465.90	0.61	97.00	460.90		37.00	459.70	
4/28/2015	465.70	0.20	97.00	460.90		36.00	458.70	
5/28/2015	466.40	1.08	97.00	460.90		36.00	458.70	
6/30/2015	454.50	0.00	85.00	448.90		27.00	449.70	
7/28/2015	445.60	0.00	77.00	440.90		18.00	440.70	
8/28/2015	437.60	0.00	69.00	432.90		16.00	438.70	
9/24/2015	426.90	1.51	58.00	421.90		17.00	439.70	
10/27/2015	415.40	0.49	48.00	411.90		15.00	437.70	
11/19/2015	412.90	0.09	42.00	405.90		14.00	436.70	
12/22/2015	425.50	0.69	56.00	419.90		14.00	436.70	
1/27/2016	463.60	2.86	94.00	457.90		32.00	454.70	
2/25/2016	468.90	0.25	100.00	463.90		38.00	460.70	
3/30/2016	468.00	1.44	100.00	463.90		39.00	461.70	
4/28/2016	461.30	0.30	92.00	455.90		33.00	455.70	
5/25/2016	451.30	0.18	80.00	443.90		23.00	445.70	
6/28/2016	414.10	0.00	73.00	436.90		17.00	439.70	
7/27/2016	434.20	0.00	66.00	429.90		16.00	438.70	
8/23/2016	418.60	0.00	50.00	413.90		15.00	437.70	
9/27/2016	406.40	0.00	36.00	399.90		16.00	438.70	
10/26/2016	404.00	0.48	33.00	396.90		16.00	438.70	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	44.00	407.90		14.00	436.70	
12/20/2016	441.10	3.48	71.00	434.90		14.00	436.70	
1/26/2017	471.60	5.67	102.00	465.90		41.00	463.70	
2/24/2017	472.05	3.95	104.00	467.90		42.00	464.70	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		103.00	466.90		42.00	464.70	
2/28/2017	471.90		104.00	467.90		42.00	464.70	
3/1/2017	471.90		104.00	467.90		42.00	464.70	
3/2/2017	471.90		104.00	467.90		40.00	462.70	
3/29/2017	467.90	0.10	100.00	463.90		38.00	460.70	
4/27/2017	457.60	0.04	89.00	452.90		29.00	451.70	
5/23/2017	453.50	0.43	85.00	448.90		25.00	447.70	
6/21/2017	447.40	0.00	80.00	443.90		17.00	439.70	
7/26/2017	435.10	0.00	67.00	430.90		16.00	438.70	
8/25/2017	420.10	0.00	50.00	413.90		15.00	437.70	
9/27/2017	407.10	0.00	40.00	403.90		15.00	437.70	
10/26/2017	395.00	0.00	24.00	387.90		15.00	437.70	
11/28/2017	409.00	0.09	39.00	402.90		13.00	435.70	
12/20/2017	416.80	0.00	47.00	410.90		14.00	436.70	
1/24/2018	434.50	1.31	64.00	427.90		12.00	434.70	
2/21/2018	443.10	0.29	75.00	438.90		13.00	435.70	
3/29/2018	453.00	1.28	84.00	447.90		20.00	442.70	
4/26/2018	449.10	0.05	81.00	444.90		20.00	442.70	
5/31/2018	453.10	0.20	86.00	449.90		22.00	444.70	
6/28/2018	448.20	0.00	80.00	443.90		20.00	442.70	
7/25/2018	440.40	0.00	71.00	434.90		17.00	439.70	
8/22/2018	427.10	0.00	59.00	422.90		14.00	436.70	
9/27/2018	439.60	0.00	38.00	401.90		12.00	434.70	
10/18/2018	405.30	0.90	36.00	399.90		14.00	436.70	
11/28/2018	408.60	1.19	40.00	403.90		14.00	436.70	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	66.00	429.90		10.00	432.70	
1/30/2019	463.80	4.71	96.00	459.90		32.00	454.70	
2/27/2019	466.20	6.55	99.00	462.90		36.00	458.70	
3/27/2019	463.30	1.34	94.00	457.90		32.00	454.70	
4/29/2019	453.00	0.13	86.00	449.90		25.00	447.70	
5/30/2019	451.80	0.64	84.00	447.90		22.00	444.70	
6/26/2019	446.20	0.01	78.00	441.90		19.00	441.70	
7/5/2019	39.40	0.00	73.00	436.90		16.00	438.70	
7/30/2019	434.80	0.00	66.00	429.90		16.00	438.70	
8/27/2019	424.40	0.00	56.00	419.90		15.00	437.70	
9/26/2019	405.60	0.00	37.00	400.90		14.00	436.70	
10/22/2019	400.50	0.00	32.00	395.90		12.00	434.70	
11/26/2019	412.80	3.13	44.00	407.90		14.00	436.70	
12/18/2019	447.40	4.44	79.00	442.90		15.00	437.70	
1/28/2020	465.40	0.20	98.00	461.90		32.00	454.70	
2/26/2020	459.60	0.14	92.00	455.90		30.00	452.70	
3/24/2020	470.70	3.49	102.00	465.90		40.00	462.70	
4/29/2020	467.60	3.65	99.00	462.90		39.00	461.70	
5/27/2020	459.10	0.02	90.00	453.90		32.00	454.70	
6/23/2020	447.00	0.00	79.00	442.90		20.00	442.70	
7/30/2020	434.00	0.00	66.00	429.90		16.00	438.70	
8/26/2020	417.70	0.00	48.00	411.90		14.00	436.70	
9/29/2020	403.60	0.00	34.00	397.90		14.00	436.70	
10/28/2020	404.50	0.00	32.00	395.90		15.00	437.70	
11/24/2020	413.50	0.42	44.00	407.90		10.00	432.70	
12/22/2020	408.00	1.13	38.00	401.90		9.00	431.70	
1/27/2021	435.60	2.25	79.00	442.90		10.00	432.70	
2/25/2021	457.30	0.05	89.00	452.90		25.00	447.70	
3/23/2021	465.90	1.36	98.00	461.90		34.00	456.70	
4/27/2021	462.10	0.04	94.00	457.90		31.00	453.70	
5/26/2021	455.00	0.03	86.00	449.90		26.00	448.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LA-1			LA-2		
Piezo. Tip Elevation -->			391.20			440.30		
Zero Gage Reading -->			27.30			17.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	70.00	433.90		15.00	437.70	
7/29/2021	423.60	0.07	54.00	417.90		15.00	437.70	
8/24/2021	408.00	0.00	40.00	403.90		16.00	438.70	
9/29/2021	398.00	0.04	28.00	391.90		12.00	434.70	
10/26/2021	417.00	0.87	48.00	411.90		14.00	436.70	
11/25/2021	427.90	0.00	59.00	422.90		14.00	436.70	
12/21/2021	427.90	4.77	76.00	439.90		10.00	432.70	
1/27/2022	467.80	0.07	100.00	463.90		36.00	458.70	
2/23/2022	464.80	0.29	96.00	459.90		34.00	456.70	
3/23/2022	464.40	1.08	96.00	459.90		31.00	453.70	
4/26/2022	467.10	0.03	98.00	461.90		35.00	457.70	
5/26/2022	464.80	0.08	96.00	459.90		34.00	456.70	
6/28/2022	457.30	0.00	89.00	452.90		29.00	451.70	
7/26/2022	440.70	0.00	71.00	434.90		15.00	437.70	Dry?
8/25/2022	429.50	0.05	60.00	423.90		15.00	437.70	Dry?
9/28/2022	410.80	0.35	42.00	405.90		15.00	437.70	Dry?
10/25/2022	407.30	0.35	36.00	399.90		12.00	434.70	Dry?
11/23/2022	427.30	0.80	59.00	422.90		13.00	435.70	Dry?
12/20/2022	441.90	2.14	73.00	436.90		10.00	432.70	Dry?

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		80.00	383.50		81.00	384.30	
2/27/2007	426.80		90.00	393.50		86.00	389.30	
3/28/2007	438.80		97.00	400.50		92.00	395.30	
4/26/2007	450.90		104.00	407.50		98.00	401.30	
5/23/2007	461.40		110.00	413.50		104.00	407.30	
6/27/2007	457.20		113.00	416.50		105.00	408.30	
7/26/2007	445.50		109.00	412.50		103.00	406.30	
8/28/2007	434.60		103.00	406.50		96.00	399.30	
9/25/2007	416.80		93.00	396.50		94.00	397.30	
10/24/2007	404.50		86.00	389.50		88.00	391.30	
11/27/2007	422.20		86.00	389.50		88.00	391.30	
1/3/2008	443.20		97.00	400.50		96.00	399.30	
1/29/2008	452.20		102.00	405.50		98.00	401.30	
2/27/2008	460.80		110.00	413.50		103.00	406.30	
3/26/2008	468.00		116.00	419.50		106.00	409.30	
4/29/2008	468.60		119.50	423.00		108.00	411.30	
5/29/2008	464.70		116.00	419.50		108.00	411.30	
6/26/2008	455.70		116.00	419.50		106.00	409.30	
7/29/2008	447.30	0.00	111.00	414.50		104.00	407.30	
8/28/2008	438.80	0.00	106.00	409.50		100.00	403.30	
9/26/2008	430.70	0.00	101.00	404.50		99.00	402.30	
10/29/2008	412.50	0.00	90.00	393.50		90.00	393.30	
11/25/2008	404.70	2.60	86.00	389.50		88.00	391.30	
12/30/2008	440.90	3.42	99.00	402.50		94.00	397.30	
1/28/2009	463.70	0.17	112.00	415.50		102.00	405.30	
2/25/2009	470.10	3.35	118.00	421.50		106.00	409.30	
3/26/2009	469.40	0.19	118.00	421.50		108.00	411.30	
4/29/2009	466.90	0.07	118.00	421.50		108.00	411.30	
5/18/2009	466.70	0.00	118.00	421.50		108.00	411.30	
5/29/2009	465.00	0.00	119.00	422.50		108.00	411.30	
6/30/2009	460.20	0.00	116.00	419.50		108.00	411.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	113.00	416.50		106.00	409.30	
8/25/2009	440.10	0.00	106.00	409.50		101.00	404.30	
9/30/2009	432.20	0.00	102.00	405.50		99.00	402.30	
10/29/2009	431.40	0.53	99.00	402.50		97.00	400.30	
12/1/2009	427.40	0.00	96.00	399.50		94.00	397.30	
12/29/2009	448.10	2.06	102.00	405.50		98.00	401.30	
1/27/2010	465.60	4.62	113.00	416.50		104.00	407.30	
2/25/2010	470.20	2.51	119.00	422.50		108.00	411.30	
3/29/2010	465.70	0.99	117.00	420.50		107.00	410.30	
4/4/2010	465.00		117.00	420.50		116.00	419.30	
4/27/2010	468.40	1.23	119.00	422.50		107.00	410.30	
5/27/2010	463.30	0.05	117.00	420.50		107.00	410.30	
6/30/2010	454.70	0.00	114.00	417.50		106.00	409.30	
7/28/2010	445.60	0.00	109.00	412.50		102.00	405.30	
8/31/2010	437.10	0.00	104.00	407.50		100.00	403.30	
9/29/2010	422.70	0.00	98.00	401.50		97.00	400.30	
10/27/2010	426.40	2.38	94.00	397.50		94.00	397.30	
11/29/2010	439.80	0.97	99.00	402.50		96.00	399.30	
12/30/2010	456.60	8.62	106.00	409.50		100.00	403.30	
2/1/2011	468.90	0.92	115.00	418.50		106.00	409.30	
2/23/2011	469.00	0.99	118.00	421.50		107.00	410.30	
3/29/2011	470.30	2.93	118.00	421.50		107.00	410.30	
4/27/2011	464.80	0.19	120.00	423.50		108.00	411.30	
5/26/2011	457.30	0.48	117.00	420.50		106.00	409.30	
6/28/2011	443.50	0.05	108.00	411.50		101.00	404.30	
7/29/2011	425.10	0.00	99.00	402.50		96.00	399.30	
8/24/2011	418.00	0.00	90.00	393.50		90.00	393.30	
9/27/2011	400.90	0.12	84.00	387.50		86.00	389.30	
10/26/2011	402.20	1.25	82.00	385.50		84.00	387.30	
11/30/2011	425.10	1.38	91.00	394.50		88.00	391.30	
12/21/2011	435.70	0.32	97.00	400.50		92.00	395.30	

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	97.00	400.50		93.00	396.30	
2/28/2012	448.40	0.42	102.00	405.50		96.00	399.30	
3/26/2012	452.70	1.06	104.00	407.50		98.00	401.30	
4/23/2012	463.40	1.32	113.00	416.50		102.00	405.30	
5/30/2012	457.30	0.02	114.00	417.50		104.00	407.30	
6/13/2012	452.90	0.02	111.00	414.50		102.00	405.30	
6/26/2012	450.20	0.00	110.00	413.50		102.00	405.30	
7/24/2012	439.80	0.00	104.00	407.50		98.00	401.30	
8/8/2012	437.60	0.12	103.00	406.50		98.00	401.30	
8/22/2012	433.40	0.00	101.00	404.50		96.00	399.30	
8/29/2012	431.30	0.00	100.00	403.50		96.00	399.30	
9/25/2012	420.80	0.00	91.00	394.50		88.00	391.30	
10/31/2012	412.30	0.26	88.00	391.50		90.00	393.30	
11/27/2012	420.80	0.58	89.00	392.50		89.00	392.30	
12/18/2012	448.00	1.44	104.00	407.50		97.00	400.30	
1/29/2013	468.60	1.18	118.00	421.50		105.00	408.30	
2/28/2013	469.20	0.30	120.00	423.50		106.00	409.30	
3/27/2013	468.30	0.50	120.00	423.50		107.00	410.30	
4/25/2013	462.70	0.00	118.00	421.50		106.00	409.30	
5/21/2013	454.20	0.00	113.00	416.50		104.00	407.30	
6/25/2013	439.30	0.00	103.00	406.50		99.00	402.30	
7/23/2013	431.50	0.00	100.00	403.50		96.00	399.30	
8/21/2013	418.00	0.00	92.00	395.50		92.00	395.30	
9/24/2013	404.00	0.00	84.00	387.50		85.00	388.30	
10/29/2013	400.60	0.00	81.00	384.50		84.00	387.30	
11/26/2013	407.90	0.44	81.00	384.50		84.00	387.30	
12/19/2013	425.80	0.54	90.00	393.50		88.00	391.30	
1/28/2014	439.70	0.00	97.00	400.50		91.00	394.30	
2/25/2014	449.70	0.83	104.00	407.50		96.00	399.30	
3/26/2014	465.10		115.00	418.50		103.00	406.30	
3/28/2014	465.70	1.15	116.00	419.50		103.00	406.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	119.00	422.50		106.00	409.30	
5/28/2014	450.60	0.00	111.00	414.50		102.00	405.30	
6/25/2014	440.10	0.00	104.00	407.50		98.00	401.30	
7/29/2014	431.20	0.00	100.00	403.50		96.00	399.30	
8/26/2014	419.50	0.02	93.00	396.50		92.00	395.30	
9/23/2014	405.30	0.00	84.00	387.50		86.00	389.30	
10/29/2014	400.90	0.00	82.00	385.50		85.00	388.30	
11/25/2014	410.90	0.25	82.00	385.50		85.00	388.30	
12/30/2014	430.60	2.94	94.00	397.50		89.00	392.30	
1/27/2015	466.70	0.83	117.00	420.50		104.00	407.30	
2/25/2015	468.90	0.69	120.00	423.50		105.00	408.30	
3/26/2015	465.90	0.61	119.00	422.50		105.00	408.30	
4/28/2015	465.70	0.20	120.00	423.50		106.00	409.30	
5/28/2015	466.40	1.08	118.00	421.50		106.00	409.30	
6/30/2015	454.50	0.00	116.00	419.50		105.00	408.30	
7/28/2015	445.60	0.00	109.00	412.50		101.00	404.30	
8/28/2015	437.60	0.00	105.00	408.50		99.00	402.30	
9/24/2015	426.90	1.51	98.00	401.50		94.00	397.30	
10/27/2015	415.40	0.49	91.00	394.50		91.00	394.30	
11/19/2015	412.90	0.09	87.00	390.50		88.00	391.30	
12/22/2015	425.50	0.69	92.00	395.50		90.00	393.30	
1/27/2016	463.60	2.86	116.00	419.50		102.00	405.30	
2/25/2016	468.90	0.25	122.00	425.50		105.00	408.30	
3/30/2016	468.00	1.44	122.00	425.50		106.00	409.30	
4/28/2016	461.30	0.30	120.00	423.50		104.00	407.30	
5/25/2016	451.30	0.18	114.00	417.50		102.00	405.30	
6/28/2016	414.10	0.00	108.00	411.50		100.00	403.30	
7/27/2016	434.20	0.00	103.00	406.50		97.00	400.30	
8/23/2016	418.60	0.00	83.00	386.50		91.00	394.30	
9/27/2016	406.40	0.00	86.00	389.50		86.00	389.30	
10/26/2016	404.00	0.48	82.00	385.50		83.00	386.30	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	86.00	389.50		85.00	388.30	
12/20/2016	441.10	3.48	102.00	405.50		93.00	396.30	
1/26/2017	471.60	5.67	123.00	426.50		104.00	407.30	
2/24/2017	472.05	3.95	125.00	428.50		106.00	409.30	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		125.00	428.50		106.00	409.30	
2/28/2017	471.90		125.00	428.50		106.00	409.30	
3/1/2017	471.90		126.00	429.50		106.00	409.30	
3/2/2017	471.90		126.00	429.50		106.00	409.30	
3/29/2017	467.90	0.10	124.00	427.50		106.00	409.30	
4/27/2017	457.60	0.04	118.00	421.50		104.00	407.30	
5/23/2017	453.50	0.43	105.00	408.50		102.00	405.30	
6/21/2017	447.40	0.00	111.00	414.50		102.00	405.30	
7/26/2017	435.10	0.00	103.00	406.50		97.00	400.30	
8/25/2017	420.10	0.00	93.00	396.50		91.00	394.30	
9/27/2017	407.10	0.00	86.00	389.50		87.00	390.30	
10/26/2017	395.00	0.00	77.00	380.50		80.00	383.30	
11/28/2017	409.00	0.09	82.00	385.50		82.00	385.30	
12/20/2017	416.80	0.00	87.00	390.50		84.00	387.30	
1/24/2018	434.50	1.31	98.00	401.50		90.00	393.30	
2/21/2018	443.10	0.29	103.00	406.50		92.00	395.30	
3/29/2018	453.00	1.28	110.00	413.50		96.00	399.30	
4/26/2018	449.10	0.05	110.00	413.50		97.00	400.30	
5/31/2018	453.10	0.20	112.00	415.50		99.00	402.30	
6/28/2018	448.20	0.00	110.00	413.50		98.00	401.30	
7/25/2018	440.40	0.00	106.00	409.50		97.00	400.30	
8/22/2018	427.10	0.00	99.00	402.50		93.00	396.30	
9/27/2018	439.60	0.00	85.00	388.50		87.00	390.30	
10/18/2018	405.30	0.90	83.00	386.50		85.00	388.30	
11/28/2018	408.60	1.19	82.00	385.50		85.00	388.30	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	100.00	403.50		92.00	395.30	
1/30/2019	463.80	4.71	123.00	426.50		102.00	405.30	
2/27/2019	466.20	6.55	121.00	424.50		102.00	405.30	
3/27/2019	463.30	1.34	120.00	423.50		102.00	405.30	
4/29/2019	453.00	0.13	114.00	417.50		100.00	403.30	
5/30/2019	451.80	0.64	114.00	417.50		100.00	403.30	
6/26/2019	446.20	0.01	111.00	414.50		99.00	402.30	
7/5/2019	39.40	0.00	108.00	411.50		98.00	401.30	
7/30/2019	434.80	0.00	103.00	406.50		96.00	399.30	
8/27/2019	424.40	0.00	98.00	401.50		92.00	395.30	
9/26/2019	405.60	0.00	85.00	388.50		85.00	388.30	
10/22/2019	400.50	0.00	80.00	383.50		82.00	385.30	
11/26/2019	412.80	3.13	86.00	389.50		84.00	387.30	
12/18/2019	447.40	4.44	109.00	412.50		95.00	398.30	
1/28/2020	465.40	0.20	122.00	425.50		103.00	406.30	
2/26/2020	459.60	0.14	118.00	421.50		102.00	405.30	
3/24/2020	470.70	3.49	126.00	429.50		104.00	407.30	
4/29/2020	467.60	3.65	125.00	428.50		105.00	408.30	
5/27/2020	459.10	0.02	120.00	423.50		104.00	407.30	
6/23/2020	447.00	0.00	112.00	415.50		100.00	403.30	
7/30/2020	434.00	0.00	103.00	406.50		95.00	398.30	
8/26/2020	417.70	0.00	92.00	395.50		90.00	393.30	
9/29/2020	403.60	0.00	82.00	385.50		82.00	385.30	
10/28/2020	404.50	0.00	82.00	385.50		83.00	386.30	
11/24/2020	413.50	0.42	86.00	389.50		84.00	387.30	
12/22/2020	408.00	1.13	82.00	385.50		82.00	385.30	
1/27/2021	435.60	2.25	100.00	403.50		79.00	382.30	
2/25/2021	457.30	0.05	118.00	421.50		98.00	401.30	
3/23/2021	465.90	1.36	122.00	425.50		102.00	405.30	
4/27/2021	462.10	0.04	121.00	424.50		102.00	405.30	
5/26/2021	455.00	0.03	118.00	421.50		101.00	404.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-1			RA-2		
Piezo. Tip Elevation -->			364.50			354.30		
Zero Gage Reading -->			61.00			51.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	106.00	409.50		95.00	398.30	
7/29/2021	423.60	0.07	97.00	400.50		91.00	394.30	
8/24/2021	408.00	0.00	88.00	391.50		86.00	389.30	
9/29/2021	398.00	0.04	80.00	383.50		80.00	383.30	
10/26/2021	417.00	0.87	91.00	394.50		85.00	388.30	
11/25/2021	427.90	0.00	98.00	401.50		89.00	392.30	
12/21/2021	427.90	4.77	111.00	414.50		95.00	398.30	
1/27/2022	467.80	0.07	126.00	429.50	at Max	104.00	407.30	
2/23/2022	464.80	0.29	124.00	427.50		103.00	406.30	
3/23/2022	464.40	1.08	124.00	427.50		103.00	406.30	
4/26/2022	467.10	0.03	126.00	429.50		105.00	408.30	
5/26/2022	464.80	0.08	126.00	429.50		105.00	408.30	
6/28/2022	457.30	0.00	121.00	424.50		103.00	406.30	
7/26/2022	440.70	0.00	110.00	413.50		97.00	400.30	
8/25/2022	429.50	0.05	103.00	406.50		94.00	397.30	
9/28/2022	410.80	0.35	90.00	393.50		87.00	390.30	
10/25/2022	407.30	0.35	86.00	389.50		84.00	387.30	
11/23/2022	427.30	0.80	98.00	401.50		88.00	391.30	
12/20/2022	441.90	2.14	108.00	411.50		94.00	397.30	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		32.00	395.90		15.00	438.00	
2/27/2007	426.80		50.00	413.90		16.00	439.00	
3/28/2007	438.80		61.00	424.90		14.00	437.00	
4/26/2007	450.90		73.00	436.90		16.00	439.00	
5/23/2007	461.40		82.00	445.90		25.00	448.00	
6/27/2007	457.20		79.00	442.90		25.00	448.00	
7/26/2007	445.50		71.00	434.90		22.00	445.00	
8/28/2007	434.60		62.00	425.90		20.00	443.00	
9/25/2007	416.80		46.00	409.90		19.00	442.00	
10/24/2007	404.50		34.00	397.90		17.00	440.00	
11/27/2007	422.20		46.00	409.90		14.00	437.00	
1/3/2008	443.20		66.00	429.90		14.00	437.00	
1/29/2008	452.20		74.00	437.90		16.00	439.00	
2/27/2008	460.80		81.00	444.90				
3/26/2008	468.00		88.00	451.90				
4/29/2008	468.60		90.00	453.90				
5/29/2008	464.70		87.00	450.90				
6/26/2008	455.70		80.00	443.90				
7/29/2008	447.30	0.00	72.00	435.90				
8/28/2008	438.80	0.00	66.00	429.90				
9/26/2008	430.70	0.00	58.00	421.90				
10/29/2008	412.50	0.00	42.00	405.90				
11/25/2008	404.70	2.60	36.00	399.90				
12/30/2008	440.90	3.42	63.00	426.90				
1/28/2009	463.70	0.17	84.50	448.40				
2/25/2009	470.10	3.35	90.00	453.90				
3/26/2009	469.40	0.19	90.00	453.90				
4/29/2009	466.90	0.07	89.00	452.90				
5/18/2009	466.70	0.00	89.00	452.90				
5/29/2009	465.00	0.00	88.00	451.90				
6/30/2009	460.20	0.00	84.00	447.90				

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	78.00	441.90				
8/25/2009	440.10	0.00	67.00	430.90				
9/30/2009	432.20	0.00	59.00	422.90				
10/29/2009	431.40	0.53	59.00	422.90				
12/1/2009	427.40	0.00	54.00	417.90				
12/29/2009	448.10	2.06	72.00	435.90				
1/27/2010	465.60	4.62	84.00	447.90				
2/25/2010	470.20	2.51	92.00	455.90				
3/29/2010	465.70	0.99	88.00	451.90				
4/4/2010	465.00		88.00	451.90				
4/27/2010	468.40	1.23	90.00	453.90				
5/27/2010	463.30	0.05	87.00	450.90				
6/30/2010	454.70	0.00	79.00	442.90				
7/28/2010	445.60	0.00	72.00	435.90				
8/31/2010	437.10	0.00	65.00	428.90				
9/29/2010	422.70	0.00	52.00	415.90				
10/27/2010	426.40	2.38	54.00	417.90				
11/29/2010	439.80	0.97	65.00	428.90				
12/30/2010	456.60	8.62	80.00	443.90				
2/1/2011	468.90	0.92	89.00	452.90				
2/23/2011	469.00	0.99	91.00	454.90				
3/29/2011	470.30	2.93	92.00	455.90				
4/27/2011	464.80	0.19	88.00	451.90				
5/26/2011	457.30	0.48	82.00	445.90				
6/28/2011	443.50	0.05	71.00	434.90				
7/29/2011	425.10	0.00	57.00	420.90				
8/24/2011	418.00	0.00	44.00	407.90				
9/27/2011	400.90	0.12	34.00	397.90		16.00	439.00	
10/26/2011	402.20	1.25	32.00	395.90		10.00	433.00	
11/30/2011	425.10	1.38	52.00	415.90		11.00	434.00	
12/21/2011	435.70	0.32	60.00	423.90		13.00	436.00	

Notes:

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2. Piezometer data based on NAVD 88 datum.



**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	66.00	429.90		10.00	433.00	
2/28/2012	448.40	0.42	70.00	433.90		14.00	437.00	
3/26/2012	452.70	1.06	76.00	439.90		15.00	438.00	
4/23/2012	463.40	1.32	86.00	449.90		0.00	423.00	
5/30/2012	457.30	0.02	82.00	445.90		0.00	423.00	
6/13/2012	452.90	0.02	78.00	441.90		0.00	423.00	
6/26/2012	450.20	0.00	78.00	441.90		0.00	423.00	
7/24/2012	439.80	0.00	68.00	431.90		0.00	423.00	
8/8/2012	437.60	0.12	66.00	429.90		0.00	423.00	
8/22/2012	433.40	0.00	62.00	425.90		0.00	423.00	
8/29/2012	431.30	0.00	60.00	423.90		0.00	423.00	
9/25/2012	420.80	0.00	52.00	415.90		11.00	434.00	
10/31/2012	412.30	0.26	43.00	406.90		14.00	437.00	
11/27/2012	420.80	0.58	49.00	412.90		15.00	438.00	
12/18/2012	448.00	1.44	72.00	435.90		11.00	434.00	
1/29/2013	468.60	1.18	90.00	453.90		0.00	423.00	
2/28/2013	469.20	0.30	91.00	454.90		0.00	423.00	
3/27/2013	468.30	0.50	90.00	453.90		0.00	423.00	
4/25/2013	462.70	0.00	86.00	449.90		0.00	423.00	
5/21/2013	454.20	0.00	79.00	442.90		0.00	423.00	
6/25/2013	439.30	0.00	66.00	429.90		0.00	423.00	
7/23/2013	431.50	0.00	60.00	423.90		0.00	423.00	
8/21/2013	418.00	0.00	49.00	412.90		0.00	423.00	
9/24/2013	404.00	0.00	37.00	400.90		17.00	440.00	
10/29/2013	400.60	0.00	34.00	397.90		16.00	439.00	
11/26/2013	407.90	0.44	38.00	401.90		14.00	437.00	
12/19/2013	425.80	0.54	53.00	416.90		11.00	434.00	
1/28/2014	439.70	0.00	65.00	428.90		12.00	435.00	
2/25/2014	449.70	0.83	74.00	437.90		16.00	439.00	
3/26/2014	465.10		87.00	450.90		0.00	423.00	
3/28/2014	465.70	1.15	88.00	451.90		0.00	423.00	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	88.00	451.90		0.00	423.00	
5/28/2014	450.60	0.00	78.00	441.90		0.00	423.00	
6/25/2014	440.10	0.00	67.00	430.90		0.00	423.00	
7/29/2014	431.20	0.00	60.00	423.90		0.00	423.00	
8/26/2014	419.50	0.02	50.00	413.90		0.00	423.00	
9/23/2014	405.30	0.00	38.00	401.90		15.00	438.00	
10/29/2014	400.90	0.00	44.00	407.90		16.00	439.00	
11/25/2014	410.90	0.25	40.00	403.90		18.00	441.00	
12/30/2014	430.60	2.94	56.00	419.90		11.00	434.00	
1/27/2015	466.70	0.83	88.00	451.90		0.00	423.00	
2/25/2015	468.90	0.69	90.00	453.90		0.00	423.00	
3/26/2015	465.90	0.61	88.00	451.90		0.00	423.00	
4/28/2015	465.70	0.20	89.00	452.90		0.00	423.00	
5/28/2015	466.40	1.08	88.00	451.90		0.00	423.00	
6/30/2015	454.50	0.00	80.00	443.90		0.00	423.00	
7/28/2015	445.60	0.00	71.00	434.90		0.00	423.00	
8/28/2015	437.60	0.00	65.00	428.90		0.00	423.00	
9/24/2015	426.90	1.51	56.00	419.90		0.00	423.00	
10/27/2015	415.40	0.49	46.00	409.90		0.00	423.00	
11/19/2015	412.90	0.09	43.00	406.90		17.00	440.00	
12/22/2015	425.50	0.69	54.00	417.90		12.00	435.00	
1/27/2016	463.60	2.86	85.00	448.90		0.00	423.00	
2/25/2016	468.90	0.25	91.00	454.90		0.00	423.00	
3/30/2016	468.00	1.44	90.00	453.90		0.00	423.00	
4/28/2016	461.30	0.30	84.00	447.90		0.00	423.00	
5/25/2016	451.30	0.18	76.00	439.90		0.00	423.00	
6/28/2016	414.10	0.00	70.00	433.90		0.00	423.00	
7/27/2016	434.20	0.00	62.00	425.90		0.00	423.00	
8/23/2016	418.60	0.00	49.00	412.90		0.00	423.00	
9/27/2016	406.40	0.00	38.00	401.90		12.00	435.00	
10/26/2016	404.00	0.48	34.00	397.90		14.00	437.00	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	42.00	405.90		14.00	437.00	
12/20/2016	441.10	3.48	66.00	429.90		16.00	439.00	
1/26/2017	471.60	5.67	91.00	454.90		0.00	423.00	
2/24/2017	472.05	3.95	92.00	455.90		0.00	423.00	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		92.00	455.90		0.00	423.00	
2/28/2017	471.90		92.00	455.90		0.00	423.00	
3/1/2017	471.90		93.00	456.90		0.00	423.00	
3/2/2017	471.90		92.00	455.90		0.00	423.00	
3/29/2017	467.90	0.10	90.00	453.90		0.00	423.00	
4/27/2017	457.60	0.04	82.00	445.90		0.00	423.00	
5/23/2017	453.50	0.43	78.00	441.90		0.00	423.00	
6/21/2017	447.40	0.00	70.00	433.90		0.00	423.00	
7/26/2017	435.10	0.00	63.00	426.90		0.00	423.00	
8/25/2017	420.10	0.00	49.00	412.90		0.00	423.00	
9/27/2017	407.10	0.00	38.00	401.90		0.00	423.00	
10/26/2017	395.00	0.00	27.00	390.90		14.00	437.00	
11/28/2017	409.00	0.09	38.00	401.90		12.00	435.00	
12/20/2017	416.80	0.00	44.00	407.90		13.00	436.00	
1/24/2018	434.50	1.31	56.00	419.90		12.00	435.00	
2/21/2018	443.10	0.29	68.00	431.90		13.00	436.00	
3/29/2018	453.00	1.28	75.00	438.90		0.00	423.00	
4/26/2018	449.10	0.05	73.00	436.90		0.00	423.00	
5/31/2018	453.10	0.20	77.00	440.90		0.00	423.00	
6/28/2018	448.20	0.00	74.00	437.90		0.00	423.00	
7/25/2018	440.40	0.00	67.00	430.90		0.00	423.00	
8/22/2018	427.10	0.00	56.00	419.90		0.00	423.00	
9/27/2018	439.60	0.00	38.00	401.90		14.00	437.00	
10/18/2018	405.30	0.90	36.00	399.90		13.00	436.00	
11/28/2018	408.60	1.19	38.00	401.90		12.00	435.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	60.00	423.90		14.00	437.00	
1/30/2019	463.80	4.71	86.00	449.90		0.00	423.00	
2/27/2019	466.20	6.55	88.00	451.90		0.00	423.00	
3/27/2019	463.30	1.34	0.00	363.90	Omitted	0.00	423.00	
4/29/2019	453.00	0.13	78.00	441.90		0.00	423.00	
5/30/2019	451.80	0.64	76.00	439.90		0.00	423.00	
6/26/2019	446.20	0.01	72.00	435.90		0.00	423.00	
7/5/2019	39.40	0.00	68.00	431.90		0.00	423.00	
7/30/2019	434.80	0.00	63.00	426.90		0.00	423.00	
8/27/2019	424.40	0.00	54.00	417.90		18.00	441.00	
9/26/2019	405.60	0.00	36.00	399.90		17.00	440.00	
10/22/2019	400.50	0.00	32.00	395.90		18.00	441.00	
11/26/2019	412.80	3.13	40.00	403.90		16.00	439.00	
12/18/2019	447.40	4.44	71.00	434.90		12.00	435.00	
1/28/2020	465.40	0.20	85.00	448.90		0.00	423.00	
2/26/2020	459.60	0.14	84.00	447.90		0.00	423.00	
3/24/2020	470.70	3.49	91.00	454.90		0.00	423.00	
4/29/2020	467.60	3.65	89.00	452.90		0.00	423.00	
5/27/2020	459.10	0.02	82.00	445.90		0.00	423.00	
6/23/2020	447.00	0.00	72.00	435.90		0.00	423.00	
7/30/2020	434.00	0.00	62.00	425.90		0.00	423.00	
8/26/2020	417.70	0.00	45.00	408.90		0.00	423.00	
9/29/2020	403.60	0.00	37.00	400.90		18.00	441.00	
10/28/2020	404.50	0.00	32.00	395.90		15.00	438.00	
11/24/2020	413.50	0.42	40.00	403.90		18.00	441.00	
12/22/2020	408.00	1.13	36.00	399.90		14.00	437.00	
1/27/2021	435.60	2.25	62.00	425.90		14.00	437.00	
2/25/2021	457.30	0.05	80.00	443.90		0.00	423.00	
3/23/2021	465.90	1.36	87.00	450.90		0.00	423.00	
4/27/2021	462.10	0.04	83.00	446.90		0.00	423.00	
5/26/2021	455.00	0.03	79.00	442.90		0.00	423.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			RA-3			RA-4		
Piezo. Tip Elevation -->			390.80			441.00		
Zero Gage Reading -->			26.90			18.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	64.00	427.90		0.00	423.00	
7/29/2021	423.60	0.07	52.00	415.90		0.00	423.00	
8/24/2021	408.00	0.00	39.00	402.90		0.00	423.00	
9/29/2021	398.00	0.04	29.00	392.90		17.00	440.00	
10/26/2021	417.00	0.87	45.00	408.90		17.00	440.00	
11/25/2021	427.90	0.00	56.00	419.90		18.00	441.00	
12/21/2021	427.90	4.77	70.00	433.90		14.00	437.00	
1/27/2022	467.80	0.07	88.00	451.90		0.00		Zero reading
2/23/2022	464.80	0.29	86.00	449.90		0.00		Zero reading
3/23/2022	464.40	1.08	84.00	447.90		0.00		Zero reading
4/26/2022	467.10	0.03	88.00	451.90		0.00		Zero reading
5/26/2022	464.80	0.08	88.00	451.90		0.00		Zero reading
6/28/2022	457.30	0.00	82.00	445.90		0.00		Zero reading
7/26/2022	440.70	0.00	67.00	430.90		0.00		Zero reading
8/25/2022	429.50	0.05	58.00	421.90		0.00		Zero reading
9/28/2022	410.80	0.35	42.00	405.90		0.00		Zero reading
10/25/2022	407.30	0.35	36.00	399.90		0.00		Zero reading
11/23/2022	427.30	0.80	54.00	417.90		0.00		Zero reading
12/20/2022	441.90	2.14	64.00	427.90		0.00		Zero reading

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		57.00	359.70		43.00	345.70	
2/27/2007	426.80		58.00	360.70		44.00	346.70	
3/28/2007	438.80		58.00	360.70		44.00	346.70	
4/26/2007	450.90		57.00	359.70		44.00	346.70	
5/23/2007	461.40		58.00	360.70		45.00	347.70	
6/27/2007	457.20		59.00	361.70		46.00	348.70	
7/26/2007	445.50		59.00	361.70		45.00	347.70	
8/28/2007	434.60		59.00	361.70		46.00	348.70	
9/25/2007	416.80		58.00	360.70		46.00	348.70	
10/24/2007	404.50		58.00	360.70		45.00	347.70	
11/27/2007	422.20		58.00	360.70		44.00	346.70	
1/3/2008	443.20		59.00	361.70		46.00	348.70	
1/29/2008	452.20		59.00	361.70		46.00	348.70	
2/27/2008	460.80		59.00	361.70		47.00	349.70	
3/26/2008	468.00		59.00	361.70		47.00	349.70	
4/29/2008	468.60		59.50	362.20		47.80	350.50	
5/29/2008	464.70		59.00	361.70		47.00	349.70	
6/26/2008	455.70		59.00	361.70		48.00	350.70	
7/29/2008	447.30	0.00	59.00	361.70		48.00	350.70	
8/28/2008	438.80	0.00	60.00	362.70		50.00	352.70	
9/26/2008	430.70	0.00	62.00	364.70		49.00	351.70	
10/29/2008	412.50	0.00	60.00	362.70		48.00	350.70	
11/25/2008	404.70	2.60	60.00	362.70		48.00	350.70	
12/30/2008	440.90	3.42	60.00	362.70		48.00	350.70	
1/28/2009	463.70	0.17	60.50	363.20		48.00	350.70	
2/25/2009	470.10	3.35	61.00	363.70		49.00	351.70	
3/26/2009	469.40	0.19	62.00	364.70		50.00	352.70	
4/29/2009	466.90	0.07	62.00	364.70		49.00	351.70	
5/18/2009	466.70	0.00	63.00	365.70		50.00	352.70	
5/29/2009	465.00	0.00	60.00	362.70		50.00	352.70	
6/30/2009	460.20	0.00	62.00	364.70		50.00	352.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	63.00	365.70		51.00	353.70	
8/25/2009	440.10	0.00	62.00	364.70		51.00	353.70	
9/30/2009	432.20	0.00	62.00	364.70		50.00	352.70	
10/29/2009	431.40	0.53	64.00	366.70		51.00	353.70	
12/1/2009	427.40	0.00	63.00	365.70		50.00	352.70	
12/29/2009	448.10	2.06	64.00	366.70		50.00	352.70	
1/27/2010	465.60	4.62	64.00	366.70		51.00	353.70	
2/25/2010	470.20	2.51	64.00	366.70		51.00	353.70	
3/29/2010	465.70	0.99	65.00	367.70		51.00	353.70	
4/4/2010	465.00		65.00	367.70		52.00	354.70	
4/27/2010	468.40	1.23	64.00	366.70		51.00	353.70	
5/27/2010	463.30	0.05	64.00	366.70		52.00	354.70	
6/30/2010	454.70	0.00	64.00	366.70		52.00	354.70	
7/28/2010	445.60	0.00	65.00	367.70		52.00	354.70	
8/31/2010	437.10	0.00	65.00	367.70		52.00	354.70	
9/29/2010	422.70	0.00	65.00	367.70		51.00	353.70	
10/27/2010	426.40	2.38	65.00	367.70		52.00	354.70	
11/29/2010	439.80	0.97	64.00	366.70		51.00	353.70	
12/30/2010	456.60	8.62	65.00	367.70		52.00	354.70	
2/1/2011	468.90	0.92	67.00	369.70		52.00	354.70	
2/23/2011	469.00	0.99	67.00	369.70		52.00	354.70	
3/29/2011	470.30	2.93	66.00	368.70		52.00	354.70	
4/27/2011	464.80	0.19	67.00	369.70		52.00	354.70	
5/26/2011	457.30	0.48	67.00	369.70		53.00	355.70	
6/28/2011	443.50	0.05	67.00	369.70		53.00	355.70	
7/29/2011	425.10	0.00	66.00	368.70		52.00	354.70	
8/24/2011	418.00	0.00	66.00	368.70		51.00	353.70	
9/27/2011	400.90	0.12	64.00	366.70		50.00	352.70	
10/26/2011	402.20	1.25	64.00	366.70		50.00	352.70	
11/30/2011	425.10	1.38	63.00	365.70		51.00	353.70	
12/21/2011	435.70	0.32	64.00	366.70		51.00	353.70	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	64.00	366.70		50.00	352.70	
2/28/2012	448.40	0.42	62.00	364.70		50.00	352.70	
3/26/2012	452.70	1.06	64.00	366.70		50.00	352.70	
4/23/2012	463.40	1.32	64.00	366.70		50.00	352.70	
5/30/2012	457.30	0.02	65.00	367.70		51.00	353.70	
6/13/2012	452.90	0.02	65.00	367.70		50.00	352.70	
6/26/2012	450.20	0.00	64.00	366.70		50.00	352.70	
7/24/2012	439.80	0.00	64.00	366.70		50.00	352.70	
8/8/2012	437.60	0.12	64.00	366.70		51.00	353.70	
8/22/2012	433.40	0.00	65.00	367.70		50.00	352.70	
8/29/2012	431.30	0.00	65.00	367.70		50.00	352.70	
9/25/2012	420.80	0.00	63.00	365.70		51.00	353.70	
10/31/2012	412.30	0.26	64.00	366.70		50.00	352.70	
11/27/2012	420.80	0.58	62.00	364.70		50.00	352.70	
12/18/2012	448.00	1.44	64.00	366.70		50.00	352.70	
1/29/2013	468.60	1.18	66.00	368.70		50.00	352.70	
2/28/2013	469.20	0.30	67.00	369.70		52.00	354.70	
3/27/2013	468.30	0.50	66.00	368.70		51.00	353.70	
4/25/2013	462.70	0.00	64.00	366.70		50.00	352.70	
5/21/2013	454.20	0.00	66.00	368.70		52.00	354.70	
6/25/2013	439.30	0.00	66.00	368.70		51.00	353.70	
7/23/2013	431.50	0.00	66.00	368.70		51.00	353.70	
8/21/2013	418.00	0.00	66.00	368.70		51.00	353.70	
9/24/2013	404.00	0.00	64.00	366.70		50.00	352.70	
10/29/2013	400.60	0.00	64.00	366.70		50.00	352.70	
11/26/2013	407.90	0.44	63.00	365.70		48.00	350.70	
12/19/2013	425.80	0.54	63.00	365.70		50.00	352.70	
1/28/2014	439.70	0.00	64.00	366.70		50.00	352.70	
2/25/2014	449.70	0.83	63.00	365.70		50.00	352.70	
3/26/2014	465.10		65.00	367.70		51.00	353.70	
3/28/2014	465.70	1.15	65.00	367.70		50.00	352.70	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	66.00	368.70		51.00	353.70	
5/28/2014	450.60	0.00	65.00	367.70		51.00	353.70	
6/25/2014	440.10	0.00	65.00	367.70		50.00	352.70	
7/29/2014	431.20	0.00	65.00	367.70		50.00	352.70	
8/26/2014	419.50	0.02	66.00	368.70		50.00	352.70	
9/23/2014	405.30	0.00	65.00	367.70		49.00	351.70	
10/29/2014	400.90	0.00	64.00	366.70		50.00	352.70	
11/25/2014	410.90	0.25	63.00	365.70		49.00	351.70	
12/30/2014	430.60	2.94	63.00	365.70		49.00	351.70	
1/27/2015	466.70	0.83	65.00	367.70		50.00	352.70	
2/25/2015	468.90	0.69	66.00	368.70		50.00	352.70	
3/26/2015	465.90	0.61	66.00	368.70		51.00	353.70	
4/28/2015	465.70	0.20	66.00	368.70		51.00	353.70	
5/28/2015	466.40	1.08	66.00	368.70		52.00	354.70	
6/30/2015	454.50	0.00	67.00	369.70		52.00	354.70	
7/28/2015	445.60	0.00	65.00	367.70		51.00	353.70	
8/28/2015	437.60	0.00	67.00	369.70		52.00	354.70	
9/24/2015	426.90	1.51	65.00	367.70		51.00	353.70	
10/27/2015	415.40	0.49	66.00	368.70		52.00	354.70	
11/19/2015	412.90	0.09	65.00	367.70		51.00	353.70	
12/22/2015	425.50	0.69	65.00	367.70		51.00	353.70	
1/27/2016	463.60	2.86	66.00	368.70		52.00	354.70	
2/25/2016	468.90	0.25	66.00	368.70		52.00	354.70	
3/30/2016	468.00	1.44	66.00	368.70		52.00	354.70	
4/28/2016	461.30	0.30	66.00	368.70		52.00	354.70	
5/25/2016	451.30	0.18	66.00	368.70		52.00	354.70	
6/28/2016	414.10	0.00	66.00	368.70		52.00	354.70	
7/27/2016	434.20	0.00	65.00	367.70		52.00	354.70	
8/23/2016	418.60	0.00	66.00	368.70		52.00	354.70	
9/27/2016	406.40	0.00	66.00	368.70		51.00	353.70	
10/26/2016	404.00	0.48	64.00	366.70		54.00	356.70	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	64.00	366.70		50.00	352.70	
12/20/2016	441.10	3.48	64.00	366.70		51.00	353.70	
1/26/2017	471.60	5.67	66.00	368.70		51.00	353.70	
2/24/2017	472.05	3.95	66.00	368.70		52.00	354.70	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		67.00	369.70		52.00	354.70	
2/28/2017	471.90		67.00	369.70		53.00	355.70	
3/1/2017	471.90		67.00	369.70		52.00	354.70	
3/2/2017	471.90		67.00	369.70		52.00	354.70	
3/29/2017	467.90	0.10	67.00	369.70		53.00	355.70	
4/27/2017	457.60	0.04	67.00	369.70		53.00	355.70	
5/23/2017	453.50	0.43	66.00	368.70		52.00	354.70	
6/21/2017	447.40	0.00	64.00	366.70		52.00	354.70	
7/26/2017	435.10	0.00	67.00	369.70		52.00	354.70	
8/25/2017	420.10	0.00	66.00	368.70		52.00	354.70	
9/27/2017	407.10	0.00	66.00	368.70		52.00	354.70	
10/26/2017	395.00	0.00	65.00	367.70		51.00	353.70	
11/28/2017	409.00	0.09	62.00	364.70		50.00	352.70	
12/20/2017	416.80	0.00	64.00	366.70		50.00	352.70	
1/24/2018	434.50	1.31	60.00	362.70		50.00	352.70	
2/21/2018	443.10	0.29	64.00	366.70		51.00	353.70	
3/29/2018	453.00	1.28	62.00	364.70		50.00	352.70	
4/26/2018	449.10	0.05	64.00	366.70		51.00	353.70	
5/31/2018	453.10	0.20	65.00	367.70		51.00	353.70	
6/28/2018	448.20	0.00	65.00	367.70		52.00	354.70	
7/25/2018	440.40	0.00	64.00	366.70		51.00	353.70	
8/22/2018	427.10	0.00	65.00	367.70		51.00	353.70	
9/27/2018	439.60	0.00	62.00	364.70		49.00	351.70	
10/18/2018	405.30	0.90	65.00	367.70		50.00	352.70	
11/28/2018	408.60	1.19	65.00	367.70		50.00	352.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	62.00	364.70		50.00	352.70	
1/30/2019	463.80	4.71	66.00	368.70		52.00	354.70	
2/27/2019	466.20	6.55	66.00	368.70		52.00	354.70	
3/27/2019	463.30	1.34	64.00	366.70		50.00	352.70	
4/29/2019	453.00	0.13	66.00	368.70		52.00	354.70	
5/30/2019	451.80	0.64	66.00	368.70		52.00	354.70	
6/26/2019	446.20	0.01	66.00	368.70		52.00	354.70	
7/5/2019	39.40	0.00	65.00	367.70		50.00	352.70	
7/30/2019	434.80	0.00	66.00	368.70		52.00	354.70	
8/27/2019	424.40	0.00	66.00	368.70		52.00	354.70	
9/26/2019	405.60	0.00	65.00	367.70		51.00	353.70	
10/22/2019	400.50	0.00	62.00	364.70		52.00	354.70	
11/26/2019	412.80	3.13	64.00	366.70		50.00	352.70	
12/18/2019	447.40	4.44	65.00	367.70		51.00	353.70	
1/28/2020	465.40	0.20	64.00	366.70		52.00	354.70	
2/26/2020	459.60	0.14	66.00	368.70		52.00	354.70	
3/24/2020	470.70	3.49	65.00	367.70		52.00	354.70	
4/29/2020	467.60	3.65	67.00	369.70		53.00	355.70	
5/27/2020	459.10	0.02	65.00	367.70		53.00	355.70	
6/23/2020	447.00	0.00	65.00	367.70		52.00	354.70	
7/30/2020	434.00	0.00	67.00	369.70		43.00	345.70	Omitted
8/26/2020	417.70	0.00	64.00	366.70		50.00	352.70	
9/29/2020	403.60	0.00	65.00	367.70		51.00	353.70	
10/28/2020	404.50	0.00	65.00	367.70		51.00	353.70	
11/24/2020	413.50	0.42	61.00	363.70		50.00	352.70	
12/22/2020	408.00	1.13	65.00	367.70		50.00	352.70	
1/27/2021	435.60	2.25	64.00	366.70		50.00	352.70	
2/25/2021	457.30	0.05	65.00	367.70		52.00	354.70	
3/23/2021	465.90	1.36	65.00	367.70		51.00	353.70	
4/27/2021	462.10	0.04	63.00	365.70		50.00	352.70	
5/26/2021	455.00	0.03	66.00	368.70		52.00	354.70	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-1			LR-2		
Piezo. Tip Elevation -->			356.30			340.30		
Zero Gage Reading -->			53.60			37.60		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	65.00	367.70		50.00	352.70	
7/29/2021	423.60	0.07	66.00	368.70		51.00	353.70	
8/24/2021	408.00	0.00	66.00	368.70		51.00	353.70	
9/29/2021	398.00	0.04	62.00	364.70		48.00	350.70	
10/26/2021	417.00	0.87	64.00	366.70		49.00	351.70	
11/25/2021	427.90	0.00	65.00	367.70		50.00	352.70	
12/21/2021	427.90	4.77	62.00	364.70		50.00	352.70	
1/27/2022	467.80	0.07	64.00	366.70		50.00	352.70	
2/23/2022	464.80	0.29	66.00	368.70		52.00	354.70	
3/23/2022	464.40	1.08	64.00	366.70		50.00	352.70	
4/26/2022	467.10	0.03	64.00	366.70		51.00	353.70	
5/26/2022	464.80	0.08	66.00	368.70		52.00	354.70	
6/28/2022	457.30	0.00	67.00	369.70	at Hist max	53.00	355.70	
7/26/2022	440.70	0.00	66.00	368.70		52.00	354.70	
8/25/2022	429.50	0.05	66.00	368.70		52.00	354.70	
9/28/2022	410.80	0.35	68.00	370.70	above Hist max	52.00	354.70	
10/25/2022	407.30	0.35	64.00	366.70		50.00	352.70	
11/23/2022	427.30	0.80	65.00	367.70		51.00	353.70	
12/20/2022	441.90	2.14	64.00	366.70		51.00	353.70	

Notes:  
1. Readings in red are classified as erroneous.  
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	405.80		37.00	400.30		12.00	435.00	
2/27/2007	426.80		50.00	413.30		12.00	435.00	
3/28/2007	438.80		72.00	435.30		12.00	435.00	
4/26/2007	450.90		85.00	448.30		20.00	443.00	
5/23/2007	461.40		96.00	459.30		32.00	455.00	
6/27/2007	457.20		92.00	455.30		26.00	449.00	
7/26/2007	445.50		80.00	443.30		17.00	440.00	
8/28/2007	434.60		69.00	432.30		13.00	436.00	
9/25/2007	416.80		50.00	413.30		12.00	435.00	
10/24/2007	404.50		35.00	398.30		13.00	436.00	
11/27/2007	422.20		54.00	417.30		12.00	435.00	
1/3/2008	443.20		78.00	441.30		12.00	435.00	
1/29/2008	452.20		86.00	449.30		22.00	445.00	
2/27/2008	460.80		96.00	459.30		31.00	454.00	
3/26/2008	468.00		102.00	465.30		36.00	459.00	
4/29/2008	468.60		104.00	467.30		40.00	463.00	
5/29/2008	464.70		100.00	463.30		36.00	459.00	
6/26/2008	455.70		90.00	453.30		26.00	449.00	
7/29/2008	447.30	0.00	81.00	444.30		19.00	442.00	
8/28/2008	438.80	0.00	74.00	437.30		12.00	435.00	
9/26/2008	430.70	0.00	65.00	428.30		13.00	436.00	
10/29/2008	412.50	0.00	44.00	407.30		12.00	435.00	
11/25/2008	404.70	2.60	36.00	399.30		12.00	435.00	
12/30/2008	440.90	3.42	75.00	438.30		12.00	435.00	
1/28/2009	463.70	0.17	98.00	461.30		34.00	457.00	
2/25/2009	470.10	3.35	105.00	468.30		36.00	459.00	
3/26/2009	469.40	0.19	105.00	468.30		40.50	463.50	
4/29/2009	466.90	0.07	102.00	465.30		38.00	461.00	
5/18/2009	466.70	0.00	102.00	465.30		38.00	461.00	
5/29/2009	465.00	0.00	100.00	463.30		35.00	458.00	
6/30/2009	460.20	0.00	95.00	458.30		31.00	454.00	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/30/2009	451.10	0.00	86.00	449.30		22.00	445.00	
8/25/2009	440.10	0.00	74.00	437.30		14.00	437.00	
9/30/2009	432.20	0.00	64.00	427.30		11.00	434.00	
10/29/2009	431.40	0.53	65.00	428.30		12.00	435.00	
12/1/2009	427.40	0.00	60.00	423.30		11.00	434.00	
12/29/2009	448.10	2.06	82.00	445.30		16.00	439.00	
1/27/2010	465.60	4.62	102.00	465.30		36.00	459.00	
2/25/2010	470.20	2.51	106.00	469.30		37.00	460.00	
3/29/2010	465.70	0.99	101.00	464.30		37.00	460.00	
4/4/2010	465.00		100.00	463.30		36.00	459.00	
4/27/2010	468.40	1.23	103.00	466.30		36.00	459.00	
5/27/2010	463.30	0.05	99.00	462.30		34.00	457.00	
6/30/2010	454.70	0.00	89.00	452.30		24.00	447.00	
7/28/2010	445.60	0.00	80.00	443.30		16.00	439.00	
8/31/2010	437.10	0.00	71.00	434.30		12.00	435.00	
9/29/2010	422.70	0.00	56.00	419.30		12.00	435.00	
10/27/2010	426.40	2.38	60.00	423.30		12.00	435.00	
11/29/2010	439.80	0.97	74.00	437.30		10.00	433.00	
12/30/2010	456.60	8.62	92.00	455.30		26.00	449.00	
2/1/2011	468.90	0.92	102.00	465.30		37.00	460.00	
2/23/2011	469.00	0.99	105.00	468.30		38.00	461.00	
3/29/2011	470.30	2.93	106.00	469.30		40.00	463.00	
4/27/2011	464.80	0.19	100.00	463.30		36.00	459.00	
5/26/2011	457.30	0.48	92.00	455.30		29.00	452.00	
6/28/2011	443.50	0.05	78.00	441.30		16.00	439.00	
7/29/2011	425.10	0.00	62.00	425.30		10.00	433.00	
8/24/2011	418.00	0.00	44.00	407.30		12.00	435.00	
9/27/2011	400.90	0.12	32.00	395.30		12.00	435.00	
10/26/2011	402.20	1.25	32.00	395.30		10.00	433.00	
11/30/2011	425.10	1.38	58.00	421.30		12.00	435.00	
12/21/2011	435.70	0.32	69.00	432.30		12.00	435.00	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/24/2012	441.40	0.53	75.00	438.30		11.00	434.00	
2/28/2012	448.40	0.42	80.00	443.30		16.00	439.00	
3/26/2012	452.70	1.06	83.00	446.30		21.00	444.00	
4/23/2012	463.40	1.32	99.00	462.30		30.00	453.00	
5/30/2012	457.30	0.02	92.00	455.30		28.00	451.00	
6/13/2012	452.90	0.02	88.00	451.30		24.00	447.00	
6/26/2012	450.20	0.00	86.00	449.30		22.00	445.00	
7/24/2012	439.80	0.00	75.00	438.30		14.00	437.00	
8/8/2012	437.60	0.12	72.00	435.30		12.00	435.00	
8/22/2012	433.40	0.00	67.00	430.30		16.00	439.00	
8/29/2012	431.30	0.00	66.00	429.30		12.00	435.00	
9/25/2012	420.80	0.00	58.00	421.30		12.00	435.00	
10/31/2012	412.30	0.26	44.00	407.30		12.00	435.00	
11/27/2012	420.80	0.58	51.00	414.30		11.00	434.00	
12/18/2012	448.00	1.44	81.00	444.30		15.00	438.00	
1/29/2013	468.60	1.18	104.00	467.30		38.00	461.00	
2/28/2013	469.20	0.30	105.00	468.30		39.00	462.00	
3/27/2013	468.30	0.50	104.00	467.30		38.00	461.00	
4/25/2013	462.70	0.00	98.00	461.30		34.00	457.00	
5/21/2013	454.20	0.00	89.00	452.30		26.00	449.00	
6/25/2013	439.30	0.00	74.00	437.30		12.00	435.00	
7/23/2013	431.50	0.00	65.00	428.30		10.00	433.00	
8/21/2013	418.00	0.00	52.00	415.30		11.00	434.00	
9/24/2013	404.00	0.00	37.00	400.30		11.00	434.00	
10/29/2013	400.60	0.00	33.00	396.30		10.00	433.00	
11/26/2013	407.90	0.44	40.00	403.30		11.00	434.00	
12/19/2013	425.80	0.54	59.00	422.30		11.00	434.00	
1/28/2014	439.70	0.00	73.00	436.30		10.00	433.00	
2/25/2014	449.70	0.83	84.00	447.30		20.00	443.00	
3/26/2014	465.10		100.00	463.30		37.00	460.00	
3/28/2014	465.70	1.15	101.00	464.30		38.00	461.00	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
4/29/2014	465.30	0.43	102.00	465.30		38.00	461.00	
5/28/2014	450.60	0.00	86.00	449.30		24.00	447.00	
6/25/2014	440.10	0.00	77.00	440.30		14.00	437.00	
7/29/2014	431.20	0.00	65.00	428.30		11.00	434.00	
8/26/2014	419.50	0.02	53.00	416.30		11.00	434.00	
9/23/2014	405.30	0.00	37.00	400.30		10.00	433.00	
10/29/2014	400.90	0.00	33.00	396.30		10.00	433.00	
11/25/2014	410.90	0.25	43.00	406.30		10.00	433.00	
12/30/2014	430.60	2.94	62.00	425.30		10.00	433.00	
1/27/2015	466.70	0.83	101.00	464.30		36.00	459.00	
2/25/2015	468.90	0.69	103.00	466.30		42.00	465.00	
3/26/2015	465.90	0.61	101.00	464.30		39.00	462.00	
4/28/2015	465.70	0.20	102.00	465.30		39.00	462.00	
5/28/2015	466.40	1.08	102.00	465.30		38.00	461.00	
6/30/2015	454.50	0.00	90.00	453.30		27.00	450.00	
7/28/2015	445.60	0.00	80.00	443.30		19.00	442.00	
8/28/2015	437.60	0.00	73.00	436.30		12.00	435.00	
9/24/2015	426.90	1.51	60.00	423.30		10.00	433.00	
10/27/2015	415.40	0.49	48.00	411.30		11.00	434.00	
11/19/2015	412.90	0.09	45.00	408.30		10.00	433.00	
12/22/2015	425.50	0.69	59.00	422.30		10.00	433.00	
1/27/2016	463.60	2.86	99.00	462.30		36.00	459.00	
2/25/2016	468.90	0.25	105.00	468.30		42.00	465.00	
3/30/2016	468.00	1.44	104.00	467.30		42.00	465.00	
4/28/2016	461.30	0.30	96.00	459.30		34.00	457.00	
5/25/2016	451.30	0.18	86.00	449.30		24.00	447.00	
6/28/2016	414.10	0.00	78.00	441.30		17.00	440.00	
7/27/2016	434.20	0.00	68.00	431.30		11.00	434.00	
8/23/2016	418.60	0.00	52.00	415.30		10.00	433.00	
9/27/2016	406.40	0.00	39.00	402.30		10.00	433.00	
10/26/2016	404.00	0.48	36.00	399.30		8.00	431.00	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/22/2016	413.60	1.13	46.00	409.30		7.00	430.00	
12/20/2016	441.10	3.48	75.00	438.30		8.00	431.00	
1/26/2017	471.60	5.67	105.00	468.30		41.00	464.00	
2/24/2017	472.05	3.95	108.00	471.30		44.00	467.00	
2/25/2017	472.00							
2/26/2017	472.00							
2/27/2017	472.00		107.00	470.30		43.00	466.00	
2/28/2017	471.90		107.00	470.30		44.00	467.00	
3/1/2017	471.90		108.00	471.30		43.00	466.00	
3/2/2017	471.90		108.00	471.30		43.00	466.00	
3/29/2017	467.90	0.10	102.00	465.30		38.00	461.00	
4/27/2017	457.60	0.04	93.00	456.30		28.00	451.00	
5/23/2017	453.50	0.43	88.00	451.30		23.00	446.00	
6/21/2017	447.40	0.00	80.00	443.30		15.00	438.00	
7/26/2017	435.10	0.00	70.00	433.30		10.00	433.00	
8/25/2017	420.10	0.00	53.00	416.30		9.00	432.00	
9/27/2017	407.10	0.00	40.00	403.30		8.00	431.00	
10/26/2017	395.00	0.00	24.00	387.30		6.00	429.00	
11/28/2017	409.00	0.09	41.00	404.30		5.00	428.00	
12/20/2017	416.80	0.00	46.00	409.30		6.00	429.00	
1/24/2018	434.50	1.31	64.00	427.30		2.00	425.00	
2/21/2018	443.10	0.29	77.00	440.30		9.00	432.00	
3/29/2018	453.00	1.28	84.00	447.30		21.00	444.00	
4/26/2018	449.10	0.05	84.00	447.30		18.00	441.00	
5/31/2018	453.10	0.20	88.00	451.30		21.00	444.00	
6/28/2018	448.20	0.00	84.00	447.30		17.00	440.00	
7/25/2018	440.40	0.00	76.00	439.30		12.00	435.00	
8/22/2018	427.10	0.00	61.00	424.30		10.00	433.00	
9/27/2018	439.60	0.00	39.00	402.30		4.00	427.00	
10/18/2018	405.30	0.90	37.00	400.30		4.00	427.00	
11/28/2018	408.60	1.19	40.00	403.30		3.00	426.00	

Notes:

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**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/19/2018	436.00	1.99	68.00	431.30		2.00	425.00	
1/30/2019	463.80	4.71	100.00	463.30		30.00	453.00	
2/27/2019	466.20	6.55	102.00	465.30		0.00	423.00	
3/27/2019	463.30	1.34	100.00	463.30		30.00	453.00	
4/29/2019	453.00	0.13	90.00	453.30		18.00	441.00	
5/30/2019	451.80	0.64	87.00	450.30		16.00	439.00	
6/26/2019	446.20	0.01	81.00	444.30		10.00	433.00	
7/5/2019	39.40	0.00	77.00	440.30		2.00	425.00	
7/30/2019	434.80	0.00	69.00	432.30		0.00	423.00	
8/27/2019	424.40	0.00	58.00	421.30		0.00	423.00	
9/26/2019	405.60	0.00	37.00	400.30		0.00	423.00	
10/22/2019	400.50	0.00	32.00	395.30		0.00	423.00	
11/26/2019	412.80	3.13	44.00	407.30		0.00	423.00	
12/18/2019	447.40	4.44	78.00	441.30		10.00	433.00	
1/28/2020	465.40	0.20	98.00	461.30		28.00	451.00	
2/26/2020	459.60	0.14	96.00	459.30		24.00	447.00	
3/24/2020	470.70	3.49	106.00	469.30		36.00	459.00	
4/29/2020	467.60	3.65	103.00	466.30		33.00	456.00	
5/27/2020	459.10	0.02	94.00	457.30		30.00	453.00	
6/23/2020	447.00	0.00	82.00	445.30		14.00	437.00	
7/30/2020	434.00	0.00	69.00	432.30		12.00	435.00	
8/26/2020	417.70	0.00	48.00	411.30		10.00	433.00	
9/29/2020	403.60	0.00	39.00	402.30		6.00	429.00	
10/28/2020	404.50	0.00	32.00	395.30		3.00	426.00	
11/24/2020	413.50	0.42	44.00	407.30		0.00	423.00	
12/22/2020	408.00	1.13	38.00	401.30		0.00	423.00	
1/27/2021	435.60	2.25	70.00	433.30		0.00	423.00	
2/25/2021	457.30	0.05	91.00	454.30		27.00	450.00	
3/23/2021	465.90	1.36	100.00	463.30		35.00	458.00	
4/27/2021	462.10	0.04	98.00	461.30		22.00	445.00	
5/26/2021	455.00	0.03	90.00	453.30		26.00	449.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 7  
SAN JOAQUIN DAM  
PNEUMATIC PIEZOMETER MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Pneumatic Piezo. -->			LR-3			LR-4		
Piezo. Tip Elevation -->			390.10			440.00		
Zero Gage Reading -->			26.80			17.00		
Date	Reservoir Elevation (ft)	Monthly Rainfall	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/30/2021	437.90	0.00	72.00	435.30		14.00	437.00	
7/29/2021	423.60	0.07	56.00	419.30		13.00	436.00	
8/24/2021	408.00	0.00	40.00	403.30		14.00	437.00	
9/29/2021	398.00	0.04	28.00	391.30		9.00	432.00	
10/26/2021	417.00	0.87	49.00	412.30		9.00	432.00	
11/25/2021	427.90	0.00	60.00	423.30		8.00	431.00	
12/21/2021	427.90	4.77	80.00	443.30		10.00	433.00	
1/27/2022	467.80	0.07	104.00	467.30		37.00	460.00	
2/23/2022	464.80	0.29	100.00	463.30		36.00	459.00	
3/23/2022	464.40	1.08	100.00	463.30		35.00	458.00	
4/26/2022	467.10	0.03	103.00	466.30		39.00	462.00	
5/26/2022	464.80	0.08	100.00	463.30		36.00	459.00	
6/28/2022	457.30	0.00	92.00	455.30		30.00	453.00	
7/26/2022	440.70	0.00	75.00	438.30		14.00	437.00	Dry?
8/25/2022	429.50	0.05	64.00	427.30		12.00	435.00	Dry?
9/28/2022	410.80	0.35	43.00	406.30		12.00	435.00	Dry?
10/25/2022	407.30	0.35	36.00	399.30		8.00	431.00	Dry?
11/23/2022	427.30	0.80	60.00	423.30		10.00	433.00	Dry?
12/20/2022	441.90	2.14	0.00		Zero reading	10.00	433.00	Dry?

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/31/2007	405.80			1.80			0.18	
2/27/2007	426.80			2.50			0.24	
3/28/2007	438.80			2.50			0.28	
4/26/2007	450.90			3.20			0.31	
5/23/2007	461.40			3.70			0.34	
6/27/2007	457.20			3.80			0.34	
7/26/2007	445.50			3.60			0.33	
8/28/2007	434.60			3.10			0.30	
9/25/2007	416.80			2.50			0.26	
10/24/2007	404.50			2.00			0.20	
11/27/2007	422.20			2.40			0.22	
1/3/2008	443.20			3.20			0.28	
1/29/2008	452.20			3.80			0.30	
2/27/2008	460.80			4.20			0.34	
3/26/2008	468.00			4.60			0.40	
4/29/2008	468.60			57.00			69.70	
5/29/2008	464.70			50.00			68.10	
6/26/2008	455.70			43.50			60.00	
7/29/2008	447.30	0.00		39.60			35.27	
8/28/2008	438.80	0.00		29.00			46.00	
9/26/2008	430.70	0.00		23.93			38.58	
10/29/2008	412.50	0.00		11.00			25.26	
11/25/2008	404.70	2.60		10.40			28.50	
12/30/2008	440.90	3.42		36.00			42.79	
1/28/2009	463.70	0.17		105.70			79.30	
2/25/2009	470.10	3.35		52.30			53.63	
3/26/2009	469.40	0.19		63.40			79.30	
4/29/2009	466.90	0.07		46.09			81.12	
5/18/2009	466.70	0.00		60.00			75.00	
5/29/2009	465.00	0.00		61.30			72.30	
6/30/2009	460.20	0.00		55.10			69.60	
7/30/2009	451.10	0.00		44.95			59.40	
8/25/2009	440.10	0.00		34.11			50.70	
9/30/2009	432.20	0.00		26.10			41.20	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
10/29/2009	431.40	0.53		22.36			37.12	
12/1/2009	427.40	0.00		19.67			32.43	
12/29/2009	448.10	2.06		32.52			43.41	
1/27/2010	465.60	4.62		54.82			67.12	
2/25/2010	470.20	2.51		61.60			76.90	
3/29/2010	465.70	0.99		56.91			71.73	
4/4/2010	465.00			55.00			69.40	
4/27/2010	468.40	1.23		62.10			70.70	
5/27/2010	463.30	0.05		47.80			65.00	
6/30/2010	454.70	0.00		54.37			63.75	
7/28/2010	445.60	0.00		44.00			55.00	
8/31/2010	437.10	0.00		38.94			47.95	
9/29/2010	422.70	0.00		28.10			38.00	
10/27/2010	426.40	2.38		26.50			37.00	
11/29/2010	439.80	0.97		34.27			41.64	
12/30/2010	456.60	8.62		34.00			46.00	
2/1/2011	468.90	0.92		58.00			71.00	
2/23/2011	469.00	0.99		60.03			71.80	
3/29/2011	470.30	2.93		61.50			74.90	
4/27/2011	464.80	0.19		39.94			58.62	
5/26/2011	457.30	0.48		34.00			51.20	
6/28/2011	443.50	0.05		26.50			43.91	
7/29/2011	425.10	0.00		18.96			35.15	
8/24/2011	418.00	0.00		13.42			27.08	
9/27/2011	400.90	0.12		9.18			20.55	
10/26/2011	402.20	1.25		8.14			18.73	
11/30/2011	425.10	1.38		13.11			26.33	
12/21/2011	435.70	0.32		18.45			32.30	
1/24/2012	441.40	0.53		19.51			37.32	
2/28/2012	448.40	0.42		21.40			40.90	
3/26/2012	452.70	1.06		23.14			43.41	
4/23/2012	463.40	1.32		39.54			56.48	
5/30/2012	457.30	0.02		35.45			55.39	
6/13/2012	452.90	0.02		31.31			51.82	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
6/26/2012	450.20	0.00		29.30			49.60	
7/24/2012	439.80	0.00		22.25			42.76	
8/8/2012	437.60	0.12		20.94			40.38	
8/22/2012	433.40	0.00		19.79			35.01	
8/29/2012	431.30	0.00		19.10			32.62	
9/25/2012	420.80	0.00		15.38			26.33	
10/31/2012	412.30	0.26		10.48			21.63	
11/27/2012	420.80	0.58		12.00			24.50	
12/18/2012	448.00	1.44		31.81			27.29	
1/29/2013	468.60	1.18		60.00			56.70	
2/28/2013	469.20	0.30		62.57			60.52	
3/27/2013	468.30	0.50		56.89			67.68	
4/25/2013	462.70	0.00		51.59			59.13	
5/21/2013	454.20	0.00		40.10			46.50	
6/25/2013	439.30	0.00		27.97			36.61	
7/23/2013	431.50	0.00		22.44			30.45	
8/21/2013	418.00	0.00		15.80			23.60	
9/24/2013	404.00	0.00		11.15			19.46	
10/29/2013	400.60	0.00		8.70			16.17	
11/26/2013	407.90	0.44		8.19			15.80	
12/19/2013	425.80	0.54		16.15			22.45	
1/28/2014	439.70	0.00		24.89			31.46	
2/25/2014	449.70	0.83		30.84			38.79	
3/26/2014	465.10			48.97			55.26	
3/28/2014	465.70	1.15		48.66			55.41	
4/29/2014	465.30	0.43		50.10			57.60	
5/28/2014	450.60	0.00		34.05			46.03	
6/25/2014	440.10	0.00		30.19			39.64	
7/29/2014	431.20	0.00		24.97			33.85	
8/26/2014	419.50	0.02		19.12			27.02	
9/23/2014	405.30	0.00		13.04			21.32	
10/29/2014	400.90	0.00		10.06			18.54	
11/25/2014	410.90	0.25		10.75			18.60	
12/30/2014	430.60	2.94		23.26			26.64	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/27/2015	466.70	0.83		61.45			60.49	
2/25/2015	468.90	0.69		63.90			64.50	
3/26/2015	465.90	0.61		62.14			63.40	
4/28/2015	465.70	0.20		60.10			59.60	
5/28/2015	466.40	1.08		54.04			49.61	
6/30/2015	454.50	0.00		44.81			43.46	
7/28/2015	445.60	0.00		35.40			35.90	
8/28/2015	437.60	0.00		29.20			30.40	
9/24/2015	426.90	1.51		23.50			25.10	
10/27/2015	415.40	0.49		16.90			18.70	
11/19/2015	412.90	0.09		14.23			16.38	
12/22/2015	425.50	0.69		19.50			19.40	
1/27/2016	463.60	2.86		53.20			42.08	
2/25/2016	468.90	0.25		59.37			50.05	
3/30/2016	468.00	1.44		56.40			50.90	
4/28/2016	461.30	0.30		50.83			46.75	
5/25/2016	451.30	0.18		43.06			40.29	
6/28/2016	414.10	0.00		34.98			34.83	
7/27/2016	434.20	0.00		28.20			29.30	
8/23/2016	418.60	0.00		18.96			20.95	
9/27/2016	406.40	0.00		13.04			15.91	
10/26/2016	404.00	0.48		10.92			13.95	
11/22/2016	413.60	1.13		12.01			14.80	
12/20/2016	441.10	3.48		29.72			25.63	
1/26/2017	471.60	5.67		58.70			51.40	
2/24/2017	472.05	3.95		57.36			60.38	
2/25/2017	472.00			57.55			60.35	
2/26/2017	472.00			56.81			60.38	
2/27/2017	472.00			56.90			60.40	
2/28/2017	471.90			56.32			60.15	
3/1/2017	471.90			55.80			59.70	
3/2/2017	471.90			56.34			59.71	
3/29/2017	467.90	0.10		51.95			56.32	
4/27/2017	457.60	0.04		44.35			47.55	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
5/23/2017	453.50	0.43		38.22			41.80	
6/21/2017	447.40	0.00		34.25			39.20	
7/26/2017	435.10	0.00		29.68			32.46	
8/25/2017	420.10	0.00		22.90			24.30	
9/27/2017	407.10	0.00		16.00			18.94	
10/26/2017	395.00	0.00		10.73			14.80	
11/28/2017	409.00	0.09		13.48			16.68	
12/20/2017	416.80	0.00		15.28			18.42	
1/24/2018	434.50	1.31		27.22			26.47	
2/21/2018	443.10	0.29		32.75			32.39	
3/29/2018	453.00	1.28		39.88			42.15	
4/26/2018	449.10	0.05		36.60			39.21	
5/31/2018	453.10	0.20		39.70			40.77	
6/28/2018	448.20	0.00		36.70			38.50	
7/25/2018	440.40	0.00		33.48			35.20	
8/22/2018	427.10	0.00		23.07			28.26	
9/27/2018	439.60	0.00		13.85			19.09	
10/18/2018	405.30	0.90		10.95			15.38	
11/28/2018	408.60	1.19		10.60			14.80	
12/19/2018	436.00	1.99		24.80			23.10	
1/30/2019	463.80	4.71		49.09			45.60	
2/27/2019	466.20	6.55		50.80			49.50	
3/27/2019	463.30	1.34		47.06			48.88	
4/29/2019	453.00	0.13		38.70			42.48	
5/30/2019	451.80	0.64		38.10			40.80	
6/26/2019	446.20	0.01		36.33			38.07	
7/5/2019	39.40	0.00		35.69			36.21	
7/30/2019	434.80	0.00		31.49			32.54	
8/27/2019	424.40	0.00		23.74			26.39	
9/26/2019	405.60	0.00		15.51			19.42	
10/22/2019	400.50	0.00		12.42			16.33	
11/26/2019	412.80	3.13		13.27			17.34	
12/18/2019	447.40	4.44		32.88			30.36	
1/28/2020	465.40	0.20		49.22			47.62	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			East Drain			West Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
2/26/2020	459.60	0.14		42.43			43.84	
3/24/2020	470.70	3.49		49.77			50.87	
4/29/2020	467.60	3.65		46.09			51.62	
5/27/2020	459.10	0.02		37.52			46.35	
6/23/2020	447.00	0.00		26.50			38.60	
7/30/2020	434.00	0.00		18.19			31.84	
8/26/2020	417.70	0.00		12.73			24.35	
9/29/2020	403.60	0.00		9.93			19.08	
10/28/2020	404.50	0.00		8.78			17.05	
11/24/2020	413.50	0.42		10.39			14.46	
12/22/2020	408.00	1.13		9.86			13.71	
1/27/2021	435.60	2.25		19.94			19.13	
2/25/2021	457.30	0.05		35.30			37.80	
3/23/2021	465.90	1.36		44.40			44.20	
4/27/2021	462.10	0.04		39.60			42.30	
5/26/2021	455.00	0.03		33.95			38.73	
6/30/2021	437.90	0.00		24.80			31.60	
7/29/2021	423.60	0.07		17.60			25.85	
8/24/2021	408.00	0.00		12.75			20.30	
9/29/2021	398.00	0.04		10.20			16.70	
10/26/2021	417.00	0.87		12.19			18.96	
11/25/2021	427.90	0.00		18.55			24.67	
12/21/2021	427.90	4.77		28.00			30.00	
1/27/2022	467.80	0.07		45.81			43.02	
2/23/2022	464.80	0.29		41.08			39.43	
3/23/2022	464.40	1.08		39.70			38.20	
4/26/2022	467.10	0.03		40.26			43.23	
5/26/2022	464.80	0.08		37.36			41.89	
6/28/2022	457.30	0.00		31.70			40.15	
7/26/2022	440.70	0.00		22.85			33.21	
8/25/2022	429.50	0.05		17.50			27.89	
9/28/2022	410.80	0.35		12.35			19.20	
10/25/2022	407.30	0.35		10.18			14.65	
11/23/2022	427.30	0.80		13.80			19.65	
12/20/2022	441.90	2.14		19.84			23.40	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/31/2007	405.80			2.20			0.00	
2/27/2007	426.80			2.30			0.00	
3/28/2007	438.80			2.00			0.00	
4/26/2007	450.90			2.00			0.00	
5/23/2007	461.40			2.00			0.00	
6/27/2007	457.20			2.00			0.00	
7/26/2007	445.50			2.00			0.00	
8/28/2007	434.60			2.00			0.00	
9/25/2007	416.80			2.20			0.00	
10/24/2007	404.50			2.10			0.00	
11/27/2007	422.20			2.10			0.00	
1/3/2008	443.20			2.00	dry		0.00	
1/29/2008	452.20			2.20	dry		0.00	
2/27/2008	460.80			2.20	dry		0.00	
3/26/2008	468.00			2.00	dry		0.00	
4/29/2008	468.60			2.00	dry		0.00	
5/29/2008	464.70			0.18	dry		0.00	
6/26/2008	455.70			1.12	dry		0.00	
7/29/2008	447.30	0.00		1.00	dry		0.00	
8/28/2008	438.80	0.00		0.37	dry		0.00	
9/26/2008	430.70	0.00		10.27	dry		0.00	
10/29/2008	412.50	0.00		9.94	dry		0.00	
11/25/2008	404.70	2.60		9.20	dry		0.00	
12/30/2008	440.90	3.42		11.56	dry		0.00	
1/28/2009	463.70	0.17		9.90	dry		0.00	
2/25/2009	470.10	3.35		10.10	dry		0.00	
3/26/2009	469.40	0.19		12.29	dry		0.00	
4/29/2009	466.90	0.07		11.03	dry		0.00	
5/18/2009	466.70	0.00		12.00	dry		0.00	
5/29/2009	465.00	0.00		12.30	dry		0.00	
6/30/2009	460.20	0.00		12.50	dry		0.00	
7/30/2009	451.10	0.00		12.75			0.13	
8/25/2009	440.10	0.00		13.19	dry		0.00	
9/30/2009	432.20	0.00		12.20	dry		0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
10/29/2009	431.40	0.53		11.05	dry		0.00	
12/1/2009	427.40	0.00		11.31	dry		0.00	
12/29/2009	448.10	2.06		10.38	dry		0.00	
1/27/2010	465.60	4.62		11.55	dry		0.00	
2/25/2010	470.20	2.51		12.20	dry		0.00	
3/29/2010	465.70	0.99		12.14	dry		0.00	
4/4/2010	465.00			11.20			0.26	
4/27/2010	468.40	1.23		11.90	dry		0.00	
5/27/2010	463.30	0.05		11.90			0.55	
6/30/2010	454.70	0.00		12.25			0.50	
7/28/2010	445.60	0.00		13.00			0.40	
8/31/2010	437.10	0.00		12.49			0.27	
9/29/2010	422.70	0.00		11.40			0.23	
10/27/2010	426.40	2.38		11.40			0.15	
11/29/2010	439.80	0.97		10.67			0.00	
12/30/2010	456.60	8.62		11.00			0.00	
2/1/2011	468.90	0.92		11.50			0.26	
2/23/2011	469.00	0.99		12.66			0.26	
3/29/2011	470.30	2.93		12.90			0.53	
4/27/2011	464.80	0.19		9.98			0.70	
5/26/2011	457.30	0.48		9.93			0.61	
6/28/2011	443.50	0.05		10.35			0.52	
7/29/2011	425.10	0.00		10.34			0.40	
8/24/2011	418.00	0.00		10.37			0.00	
9/27/2011	400.90	0.12		10.18			0.00	
10/26/2011	402.20	1.25		9.58			0.00	
11/30/2011	425.10	1.38		9.28			0.00	
12/21/2011	435.70	0.32		9.09			0.00	
1/24/2012	441.40	0.53		8.90			0.00	
2/28/2012	448.40	0.42		8.60			0.00	
3/26/2012	452.70	1.06		8.65			0.00	
4/23/2012	463.40	1.32		8.34			0.00	
5/30/2012	457.30	0.02		8.72			0.00	
6/13/2012	452.90	0.02		8.53			0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
6/26/2012	450.20	0.00		8.90			0.00	
7/24/2012	439.80	0.00		8.79			0.00	
8/8/2012	437.60	0.12		8.91			0.00	
8/22/2012	433.40	0.00		9.23			0.00	
8/29/2012	431.30	0.00		8.10			0.00	
9/25/2012	420.80	0.00		7.90			0.00	
10/31/2012	412.30	0.26		7.77			0.00	
11/27/2012	420.80	0.58		8.00			0.00	
12/18/2012	448.00	1.44		8.07			0.00	
1/29/2013	468.60	1.18		8.00			0.00	
2/28/2013	469.20	0.30		8.46			0.00	
3/27/2013	468.30	0.50		8.54			0.00	
4/25/2013	462.70	0.00		8.57			0.00	
5/21/2013	454.20	0.00		8.70			0.00	
6/25/2013	439.30	0.00		8.66			0.00	
7/23/2013	431.50	0.00		9.56			0.00	
8/21/2013	418.00	0.00		9.15			0.00	
9/24/2013	404.00	0.00		7.81			0.00	
10/29/2013	400.60	0.00		7.81			0.00	
11/26/2013	407.90	0.44		7.34			0.00	
12/19/2013	425.80	0.54		7.70			0.00	
1/28/2014	439.70	0.00		7.76			0.00	
2/25/2014	449.70	0.83		7.73			0.00	
3/26/2014	465.10			8.10			0.00	
3/28/2014	465.70	1.15		7.70			0.00	
4/29/2014	465.30	0.43		9.04			0.00	
5/28/2014	450.60	0.00		8.18			0.00	
6/25/2014	440.10	0.00		8.80			0.00	
7/29/2014	431.20	0.00		8.16			0.00	
8/26/2014	419.50	0.02		8.02			0.00	
9/23/2014	405.30	0.00		8.00			0.00	
10/29/2014	400.90	0.00		7.85			0.00	
11/25/2014	410.90	0.25		7.00			0.00	
12/30/2014	430.60	2.94		7.54			0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/27/2015	466.70	0.83		8.24			0.00	
2/25/2015	468.90	0.69		8.33			0.00	
3/26/2015	465.90	0.61		9.04			0.00	
4/28/2015	465.70	0.20		9.85			0.00	
5/28/2015	466.40	1.08		7.35			0.00	
6/30/2015	454.50	0.00		8.25			0.00	
7/28/2015	445.60	0.00		6.70			0.00	
8/28/2015	437.60	0.00		7.09			0.00	
9/24/2015	426.90	1.51		7.10			0.00	
10/27/2015	415.40	0.49		6.90			0.00	
11/19/2015	412.90	0.09		6.42			0.00	
12/22/2015	425.50	0.69		6.68			0.00	
1/27/2016	463.60	2.86		6.77			0.00	
2/25/2016	468.90	0.25		6.58			0.00	
3/30/2016	468.00	1.44		6.20			0.00	
4/28/2016	461.30	0.30		6.73			0.00	
5/25/2016	451.30	0.18		7.17			0.00	
6/28/2016	414.10	0.00		6.68			0.00	
7/27/2016	434.20	0.00		6.60			0.00	
8/23/2016	418.60	0.00		6.53			0.00	
9/27/2016	406.40	0.00		5.90			0.00	
10/26/2016	404.00	0.48		5.85			0.00	
11/22/2016	413.60	1.13		6.17			0.00	
12/20/2016	441.10	3.48		6.15			0.00	
1/26/2017	471.60	5.67		6.50			0.00	
2/24/2017	472.05	3.95		7.41			0.00	
2/25/2017	472.00			7.44			0.00	
2/26/2017	472.00			7.39			0.00	
2/27/2017	472.00			7.34			0.00	
2/28/2017	471.90			7.14			0.00	
3/1/2017	471.90			7.02			0.00	
3/2/2017	471.90			7.04			0.00	
3/29/2017	467.90	0.10		7.34			0.00	
4/27/2017	457.60	0.04		7.65			0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
5/23/2017	453.50	0.43		7.76			0.00	
6/21/2017	447.40	0.00		7.61			0.00	
7/26/2017	435.10	0.00		7.54			0.00	
8/25/2017	420.10	0.00		7.70			0.00	
9/27/2017	407.10	0.00		7.44			0.00	
10/26/2017	395.00	0.00		7.19			0.00	
11/28/2017	409.00	0.09		7.45			0.00	
12/20/2017	416.80	0.00		7.17			0.00	
1/24/2018	434.50	1.31		7.11			0.00	
2/21/2018	443.10	0.29		6.80			0.00	
3/29/2018	453.00	1.28		7.01			0.00	
4/26/2018	449.10	0.05		6.97			0.00	
5/31/2018	453.10	0.20		7.66			0.00	
6/28/2018	448.20	0.00		8.04			0.00	
7/25/2018	440.40	0.00		7.76			0.00	
8/22/2018	427.10	0.00		7.82			0.00	
9/27/2018	439.60	0.00		7.53			0.00	
10/18/2018	405.30	0.90		6.79			0.00	
11/28/2018	408.60	1.19		5.90			0.00	
12/19/2018	436.00	1.99		5.80			0.00	
1/30/2019	463.80	4.71		6.45			0.00	
2/27/2019	466.20	6.55		7.80			0.00	
3/27/2019	463.30	1.34		7.16			0.00	
4/29/2019	453.00	0.13		7.35			0.00	
5/30/2019	451.80	0.64		7.80			0.00	
6/26/2019	446.20	0.01		7.19			0.00	
7/5/2019	39.40	0.00		7.22			0.00	
7/30/2019	434.80	0.00		7.80			0.00	
8/27/2019	424.40	0.00		8.19			0.00	
9/26/2019	405.60	0.00		7.57			0.00	
10/22/2019	400.50	0.00		7.02			0.00	
11/26/2019	412.80	3.13		6.67			0.00	
12/18/2019	447.40	4.44		6.52			0.00	
1/28/2020	465.40	0.20		6.67			0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Filter Drain			U/S Collector Drain #1		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
2/26/2020	459.60	0.14		6.77			0.00	
3/24/2020	470.70	3.49		7.23			0.00	
4/29/2020	467.60	3.65		8.72			0.00	
5/27/2020	459.10	0.02		8.43			0.00	
6/23/2020	447.00	0.00		8.40			0.00	
7/30/2020	434.00	0.00		7.48			0.00	
8/26/2020	417.70	0.00		7.79			0.00	
9/29/2020	403.60	0.00		7.42			0.00	
10/28/2020	404.50	0.00		6.76			0.00	
11/24/2020	413.50	0.42		6.67			0.00	
12/22/2020	408.00	1.13		6.81			0.00	
1/27/2021	435.60	2.25		7.46			0.00	
2/25/2021	457.30	0.05		6.62			0.00	
3/23/2021	465.90	1.36		6.70			0.00	
4/27/2021	462.10	0.04		6.50			0.00	
5/26/2021	455.00	0.03		6.78			0.00	
6/30/2021	437.90	0.00		7.10			0.00	
7/29/2021	423.60	0.07		6.90			0.00	
8/24/2021	408.00	0.00		6.77			0.00	
9/29/2021	398.00	0.04		6.00			0.00	
10/26/2021	417.00	0.87		5.72			0.00	
11/25/2021	427.90	0.00		3.02			0.00	
12/21/2021	427.90	4.77		5.80			0.00	
1/27/2022	467.80	0.07		6.18			0.00	
2/23/2022	464.80	0.29		6.20			0.00	
3/23/2022	464.40	1.08		6.70			0.00	
4/26/2022	467.10	0.03		6.97			0.00	
5/26/2022	464.80	0.08		7.12			0.00	
6/28/2022	457.30	0.00		7.57			0.00	
7/26/2022	440.70	0.00		7.94			0.00	
8/25/2022	429.50	0.05		7.86			0.00	
9/28/2022	410.80	0.35		7.82			0.00	
10/25/2022	407.30	0.35		7.29			0.00	
11/23/2022	427.30	0.80		7.22			0.00	
12/20/2022	441.90	2.14		5.91			0.00	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/31/2007	405.80		0.00			1.40	
2/27/2007	426.80		0.00			1.75	
3/28/2007	438.80		0.00			1.66	
4/26/2007	450.90		0.00			1.78	
5/23/2007	461.40		0.00			1.52	
6/27/2007	457.20		0.00			2.10	
7/26/2007	445.50		0.00			1.61	
8/28/2007	434.60		0.00			1.66	
9/25/2007	416.80		0.00			1.66	
10/24/2007	404.50		0.00			1.59	
11/27/2007	422.20		0.00			1.65	
1/3/2008	443.20		0.00	dry		2.20	
1/29/2008	452.20		0.00	dry		1.96	
2/27/2008	460.80		0.00	dry		1.86	
3/26/2008	468.00		0.00	dry		1.86	
4/29/2008	468.60		0.00	dry		1.88	
5/29/2008	464.70		0.00	dry		2.16	
6/26/2008	455.70		0.00	dry		2.50	
7/29/2008	447.30	0.00	0.00	dry		2.30	
8/28/2008	438.80	0.00	0.00	dry		2.11	
9/26/2008	430.70	0.00	0.00	dry		1.56	
10/29/2008	412.50	0.00	0.00	dry		1.98	
11/25/2008	404.70	2.60	0.00	dry		2.00	
12/30/2008	440.90	3.42	0.00	dry		2.00	
1/28/2009	463.70	0.17	0.00	dry		2.00	
2/25/2009	470.10	3.35	0.00	dry		2.12	
3/26/2009	469.40	0.19	0.00	dry		2.19	
4/29/2009	466.90	0.07	0.00	dry		1.98	
5/18/2009	466.70	0.00	0.00	dry		1.00	
5/29/2009	465.00	0.00	0.00	dry			
6/30/2009	460.20	0.00	0.00	dry		1.90	
7/30/2009	451.10	0.00	0.00	dry		1.93	
8/25/2009	440.10	0.00	0.00	dry		2.09	
9/30/2009	432.20	0.00	0.00	dry		1.52	

Notes:

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2. Piezometer data based on NAVD 88 datum.



**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
10/29/2009	431.40	0.53	0.00	dry			
12/1/2009	427.40	0.00	0.00	dry			
12/29/2009	448.10	2.06	0.00	dry			
1/27/2010	465.60	4.62	0.00	dry		2.43	
2/25/2010	470.20	2.51	0.00	dry		2.94	
3/29/2010	465.70	0.99	0.20			2.40	
4/4/2010	465.00		0.00	dry		1.00	
4/27/2010	468.40	1.23	0.00	dry		2.40	
5/27/2010	463.30	0.05	0.00	dry		2.50	
6/30/2010	454.70	0.00	0.00	dry		2.11	
7/28/2010	445.60	0.00	0.00	dry		2.40	
8/31/2010	437.10	0.00	0.00	dry		2.08	
9/29/2010	422.70	0.00	0.00	dry		2.11	
10/27/2010	426.40	2.38	0.00	dry		2.20	
11/29/2010	439.80	0.97	0.00	dry		2.26	
12/30/2010	456.60	8.62	0.00	dry		4.00	
2/1/2011	468.90	0.92	0.00	dry		4.00	
2/23/2011	469.00	0.99	0.00	dry		3.51	
3/29/2011	470.30	2.93	0.00	dry		3.17	
4/27/2011	464.80	0.19	0.00	dry		2.60	
5/26/2011	457.30	0.48	0.00	dry		2.70	
6/28/2011	443.50	0.05	0.00	dry		2.50	
7/29/2011	425.10	0.00	0.00	dry		2.43	
8/24/2011	418.00	0.00	0.20			2.43	
9/27/2011	400.90	0.12	0.00			2.26	
10/26/2011	402.20	1.25	0.00			2.26	
11/30/2011	425.10	1.38	0.00			2.56	
12/21/2011	435.70	0.32	0.00			2.26	
1/24/2012	441.40	0.53	0.00			2.38	
2/28/2012	448.40	0.42	0.00			2.11	
3/26/2012	452.70	1.06	0.00			2.29	
4/23/2012	463.40	1.32	0.00			2.43	
5/30/2012	457.30	0.02	0.00			2.11	
6/13/2012	452.90	0.02	0.00			2.26	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
6/26/2012	450.20	0.00	0.00			1.58	
7/24/2012	439.80	0.00	0.00			1.58	
8/8/2012	437.60	0.12	0.00			1.58	
8/22/2012	433.40	0.00	0.00			1.98	
8/29/2012	431.30	0.00	0.00			1.58	
9/25/2012	420.80	0.00	0.00			2.56	
10/31/2012	412.30	0.26	0.00			2.11	
11/27/2012	420.80	0.58	0.00			2.11	
12/18/2012	448.00	1.44	0.00			2.28	
1/29/2013	468.60	1.18	0.00			2.11	
2/28/2013	469.20	0.30	0.00			2.11	
3/27/2013	468.30	0.50	0.00			2.26	
4/25/2013	462.70	0.00	0.00			2.16	
5/21/2013	454.20	0.00	0.00			2.26	
6/25/2013	439.30	0.00	0.00			2.34	
7/23/2013	431.50	0.00	0.00			2.12	
8/21/2013	418.00	0.00	0.00			2.11	
9/24/2013	404.00	0.00	0.00			1.98	
10/29/2013	400.60	0.00	0.00			2.13	
11/26/2013	407.90	0.44	0.00			2.16	
12/19/2013	425.80	0.54	0.00			2.26	
1/28/2014	439.70	0.00	0.00			2.11	
2/25/2014	449.70	0.83	0.00			2.17	
3/26/2014	465.10		0.00			1.66	
3/28/2014	465.70	1.15	0.00			2.09	
4/29/2014	465.30	0.43	0.00			2.16	
5/28/2014	450.60	0.00	0.00			1.90	
6/25/2014	440.10	0.00	0.00			2.26	
7/29/2014	431.20	0.00	0.00			2.03	
8/26/2014	419.50	0.02	0.00			1.98	
9/23/2014	405.30	0.00	0.00			2.11	
10/29/2014	400.90	0.00	0.00			2.07	
11/25/2014	410.90	0.25	0.00			1.90	
12/30/2014	430.60	2.94	0.00			1.80	

Notes:

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**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/27/2015	466.70	0.83	0.00			2.26	
2/25/2015	468.90	0.69	0.00			2.11	
3/26/2015	465.90	0.61	0.00			2.12	
4/28/2015	465.70	0.20	0.00			2.29	
5/28/2015	466.40	1.08	0.00			1.90	
6/30/2015	454.50	0.00	0.00			1.50	
7/28/2015	445.60	0.00	0.00			1.90	
8/28/2015	437.60	0.00	0.00			2.10	
9/24/2015	426.90	1.51	0.00			2.10	
10/27/2015	415.40	0.49	0.00			2.00	
11/19/2015	412.90	0.09	0.00			2.21	
12/22/2015	425.50	0.69	0.00			2.53	
1/27/2016	463.60	2.86	0.00			2.43	
2/25/2016	468.90	0.25	0.00			2.53	
3/30/2016	468.00	1.44	0.00			2.29	
4/28/2016	461.30	0.30	0.00			2.10	
5/25/2016	451.30	0.18	0.00			1.90	
6/28/2016	414.10	0.00	0.00			1.70	
7/27/2016	434.20	0.00	0.00			1.90	
8/23/2016	418.60	0.00	0.00			2.06	
9/27/2016	406.40	0.00	0.00			1.53	
10/26/2016	404.00	0.48	0.00			2.21	
11/22/2016	413.60	1.13	0.00			2.17	
12/20/2016	441.10	3.48	0.00			2.23	
1/26/2017	471.60	5.67	0.00			3.50	
2/24/2017	472.05	3.95	0.00			3.15	
2/25/2017	472.00		0.00			3.15	
2/26/2017	472.00		0.00			3.15	
2/27/2017	472.00		0.00			3.17	
2/28/2017	471.90		0.00			3.15	
3/1/2017	471.90		0.00			3.17	
3/2/2017	471.90		0.00			3.36	
3/29/2017	467.90	0.10	0.00			3.18	
4/27/2017	457.60	0.04	0.02			2.50	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
5/23/2017	453.50	0.43	0.00			2.50	
6/21/2017	447.40	0.00	0.00			2.50	
7/26/2017	435.10	0.00	0.00			2.50	
8/25/2017	420.10	0.00	0.00			2.50	
9/27/2017	407.10	0.00	0.00			2.50	
10/26/2017	395.00	0.00	0.00			2.50	
11/28/2017	409.00	0.09	0.00			2.50	
12/20/2017	416.80	0.00	0.00			2.50	
1/24/2018	434.50	1.31	0.00			1.86	
2/21/2018	443.10	0.29	0.00			2.40	
3/29/2018	453.00	1.28	0.00			3.85	
4/26/2018	449.10	0.05	0.00			2.26	
5/31/2018	453.10	0.20	0.00			2.54	
6/28/2018	448.20	0.00	0.00			2.11	
7/25/2018	440.40	0.00	0.00			2.21	
8/22/2018	427.10	0.00	0.00			2.21	
9/27/2018	439.60	0.00	0.00			2.24	
10/18/2018	405.30	0.90	0.00			2.37	
11/28/2018	408.60	1.19	0.00			2.26	
12/19/2018	436.00	1.99	0.00			2.56	
1/30/2019	463.80	4.71	0.00			2.80	
2/27/2019	466.20	6.55	0.00			3.90	
3/27/2019	463.30	1.34	0.00			3.10	
4/29/2019	453.00	0.13	0.00			3.10	
5/30/2019	451.80	0.64	0.00			2.80	
6/26/2019	446.20	0.01	0.00			2.80	
7/5/2019	39.40	0.00	0.00			2.80	
7/30/2019	434.80	0.00	0.00			3.78	
8/27/2019	424.40	0.00	0.00			2.43	
9/26/2019	405.60	0.00	0.00			1.90	
10/22/2019	400.50	0.00	0.00			2.40	
11/26/2019	412.80	3.13	0.00			2.40	
12/18/2019	447.40	4.44	0.00			3.00	
1/28/2020	465.40	0.20	0.00			2.43	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			U/S Collector Drain #2		D/S Toe Drain		
Date	Reservoir Elevation	Monthly Rainfall	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
2/26/2020	459.60	0.14	0.00			2.90	
3/24/2020	470.70	3.49	0.00			3.17	
4/29/2020	467.60	3.65	0.00			4.12	
5/27/2020	459.10	0.02	0.00			3.33	
6/23/2020	447.00	0.00	0.00			2.80	
7/30/2020	434.00	0.00	0.00			2.69	
8/26/2020	417.70	0.00	0.00			2.70	
9/29/2020	403.60	0.00	0.00			2.60	
10/28/2020	404.50	0.00	0.00			3.77	
11/24/2020	413.50	0.42	0.00			2.80	
12/22/2020	408.00	1.13	0.00			2.60	
1/27/2021	435.60	2.25	0.00			2.53	
2/25/2021	457.30	0.05	0.00			2.28	
3/23/2021	465.90	1.36	0.00			2.43	
4/27/2021	462.10	0.04	0.00			2.43	
5/26/2021	455.00	0.03	0.00			2.10	
6/30/2021	437.90	0.00	0.00			2.40	
7/29/2021	423.60	0.07	0.00			2.06	
8/24/2021	408.00	0.00	0.00			1.10	
9/29/2021	398.00	0.04	0.00			2.30	
10/26/2021	417.00	0.87	0.00			2.40	
11/25/2021	427.90	0.00	0.00			2.40	
12/21/2021	427.90	4.77	0.00			2.00	
1/27/2022	467.80	0.07	0.00			0.66	
2/23/2022	464.80	0.29	0.00			2.60	
3/23/2022	464.40	1.08	0.00			2.40	
4/26/2022	467.10	0.03	0.00			1.09	
5/26/2022	464.80	0.08	0.00			8.00	above hist max
6/28/2022	457.30	0.00	0.00			2.43	
7/26/2022	440.70	0.00	0.00			2.43	
8/25/2022	429.50	0.05	0.00			2.44	
9/28/2022	410.80	0.35	0.00			2.18	
10/25/2022	407.30	0.35	0.00			1.76	
11/23/2022	427.30	0.80	0.00			3.17	
12/20/2022	441.90	2.14	0.00			2.60	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/31/2007	405.80			12.00				
2/27/2007	426.80			7.05				
3/28/2007	438.80			9.32				
4/26/2007	450.90			9.44				
5/23/2007	461.40			14.00				
6/27/2007	457.20			10.50				
7/26/2007	445.50			8.79				
8/28/2007	434.60			10.22				
9/25/2007	416.80			9.95				
10/24/2007	404.50			8.17				
11/27/2007	422.20			9.05				
1/3/2008	443.20			10.50				
1/29/2008	452.20			7.92				
2/27/2008	460.80			14.00				
3/26/2008	468.00			10.56				
4/29/2008	468.60			10.74				
5/29/2008	464.70			8.11				
6/26/2008	455.70			8.80				
7/29/2008	447.30	0.00		8.10				
8/28/2008	438.80	0.00		8.33			0.11	
9/26/2008	430.70	0.00		16.00			0.39	
10/29/2008	412.50	0.00		3.75			0.40	
11/25/2008	404.70	2.60		8.80			0.00	
12/30/2008	440.90	3.42		10.56			0.00	
1/28/2009	463.70	0.17		10.60			0.00	
2/25/2009	470.10	3.35		9.46			0.00	
3/26/2009	469.40	0.19		9.30			0.05	
4/29/2009	466.90	0.07		9.84			0.23	
5/18/2009	466.70	0.00		10.00			0.13	
5/29/2009	465.00	0.00					0.16	
6/30/2009	460.20	0.00		10.30			0.10	
7/30/2009	451.10	0.00		10.56			0.00	
8/25/2009	440.10	0.00		7.90			0.00	
9/30/2009	432.20	0.00		16.00			0.13	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
10/29/2009	431.40	0.53					0.14	
12/1/2009	427.40	0.00					0.00	
12/29/2009	448.10	2.06					0.17	
1/27/2010	465.60	4.62		9.34			0.62	
2/25/2010	470.20	2.51		10.56			0.61	
3/29/2010	465.70	0.99		16.00			0.00	
4/4/2010	465.00			16.00				
4/27/2010	468.40	1.23		10.56			0.00	
5/27/2010	463.30	0.05		10.00			1.50	
6/30/2010	454.70	0.00		9.18			1.10	
7/28/2010	445.60	0.00		10.56			0.99	
8/31/2010	437.10	0.00		9.51			1.07	
9/29/2010	422.70	0.00		6.34			0.72	
10/27/2010	426.40	2.38		7.80			0.11	
11/29/2010	439.80	0.97		7.92			0.27	
12/30/2010	456.60	8.62		16.00			2.00	
2/1/2011	468.90	0.92		8.00			2.30	
2/23/2011	469.00	0.99		7.92			0.95	
3/29/2011	470.30	2.93		7.90			0.38	
4/27/2011	464.80	0.19		5.20			0.71	
5/26/2011	457.30	0.48		9.50			0.00	
6/28/2011	443.50	0.05		8.90			0.00	
7/29/2011	425.10	0.00		6.34			0.00	
8/24/2011	418.00	0.00		7.92			0.25	
9/27/2011	400.90	0.12		7.92			0.20	
10/26/2011	402.20	1.25		7.05			0.27	
11/30/2011	425.10	1.38		7.93			0.31	
12/21/2011	435.70	0.32		7.93			0.29	
1/24/2012	441.40	0.53		7.92			0.36	
2/28/2012	448.40	0.42		6.34			0.34	
3/26/2012	452.70	1.06		7.79			0.35	
4/23/2012	463.40	1.32		7.92			0.31	
5/30/2012	457.30	0.02		6.34			0.26	
6/13/2012	452.90	0.02		7.92			0.31	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
6/26/2012	450.20	0.00		10.56			0.21	
7/24/2012	439.80	0.00		10.56			0.21	
8/8/2012	437.60	0.12		10.56			0.15	
8/22/2012	433.40	0.00		7.92			0.24	
8/29/2012	431.30	0.00		10.56			0.13	
9/25/2012	420.80	0.00		7.93			0.10	
10/31/2012	412.30	0.26		6.34			0.14	
11/27/2012	420.80	0.58		7.92			0.16	
12/18/2012	448.00	1.44		7.37			0.19	
1/29/2013	468.60	1.18		7.90			0.26	
2/28/2013	469.20	0.30		7.92			0.24	
3/27/2013	468.30	0.50		7.92			0.25	
4/25/2013	462.70	0.00		7.92			0.25	
5/21/2013	454.20	0.00		7.92			0.26	
6/25/2013	439.30	0.00		7.51			0.21	
7/23/2013	431.50	0.00		7.04			0.19	
8/21/2013	418.00	0.00		6.34			0.17	
9/24/2013	404.00	0.00		6.34			0.16	
10/29/2013	400.60	0.00		6.89			0.19	
11/26/2013	407.90	0.44		6.34			0.20	
12/19/2013	425.80	0.54		5.28			0.22	
1/28/2014	439.70	0.00		7.90			0.16	
2/25/2014	449.70	0.83		7.20			0.19	
3/26/2014	465.10			7.92			0.52	
3/28/2014	465.70	1.15		6.44			0.18	
4/29/2014	465.30	0.43		7.51			0.21	
5/28/2014	450.60	0.00		7.08			0.21	
6/25/2014	440.10	0.00		6.34			0.17	
7/29/2014	431.20	0.00		6.49			0.15	
8/26/2014	419.50	0.02		10.56			0.16	
9/23/2014	405.30	0.00		6.30			0.13	
10/29/2014	400.90	0.00		6.15			0.14	
11/25/2014	410.90	0.25		6.34			0.14	
12/30/2014	430.60	2.94		6.34			0.23	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.



**TABLE 8  
SAN JOAQUIN DAM  
SEEPAGE WEIR MEASUREMENTS  
JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
1/27/2015	466.70	0.83		7.04			0.96	
2/25/2015	468.90	0.69		6.30			0.15	
3/26/2015	465.90	0.61		7.20			0.24	
4/28/2015	465.70	0.20		5.70			0.15	
5/28/2015	466.40	1.08		5.34			0.14	
6/30/2015	454.50	0.00		4.30			0.52	
7/28/2015	445.60	0.00		6.30			0.19	
8/28/2015	437.60	0.00		6.30			0.15	
9/24/2015	426.90	1.51		6.34			0.19	
10/27/2015	415.40	0.49		6.30			0.16	
11/19/2015	412.90	0.09		6.56			0.17	
12/22/2015	425.50	0.69		5.89			0.19	
1/27/2016	463.60	2.86		6.34			0.25	
2/25/2016	468.90	0.25		7.33			0.22	
3/30/2016	468.00	1.44		5.38			0.23	
4/28/2016	461.30	0.30		7.30			0.23	
5/25/2016	451.30	0.18		5.60			0.20	
6/28/2016	414.10	0.00		6.00			0.15	
7/27/2016	434.20	0.00		6.30			0.13	
8/23/2016	418.60	0.00		6.40			0.09	
9/27/2016	406.40	0.00		4.61			0.10	
10/26/2016	404.00	0.48		6.34			0.17	
11/22/2016	413.60	1.13		5.77			0.15	
12/20/2016	441.10	3.48		6.16			0.15	
1/26/2017	471.60	5.67		6.30			0.15	
2/24/2017	472.05	3.95		6.30			0.15	
2/25/2017	472.00			6.30				
2/26/2017	472.00			6.30				
2/27/2017	472.00			6.30			0.15	
2/28/2017	471.90			6.40			0.16	
3/1/2017	471.90			6.30			0.16	
3/2/2017	471.90			7.90			0.15	
3/29/2017	467.90	0.10		6.70			0.15	
4/27/2017	457.60	0.04		6.30			0.39	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
5/23/2017	453.50	0.43		6.30			0.41	
6/21/2017	447.40	0.00		5.60			0.20	
7/26/2017	435.10	0.00		6.30			0.25	
8/25/2017	420.10	0.00		5.20			0.24	
9/27/2017	407.10	0.00		5.20			0.19	
10/26/2017	395.00	0.00		5.80			0.22	
11/28/2017	409.00	0.09		4.20			0.39	
12/20/2017	416.80	0.00		4.51			0.17	
1/24/2018	434.50	1.31		4.81			0.15	
2/21/2018	443.10	0.29		5.70			0.08	
3/29/2018	453.00	1.28		9.30			0.22	
4/26/2018	449.10	0.05		6.34			0.20	
5/31/2018	453.10	0.20		6.34			0.11	
6/28/2018	448.20	0.00		5.28			0.21	
7/25/2018	440.40	0.00		6.30			0.17	
8/22/2018	427.10	0.00		6.10			0.13	
9/27/2018	439.60	0.00		5.70			0.12	
10/18/2018	405.30	0.90		5.46			0.18	
11/28/2018	408.60	1.19		4.80			0.15	
12/19/2018	436.00	1.99		5.10			0.28	
1/30/2019	463.80	4.71		6.30			0.82	
2/27/2019	466.20	6.55		5.70			1.50	
3/27/2019	463.30	1.34		4.50			0.80	
4/29/2019	453.00	0.13		6.30			0.79	
5/30/2019	451.80	0.64		6.30			0.60	
6/26/2019	446.20	0.01		5.07			0.40	
7/5/2019	39.40	0.00		4.70			0.23	
7/30/2019	434.80	0.00		5.38			0.34	
8/27/2019	424.40	0.00		6.30			0.25	
9/26/2019	405.60	0.00		5.30			0.22	
10/22/2019	400.50	0.00		4.50			0.19	
11/26/2019	412.80	3.13		5.80			0.24	
12/18/2019	447.40	4.44		6.30			0.39	
1/28/2020	465.40	0.20		5.01			0.76	

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 8**  
**SAN JOAQUIN DAM**  
**SEEPAGE WEIR MEASUREMENTS**  
**JANUARY 2007 THROUGH DECEMBER 2022**

Seepage Weir -->			Floor Drain			Right Groin Drain		
Date	Reservoir Elevation	Monthly Rainfall	Reading (ft)	Flow (gpm)	Comment	Reading (ft)	Flow (gpm)	Comment
2/26/2020	459.60	0.14		5.20			0.55	
3/24/2020	470.70	3.49		6.30			0.79	
4/29/2020	467.60	3.65		6.02			1.42	
5/27/2020	459.10	0.02		4.59			0.95	
6/23/2020	447.00	0.00		5.20			0.60	
7/30/2020	434.00	0.00		5.11			0.40	
8/26/2020	417.70	0.00		4.50			0.38	
9/29/2020	403.60	0.00		4.80			0.25	
10/28/2020	404.50	0.00		5.23			0.26	
11/24/2020	413.50	0.42		4.70			0.25	
12/22/2020	408.00	1.13		4.50			0.20	
1/27/2021	435.60	2.25		4.75			0.33	
2/25/2021	457.30	0.05		4.37			0.36	
3/23/2021	465.90	1.36		5.28			0.39	
4/27/2021	462.10	0.04		4.38			0.27	
5/26/2021	455.00	0.03		5.00			0.22	
6/30/2021	437.90	0.00		4.50			0.32	
7/29/2021	423.60	0.07		4.12			0.15	
8/24/2021	408.00	0.00		2.20			0.14	
9/29/2021	398.00	0.04		3.90			0.22	
10/26/2021	417.00	0.87		4.40			0.21	
11/25/2021	427.90	0.00		5.20			0.36	
12/21/2021	427.90	4.77		3.20			0.32	
1/27/2022	467.80	0.07		1.17			0.50	
2/23/2022	464.80	0.29		5.20			0.43	
3/23/2022	464.40	1.08		4.50			0.38	
4/26/2022	467.10	0.03		2.20			0.39	
5/26/2022	464.80	0.08		4.40			0.23	
6/28/2022	457.30	0.00		3.96			0.17	
7/26/2022	440.70	0.00		4.52			0.20	
8/25/2022	429.50	0.05		5.28			0.19	
9/28/2022	410.80	0.35		3.80			0.16	
10/25/2022	407.30	0.35		3.59			0.19	
11/23/2022	427.30	0.80		3.59			0.22	
12/20/2022	441.90	2.14		3.60			0.34	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	West Drain				East Drain			
		Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments	Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments
4/30/2014	465.3	1.5	6.47	57.00	CK/MD	0.0	0.0	50.0	
5/28/2014	450.6	0.5	1.85	46.03	BW/MC	0.0	0.0	34.1	
7/17/2014	436.4	1.6	5.14	36.19	10 day hold 7/1/14 to 7/11/14@ 438' CK/MC	0.0	0.0	27.4	
7/29/2014	431.2	0.5	2.69	33.88	SH/MD	0.0	0.0	25.0	
8/28/2014	419.5	0.1	3.54	27.02	CK/MD	0.0	0.0	19.1	
9/23/2014	405.3	0.3	3.14	21.32	BW/MD	0.0	0.0	13.0	
10/30/2014	400.9	0.1	3.21	18.50	West Drain Has a lot of Foam. TC/SH	0.0	0.0	10.1	
11/25/2014	410.9	0.1	3.88	18.60	CK/TC	0.0	0.0	10.8	
12/30/2014	430.6	0.3	3.61	26.64	SH	0.0	0.0	23.3	
1/27/2015	466.7	0.5	8.71	60.49	SH/MC	0.0	0.0	61.5	
3/5/2015	470.1	0.3	4.30	64.10	MD/CK	0.0	0.0	64.2	
3/26/2015	465.9	0.1	2.73	63.40	SH/MC	0.0	0.0	62.1	
4/28/2015	465.7	0.1	2.41	59.60	MD/MC	0.0	0.0	60.1	
5/28/2015	466.4	0.1	2.33	49.61	SH/CK	0.0	0.0	54.0	
6/30/2015	454.5	0.3	2.47	43.46	MD/TC	0.0	0.0	44.8	
7/28/2015	445.6	0.1	2.08	35.90	MC/BW	0.0	0.0	35.4	
8/28/2015	473.6	0.3	2.13	30.40	CK/MC	0.0	0.0	29.2	
9/24/2015	426.9	0.1	2.04	25.10	MC/JG	0.0	0.0	23.5	
10/27/2015	415.4	0.3	2.11	18.70	JG/CK	0.0	0.0	16.9	
11/19/2015	412.9	0.1	2.02	16.38	JG/MD	0.0	0.0	14.2	
12/22/2015	425.5	0.1	2.04	19.40	CK/MD	0.0	0.0	19.5	
1/27/2016	463.6	0.3	2.47	42.08	SH	0.0	0.0	53.2	
2/25/2016	468.9	0.5	3.72	50.05	MD	0.0	0.0	53.4	
3/30/2016	468.0	0.3	2.61	50.90	CC	0.0	0.0	56.4	
4/28/2016	461.3	0.3	2.43	46.75	SH	0.0	0.0	50.8	
5/25/2016	451.3	0.1	2.09	40.29	MD	0.0	0.0	43.1	
6/28/2016	414.1	0.1	2.11	34.83	AW	0.0	0.0	35.0	
7/27/2016	434.2	0.1	2.27	29.30	CK	0.0	0.0	28.2	

Notes:

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**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	West Drain				East Drain			
		Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments	Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments
8/23/2016	418.6	0.1	2.04	20.95	JM	0.0	0.0	19.0	
9/27/2016	406.4	0.1	2.06	15.91	JM	0.0	0.0	13.0	
10/26/2016	404.0	0.3	2.07	13.95	MC	0.0	0.0	10.9	
11/22/2016	413.6	0.3	2.13	14.80	SH	0.0	0.0	12.0	
12/20/2016	441.10			6.15				29.72	
1/26/2017	471.60			51.40				58.70	
2/24/2017	472.05			60.38				57.36	
2/25/2017	472.00			60.35				57.55	
2/26/2017	472.00			60.38				56.81	
2/27/2017	472.00			60.40				56.90	
2/28/2017	471.90			60.15				56.32	
3/1/2017	471.90			59.70				55.80	
3/2/2017	471.90			59.71				56.34	
3/29/2017	467.90			56.32				51.95	
4/27/2017	457.60			47.55				44.35	
5/23/2017	453.50			41.80				38.22	
6/21/2017	447.40			39.20				34.25	
7/26/2017	435.10			32.46				29.68	
8/25/2017	420.10			24.30				22.90	
9/27/2017	407.10			18.94				16.00	
10/26/2017	395.00			14.80				10.73	
11/28/2017	409.00			16.68				13.48	
12/20/2017	416.80			18.42				15.28	
1/24/2018	434.50			26.47				27.22	
2/21/2018	443.10			32.39				32.75	
3/29/2018	453.00			42.15				39.88	
4/26/2018	449.10			39.21				36.60	
5/31/2018	453.10			40.77				39.70	
6/28/2018	448.20			38.50				36.70	

Notes:

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**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	West Drain				East Drain			
		Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments	Silt Depth (in.)	Slit Volume (lbs)	Flow (gpm)	Comments
7/25/2018	440.40			35.20				33.48	
8/22/2018	427.10			28.26				23.07	
9/27/2018	439.60			19.09				13.85	
10/18/2018	405.30			15.38				10.95	
11/28/2018	408.60			14.80				10.60	
12/19/2018	436.00			23.10				24.80	
1/30/2019	463.80			45.60				49.09	
2/3/2019	471.60	0.25	3.04	51.40				50.80	
3/27/2019	463.30	0.25	3.66	48.88				47.06	
4/29/2019	453.00	0.125	2.12	42.48				38.70	
5/30/2019	451.80	0.25	2.04	40.80				38.10	
6/26/2019	446.20	0.125	2.08	38.07				36.33	
7/30/2019	434.80	0.125	2.21	32.54				31.49	
8/27/2019	424.40	0.25	2.13	26.39				23.74	
9/26/2019	405.60	0.25	1.97	19.42				15.51	
10/22/2019	400.50	0.25	1.81	16.33				12.42	
11/26/2019	412.80	0.25	1.96	17.34				13.27	
12/18/2019	447.40	0.125	2.03	30.36				32.88	
1/28/2020	465.40	0.50	3.42	47.62				49.22	
2/26/2020	459.60	0.50	2.61	43.84				42.43	
3/24/2020	470.70	0.25	2.93	50.87				49.77	
9/1/2021	404.70	0.75	4.24	20.80				12.62	
10/28/2021	419.80	0.13	2.16	18.86				12.15	
11/22/2021	427.80	0.13	2.08	24.56				18.62	
3/23/2022	464.40	0.50	3.59	38.20				39.70	
4/26/2022	467.10	0.25	3.04	43.23				40.26	
5/26/2022	464.80	0.25	2.84	41.89				37.36	
9/28/2022	410.60	1.00	39.96	19.20				12.35	
11/24/2022	407.40	0.75	13.4	19.65					
12/20/2022	441.90			23.40				19.84	

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	Filter Drain		
		Silt Depth (in.)	Flow (gpm)	Comments
4/30/2014	465.3	0.0	9.0	
5/28/2014	450.6		8.2	
7/17/2014	436.4		7.9	
7/29/2014	431.2	0.0	8.2	
8/28/2014	419.5	0.0	8.0	
9/23/2014	405.3	0.0	8.0	
10/30/2014	400.9	0.0	7.9	
11/25/2014	410.9	0.0	7.0	
12/30/2014	430.6	0.0	7.5	
1/27/2015	466.7	0.0	8.2	
3/5/2015	470.1	0.0	8.0	
3/26/2015	465.9	0.0	9.0	
4/28/2015	465.7	0.0	9.9	
5/28/2015	466.4	0.0	7.4	
6/30/2015	454.5	0.0	8.3	
7/28/2015	445.6	0.0	6.7	
8/28/2015	473.6	0.0	7.1	
9/24/2015	426.9	0.0	7.1	
10/27/2015	415.4	0.0	6.9	
11/19/2015	412.9	0.0	6.4	
12/22/2015	425.5	0.0	6.7	
1/27/2016	463.6	0.0	6.5	
2/25/2016	468.9	0.0	6.6	
3/30/2016	468.0	0.0	6.2	
4/28/2016	461.3	0.0	6.7	
5/25/2016	451.3	0.0	7.2	
6/28/2016	414.1	0.0	6.7	
7/27/2016	434.2	0.0	6.6	10 day hold 7/11-7/21/16

Notes:

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2. Piezometer data based on NAVD 88 datum.

**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	Filter Drain		
		Silt Depth (in.)	Flow (gpm)	Comments
8/23/2016	418.6	0.0	6.5	5 day hold 8/23-8/28/16
9/27/2016	406.4	0.0	5.7	10 day hold 9/30-
10/26/2016	404.0	0.0	5.9	
11/22/2016	413.6	0.0	6.2	
12/20/2016	441.10		25.63	
1/26/2017	471.60		6.50	
2/24/2017	472.05		7.41	
2/25/2017	472.00		7.44	
2/26/2017	472.00		7.39	
2/27/2017	472.00		7.34	
2/28/2017	471.90		7.14	
3/1/2017	471.90		7.02	
3/2/2017	471.90		7.04	
3/29/2017	467.90		7.34	
4/27/2017	457.60		7.65	
5/23/2017	453.50		7.76	
6/21/2017	447.40		7.61	
7/26/2017	435.10		7.54	Reservoir 5 day hold at 438' from 7/7 to 7/16.
8/25/2017	420.10		7.70	
9/27/2017	407.10		7.44	
10/26/2017	395.00		7.19	
11/28/2017	409.00		7.45	
12/20/2017	416.80		7.17	
1/24/2018	434.50		7.11	
2/21/2018	443.10		6.80	
3/29/2018	453.00		7.01	
4/26/2018	449.10		6.97	
5/31/2018	453.10		7.66	
6/28/2018	448.20		8.04	

Notes:

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2. Piezometer data based on NAVD 88 datum.



**TABLE 9  
SAN JOAQUIN DAM  
SEDIMENT COLLECTION AND SEEPAGE  
APRIL 2014 THROUGH DECEMBER 2022**

Date	Reservoir Elevation (feet)	Filter Drain		
		Silt Depth (in.)	Flow (gpm)	Comments
7/25/2018	440.40		7.76	Reservoir 10 day hold at 438' from 7/30 to 8/8
8/22/2018	427.10		7.82	
9/27/2018	439.60		7.53	Reservoir 5 day hold at 418.6' from 9/6 to 9/11.
10/18/2018	405.30		6.79	
11/28/2018	408.60		5.90	
12/19/2018	436.00		5.80	
1/30/2019	463.80		6.45	
2/3/2019	471.60		7.80	
3/27/2019	463.30		7.16	
4/29/2019	453.00		7.35	
5/30/2019	451.80		7.80	
6/26/2019	446.20		7.19	
7/30/2019	434.80		7.80	
8/27/2019	424.40		8.19	
9/26/2019	405.60		7.57	
10/22/2019	400.50		7.02	
11/26/2019	412.80		6.67	
12/18/2019	447.40		6.52	
1/28/2020	465.40		6.67	
2/26/2020	459.60		6.77	
3/24/2020	470.70		7.73	
9/1/2021	404.70		6.64	
10/28/2021	419.80		5.86	
11/22/2021	427.80		3.13	
3/23/2022	464.40		6.70	
4/26/2022	467.10		6.97	
5/26/2022	464.80		7.12	
9/28/2022	410.60		7.82	
11/24/2022	407.40			
12/20/2022	441.90		5.91	

Notes:

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**TABLE 10  
SAN JOAQUIN DAM  
HORIZONTAL AND VERTICAL MOVEMENT SURVEY DATA  
DECEMBER 2004 THROUGH NOVEMBER 2022**

Date	Reservoir Elevation (feet)	Horizontal Movement Since Initial Survey (Feet) Positive=North(Downstream);Negative=South(Upstream)																	
		SA-1	SA-2	SA-3	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SC-1	SC-2	SC-3	SC-4	SC-5	SC-6	SC-7	SC-8
12/20/2004	370.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9/27/2005	422.80	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10/26/2005	411.70	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
11/4/2005	411.70	-0.020	0.000	-0.030	-0.005	0.005	0.020	0.020	0.015	0.000	0.005	-0.035	-0.045	-0.050	-0.070	-0.085	-0.105	-0.125	-0.120
6/1/2006	467.10	-0.020	0.000	-0.040	-0.005	0.010	0.030	0.030	0.025	0.000	0.010	-0.035	-0.045	-0.045	-0.070	-0.085	-0.105	-0.125	-0.120
5/25/2007	461.40	-0.020	0.000	-0.035	-0.005	0.010	0.025	0.025	0.020	-0.005	0.010	No Survey Data							
6/9/2008	460.00	-0.020	0.000	-0.025	0.005	0.020	0.030	0.030	0.025	0.000	0.020	-0.045	-0.040	-0.045	-0.070	-0.090	-0.110	-0.120	-0.120
6/10/2009	460.00	-0.035	-0.005	-0.035	-0.005	0.010	0.025	0.025	0.020	0.000	0.015	-0.065	-0.060	-0.055	-0.080	-0.095	-0.110	-0.130	-0.125
5/27/2010	463.30	-0.035	-0.005	-0.040	-0.005	0.005	0.025	0.025	0.020	0.000	0.015	-0.065	-0.050	-0.050	-0.080	-0.095	-0.105	-0.130	-0.125
5/26/2011	457.20	-0.040	-0.005	-0.040	-0.005	0.005	0.020	0.025	0.025	0.000	0.015	-0.065	-0.050	-0.050	-0.075	-0.095	-0.105	-0.130	-0.130
5/24/2012	457.20	-0.030	-0.005	-0.035	0.000	0.010	0.020	0.020	0.020	-0.005	0.010	-0.065	-0.050	-0.050	-0.080	-0.105	-0.110	-0.135	-0.135
6/20/2013	441.40	-0.035	-0.010	-0.040	-0.010	0.005	0.015	0.020	0.015	-0.005	0.015	-0.060	-0.055	-0.055	-0.080	-0.105	-0.115	-0.135	-0.135
5/2/2014	465.10	-0.040	-0.015	-0.040	-0.015	0.005	0.015	0.020	0.020	-0.005	0.010	-0.050	-0.050	-0.050	-0.080	-0.090	-0.115	-0.135	-0.130
6/10/2015	463.20	-0.035	-0.010	-0.035	-0.015	0.010	0.015	0.020	0.020	-0.005	0.010	-0.060	-0.055	-0.045	-0.075	-0.095	-0.115	-0.130	-0.130
8/1/2016	430.80	-0.030	-0.005	-0.035	-0.015	0.010	0.020	0.020	0.025	0.000	0.020	-0.065	-0.055	-0.050	-0.075	-0.095	-0.115	-0.125	-0.125
6/1/2017		No Survey Data			No Survey Data							No							
6/27/2018		-0.040	-0.010	-0.040	-0.025	0.005	0.015	0.020	0.025	0.000	0.020	-0.070	-0.060	-0.050	-0.070	-0.100	-0.115	-0.135	-0.140
6/17/2019		-0.040	-0.015	-0.035	-0.010	0.020	0.030	0.030	0.035	0.005	0.020	-0.070	-0.055	-0.060	-0.085	-0.105	-0.125	-0.145	-0.135
11/25/2020		-0.030	-0.030	-0.050	0.000	0.020	0.020	0.020	0.000	0.020		-0.070	-0.080	-0.065	-0.085	-0.105	-0.130	-0.135	-0.145
6/30/2021		No Survey Data			No Survey Data							No							
5/10/2022		-0.040	-0.020	-0.050	-0.010	0.000	0.015	0.020	0.015	0.000	0.010	-0.060	-0.065	-0.060	-0.085	-0.105	-0.115	-0.130	-0.150
11/16/2022	415.30	-0.040	-0.020	-0.045	-0.005	0.000	0.020	0.020	0.020	-0.010	0.010	-0.065	-0.080	-0.065	-0.095	-0.120	-0.130	-0.150	-0.150
Date	Reservoir Elevation (feet)	Vertical Movement Since Initial Survey(Feet)																	
		SA-1	SA-2	SA-3	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SC-1	SC-2	SC-3	SC-4	SC-5	SC-6	SC-7	SC-8
12/20/2004	370.00	300.242	300.137	300.170	360.119	360.627	360.443	360.504	360.256	360.177	360.926	420.056	419.748	419.955	419.516	419.467	419.526	419.768	420.402
9/27/2005	422.80	302.379	302.263	302.294	362.253	362.760	362.573	362.631	362.393	362.291	363.060	422.200	421.876	422.082	421.643	421.593	421.655	421.897	422.525
10/26/2005	411.70	No Survey Data			No Survey Data							No Survey Data							
11/4/2005	411.70	No Survey Data			No Survey Data							No Survey Data							
6/1/2006	467.10	302.374	302.264	302.294	362.264	362.769	362.584	362.639	362.404	362.299	363.069	422.225	421.900	422.105	421.665	421.615	421.675	421.915	422.504
5/25/2007	461.40	302.362	302.258	302.291	362.244	362.751	362.564	362.619	362.383	362.283	363.054	422.197	421.875	422.081	421.641	421.592	421.654	421.895	422.524
6/9/2008	460.00	302.359	302.254	302.288	362.246	362.756	362.571	362.626	362.391	362.291	363.061	422.198	421.888	422.093	421.653	421.608	421.668	421.908	422.538
6/10/2009	460.00	302.353	302.246	302.281	362.254	362.764	362.574	362.629	362.394	362.294	363.064	422.194	421.884	422.089	421.649	421.599	421.664	421.909	422.539
5/27/2010	463.30	302.355	302.250	302.283	362.254	362.759	362.569	362.624	362.389	362.289	363.059	422.209	421.894	422.099	421.659	421.609	421.674	421.919	422.549
5/26/2011	457.20	302.351	302.248	302.280	362.259	362.764	362.574	362.629	362.394	362.294	363.064	422.209	421.889	422.094	421.654	421.604	421.669	421.914	422.544
5/24/2012	457.20	302.348	302.242	302.277	362.244	362.754	362.564	362.624	362.389	362.289	363.059	422.204	421.884	422.089	421.649	421.599	421.664	421.909	422.539
6/20/2013	441.40	302.345	302.238	302.275	362.254	362.764	362.579	362.634	362.399	362.299	363.069	422.189	421.884	422.089	421.649	421.599	421.664	421.914	422.534
5/2/2014	465.10	302.342	302.235	302.272	362.254	362.759	362.564	362.629	362.394	362.294	363.064	422.184	421.889	422.094	421.654	421.604	421.669	421.919	422.534
6/10/2015	463.20	302.343	302.237	302.274	362.249	362.754	362.564	362.624	362.389	362.289	363.059	422.169	421.884	422.089	421.649	421.599	421.664	421.909	422.524
8/1/2016	430.80	302.344	302.239	302.278	362.244	362.754	362.564	362.624	362.389	362.294	363.064	422.159	421.874	422.079	421.639	421.594	421.659	421.904	422.519
6/1/2017		No Survey Data			No Survey Data							No Survey Data							
6/27/2018		302.339	302.339	302.234	362.254	362.764	362.574	362.629	362.394	362.299	363.069	422.184	421.904	422.109	421.669	421.619	421.684	421.934	422.559
6/17/2019		302.339	302.234	302.264	362.269	362.779	362.589	362.649	362.414	362.314	363.084	422.234	421.929	422.129	421.694	421.639	421.714	421.959	422.589
11/25/2020		302.330	302.223	302.263	362.241	362.742	362.559	362.617	362.383	362.285	363.056	422.212	421.899	422.105	421.663	421.612	421.680	421.930	422.56
6/30/2021		No Survey Data			No Survey Data							No Survey Data							
5/10/2022		302.319	302.214	302.252	362.237	362.744	362.561	362.616	362.382	362.29	363.068	422.214	421.906	422.11	421.668	421.615	421.684	421.935	422.568
11/16/2022	415.3	302.322	302.218	302.257	362.228	362.736	362.549	362.606	362.373	362.278	363.05	422.172	421.873	422.077	421.64	421.59	421.658	421.908	422.534

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

**TABLE 10  
SAN JOAQUIN DAM  
HORIZONTAL AND VERTICAL MOVEMENT SURVEY DATA  
DECEMBER 2004 THROUGH NOVEMBER 2022**

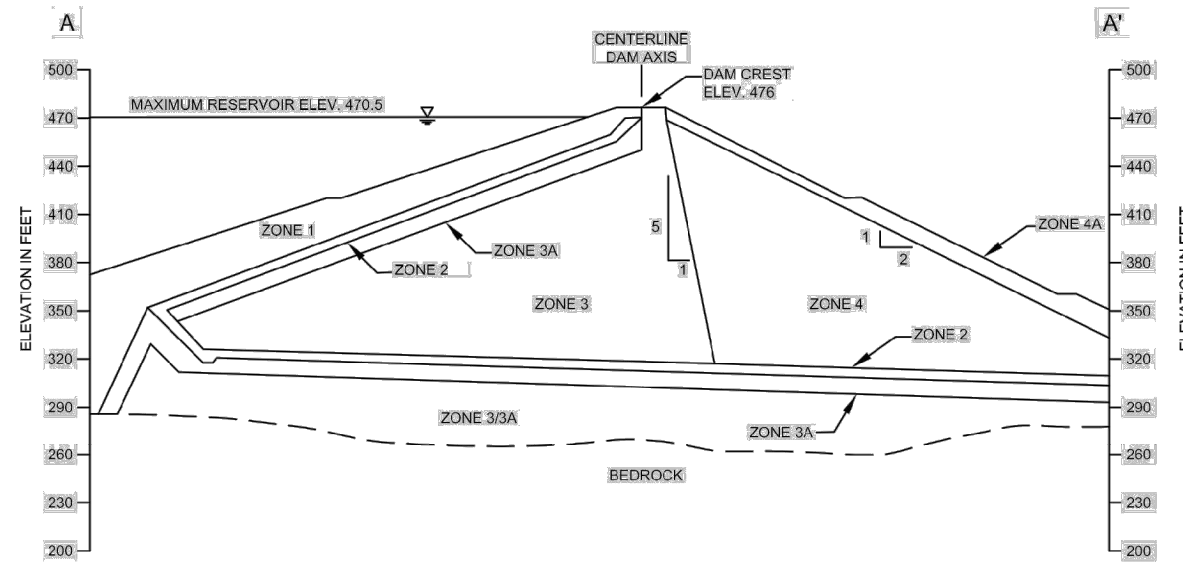
Date	Reservoir Elevation (feet)	Horizontal Movement Since Initial Survey (Feet) Positive=North(Downstream);Negative=South(Upstream)												
		SD-1	SD-2	SD-3	SD-4	SD-5	SD-6	SD-7	SE-2	SE-3	SE-5	SE-6	SE-7	
12/20/2004	370.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
9/27/2005	422.80	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
10/26/2005	411.70	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
11/4/2005	411.70	0.000	0.000	0.000	0.065	0.045	-0.010	-0.005						
6/1/2006	467.10	0.000	0.000	0.000	0.075	0.045	-0.015	-0.005						
5/25/2007	461.40	No Survey Data												
6/9/2008	460.00	-0.005	0.000	0.000	0.080	0.045	-0.015	0.000						
6/10/2009	460.00	-0.010	0.000	0.000	0.085	0.040	-0.015	-0.005						
5/27/2010	463.30	-0.010	0.000	0.000	0.080	0.045	-0.020	-0.005						
5/26/2011	457.20	-0.010	0.005	0.010	0.090	0.055	-0.015	-0.005						
5/24/2012	457.20	-0.010	0.005	0.010	0.090	0.055	-0.015	-0.005						
6/20/2013	441.40	-0.010	0.015	0.015	0.095	0.060	-0.010	-0.005						
5/2/2014	465.10	-0.015	0.000	0.015	0.080	0.040	-0.015	-0.005						
6/10/2015	463.20	-0.005	0.010	0.015	0.090	0.055	-0.010	-0.005						
8/1/2016	430.80	-0.010	0.010	0.015	0.080	0.055	-0.010	-0.005						
6/1/2017		No Survey Data												
6/27/2018		-0.010	0.010	0.020	0.085	0.055	-0.010	0.000						
6/17/2019		0.010	0.010	0.015	0.100	0.060	-0.005	0.000						
11/25/2020		0.000	0.000	0.020	0.080	0.040	-0.015	0.000						
6/30/2021		No Survey Data												
5/10/2022		-0.010	0.000	0.010	0.075	0.040	-0.025	-0.005						
11/16/2022	415.30	0.000	0.020	0.020	0.090	0.050	-0.010	0.010						
Date	Reservoir Elevation (feet)	Vertical Movement Since Initial Survey(Feet)												
		SD-1	SD-2	SD-3	SD-4	SD-5	SD-6	SD-7	SE-2	SE-3	SE-5	SE-6	SE-7	
12/20/2004	370.00	476.015	476.636	477.565	478.427	477.546	476.917	476.307	420.061	419.949	420.021	420.319	420.670	
9/27/2005	422.80	478.151	478.767	479.699	480.556	479.664	479.038	478.418	422.181	422.069	422.130	422.452	422.807	
10/26/2005	411.70	No Survey Data												
11/4/2005	411.70	No Survey Data												
6/1/2006	467.10	478.158	478.773	479.698	480.553	479.663	479.033	478.408						
5/25/2007	461.40	478.144	478.758	479.688	480.540	479.650	479.023	478.405						
6/9/2008	460.00	478.156	478.771	479.701	480.556	479.661	479.036	478.421						
6/10/2009	460.00	478.164	478.779	479.709	480.564	479.674	479.049	478.434						
5/27/2010	463.30	478.174	478.784	479.714	480.569	479.679	479.054	478.439						
5/26/2011	457.20	478.174	478.784	479.714	480.569	479.679	479.054	478.439						
5/24/2012	457.20	478.164	478.774	479.699	480.554	479.664	479.039	478.424						
6/20/2013	441.40	478.164	478.774	479.704	480.554	479.659	479.034	478.424						
5/2/2014	465.10	478.159	478.774	479.699	480.549	479.654	479.034	478.429						
6/10/2015	463.20	478.164	478.774	479.699	480.549	479.654	479.034	478.429						
8/1/2016	430.80	478.169	478.779	479.704	480.554	479.659	479.039	478.429						
6/1/2017		No Survey Data												
6/27/2018		478.199	478.809	479.739	480.594	479.689	479.074	478.479						
6/17/2019		478.204	478.814	479.739	480.594	479.689	479.074	478.474						
11/25/2020		478.190	478.798	479.724	480.570	479.679	479.064	478.453						
6/30/2021		No Survey Data												
5/10/2022		478.199	478.807	479.732	480.584	479.693	479.078	478.467						
11/16/2022	415.3	478.172	478.782	479.711	480.565	479.673	479.052	478.444						

Notes:

1. Readings in red are classified as erroneous.
2. Piezometer data based on NAVD 88 datum.

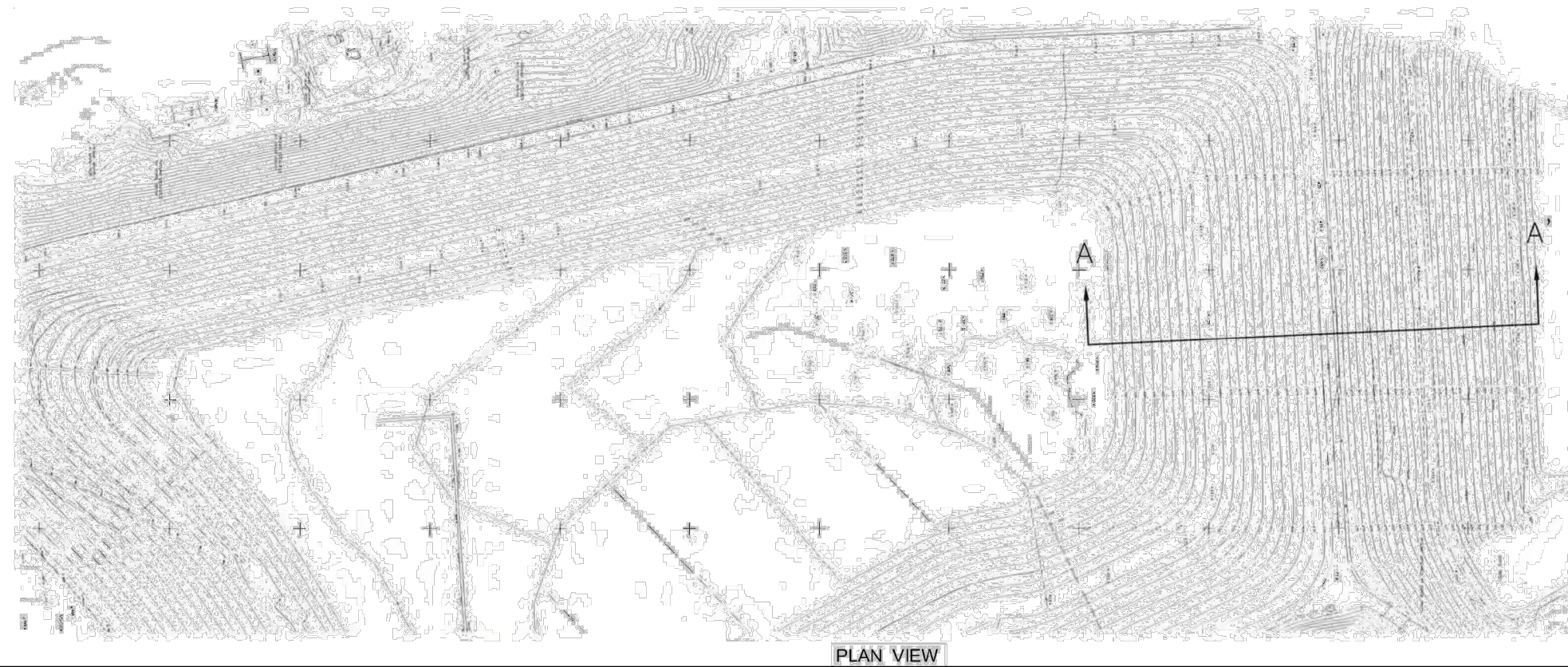
# Figures

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ZONE NO.	MATERIAL	FUNCTION
1	TERRACE SOIL	IMPERVIOUS BLANKET AND RESERVOIR LINING
2	IMPORTED SAND	FILTER DRAIN
3	IMPORTED GRAVEL	ROCK CORE (MAX. SIZE 6")
3A	SANDSTONE	ROCK CORE TRANSITION (MAX. SIZE 3")
4	SANDSTONE	DOWNSTREAM RANDOM SHELL (MAX. SIZE 12")
4A	SANDSTONE	DOWNSTREAM SLOPE PROTECTION (MAX. SIZE 30")

SECTION A-A' 0 50 100 SCALE, FEET



NOT TO SCALE

Annual Surveillance Report from Jan. 2022 to Dec. 2022  
 San Joaquin Dam and Reservoir  
 Irvine, CA  
 Irvine Ranch Water District  
 Irvine, CA

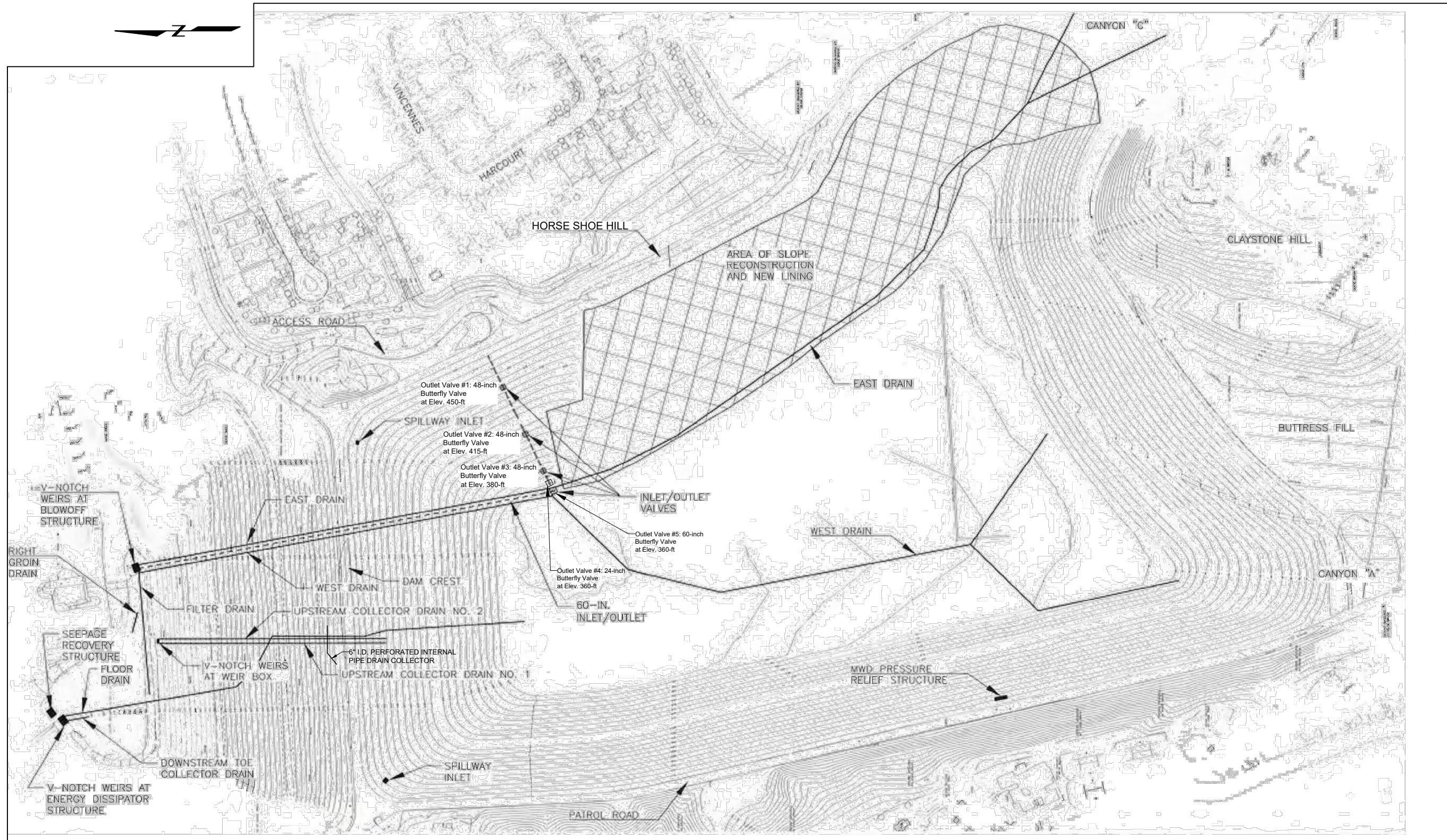


PLAN VIEW AND SECTION A-A'

Project 1901888

May 2023

Fig. 1



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Annual Surveillance Report from Jan. 2022 to Dec. 2022  
 San Joaquin Dam and Reservoir  
 Irvine, CA  
 Irvine Ranch Water District  
 Irvine, CA

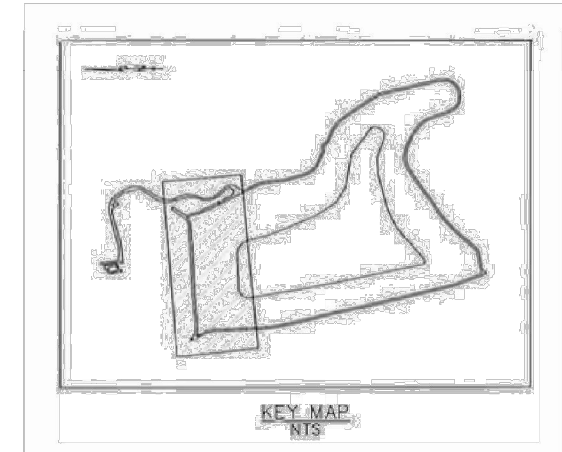
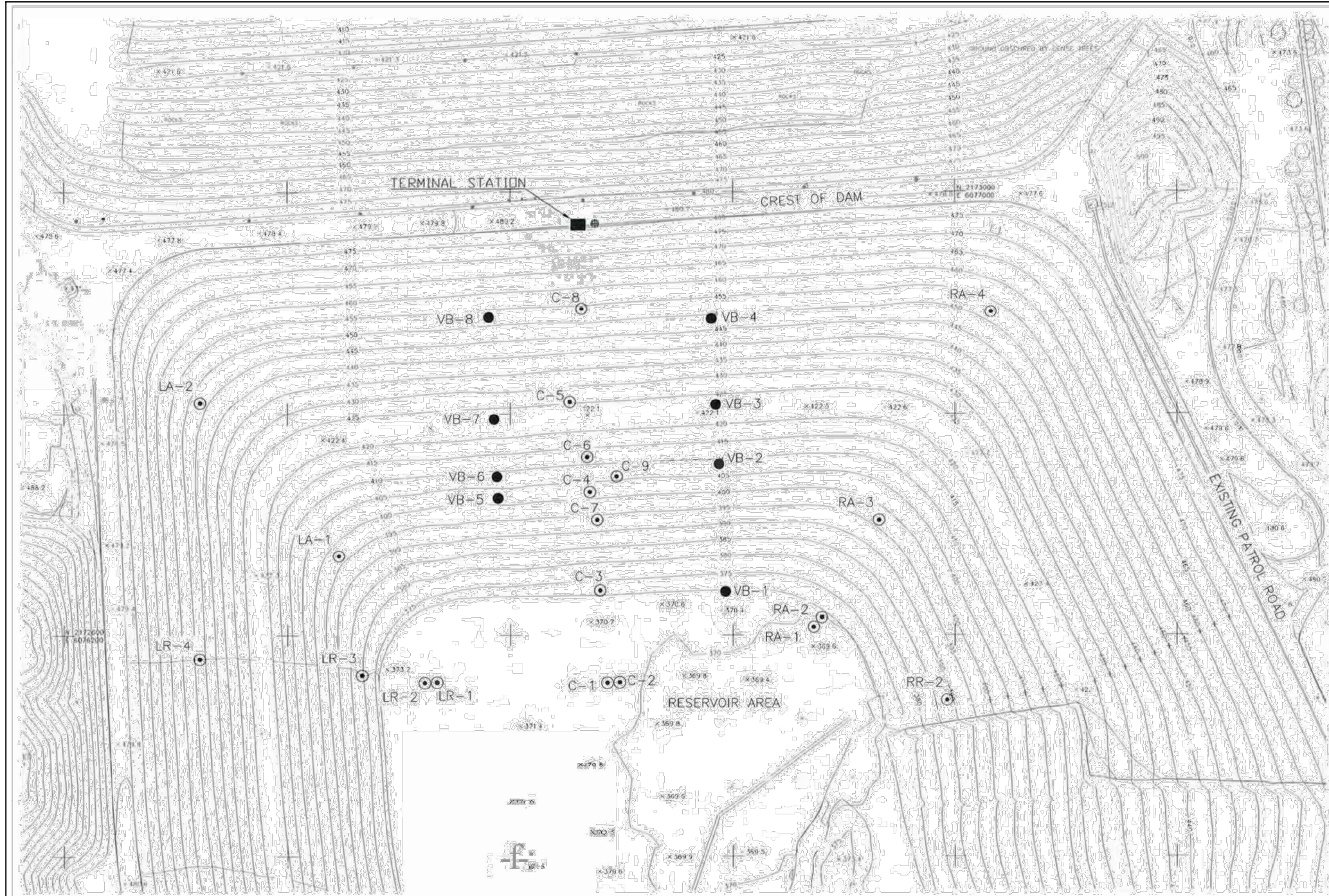


DAM AND RESERVOIR SITE PLAN




Project 1901888

May 2023


Fig. 2

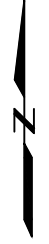
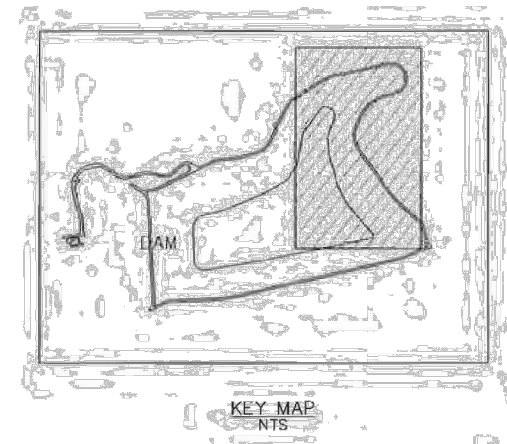
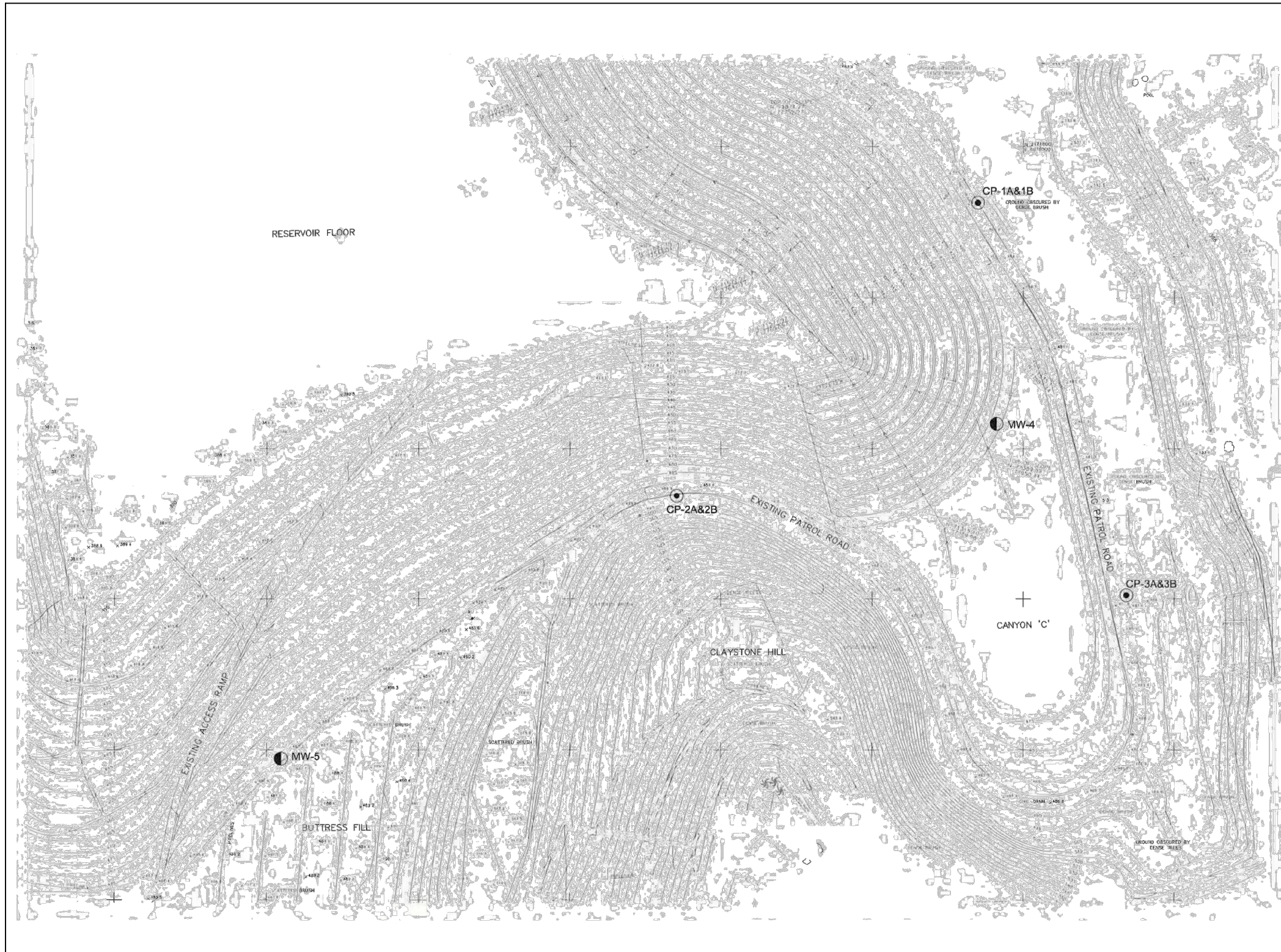


**LEGEND**



-  3' CONTOUR LINES
-  VIBRATING WIRE PIEZOMETER
-  PNEUMATIC PIEZOMETER

NOT TO SCALE

Annual Surveillance Report from Jan. 2022 to Dec. 2022 San Joaquin Dam and Reservoir Irvine, CA		DAM EMBANKMENT AND ABUTMENT LOCATIONS
Irvine Ranch Water District Irvine, CA	Project 1901888	May 2023 <span style="float: right;">Fig. 3</span>



LEGEND

-  OPEN-WELL PIEZOMETER
-  MONITORING WELLS

NOT TO SCALE

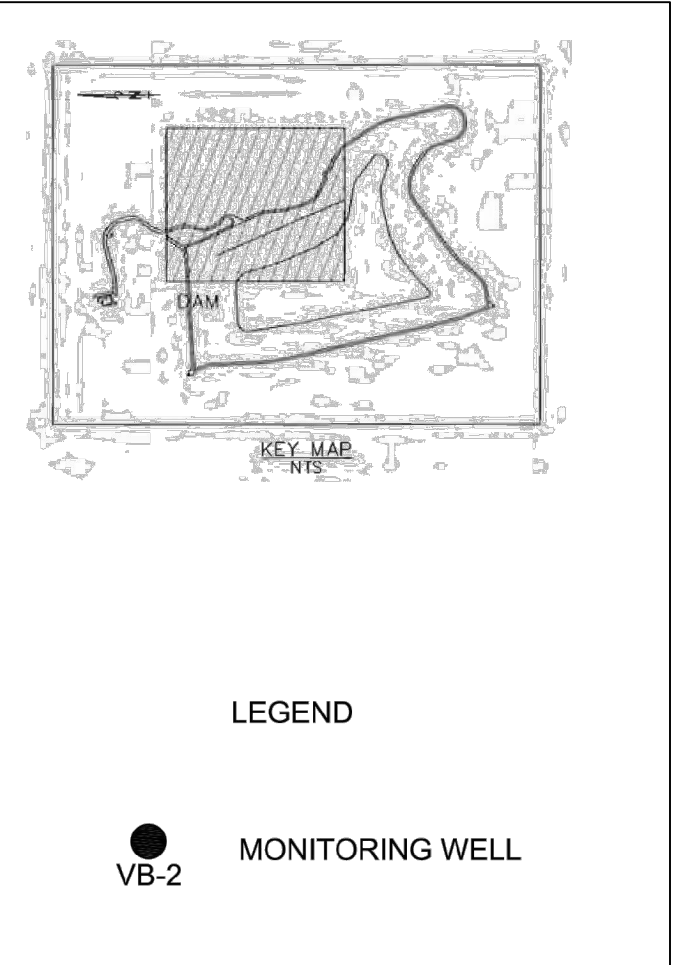
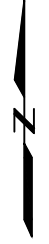
Annual Surveillance Report from Jan. 2022 to Dec. 2022  
 San Joaquin Dam and Reservoir  
 Irvine, CA  
 Irvine Ranch Water District  
 Irvine, CA




LOCATIONS OF OPEN-WELL  
 PIEZOMETERS AND MW-4 AND  
 MW-5  
 Project 1901888 May 2023

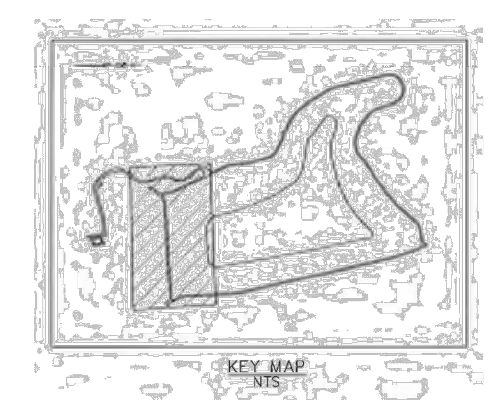
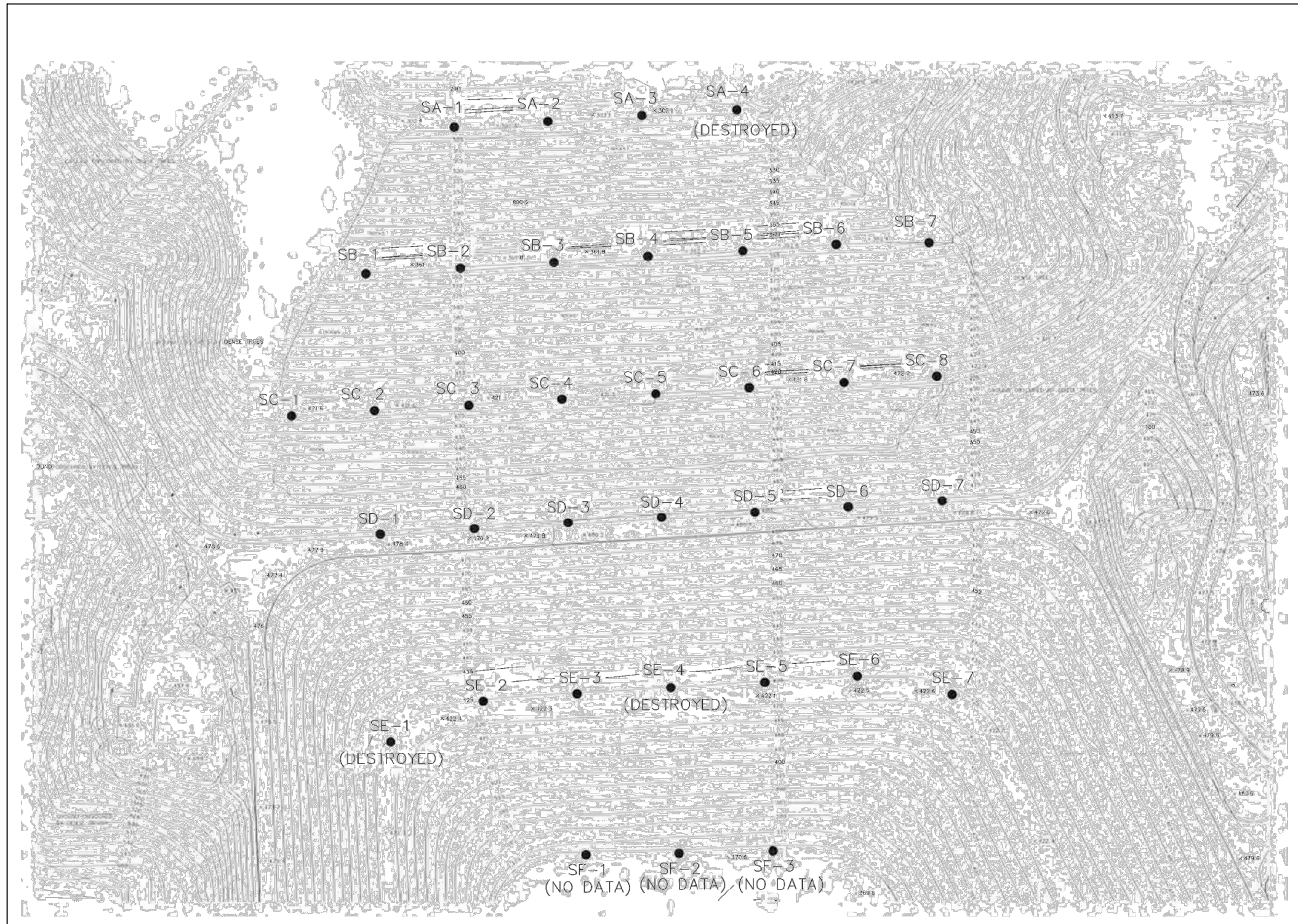
Fig. 4





NOT TO SCALE

Annual Surveillance Report from Jan. 2022 to Dec. 2022 San Joaquin Dam and Reservoir Irvine, CA		LOCATIONS OF MW-1, MW-2, MW-3, MW-6, MW-7, AND MW-8
Irvine Ranch Water District Irvine, CA	Project 1901888	May 2023 <span style="float: right;">Fig. 5</span>



LEGEND

● SURVEY MONUMENT  
SD-2

- NOTES:**
- SF-1, SF-2 AND SF-3 SURVEY MONUMENTS ARE SUBMERGED UNDER WATER WHEN RESERVOIR WATER LEVEL IS ABOVE 371 FT.
  - SE-2, SE-3, SE-5, SE-6 AND SE-7 SURVEY MONUMENTS ARE SUBMERGED UNDER WATER WHEN RESERVOIR WATER LEVEL IS ABOVE 423 FT.

NOT TO SCALE

Annual Surveillance Report from Jan. 2022 to Dec. 2022  
 San Joaquin Dam and Reservoir  
 Irvine, CA  
 Irvine Ranch Water District  
 Irvine, CA



LOCATION OF SURVEY MONUMENT POINTS  
 Project 1901888  
 May 2023

Fig. 6

**Figure 7**  
**SAN JOAQUIN DAM**  
**2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**OPEN WELL PIEZOMETERS CP-1A, CP-1B, CP-3A, and CP-3B**  
**JANUARY 2021 THROUGH DECEMBER 2022**

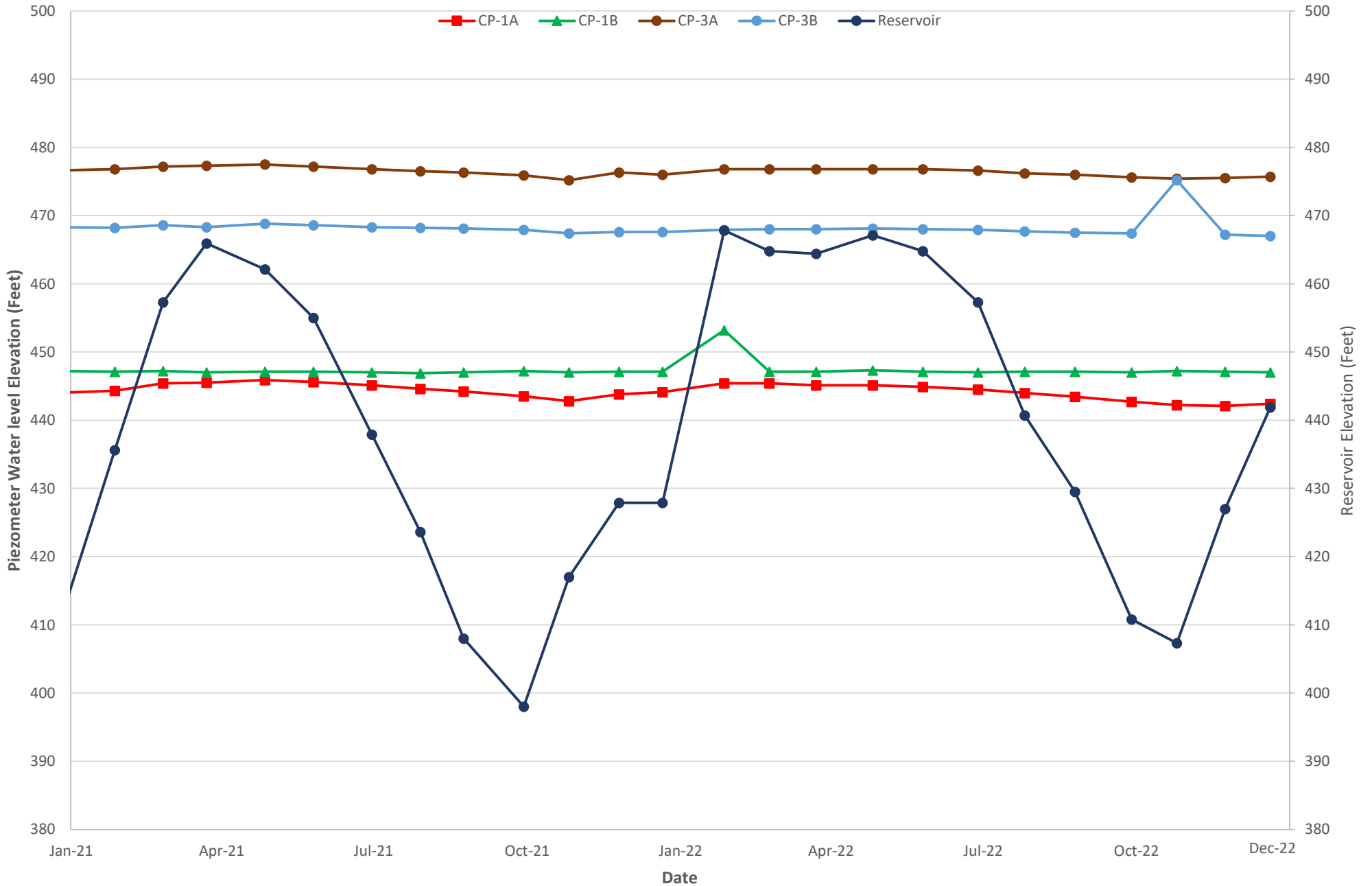


Figure 8  
 SAN JOAQUIN DAM  
 2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 OPEN WELL PIEZOMETERS CP-2A, and CP-2B  
 JANUARY 2021 THROUGH DECEMBER 2022

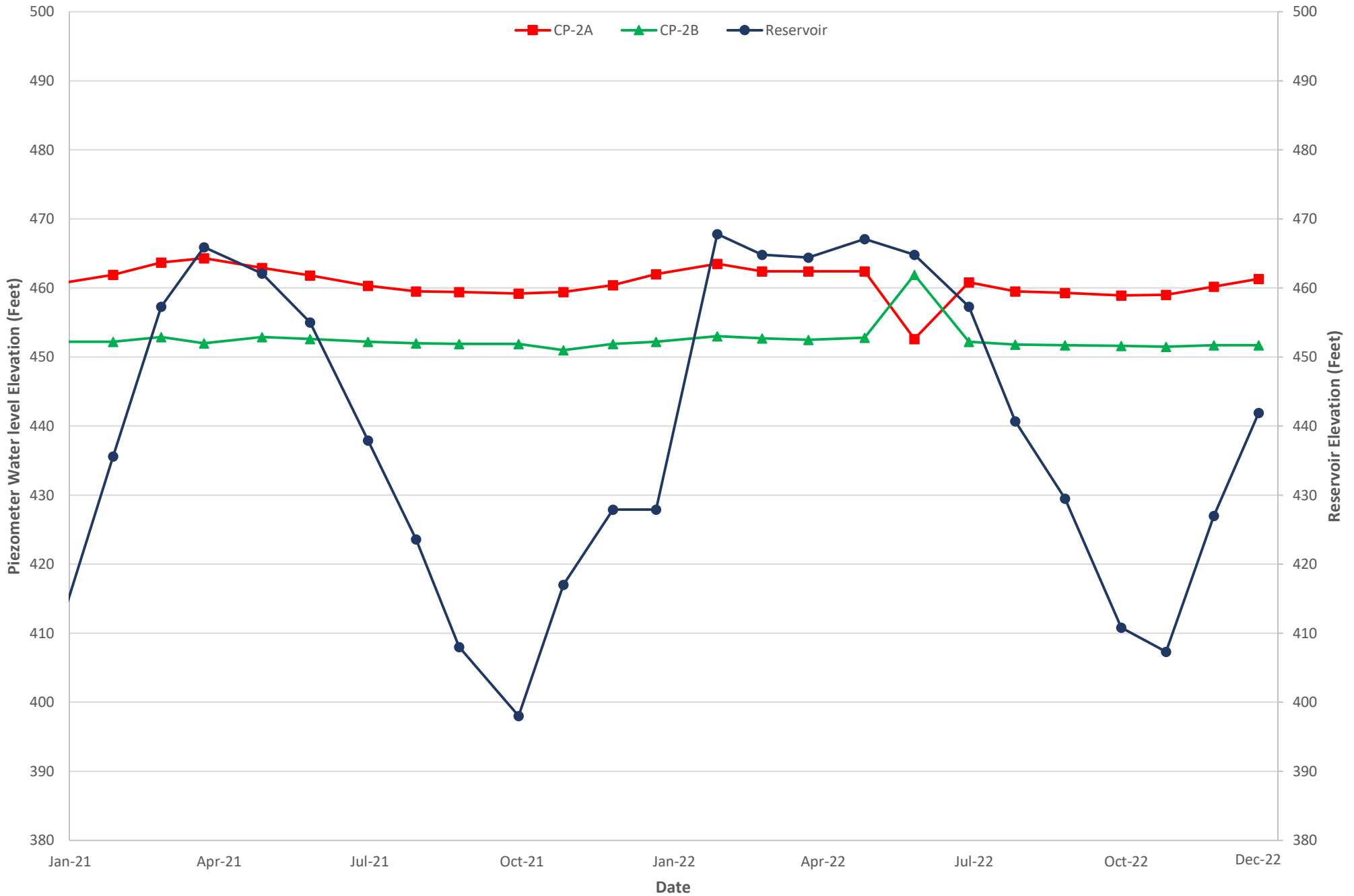
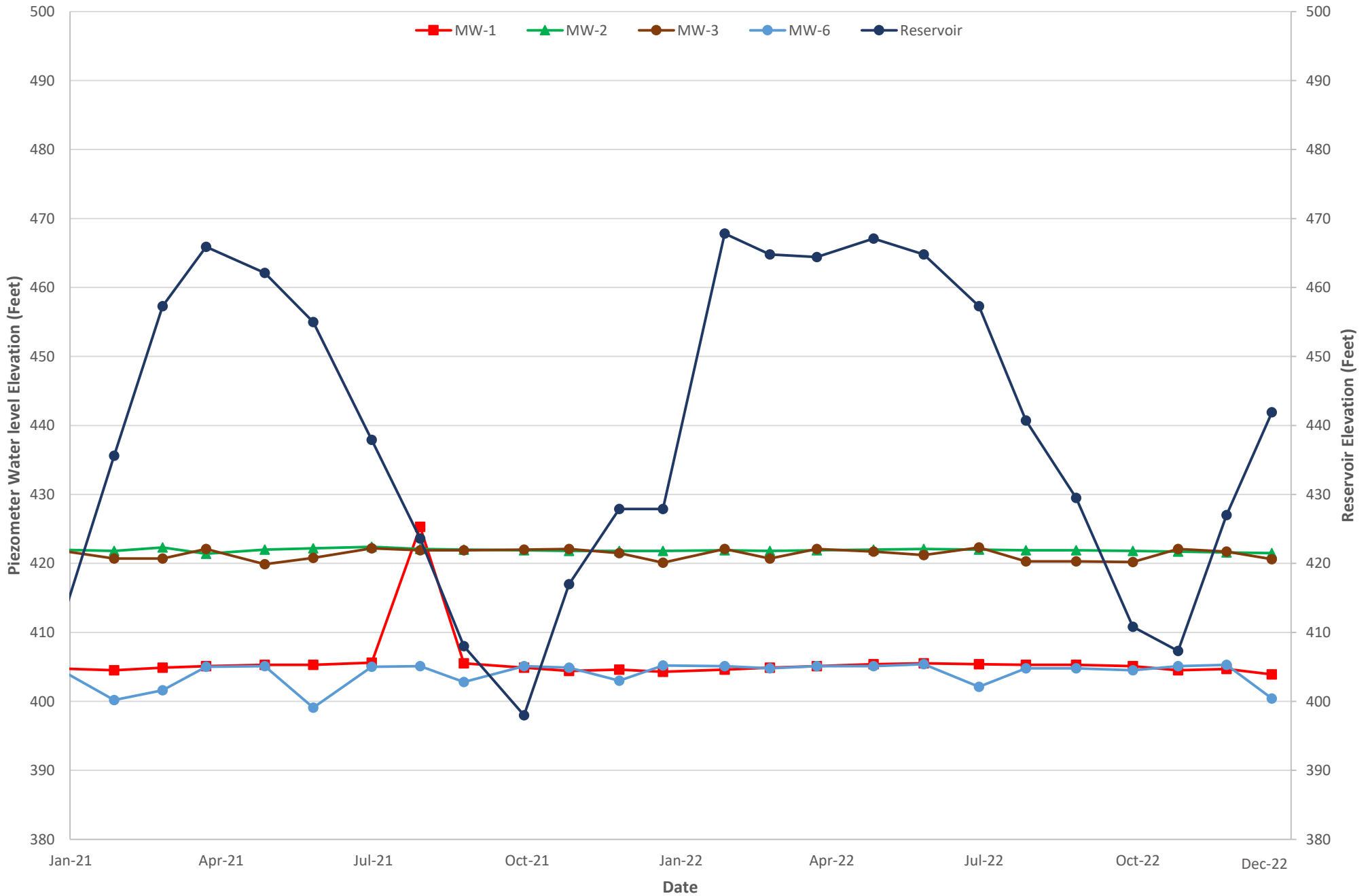


Figure 9  
 SAN JOAQUIN DAM  
 2-YR MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS  
 MONITORING WELLS MW-1, MW-2, MW-3, and MW-6  
 JANUARY 2021 THROUGH DECEMBER 2022



**Figure 10**  
**SAN JOAQUIN DAM**  
**2-YR MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS**  
**MONITORING WELLS MW-4, and MW-5**  
**JANUARY 2021 THROUGH DECEMBER 2022**

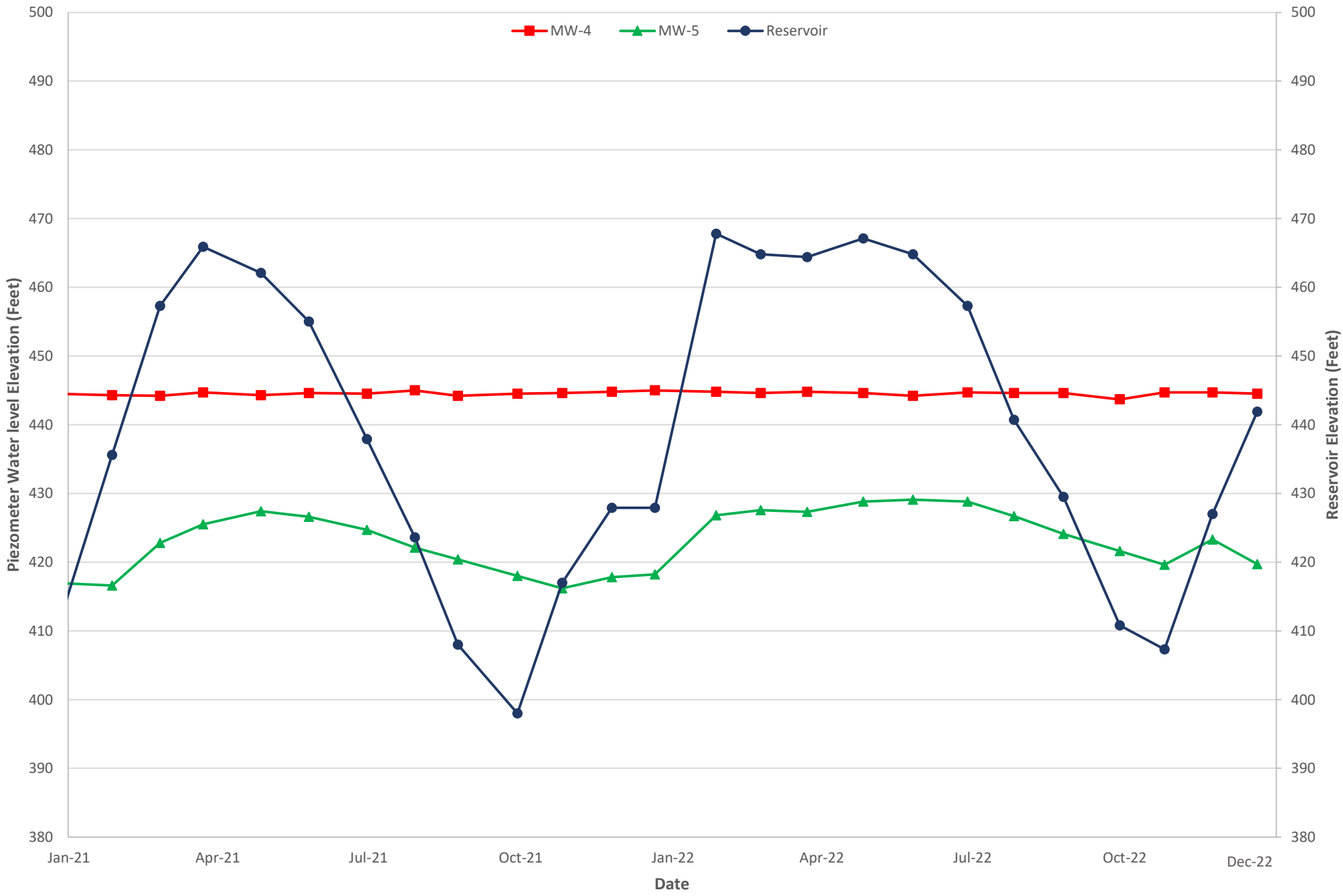
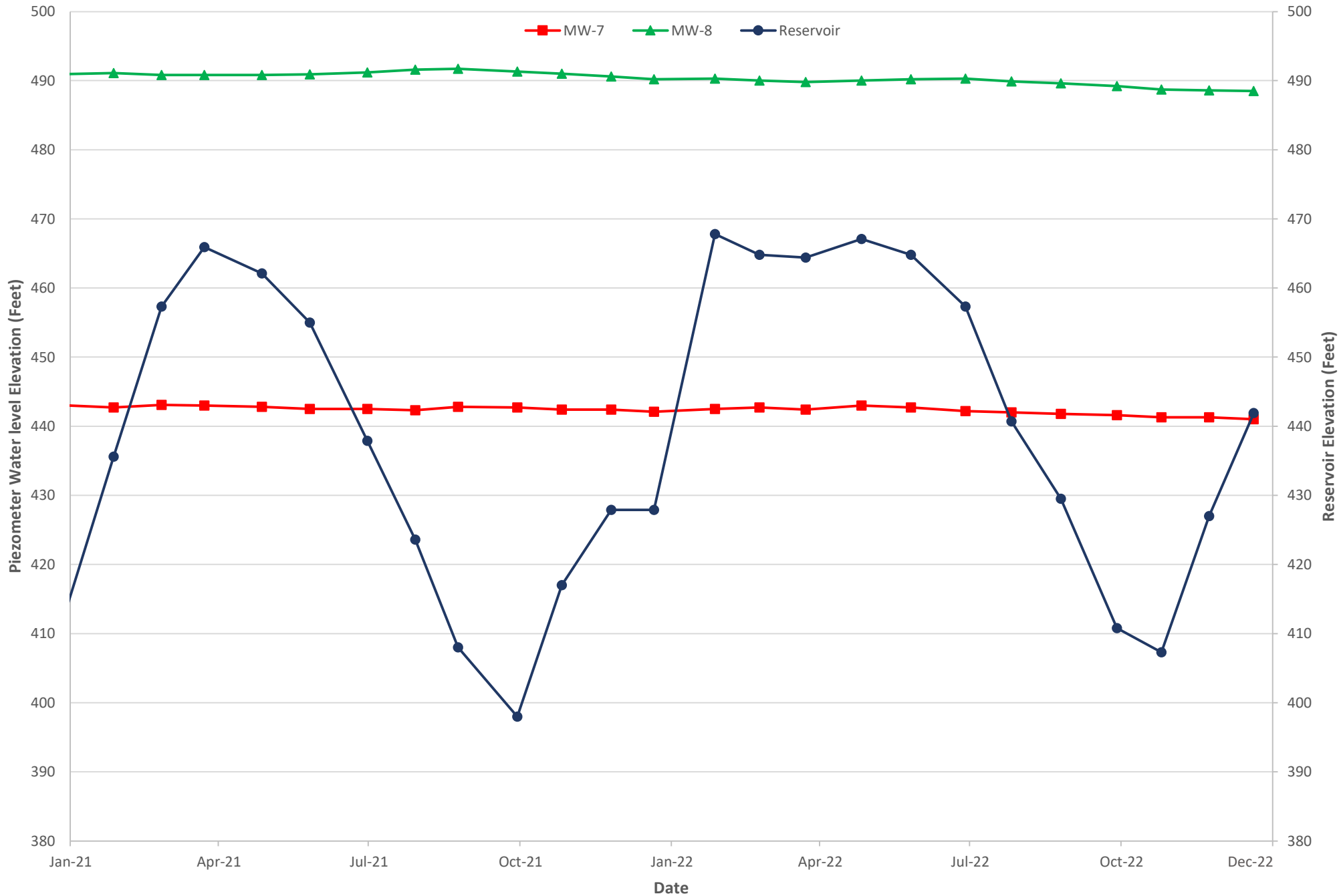
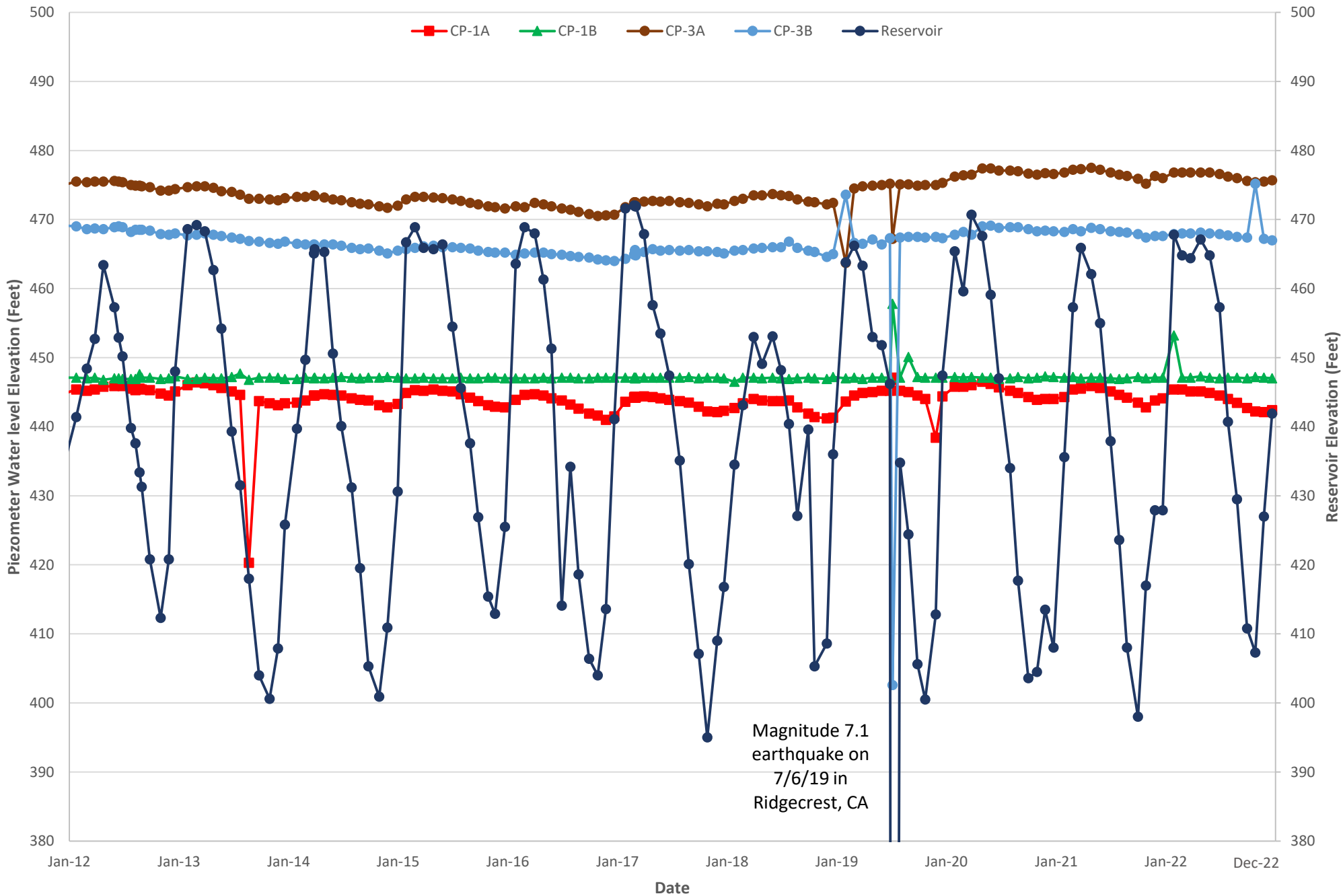


Figure 11  
 SAN JOAQUIN DAM  
 2-YR MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS  
 MONITORING WELLS MW-7, and MW-8  
 JANUARY 2021 THROUGH DECEMBER 2022



**Figure 12**  
**SAN JOAQUIN DAM**  
**HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**OPEN WELL PIEZOMETERS CP-1A, CP-1B, CP-3A, and CP-3B**  
**JANUARY 2012 THROUGH DECEMBER 2022**





**Figure 13**  
**SAN JOAQUIN DAM**  
**HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**OPEN WELL PIEZOMETERS CP-2A, and CP-2B**  
**JANUARY 2012 THROUGH DECEMBER 2022**

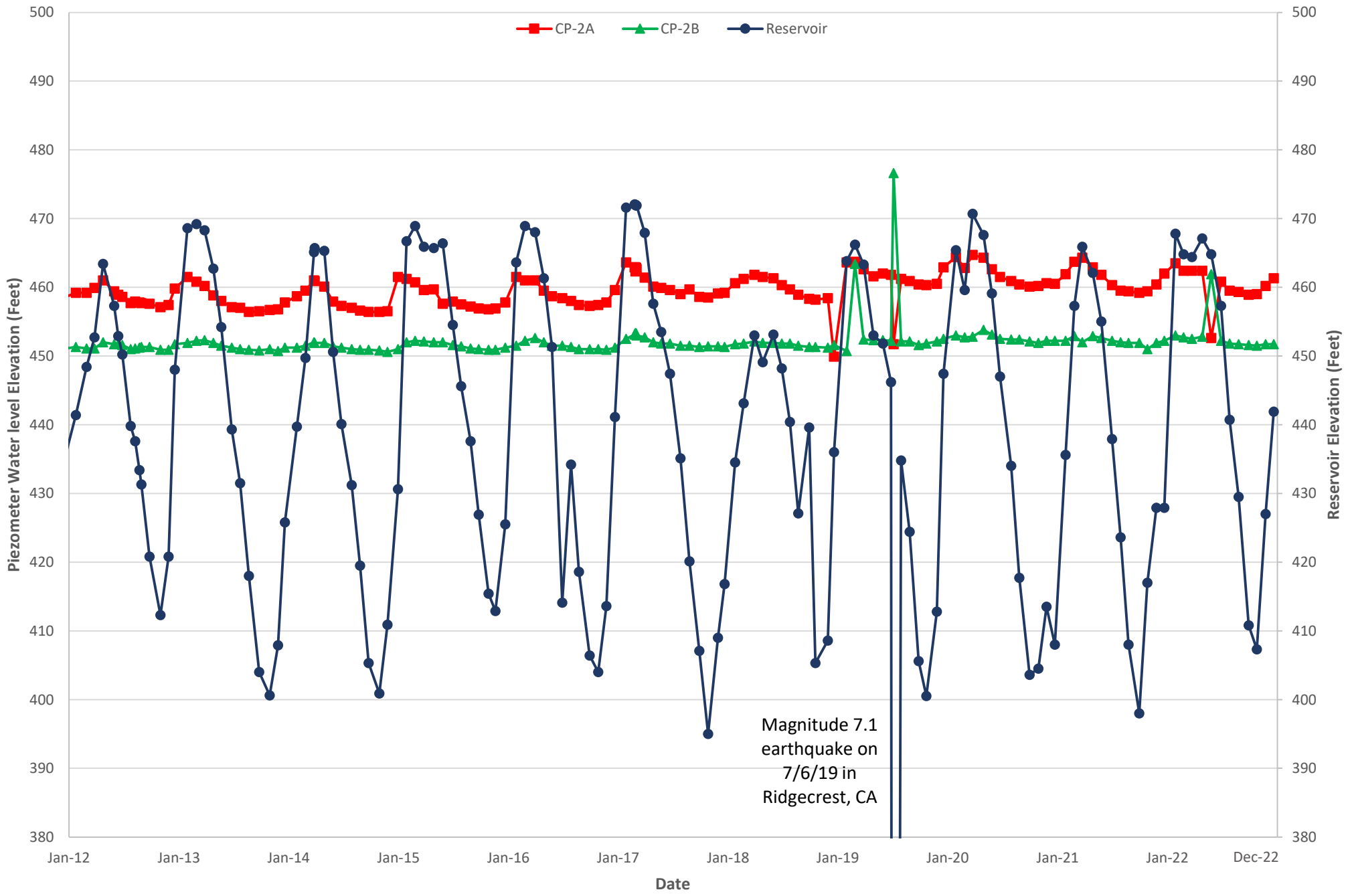


Figure 14  
**SAN JOAQUIN DAM**  
**HISTORICAL MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS**  
**MONITORING WELLS MW-1, MW-2, MW-3, and MW-6**  
**JANUARY 2012 THROUGH DECEMBER 2022**

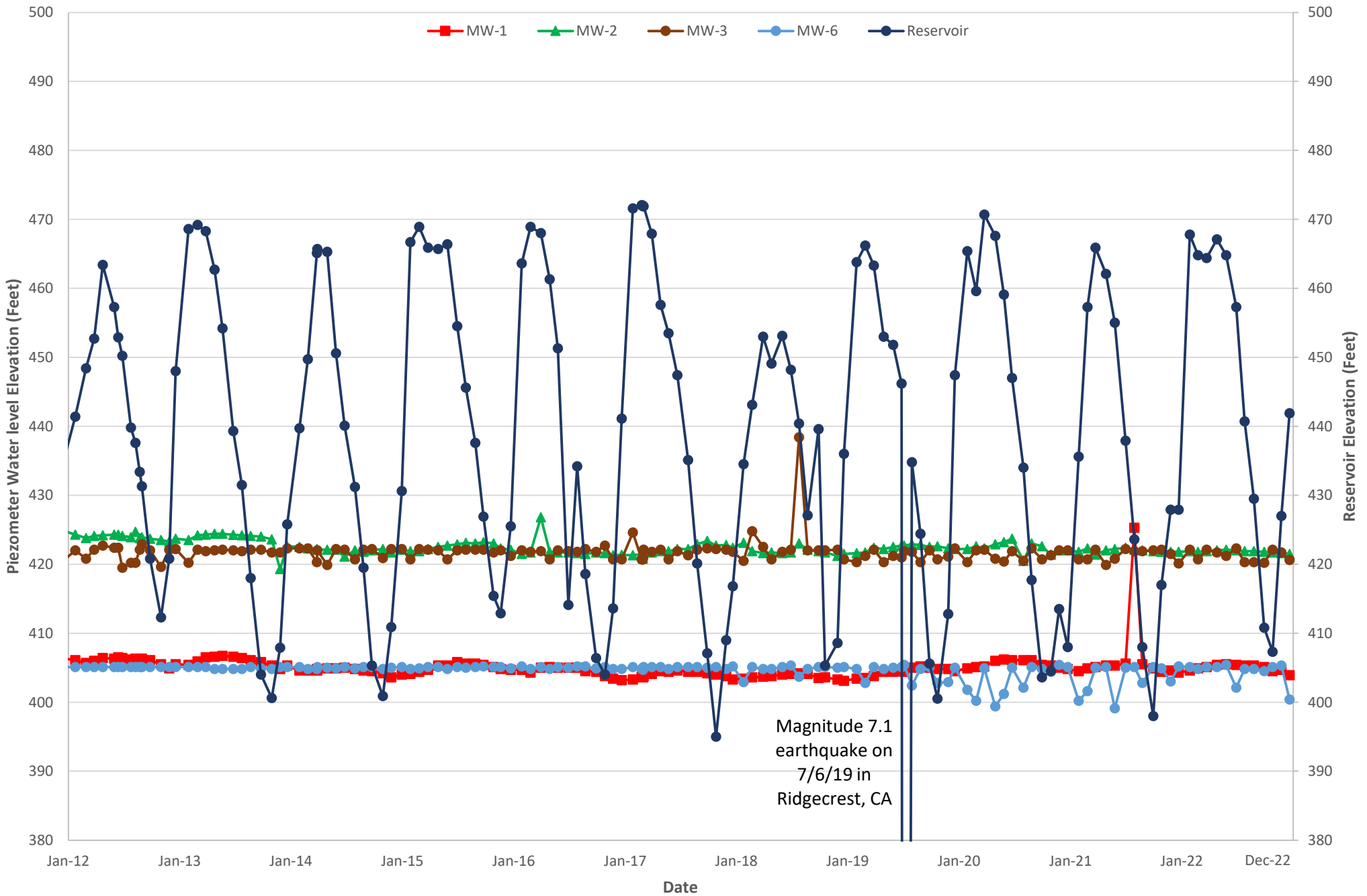


Figure 15  
 SAN JOAQUIN DAM  
 HISTORICAL MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS  
 MONITORING WELLS MW-4, and MW-5  
 JANUARY 2012 THROUGH DECEMBER 2022

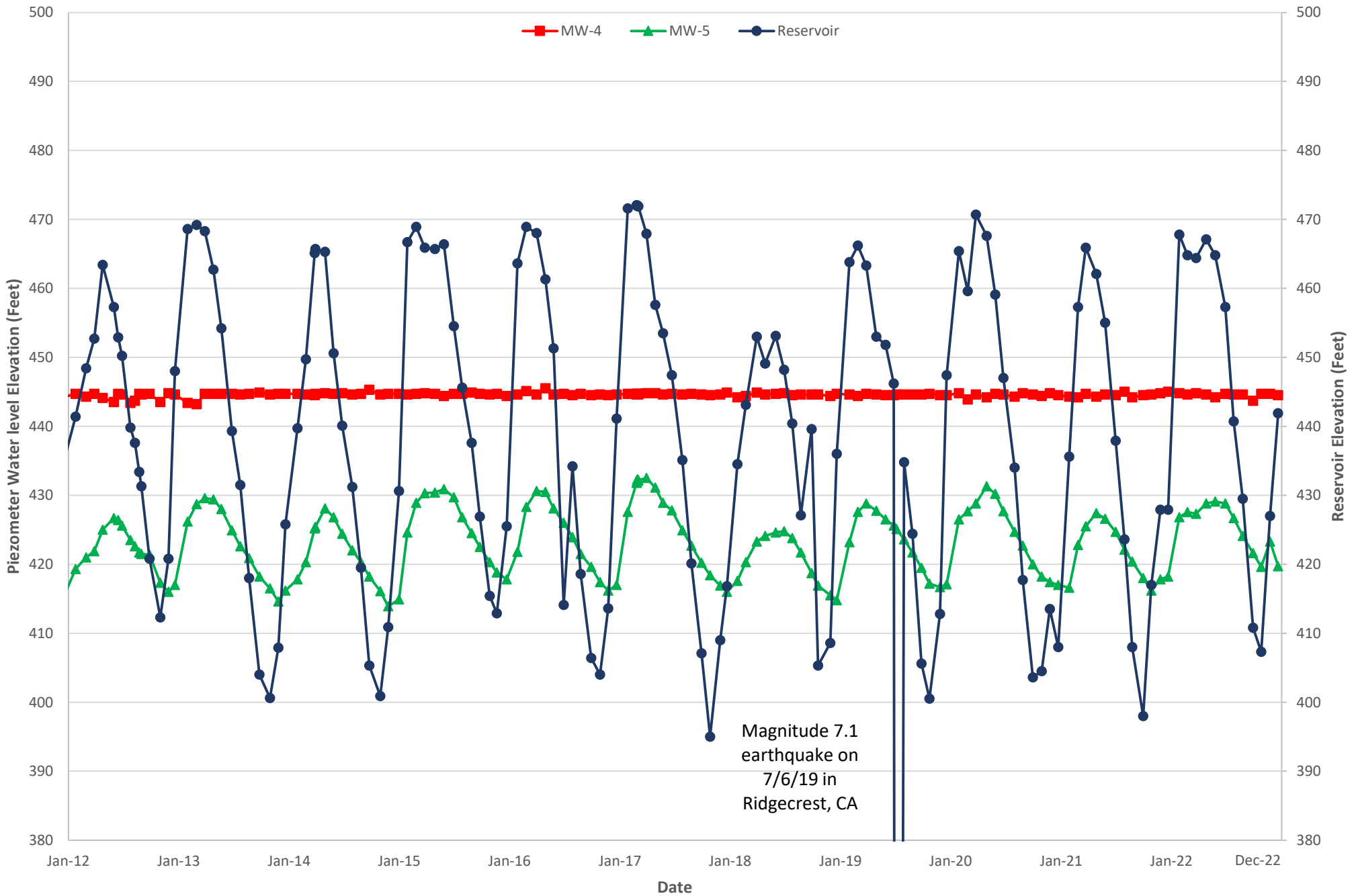


Figure 16  
 SAN JOAQUIN DAM  
 HISTORICAL MONITORING WELL AND RESERVOIR WATER SURFACE ELEVATIONS  
 MONITORING WELLS MW-7, and MW-8  
 JANUARY 2012 THROUGH DECEMBER 2022

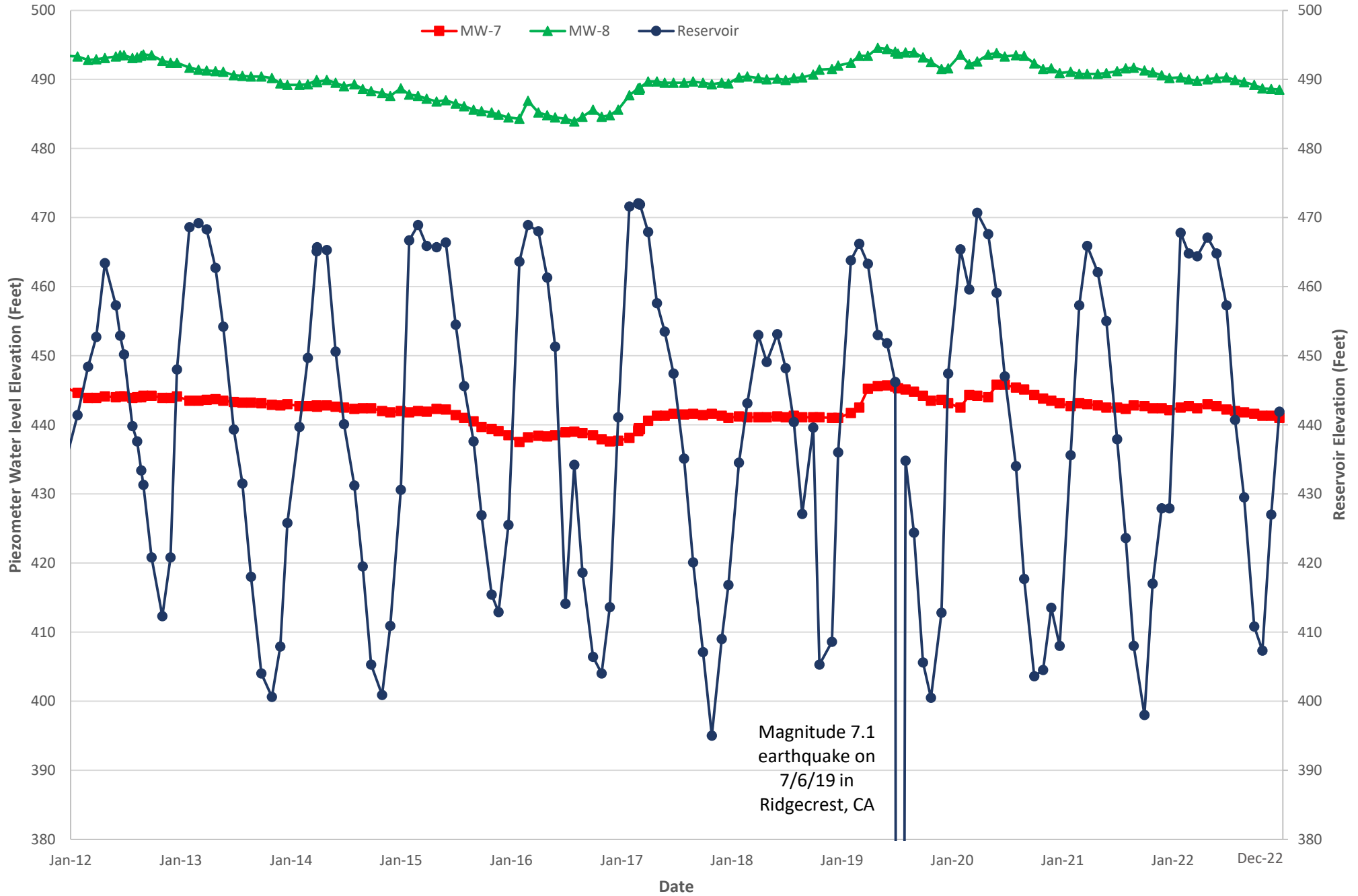
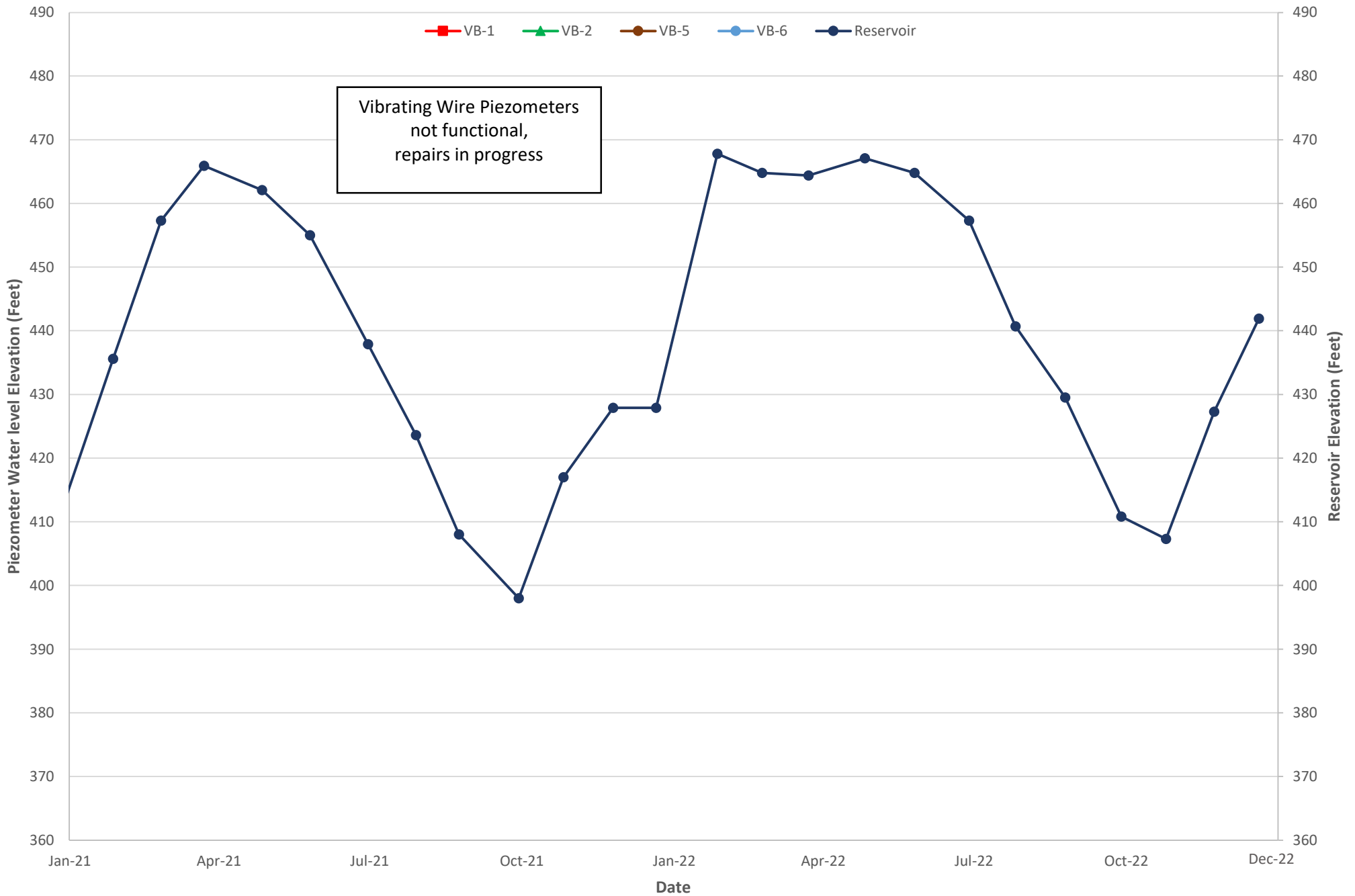
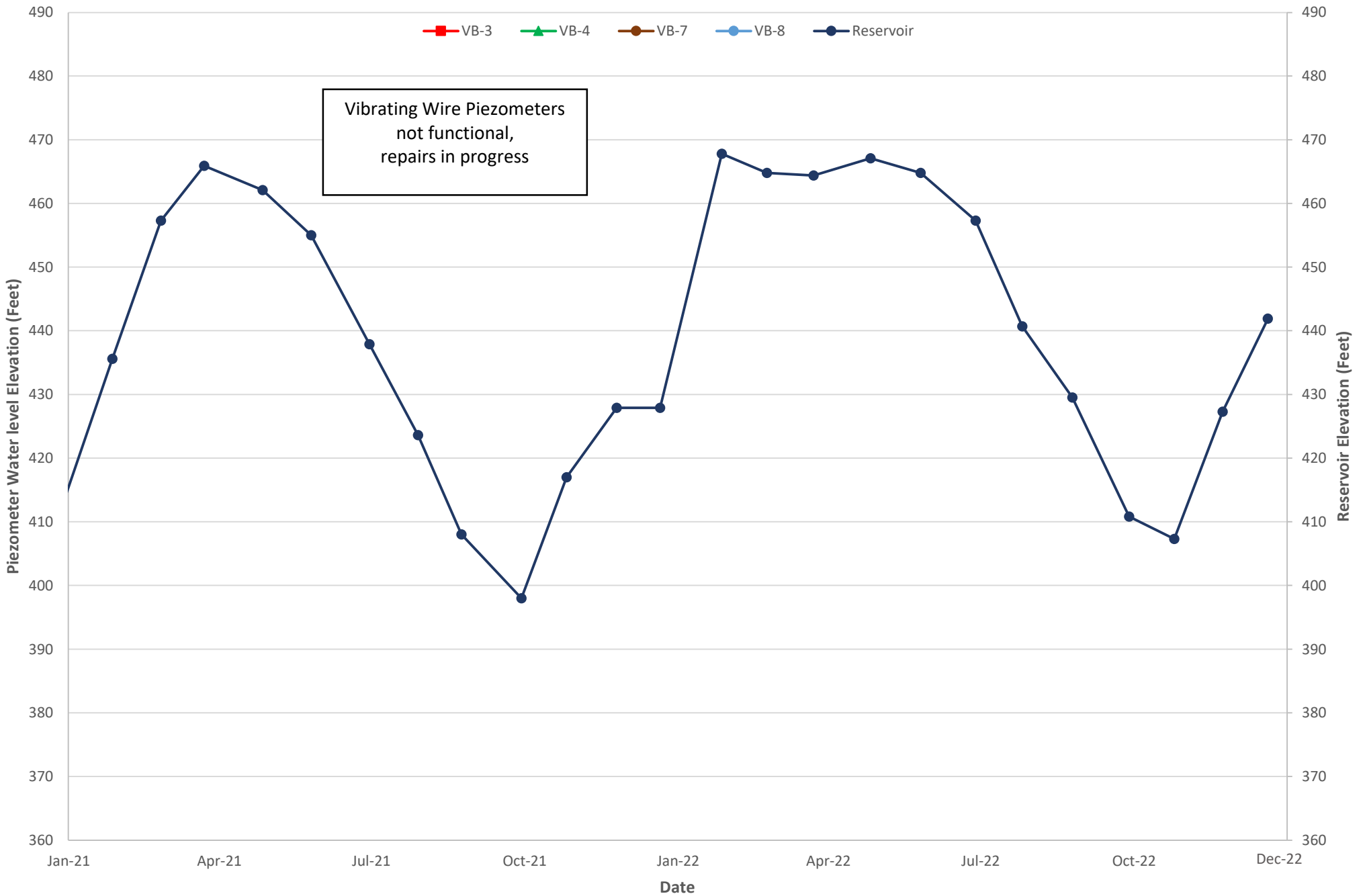


Figure 17  
 SAN JOAQUIN DAM  
 2-YR VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 VIBRATING WIRE PIEZOMETERS VB-1, VB-2, VB-5, and VB-6  
 JANUARY 2021 THROUGH DECEMBER 2022



**Figure 18**  
**SAN JOAQUIN DAM**  
**2-YR VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**VIBRATING WIRE PIEZOMETERS VB-3, VB-4, VB-7, and VB-8**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 19**  
**SAN JOAQUIN DAM**  
**HISTORICAL VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**VIBRATING WIRE PIEZOMETERS VB-1, VB-2, VB-5, and VB-6**  
**JANUARY 2012 THROUGH DECEMBER 2022**

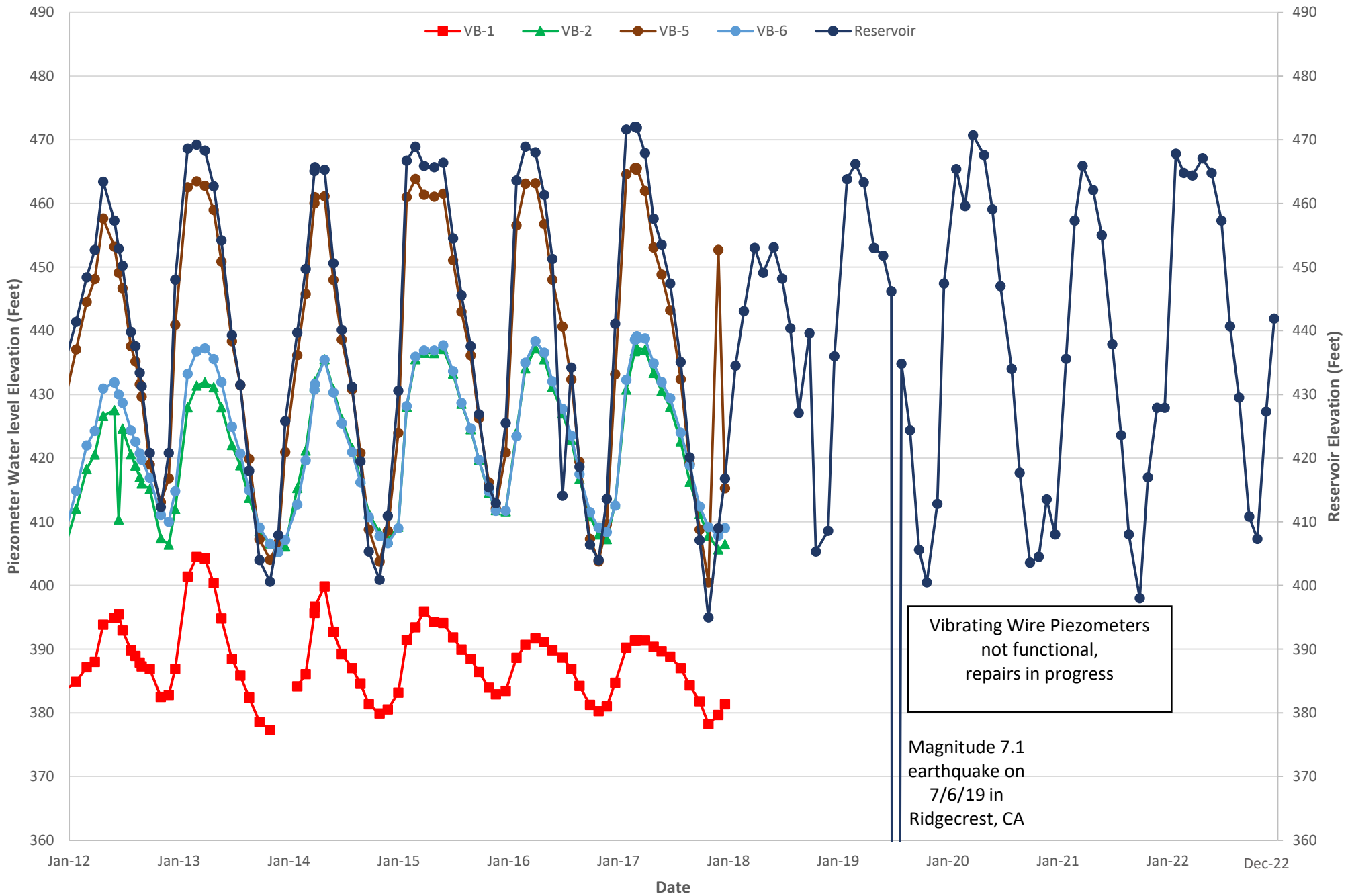
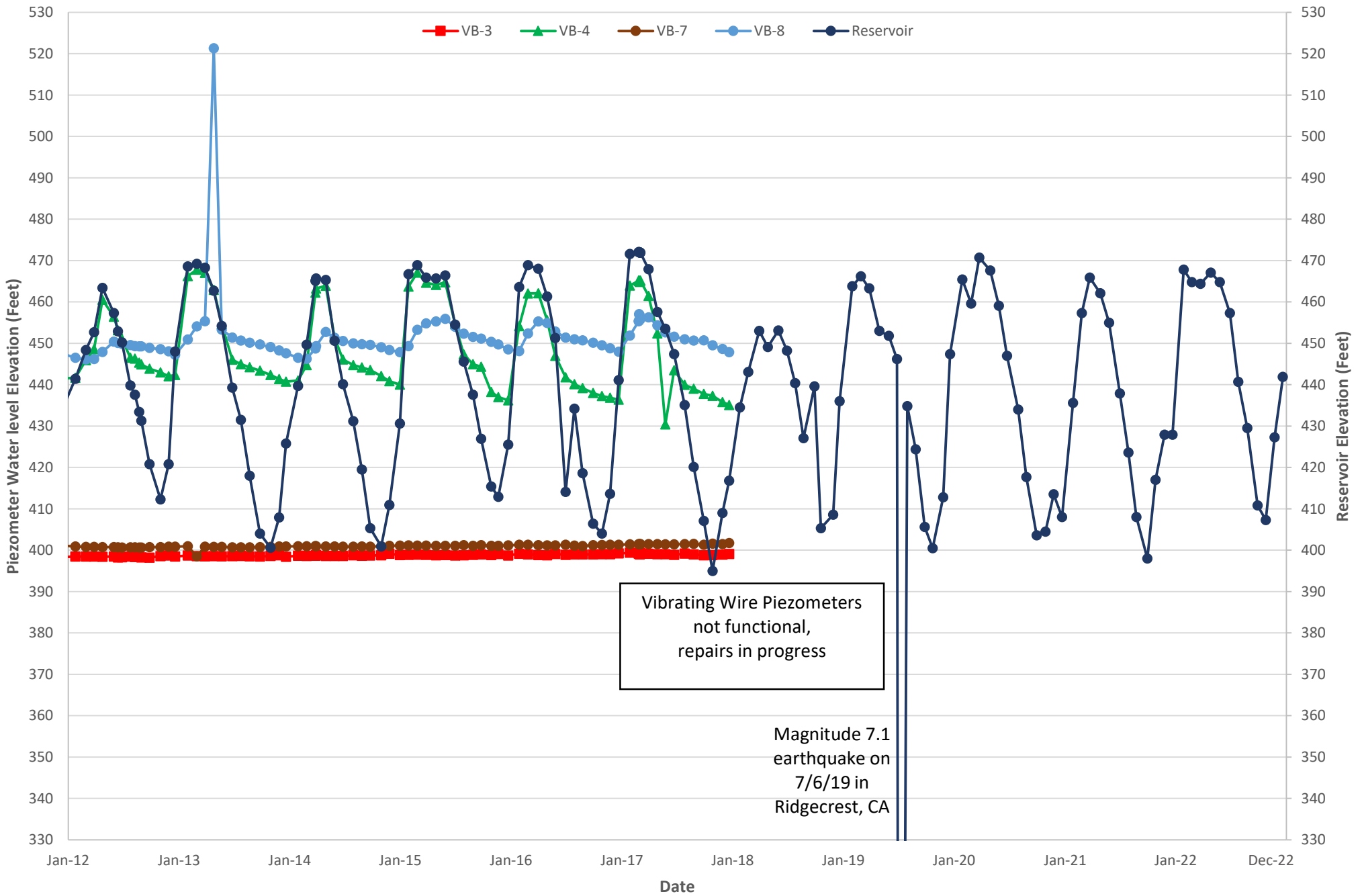
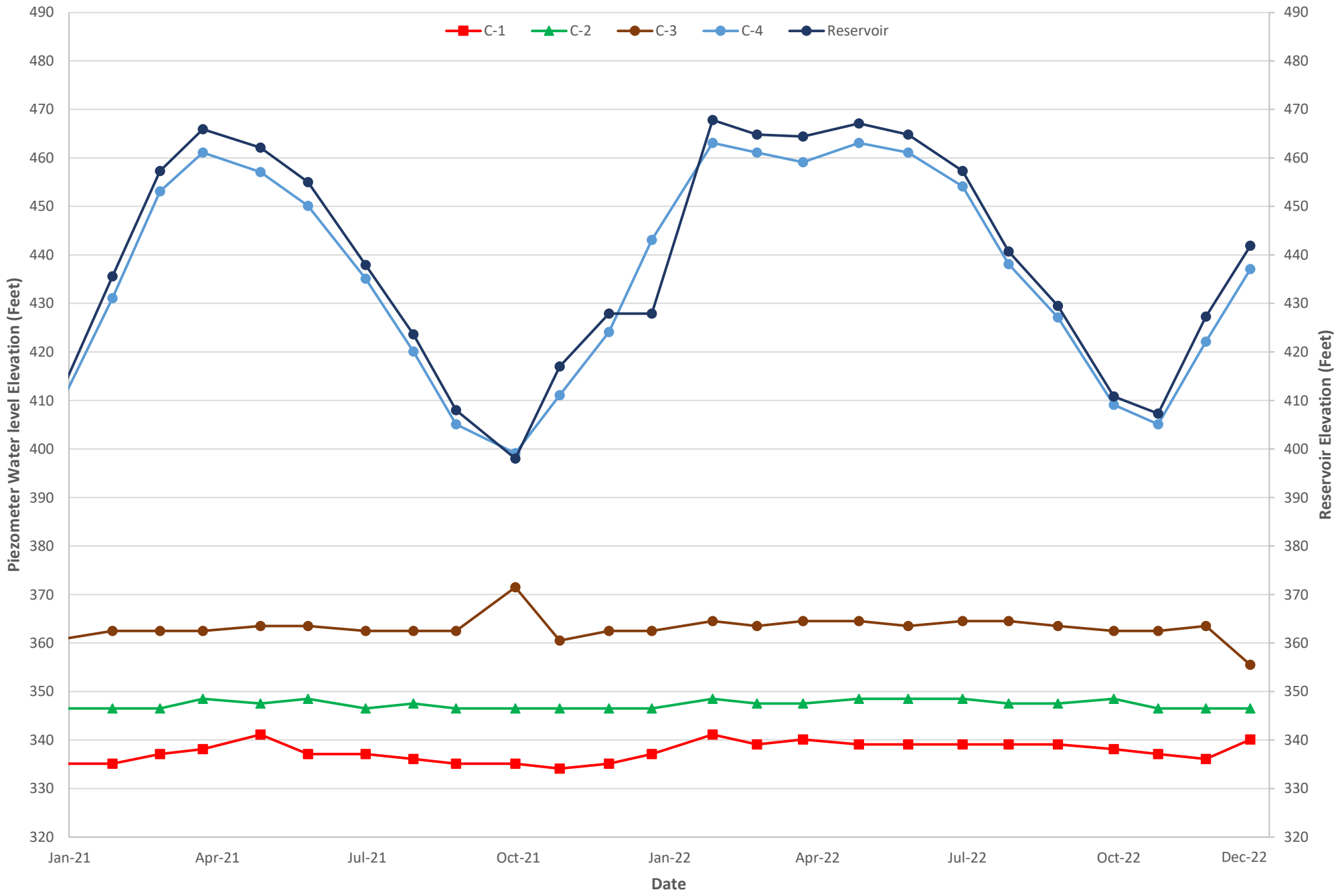


Figure 20  
 SAN JOAQUIN DAM  
 HISTORICAL VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 VIBRATING WIRE PIEZOMETERS VB-3, VB-4, VB-7, and VB-8  
 JANUARY 2012 THROUGH DECEMBER 2022

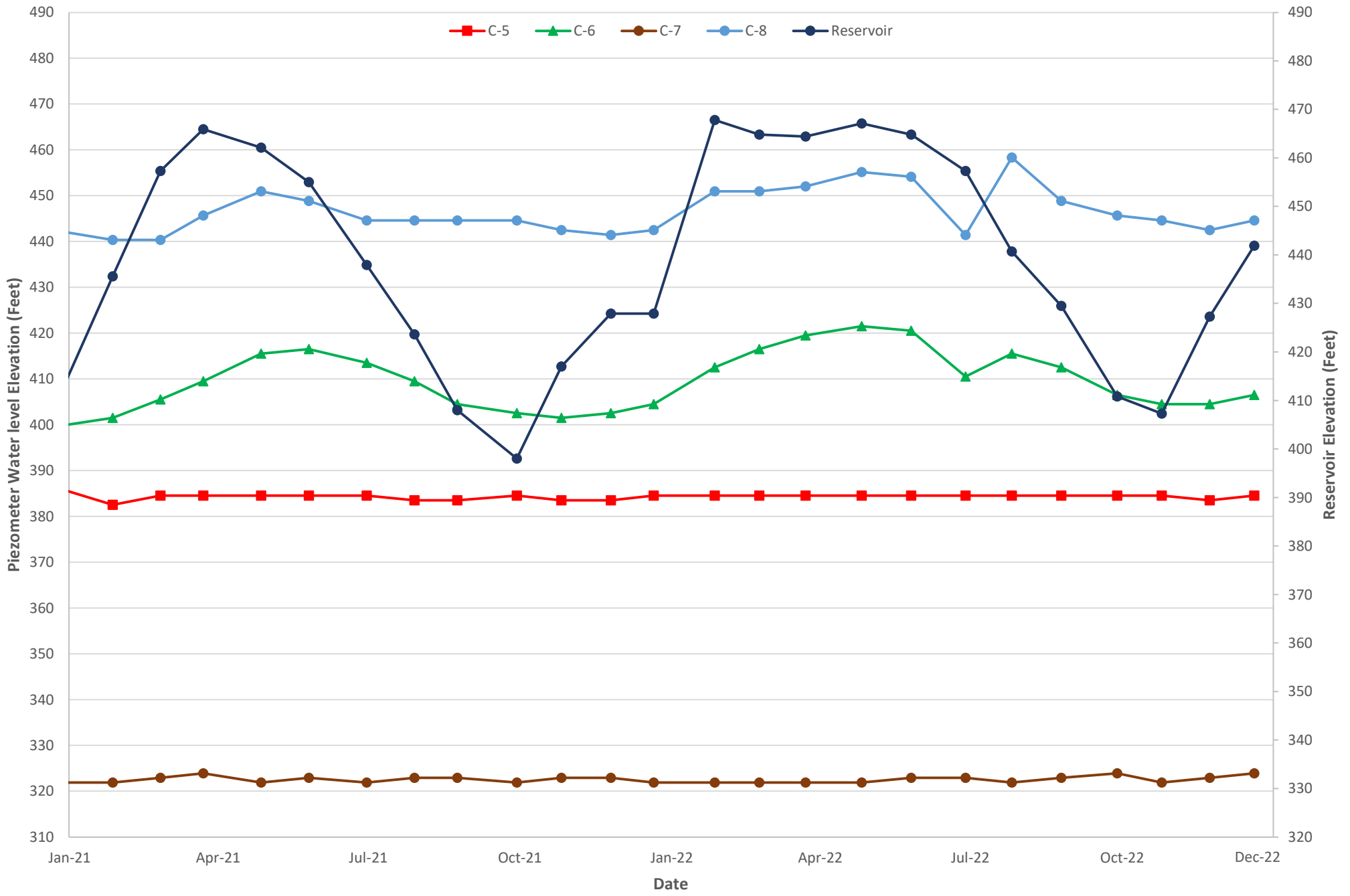




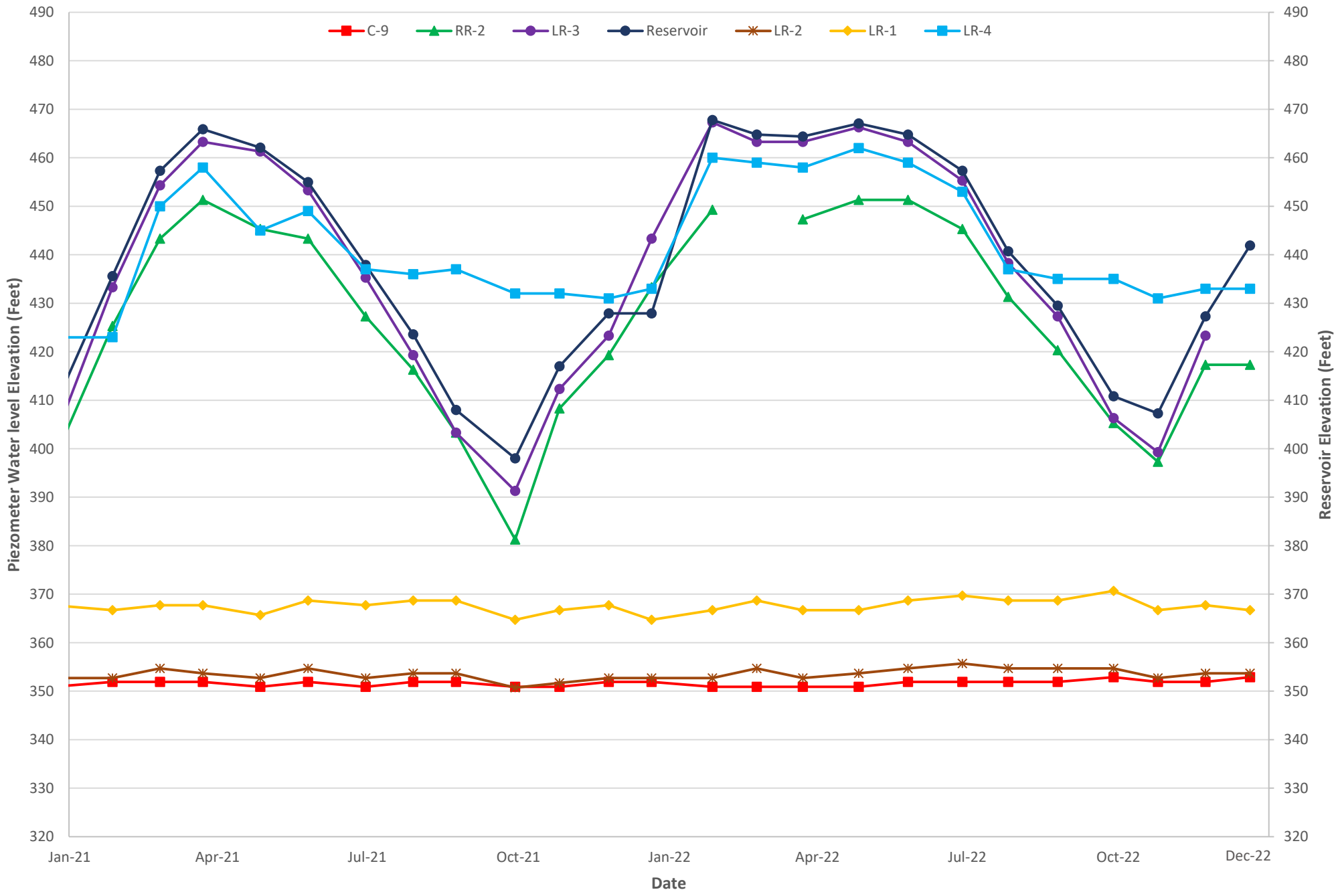
**Figure 21**  
**SAN JOAQUIN DAM**  
**2-YR PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS C-1, C-2, C-3, and C-4**  
**JANUARY 2021 THROUGH DECEMBER 2022**



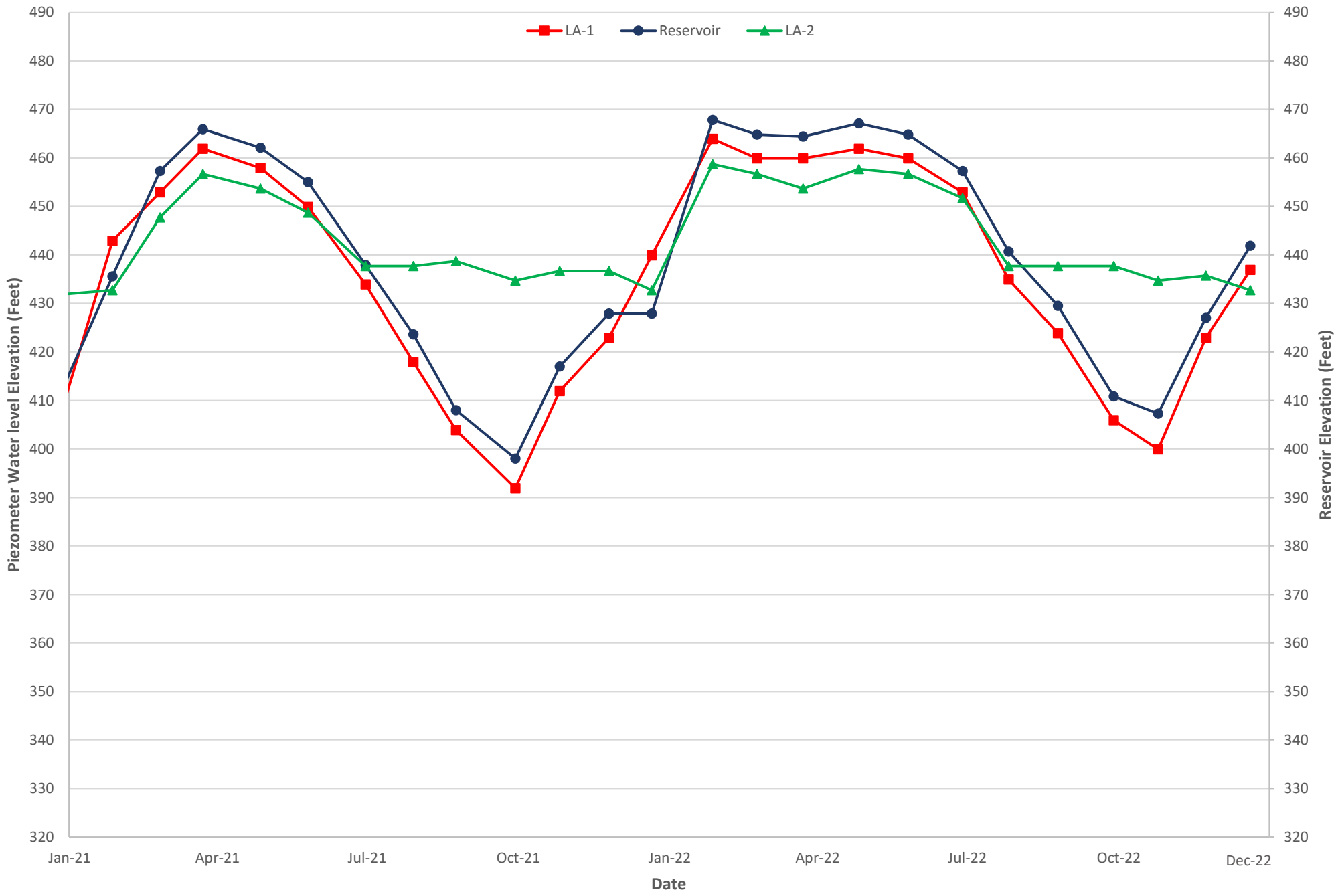
**Figure 22**  
**SAN JOAQUIN DAM**  
**2-YR PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS C-5, C-6, C-7, and C-8**  
**JANUARY 2021 THROUGH DECEMBER 2022**



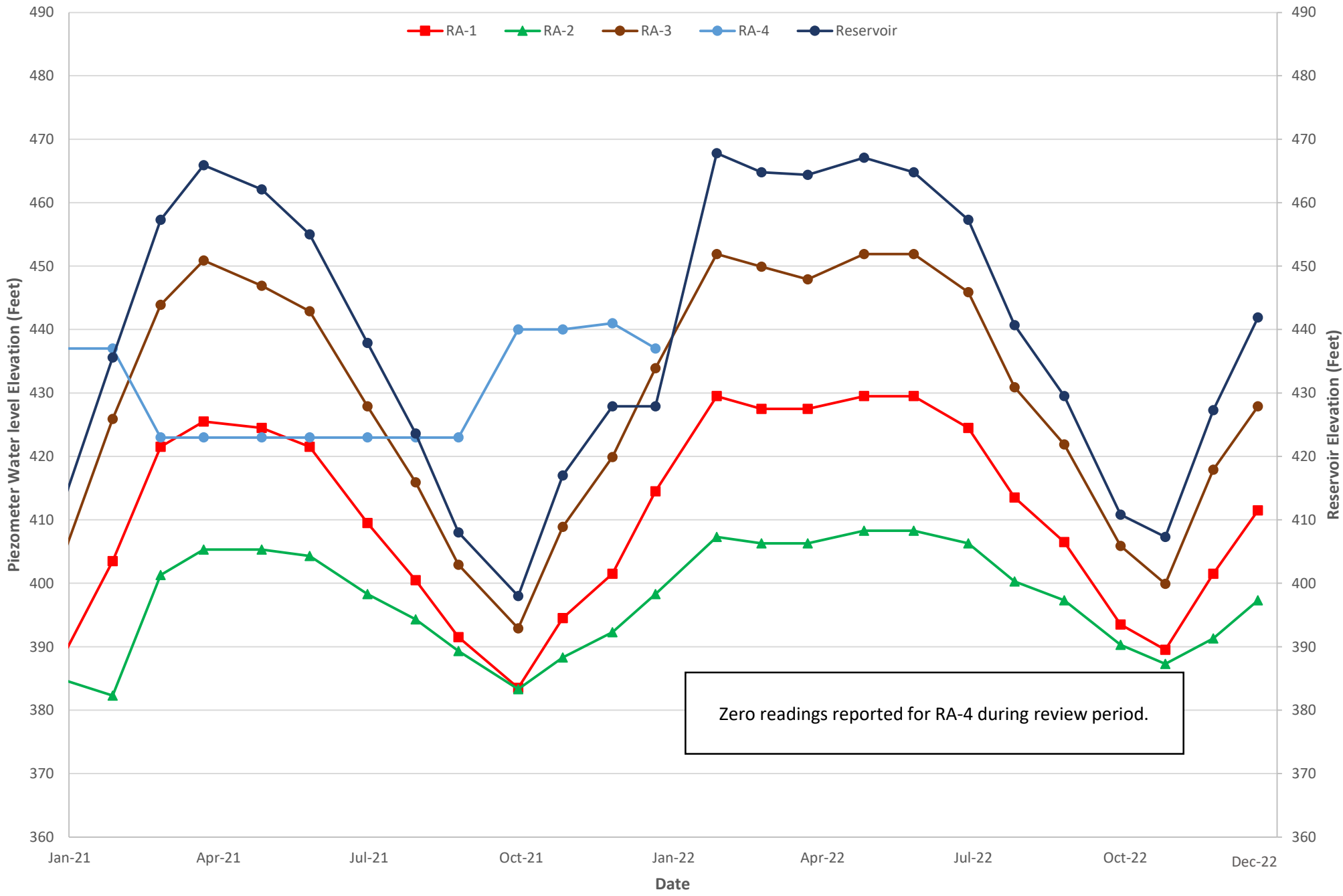
**Figure 23**  
**SAN JOAQUIN DAM**  
**2-YR PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS C-9, RR-2, LR-1,LR-2,LR-3, and LR-4**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 24**  
**SAN JOAQUIN DAM**  
**2-YR PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS LA-1 and LA-2**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 25**  
**SAN JOAQUIN DAM**  
**2-YR PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS RA-1, RA-2, RA-3, and RA-4**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 26**  
**SAN JOAQUIN DAM**  
**HISTORICAL PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS C-1, C-2, C-3, and C-4**  
**JANUARY 2012 THROUGH DECEMBER 2022**

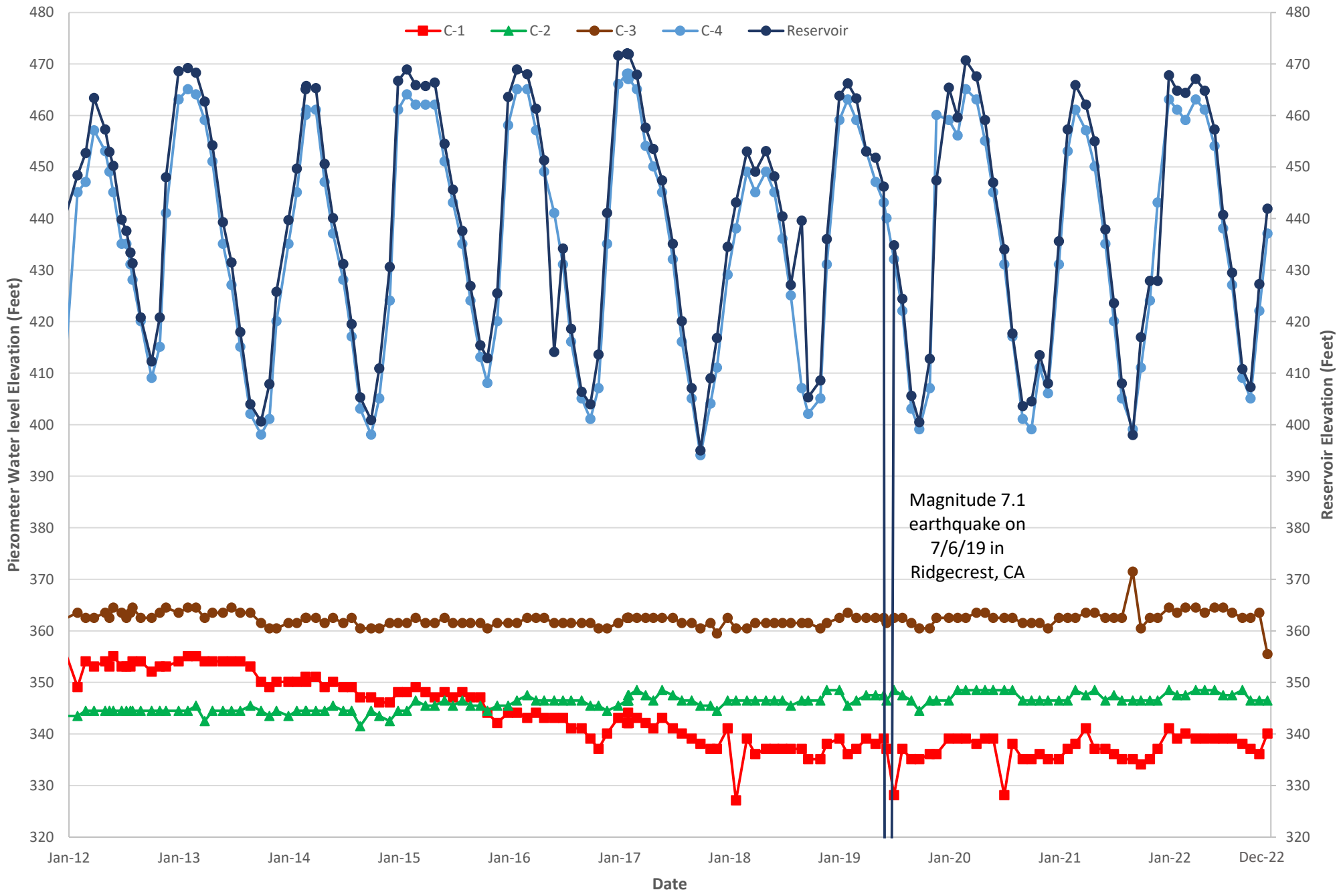
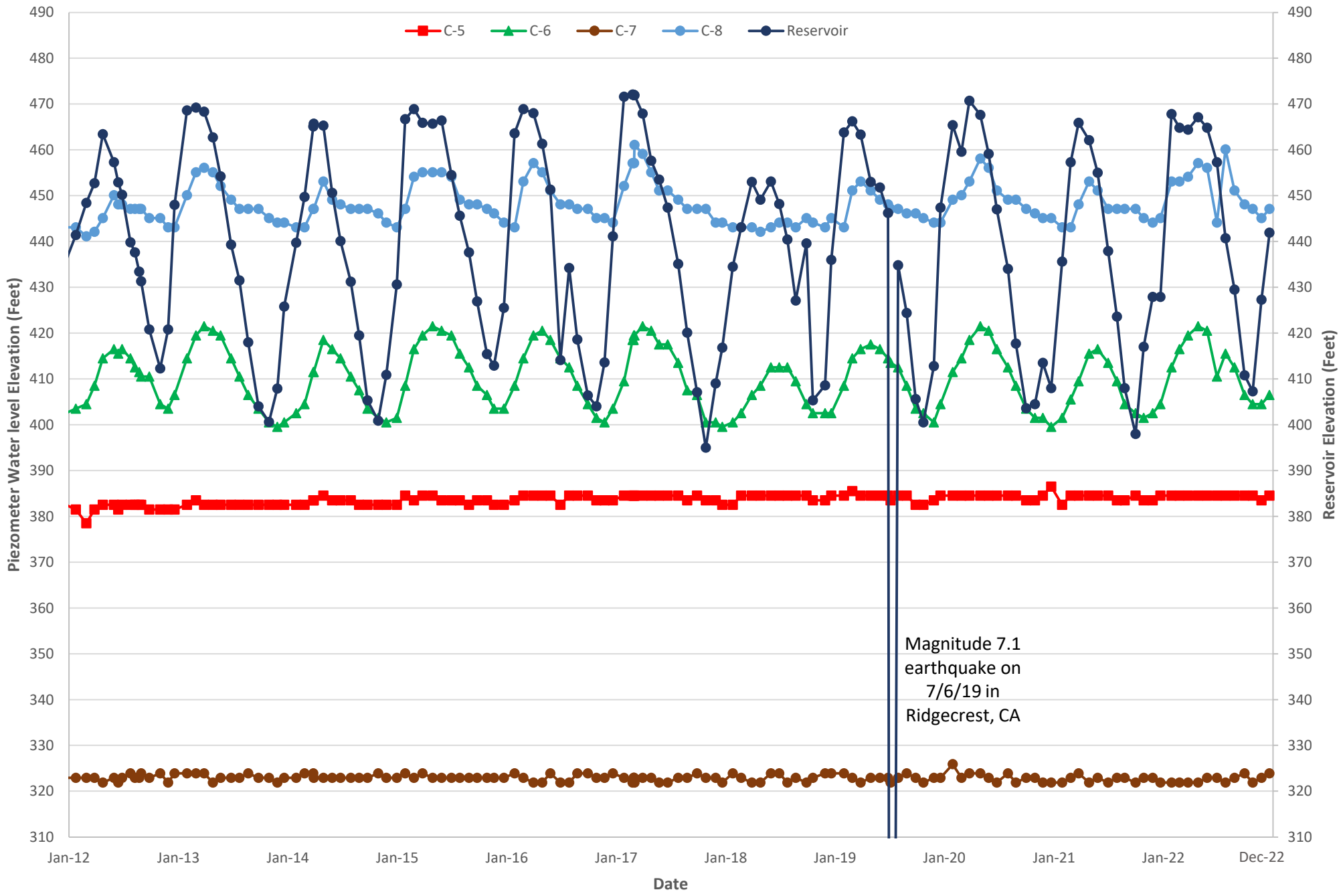


Figure 27  
 SAN JOAQUIN DAM  
 HISTORICAL PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 PNEUMATIC PIEZOMETERS C-5, C-6, C-7, and C-8  
 JANUARY 2012 THROUGH DECEMBER 2022



**Figure 28**  
**SAN JOAQUIN DAM**  
**HISTORICAL PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS**  
**PNEUMATIC PIEZOMETERS C-9, RR-2, LR-1, LR-2, LR-3, and LR-4**  
**JANUARY 2012 THROUGH DECEMBER 2022**

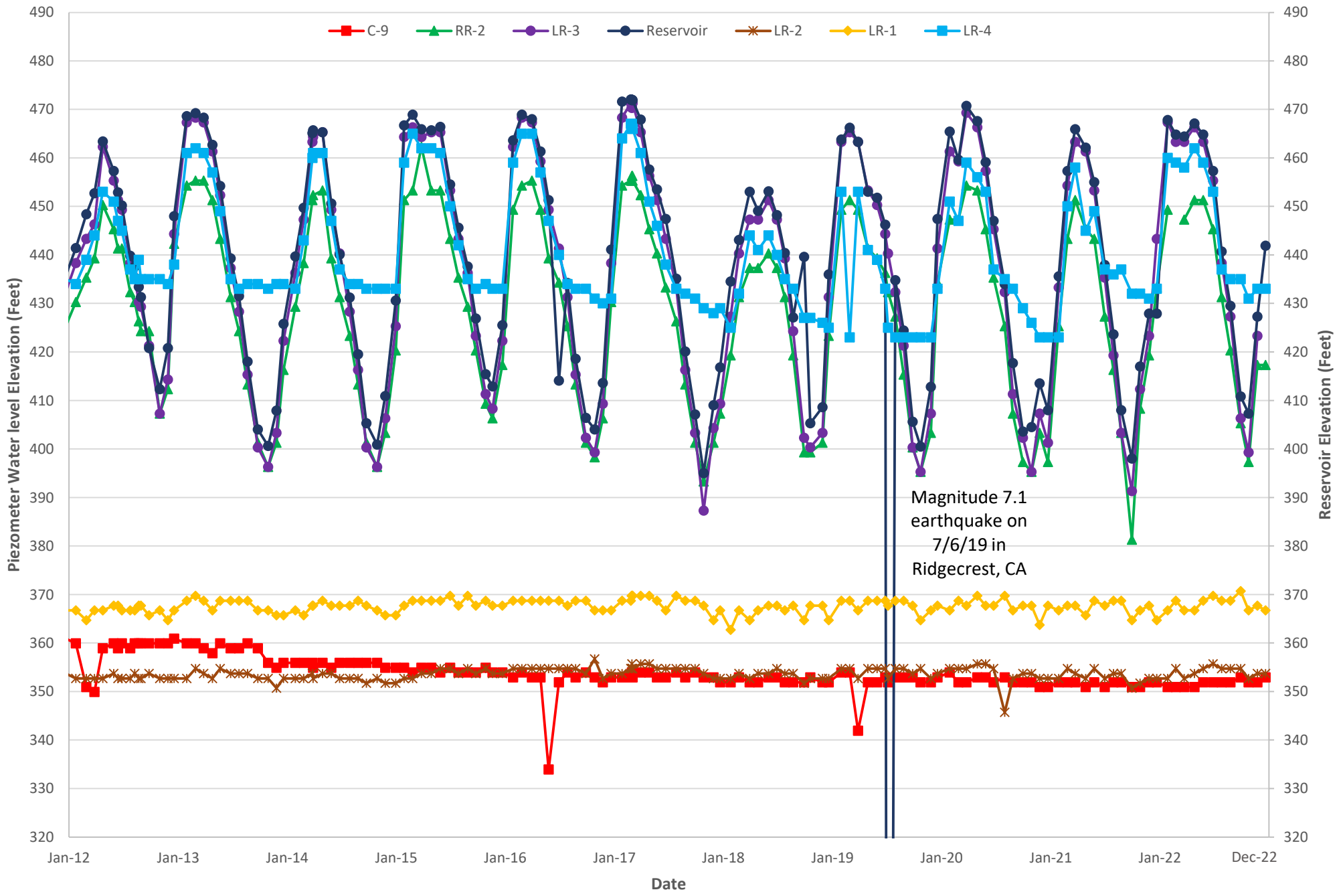




Figure 29  
 SAN JOAQUIN DAM  
 HISTORICAL PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 PNEUMATIC PIEZOMETERS LA-1, and LA-2  
 JANUARY 2012 THROUGH DECEMBER 2022

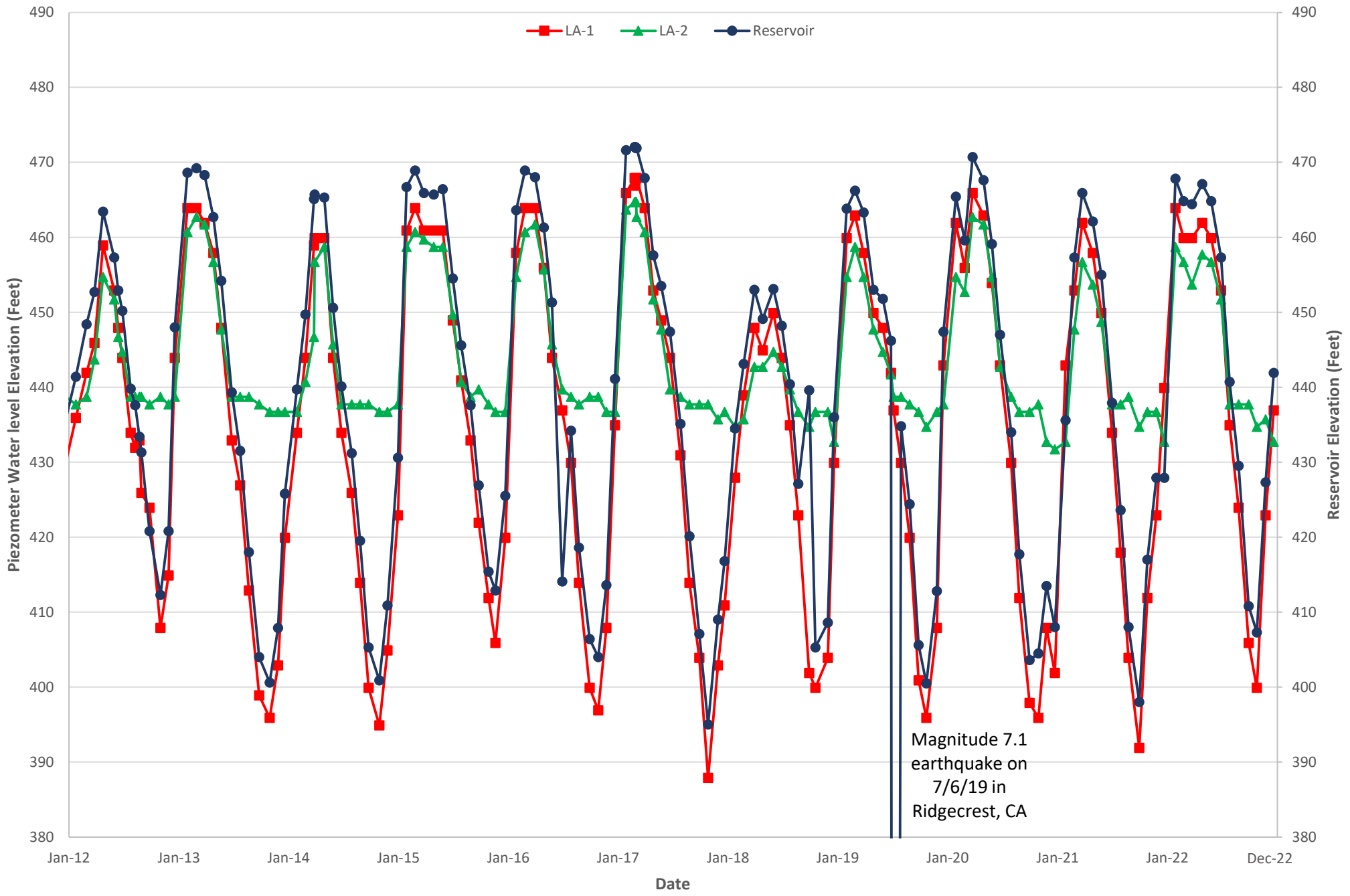
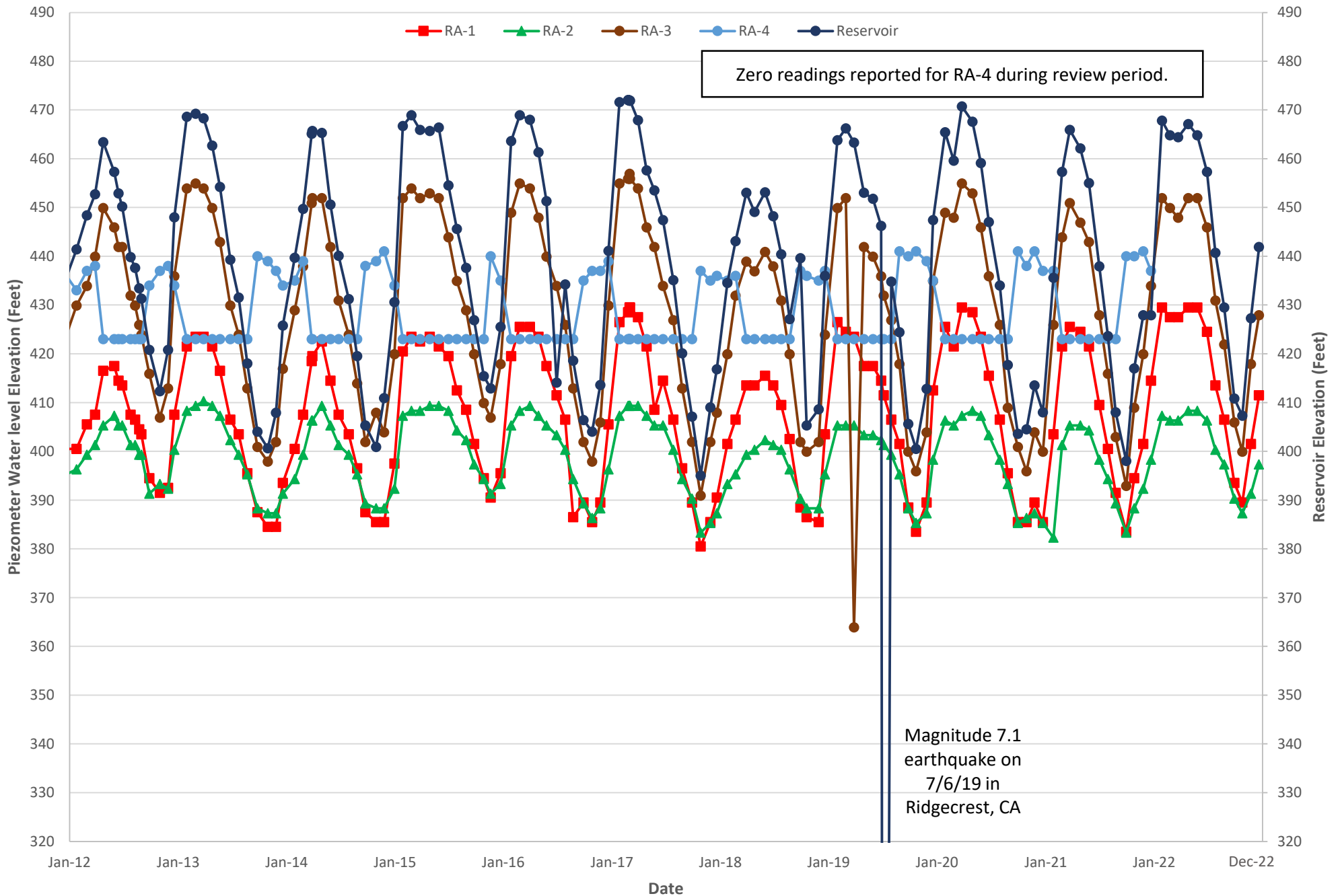
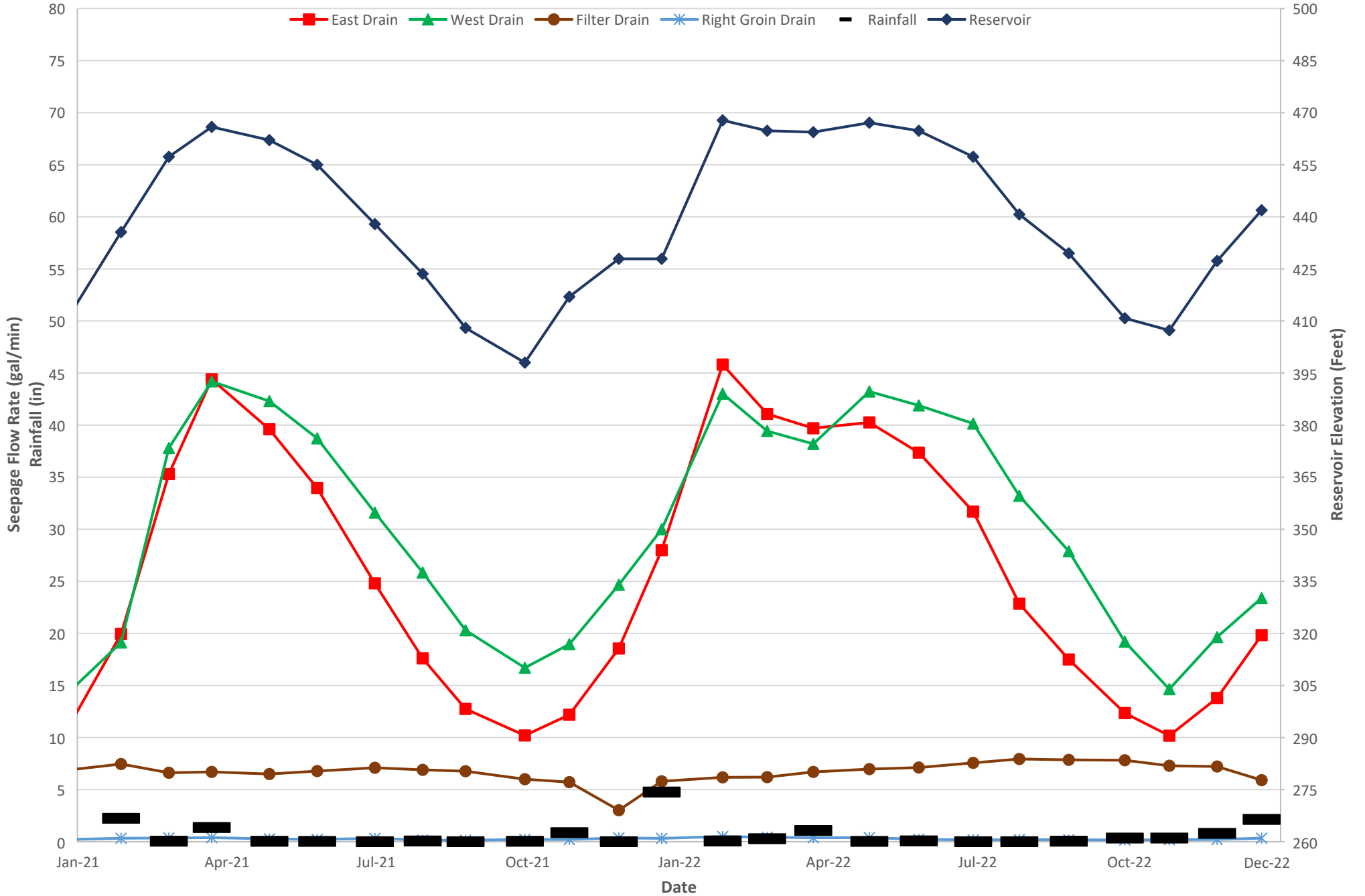


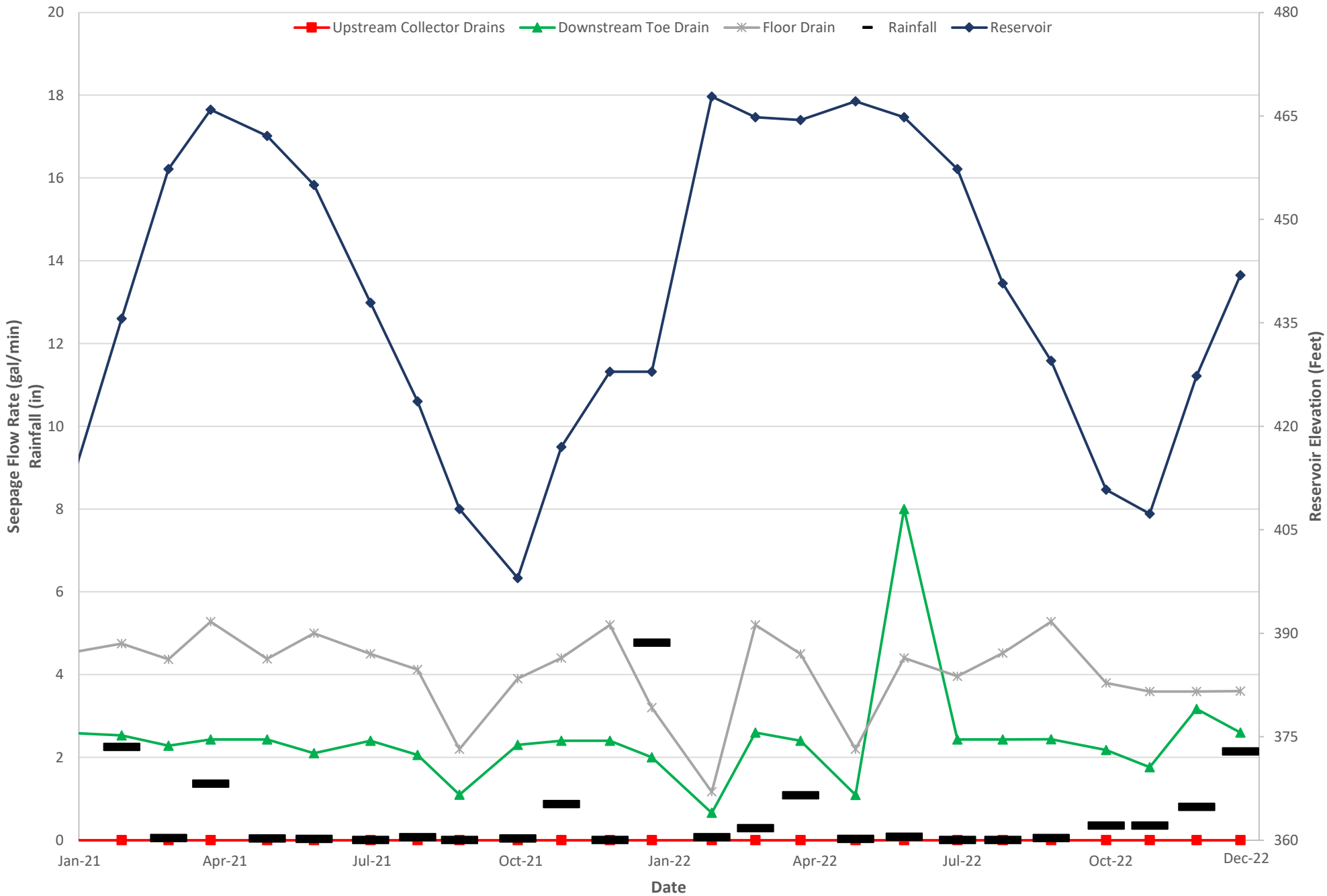
Figure 30  
 SAN JOAQUIN DAM  
 HISTORICAL PNEUMATIC PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS  
 PNEUMATIC PIEZOMETERS RA-1, RA-2, RA-3, and RA-4  
 JANUARY 2012 THROUGH DECEMBER 2022



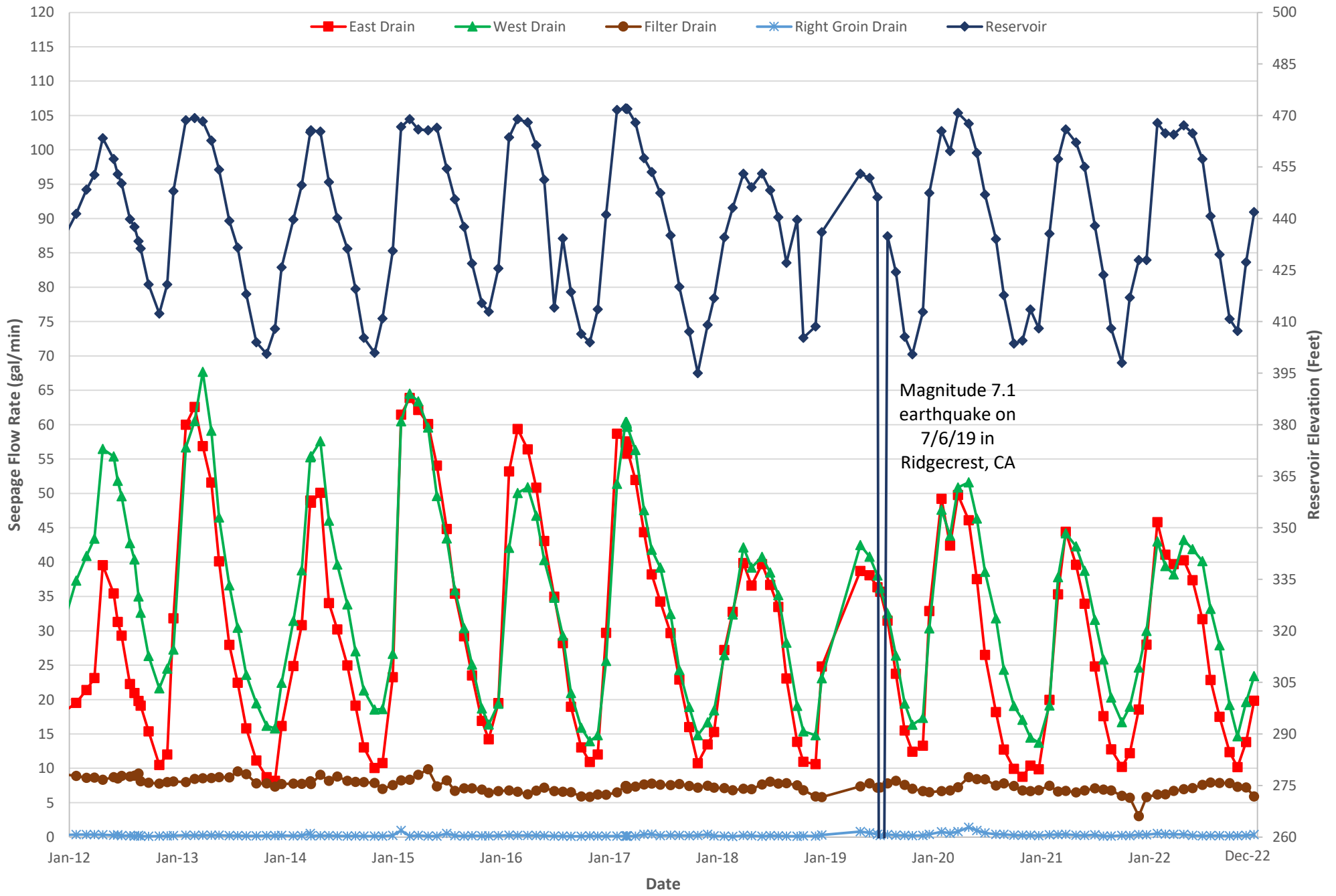
**Figure 31**  
**SAN JOAQUIN DAM**  
**2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL**  
**EAST DRAIN, WEST DRAIN, FILTER DRAIN, RIGHT GROIN DRAIN**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 32**  
**SAN JOAQUIN DAM**  
**2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL**  
**UPSTREAM COLLECTOR DRAINS, DOWNSTREAM TOE DRAIN, FLOOR DRAIN**  
**JANUARY 2021 THROUGH DECEMBER 2022**



**Figure 33**  
**SAN JOAQUIN DAM**  
**HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS**  
**EAST DRAIN, WEST DRAIN, FILTER DRAIN, AND RIGHT GROIN DRAIN**  
**JANUARY 2012 THROUGH DECEMBER 2022**



**Figure 34**  
**SAN JOAQUIN DAM**  
**HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS**  
**UPSTREAM COLLECTOR DRAINS, DOWNSTREAM TOE DRAIN, AND FLOOR DRAIN**  
**JANUARY 2012 THROUGH DECEMBER 2022**

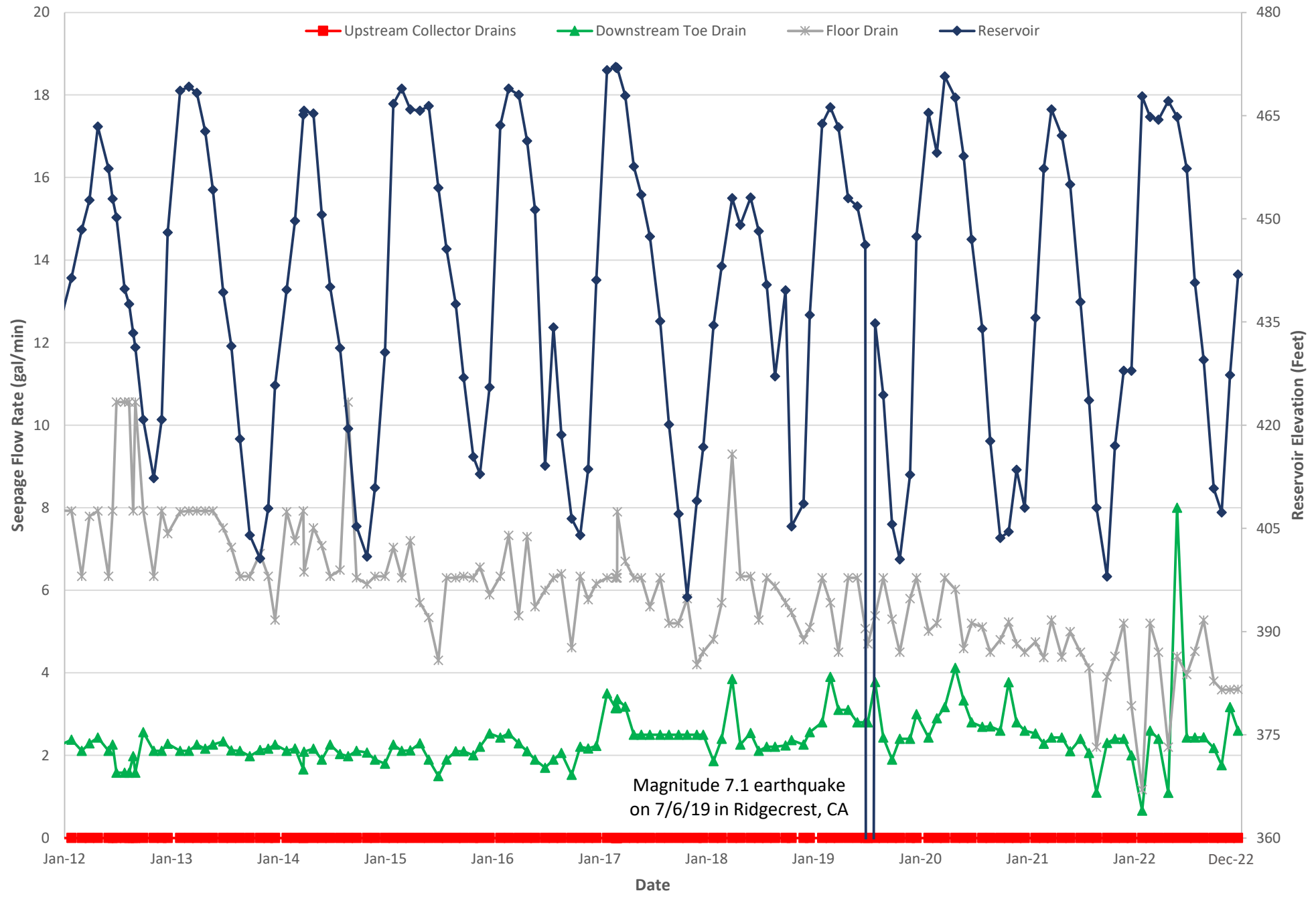
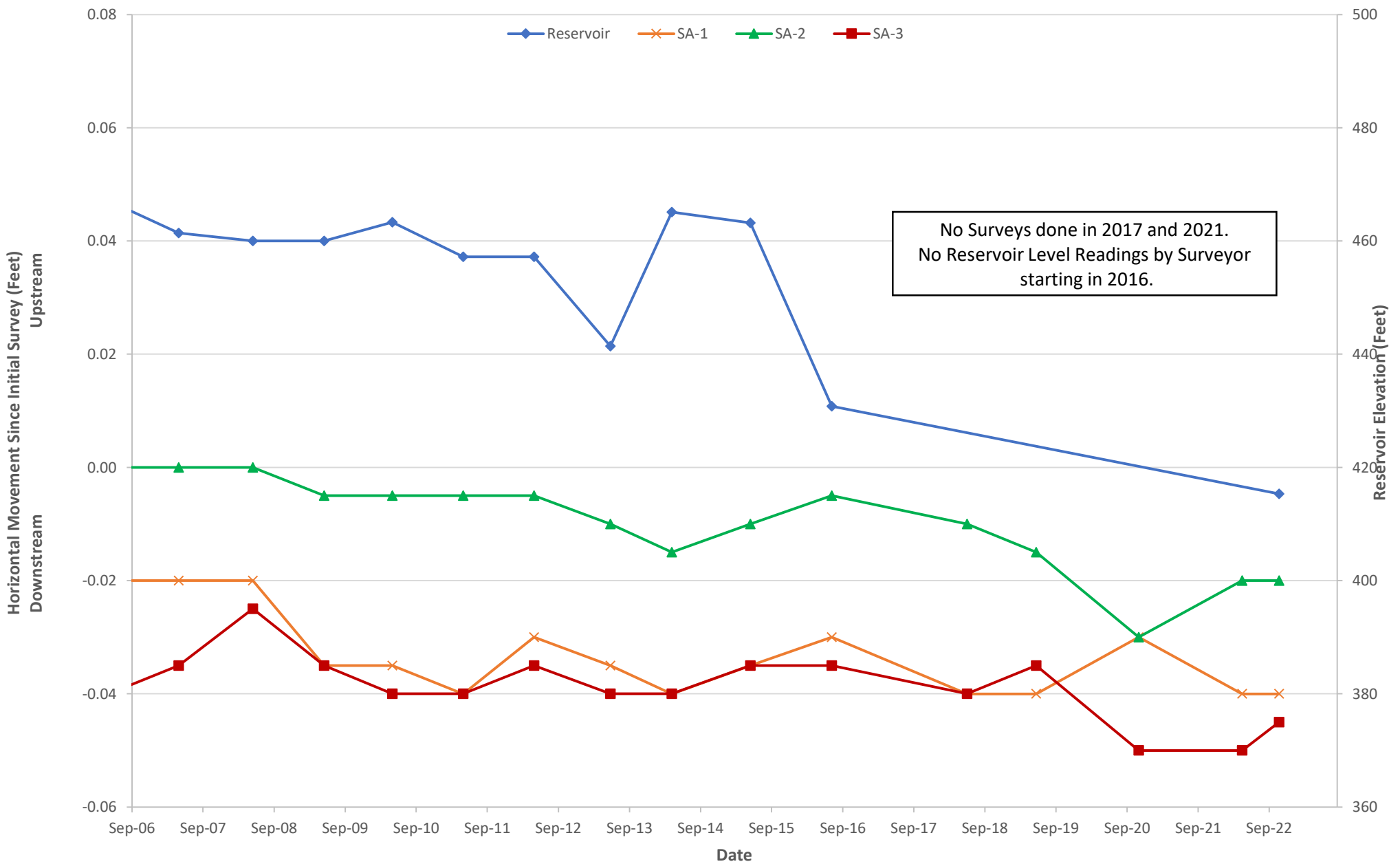
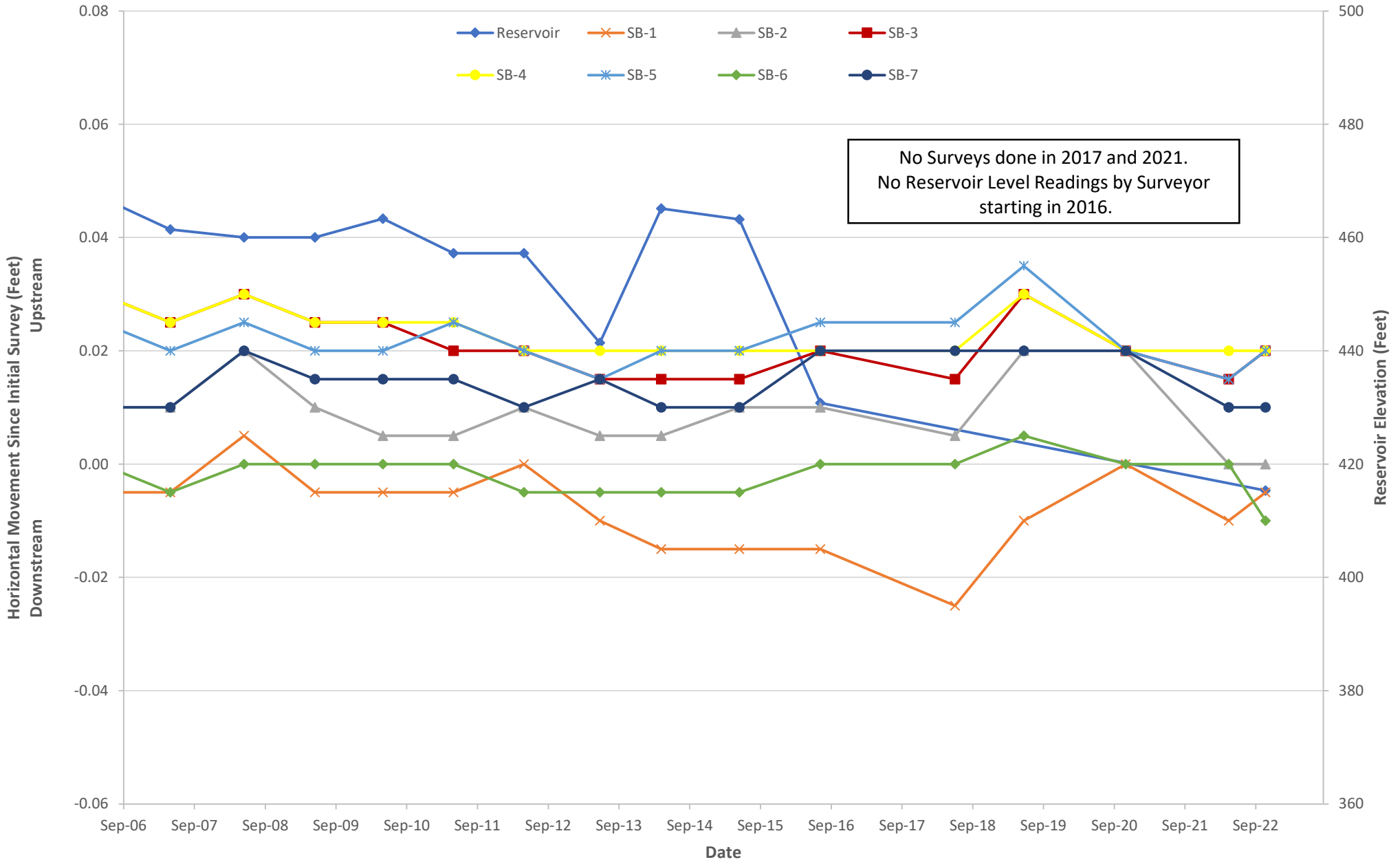


Figure 35  
 SAN JOAQUIN DAM  
 HISTORICAL HORIZONTAL MOVEMENT  
 SURVEY MONUMENTS SA-1, SA-2, AND SA-3  
 2006 THROUGH 2022



**Figure 36**  
**SAN JOAQUIN DAM**  
**HISTORICAL HORIZONTAL MOVEMENT**  
**SURVEY MONUMENTS SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, AND SB-7**  
**2006 THROUGH 2022**





**Figure 37**  
**SAN JOAQUIN DAM**  
**HISTORICAL HORIZONTAL MOVEMENT**  
**SURVEY MONUMENTS SC-1, SC-2, SC-3, SC-4, SC-5, SC-6, SC-7, AND SC-8**  
**2006 THROUGH 2022**

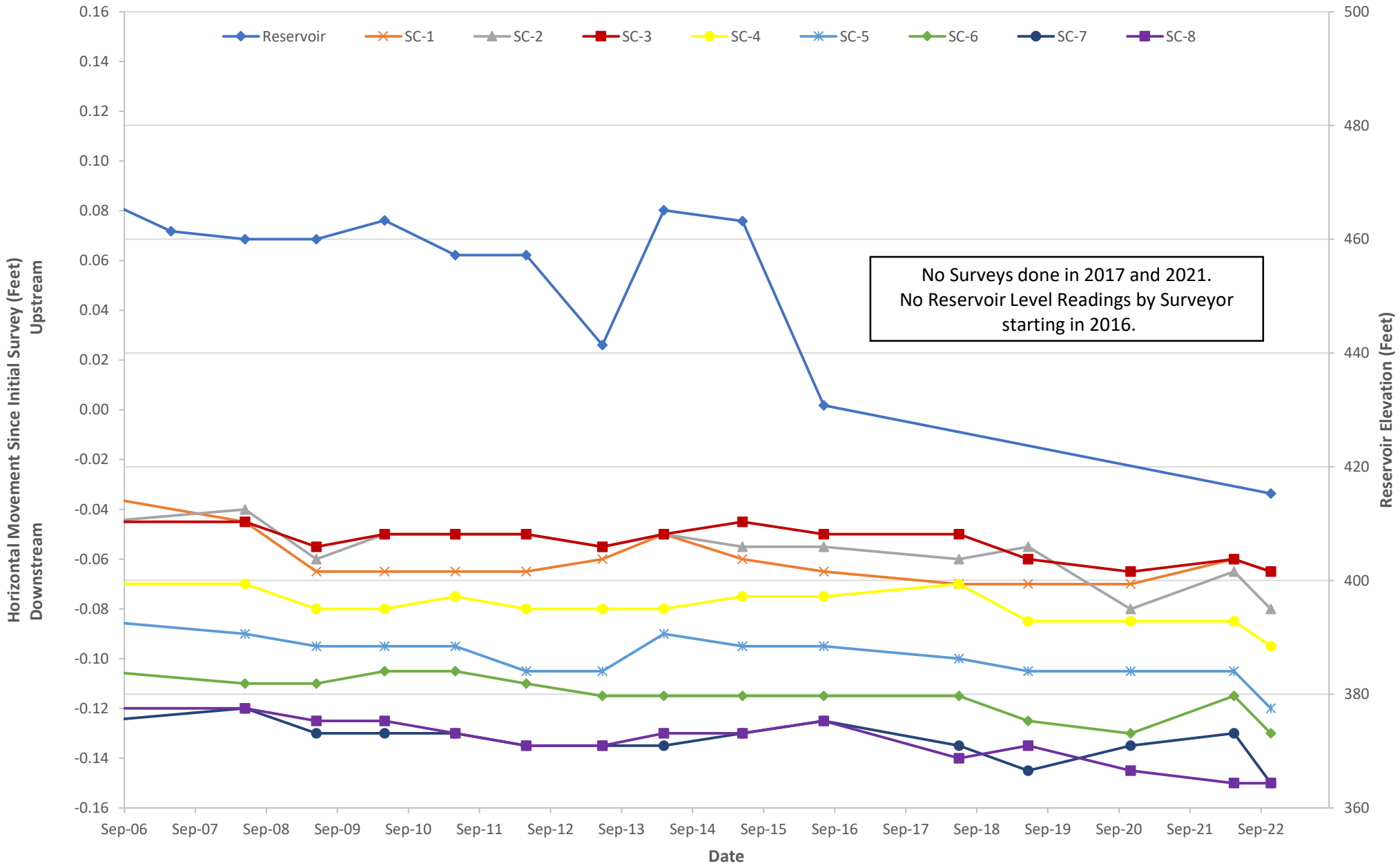


Figure 38  
 SAN JOAQUIN DAM  
 HISTORICAL HORIZONTAL MOVEMENT  
 SURVEY MONUMENTS SD-1, SD-2, SD-3, SD-4, SD-5, SD-6, AND SD-7  
 2006 THROUGH 2022

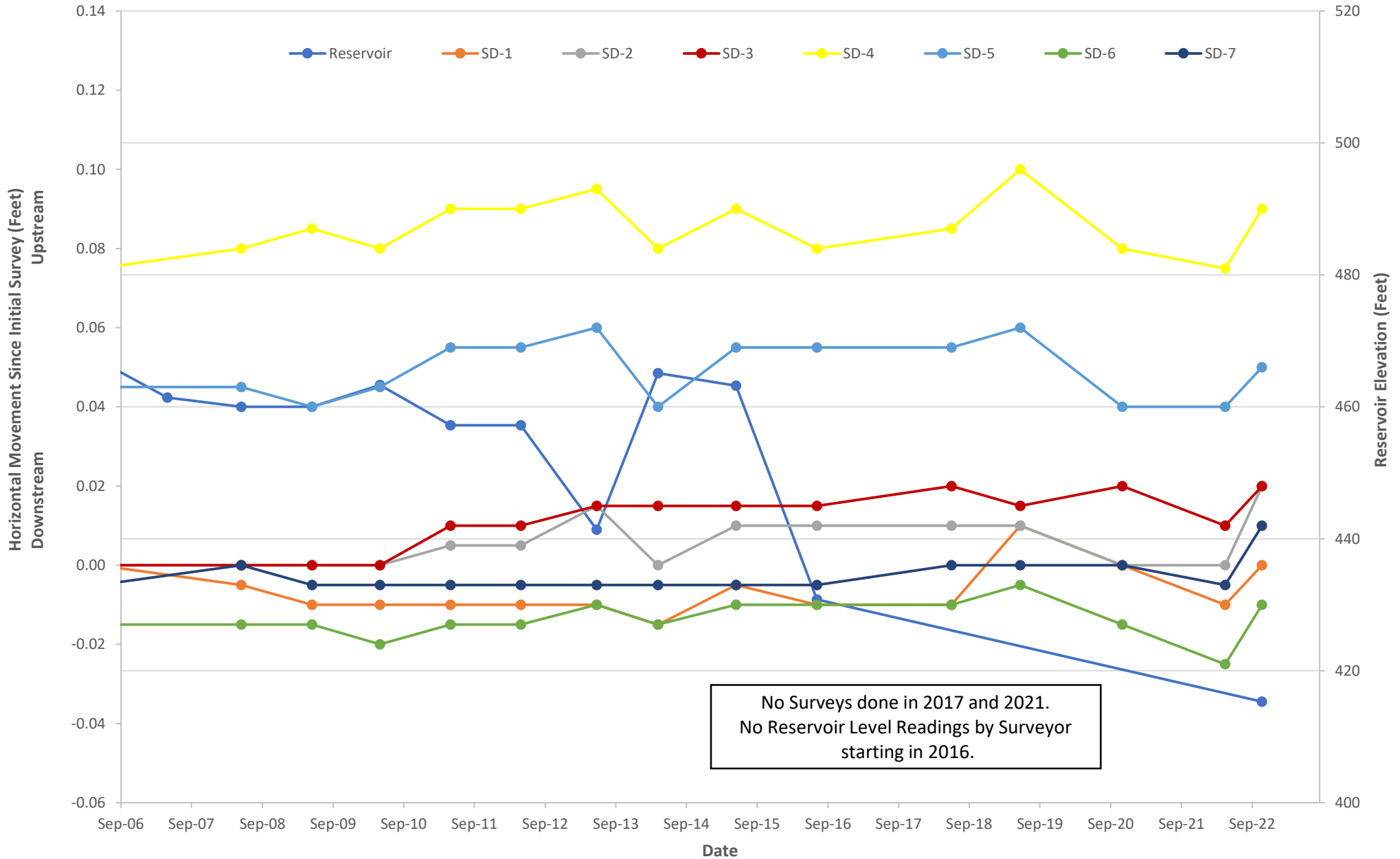
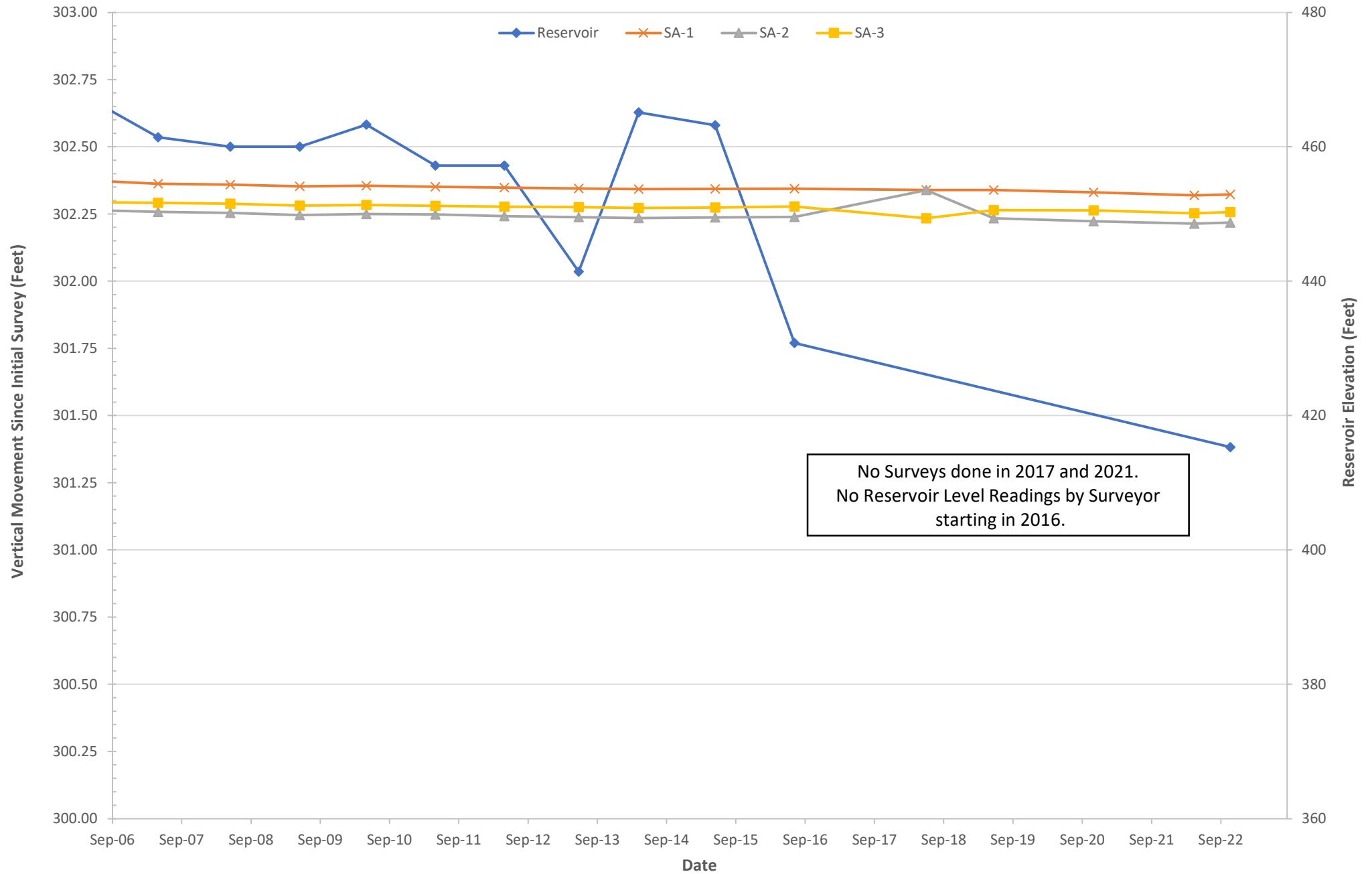
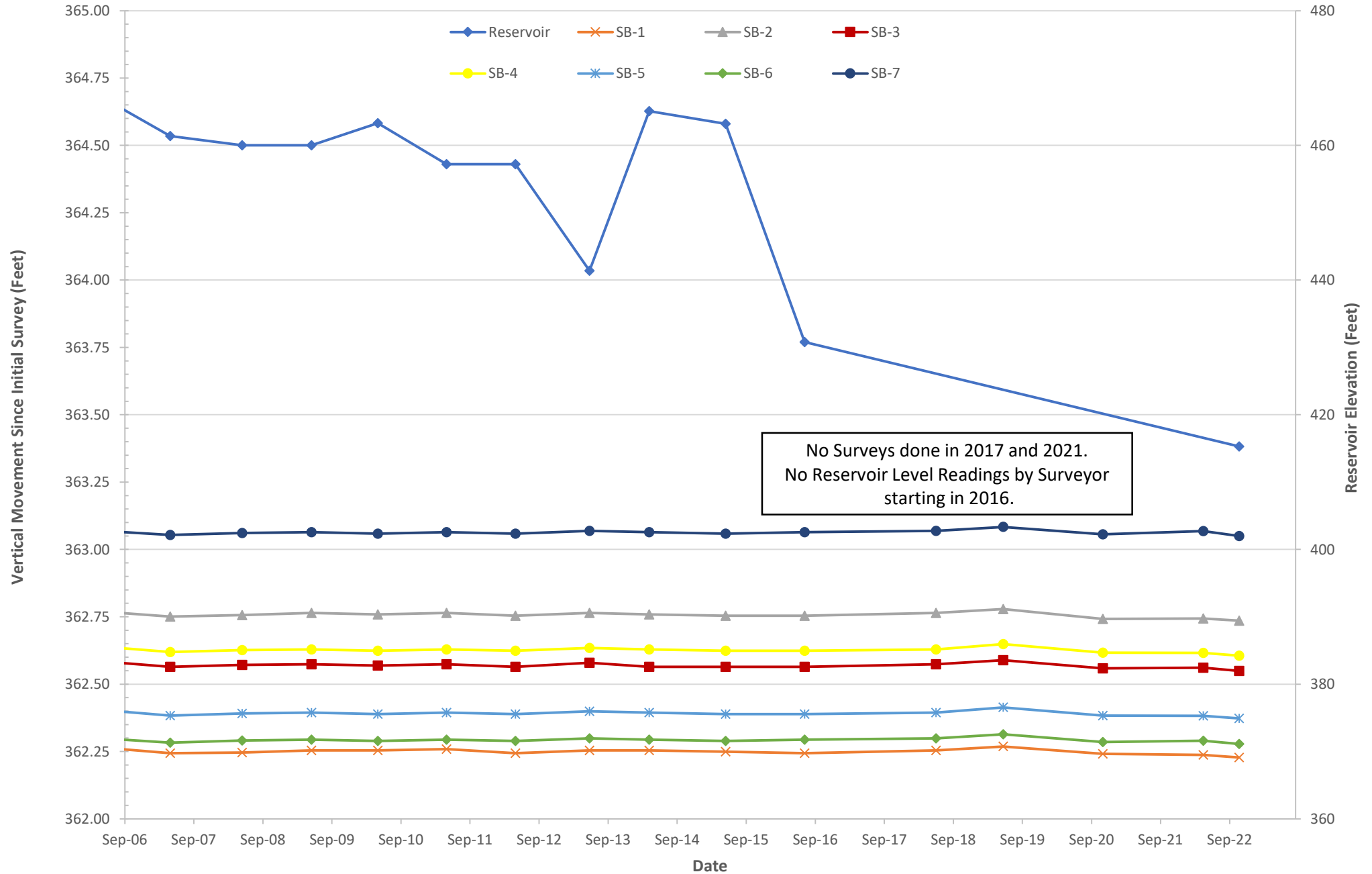


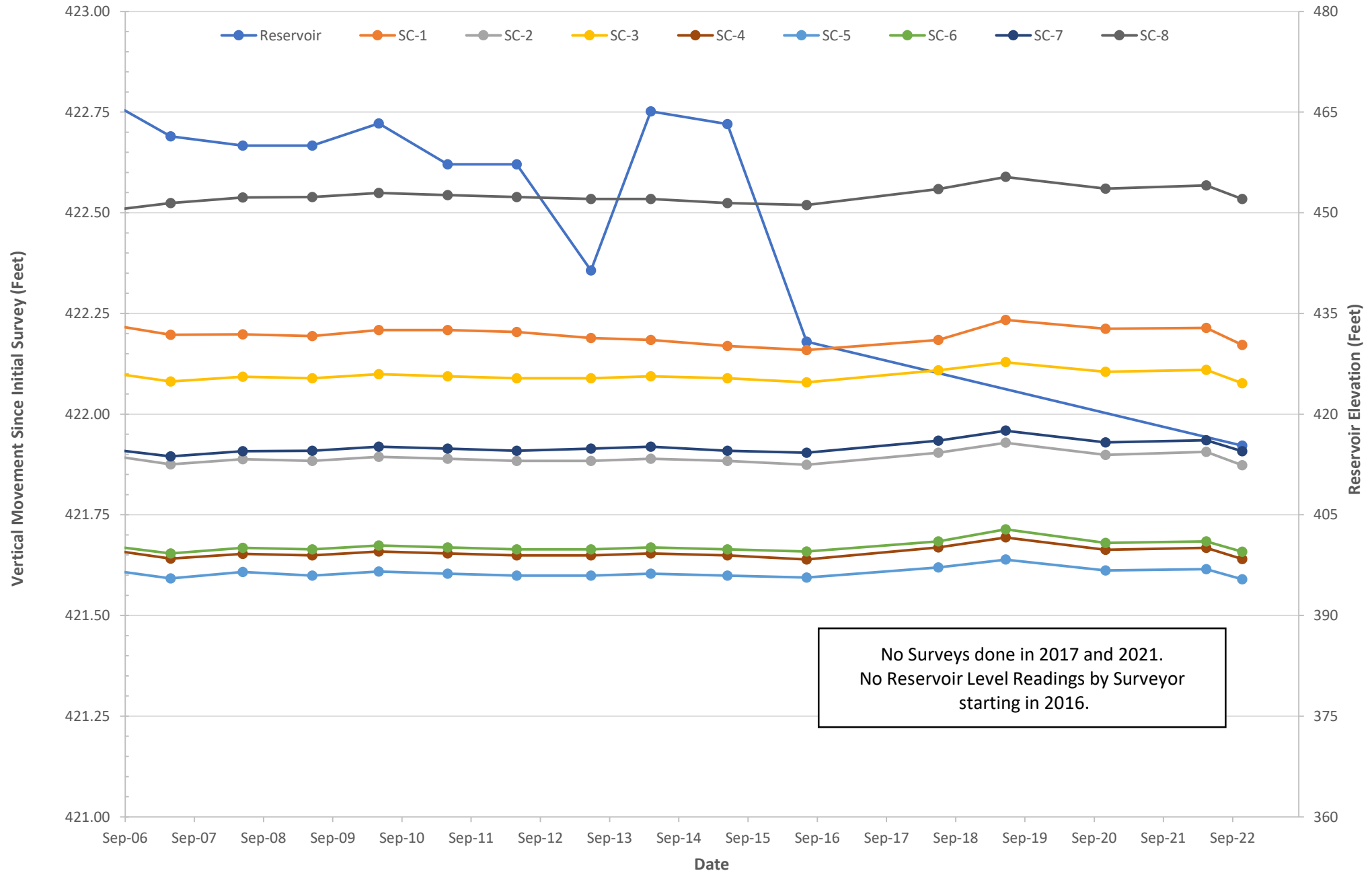
Figure 39  
 SAN JOAQUIN DAM  
 HISTORICAL VERTICAL MOVEMENT  
 SURVEY MONUMENTS SA-1, SA-2, AND SA-3  
 2006 THROUGH 2022



**Figure 40**  
**SAN JOAQUIN DAM**  
**HISTORICAL VERTICAL MOVEMENT**  
**SURVEY MONUMENTS SB-1, SB-2, SB-3, SB-4, SB-5, SB-6, AND SB-7**  
**2006 THROUGH 2022**

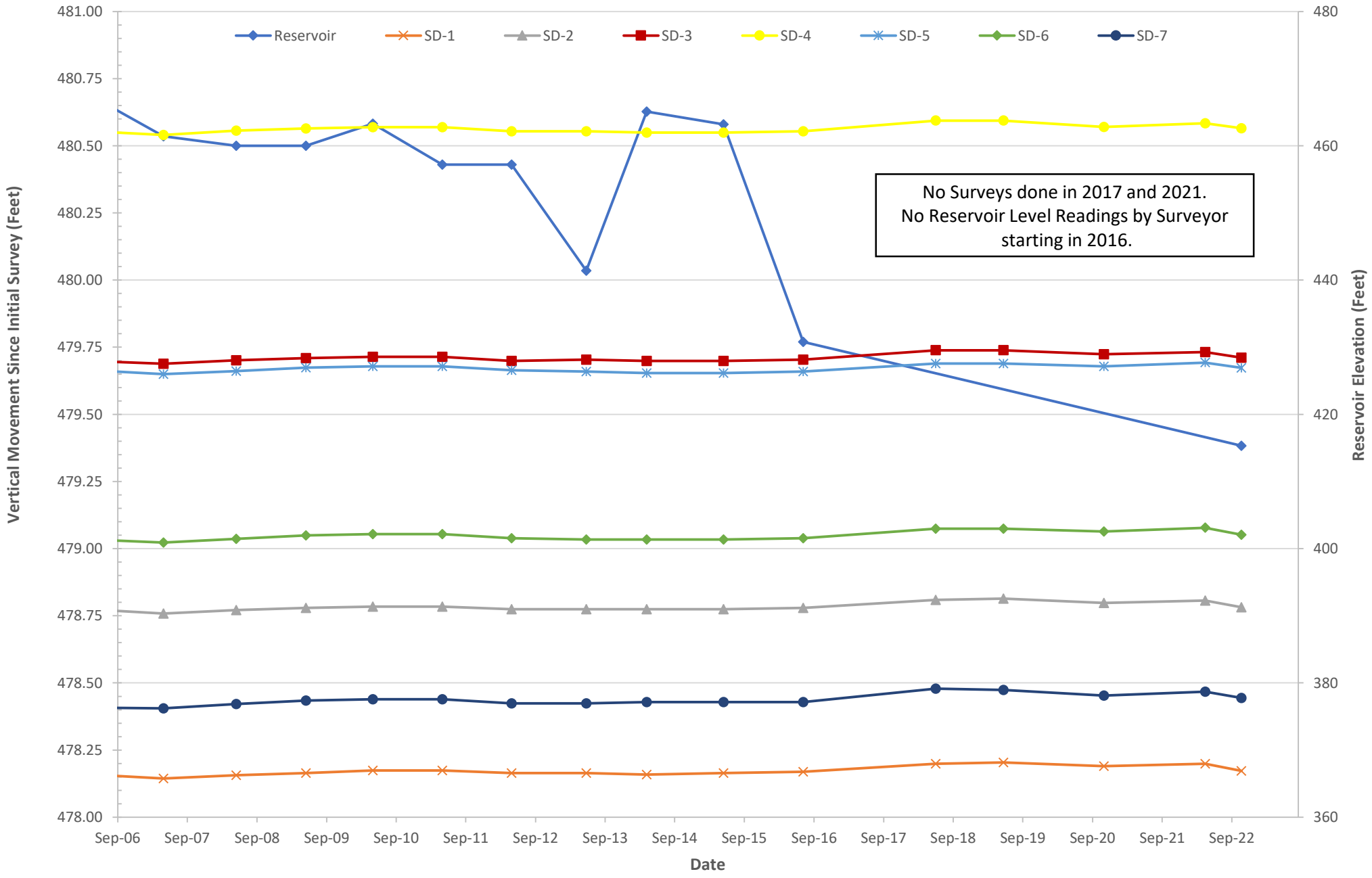


**Figure 41**  
**SAN JOAQUIN DAM**  
**HISTORICAL VERTICAL MOVEMENT**  
**SURVEY MONUMENTS SC-1, SC-2, SC-3, SC-4, SC-5, SC-6, SC-7, AND SC-8**  
**2006 THROUGH 2022**



No Surveys done in 2017 and 2021.  
 No Reservoir Level Readings by Surveyor  
 starting in 2016.

**Figure 42**  
**SAN JOAQUIN DAM**  
**HISTORICAL VERTICAL MOVEMENT**  
**SURVEY MONUMENTS SD-1, SD-2, SD-3, SD-4, SD-5, SD-6, AND SD-7**  
**2006 THROUGH 2022**



## **Appendix**

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**Inspection Photographs of San Joaquin Dam - December 13, 2022**

**Reservoir Dam Valve Exercising Table**

**CNC Survey Report**

**Gradation Test Results**

**Inspection Photographs of San Joaquin Dam**  
**December 13, 2022**





**Photo 1)** AC-lined upstream face looking towards right abutment. Note the recent patch work.



**Photo 2)** AC-lined upstream face looking towards right abutment. Note the recent patch work.



**Photo 3)** AC paved crest looking towards the left abutment.



**Photo 4)** AC pavement cracking on crest.



**Photo 5)** AC pavement cracking looking downstream.



**Photo 6)** Cracking and spalling at joints of concrete crest curb on upstream side.



**Photo 7)** Downstream face looking towards left abutment.



**Photo 8)** Downstream face looking at right abutment.



**Photo 9)** Downstream face looking towards the left abutment. Note upstream collector drain No. 1 and 2, and pneumatic piezometer vault box.



**Photo 10)** Looking upstream at left groin.



**Photo 11)** Exercising pneumatic piezometer control valve. Note significant corrosion throughout vault box.



**Photo 12)** Relief valve gauge behind pneumatic piezometers. Note significant corrosion throughout vault box.



**Photo 13)** Looking at downstream slope at the toe of dam near the v-notch weirs and energy dissipator structure. Note minor normal seepage coming from dam toe.



**Photo 14)** Energy dissipator structure. Note significant corrosion on handrails and ladder.



**Photo 15)** Significant corrosion of safety handrails at energy dissipator structure.



**Photo 16)** Looking at the southwest corner of the reservoir. Note reservoir line separation cracking and traverse cracking.





**Photo 17)** Longitudinal cracking of reservoir liner at the left south end of the reservoir.



**Photo 18)** Approximately 2-inch-wide longitudinal cracking of reservoir liner at the left south end of the reservoir.



**Photo 19)** Bottom of left spillway drop inlet structure leads to a 48-inch spillway pipe that discharge at the dissipator structure located at the downstream toe of the dam.



**Photo 20)** Close up of one (left) of the two spillways drop inlet structures located at upstream side of dam.



**Photo 21)** V-notch weirs measuring seepage flows from the Upstream Collector Drains #1 and #2. Note significant corrosion on the drains.



**Photo 22)** Right Groin Drain pipe (6/16/08 Drain pipe).

## **Reservoir Dam Valve Exercising Table**



## **CNC Survey Report**

Prepared by:

JOB NAME IRWD

SAN JOAQUIN RESERVOIR

JOB NO. 22-006 SRN \_\_\_\_\_

CREW A. MORENO

R. STEWART

DATE 11-16-2022 SHEET 1 OF 11



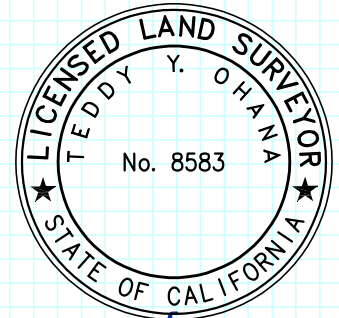
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# INDEX MAP



*Teddy Ohana*  
TEDDY Y. OHANA PLS 8583

### NOTES:

- REPRESENTS 1-3/4" BRASS DISC PUNCHED AT ENDS OF MONITORING CONTROL LINE.
- INSTRUMENT SETUP

### WEATHER CONDITIONS:

TEMP - 65°  
 CLEAR SKIES  
 HUMIDITY - 23.0%  
 BAROMETRIC PRESSURE (INHG) 30.40  
 RESERVOIR WATER LEVEL ELEVATION 415.3±

RPSD  
 HOLD FOR LINE.  
 BOTTOM OF SLOPE

RPSC  
 HOLD FOR LINE.  
 WITHIN SLOPE AREA

RPSB  
 HOLD FOR LINE.  
 OUTSIDE FENCE AREA

LINE D TOP

CREST

RESERVOIR

LINE C

LINE B

RPSA  
 HOLD FOR LINE.

WITHIN SLOPE AREA

LINE A  
 BOTTOM RESERVOIR

RPSD  
 HOLD FOR LINE

RPSC  
 HOLD FOR LINE

RPSB  
 HOLD FOR LINE

RPSA  
 HOLD FOR LINE

WITHIN SLOPE AREA

Prepared by:

JOB NAME IRWD

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JOB NO. 22-006 SRN \_\_\_\_\_

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R. STEWART

DATE 11-16-2022 SHEET 2 OF 11



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# RESERVOIR MONITORING LAND SURVEYING NOTES



N.T.S.

## LINE A

WITHIN SLOPE AREA  
RPSA  
HOLD FOR LINE.

NAME	STA.	OFFSET
RPSA	5+26.273	
1-3/4" BRASS DISC IN CONCRETE 1.5' EAST OF PADDLEBOARD		

### NOTES:

- - ALL "SA" POINTS ARE 1-3/4" BRASS DISC W/PUNCH MARK SET IN CONCRETE AT F.S. 1.0' SOUTH OF YELLOW POST.
- ⊙ RPSA REPRESENTS 1-3/4" BRASS DISC PUNCHED AT ENDS OF MONITORING CONTROL LINE.
- △ INSTRUMENT SETUP
- SEE WEATHER CONDITIONS ON SHEET 1

SA1	3+80.769	0.040'
-----	----------	--------

SA2	2+80.665	0.020'
-----	----------	--------

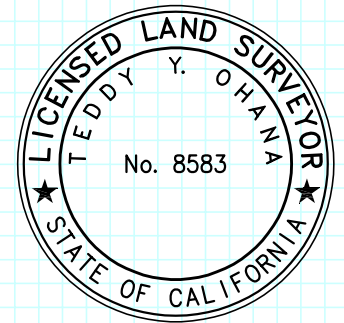
SA3	1+80.651	0.045'
-----	----------	--------

SA4R	0+84.846	0.005'
------	----------	--------

RPSA	0+00.00	
1-3/4" BRASS DISC IN CONCRETE 2.5' WEST OF PADDLEBOARD		

BOTTOM SLOPE RESERVOIR

LINE A



*Teddy Ohana*  
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RPSA  
HOLD FOR LINE  
WITHIN SLOPE AREA



Prepared by:

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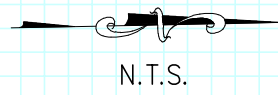
CREW A. MORENO

R. STEWART

DATE 11-16-2022 SHEET 3 OF 11

# RESERVOIR MONITORING LAND SURVEYING NOTES

LINE B  
RPSB OUTSIDE FENCE AREA  
HOLD FOR LINE.  
OFFSET



NAME STA.  
RPSB 9+57.000  
1-3/4" BRASS DISC IN CONCRETE  
1.7' EAST OF PADDLEBOARD AT TOP  
OF SLOPE THRU GATES. (OUTSIDE  
FENCED AREA)

## NOTES:

• - ALL "SB" POINTS ARE 1-3/4" BRASS DISC W/PUNCH MARK SET IN CONCRETE AT F.S. 1.0' SOUTH OF YELLOW POST.

SB1 7+10.663

0.005'

• RPSB REPRESENTS 1-3/4" BRASS DISC PUNCHED AT ENDS OF MONITORING CONTROL LINE.



INSTRUMENT SETUP

SB2 6+10.674

ON LINE

SEE WEATHER CONDITIONS ON SHEET 1

SB3 5+10.695

0.020'

SB4 4+10.648

0.020'

SB5 3+10.666

0.020'

SB6 2+10.534

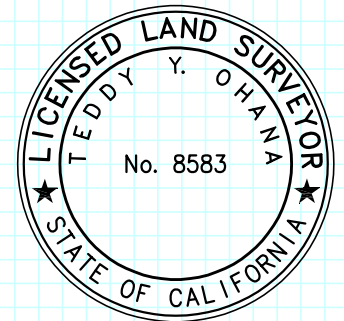
0.010'

SB7 1+10.580

0.010'

RPSB 0+00.00  
1-3/4" BRASS DISC IN CONCRETE  
2.7' WEST OF PADDLEBOARD

RPSB HOLD FOR LINE



*Teddy Ohana*  
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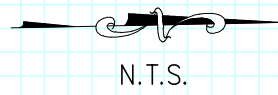
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R. STEWART

DATE 11-16-2022 SHEET 4 OF 11

# RESERVOIR MONITORING LAND SURVEYING NOTES

LINE C  
RPSC WITHIN SLOPE AREA  
HOLD FOR LINE.  
OFFSET



NAME STA.  
RPSC 9+77.591  
1-3/4" BRASS DISC IN CONCRETE  
2.5' EAST OF PADDLEBOARD

SC1 8+72.422

0.065'

SC2 7+72.122

0.080'

SC3 6+72.131

0.065'

SC4 5+72.160

0.095'

SC5 4+72.136

0.120'

SC6 3+72.113

0.130'

SC7 2+71.602

0.150'

SC8 1+72.176

0.150'

RPSC 0+00.00  
1-3/4" BRASS DISC IN CONCRETE  
3.1' WEST OF PADDLEBOARD

RPSC HOLD FOR LINE  
WITHIN SLOPE AREA

## NOTES:

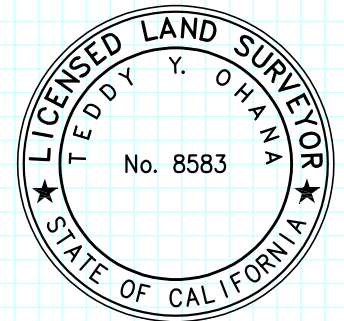
• - ALL "SC" POINTS ARE 1-3/4" BRASS DISC W/PUNCH MARK SET IN CONCRETE AT F.S. 1.0' SOUTH OF YELLOW POST.

⊙ RPSC REPRESENTS 1-3/4" BRASS DISC PUNCHED AT ENDS OF MONITORING CONTROL LINE.

△ INSTRUMENT SETUP

SEE WEATHER CONDITIONS ON SHEET 1

LINE C



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# RESERVOIR MONITORING LAND SURVEYING NOTES

## LINE D

RPSD

HOLD FOR LINE. BOTTOM OF SLOPE

NAME	STA.	OFFSET
RPSD	10+02.183	
1-3/4" BRASS DISC IN CONCRETE 2.5' EAST OF PADDLEBOARD		



N.T.S.

### NOTES:

SD1	7+85.673	ON LINE
-----	----------	---------

• - ALL "SD" POINTS ARE 1-3/4" BRASS DISC W/PUNCH MARK SET IN CONCRETE AT F.S. BETWEEN BERM CURB AND GUARD RAIL AT PADDLEBOARD.

SD2	6+85.650	0.020'
-----	----------	--------

⊙ RPSD REPRESENTS 1-3/4" BRASS DISC PUNCHED AT ENDS OF MONITORING CONTROL LINE.

SD3	5+85.702	0.020'
-----	----------	--------



INSTRUMENT SETUP

SEE WEATHER CONDITIONS ON SHEET 1

SD4	4+85.712	0.090'
-----	----------	--------

LINE D

TOP RESERVOIR CREST

SD5	3+85.788	0.050'
-----	----------	--------



SD6	2+85.817	0.010'
-----	----------	--------

*Teddy Ohana*  
TEDDY Y. OHANA PLS 8583

SD7	1+85.759	0.010'
-----	----------	--------

RPSD	0+00.00	
1-3/4" BRASS DISC IN CONCRETE 2.0' WEST OF PADDLEBOARD		



RPSD  
HOLD FOR LINE  
WITHIN SLOPE AREA



Date: 11/16/2022

Sheet 6 of 11  
SURVEY LEVELING NOTES**PROJECT: IRWD / San Joaquin Reservoir – AC Road LEVELING from SJR21 to MWD-Disc (East)**

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
SJR21				315.824	MWD SJR21 BM (1994)
	9.590	325.414			1 3/4" Brass Disc Near Restroom
TP1			0.325	325.089	
	15.927	341.016			
TP2			0.375	340.640	BEGIN "SB" BENCH RUN LINE
	16.321	356.962			
TP3			0.310	356.650	
	16.045	372.698			
TP4			0.162	372.535	
	15.781	388.317			
TP5			0.221	388.096	
	16.350	404.446			
TP6			0.077	404.369	
	16.238	420.607			
TP7			0.152	420.457	BEGIN "SC" BENCH RUN LINE
	16.383	436.839			
TP8			0.319	436.523	
	12.743	449.263			
TP9			0.137	449.128	
	11.137	460.263			
TP10			0.480	459.787	
	9.749	469.532			
TP11			1.829	467.706	
	14.210	481.913			
MWD E			2.709	479.208	END RUN TO RETURN DR BEGIN "SD" BENCH RUN LINE
	2.568	481.772			
TP11			14.070	467.706	
	2.305	470.007			
TP10			10.224	459.787	

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Date: 11/16/2022

Sheet 7 of 11  
SURVEY LEVELING NOTES

**PROJECT: IRWD / San Joaquin Reservoir – AC Road LEVELING from SJR21 to MWD-Disc (East)**

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
TP10				459.787	
	0.514	460.296			
TP9			11.174	449.128	
	0.098	449.220			
TP8			12.702	436.523	
	0.185	436.704			
TP7			16.253	420.457	
	0.050	420.501			
TP6			16.139	404.369	
	0.030	404.392			
TP5			16.304	388.096	
	0.124	388.212			
TP4			15.686	372.535	
	0.129	372.656			
TP3			16.016	356.650	
	0.139	356.778			
TP2			16.147	340.640	
	0.197	340.828			
TP1			15.747	325.089	
	0.086	325.167			
SJR21			9.351	315.824	MWD SJR21 BM (1994)
					1 3/4" Brass Disc Near Restroom
					ALL ELEVATIONS ARE ADJUSTED

Prepared by:



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Sheet 8 of 11  
SURVEY LEVELING NOTES

**PROJECT:** IRWD / San Joaquin Reservoir – “A” LINE (Slope Bench)

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
SJR21				315.824	MWD SJR21 BM (1994)
	1.170	316.994			1 3/4" Brass Disc Near Restroom
TURN1			12.011	304.983	
	2.236	307.219			
SA4R			4.203	303.016	CNC RESET "SA4R" 1 3/4" BRASS DISC
	4.482	307.497			
SA3			5.241	302.257	
	5.024	307.281			
SA2			5.063	302.218	
	4.839	307.057			
SA1			4.735	302.322	
	5.247	307.569			
TURN1			2.589	304.981	
	12.169	317.150			
SJR21			1.327	315.824	MWD SJR21 BM (1994)
					1 3/4" Brass Disc Near Restroom
					ALL ELEVATIONS ARE ADJUSTED



Date: 11/16/2022

 Sheet 9 of 11  
SURVEY LEVELING NOTES
**PROJECT: IRWD / San Joaquin Reservoir – “B” LINE (Slope Bench)**

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
TP2				340.640	BM from AC Road Level RUN
	10.553	351.193			
TURN1			0.367	350.826	Mag Nail Edge Gutter
	14.210	365.037			
SB7			1.986	363.050	
	4.313	367.364			
SB6			5.086	362.278	
	5.089	367.367			
SB5			4.994	362.373	
	4.915	367.288			
SB4			4.683	362.606	
	4.362	366.967			
SB3			4.419	362.549	
	4.574	367.122			
SB2			4.388	362.736	
	4.290	367.023			
SB1			4.798	362.228	
	4.813	367.038			
SB5			4.672	362.373	
	4.862	367.228			
SB7			4.185	363.050	
	1.080	364.123			
TURN1			13.304	350.826	Mag Nail Edge Gutter
	0.269	351.088			
TP2			10.454	340.640	BM from AC Road Level RUN
					ALL ELEVATIONS ARE ADJUSTED

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SURVEY LEVELING NOTES

**PROJECT: IRWD / San Joaquin Reservoir – “C” LINE (Slope Bench)**

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
TP7				420.457	BM from AC Road Level RUN
	11.380	431.837			
TURN1			15.089	416.748	
	9.938	426.685			
SC8			4.153	422.534	
	4.554	427.086			
SC7			5.181	421.908	
	4.745	426.651			
SC6			4.996	421.658	
	4.691	426.347			
SC5			4.759	421.590	
	4.675	426.262			
SC4			4.625	421.640	
	4.614	426.251			
SC3			4.177	422.077	
	4.380	426.454			
SC2			4.584	421.873	
	4.739	426.609			
SC1			4.441	422.172	
	4.157	426.325			
SC5			4.743	421.587	
	5.045	426.627			
SC8			4.101	422.532	
	4.274	426.800			
TURN1			10.060	416.747	
	15.306	432.046			
TP7			11.596	420.457	BM from AC Road Level RUN
					ALL ELEVATIONS ARE ADJUSTED



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SURVEY LEVELING NOTES

**PROJECT: IRWD / San Joaquin Reservoir – “D” LINE (Slope Bench)**

STATION	B.S.	HI	F.S.	ELEVATION	SURVEY LEVELING NOTES
MWD E				479.208	MWD 1 3/4" Brass Disc (East)
	4.804	484.012			
SD7			5.567	478.444	
	5.720	484.165			
SD6			5.112	479.052	
	5.864	484.917			
SD5			5.243	479.673	
	6.212	485.886			
SD4			5.319	480.565	
	5.219	485.786			
SD3			6.073	479.711	
	5.169	484.882			
SD2			6.098	478.782	
	5.305	484.089			
SD1			5.915	478.172	
	5.051	483.224			
MWD W			5.072	478.151	MWD 1 3/4" Brass Disc (West)
	6.497	484.649			
RPSD			4.034	480.614	
	2.763	483.378			
SD3			3.668	479.711	
	5.839	485.549			
SD7			7.104	478.444	
	5.202	483.647			
MWD E			4.438	479.208	MWD 1 3/4" Brass Disc (East)
					ALL ELEVATIONS ARE ADJUSTED

## **Gradation Test Results**

GRAVEL		SAND			FINES	
Coarse	Fine	Coarse	Medium	Fine	SILT	CLAY

