Annual Surveillance Report January 2024 to December 2024 for Rattlesnake Canyon Dam

DSOD Dam No. 1029-003

Irvine, California

Submitted to:
Irvine Ranch Water District
Dams & Storage
15600 Sand Canyon Avenue
Irvine, CA 92618

Prepared by:
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May 5, 2025
GEI Project No. 2305575

GEI Consultants

Consulting Engineers and Scientists

May 5, 2025
GEI Project No. 2305575

Mr. Jacob Moeder,
Engineering Manager – Dams & Storage
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Re: Rattlesnake Canyon Dam, DSOD Dam No. 1029-003,
Annual Surveillance Report from January 2024 to December 2024

Dear Mr. Moeder:

GEI Consultants, Inc. (GEI) is pleased to submit this Annual Surveillance Report for Rattlesnake Canyon Dam covering January 2024 to December 2024. 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 October 25, 2023.

We appreciate this opportunity to provide the District with our services. Please contact Emerson Revolorio at erevolorio@geiconsultants.com or Rich Sanchez at 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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Acronyms and Abbreviations

AC	asphalt concrete
AF	acre-feet
CML&C	cement-mortar-lined and coated
District	Irvine Ranch Water District
D/S	Downstream
DSOD	State of California, Department of Water Resources, Division of Safety of Dams
DSP	Dam Safety Program
El, EL, Elev	elevation
FP	Flow Point
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
mm	Millimeter
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
OW	Observation Well
P.E.	Professional Engineer
P or Piez	Piezometer
RCP	reinforced concrete pipe

Res.	Reservoir
TIC	The Irvine Company
VW, VWP, VB	Vibrating Wire Piezometer
U/S	Upstream
W.S.	water surface
YR	year

1.0 Introduction and Background

1.1 General

This report presents the results of the dam safety monitoring and surveillance program for Rattlesnake Canyon Dam conducted by the Irvine Ranch Water District (District) and GEI Consultants, Inc. (GEI) between January 2024 and December 2024. It includes a review of previous surveillance reports, a compilation of the field measurements, maintenance reports, 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 the State of California, Department of Water Resources, Division of Safety of Dams (DSOD).

Table 5 provides details of active and abandoned piezometers, observation wells, and seepage flow points. Tables 6 through 11 present field measurements of piezometer water levels, reservoir water surface elevations, seepage flow rates, and horizontal and vertical movement based on survey data collected at Rattlesnake Canyon Dam. Piezometric levels and seepage flow rates with respect to reservoir water surface elevations are shown in the figures for the two-year period (January 2023 through December 2024), as well as for a 10-year historical period (January 2014 through December 2024). The historical plots reflect long-term trends and overall performance of the dam and reservoir. The use of long-term and short-term plots help to identify any adverse trends or significant deviations more easily in the data. Tables and graphs are also presented to show the results of horizontal and vertical movement surveys from 1985 through 2024. No surveys were conducted in calendar years 2017 and 2021. The survey for the 2024 review period was performed in June 2024.

The vertical datum indicated on the as-built plans and project documents for Rattlesnake Canyon Dam is National Geodetic Vertical Datum of 1929 (NGVD 29). The reservoir water surface elevation, piezometer instrumentation data and vertical survey data are currently based on NGVD 29.

In July 2023, IRWD developed a Dam Safety Program (IRWD, 2023) that includes principles and guidelines for Risk Informed Decision Making (RIDM) for its portfolio of dams. This report has been updated to follow the guidelines in the Dam Safety Program.

1.2 Dam and Reservoir

Rattlesnake Canyon Dam is a homogeneous earthfill dam with a chimney drain. The channel section of the dam is founded on alluvium which overlies the bedrock. The abutment sections of the dam are founded on rock. It is located on Rattlesnake Canyon Wash in Irvine, California. The

dam was completed in 1959. A site plan and cross section of the dam are provided in Figures 1 and 2.

Modifications to the dam have occurred over the years. Currently, the height of the dam is 79 ft with a crest length of 980 ft and a crest width of 15 ft. The crest of the dam is at Elevation 418.0 ft. Asphalt Concrete (AC) covers the crest of the dam.

The upstream face of the dam has a slope gradient of 3H:1V (Horizontal: Vertical) and a 20-foot-wide bench at approximate Elevation 385.0 ft, per AECOM's 2015 annual surveillance report. The upper portion of the upstream slope is lined with 2-inch-thick AC for erosion protection extending from the crest of the dam to the inside edge of the bench (i.e., not including the bench).

The downstream face of the dam has a slope gradient of 2.5H:1V and also has a 20-foot-wide bench at approximate Elevation 385.0 ft. The downstream slope is covered with grass.

In 2004, a stability berm with a blanket drain was constructed on the right abutment to remediate seismically deficient portion of the dam. Seepage drains were also installed along the downstream toe of the dam help control and monitor seepage.

The reservoir has a watershed drainage area of about two square miles. The reservoir has a maximum storage capacity of 1,480 acre-feet at the spillway crest Elevation of 412 ft. Due to concerns regarding the stability of the dam under seismic loading conditions, the maximum reservoir level is currently restricted by DSOD to Elevation 406.0 ft, which is 6.0 ft below the spillway crest. Therefore, total freeboard under the DSOD restriction is 12 ft.

1.3 Spillway

Located on the right abutment, the spillway consists of an AC lined approach section, an ungated ogee weir, and a concrete lined side channel. The open concrete lined trapezoidal channel has a 15-foot-wide bottom with 1H:1V side slopes. The spillway channel conveys the water to a stilling basin at the bottom of the spillway chute which then flows into an unlined spillway channel. As noted above the spillway crest is at Elevation 412.0 ft (NGVD 29), which provides 6 ft of freeboard without the restriction.

1.4 Outlet Works

The outlet works, located near the left abutment, consist of an inclined intake pipe supported on the upstream face of the dam with four intake valves (identified as "Main, Middle, Top, and Bottom") at various elevations. The inlet valves are manually operated by the hand wheel controls located at the upstream edge of the crest of the dam. The intake pipe connects to a 24-inch-diameter steel outlet pipe near the upstream toe. The outlet pipe extends approximately 460 ft under the left portion of the dam to a 24-inch-diameter gate

valve located in the Outlet Meter Vault near the left downstream toe area of the dam. Adjacent to the access road and approximately 15 ft downstream of the Outlet Meter Vault is the Outlet Valve Vault where the 24-inch-diameter line has a 24-inch diameter butterfly valve that serves as an emergency blowoff valve (Figure 1).

The District provided a Dam Outlet Valve Exercising Log which stated that all the valves except for intake valve at elevation 375 ft, blow-off valves #1 and #2, were exercised on November 6, 2024. IRWD indicated that the intake valve at elevation 375 ft was broken and in the closed position. The table is provided in the Appendix of this report.

2.0 Instrumentation Measurements

2.1 General

There are 16 piezometers, eight seepage subdrains, and seven survey monuments that are being monitored at Rattlesnake Canyon Dam. The piezometer count includes Observation Well VBW/OW-3 which was discontinued in August 2016, due to construction next to the spillway. The District resumed readings of this observation well in June 2018. In October 2023, AECOM installed four vibrating wire piezometers (VWP) in the dam embankment as part of a larger geotechnical exploration program. The VWPs were installed in two separate boreholes, with two piezometers nested in each hole. As-built details for the VWPs are included in the Appendix of this report.

District personnel measure the levels in the piezometers, observation wells, and reservoir, and seepage flow rates from the eight subdrains monthly and immediately following significant seismic events. The survey monuments are surveyed annually by a licensed surveyor under contract with the District. Precipitation is measured at an on-site rain gauge.

Figure 1 is a Site and Instrumentation Plan showing the layout of the dam and appurtenances, as well as the locations of the piezometers, seepage collection subdrains, and survey monuments. The left and right designations are as viewed looking downstream.

IRWD contracted Genterra Consultants to establish thresholds and action levels for piezometer readings, seepage flow, and movement monitoring (Genterra, 2023). These thresholds and action levels were based on a review of historical performance data, previous reports, and statistical analysis of piezometer readings in relation to reservoir water levels. Genterra developed four alarm levels based on an expected instrument reading range set by an upper and lower band. Each alarm level has a defined upper and lower limit. If an instrument reading falls outside its expected range, it moves into the next alarm level. Alarm Levels are designated as Alarm Level I (Green Alarm), II (Yellow Alarm), III (Orange Alarm), and IV (Red Alarm). The lower and upper bands for each alarm level and the required response for each alarm level are shown in Table 2 of Guideline No. 4 (Seepage & Piezometer Monitoring) and Table 2 of Guideline No. 6 (Movement Monitoring) in IRWD's Dam Safety Program. The piezometers, seepage, and movement surveys were assessed using these alarm levels. Tables 1 through 3 summarize the readings for the 2024 review period.

Throughout this report, instrumentation measurements and readings that remained within historical limits and followed historical trends are considered normal. Historical limit is

classified as the range between maximum and minimum water levels within the past ten years.

Based on the ten-year historical data from January 2014 through December 2024, the reservoir water surface elevation varied from a minimum Elevation of 358.7 ft to a maximum Elevation of 402.4 ft. During the 2024 review period, the reservoir water surface elevation varied from a minimum Elevation of 380.5 ft to a maximum Elevation of 392.9 ft (19.1 ft below the spillway). The reservoir elevations that were read on the same dates as the instrumentation are shown in Tables 6 and 7. The reservoir water surface elevations during the 2024 review period remained within historical limits. Rainfall data is included in Tables 6 and 7 and Figures 4 through 15.

2.2 Piezometers

There are 16 open-well piezometers currently being monitored at Rattlesnake Canyon Dam (P-1A, P-2, P-3A, P-30B, P-35A/B/C, P-52, P-61, P-62, P-63, P-64, P-65, P-66, P-67, and VBW/OW-3). The District and GEI agreed to stop taking readings at piezometer P-30A until it is abandoned due to blockage. IRWD will also flag the piezometer casing with a "to-be abandoned" sign. Based on the data received from the District, readings are still being taken at P-30A. An open-well piezometer is a small-diameter (~2-inches in diameter) well used mainly to measure water levels. It is typically installed as a casing in a vertical borehole and has a discrete perforated zone near its bottom to enable monitoring of changes in water levels within that zone. More than one piezometer can be installed within a single, larger-diameter (~4-inches in diameter) outer well casing. These groups of piezometers are often referred to as multi-stage or nested piezometers. At Rattlesnake Canyon Dam, currently Piezometers P-30A & B and P-35A, B & C are nested, each having two or three piezometers in them, designated as A, B, or C. Piezometers P-1A & B are also nested, but Piezometer P-1B has been abandoned. The tip of each piezometer is generally placed at its own discrete depth range within the outer well casing. The outer well casing is perforated along the vertical zones corresponding to the depths of the piezometer tips.

Table 5 lists information about each piezometer and observation well indicating whether they are operational or abandoned. The location of each piezometer and observation well is shown on Figure 1. Table 6 provides the reservoir water surface elevation and piezometer water levels since January 2007. Figures 3 through 7 are graphical presentations of piezometer water levels and reservoir water surface elevations during the two-year period from January 2023 through December 2024. Figures 8 through 12 are graphical presentations that cover a historical period from January 2014 through December 2024.

Presented below for each piezometer is a summary of the water level measurements during 2024 and a discussion of the historical trends and changes that were noted in the reported measurements.

Table 1 provides the maximum and minimum water levels recorded during the current review period, as well as the historical range for each piezometer. Outlier readings with isolated spikes or drops were not considered reliable (erroneous reading) and were not included in the maximum and minimum water level range.

Table 1. Piezometers – Maximum and Minimum Water Level Ranges

Piezometer	Tip Elevation (ft)	2014-2024 10-Year Range (ft)	2024 Range (ft)	2024 Maximum Alarm Level	Comment
P-1A	287.4	353.9 – 357.4	353.8 – 356.0	Level I	
P-2	363.4	402.8 – 405.6	403.2 – 404.8	N/A	
P-3A	303.7	335.6 – 348.1	337.2 – 341.1	Level I	
P-30A	371.7	376.4 – 389.7	383.1 – 383.5	Level I	
P-30B	337.1	363.2 – 379.6	367.0 – 370.2	N/A	
P-35A	357.3	357.3 – 358.3	357.3 – 357.7	N/A	
P-35B	313.4	334.8 – 343.1	335.3 – 339.5	Level II	Continue to monitor changes. Perform Alarm Level II response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
P-35C	343.2	343.2 – 345.8	343.5 – 344.3	Level I	
P-52	361.2	369.7 – 390.7	374.7 – 372.9	Level I	
P-61	311.0	323.7 – 334.5	327.4 – 328.9	Level I	
P-62	365.5	372.9 – 393.0	376.8 – 384.9	Level I	
P-63	335.0	351.5 – 370.7	357.9 – 364.3	N/A	
P-64	302.0	337.7 – 347.1	339.1 – 343.0	Level I	
P-65	325.5	338.3 – 348.5	340.3 – 343.7	Level I	
P-66	301.0	331.6 – 339.8	334.2 – 337.2	Level IV	One time reading, alarm level returned to Alarm level I. Continue to monitor changes. Perform Alarm Level IV response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
P-67	282.5	326.6 – 333.0	325.1 – 330.5	Level III	One time reading, alarm level returned to Alarm level I. Continue to monitor changes. Perform Alarm Level III response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
VBW/OW-3	386.3	386.5 – 397.6	389.4 – 392.9	N/A	
P-101A (VW4)	287.7	350.7 – 356.7	350.7 – 356.7	N/A	Installed October 2023.
P-101B (VB2)	261.9	398.3 – 399.0	398.3 – 399.0	N/A	Installed October 2023. Phreatic surface above reservoir level.
P-102A (VW4)	353.4	346.3 – 351.1	347.1 – 351.1	N/A	Installed October 2023.
P-102B (VB2)	327.3	376.8 – 390.3	376.8 – 390.3	N/A	Installed October 2023.

Piezometer P-1A is located on the crest of the dam, near the maximum section of the dam. The tip of Piezometer P-1A is located near the underlying bedrock below the dam, and measures water surface levels in the alluvium. The length of the piezometer was extended in January 2005 by about two ft. The water levels observed in Piezometer P-1A during 2024 were within historical levels (Figure 4). The water level in Piezometer P-1A has gradually dropped by approximately 5 ft over the last 10 years due to the reservoir level now being operated 5 to 10 ft lower than its 2011 levels.

Piezometer P-2 is located on the crest of the dam, near the maximum section of the dam and has its tip located in the upper embankment fill noted at El 363.4. The piezometer was cleaned in 2015, but levels returned to the same levels prior to cleaning, see Figure 9. Historically, Piezometer P-2 levels have been above the reservoir water level. Based on prior measurement notes, see Table 6, P-2 is considered dry but could have some blockage at approximately El 403 (Figure 4). A clean out of the piezometer P-2 is recommended and resurvey of the piezometer's elevations (top and tip). Piezometer P-3A is located on the downstream bench at El 385 ft and its tip is located in the foundation bedrock. The piezometer was cleaned in 2008 and again in 2015. Piezometer P-3A tracked the reservoir level in 2024. Water levels recorded in Piezometer P-3A during the report period were within historical limits (Figure 10).

Piezometer P-30A is located on the crest of the dam and its tip located within the embankment material at El 371.7. Several attempts were made to clean blockage from this piezometer in 2008 and the District confirmed in 2015 that the standpipe is blocked at a shallow depth. In April 2016, AECOM recommended Piezometer P-30A be abandoned due to long-term blockage. GENTERRA previously recommended another attempt to clear the blockage in Piezometer P-30A before deciding to abandon it altogether. GEI concurs it should be abandoned due to its blockage at a shallow depth and having other functional piezometers in the vicinity and along the maximum section of the dam. The District provided readings for the 2024 review period and are provided in Table 6.

Piezometer P-30B is located on the crest of the dam and its tip is located within the embankment material at El 337.1. The piezometer was cleaned in 2008 which successfully unblocked it. In July 2015, the piezometer was cleaned again. The piezometer water level was within historical limits and continued to respond to the reservoir level changes during the 2024 review period (Figure 5 and 10).

Piezometers P-35A, P-35B, and P-35C are located on the downstream bench at Elevation 385 ft. Piezometer P-35A measures water levels in the embankment material downstream of and above the inclined chimney drain. The water levels did not fluctuate much throughout 2024 and remained generally "dry", registering only 0.4 ft of water depth at Elevation 357.7 ft. Piezometers P-35B and P-35C are located in the sand drain and chimney drain, respectively. Both showed minor fluctuations throughout the review period responding to reservoir level changes. Readings in piezometer P-35C have historically been reported near the piezometer tip

elevation or below the piezometer tip elevation. The water levels observed in Piezometers P-35A, B, and C during the 2024 review period were within historical levels (Figure 8).

Piezometer P-52 is located on the crest of the dam with its tip in the foundation bedrock near the right abutment. The District cleaned this piezometer in 2008 and succeeded in unblocking the piezometer to a depth of 58.5 ft. Piezometer P-52 tracked the reservoir level closely in 2024 (Figure 7). Water levels recorded in Piezometer P-52 during the 2024 review period were within historical limits (Figure 12).

Piezometer P-61 is located near the downstream toe of the dam at the contact with the left abutment, with its tip in the foundation bedrock. Piezometer P-61 was installed in late 2004 and readings began on January 18, 2005. Piezometer P-61 tracked the reservoir level slightly in 2024 (Figure 7). Water levels recorded in Piezometer P-61 during the 2024 report period were within historical limits (Figure 12).

Piezometer P-62 is located in the right abutment stability berm with its tip in the foundation bedrock. Piezometer P-62 tracked the reservoir level closely in 2024 (Figure 7). Water levels recorded in Piezometer P-62 during the 2024 report period were within historical limits (Figure 12).

Piezometer P-63 is located on the crest of the dam with its tip in the left abutment bedrock at El 335. The piezometer was cleaned in 2008 and again in 2015, but the water level readings did not show any response as a result of the cleaning. In April 2016, AECOM recommended that Piezometer P-63 be abandoned due to long-term blockage. In November 2018, GENTERRA recommended a maintenance cleaning to further evaluate the condition of Piezometer P-63. GENTERRA also recommended the elevation of top of casing be surveyed and that the depth to the bottom of piezometer be measured periodically to verify that the casing is not blocked (Genterra, 2018). The water level of Piezometer P-63 did drop by about 17 ft following a 25-ft drop in the reservoir water level during February 2018. Historically, the water levels in the piezometer have been gradually increasing. Water level in Piezometer P-63 dropped 6.6 ft on June 2024 and gradually increased during the rest of the 2024 report period (Figure 12). The District should continue monthly monitoring of this piezometer.

Piezometer P-64 is located on the downstream bench at Elevation 385 ft with its tip in foundation alluvium at El 302. Piezometer P-64 was installed in late 2004 and readings began on January 18, 2005. Piezometer water levels continue to be responsive to reservoir water level changes. Piezometer P-64 tracked the reservoir levels in 2024 (Figure 4). Water levels recorded in Piezometer P-64 during the 2024 report period were within historical limits (Figure 9).

Piezometer P-65 is located in the southern portion of the right abutment stability berm, to the south of P-62 and further away from the reservoir. Piezometer P-65 was installed in late 2004 and readings began on January 18, 2005. P-65 had a minor response to the reservoir levels

changes in 2024 (Figure 7). Water levels recorded in Piezometer P-65 during the 2024 review period were within historical limits (Figure 12).

Piezometer P-66 is located at the downstream toe of the dam with its tip in the foundation bedrock. Piezometer P-66 was installed in late 2004 and readings began on January 18, 2005. Piezometer P-66 tracked and was responsive to the reservoir levels changes in 2024 (Figure 4). Water levels recorded in Piezometer P-66 during the 2024 review period were within historical limits and responsive to reservoir level changes (Figure 9). The exception was on October 29, 2024, when the water level drop approximately 11 ft. We consider this an erroneous reading since the readings return to Alarm Level I and continue to follow historical trends.

Piezometer P-67 is located at the downstream toe of the dam with its tip in the foundation. Piezometer P-67 was installed in late 2004 and readings began on January 18, 2005. Piezometer P-67 was responsive to reservoir level changes in 2024 (Figure 3). Water levels recorded in Piezometer P-67 during the 2024 review period were within historical limits and responsive to reservoir level changes (Figure 8). The exception was on November 21, 2024, when the reading triggered Alarm Level III. The readings returned to Alarm Level I and continued to follow historical trends for the rest of the review period.

Observation Wells VBW/OW-1, VBW/OW-2, and VBW/OW-3 (formerly identified as OW97-3, OW97-2, and OW97-1, respectively) are located to the north of the spillway. OW-1 and OW-2 were removed in August 2016 due to grading on a residential development in the area where the wells were located. Readings were discontinued at OW-3 in August 2016 due to the construction and were resumed on June 28, 2018. The bottom of OW-3 is noted at El 386.3. Based on the location of OW-3 (right abutment/north of the spillway) and its bottom tip elevation, Observation Well OW-3 is mostly considered dry. According to IRWD, OW-3 has been dry since the grading performed in August 2016. During the 2024 review period, OW-3 appeared to have slightly fluctuated. This slight fluctuation can be attributed to soil saturation from the rain during January through May. Measured levels in Observation Well OW-3 during the 2024 report period is shown in Figure 11 and historical readings in Figure 6.

VWPs P-101A and P-101B are located on the dam crest with P-101A tip installed in the foundation bedrock and P-101B tip installed in the alluvium overlying the bedrock. VWPs P-102A and P-102B are located on the downstream bench near the right access road with P-102A tip installed in the foundation bedrock and P-102B tip installed in the alluvium. The VWPs were installed by AECOM in October 2023 as part of a larger geotechnical investigation. VWPs P-101A and P-101B showed minor responses to the reservoir level, see Figures 2 and 8. VWPs P-102A and P-102B showed minor responses to the reservoir level, see Figures 7 and 12. All four VWPs had multiple periods in 2024 where a reading was not provided due to the sensor not working correctly.

Based on GEI's review of the piezometer data, there are no indications of any dam safety concerns at the dam embankment, abutments, right abutment stability berm, or foundation. It is recommended that the District clean out piezometers P-2 and P-63 and have the top elevations of the casings re-surveyed and re-measure the depth to the bottom of each piezometer to verify that the piezometers are not blocked to their as-built depth. It is also recommended that IRWD follows the appropriate response for, or consider evaluating, the alarm level changes per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring). IRWD should also consider evaluating and adjusting the alarm and threshold levels. GEI will continue to assist the District and closely monitor the water levels in each piezometer.

2.3 Seepage Flows

Several modifications to the seepage monitoring system have occurred over the years. Seepage flow rates from seven subdrains are currently being measured monthly at eight flow points by the District. Six subdrains (2, 3, 4, 5, 8 and 11) are monitored at six flow points (FP-2, FP-3, FP-4, FP-5, FP-8 and FP-11), which are assigned the same identification number as the drain. These six flow points are located downstream of the dam in the Seepage Vault shown on Figure 1. The remaining two flow points, FP-1 North and FP-1 South (or FP-1N and FP-1S), are read in Manhole No. 1, which is located about 600 ft downstream of the Seepage Vault structure.

The existing Manholes 2, 3, and 4, and Flow Points FP-9 and FP-10 were removed as part of the alterations to the dam. The existing Seepage Vault structure was constructed to replace the three manholes that were removed.

Flow Points FP-2, FP-3, and FP-4 collect seepage from the chimney drain within the dam. Flow Point FP-5 collects seepage from the Longitudinal Drain along the right portion of the downstream bench, as well as seepage from the Groin Drain along the right abutment contact. Flow Point FP-8 collects seepage from the toe drain (Subdrain 8). Flow Point FP-11 collects seepage from Subdrain 11 in the downstream right abutment contact.

Prior to April 2008, the seepage flow rate measured from Flow Point FP-1 was sometimes recorded as a combined measurement of Flow Points FP-9 and FP-10, and no record was kept of the individual readings. Since April 2008, the measurements of Flow Points FP-9 and FP-10 have been recorded separately as Flow Points FP-1 South and FP-1 North, respectively. Flow Point FP-1 North measures the seepage from the spillway stilling basin in Subdrain 10, and Flow Point FP-1 South represents the combined seepage from the Seepage Vault, which contains Subdrains 2, 3, 4, 5, 8, and now 11.

Historical seepage flow rates since 2007 at the subdrain flow points are listed in Table 7. Figures 13, 14, and 15 present the 2-year period seepage rates from January 2023 through December 2024, and Figures 16, 17, and 18 present the historical seepage rates since 2013.

Table 2 provides maximum and minimum flow rates from each drain recorded during the current review period, as well as the historical range for each drain.

Table 2. Subdrain Flow Rates – Maximum and Minimum Flow Rate Ranges

Subdrain	2014-2024 10-Year Range (gpm)	2024 Range (gpm)	2024 Maximum Alarm Level	Comment
FP-1 South	0.02 – 6.18	0.02 – 1.59	Level I	
FP-1 North	0.00 – 9.27	0.00 – 3.57	Level I	
FP-2	0.00 – 0.23	Dry	Level II	Dry all year. Alarm level triggered due to seepage being lower than expected at reservoir level. Alarm level returned to Alarm Level I. Continue to monitor changes. Perform Alarm Level II response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
FP-3	0.42 – 1.90	0.43 – 1.20	Level I	
FP-4	0.23 – 1.27	0.27 – 0.92	Level II	Alarm level returned to Alarm Level I. Continue to monitor changes. Perform Alarm Level II response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
FP-5	0.00 – 1.25	Dry	Level II	Dry all year. Alarm level triggered due to seepage being lower than expected at reservoir level. Alarm level returned to Alarm Level I. Continue to monitor changes. Perform Alarm Level II response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).
FP-8	0.00 – 0.08	Dry	N/A	Dry all year
FP-11	Dry	Dry	N/A	Dry all year

All seepage flows tracked the reservoir levels closely and were within historical ranges. There was no reported or observed signs of increased turbidity or suspended solids in the subdrain flows. Based on GEI's review of the subdrain data, the seepage flow rates appeared to follow historical rates with no indications of any adverse conditions. It is also recommended that IRWD follows the appropriate response for alarm level changes per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring).

2.4 Movement Surveys

A total of seven survey monuments (A, B, B-1, C, D, E, and E-1) are being surveyed at Rattlesnake Canyon Dam. All seven survey monuments and three benchmarks (BM-1, BM-3 and BM-4) are located on the crest of the dam spanning from left abutment to right abutment (Figure 1).

There were originally four benchmarks, BM-1, BM-2, BM-3, and BM-4. Benchmarks BM-1 and BM-3 are located on the left abutment of the dam. Benchmarks BM-2 and BM-4 were both

located on the right abutment of the dam, to the right of the spillway channel. Benchmark BM-2 was destroyed in 1996, and BM-4 was destroyed between 2015 and 2016. BM-4 was re-established by 2018. The re-established BM-4 has been used as the new control point on the right side of the dam to develop the control line for the horizontal surveys since 2018. The District informed GEI that BM-3 was destroyed on October 7, 2022, due to The Irvine Company's (TIC) grading operations for new developments. BM-3 was re-established and placed in a well monument on December 14, 2023, during the annual survey.

Survey monuments A, C, D, and E were initially read on October 19, 1985, Survey Monument B-1 was initially read on October 5, 1990; and Survey Monuments B and E-1 were initially read on May 3, 2001. It is highlighted that crest monuments E and E-1 are within two feet of each other and crest monuments B and B-1 are less than a foot apart.

The survey monuments are surveyed annually by a licensed surveyor under contract with the District. No surveys were conducted in calendar year 2017 and 2021. A survey was performed on June 7, 2024, that has been included into this report. The survey report is provided in the Appendix of this report. Table 3 and Table 4 provide a summary of the cumulative horizontal and vertical displacement, respectively, as well as the appropriate Alarm Level trigger.

Table 3. Horizontal Movement Survey – Cumulative Horizontal Displacement

Monument ID	Historical Cumulative Horizontal Displacement Range (in)	2024 Cumulative Horizontal Displacement (in)	2024 Alarm Level	Comment
A	-0.120 to 0.840	-0.036	Level I	
B	0.000 to 0.960	0.756	Level I	
B-1	-0.240 to 0.960	0.972	Level I	
C	0.000 to 1.440	0.948	Level I	
D	0.000 to 0.960	0.720	Level I	
E	0.000 to 1.440	1.512	Level I	
E-1	-0.060 to 0.180	-0.120	Level I	

Table 4. Vertical Movement Survey – Cumulative Vertical Displacement

Monument ID	Historical Cumulative Vertical Displacement Range (in)	2024 Cumulative Vertical Displacement (in)	2024 Alarm Level	Comment
A	0.000 to 2.580	1.944	Level I	
B	0.000 to 0.888	0.840	Level I	
B-1	0.000 to 1.524	1.476	Level II	Continue to monitor changes. Perform Alarm Level II response per Table 2 of Dam Safety Program Guideline No. 6 (Movement Monitoring).
C	0.000 to 0.960	0.876	Level I	
D	-0.180 to 0.840	0.360	Level I	
E	-1.200 to 0.000	-0.768	Level I	
E-1	-0.840 to 0.000	-0.456	Level I	

Table 8 presents the horizontal movement of the survey monuments relative to their baseline

measurements, and Table 9 presents the cumulative horizontal displacement of the survey monuments. Table 10 presents the elevations of the survey monuments, whereas Table 11 presents the cumulative vertical movement of the survey monuments. Tables 8 through 11 cover a date range from 1985 through 2024. Figures 19 and 20 are graphical presentations of the cumulative horizontal displacement and cumulative vertical movement of the survey monuments since 1985, respectively.

Based on an evaluation of the 2024 survey data using the Dam Safety Program (DSP) guidelines established by IRWD, the cumulative horizontal displacement of each survey monument falls within the Level I alarm level (normal). The cumulative vertical movement of Monument B-1 fell within the Level II alarm level (out of range) and have done so since the last survey in October 2022. The cumulative vertical movement of the remaining survey monuments fall within the Level I alarm level. It is recommended that the District performs routine visual inspection of the area around Monuments B-1 in accordance with the DSP guidelines. The cumulative horizontal displacement for all the survey monuments has continued to respond to the changes in reservoir water level. Horizontal displacement appears to increase during times of higher reservoir water level and decrease during lower levels, see Figure 19. Survey monument E has shown the most response to changes in the reservoir level and the area around it should be inspected. In 2022, there was an increase in settlement in all the survey monuments, but since then settlement appears to start leveling out, see Figure 20. IRWD will perform the annual survey in October to evaluate how movement changes during a low reservoir level. Survey data continues to follow historical trends and respond to reservoir water level changes which help verify that the Alarm Level II at survey monument B-1 may be an anomaly. It is also recommended that IRWD follows the appropriate response for alarm level changes per Table 2 of Dam Safety Program Guideline No. 6 (Movement Monitoring).

3.0 Field Evaluations

3.1 Field Evaluation of March 25, 2024

A field evaluation and inspection were performed by Emerson Revolorio and Rich Sanchez of GEI, Danielle Drake, and Casey King of the District, and Cameron Lancaster and Brandon Cruz of DSOD on March 25, 2024. The reservoir level was noted at Elevation 390.9 ft during the inspection. Weather conditions were partly cloudy with temperature in the mid-60s. Photos taken by GEI are included in the Appendix of this report.

3.1.1 Dam

The crest of dam, upstream and downstream slopes, and abutment access roads were walked, and there were no visible signs of dam safety related concerns or instability, see Photos 1-5. The District had recently sealed up the AC shrinkage-expansion cracks on the crest and upstream slope, see Photos 1 and 3. The downstream embankment slope, and both groin areas were inspected, and no signs of instability or erosion were seen, see Photos 1 and 4-6. No signs of surficial slope movement or instability were observed on the slopes or abutments of the dam. Minor rodent activity was observed along the left downstream face, see Photo 7. During the inspection, GEI discovered that most of the rodent control feeder boxes on the dam were removed. According to IRWD, the rodent control feeder boxes were removed because the poison pellets (Wilco) that were historically used were recently banned in California. Currently, IRWD is utilizing carbon monoxide as an effective treatment for ground squirrel control. IRWD still has black feeder control stations for rats and mice near the dam caretake houses and other IRWD facilities. During the inspection, GEI observed the rodent control contractor gassing the active rodent holes, see Photos 1 and 4. The downstream toe area of the dam was walked, and no visual signs of slope instability, unusual movement, or erosion were seen. No unusual signs of seepage or wet spots were seen on the downstream face of the dam.

Overall, the condition of the dam remains largely unchanged from the conditions observed during the July 2023 inspection. Overall, the dam was well maintained with no signs of instability, or distress. No adverse visual dam safety observations were found during the inspection.

3.1.2 Spillway

The approach and ungated control spillway sections were clear. GEI inspected the separation between the crest AC pavement and the spillway concrete liner joint, see Photo 8. The separation was approximately 1-inch and visually unchanged from previous observations. The open channel spillway was clear and had recent concrete repairs on existing cracks and spalling

along the spillway walls, see Photos 9 and 10. The District had recently cleared the vegetation in the stilling basin and downstream channel, see Photos 11-13. GEI did not perform a visual inspection of the concrete surfaces in the stilling basin and downstream spillway channel due to the sedimentation buildup, water, and limited access during the March 25 inspection.

A spillway inspection was performed by Emerson Revolorio and Matt Corrado of GEI, and Michael Brungardt of IRWD on October 23, 2024. The entire spillway was walked, and each wall panel was inspected within the spillway. The inspection was supplemented by taking aerial images using a DJI Phantom 4 Pro V2 drone. An exhibit as requested by IRWD was prepared using Ortho mosaic imagery created from the drone photos, and from the notes taken from the inspection. The inspection documented significant deficiencies with the spillway. Cracks, joint openings, and joint offsets greater than or equal to ¼-inch were classified as significant. The spillway inspection exhibit was created to document the inspection findings and is provided in the appendix of this report. A photo log of the inspection is also provided in the appendix of this report. As shown in the exhibit, there are various deficiencies, and a Spillway Condition Assessment should be performed to determine a detailed condition of the spillway.

3.1.3 Outlet Works

DSOD requires the outlet and emergency blowoff valves to be exercised periodically. The four upstream outlet gates and controls were not exercised during this inspection. The District provided a Dam Outlet Valve Exercising Log which stated that all the valves except for intake valve at elevation 375 ft, and blow-off valves #1 and #2, were exercised on November 6, 2024. IRWD indicated that the intake valve at elevation 375 ft was broken and in the closed position. During the inspection, the District reported that the outlets were fully operational, see Photo 14. No deficiencies were seen at the downstream 24-inch blowoff valve and operator at the left downstream toe area of the dam.

3.1.4 Seepage

Seepage flow rates continue to be monitored and measured monthly by District staff. The downstream seepage vault was inspected, and no unusual conditions or safety deficiencies were found. Small seepage flow observations were estimated as follows: #2 (dry), #3 (approximately 0.2 gpm), #4 (0.5 gpm), and others (#11, #5, and #8) were dry, see Photo 15. Total seepage at FP-1 South and FP-1 North were 0.5 gpm and 1.0 gpm, respectively, see Photo 16. The observed seepage conditions were within past seepage flow levels and observations and the seepage water appeared clear as observed from the top of the vault. No signs of sediment were seen on the floor of the seepage vault as observed from the top of the vault.

4.0 Conclusions and Recommendations

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, and instability under the current reservoir water level restriction.
2) Overall piezometer levels during the report period are within historical limits.
3) Piezometer P-30A has had long term blockage and should be abandoned. IRWD is planning to flag the piezometer casing with a "to-be abandoned" sign.
4) Water level readings in Piezometer P-2 have been reporting above the reservoir water level. The District has also reported the piezometer as dry in the past.
5) Observation well OW-3 is dry and has been disturbed by nearby construction activities.
6) Water level in Piezometer P-63 dropped 6.6 ft on June 2024 and gradually increased during the rest of the 2024 report period.
7) Seepage flow rates during this review period were within historical limits and trends. Subdrain FP-2, FP-5, FP-8, and FP-11 were dry during the review period. Subdrain FP-4 triggered Alarm Level II but returned to Alarm Level I for the rest of the review period.
8) Since October 2022, Survey Monument B-1 has remained at the Level II alarm threshold. Cumulative horizontal displacements of all monuments continue to correlate with reservoir levels—generally increasing with higher levels and decreasing with lower levels (see Figure 19). Monument E shows the greatest response. Settlement increased in 2022 but has since begun to stabilize (see Figure 20). IRWD will perform the annual survey in October to evaluate how movement changes during a low reservoir level.
9) Shrinkage and expansion cracks in the crest and upstream AC liner have been sealed.
10) IRWD is continuing with rodent control measures. IRWD is currently utilizing carbon monoxide as an effective treatment for ground squirrel control. IRWD still has black feeder control stations for rats and mice near the dam caretake houses and other IRWD facilities.
11) GEI inspected the separation between the AC pavement and the spillway concrete lines joint. The separation was approximately 1-inch and visually unchanged from previous observations.

12) GEI conducted an inspection of the spillway and created an exhibit documenting the significant deficiencies with the spillway.

13) GEI's spillway inspection documented several minor deficiencies as noted in the appendix of this report. IRWD reported that a detailed spillway condition assessment is underway as part of an issue Evaluation Study.

14) The four upstream outlet gates and controls were not exercised during this inspection. The District provided a Dam Outlet Valve Exercising Log which stated that all the valves except for intake valve at elevation 375 ft, and blow-off valves #1 and #2, were exercised on November 6, 2024. IRWD indicated that the intake valve at elevation 375 ft was broken and in the closed position.

4.2 Recommendations

1) GEI recommends re-surveying the top elevations of the casings and re-measure the depth to the bottom of piezometers P-2 and P-63 to verify they are not blocked. Piezometers should be cleaned out if blocked. Piezometers should continue to be monitored monthly.

2) GEI recommends abandoning piezometer P-30A due to blockage and observation well OW-3 due to site construction disturbance. IRWD should flag the piezometer casing with a "to-be abandoned" sign.

3) The District should continue collaborating with pest management companies to determine most effective treatment options in controlling rodent activity. In addition, the District should continue collapsing, backfilling, and compacting rodent holes with surrounding material as an ongoing maintenance item throughout the dam.

4) GEI recommends repairing the outlet gate valve at elevation 375 ft and fully exercising it to confirm it's operability.

5) Recommend sealing the joint between the crest asphalt concrete (AC) pavement and the spillway concrete liner using a flexible Sika sealant, applied in accordance with the manufacturer's instructions.

6) The District should perform close visual inspection of the area around survey monuments B-1 and E in accordance with the DSP guidelines.

7) Continue to perform appropriate instrument alarm level response per Table 2 of Dam Safety Program Guideline No. 4 (Seepage & Piezometer Monitoring) and Table 2 Guideline No. 6 (Movement Monitoring).

8) During normal inspection and operation of the dam and its appurtenances, the District personnel should continue to observe the condition of the dam and appurtenances, looking for any signs of distress or movement, increased seepage, or other unusual conditions, and verifying that the critical facilities are functional. Any unusual observations should be reported immediately to the Dam Safety Engineer.

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

Rattlesnake Canyon Dam Action Item Summary

Item	Location	Maintenance	Measures
Rodent activity	Throughout dam	Active rodent holes and lack of poison in rodent control feeder boxes	The District should continue collaborating with pest management companies to determine most effective treatment options in controlling rodent activity. In addition, the District should continue collapsing, backfilling, and compacting rodent holes with surrounding material as an ongoing maintenance item throughout the dam.
AC pavement and spillway concrete liner	Joint between the right end of crest AC pavement and spillway concrete liner	Separation between the crest AC pavement and the spillway concrete liner	Fill separation with a flexible sealant.
Piezometers	P-2 and P-63	Providing erratic readings	Re-survey the top of casing elevations and re-measure the depth to the bottom. Clean out piezometer if blocked. Monitor monthly.
Piezometer	P-30A	Providing erratic readings	Abandon. The District should flag the piezometer casing with a "to-be abandoned" sign.
Observation well	OW-3	Dry and area construction disturbance	Abandon.
Joint separation	Between dam crest AC pavement and the spillway concrete liner joint	Seal joint separation	Recommend sealing the joint between the crest asphalt concrete (AC) pavement and the spillway concrete liner using a flexible Sika sealant, applied in accordance with the manufacturer's instructions
Gate valve at elevation 375 ft	Upstream face near left abutment	Broken	Repair and fully exercise to confirm operability.
Survey monuments	Survey monument B-1 and E	Inspection	Perform close visual inspection of the area around survey monuments in accordance with the DSP guidelines.

5.0 Limitations

This report presents observations made, conclusions drawn, and opinions formed from (1) a visual inspection of the Rattlesnake Canyon Dam and its appurtenant structures, and (2) a review of instrumentation data, including piezometer levels, survey data and seepage rates, collected by the District and reported since 2007. 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 report represents the results of our surveillance program for Rattlesnake Canyon 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

DSOD (California Department of Water Resources, Division of Safety of Dams), Inspection of Dam and Reservoir in Certified Status October 20, 2020.

Genterra, 2018, Annual Surveillance Report January 2017 through December 2017 Rattlesnake Canyon Dam DSOD Dam No. 1029-003, Irvine, CA, by Genterra Consultants Inc., November 26, 2018.

Irvine Ranch Water District (IRWD), Dam Safety Program Guidelines & Governance, July 2023.

Tables

TABLE 5
RATTLESNAKE CANYON DAM
DETAILS FOR PIEZOMETERS, OBSERVATION WELLS, AND SEEPAGE FLOW POINTS

ID	Location	Original Reference Data			Current (2005) Reference Data			Material at Tip (if known)	Installation or First Reading	Final Reading
		Top Elev. (ft)	Tip Elev. (ft)	Depth (ft)	Top Elev. (ft)	Tip Elev. (ft)	Depth (ft)			
Active Operating Piezometers										
P-1A	Dam Crest	418.50	287.40	131.10	420.43	287.40	133.00	Foundation Alluvium	4/1965	--
P-2	Dam Crest	418.70	363.40	55.30	420.62	363.40	57.20	Embankment	4/1965	--
P-3A	Downstream Bench Elev. 385	385.40	303.70	81.70	385.40	303.70	81.70	Foundation Bedrock	4/1965	--
P-30A	Dam Crest	417.90	371.70	46.20	420.81	371.70	49.10	Embankment	1966	--
P-30B	Dam Crest	417.90	337.10	80.80	420.81	337.1	83.70	Embankment	1966	--
P-35A	Downstream Slope just above Bench Elev. 385	385.30	357.30	28.00	388.73	357.30	31.40	Embankment D/S of and above Chimney Drain	1966	--
P-35B	Downstream Slope just above Bench Elev. 385	385.50	313.40	72.10	388.45	313.40	75.10	Chimney Drain	1966	--
P-35C	Downstream Slope just above Bench Elev. 385	385.30	343.20	42.10	388.34	343.20	45.10	Chimney Drain	1966	--
P-52	Dam Crest near Right Abutment	418.60	361.20	57.40	421.03	361.20	59.80	Foundation Bedrock	1976	--
P-61	Downstream Left Groin	354.00	311.00	43.00	357.01	311.00	46.00	-Data Not Provided-	9/28/2004	--
P-62	On Right Abutment Stability Berm	419.00	365.50	53.50	412.03	365.50	46.50	-Data Not Provided-	1/18/2005	--
P-63	Dam Crest at Left Abutment	418.00	335.00	83.00	422.08	335.00	87.10	Abutment Bedrock	9/28/2004	--
P-64	Downstream Bench Elev. 385	385.00	302.00	83.00	388.00	302.00	86.00	Foundation Alluvium	9/28/2004	--
P-65	On Right Abutment Stability Berm	370.00	325.50	44.50	374.72	325.50	49.20	-Data Not Provided-	1/18/2005	--
P-66	Downstream near Toe of Dam	352.00	301.00	51.00	359.31	301.00	58.30	Foundation Bedrock	9/28/2004	--
P-67	Downstream near Toe of Dam	352.00	282.50	69.50	355.04	282.50	72.50	Foundation Bedrock	1/18/2005	--
OW-3	Right Abutment just above Spillway Inlet	--	--	--	418.87	386.27	32.60	Abutment Bedrock	3/29/2001	--
Abandoned Piezometers										
P-1B	Dam Crest	385.4	--	--	--	--	--	Foundation Alluvium	4/1965	12/1969
P-3B	Downstream Bench Elev. 385	385.4	345.2	40.2	--	--	--	Data Not Provided	4/1965	3/30/2004
P-4	Downstream Bench Elev. 385	385.3	286.8	98.5	--	--	--	Foundation Bedrock	4/1965	3/30/2004
P-5	Downstream Bench Elev. 385	385.2	345..2	40 .0	--	--	--	Embankment	4/1965	3/30/2004
P-6A	Downstream near Toe of Dam	350.6	333.3	17.3	--	--	--	Foundation Alluvium	4/1965	3/30/2004
P-6B	Downstream near Toe of Dam	350.6	292	58.6	--	--	--	Foundation Bedrock	4/1965	3/30/2004
P-7A	Downstream Toe of Dam	343.5	334.6	8.9	--	--	--	-Data Not Provided-	9/1965	Unknown
P-7B	Downstream Toe of Dam	343.5	283.2	60.3	--	--	--	-Data Not Provided-	9/1965	Unknown
P-8A	Downstream Toe of Dam	340.6	295.9	44.7	--	--	--	Alluvium	9/1965	3/30/2004
P-8B	Downstream Toe of Dam	340.5	325.2	15.3	--	--	--	Alluvium	9/1965	3/30/2004
P-9A	Downstream Toe of Dam	341.4	318.8	22.6	--	--	--	Alluvium	9/1965	3/30/2004
P-9B	Downstream Toe of Dam	341.4	331.1	10.3	--	--	--	Alluvium	9/1965	3/30/2004
P-21	Downstream near Toe of Dam	354.3	328.7	25.6	--	--	--	Abutment Bedrock	6/16/1967	3/30/2004
P-22	Downstream near Toe of Dam	354.2	328.9	25.3	--	--	--	-Data Not Provided-	6/16/1967	Unknown
P-23	Downstream Bench Elev. 385	385.8	357.9	27.9	--	--	--	Abutment Bedrock	6/16/1967	3/30/2004
P-27	Right Abutment Stability Berm at Bench Elev. 385	386.7	367.1	19.6	--	--	--	Abutment Sand	6/16/1967	3/30/2004
P-29	Right Abutment Stability Berm above Bench Elev. 385	397.7	382.8	14.9	--	--	--	Abutment Sand	6/16/1967	3/30/2004
P-31A	Dam Crest near Right Abutment	418.3	390	28.3	--	--	--	Embankment	1966	3/30/2004
P-31B	Dam Crest near Right Abutment	418.3	364.7	53.6	--	--	--	Embankment	1966	3/30/2004
P-32A	Dam Crest near Right Abutment	417.8	397.7	20.1	--	--	--	Embankment	1966	3/30/2004
P-32B	Dam Crest near Right Abutment	417.8	380.2	37.6	--	--	--	Foundation Bedrock	1966	3/30/2004
P-33	Dam Crest near Left Abutment	417.8	390	27.8	--	--	--	Abutment Bedrock	1966	3/30/2004
P-34	Right Abutment in line with crest	--	--	--	--	--	--	Abutment Bedrock	1966	3/30/2004
P-36A	Downstream near Toe of Dam	351	338.3	12.7	--	--	--	Embankment	1966	3/30/2004
P-36B	Downstream near Toe of Dam	351	307.3	43.7	--	--	--	Foundation Alluvium	1966	3/30/2004
P-37	Right Abutment (downstream)	370.8	346.9	23.9	--	--	--	Abutment	1966 (?)	Unknown
P-38	Downstream of Dam	328.5	292.9	35.6	--	--	--	-Data Not Provided-	1966 (?)	3/30/2004
P-42	Downstream of Dam	341.7	321.9	19.8	--	--	--	-Data Not Provided-	1966	3/30/2004
P-51	Dam Crest	417.9	--	--	--	--	--	-Data Not Provided-	1976	3/30/2004
P-53A	Downstream Bench Elev. 385	384.7	--	--	--	--	--	-Data Not Provided-	1976	3/30/2004
P-53B	Downstream Bench Elev. 385	384.9	--	--	--	--	--	-Data Not Provided-	1976	3/30/2004
P-54	Right Abutment Stability Berm above Bench Elev. 385	390.4	--	--	--	--	--	Abutment Bedrock	1976	3/30/2004
P-55	Right Abutment Stability Berm below Bench Elev. 385	356	--	--	--	--	--	Abutment Bedrock	1976	3/30/2004
P-82	Right Abutment near Spillway Inlet	442	--	--	--	--	--	-Data Not Provided-	12/28/1993	3/30/2004
P-83	Unknown	426	--	--	--	--	--	-Data Not Provided-	1/31/1994	3/30/2004
P-89	Right Abutment (North of Spillway Chute)	431	--	--	--	--	--	-Data Not Provided-	12/28/1993	3/30/2004
P-91	Right Abutment just below Dam Crest	439	--	--	--	--	--	-Data Not Provided-	12/28/1993	3/30/2004
P-92	Right Abutment above Bench Elev. 385	400	--	--	--	--	--	-Data Not Provided-	12/28/1993	3/30/2004
OW-1	Right Abutment just above Spillway Inlet	--	--	--	468.16	433.46	34.7	Abutment Bedrock	3/29/2001	7/26/2016
OW-2	Right Abutment just above Spillway Inlet	--	--	--	442.91	407.91	35	Abutment Bedrock	3/29/2001	7/26/2016
Flow Points										
FP-1	Combined discharge from Subdrains 9 & 10	--	--	--	--	--	--	--	--	3/27/2008
FP-2	Right part of Chimney Drain	--	--	--	--	--	--	--	1960	--
FP-3	Center part of Chimney Drain	--	--	--	--	--	--	--	1960	--
FP-4	Left part of Chimney Drain	--	--	--	--	--	--	--	1960	--
FP-5	Right Abutment contact	--	--	--	--	--	--	--	1969	--
FP-8	Downstream Toe of Dam	--	--	--	--	--	--	--	1966	--
FP-9	Carries discharge from Subdrains 2, 3, 4, 5 & 8 (replaced by FP--1S)	--	--	--	--	--	--	--	1966	4/28/2008
FP-10	Stilling Basin (replaced by FP--1N)	--	--	--	--	--	--	--	1966	4/28/2008
FP-11	Right Abutment Stability Berm	--	--	--	--	--	--	--	1/6/2005	--
FP-1N	Stilling Basin (former FP--10)	--	--	--	--	--	--	--	4/28/2008	--
FP-1S	Carries discharge from Subdrains 2, 3, 4, 5, 8 & 11 (former FP--9)	--	--	--	--	--	--	--	4/28/2008	--

Note:
1. Piezometer data based on NGVD 29 datum.

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		61.6	358.8		15.9	404.7		38.4	347.0	
2/28/2007	380.90		63.3	357.1		16.0	404.6		38.5	346.9	
3/29/2007	397.00		61.7	358.7		15.9	404.7		38.5	346.9	
4/27/2007	405.60		61.4	359.0		16.0	404.6		38.5	346.9	
5/24/2007	404.40		61.4	359.0		15.9	404.7		38.4	347.0	
6/28/2007	396.90		61.9	358.5		16.1	404.5		38.6	346.8	
7/31/2007	392.60		61.5	358.9		16.0	404.6		38.5	346.9	
8/29/2007	388.60		61.3	359.1		16.0	404.6		38.5	346.9	
9/2/2007	387.40		61.4	359.0		16.0	404.6		38.5	346.9	
9/26/2007	387.90		61.8	358.6		16.0	404.6		38.6	346.8	
10/25/2007	382.00		61.8	358.6		16.1	404.5		38.5	346.9	
11/27/2007	380.30		61.4	359.0		16.0	404.6		38.5	346.9	
12/27/2007	381.40		61.7	358.7		16.0	404.6		38.5	346.9	
1/31/2008	381.20		61.5	359.0	Dry	16.0	404.6	Dry	38.5	346.9	
2/28/2008	393.10		61.8	358.6	Dry	15.6	405.0		38.5	346.9	
3/27/2008	387.90		31.2	389.2	Cleaning	17.4	403.2		45.5	339.9	
4/28/2008	404.70		34.2	386.2	Blocked	17.4	403.2		39.7	345.7	
5/28/2008	404.00		36.6	383.8	Blocked	17.4	403.2	Dry	39.5	345.9	
6/25/2008	400.20		38.2	382.2	Blocked	17.4	403.2		40.1	345.3	
7/29/2008	398.70		39.4	381.0	Blocked	17.4	403.2		40.8	344.6	
7/30/2008	398.70	0.00	39.5	380.9	Blocked	17.5	403.1		41.0	344.4	
8/29/2008	395.00	0.00	7.7		Cleaning	17.6	403.0	Dry	42.7	342.7	
9/25/2008	391.70	0.00	15.6	404.8		17.7	402.9	Dry	43.9	341.5	
10/28/2008	384.05	0.00	23.0	397.4		17.7	403.0		47.0	338.5	
11/26/2008	391.10	1.94	28.2	392.2		17.7	402.9		45.8	339.6	
12/31/2008	397.90	3.20	32.2	388.2		17.7	402.9		42.4	343.0	
1/29/2009	393.40	0.34	34.8	385.6		16.8	403.8		43.5	341.9	
2/25/2009	398.60	3.91	36.8	383.6		17.7	402.9		42.2	343.2	
3/31/2009	393.40	0.16	38.6	381.8		17.6	403.0		43.0	342.4	
4/28/2009	400.70	0.10	40.1	380.3		17.7	402.9		41.1	344.3	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	40.8	379.6		17.7	402.9		40.8	344.6	
5/27/2009	400.10	0.00	61.6	358.8		17.6	403.0	Dry	41.0	344.4	
6/29/2009	403.00	0.15	61.0	359.4		17.7	402.9		39.9	345.5	
7/28/2009	396.53	0.00	60.9	359.5		17.7	402.9		41.9	343.6	
8/25/2009	396.60	0.00	60.8	359.6		17.6	403.0		42.2	343.2	
9/30/2009	393.10	0.00	61.1	359.3		17.6	403.0		43.7	341.7	
10/28/2009	401.60	0.42	61.0	359.4		17.7	402.9		40.9	344.5	
11/30/2009	402.50	0.00	60.9	359.5		17.7	402.9		40.1	345.3	
12/29/2009	399.90	2.80	60.8	359.6		17.7	402.9		40.8	344.6	
1/26/2010	401.10	6.75	60.8	359.6		17.6	403.0		40.8	344.6	
2/23/2010	402.50	2.66	60.8	359.6		17.7	402.9	Dry	40.0	345.4	
3/30/2010	400.00	1.25	60.6	359.8		17.7	402.9		40.7	344.7	
4/4/2010	399.60		60.6	359.8		17.7	402.9	Dry	40.9	344.5	
4/27/2010	403.80	1.32	60.6	359.8		17.6	403.0		39.8	345.6	
5/26/2010	403.60	0.03	60.5	359.9		17.6	403.0	Dry	39.7	345.7	
6/29/2010	397.70	0.00	59.4	361.0		17.6	403.0		41.6	343.8	
7/27/2010	396.30	0.00	60.4	360.0		17.6	403.0		42.3	343.1	
8/26/2010	390.70	0.00	60.6	359.8		17.4	403.2		44.2	341.2	
9/28/2010	390.30	0.00	60.6	359.8		17.6	403.0		45.0	340.4	
10/26/2010	403.20	1.56	60.6	359.8		17.2	403.4		41.0	344.4	
11/30/2010	397.10	1.34	60.6	359.8		17.6	403.0		42.0	343.4	
12/28/2010	401.40	9.03	60.6	359.8		17.7	402.9	Dry	40.9	344.5	
1/27/2011	393.80	1.10	60.6	359.8		17.6	403.0	Dry	42.7	342.7	
2/23/2011	391.70	1.17	60.6	359.8		17.7	402.9		44.0	341.4	
3/29/2011	403.00	3.10	60.7	359.7		17.5	403.1		40.6	344.8	
4/27/2011	401.20	0.33	60.7	359.8		17.6	403.0		40.9	344.5	
5/26/2011	399.50	0.48	60.6	359.8		17.8	402.8		41.4	344.0	
6/28/2011	391.00	0.02	60.6	359.8		17.6	403.0		44.0	341.4	
7/26/2011	384.00	0.00	60.8	359.6		17.5	403.1		47.0	338.4	
8/24/2011	382.80	0.00	60.9	359.5		17.5	403.1		47.6	337.8	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	61.2	359.2		17.6	403.0		48.2	337.2	
10/26/2011	383.90	0.98	61.2	359.2		17.7	402.9		47.5	337.9	
11/22/2011	389.80	1.46	61.4	359.0		17.6	403.0		45.8	339.6	
12/28/2011	382.30	0.35	61.5	358.9		17.7	402.9		47.5	337.9	
1/25/2012	387.50	1.17	61.7	358.7		17.7	402.9		47.6	337.8	
2/28/2012	381.10	0.79	61.8	358.6		17.6	403.0		48.8	336.6	
3/27/2012	387.70	1.61	62.0	358.4		17.6	403.0		47.1	338.3	
4/23/2012	392.30	1.51	62.0	358.4		17.7	403.0				Bees nest in can
5/25/2012	388.30	0.06	62.3	358.1		17.7	402.9		45.6	339.8	
6/13/2012	385.10	0.06	62.1	358.3		17.6	403.0		46.6	338.8	
6/26/2012	386.90	0.00	62.2	358.2		17.6	403.0		46.3	339.1	
7/24/2012	378.00	0.10	62.3	358.1		17.6	403.0		49.0	336.4	
8/8/2012	382.90	0.10	62.4	358.0		17.6	403.0		47.9	337.5	
8/29/2012	382.70	0.00	62.5	357.9		17.6	403.0		48.4	337.0	
8/29/2012	382.70	0.00	62.5	357.9		17.6	403.0		48.4	337.0	
9/25/2012	381.90	0.00	62.7	357.7		17.6	403.0		48.0	337.4	
10/24/2012	384.40	0.08	62.8	357.6		17.7	402.9		48.1	337.3	
11/27/2012	389.60	0.86	63.1	357.3		17.6	403.0		45.8	339.6	
12/18/2012	394.70	1.96	63.1	357.3		17.6	403.0		43.9	341.5	
1/23/2013	393.00	1.53	63.1	357.3		17.7	402.9		43.5	341.9	
2/26/2013	391.50	0.49	63.1	357.3		17.7	402.9		44.2	341.2	
3/26/2013	394.40	1.00	63.1	357.3		17.6	403.0		44.1	341.3	
4/25/2013	391.00	0.01	63.0	357.4		17.7	402.9		44.4	341.0	
5/22/2013	392.00	0.00	63.2	357.2		17.7	402.9		43.9	341.5	
6/25/2013	380.60	0.00	63.1	357.3		17.6	403.0		47.4	338.0	
7/23/2013	380.20	0.00	63.2	357.2		17.7	402.9	Dry	48.6	336.8	
8/21/2013	379.60	0.00	63.4	357.0		17.6	403.0	Wet	48.6	336.8	
9/25/2013	382.20	0.00	63.5	356.9		17.6	403.0	Dry	48.4	337.0	
10/29/2013	382.00	0.00	63.7	356.7		17.7	402.9	Wet	48.9	336.5	
11/26/2013	390.10	0.44	63.7	356.7		17.6	403.0	Wet	46.5	338.9	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	63.8	356.6		17.6	403.0	Wet	44.1	341.3	
1/28/2014	392.30	0.00	63.8	356.6		17.6	403.0	Wet	43.9	341.5	
2/26/2014	389.90	0.72	63.7	356.7		17.2	403.4	Wet	44.7	340.7	
3/26/2014	387.20		63.8	356.6		17.6	403.0	Wet	45.6	339.8	
3/28/2014	387.20	1.78	63.7	356.7		17.7	402.9	Wet	45.8	339.6	
4/23/2014	393.00	0.34	63.9	356.5		17.6	403.0	Dry	44.4	341.0	
5/28/2014	387.50	0.00	63.9	356.5		17.6	403.0	Dry	45.7	339.7	
6/25/2014	388.70	0.00	63.9	356.5		17.7	402.9	Wet	45.5	339.9	
7/29/2014	382.80	0.00	64.0	356.4		17.6	403.0	Wet	47.4	338.0	
8/28/2014	386.80	0.04	64.0	356.4		17.6	403.0	Wet	46.9	338.5	
9/24/2014	387.90	0.00	64.1	356.3		17.6	403.0	Wet	45.9	339.5	
10/29/2014	383.90	0.00	64.2	356.2		17.3	403.3	Wet	47.4	338.0	
11/21/2014	388.30	0.35	64.2	356.2		17.6	403.0	Wet	46.0	339.4	
12/22/2014	399.80	4.75	64.2	356.2		17.2	403.4	Wet	42.1	343.3	
1/28/2015	396.90	1.28	64.3	356.1		17.7	402.9	Wet	42.5	342.9	
2/24/2015	392.70	0.34	64.2	356.2		17.6	403.0	Wet	43.6	341.8	
3/31/2015	388.90	0.67	64.1	356.3		17.6	403.0	Wet	44.3	341.1	
4/23/2015	390.30	0.20	64.1	356.3		17.7	402.9	Wet	44.6	340.8	
5/28/2015	400.30	1.87	64.1	356.3		17.6	403.0	Wet	41.2	344.2	
6/24/2015	400.70	0.00	64.0	356.4		17.6	403.0	Wet	40.9	344.5	
7/30/2015	400.20	0.00	64.0	356.4		3.8		Cleaning	41.0	344.4	
8/25/2015	384.00	0.00	63.0	357.4		5.7			45.1	340.3	
9/23/2015	388.60	2.17	64.0	356.4		8.0			45.2	340.2	
10/29/2015	387.60	0.16	64.0	356.4		10.4			45.8	339.6	
11/25/2015	386.90	0.15	64.1	356.3		12.7			46.0	339.4	
12/23/2015	395.90	1.55	64.1	356.3		13.6			44.4	341.0	
1/26/2016	401.20	2.86	64.0	356.4		15.0	405.6		41.2	344.2	
2/24/2016	393.60	0.39	64.0	356.4		15.3	405.3		43.3	342.1	
3/29/2016	397.10	1.55	63.9	356.5		16.1	404.5		42.2	343.2	
4/29/2016	391.60	0.04	63.9	356.5		16.5	404.1		43.8	341.6	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	63.8	356.6		16.5	404.1		41.3	344.1	
6/29/2016	392.50	0.00	63.8	356.6		17.0	403.6		43.3	342.1	
7/26/2016	377.70	0.00	63.8	356.6		17.5	403.1		47.8	337.6	
8/24/2016	388.10	0.00	63.9	356.5		17.7	402.9		46.1	339.3	
9/29/2016	388.20	0.00	64.0	356.4		17.7	402.9		45.7	339.7	
10/26/2016	392.10	0.96	64.0	356.4		17.7	402.9		45.1	340.3	
11/22/2016	395.70	1.42	64.2	356.2		17.7	402.9		43.3	342.1	
12/28/2016	400.70	4.11	64.2	356.2		17.8	402.8		41.1	344.3	
1/26/2017	402.40	6.70	64.0	356.4		17.8	402.8		40.5	344.9	
2/28/2017	389.60	4.01	63.9	356.5		17.6	403.0		44.4	341.0	
3/29/2017	391.80	0.14	63.9	356.5		17.6	403.0		44.3	341.1	
4/26/2017	387.00	0.04	63.9	356.5		17.7	402.9		45.5	340.0	
5/23/2017	399.40	0.30	63.9	356.5		17.7	402.9	Dry	41.9	343.5	
6/21/2017	392.60	0.00	63.8	356.6		17.7	402.9	Dry	43.5	341.9	
7/26/2017	384.60	0.00	63.8	356.6		17.7	402.9	Dry	46.4	339.0	
8/30/2017	383.00	0.00	54.1		Omitted	17.8	402.8	Dry	47.1	338.3	
9/27/2017	382.00	0.00	64.0	356.4		17.7	402.9		48.1	337.3	
10/27/2017	375.00	0.00	64.1	356.3		17.8	402.8		49.5	335.9	
11/30/2017	382.80	0.14	64.2	356.2		17.8	402.8		48.1	337.3	
12/21/2017	380.50	0.00	64.3	356.1		17.7	402.9		48.6	336.8	
1/24/2018	397.80	1.43	64.3	356.1		17.7	402.9		43.5	341.9	
2/21/2018	382.40	0.17	64.4	356.0		16.7	403.9		46.7	338.7	
3/29/2018	392.10	0.00	64.4	356.0		16.7	403.9		44.5	340.9	
4/25/2018	388.00	0.05	64.5	355.9		16.8	403.8		46.3	339.1	
5/30/2018	399.50	0.21	64.5	355.9		16.9	403.7		42.5	342.9	
6/28/2018	398.90	0.00	64.5	355.9		16.9	403.7		41.6	343.8	
7/25/2018	388.60	0.00	64.6	355.8		16.3	404.3		44.5	340.9	
8/24/2018	378.60	0.00	64.5	355.9		16.6	404.0		48.4	337.0	
9/27/2018	381.40	0.00	64.6	355.8		17.7	402.9		48.3	337.1	
10/18/2018	385.20	1.45	64.6	355.8		17.7	402.9		47.3	338.1	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	64.7	355.7		17.7	402.9		48.9	336.5	
12/20/2018	394.20	2.12	64.7	355.7		17.6	403.0		44.5	340.9	
2/21/2019	396.00	8.26	64.70	355.7		17.70	402.9	Dry	42.20	343.2	
3/27/2019	376.00	1.88	65.00	355.4		17.70	402.9	Dry	47.40	338.0	
4/25/2019	377.70	0.03	64.70	355.7		17.70	402.9	Dry	48.04	337.4	
5/30/2019	395.30	0.92	64.80	355.6		17.50	403.1	Dry	47.40	338.0	
6/26/2019	388.40	0.01	64.80	355.6		17.70	402.9	Dry	45.00	340.4	
7/5/2019	385.50	0.00	64.90	355.5		17.70	402.9	Dry	47.60	337.8	
7/30/2019	385.20	0.00	64.90	355.5		17.70	402.9	Dry	47.60	337.8	
8/27/2019	387.90	0.00	65.00	355.4		17.70	402.9	Dry	45.60	339.8	
9/26/2019	380.00	0.00	65.00	355.4		17.60	403.0	Dry	48.20	337.2	
10/23/2019	378.90	0.00	65.00	355.4		17.60	403.0	Dry	49.20	336.2	
11/26/2019	383.80	2.60	65.20	355.2		17.80	402.8	Dry	48.30	337.1	
12/18/2019	389.20	4.63	65.30	355.1		17.80	402.8	Dry	46.10	339.3	
1/29/2020	388.20	0.15	65.20	355.2		16.30	404.3		45.60	339.8	
2/25/2020	384.70	0.33	65.20	355.2		17.60	403.0		46.80	338.6	
3/24/2020	391.70	3.91	65.20	355.2		17.60	403.0		45.00	340.4	
4/23/2020	399.40	4.05	65.20	355.2		17.50	403.1		41.60	343.8	
5/27/2020	388.50	0.40	65.10	355.3		17.10	403.5		45.00	340.4	
6/24/2020	388.00	0.01	65.20	355.2		17.70	402.9		45.30	340.1	
7/29/2020	358.70	0.00	65.20	355.2		17.60	403.0		46.10	339.3	
8/26/2020	379.30	0.00	65.40	355.0		17.40	403.2		48.80	336.6	
9/29/2020	381.30	0.00	65.40	355.0		17.70	402.9		48.40	337.0	
10/28/2020	376.50	0.00	65.40	355.0		17.60	403.0		49.80	335.6	
11/24/2020	380.70	0.25	65.60	354.8		17.70	402.9		49.20	336.2	
12/23/2020	384.10	1.40	65.50	354.9		17.00	403.6		47.90	337.5	
1/26/2021	386.2	2.42	65.6	354.83		17.7	402.92		46.9	338.5	
2/25/2021	385.4	0.07	65.6	354.83		17.5	403.12		46.5	338.9	
3/23/2021	394.8	1.35	65.6	354.83		17.5	403.12		43.9	341.5	
4/27/2021	384.1	0.04	65.6	354.83		17.6	403.02		46.6	338.8	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	65.6	354.83		17.6	403.02		46.9	338.5	
6/30/2021	385.4	0	65.8	354.63		17.8	402.82		47.1	338.3	
7/29/2021	381.7	0.03	65.7	354.73		17.1	403.52		48.7	336.7	
8/24/2021	383.4	0	65.8	354.63		17.6	403.02		48.3	337.1	
9/28/2021	381.3	0.06	65.7	354.73		17.7	402.92		48	337.4	
10/27/2021	382.7	0.71	65.8	354.63		17.6	403.02		48.8	336.6	
11/23/2021	381	0	65.9	354.53		17.6	403.02		49.1	336.3	
12/21/2021	386.3	6.1	65.9	354.53		17.6	403.02		47.5	337.9	
1/25/2022	382	0.05	65.9	354.53		17.5	403.12		48.1	337.3	
2/22/2022	382.3	0.36	66.1	354.33		17.2	403.42		48.9	336.5	
3/29/2022	390.6	1.33	66.1	354.33		17.7	402.92		46.3	339.1	
4/27/2022	393.2	0.02	66	354.43		17.6	403.02		44.5	340.9	
5/24/2022	391.4	0.05	66.2	354.23		17.7	402.92		37.3	348.1	
6/28/2022	392.7	0	66.4	354.03		17.7	402.92		44.1	341.3	
7/26/2022	386.1	0	66.1	354.33		17.4	403.22		45.9	339.5	
8/25/2022	382.2	0.02	66.1	354.33		17.6	403.02		47.5	337.9	
9/29/2022	392.7	0.36	66.4	354.03		17.7	402.92		44.1	341.3	
10/25/2022	390	0.32	66.2	354.23		17.6	403.02		46.1	339.3	
11/17/2022	391.4	2.12	66.3	354.13		17.6	403.02		44.8	340.6	
12/22/2022	386.4	2.28	66.3	354.13		17.6	403.02		46.9	338.5	
1/26/2023	391.6	7.39	66.30	354.13		15.80	404.82		44.80	340.60	
2/23/2023	389.9	3.88	66.28	354.15		17.63	402.99		45.00	340.40	
3/28/2023	390.8	5.62	66.30	354.13		17.60	403.02		44.80	340.60	
4/25/2023	390.8	0.16	66.30	354.13		16.90	403.72		44.40	341.00	
5/23/2023	391.3	0.95	66.28	354.15		17.60	403.02		44.27	341.13	
6/27/2023	388.80	0.14	66.20	354.23		17.60	403.02		44.70	340.70	
7/27/2023	384.40	0.00	66.30	354.13		17.60	403.02		46.50	338.90	
8/29/2023	382.80	2.22	69.50		Omitted	17.60	403.02		47.40	338.00	
9/26/2023	377.90	0.00	66.35	354.08		17.40	403.22		49.26	336.14	
10/30/2023	385.30	0.26	66.40	354.03		17.70	402.92		47.50	337.90	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-1A			P-2			P-3A		
Top of Well Elevation -->			420.43				420.62		385.40		
Bottom of Well Elevation -->			287.40				363.40		303.70		
Depth of Well			133.0				57.2		81.7		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	66.50	353.93		17.40	403.22		48.20	337.20	
12/20/2023	388.50	1.10	66.46	353.97		17.76	402.86		46.95	338.45	
1/24/2024	391.90	2.23	66.50	353.93		17.40	403.22		44.80	340.60	
2/22/2024	388.60	7.64	66.50	353.93		17.30	403.32		45.20	340.20	
3/27/2024	390.90	2.54	66.50	353.93		17.43	403.19		44.72	340.68	
4/23/2024	391.60	1.62	66.50	353.93		16.10	404.52		44.30	341.10	
5/1/2024	389.10	0.00	64.40	356.03		16.20	404.42		44.90	340.50	
5/23/2024	389.20	0.16	66.50	353.93		17.40	403.22		45.40	340.00	
5/30/2024	392.80	#N/A	66.50	353.93		15.80	404.82		44.40	341.00	
6/20/2024	392.90	0.00	66.50	353.93		13.00		Omitted	43.90	341.50	
7/24/2024	386.40	0.00	66.50	353.93		16.80	403.82		46.20	339.20	
8/27/2024	384.10	0.00	66.50	353.93		17.20	403.42		47.50	337.90	
9/24/2024	380.50	0.03	66.50	353.93		17.40	403.22		48.20	337.20	
10/29/2024	387.40	0.00	66.50	353.93		17.30	403.32		46.90	338.50	
11/21/2024	384.50	0.09	66.60	353.83		17.38	403.24		47.47	337.93	
12/17/2024	386.30	0.01	66.60	353.83		16.70	403.92		47.20	338.20	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90				Blocked,NotRead	47.5	373.3		31.1	357.6	
2/28/2007	380.90				Blocked,NotRead	37.5	383.3		31.3	357.4	
3/29/2007	397.00				Blocked,NotRead	47.5	373.3		31.2	357.5	
4/27/2007	405.60				Blocked,NotRead	47.5	373.3		31.3	357.4	
5/24/2007	404.40				Blocked,NotRead	46.6	374.2		35.3	353.4	
6/28/2007	396.90				Blocked,NotRead	45.8	375.0		31.3	357.4	
7/31/2007	392.60				Blocked,NotRead	45.0	375.8		31.2	357.5	
8/29/2007	388.60				Blocked,NotRead	45.3	375.5		31.3	357.4	
9/2/2007	387.40				Blocked,NotRead	47.5	373.3		31.3	357.4	
9/26/2007	387.90				Blocked,NotRead	47.0	373.8		31.2	357.5	
10/25/2007	382.00				Blocked,NotRead	47.9	372.9		31.2	357.5	
11/27/2007	380.30				Blocked,NotRead	47.5	373.3		31.3	357.4	
12/27/2007	381.40				Blocked,NotRead	47.6	373.2		31.4	357.3	
1/31/2008	381.20				Blocked,NotRead	47.5	373.3	Dry	31.3	357.4	
2/28/2008	393.10				Blocked,NotRead	46.7	374.1	Dry	33.3	355.4	
3/27/2008	387.90				Blocked,NotRead	48.3	372.5		31.4	357.3	Dry
4/28/2008	404.70				Blocked,NotRead	48.3	372.5	Dry	31.3	357.4	Dry
5/28/2008	404.00				Blocked,NotRead	46.6	374.2		31.4	357.3	Dry
6/25/2008	400.20				Blocked,NotRead	46.0	374.8		31.4	357.3	Dry
7/29/2008	398.70				Blocked,NotRead	44.0	376.8		31.3	357.4	Dry
7/30/2008	398.70	0.00			Blocked,NotRead	46.0	374.8		31.3	357.4	Dry
8/29/2008	395.00	0.00			Blocked,NotRead	47.1	373.7	Cleaning	31.3	357.4	Dry
9/25/2008	391.70	0.00			Blocked,NotRead	48.6	372.2		31.3	357.4	Dry
10/28/2008	384.05	0.00			Blocked,NotRead	51.0	369.8		31.3	357.4	Dry
11/26/2008	391.10	1.94			Blocked,NotRead	53.1	367.7		31.4	357.3	Dry
12/31/2008	397.90	3.20			Blocked,NotRead	48.6	372.2		31.3	357.4	Dry
1/29/2009	393.40	0.34			Blocked,NotRead	49.0	371.8		31.3	357.4	Dry
2/25/2009	398.60	3.91			Blocked,NotRead	48.6	372.2		31.3	357.4	Dry
3/31/2009	393.40	0.16			Blocked,NotRead	47.3	373.5		31.4	357.3	Dry
4/28/2009	400.70	0.10			Blocked,NotRead	47.1	373.7		31.2	357.5	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00			Blocked,NotRead	45.5	375.3		30.3	358.4	
5/27/2009	400.10	0.00			Blocked,NotRead	45.6	375.2		31.1	357.6	Dry
6/29/2009	403.00	0.15			Blocked,NotRead	43.6	377.2		31.3	357.4	
7/28/2009	396.53	0.00			Blocked,NotRead	44.7	376.1		30.8	357.9	
8/25/2009	396.60	0.00			Blocked,NotRead	46.5	374.3		31.0	357.7	
9/30/2009	393.10	0.00			Blocked,NotRead	48.4	372.4		31.3	357.4	
10/28/2009	401.60	0.42			Blocked,NotRead	46.6	374.2		31.3	357.4	
11/30/2009	402.50	0.00			Blocked,NotRead	44.0	376.8		31.3	357.4	
12/29/2009	399.90	2.80			Blocked,NotRead	44.7	376.1		31.3	357.4	
1/26/2010	401.10	6.75			Blocked,NotRead	46.0	374.8		28.3	360.4	
2/23/2010	402.50	2.66			Blocked,NotRead	44.7	376.1		30.5	358.2	
3/30/2010	400.00	1.25			Blocked,NotRead	44.5	376.3		30.0	358.7	
4/4/2010	399.60				Blocked,NotRead	44.8	376.0		30.1	358.6	
4/27/2010	403.80	1.32			Blocked,NotRead	44.1	376.7		30.2	358.5	
5/26/2010	403.60	0.03			Blocked,NotRead	43.5	377.3		29.7	359.0	
6/29/2010	397.70	0.00			Blocked,NotRead	43.0	377.8		29.5	359.2	
7/27/2010	396.30	0.00			Blocked,NotRead	43.0	377.8		30.3	358.4	
8/26/2010	390.70	0.00			Blocked,NotRead	42.9	377.9		31.3	357.4	
9/28/2010	390.30	0.00			Blocked,NotRead	42.8	378.0		31.1	357.6	
10/26/2010	403.20	1.56			Blocked,NotRead	43.0	377.8		31.5	357.2	
11/30/2010	397.10	1.34			Blocked,NotRead	43.0	377.8		31.3	357.4	
12/28/2010	401.40	9.03			Blocked,NotRead	43.1	377.7		22.5	366.2	
1/27/2011	393.80	1.10			Blocked,NotRead	43.0	377.8		30.6	358.1	
2/23/2011	391.70	1.17			Blocked,NotRead	43.2	377.6		31.3	357.4	
3/29/2011	403.00	3.10			Blocked,NotRead	43.0	377.8		31.2	357.5	
4/27/2011	401.20	0.33			Blocked,NotRead	43.2	377.6	Dry	31.0	357.7	
5/26/2011	399.50	0.48			Blocked,NotRead	43.0	377.9	Dry	30.7	358.1	
6/28/2011	391.00	0.02			Blocked,NotRead	43.0	377.8		31.0	357.7	
7/26/2011	384.00	0.00			Blocked,NotRead	43.0	377.8		31.2	357.5	
8/24/2011	382.80	0.00			Blocked,NotRead	43.2	377.6		31.3	357.4	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08			Blocked,NotRead	43.0	377.8		31.3	357.4	
10/26/2011	383.90	0.98			Blocked,NotRead	42.9	377.9		31.3	357.4	
11/22/2011	389.80	1.46			Blocked,NotRead	43.0	377.8		31.3	357.4	
12/28/2011	382.30	0.35			Blocked,NotRead	43.0	377.8		31.4	357.3	
1/25/2012	387.50	1.17			Blocked,NotRead	43.0	377.8		31.4	357.3	
2/28/2012	381.10	0.79			Blocked,NotRead	43.0	377.8		31.4	357.3	
3/27/2012	387.70	1.61			Blocked,NotRead	43.0	377.8		31.3	357.4	
4/23/2012	392.30	1.51			Blocked,NotRead	43.1	377.7		31.4	357.4	
5/25/2012	388.30	0.06			Blocked,NotRead	43.1	377.7		31.5	357.2	
6/13/2012	385.10	0.06			Blocked,NotRead	43.1	377.7		31.2	357.5	
6/26/2012	386.90	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	
7/24/2012	378.00	0.10			Blocked,NotRead	43.1	377.7		31.3	357.4	
8/8/2012	382.90	0.10			Blocked,NotRead	43.1	377.7		31.3	357.4	
8/29/2012	382.70	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	
8/29/2012	382.70	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	
9/25/2012	381.90	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	
10/24/2012	384.40	0.08			Blocked,NotRead	43.0	377.8		31.0	357.7	
11/27/2012	389.60	0.86			Blocked,NotRead	43.1	377.7		31.3	357.4	
12/18/2012	394.70	1.96			Blocked,NotRead	43.1	377.7		31.3	357.4	
1/23/2013	393.00	1.53			Blocked,NotRead	43.2	377.6		31.5	357.2	
2/26/2013	391.50	0.49			Blocked,NotRead	43.2	377.6		31.3	357.4	
3/26/2013	394.40	1.00			Blocked,NotRead	43.1	377.7		31.3	357.4	
4/25/2013	391.00	0.01			Blocked,NotRead	42.9	377.9		31.5	357.2	
5/22/2013	392.00	0.00			Blocked,NotRead	43.0	377.8		31.4	357.3	
6/25/2013	380.60	0.00			Blocked,NotRead	42.8	378.0		31.3	357.4	
7/23/2013	380.20	0.00			Blocked,NotRead	43.3	377.5		31.3	357.4	Dry
8/21/2013	379.60	0.00			Blocked,NotRead	43.0	377.8		31.3	357.4	Dry
9/25/2013	382.20	0.00			Blocked,NotRead	43.0	377.8	Dry	31.3	357.4	Dry
10/29/2013	382.00	0.00			Blocked,NotRead	43.2	377.6	Wet	31.2	357.5	Dry
11/26/2013	390.10	0.44			Blocked,NotRead	43.0	377.8		31.3	357.4	Dry

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
1/28/2014	392.30	0.00			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
2/26/2014	389.90	0.72			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
3/26/2014	387.20				Blocked,NotRead	43.2	377.6	Wet	31.4	357.3	Dry
3/28/2014	387.20	1.78			Blocked,NotRead	43.0	377.8		31.3	357.4	
4/23/2014	393.00	0.34			Blocked,NotRead	43.1	377.7		31.3	357.4	
5/28/2014	387.50	0.00			Blocked,NotRead	42.9	377.9		31.5	357.2	
6/25/2014	388.70	0.00			Blocked,NotRead	43.2	377.6		31.3	357.4	Dry
7/29/2014	382.80	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	Dry
8/28/2014	386.80	0.04			Blocked,NotRead	43.1	377.7		31.2	357.5	
9/24/2014	387.90	0.00			Blocked,NotRead	43.0	377.8		31.2	357.5	Dry
10/29/2014	383.90	0.00			Blocked,NotRead	43.1	377.7		31.4	357.3	Dry
11/21/2014	388.30	0.35			Blocked,NotRead	43.0	377.8		31.2	357.5	
12/22/2014	399.80	4.75			Blocked,NotRead	42.7	378.1		31.3	357.4	Dry
1/28/2015	396.90	1.28			Blocked,NotRead	43.1	377.7		31.4	357.3	Dry
2/24/2015	392.70	0.34			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
3/31/2015	388.90	0.67			Blocked,NotRead	43.1	377.7		31.5	357.2	Dry
4/23/2015	390.30	0.20			Blocked,NotRead	43.1	377.7		31.3	357.4	Dry
5/28/2015	400.30	1.87			Blocked,NotRead	42.9	377.9		31.4	357.3	Dry
6/24/2015	400.70	0.00			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
7/30/2015	400.20	0.00			Blocked,NotRead	43.1	377.7		31.4	357.3	Dry
8/25/2015	384.00	0.00			Blocked,NotRead	38.6	382.2	Omitted	31.3	357.4	Dry
9/23/2015	388.60	2.17			Blocked,NotRead	43.1	377.7		31.3	357.4	Dry
10/29/2015	387.60	0.16			Blocked,NotRead	43.2	377.6		31.5	357.2	Dry
11/25/2015	386.90	0.15			Blocked,NotRead	43.2	377.6		31.4	357.3	Dry
12/23/2015	395.90	1.55			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry
1/26/2016	401.20	2.86			Blocked,NotRead	43.2	377.6		31.3	357.4	Dry
2/24/2016	393.60	0.39			Blocked,NotRead	43.1	377.7		31.4	357.3	Dry
3/29/2016	397.10	1.55			Blocked,NotRead	43.2	377.6		31.4	357.3	Dry
4/29/2016	391.60	0.04			Blocked,NotRead	43.0	377.8		31.4	357.3	Dry

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13			Blocked,NotRead	44.3	376.5		31.4	357.3	Dry
6/29/2016	392.50	0.00			Blocked,NotRead	43.1	377.7		31.3	357.4	Dry
7/26/2016	377.70	0.00			Blocked,NotRead	52.2	368.6		31.3	357.4	Dry
8/24/2016	388.10	0.00			Blocked,NotRead	53.3	367.5		30.4	358.3	Dry
9/29/2016	388.20	0.00			Blocked,NotRead	52.5	368.3		31.4	357.3	Dry
10/26/2016	392.10	0.96			Blocked,NotRead	53.1	367.7		31.3	357.4	Dry
11/22/2016	395.70	1.42			Blocked,NotRead	43.1	377.7		31.3	357.4	Dry
12/28/2016	400.70	4.11			Blocked,NotRead	41.2	379.6		31.4	357.3	Dry
1/26/2017	402.40	6.70			Blocked,NotRead	43.2	377.6		31.4	357.3	Dry
2/28/2017	389.60	4.01			Blocked,NotRead	48.1	372.7		31.4	357.3	Dry
3/29/2017	391.80	0.14			Blocked,NotRead	50.6	370.2		31.3	357.4	
4/26/2017	387.00	0.04			Blocked,NotRead	43.0	377.8		31.3	357.4	
5/23/2017	399.40	0.30			Blocked,NotRead	43.3	377.5		31.4	357.3	Dry
6/21/2017	392.60	0.00			Blocked,NotRead	47.6	373.2		31.3	357.4	Dry
7/26/2017	384.60	0.00			Blocked,NotRead	50.6	370.2	Dry	31.4	357.3	Dry
8/30/2017	383.00	0.00			Blocked,NotRead	50.8	370.0	Dry	31.4	357.3	Dry
9/27/2017	382.00	0.00			Blocked,NotRead	50.6	370.2	Dry	31.3	357.4	Dry
10/27/2017	375.00	0.00			Blocked,NotRead	43.2	377.6	Omitted	31.4	357.3	
11/30/2017	382.80	0.14			Blocked,NotRead	53.4	367.4	Omitted	31.3	357.4	
12/21/2017	380.50	0.00			Blocked,NotRead	53.6	367.2	Dry	31.3	357.4	Dry
1/24/2018	397.80	1.43			Blocked,NotRead	53.4	367.4	Omitted	31.3	357.4	Dry
2/21/2018	382.40	0.17			Blocked,NotRead	43.3	377.5	Omitted	31.3	357.4	Dry
3/29/2018	392.10	0.00			Blocked,NotRead	52.3	368.5	Omitted	31.3	357.4	Dry
4/25/2018	388.00	0.05			Blocked,NotRead	50.7	370.1	Omitted	31.2	357.5	Dry
5/30/2018	399.50	0.21			Blocked,NotRead	50.5	370.3	Omitted	31.2	357.5	Dry
6/28/2018	398.90	0.00			Blocked,NotRead	47.0	373.8	Omitted	31.3	357.4	Dry
7/25/2018	388.60	0.00			Blocked,NotRead	49.1	371.7	Omitted	31.4	357.3	Dry
8/24/2018	378.60	0.00			Blocked,NotRead	43.2	377.6	Omitted	31.1	357.6	Dry
9/27/2018	381.40	0.00			Blocked,NotRead	50.5	370.3	Omitted	31.2	357.5	
10/18/2018	385.20	1.45			Blocked,NotRead	50.6	370.2	Omitted	31.3	357.4	Dry

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32			Blocked,NotRead	43.4	377.4	Omitted	31.3	357.4	
12/20/2018	394.20	2.12			Blocked,NotRead	50.5	370.3	Omitted	31.1	357.6	Dry
2/21/2019	396.00	8.26			Blocked,NotRead	47.70	373.1	Omitted	30.90	357.8	
3/27/2019	376.00	1.88			Blocked,NotRead			Blocked,NotRead	31.30	357.4	
4/25/2019	377.70	0.03			Blocked,NotRead			Blocked,NotRead	31.30	357.4	Dry
5/30/2019	395.30	0.92			Blocked,NotRead	52.60	368.2		31.20	357.5	Dry
6/26/2019	388.40	0.01	31.10	389.71		53.20	367.6		31.30	357.4	Dry
7/5/2019	385.50	0.00	37.20	383.61		51.70	369.1		31.30	357.4	Dry
7/30/2019	385.20	0.00	37.30	383.51		53.22	367.6		31.30	357.4	
8/27/2019	387.90	0.00	37.30	383.51		52.90	367.9		31.20	357.5	Dry
9/26/2019	380.00	0.00	37.20	383.61		54.30	366.5		31.30	357.4	
10/23/2019	378.90	0.00	37.30	383.51		53.20	367.6		31.20	357.5	
11/26/2019	383.80	2.60	37.30	383.51		53.20	367.6		31.20	357.5	
12/18/2019	389.20	4.63	37.40	383.41		53.50	367.3		31.40	357.3	
1/29/2020	388.20	0.15	37.30	383.51		53.30	367.5		31.20	357.5	
2/25/2020	384.70	0.33	37.30	383.51		53.20	367.6		31.20	357.5	
3/24/2020	391.70	3.91	37.30	383.51		53.30	367.5		31.30	357.4	
4/23/2020	399.40	4.05	37.30	383.51		53.30	367.5		31.30	357.4	
5/27/2020	388.50	0.40	37.20	383.61		53.20	367.6		31.20	357.5	
6/24/2020	388.00	0.01	39.30	381.51		52.20	368.6		31.30	357.4	
7/29/2020	358.70	0.00	41.20	379.61		52.40	368.4		31.20	357.5	
8/26/2020	379.30	0.00	37.40	383.41		53.40	367.4		31.30	357.4	
9/29/2020	381.30	0.00	37.30	383.51		53.40	367.4		31.30	357.4	
10/28/2020	376.50	0.00	37.20	383.61		53.60	367.2		31.30	357.4	
11/24/2020	380.70	0.25	37.30	383.51		53.60	367.2		31.20	357.5	
12/23/2020	384.10	1.40	37.20	383.61		55.40	365.4		31.30	357.4	
1/26/2021	386.2	2.42	37.30	383.51		53.6	367.21		31.3	357.43	
2/25/2021	385.4	0.07	37.30	383.51		53.4	367.41		31.2	357.53	
3/23/2021	394.8	1.35	37.30	383.51		51.9	368.91		31.1	357.63	
4/27/2021	384.1	0.04	37.50	383.31		53.2	367.61		31.3	357.43	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	37.30	383.51		53.6	367.21		31.3	357.43	
6/30/2021	385.4	0	37.50	383.31		53.8	367.01		31.3	357.43	
7/29/2021	381.7	0.03	37.30	383.51		53.5	367.31		31.3	357.43	
8/24/2021	383.4	0	37.30	383.51		53.6	367.21		31.3	357.43	
9/28/2021	381.3	0.06	37.40	383.41		53.7	367.11		31.4	357.33	
10/27/2021	382.7	0.71	37.30	383.51		53.5	367.31		31.3	357.43	
11/23/2021	381	0	37.40	383.41		53.6	367.21		31.3	357.43	
12/21/2021	386.3	6.1	37.40	383.41		53.6	367.21		31.3	357.43	
1/25/2022	382	0.05	37.20	383.61		53.4	367.41		31.2	357.53	
2/22/2022	382.3	0.36	37.30	383.51		53.4	367.41		31.3	357.43	
3/29/2022	390.6	1.33	37.50	383.31		53.7	367.11		31.3	357.43	
4/27/2022	393.2	0.02	37.40	383.41		52	368.81		31.3	357.43	
5/24/2022	391.4	0.05	44.40	376.41		50.9	369.91		31.3	357.43	
6/28/2022	392.7	0	37.40	383.41		50.7	370.11		31.4	357.33	
7/26/2022	386.1	0	37.20	383.61		51.3	369.51		31.1	357.63	
8/25/2022	382.2	0.02	37.40	383.41		53.5	367.31		31.1	357.63	
9/29/2022	392.7	0.36	37.40	383.41		50.7	370.11		31.4	357.33	
10/25/2022	390	0.32	37.40	383.41		53.5	367.31		31.2	357.53	
11/17/2022	391.4	2.12	37.30	383.51		52	368.81		33.1	355.63	
12/22/2022	386.4	2.28	37.30	383.51		53.6	367.21		31.2	357.53	
1/26/2023	391.6	7.39	37.40	383.41		52.90	367.91		31.30	357.43	
2/23/2023	389.9	3.88	37.33	383.48		51.61	369.20		31.33	357.40	
3/28/2023	390.8	5.62	37.40	383.41		51.60	369.21		31.30	357.43	
4/25/2023	390.8	0.16	37.40	383.41		51.00	369.81		31.40	357.33	
5/23/2023	391.3	0.95	37.37	383.44		50.60	370.21		31.33	357.40	
6/27/2023	388.80	0.14	37.40	383.41		50.70	370.11		31.40	357.33	
7/27/2023	384.40	0.00	37.40	383.41		53.70	367.11		31.30	357.43	
8/29/2023	382.80	2.22	37.40	383.41		53.70	367.11		31.40	357.33	
9/26/2023	377.90	0.00	37.40	383.41		53.60	367.21		31.30	357.43	
10/30/2023	385.30	0.26	37.30	383.51		53.70	367.11		34.20	354.53	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-30A			P-30B			P-35A		
Top of Well Elevation -->			420.81			420.81			388.73		
Bottom of Well Elevation -->			371.70			337.10			357.30		
Depth of Well			49.1			83.7			31.4		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	37.30	383.51		53.60	367.21		31.00	357.73	
12/20/2023	388.50	1.10	37.53	383.28		57.58	363.23		31.46	357.27	Dry
1/24/2024	391.90	2.23	37.40	383.41		51.70	369.11		31.20	357.53	
2/22/2024	388.60	7.64	37.40	383.41		52.00	368.81		31.30	357.43	
3/27/2024	390.90	2.54	37.37	383.44		51.75	369.06		31.36	357.37	
4/23/2024	391.60	1.62	37.30	383.51		50.60	370.21		31.30	357.43	
5/1/2024	389.10	0.00	37.40	383.41		50.60	370.21		31.30	357.43	
5/23/2024	389.20	0.16	37.50	383.31		52.40	368.41		31.40	357.33	
5/30/2024	392.80	#N/A	37.40	383.41		52.30	368.51		31.40	357.33	
6/20/2024	392.90	0.00	37.70	383.11		49.90	370.91		31.30	357.43	
7/24/2024	386.40	0.00	37.60	383.21		52.70	368.11		31.30	357.43	
8/27/2024	384.10	0.00	37.60	383.21		53.70	367.11		31.20	357.53	
9/24/2024	380.50	0.03	37.50	383.31		53.60	367.21		31.00	357.73	
10/29/2024	387.40	0.00	37.60	383.21		53.60	367.21		31.20	357.53	
11/21/2024	384.50	0.09	37.66	383.15		53.75	367.06		31.33	357.40	
12/17/2024	386.30	0.01	37.70	383.11		53.80	367.01		31.40	357.33	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		44.1	344.4		44.3	344.0		35.3	385.7	
2/28/2007	380.90		44.1	344.4		44.6	343.7		35.2	385.8	
3/29/2007	397.00		46.1	342.4		44.7	343.6		35.2	385.8	
4/27/2007	405.60		44.1	344.4		43.9	344.4		28.7	392.3	
5/24/2007	404.40		44.3	344.2		43.0	345.3		28.1	392.9	
6/28/2007	396.90		44.4	344.1		42.8	345.5		35.3	385.7	
7/31/2007	392.60		44.3	344.2		43.1	345.2		33.3	387.7	
8/29/2007	388.60		44.1	344.4		43.4	344.9		34.5	386.5	
9/2/2007	387.40		44.1	344.4		43.3	345.0		35.1	385.9	
9/26/2007	387.90		44.1	344.4		43.5	344.8		35.1	385.9	
10/25/2007	382.00		44.2	344.3		44.0	344.3		35.6	385.4	
11/27/2007	380.30		44.1	344.4		44.4	343.9		35.0	386.0	
12/27/2007	381.40		44.2	344.3		44.7	343.6		35.3	385.7	
1/31/2008	381.20		44.2	344.3		44.7	343.7	Dry	35.1	385.9	Dry
2/28/2008	393.10		44.1	344.4		44.8	343.5	Dry	35.1	385.9	Dry
3/27/2008	387.90		49.6	338.9		44.6	343.7	Dry	40.9	380.1	
4/28/2008	404.70		44.3	344.2		44.1	344.2		29.2	391.8	
5/28/2008	404.00		44.0	344.5		43.1	345.2		28.1	392.9	
6/25/2008	400.20		44.5	344.0		42.5	345.8		27.3	393.7	Dry
7/29/2008	398.70		45.4	343.1		42.5	345.8		27.5	393.5	Dry
7/30/2008	398.70	0.00	45.5	343.0		42.5	345.8		27.8	393.2	Dry
8/29/2008	395.00	0.00	46.8	341.7		42.5	345.8		33.2	387.8	
9/25/2008	391.70	0.00	47.9	340.6		43.5	344.8		35.3	385.7	
10/28/2008	384.05	0.00	50.8	337.7		43.3	345.0		42.0	379.1	
11/26/2008	391.10	1.94	49.7	338.8		43.7	344.6		40.7	380.3	
12/31/2008	397.90	3.20	46.7	341.8		43.3	345.0		33.7	387.3	
1/29/2009	393.40	0.34	47.6	340.9		43.1	345.2		34.9	386.1	
2/25/2009	398.60	3.91	46.1	342.4		43.1	345.2		33.3	387.7	
3/31/2009	393.40	0.16	47.1	341.4		42.8	345.5		35.2	385.8	
4/28/2009	400.70	0.10	45.5	343.0		42.8	345.5		31.5	389.5	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	45.2	343.3		42.4	345.9		30.6	390.4	
5/27/2009	400.10	0.00	45.4	343.1		42.4	345.9		30.8	390.2	
6/29/2009	403.00	0.15	44.4	344.1		41.9	346.4		28.3	392.7	
7/28/2009	396.53	0.00	46.2	342.3		41.9	346.5		32.3	388.7	
8/25/2009	396.60	0.00	46.5	342.0		42.1	346.2		33.0	388.0	
9/30/2009	393.10	0.00	47.9	340.6		42.7	345.6		36.4	384.6	
10/28/2009	401.60	0.42	45.4	343.1		42.6	345.7		30.9	390.1	
11/30/2009	402.50	0.00	44.6	343.9		41.8	346.5		29.0	392.0	
12/29/2009	399.90	2.80	45.3	343.2		41.7	346.6		30.5	390.5	
1/26/2010	401.10	6.75	45.2	343.3		41.9	346.4		30.0	391.0	
2/23/2010	402.50	2.66	44.6	343.9		41.8	346.5		28.8	392.2	
3/30/2010	400.00	1.25	45.1	343.4		41.3	347.0		30.2	390.8	
4/4/2010	399.60		45.3	343.2		41.5	346.8		30.4	390.6	
4/27/2010	403.80	1.32	44.4	344.1		41.4	346.9		28.7	392.3	
5/26/2010	403.60	0.03	44.3	344.2		41.2	347.1		27.8	393.2	
6/29/2010	397.70	0.00	46.0	342.5		40.3	348.0		31.4	389.6	
7/27/2010	396.30	0.00	46.7	341.8		41.8	346.5		32.9	388.1	
8/26/2010	390.70	0.00	48.3	340.2		41.9	346.4		41.6	379.4	
9/28/2010	390.30	0.00	48.7	339.8		42.9	345.4		38.9	382.1	
10/26/2010	403.20	1.56	45.7	342.8		42.7	345.6		29.5	391.5	
11/30/2010	397.10	1.34	46.5	342.0		47.9		Erroneous	32.8	388.2	
12/28/2010	401.40	9.03	45.5	343.0		42.0	346.3		29.7	391.3	
1/27/2011	393.80	1.10	47.1	341.4		41.8	346.5		33.4	387.6	
2/23/2011	391.70	1.17	48.3	340.2		42.4	345.9		36.7	384.3	
3/29/2011	403.00	3.10	45.2	343.3		42.1	346.2		29.7	391.3	
4/27/2011	401.20	0.33	45.5	343.0		41.5	346.8		30.3	390.7	
5/26/2011	399.50	0.48	46.0	342.5		41.7	346.6		31.3	389.7	
6/28/2011	391.00	0.02	48.4	340.1		42.0	346.3		36.6	384.4	
7/26/2011	384.00	0.00	50.9	337.6		42.8	345.5		43.6	377.4	
8/24/2011	382.80	0.00	51.6	336.9		43.5	344.8		45.9	375.1	

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	52.2	336.3		44.0	344.3		47.4	373.6	
10/26/2011	383.90	0.98	51.5	337.0		44.2	344.1		46.2	374.8	
11/22/2011	389.80	1.46	50.1	338.4		44.4	343.9		42.9	378.1	
12/28/2011	382.30	0.35	51.5	337.0		44.1	344.2		45.8	375.2	
1/25/2012	387.50	1.17	51.5	337.0		44.5	343.8		47.3	373.8	
2/28/2012	381.10	0.79	52.6	335.9		44.7	343.6		49.0	372.0	
3/27/2012	387.70	1.61	51.2	337.3		44.7	343.6		46.6	374.4	
4/23/2012	392.30	1.51	49.3	339.2		44.7	343.6		42.0	379.0	
5/25/2012	388.30	0.06	49.6	338.9		44.4	343.9		41.8	379.2	
6/13/2012	385.10	0.06	50.8	337.7		44.4	343.9		44.4	376.6	
6/26/2012	386.90	0.00	50.4	338.1		44.2	344.1		43.9	377.1	
7/24/2012	378.00	0.10	52.8	335.7		44.5	343.8		49.1	371.9	
8/8/2012	382.90	0.10	51.9	336.6		44.7	343.6		47.5	373.5	
8/29/2012	382.70	0.00	52.3	336.2		44.7	343.6		48.3	372.7	
8/29/2012	382.70	0.00	52.3	336.2		44.7	343.6		48.3	372.7	
9/25/2012	381.90	0.00	52.9	335.6		44.7	343.6		49.7	371.3	
10/24/2012	384.40	0.08	52.1	336.4		44.6	343.7		48.1	372.9	
11/27/2012	389.60	0.86	50.0	338.5		44.5	343.8		43.4	377.6	
12/18/2012	394.70	1.96	48.4	340.1		44.6	343.7		39.5	381.5	
1/23/2013	393.00	1.53	47.9	340.6		43.8	344.5		37.4	383.6	
2/26/2013	391.50	0.49	48.4	340.1		43.6	344.7		38.2	382.8	
3/26/2013	394.40	1.00	48.5	340.0		43.7	344.6		39.0	382.0	
4/25/2013	391.00	0.01	48.8	339.7		43.7	344.6		39.3	381.7	
5/22/2013	392.00	0.00	48.4	340.1		43.5	344.8		38.2	382.8	
6/25/2013	380.60	0.00	51.4	337.1		43.8	344.5		44.7	376.3	
7/23/2013	380.20	0.00	52.5	336.0		44.3	344.0		47.9	373.1	
8/21/2013	379.60	0.00	52.5	336.0		44.6	343.7	Wet	47.8	373.2	
9/25/2013	382.20	0.00	52.4	336.1		44.7	343.6	Dry	47.8	373.2	
10/29/2013	382.00	0.00	52.8	335.7		44.7	343.6	Dry	48.8	372.2	
11/26/2013	390.10	0.44	50.8	337.7		44.7	343.6	Dry	46.1	374.9	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	48.6	339.9		44.7	343.6	Dry	39.5	381.5	
1/28/2014	392.30	0.00	48.3	340.2		43.9	344.4		38.5	382.5	
2/26/2014	389.90	0.72	49.0	339.5		43.8	344.5		39.6	381.4	
3/26/2014	387.20		49.1	339.4		43.8	344.5		41.3	379.7	
3/28/2014	387.20	1.78	49.9	338.6		43.9	344.4		41.7	379.3	
4/23/2014	393.00	0.34	48.8	339.7		43.9	344.4		39.5	381.5	
5/28/2014	387.50	0.00	49.9	338.6		43.8	344.5		41.0	380.0	
6/25/2014	388.70	0.00	49.8	338.7		44.7	343.6		40.8	380.2	
7/29/2014	382.80	0.00	51.5	337.0		43.8	344.5		44.8	376.2	
8/28/2014	386.80	0.04	51.1	337.4		44.4	343.9		44.0	377.0	
9/24/2014	387.90	0.00	50.2	338.3		44.4	343.9	Wet	41.8	379.2	
10/29/2014	383.90	0.00	51.5	337.0		44.5	343.8		44.4	376.6	
11/21/2014	388.30	0.35	50.3	338.2		44.5	343.8		41.7	379.3	
12/22/2014	399.80	4.75	46.8	341.7		44.0	344.3		34.0	387.0	
1/28/2015	396.90	1.28	47.1	341.4		43.3	345.0		34.4	386.6	
2/24/2015	392.70	0.34	48.1	340.4		43.3	345.0		36.7	384.3	
3/31/2015	388.90	0.67	48.6	339.9		43.0	345.3		37.7	383.3	
4/23/2015	390.30	0.20	49.0	339.5		43.3	345.0		38.7	382.3	
5/28/2015	400.30	1.87	46.0	342.5		43.0	345.3		31.7	389.3	
6/24/2015	400.70	0.00	45.8	342.7		42.5	345.8		31.1	389.9	
7/30/2015	400.20	0.00	45.9	342.6		42.5	345.8		30.8	390.2	
8/25/2015	384.00	0.00	49.4	339.1		42.6	345.7		38.9	382.1	
9/23/2015	388.60	2.17	49.6	338.9		43.3	345.0		40.7	380.3	
10/29/2015	387.60	0.16	50.1	338.4		43.5	344.8		41.6	379.4	
11/25/2015	386.90	0.15	50.4	338.1		43.7	344.6		42.0	379.0	
12/23/2015	395.90	1.55	48.8	339.7		43.9	344.4		37.7	383.3	
1/26/2016	401.20	2.86	46.1	342.4		43.0	345.3		31.7	389.3	
2/24/2016	393.60	0.39	47.9	340.6		42.8	345.5		35.7	385.3	
3/29/2016	397.10	1.55	47.0	341.5		42.9	345.4		33.8	387.2	
4/29/2016	391.60	0.04	47.2	341.3		42.9	345.4		36.4	384.6	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	46.2	342.3		43.0	345.3		32.1	388.9	
6/29/2016	392.50	0.00	48.0	340.5		42.5	345.8		35.6	385.4	
7/26/2016	377.70	0.00	51.8	336.7		43.2	345.1		45.2	375.8	
8/24/2016	388.10	0.00	50.5	338.0		44.8	343.5		43.9	377.1	
9/29/2016	388.20	0.00	50.7	337.8		44.7	343.6		42.6	378.4	
10/26/2016	392.10	0.96	49.6	338.9		43.9	344.4		41.8	379.2	
11/22/2016	395.70	1.42	47.9	340.6		43.7	344.6		37.4	383.6	
12/28/2016	400.70	4.11	46.0	342.5		43.0	345.3		33.8	387.2	
1/26/2017	402.40	6.70	45.4	343.1		42.7	345.6		30.3	390.7	
2/28/2017	389.60	4.01	48.8	339.7		42.5	345.8		37.7	383.3	
3/29/2017	391.80	0.14	48.9	339.6		43.4	344.9		38.9	382.1	
4/26/2017	387.00	0.04	49.9	338.6		43.5	344.8		40.9	380.1	
5/23/2017	399.40	0.30	46.8	341.7		43.5	344.8		34.0	387.0	
6/21/2017	392.60	0.00	48.2	340.3		43.2	345.1		36.6	384.4	
7/26/2017	384.60	0.00	50.6	337.9		43.4	344.9		42.3	378.7	
8/30/2017	383.00	0.00	51.5	337.0		43.8	344.5		45.1	375.9	
9/27/2017	382.00	0.00	52.3	336.2		44.4	343.9		47.9	373.1	
10/27/2017	375.00	0.00	53.6	334.9		44.8	343.5	Dry	50.9	370.1	
11/30/2017	382.80	0.14	52.4	336.1		44.8	343.5	Dry	48.7	372.3	
12/21/2017	380.50	0.00	52.8	335.7		44.7	343.6	Dry	49.5	371.5	
1/24/2018	397.80	1.43	48.4	340.1		44.8	343.5		39.3	381.7	
2/21/2018	382.40	0.17	50.9	337.6		44.1	344.2		44.4	376.6	
3/29/2018	392.10	0.00	49.1	339.4		44.5	343.8		40.7	380.3	
4/25/2018	388.00	0.05	50.6	337.9		44.4	343.9		45.0	376.0	
5/30/2018	399.50	0.21	47.3	341.2		44.3	344.0		36.2	384.8	
6/28/2018	398.90	0.00	46.5	342.0		43.5	344.8		33.2	387.8	
7/25/2018	388.60	0.00	48.9	339.6		43.3	345.0		38.7	382.3	
8/24/2018	378.60	0.00	52.4	336.1		43.9	344.4		47.8	373.2	
9/27/2018	381.40	0.00	52.4	336.1		44.7	343.6		48.3	372.7	
10/18/2018	385.20	1.45	51.5	337.0		44.6	343.7		46.6	374.4	

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	53.1	335.4		44.7	343.6		50.2	370.8	
12/20/2018	394.20	2.12	49.0	339.5		44.8	343.5		41.1	379.9	
2/21/2019	396.00	8.26	46.90	341.6		43.50	344.8		34.70	386.3	
3/27/2019	376.00	1.88	52.30	336.2		46.60	341.7		43.80	377.2	
4/25/2019	377.70	0.03	52.03	336.4		44.30	344.0		47.00	374.0	
5/30/2019	395.30	0.92	48.30	340.2		44.50	343.8		39.10	381.9	
6/26/2019	388.40	0.01	49.40	339.1		44.10	344.2		40.70	380.3	
7/5/2019	385.50	0.00	51.10	337.4		44.10	344.2		42.50	378.5	
7/30/2019	385.20	0.00	51.40	337.1		44.30	344.0		46.20	374.8	
8/27/2019	387.90	0.00	50.00	338.5		44.50	343.8		42.40	378.6	
9/26/2019	380.00	0.00	52.10	336.4		44.60	343.7		47.90	373.1	
10/23/2019	378.90	0.00	53.10	335.4		44.60	343.7		50.30	370.7	
11/26/2019	383.80	2.60	52.50	336.0		44.70	343.6		49.10	371.9	
12/18/2019	389.20	4.63	51.40	337.1		44.10	344.2		44.50	376.5	
1/29/2020	388.20	0.15	49.90	338.6		44.60	343.7		43.00	378.0	
2/25/2020	384.70	0.33	51.00	337.5		44.60	343.7		45.10	375.9	
3/24/2020	391.70	3.91	49.40	339.1		44.70	343.6		41.90	379.1	
4/23/2020	399.40	4.05	47.80	340.7		44.70	343.6		34.40	386.6	
5/27/2020	388.50	0.40	49.30	339.2		43.70	344.6		58.50	362.5	Omitted
6/24/2020	388.00	0.01	49.60	338.9		43.90	344.4		41.40	379.6	
7/29/2020	358.70	0.00	50.30	338.2		44.00	344.3		42.50	378.5	
8/26/2020	379.30	0.00	52.30	336.2		44.30	344.0		47.90	373.1	
9/29/2020	381.30	0.00	52.50	336.0		44.70	343.6		48.50	372.5	
10/28/2020	376.50	0.00	53.70	334.8		44.70	343.6		51.30	369.7	
11/24/2020	380.70	0.25	53.10	335.4		44.80	343.5		50.20	370.8	
12/23/2020	384.10	1.40	52.20	336.3		44.60	343.7		48.00	373.0	
1/26/2021	386.2	2.42	51.2	337.25		44	344.34		45.6	375.43	
2/25/2021	385.4	0.07	74.7		Omitted	44.6	343.74		44.6	376.43	
3/23/2021	394.8	1.35	48.5	339.95		44.6	343.74		39.2	381.83	
4/27/2021	384.1	0.04	50.9	337.55		44.3	344.04		44.2	376.83	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	51.2	337.25		44.6	343.74		44.9	376.13	
6/30/2021	385.4	0	51.4	337.05		44.9	343.44		45.6	375.43	
7/29/2021	381.7	0.03	52.6	335.85		44.5	343.84		49.1	371.93	
8/24/2021	383.4	0	52.4	336.05		44.8	343.54		48.6	372.43	
9/28/2021	381.3	0.06	52.2	336.25		44.8	343.54		47.2	373.83	
10/27/2021	382.7	0.71	52.9	335.55		44.6	343.74		49.9	371.13	
11/23/2021	381	0	53.1	335.35		44.8	343.54		50.1	370.93	
12/21/2021	386.3	6.1	51.7	336.75		44.7	343.64		47.2	373.83	
1/25/2022	382	0.05	52.2	336.25		44.6	343.74		48	373.03	
2/22/2022	382.3	0.36	52.9	335.55		44.7	343.64		50.2	370.83	
3/29/2022	390.6	1.33	50.7	337.75		44.9	343.44		45.2	375.83	
4/27/2022	393.2	0.02	49	339.45		44.7	343.64		40.1	380.93	
5/24/2022	391.4	0.05	48.9	339.55		44.2	344.14		39.8	381.23	
6/28/2022	392.7	0	48.8	339.65		44.1	344.24		38.5	382.53	
7/26/2022	386.1	0	50.3	338.15		44	344.34		58.4	362.63	Omitted
8/25/2022	382.2	0.02	31.3		Omitted	44.3	344.04		45.3	375.73	
9/29/2022	392.7	0.36	48.8	339.65		44.1	344.24		38.5	382.53	
10/25/2022	390	0.32	50.3	338.15		44.6	343.74		43.2	377.83	
11/17/2022	391.4	2.12	49.2	339.25		44.5	343.84		40.2	380.83	
12/22/2022	386.4	2.28	51.1	337.35		44.7	343.64		45.6	375.43	
1/26/2023	391.6	7.39	49.10	339.35		44.90	343.44		41.10	379.93	
2/23/2023	389.9	3.88	49.53	338.92		44.30	344.04		40.68	380.35	
3/28/2023	390.8	5.62	48.70	339.75		44.20	344.14		39.10	381.93	
4/25/2023	390.8	0.16	48.80	339.65		38.90		Omitted	38.90	382.13	
5/23/2023	391.3	0.95	48.65	339.80		43.99	344.35		38.41	382.62	
6/27/2023	388.80	0.14	49.20	339.25		44.80	343.54		39.30	381.73	
7/27/2023	384.40	0.00	50.70	337.75		44.60	343.74		43.30	377.73	
8/29/2023	382.80	2.22	51.60	336.85		44.70	343.64		45.50	375.53	
9/26/2023	377.90	0.00	52.97	335.48		44.64	343.70		48.92	372.11	
10/30/2023	385.30	0.26	52.70	335.75		45.70	342.64		46.70	374.33	

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-35B			P-35C			P-52		
Top of Well Elevation -->			388.45			388.34			421.03		
Bottom of Well Elevation -->			313.40			343.20			361.20		
Depth of Well			75.1			45.1			59.8		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	52.30	336.15		44.50	343.84		48.20	372.83	
12/20/2023	388.50	1.10	51.20	337.25		44.80	343.54		45.99	375.04	
1/24/2024	391.90	2.23	49.20	339.25		44.70	343.64		39.80	381.23	
2/22/2024	388.60	7.64	49.50	338.95		44.80	343.54		40.80	380.23	
3/27/2024	390.90	2.54	49.12	339.33		44.24	344.10		39.60	381.43	
4/23/2024	391.60	1.62	49.10	339.35		44.80	343.54		38.10	382.93	
5/1/2024	389.10	0.00	49.30	339.15		44.00	344.34		39.30	381.73	
5/23/2024	389.20	0.16	49.80	338.65		44.10	344.24		40.20	380.83	
5/30/2024	392.80	#N/A	49.00	339.45		44.20	344.14		38.60	382.43	
6/20/2024	392.90	0.00	49.10	339.35		43.90	344.44		37.00	384.03	
7/24/2024	386.40	0.00	51.20	337.25		44.30	344.04		42.00	379.03	
8/27/2024	384.10	0.00	52.50	335.95		44.50	343.84		45.60	375.43	
9/24/2024	380.50	0.03	53.20	335.25		44.50	343.84		46.30	374.73	
10/29/2024	387.40	0.00	52.10	336.35		44.50	343.84		44.20	376.83	
11/21/2024	384.50	0.09	52.63	335.82		44.65	343.69		45.22	375.81	
12/17/2024	386.30	0.01	52.40	336.05		44.70	343.64		44.70	376.33	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		27.5	329.5		26.8	385.2		44.9	377.2	
2/28/2007	380.90		28.3	328.7		30.5	381.5		45.5	376.6	
3/29/2007	397.00		28.5	328.5		27.3	384.7		45.8	376.3	
4/27/2007	405.60		24.3	332.7		17.6	394.4		46.0	376.1	
5/24/2007	404.40		21.4	335.6		15.9	396.1		46.1	376.0	
6/28/2007	396.90		20.8	336.2		17.8	394.2		46.0	376.1	
7/31/2007	392.60		22.9	334.1		21.7	390.3		46.2	375.9	
8/29/2007	388.60		24.3	332.7		24.5	387.5		46.7	375.4	
9/2/2007	387.40		24.6	332.4		24.0	388.0		46.7	375.4	
9/26/2007	387.90		25.2	331.8		25.3	386.7		46.8	375.3	
10/25/2007	382.00		26.5	330.5		27.3	384.7		47.4	374.7	
11/27/2007	380.30		27.8	329.2		30.6	381.4		47.8	374.3	
12/27/2007	381.40		33.3	323.7		32.0	380.0		48.2	373.9	
1/31/2008	381.20		29.3	327.7		31.8	380.3		48.8	373.3	
2/28/2008	393.10		28.7	328.3		26.3	385.7		49.0	373.1	
3/27/2008	387.90		27.6	329.4		23.5	388.5		49.3	372.8	
4/28/2008	404.70		23.7	333.3		15.8	396.2		49.5	372.6	
5/28/2008	404.00		22.1	334.9		14.3	397.7		44.5	377.6	
6/25/2008	400.20		21.2	335.8		15.5	396.5		49.3	372.8	
7/29/2008	398.70		21.6	335.4		16.3	395.7		49.1	373.0	
7/30/2008	398.70	0.00	21.6	335.4		16.3	395.7		49.2	372.9	
8/29/2008	395.00	0.00	22.4	334.6		18.7	393.3		4.2	417.9	Cleaning
9/25/2008	391.70	0.00	23.1	333.9		18.8	393.2		11.0	411.1	
10/28/2008	384.05	0.00	25.5	331.6		26.4	385.6		15.8	406.3	
11/26/2008	391.10	1.94	27.0	330.0		27.5	384.5		17.8	404.3	
12/31/2008	397.90	3.20	25.3	331.7		21.6	390.4		18.7	403.4	
1/29/2009	393.40	0.34	22.7	334.3		23.2	388.8		19.6	402.5	
2/25/2009	398.60	3.91	21.0	336.0		21.5	390.5		20.1	402.0	
3/31/2009	393.40	0.16	20.1	336.9		21.9	390.1		20.6	401.5	
4/28/2009	400.70	0.10	20.8	336.2		20.3	391.7		21.2	400.9	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	20.6	336.4		18.7	393.3		21.5	400.6	
5/27/2009	400.10	0.00	20.7	336.3		18.8	393.2		48.8	373.3	
6/29/2009	403.00	0.15	20.4	336.6		15.9	396.1		48.6	373.5	
7/28/2009	396.53	0.00	20.0	337.0		19.2	392.8		48.5	373.6	
8/25/2009	396.60	0.00	21.1	335.9		20.4	391.6		48.4	373.7	
9/30/2009	393.10	0.00	22.7	334.3		23.6	388.4		48.5	373.6	
10/28/2009	401.60	0.42	22.4	334.6		19.6	392.4		48.5	373.6	
11/30/2009	402.50	0.00	19.6	337.4		16.7	395.3		48.3	373.8	
12/29/2009	399.90	2.80	19.4	337.6		17.3	394.7		48.3	373.8	
1/26/2010	401.10	6.75	19.8	337.2		15.7	396.3		48.3	373.8	
2/23/2010	402.50	2.66	18.7	338.3		14.6	397.4		48.2	373.9	
3/30/2010	400.00	1.25	18.2	338.8		16.5	395.5		48.0	374.1	
4/4/2010	399.60		18.4	338.6		16.9	395.1		48.0	374.1	
4/27/2010	403.80	1.32	18.8	338.2		15.7	396.3		48.0	374.1	
5/26/2010	403.60	0.03	18.4	338.6		15.4	396.6		47.8	374.3	
6/29/2010	397.70	0.00	18.9	338.1		17.7	394.3		47.6	374.5	
7/27/2010	396.30	0.00	20.4	336.6		18.9	393.1		47.5	374.6	
8/26/2010	390.70	0.00	22.0	335.0		20.8	391.2		47.5	374.6	
9/28/2010	390.30	0.00	24.5	332.5		24.8	387.2		47.8	374.3	
10/26/2010	403.20	1.56	25.0	332.0		19.8	392.2		47.9	374.2	
11/30/2010	397.10	1.34	23.4	333.6		19.5	392.5		47.7	374.4	
12/28/2010	401.40	9.03	23.5	333.5		12.0	400.0		47.7	374.4	
1/27/2011	393.80	1.10	23.2	333.8		17.2	394.8		47.7	374.4	
2/23/2011	391.70	1.17	24.3	332.7		22.0	390.0		47.8	374.3	
3/29/2011	403.00	3.10	24.3	332.7		17.6	394.4		47.8	374.3	
4/27/2011	401.20	0.33	23.3	333.7		17.2	394.8		47.7	374.4	
5/26/2011	399.50	0.48	23.1	333.9		18.2	393.8		47.7	374.4	
6/28/2011	391.00	0.02	23.8	333.2		22.6	389.4		47.7	374.4	
7/26/2011	384.00	0.00	25.3	331.7		26.2	385.8		47.8	374.3	
8/24/2011	382.80	0.00	26.7	330.3		30.6	381.4		48.1	374.0	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	25.9	331.1		32.0	380.0		48.6	373.5	
10/26/2011	383.90	0.98	28.2	328.8		31.9	380.1		48.6	373.5	
11/22/2011	389.80	1.46	28.3	328.7		29.9	382.1		48.9	373.2	
12/28/2011	382.30	0.35	28.2	328.8		31.5	380.5		49.0	373.1	
1/25/2012	387.50	1.17	28.7	328.3		34.0	378.0		49.4	372.7	
2/28/2012	381.10	0.79	29.0	328.0		34.6	377.4		49.6	372.5	
3/27/2012	387.70	1.61	29.3	327.7		34.2	377.8		49.8	372.3	
4/23/2012	392.30	1.51	28.9	328.1		31.1	380.9		50.0	372.1	
5/25/2012	388.30	0.06	28.2	328.8		28.9	383.1		50.2	371.9	
6/13/2012	385.10	0.06	27.9	329.1		30.7	381.3		50.2	371.9	
6/26/2012	386.90	0.00	25.9	331.1		30.9	381.1		50.3	371.8	
7/24/2012	378.00	0.10	28.3	328.7		33.6	378.4		50.4	371.7	
8/8/2012	382.90	0.10	28.7	328.3		30.6	381.4		50.6	371.5	
8/29/2012	382.70	0.00	29.0	328.0		33.8	378.2		50.8	371.3	
8/29/2012	382.70	0.00	29.0	328.0		33.8	378.2		50.8	371.3	
9/25/2012	381.90	0.00	29.3	327.7		33.8	378.2		50.9	371.2	
10/24/2012	384.40	0.08	29.7	327.3		33.0	379.0		51.2	370.9	
11/27/2012	389.60	0.86	29.1	327.9		30.8	381.2		51.4	370.7	
12/18/2012	394.70	1.96	28.5	328.5		28.6	383.4		51.4	370.7	
1/23/2013	393.00	1.53	27.4	329.6		25.0	387.0		51.5	370.6	
2/26/2013	391.50	0.49	26.8	330.2		25.7	386.3		51.4	370.7	
3/26/2013	394.40	1.00	27.3	329.7		27.0	385.0		51.6	370.5	
4/25/2013	391.00	0.01	26.8	330.2		26.4	385.6		51.6	370.5	
5/22/2013	392.00	0.00	26.8	330.2		25.0	387.0		51.6	370.5	
6/25/2013	380.60	0.00	27.0	330.0		28.4	383.6		51.8	370.3	
7/23/2013	380.20	0.00	27.9	329.1		30.5	381.5		51.9	370.2	
8/21/2013	379.60	0.00	28.5	328.5		30.8	381.2		52.1	370.0	
9/25/2013	382.20	0.00	29.2	327.8		30.9	381.1		52.4	369.7	
10/29/2013	382.00	0.00	29.8	327.2		32.4	379.6		52.6	369.5	
11/26/2013	390.10	0.44	29.7	327.3		31.6	380.4		52.7	369.4	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	29.3	327.7		28.0	384.0		52.8	369.3	
1/28/2014	392.30	0.00	28.2	328.8		24.5	387.5		52.8	369.3	
2/26/2014	389.90	0.72	27.4	329.6		25.5	386.5		52.8	369.3	
3/26/2014	387.20		27.5	329.5		26.8	385.2		52.9	369.2	
3/28/2014	387.20	1.78	22.5	334.5		27.0	385.0		52.9	369.2	
4/23/2014	393.00	0.34	27.7	329.3		26.8	385.2		52.9	369.2	
5/28/2014	387.50	0.00	27.5	329.5		24.9	387.1		53.0	369.1	
6/25/2014	388.70	0.00	28.7	328.3		25.8	386.2		53.0	369.1	
7/29/2014	382.80	0.00	27.9	329.1		28.6	383.4		53.2	368.9	
8/28/2014	386.80	0.04	28.4	328.6		28.6	383.4		53.3	368.8	
9/24/2014	387.90	0.00	28.5	328.5		27.2	384.8		53.3	368.8	
10/29/2014	383.90	0.00	28.7	328.3		28.4	383.6		53.5	368.6	
11/21/2014	388.30	0.35	28.8	328.2		26.7	385.3		53.6	368.5	
12/22/2014	399.80	4.75	28.5	328.5		22.2	389.8		53.5	368.6	
1/28/2015	396.90	1.28	27.5	329.5		21.6	390.4		53.7	368.4	
2/24/2015	392.70	0.34	27.2	329.8		22.8	389.2		53.5	368.6	
3/31/2015	388.90	0.67	26.8	330.2		23.1	388.9		53.4	368.7	
4/23/2015	390.30	0.20	27.0	330.0		24.2	387.8		53.4	368.7	
5/28/2015	400.30	1.87	27.0	330.0		19.9	392.1		53.5	368.6	
6/24/2015	400.70	0.00	26.5	330.5		19.5	392.5		53.3	368.8	
7/30/2015	400.20	0.00	26.3	330.7		19.0	393.0		53.2	368.9	
8/25/2015	384.00	0.00	26.1	330.9		23.8	388.2		52.9	369.2	
9/23/2015	388.60	2.17	27.0	330.0		28.1	383.9		53.2	368.9	
10/29/2015	387.60	0.16	27.5	329.5		29.1	382.9		53.2	368.9	
11/25/2015	386.90	0.15	27.9	329.1		29.6	382.4		53.3	368.8	
12/23/2015	395.90	1.55	27.4	329.6		27.8	384.3		53.2	368.9	
1/26/2016	401.20	2.86	32.7	324.3		21.4	390.7		53.2	368.9	
2/24/2016	393.60	0.39	27.0	330.0		23.3	388.7		53.1	369.0	
3/29/2016	397.10	1.55	26.8	330.2		22.5	389.5		53.1	369.0	
4/29/2016	391.60	0.04	27.0	330.0		24.4	387.7		52.9	369.2	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	26.8	330.2		22.5	389.5		52.9	369.2	
6/29/2016	392.50	0.00	26.6	330.4		22.9	389.1		52.8	369.3	
7/26/2016	377.70	0.00	27.2	329.8		30.0	382.0		52.9	369.2	
8/24/2016	388.10	0.00	27.9	329.1		32.9	379.1		52.9	369.2	
9/29/2016	388.20	0.00	28.3	328.7		31.9	380.1		52.9	369.2	
10/26/2016	392.10	0.96	28.4	328.6		32.5	379.5		53.0	369.1	
11/22/2016	395.70	1.42	28.2	328.8		28.3	383.7		53.1	369.0	
12/28/2016	400.70	4.11	27.6	329.4		24.2	387.8		53.1	369.0	
1/26/2017	402.40	6.70	26.8	330.2		19.3	392.7		52.8	369.3	
2/28/2017	389.60	4.01	26.6	330.4		24.5	387.5		52.8	369.3	
3/29/2017	391.80	0.14	27.0	330.0		27.6	384.4		52.8	369.3	
4/26/2017	387.00	0.04	27.3	329.7		28.7	383.3		52.8	369.3	
5/23/2017	399.40	0.30	27.5	329.5		24.9	387.1		52.9	369.2	
6/21/2017	392.60	0.00	27.2	329.8		25.0	387.0		52.7	369.4	
7/26/2017	384.60	0.00	24.2	332.8		29.6	382.4		52.7	369.4	
8/30/2017	383.00	0.00	28.1	328.9		32.9	379.1		52.7	369.4	
9/27/2017	382.00	0.00	28.6	328.4		35.6	376.4		52.9	369.2	
10/27/2017	375.00	0.00	29.2	327.8		37.5	374.5		53.2	368.9	
11/30/2017	382.80	0.14	29.8	327.2		37.7	374.3		53.2	368.9	
12/21/2017	380.50	0.00	29.8	327.2		37.7	374.3		53.3	368.8	
1/24/2018	397.80	1.43	30.1	326.9		33.2	378.8		53.5	368.6	
2/21/2018	382.40	0.17	29.0	328.0		32.0	380.0		70.6	351.5	
3/29/2018	392.10	0.00	28.7	328.3		30.7	381.3		70.2	351.9	
4/25/2018	388.00	0.05	28.6	328.4		34.0	378.0		69.8	352.3	
5/30/2018	399.50	0.21	28.6	328.4		29.5	382.5		69.4	352.7	
6/28/2018	398.90	0.00	27.8	329.2		24.1	387.9		68.9	353.2	
7/25/2018	388.60	0.00	27.3	329.7		26.3	385.7		68.5	353.6	
8/24/2018	378.60	0.00	27.8	329.2		33.4	378.6		68.1	354.0	
9/27/2018	381.40	0.00	28.7	328.3		36.0	376.0		67.8	354.3	
10/18/2018	385.20	1.45	29.1	327.9		35.7	376.3		67.7	354.4	

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	29.7	327.3		38.1	373.9		67.4	354.7	
12/20/2018	394.20	2.12	29.7	327.3		33.3	378.7		67.3	354.8	
2/21/2019	396.00	8.26	27.90	329.1		23.50	388.5		66.50	355.6	
3/27/2019	376.00	1.88	27.40	329.6		54.70	357.3	Omiited	66.00	356.1	
4/25/2019	377.70	0.03	27.90	329.1		32.30	379.7				Blocked,NotRead
5/30/2019	395.30	0.92	28.50	328.5		30.20	381.8		65.10	357.0	
6/26/2019	388.40	0.01	28.10	328.9		28.80	383.2		64.80	357.3	
7/5/2019	385.50	0.00	32.90	324.1		29.80	382.2		64.70	357.4	
7/30/2019	385.20	0.00	28.30	328.7		33.50	378.5		64.20	357.9	
8/27/2019	387.90	0.00	28.60	328.4		31.40	380.6		64.40	357.7	
9/26/2019	380.00	0.00	28.80	328.2		35.30	376.7		64.10	358.0	
10/23/2019	378.90	0.00	29.20	327.8		36.90	375.1		64.00	358.1	
11/26/2019	383.80	2.60	29.80	327.2		38.20	373.8		71.20	350.9	Omitted
12/18/2019	389.20	4.63	29.90	327.1		35.20	376.8		63.80	358.3	
1/29/2020	388.20	0.15	29.10	327.9		32.10	379.9		63.60	358.5	
2/25/2020	384.70	0.33	28.90	328.1		33.30	378.7		63.40	358.7	
3/24/2020	391.70	3.91	28.90	328.1		32.40	379.6		63.30	358.8	
4/23/2020	399.40	4.05	28.50	328.5		26.30	385.7		63.00	359.1	
5/27/2020	388.50	0.40	27.70	329.3		28.10	383.9		70.50	351.6	Omitted
6/24/2020	388.00	0.01	27.80	329.2		29.60	382.4		62.50	359.6	
7/29/2020	358.70	0.00	27.90	329.1		30.30	381.7		62.00	360.1	
8/26/2020	379.30	0.00	28.30	328.7		33.80	378.2		62.10	360.0	
9/29/2020	381.30	0.00	28.90	328.1		36.00	376.0		61.90	360.2	
10/28/2020	376.50	0.00	29.60	327.4		38.20	373.8		62.20	359.9	
11/24/2020	380.70	0.25	30.00	327.0		38.50	373.5		62.00	360.1	
12/23/2020	384.10	1.40	30.20	326.8		37.50	374.5		61.80	360.3	
1/26/2021	386.2	2.42	31.4	325.61		34.7	377.33		61.7	360.38	
2/25/2021	385.4	0.07	29.3	327.71		32.6	379.43		61.6	360.48	
3/23/2021	394.8	1.35	29	328.01		30.7	381.33		61.5	360.58	
4/27/2021	384.1	0.04	28.7	328.31		32	380.03		61.2	360.88	

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	28.6	328.41		33.3	378.73		61.1	360.98	
6/30/2021	385.4	0	29.2	327.81		34.7	377.33		61.1	360.98	
7/29/2021	381.7	0.03	29.3	327.71		37.4	374.63		61	361.08	
8/24/2021	383.4	0	33.3	323.71		37.9	374.13		60.9	361.18	
9/28/2021	381.3	0.06	29.8	327.21		36	376.03		60.9	361.18	
10/27/2021	382.7	0.71	30	327.01		38.8	373.23		60.8	361.28	
11/23/2021	381	0	30.3	326.71		38.9	373.13		60.8	361.28	
12/21/2021	386.3	6.1	30.5	326.51		37.8	374.23		60.8	361.28	
1/25/2022	382	0.05	30.1	326.91		36.8	375.23		60.7	361.38	
2/22/2022	382.3	0.36	30.2	326.81		39.1	372.93		61	361.08	
3/29/2022	390.6	1.33	30.2	326.81		36.6	375.43		60.3	361.78	
4/27/2022	393.2	0.02	29.6	327.41		31.7	380.33		60.5	361.58	
5/24/2022	391.4	0.05	28.8	328.21		29.4	382.63		60.4	361.68	
6/28/2022	392.7	0	28.4	328.61		28.4	383.63		60.2	361.88	
7/26/2022	386.1	0	28	329.01		28.5	383.53		59.8	362.28	
8/25/2022	382.2	0.02	28.2	328.81		33	379.03		59.7	362.38	
9/29/2022	392.7	0.36	28.4	328.61		28.4	383.63		60.2	361.88	
10/25/2022	390	0.32	29.4	327.61		34.6	377.43		71.3	350.78	Omitted
11/17/2022	391.4	2.12	29.1	327.91		31.1	380.93		59.6	362.48	
12/22/2022	386.4	2.28	29.2	327.81		34.9	377.13		59.6	362.48	
1/26/2023	391.6	7.39	32.70	324.31		31.50	380.53		59.50	362.58	
2/23/2023	389.9	3.88	28.68	328.33		29.91	382.12		59.34	362.74	
3/28/2023	390.8	5.62	28.40	328.61		28.10	383.93		59.20	362.88	
4/25/2023	390.8	0.16	28.00	329.01		27.50	384.53		59.00	363.08	
5/23/2023	391.3	0.95	27.81	329.20		27.10	384.93		58.84	363.24	
6/27/2023	388.80	0.14	28.50	328.51		22.70	389.33		58.70	363.38	
7/27/2023	384.40	0.00	27.90	329.11		30.90	381.13		58.60	363.48	
8/29/2023	382.80	2.22	28.50	328.51		33.50	378.53		58.70	363.38	
9/26/2023	377.90	0.00	29.04	327.97		36.06	375.97		58.50	363.58	
10/30/2023	385.30	0.26	29.60	327.41		36.10	375.93		56.30	365.78	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-61			P-62			P-63		
Top of Well Elevation -->			357.01			412.03			422.08		
Bottom of Well Elevation -->			311.00			365.50			335.00		
Depth of Well			46.0			46.5			87.1		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	32.70	324.31		37.20	374.83		58.60	363.48	
12/20/2023	388.50	1.10	29.95	327.06		36.34	375.69		58.50	363.58	
1/24/2024	391.90	2.23	29.40	327.61		30.20	381.83		58.40	363.68	
2/22/2024	388.60	7.64	28.80	328.21		29.50	382.53		57.80	364.28	
3/27/2024	390.90	2.54	28.44	328.57		28.71	383.32		58.22	363.86	
4/23/2024	391.60	1.62	28.30	328.71		27.10	384.93		58.10	363.98	
5/1/2024	389.10	0.00	28.10	328.91		27.50	384.53		58.10	363.98	
5/23/2024	389.20	0.16	28.20	328.81		29.40	382.63		58.10	363.98	
5/30/2024	392.80	#N/A	28.20	328.81		28.60	383.43		57.90	364.18	
6/20/2024	392.90	0.00	28.00	329.01		26.40	385.63		64.50	357.58	
7/24/2024	386.40	0.00	28.10	328.91		30.20	381.83		64.20	357.88	
8/27/2024	384.10	0.00	28.60	328.41		33.60	378.43		63.90	358.18	
9/24/2024	380.50	0.03	28.90	328.11		33.90	378.13		63.70	358.38	
10/29/2024	387.40	0.00	29.40	327.61		34.10	377.93		63.50	358.58	
11/21/2024	384.50	0.09	29.50	327.51		35.25	376.78		63.37	358.71	
12/17/2024	386.30	0.01	29.60	327.41		34.40	377.63		63.20	358.88	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		46.7	341.3		31.6	343.1		23.5	335.8	
2/28/2007	380.90		48.5	339.5		33.2	341.5		25.2	334.1	
3/29/2007	397.00		43.9	344.1		32.1	342.6		21.6	337.7	
4/27/2007	405.60		40.0	348.0		29.0	345.7		18.5	340.8	
5/24/2007	404.40		39.7	348.3		27.4	347.3		18.0	341.3	
6/28/2007	396.90		41.6	346.4		27.0	347.7		19.6	339.7	
7/31/2007	392.60		34.5	353.5		27.1	347.6		20.9	338.4	
8/29/2007	388.60		45.0	343.0		28.6	346.1		22.2	337.1	
9/2/2007	387.40		45.3	342.7		28.8	345.9		22.4	336.9	
9/26/2007	387.90		45.6	342.4		29.6	345.1		22.7	336.6	
10/25/2007	382.00		47.4	340.6		30.8	343.9		24.2	335.1	
11/27/2007	380.30		48.7	339.3		32.5	342.2		25.3	334.0	
12/27/2007	381.40		48.5	339.5		33.5	341.2		25.3	334.0	
1/31/2008	381.20		49.2	338.8		34.5	340.2		25.8	333.5	
2/28/2008	393.10		44.9	343.1		32.8	341.9		22.4	336.9	
3/27/2008	387.90		45.8	342.2		32.3	342.4		22.9	336.4	
4/28/2008	404.70		40.1	347.9		29.1	345.6		18.4	340.9	
5/28/2008	404.00		39.9	348.1		27.1	347.6		18.0	341.3	
6/25/2008	400.20		40.5	347.5		26.3	348.4		18.6	340.7	
7/29/2008	398.70		41.3	346.7		26.2	348.5		19.2	340.1	
7/30/2008	398.70	0.00	41.3	346.7		26.1	348.6		19.5	339.9	
8/29/2008	395.00	0.00	43.0	345.0		26.9	347.8		20.7	338.6	
9/25/2008	391.70	0.00	44.0	344.0		28.1	346.6		21.7	337.6	
10/28/2008	384.05	0.00	47.2	340.8		29.9	344.8		24.2	335.1	
11/26/2008	391.10	1.94	46.0	342.0		31.0	343.7		23.5	335.8	
12/31/2008	397.90	3.20	42.7	345.3		29.2	345.5		20.7	338.6	
1/29/2009	393.40	0.34	43.8	344.2		29.4	345.3		21.4	337.9	
2/25/2009	398.60	3.91	42.3	345.7		28.8	345.9		20.2	339.1	
3/31/2009	393.40	0.16	43.4	344.6		28.4	346.3		20.9	338.4	
4/28/2009	400.70	0.10	41.4	346.6		27.8	346.9		19.6	339.7	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	41.1	346.9		27.3	347.4		19.3	340.0	
5/27/2009	400.10	0.00	41.2	346.8		27.3	347.4		19.5	339.8	
6/29/2009	403.00	0.15	40.1	347.9		26.2	348.5		18.6	340.7	
7/28/2009	396.53	0.00	42.1	345.9		26.9	347.8		20.1	339.2	
8/25/2009	396.60	0.00	42.4	345.6		27.5	347.2		20.4	338.9	
9/30/2009	393.10	0.00	44.0	344.0		28.6	346.1		21.7	337.6	
10/28/2009	401.60	0.42	41.2	346.8		27.6	347.1		19.5	339.8	
11/30/2009	402.50	0.00	40.5	347.5		26.2	348.5		18.9	340.4	
12/29/2009	399.90	2.80	41.3	346.7		26.3	348.4		19.3	340.0	
1/26/2010	401.10	6.75	41.0	347.0		26.7	348.0		19.3	340.0	
2/23/2010	402.50	2.66	40.5	347.5		25.5	349.2		18.7	340.6	
3/30/2010	400.00	1.25	41.1	346.9		24.9	349.8		19.2	340.1	
4/4/2010	399.60		41.4	346.6		25.1	349.6		19.4	339.9	
4/27/2010	403.80	1.32	40.2	347.8		25.0	349.7		18.6	340.7	
5/26/2010	403.60	0.03	40.1	347.9		24.8	349.9		18.5	340.8	
6/29/2010	397.70	0.00	41.9	346.1		25.7	349.0		19.9	339.4	
7/27/2010	396.30	0.00	42.7	345.3		26.5	348.2		20.6	338.7	
8/26/2010	390.70	0.00	44.7	343.3		27.6	347.1		22.0	337.3	
9/28/2010	390.30	0.00	45.5	342.5		29.1	345.6		22.7	336.6	
10/26/2010	403.20	1.56	41.6	346.4		28.1	346.6		19.8	339.5	
11/30/2010	397.10	1.34	42.5	345.5		27.6	347.1		20.4	338.9	
12/28/2010	401.40	9.03	41.4	346.6		27.1	347.6		19.5	339.8	
1/27/2011	393.80	1.10	43.2	344.8		25.7	349.0		20.8	338.5	
2/23/2011	391.70	1.17	44.5	343.5		27.0	347.7		21.9	337.4	
3/29/2011	403.00	3.10	41.0	347.0		26.2	348.5		19.4	339.9	
4/27/2011	401.20	0.33	41.3	346.7		25.9	348.8		19.5	339.9	
5/26/2011	399.50	0.48	41.9	346.1		26.5	348.3		19.9	339.4	
6/28/2011	391.00	0.02	43.6	344.4		27.8	346.9		22.0	337.3	
7/26/2011	384.00	0.00	47.3	340.7		30.0	344.7		24.3	335.0	
8/24/2011	382.80	0.00	47.9	340.1		31.5	343.2		24.9	334.4	

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	48.6	339.4		32.8	341.9		25.4	333.9	
10/26/2011	383.90	0.98	47.9	340.1		33.0	341.7		24.8	334.5	
11/22/2011	389.80	1.46	46.1	341.9		32.7	342.0		23.5	335.8	
12/28/2011	382.30	0.35	47.9	340.1		33.2	341.5		24.8	334.5	
1/25/2012	387.50	1.17	47.8	340.2		34.1	340.6		25.0	334.3	
2/28/2012	381.10	0.79	49.2	338.8		34.6	340.1		25.9	333.4	
3/27/2012	387.70	1.61	47.4	340.6		34.7	340.0		24.9	334.4	
4/23/2012	392.30	1.51	45.4	342.6		33.4	341.4		23.0	336.3	
5/25/2012	388.30	0.06	46.3	341.7		32.9	341.8		23.2	336.1	
6/13/2012	385.10	0.06	47.1	340.9		33.3	341.4		24.1	335.2	
6/26/2012	386.90	0.00	46.7	341.3		33.4	341.3		25.4	333.9	
7/24/2012	378.00	0.10	49.4	338.6		34.6	340.1		25.9	333.4	
8/8/2012	382.90	0.10	48.3	339.7		34.6	340.1		25.5	333.8	
8/29/2012	382.70	0.00	48.8	339.2		34.8	339.9		25.7	333.6	
8/29/2012	382.70	0.00	48.7	339.3		34.8	339.9		25.7	333.6	
9/25/2012	381.90	0.00	49.4	338.6		35.0	339.7		26.1	333.2	
10/24/2012	384.40	0.08	48.4	339.6		35.0	339.7		25.5	333.8	
11/27/2012	389.60	0.86	46.3	341.7		33.7	341.0		23.7	335.6	
12/18/2012	394.70	1.96	44.4	343.6		32.7	342.0		22.2	337.1	
1/23/2013	393.00	1.53	44.0	344.0		31.3	343.4		21.5	337.8	
2/26/2013	391.50	0.49	44.6	343.4		31.2	343.5		21.9	337.4	
3/26/2013	394.40	1.00	44.7	343.3		31.7	343.0		22.2	337.1	
4/25/2013	391.00	0.01	44.9	343.1		31.3	343.4		22.3	337.0	
5/22/2013	392.00	0.00	44.5	343.5		30.9	343.8		22.0	337.3	
6/25/2013	380.60	0.00	47.9	340.1		32.4	342.3		24.5	334.8	
7/23/2013	380.20	0.00	49.0	339.0		33.6	341.1		25.7	333.6	
8/21/2013	379.60	0.00	49.1	338.9		34.2	340.5		25.7	333.6	
9/25/2013	382.20	0.00	48.8	339.2		34.5	340.2		25.7	333.6	
10/29/2013	382.00	0.00	49.4	338.6		35.4	339.3		26.2	333.1	
11/26/2013	390.10	0.44	46.9	341.1		34.6	340.1		24.4	334.9	

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	44.5	343.5		32.9	341.8		22.3	337.0	
1/28/2014	392.30	0.00	44.4	343.6		31.8	342.9		21.9	337.4	
2/26/2014	389.90	0.72	45.2	342.8		31.5	343.2		22.5	336.8	
3/26/2014	387.20		46.0	342.0		31.7	343.0		23.2	336.1	
3/28/2014	387.20	1.78	46.2	341.8		31.9	342.8		23.3	336.0	
4/23/2014	393.00	0.34	44.8	343.2		32.3	342.4		22.4	336.9	
5/28/2014	387.50	0.00	46.2	341.8		31.8	342.9		23.3	336.0	
6/25/2014	388.70	0.00	46.0	342.0		32.2	342.5		23.3	336.0	
7/29/2014	382.80	0.00	47.9	340.1		33.1	341.6		24.8	334.5	
8/28/2014	386.80	0.04	47.3	340.7		33.5	341.2		24.5	334.8	
9/24/2014	387.90	0.00	46.4	341.6		32.8	341.9		23.6	335.7	
10/29/2014	383.90	0.00	47.8	340.2		33.6	341.1		24.8	334.5	
11/21/2014	388.30	0.35	46.5	341.5		33.0	341.7		23.7	335.6	
12/22/2014	399.80	4.75	42.6	345.4		31.1	343.6		20.7	338.6	
1/28/2015	396.90	1.28	43.0	345.0		30.0	344.7		20.8	338.5	
2/24/2015	392.70	0.34	44.2	343.8		29.9	344.8		21.7	337.6	
3/31/2015	388.90	0.67	44.8	343.2		29.3	345.4		22.1	337.2	
4/23/2015	390.30	0.20	45.2	342.8		29.9	344.8		22.5	336.8	
5/28/2015	400.30	1.87	41.9	346.1		28.5	346.2		19.9	339.4	
6/24/2015	400.70	0.00	41.5	346.5		27.9	346.8		19.7	339.6	
7/30/2015	400.20	0.00	41.6	346.4		27.4	347.3		19.8	339.5	
8/25/2015	384.00	0.00	45.9	342.1		28.5	346.2		22.8	336.5	
9/23/2015	388.60	2.17	45.8	342.2		30.4	344.3		23.2	336.1	
10/29/2015	387.60	0.16	46.3	341.7		31.3	343.4		23.6	335.7	
11/25/2015	386.90	0.15	46.5	341.5		31.7	343.0		23.8	335.5	
12/23/2015	395.90	1.55	44.8	343.2		31.7	343.0		22.4	336.9	
1/26/2016	401.20	2.86	41.8	346.2		29.4	345.4		20.8	338.5	
2/24/2016	393.60	0.39	44.0	344.0		29.5	345.2		21.6	337.7	
3/29/2016	397.10	1.55	42.7	345.3		28.9	345.8		20.9	338.5	
4/29/2016	391.60	0.04	44.3	343.7		26.2	348.5		22.1	337.2	

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	42.0	346.0		28.7	346.0		20.3	339.0	
6/29/2016	392.50	0.00	44.1	343.9		28.7	346.0		21.6	337.7	
7/26/2016	377.70	0.00	48.5	339.5		31.1	343.6		25.1	334.2	
8/24/2016	388.10	0.00	46.7	341.3		32.4	342.3		24.0	335.3	
9/29/2016	388.20	0.00	46.3	341.7		32.5	342.2		23.6	335.7	
10/26/2016	392.10	0.96	46.4	341.6		32.7	342.0		23.2	336.1	
11/22/2016	395.70	1.42	43.9	344.1		31.5	343.2		21.7	337.6	
12/28/2016	400.70	4.11	40.9	347.1		30.0	344.7		20.0	339.3	
1/26/2017	402.40	6.70	41.0	347.0		28.3	346.4		19.5	339.8	
2/28/2017	389.60	4.01	44.9	343.1		29.3	345.4		22.2	337.1	
3/29/2017	391.80	0.14	44.9	343.1		30.2	344.5		22.4	336.9	
4/26/2017	387.00	0.04	46.1	341.9		30.7	344.0		23.2	336.1	
5/23/2017	399.40	0.30	42.7	345.3		29.8	344.9		20.8	338.5	
6/21/2017	392.60	0.00	44.2	343.8		29.6	345.1		21.8	337.5	
7/26/2017	384.60	0.00	46.9	341.1		31.1	343.6		23.9	335.4	
8/30/2017	383.00	0.00	47.9	340.1		32.6	342.1		24.8	334.5	
9/27/2017	382.00	0.00	48.7	339.3		33.9	340.8		25.6	333.7	
10/27/2017	375.00	0.00	50.0	338.0		34.8	339.9		26.5	332.8	
11/30/2017	382.80	0.14	48.6	339.4		35.0	339.7		25.7	333.6	
12/21/2017	380.50	0.00	49.2	338.8		35.1	339.6		26.0	333.3	
1/24/2018	397.80	1.43	44.0	344.0		33.4	341.3		22.2	337.1	
2/21/2018	382.40	0.17	47.3	340.7		33.2	341.5		24.2	335.1	
3/29/2018	392.10	0.00	45.2	342.8		32.8	341.9		22.7	336.6	
4/25/2018	388.00	0.05	46.8	341.2		34.0	340.7		24.1	335.2	
5/30/2018	399.50	0.21	43.1	344.9		32.3	342.4		21.3	338.0	
6/28/2018	398.90	0.00	42.3	345.7		30.6	344.1		20.4	338.9	
7/25/2018	388.60	0.00	45.2	342.8		30.9	343.8		22.4	336.9	
8/24/2018	378.60	0.00	49.0	339.0		33.4	341.3		25.5	333.8	
9/27/2018	381.40	0.00	48.8	339.2		34.6	340.1		25.7	333.6	
10/18/2018	385.20	1.45	47.9	340.1		34.6	340.1		25.0	334.3	

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	49.4	338.6		35.2	339.5		26.3	333.0	
12/20/2018	394.20	2.12	45.1	342.9		33.8	340.9		22.8	336.5	
2/21/2019	396.00	8.26	44.20	343.8		31.80	342.9		20.70	338.6	
3/27/2019	376.00	1.88	46.50	341.5		31.80	342.9		24.40	334.9	
4/25/2019	377.70	0.03	48.60	339.4		33.00	341.7		25.00	334.3	
5/30/2019	395.30	0.92	44.30	343.7		32.30	342.4		22.10	337.2	
6/26/2019	388.40	0.01	45.60	342.4		31.90	342.8		22.80	336.5	
7/5/2019	385.50	0.00	46.50	341.5		32.10	342.6		23.40	335.9	
7/30/2019	385.20	0.00	47.70	340.3		33.60	341.1		24.60	334.7	
8/27/2019	387.90	0.00	46.20	341.8		34.10	340.6		23.40	335.9	
9/26/2019	380.00	0.00	48.60	339.4		34.40	340.3		25.50	333.8	
10/23/2019	378.90	0.00	49.70	338.3		34.90	339.8		26.20	333.1	
11/26/2019	383.80	2.60	48.80	339.2		35.40	339.3		25.70	333.6	
12/18/2019	389.20	4.63	49.70	338.3		42.50	332.2	Omitted	23.90	335.4	
1/29/2020	388.20	0.15	46.20	341.8		33.30	341.4		23.40	335.9	
2/25/2020	384.70	0.33	47.30	340.7		33.90	340.8		24.30	335.0	
3/24/2020	391.70	3.91	45.60	342.4		33.30	341.4		50.70		Omitted
4/23/2020	399.40	4.05	76.50		Omitted	31.60	343.1		20.40	338.9	
5/27/2020	388.50	0.40	45.60	342.4		31.90	342.8		22.80	336.5	
6/24/2020	388.00	0.01	45.90	342.1		32.60	342.1		23.10	336.2	
7/29/2020	358.70	0.00	46.70	341.3		32.60	342.1		23.70	335.6	
8/26/2020	379.30	0.00	49.00	339.0		33.90	340.8		25.60	333.7	
9/29/2020	381.30	0.00	49.00	339.0		35.80	338.9		25.70	333.6	
10/28/2020	376.50	0.00	50.30	337.7		35.80	338.9		26.80	332.5	
11/24/2020	380.70	0.25	49.80	338.2		36.00	338.7		26.40	332.9	
12/23/2020	384.10	1.40	48.50	339.5		35.60	339.1		25.50	333.8	
1/26/2021	386.2	2.42	47.5	340.5		34.6	340.12		25.2	334.11	
2/25/2021	385.4	0.07	47.1	340.9		33.8	340.92		24.1	335.21	
3/23/2021	394.8	1.35	44.6	343.4		33.2	341.52		22.3	337.01	
4/27/2021	384.1	0.04	47.3	340.7		33.8	340.92		24.1	335.21	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	47.6	340.4		34.1	340.62		24.4	334.91	
6/30/2021	385.4	0	47.7	340.3		34.8	339.92		24.7	334.61	
7/29/2021	381.7	0.03	47.2	340.8		35.7	339.02		25.8	333.51	
8/24/2021	383.4	0	48.8	339.2		35.9	338.82		25.8	333.51	
9/28/2021	381.3	0.06	48.6	339.4		35.2	339.52		25.4	333.91	
10/27/2021	382.7	0.71	49.3	338.7		36.2	338.52		26.2	333.11	
11/23/2021	381	0	49.8	338.2		36.3	338.42		26.6	332.71	
12/21/2021	386.3	6.1	48	340		35.9	338.82		25.2	334.11	
1/25/2022	382	0.05	48.7	339.3		35.5	339.22		25.4	333.91	
2/22/2022	382.3	0.36	49.4	338.6		36.4	338.32		26.2	333.11	
3/29/2022	390.6	1.33	46.9	341.1		35.5	339.22		24.4	334.91	
4/27/2022	393.2	0.02	45.1	342.9		33.7	341.02		22.7	336.61	
5/24/2022	391.4	0.05	45.1	342.9		34.5	340.22		22.8	336.51	
6/28/2022	392.7	0	44.8	343.2		32.3	342.42		22.7	336.61	
7/26/2022	386.1	0	46.6	341.4		32.6	342.12		23.6	335.71	
8/25/2022	382.2	0.02	48.1	339.9		23.8	350.92	Omitted	24.9	334.41	
9/29/2022	392.7	0.36	44.8	343.2		32.3	342.42		22.7	336.61	
10/25/2022	390	0.32	46.5	341.5		31.5	343.22		24.2	335.11	
11/17/2022	391.4	2.12	45.5	342.5		33.3	341.42		23	336.31	
12/22/2022	386.4	2.28	47.6	340.4		34.6	340.12		26.5	332.81	
1/26/2023	391.6	7.39	46.20	341.80		33.40	341.32		23.00	336.31	
2/23/2023	389.9	3.88	45.67	342.33		32.74	341.98		22.93	336.38	
3/28/2023	390.8	5.62	45.00	343.00		32.00	342.72		22.40	336.91	
4/25/2023	390.8	0.16	45.10	342.90		31.50	343.22		22.30	337.01	
5/23/2023	391.3	0.95	44.90	343.10		31.23	343.49		22.30	337.01	
6/27/2023	388.80	0.14	45.40	342.60		30.90	343.82		22.90	336.41	
7/27/2023	384.40	0.00	47.20	340.80		32.30	342.42		24.10	335.21	
8/29/2023	382.80	2.22	49.10	338.90		33.40	341.32		25.00	334.31	
9/26/2023	377.90	0.00	49.69	338.31		34.48	340.24		26.08	333.23	
10/30/2023	385.30	0.26	48.10	339.90		34.90	339.82		27.70	331.61	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-64			P-65			P-66		
Top of Well Elevation -->			388.00			374.72			359.31		
Bottom of Well Elevation -->			302.00			325.50			301.00		
Depth of Well			86.0			49.2			58.3		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	49.40	338.60		35.20	339.52		25.80	333.51	
12/20/2023	388.50	1.10	47.66	340.34		34.93	339.79		24.82	334.49	
1/24/2024	391.90	2.23	45.50	342.50		33.00	341.72		22.80	336.51	
2/22/2024	388.60	7.64	45.90	342.10		32.70	342.02		22.90	336.41	
3/27/2024	390.90	2.54	45.44	342.56		32.30	342.42		22.69	336.62	
4/23/2024	391.60	1.62	45.00	343.00		31.60	343.12		22.30	337.01	
5/1/2024	389.10	0.00	45.70	342.30		31.50	343.22		22.80	336.51	
5/23/2024	389.20	0.16	46.20	341.80		32.00	342.72		23.40	335.91	
5/30/2024	392.80	#N/A	45.10	342.90		31.70	343.02		22.60	336.71	
6/20/2024	392.90	0.00	44.70	343.30		31.00	343.72		22.10	337.21	
7/24/2024	386.40	0.00	46.90	341.10		32.20	342.52		23.90	335.41	
8/27/2024	384.10	0.00	48.30	339.70		33.50	341.22		25.10	334.21	
9/24/2024	380.50	0.03	48.90	339.10		33.80	340.92		35.50		Omitted
10/29/2024	387.40	0.00	47.60	340.40		34.10	340.62		24.70	334.61	
11/21/2024	384.50	0.09	48.20	339.80		34.26	340.46		25.12	334.19	
12/17/2024	386.30	0.01	47.90	340.10		34.40	340.32		24.90	334.41	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		24.7	330.3		35.5	432.7		35.0	407.9	
2/28/2007	380.90		26.1	328.9		34.4	433.8		34.2	408.7	
3/29/2007	397.00		24.3	330.7		34.6	433.6		34.4	408.5	442.9
4/27/2007	405.60		21.6	333.4		34.6	433.6		34.4	408.5	
5/24/2007	404.40		21.0	334.0		35.2	433.0		34.5	408.4	
6/28/2007	396.90		21.6	333.4		34.6	433.6		34.5	408.4	
7/31/2007	392.60		22.8	332.2		35.4	432.8		34.5	408.4	
8/29/2007	388.60		23.7	331.3		34.5	433.7		34.4	408.5	
9/2/2007	387.40		23.9	331.1		34.5	433.7		34.4	408.5	
9/26/2007	387.90		24.6	330.4		34.6	433.6		34.4	408.5	
10/25/2007	382.00		25.5	329.5		35.4	432.8		35.4	407.5	
11/27/2007	380.30		26.3	328.7		34.5	433.7		34.4	408.5	
12/27/2007	381.40		26.3	328.7		34.8	433.4		34.4	408.5	
1/31/2008	381.20		27.0	328.0		34.4	433.8		34.3	408.6	Dry
2/28/2008	393.10		24.6	330.4		33.4	434.8		34.4	408.5	Dry
3/27/2008	387.90		24.6	330.4	Dry	33.2	435.0		34.4	408.5	Dry
4/28/2008	404.70		21.5	333.5	Dry	31.2	437.0		33.6	409.3	
5/28/2008	404.00		21.5	333.5	Dry	34.0	434.2		33.8	409.1	
6/25/2008	400.20		20.8	334.2	Dry	34.6	433.6	Dry	34.7	408.2	Dry
7/29/2008	398.70		21.6	333.4	Dry	34.5	433.7	Dry	34.4	408.5	Dry
7/30/2008	398.70	0.00	21.6	333.4	Dry	34.5	433.7	Dry	34.5	408.4	Dry
8/29/2008	395.00	0.00	22.6	332.4	Dry	34.5	433.7	Dry	34.4	408.5	Dry
9/25/2008	391.70	0.00	23.4	331.6		34.7	433.5	Dry	34.8	408.1	Dry
10/28/2008	384.05	0.00	24.6	330.4	Dry	34.5	433.7	Dry	34.4	408.5	Dry
11/26/2008	391.10	1.94	24.5	330.5	Dry	34.7	433.5	Dry	34.6	408.3	Dry
12/31/2008	397.90	3.20	23.2	331.8	Dry	34.5	433.7	Dry	34.4	408.5	Dry
1/29/2009	393.40	0.34	23.2	331.8		34.5	433.7	Dry	34.4	408.5	Dry
2/25/2009	398.60	3.91	22.6	332.4	Dry	34.8	433.4	Dry	34.4	408.5	Dry
3/31/2009	393.40	0.16	22.6	332.4		34.5	433.7	Dry	34.4	408.5	Dry
4/28/2009	400.70	0.10	22.2	332.8		34.6	433.6	Dry	34.5	408.4	Dry

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	21.8	333.2		34.5	433.7	Dry	34.4	408.5	Dry
5/27/2009	400.10	0.00	21.6	333.4		34.5	433.7		34.4	408.6	
6/29/2009	403.00	0.15	21.6	333.4		34.5	433.7	Dry	34.3	408.6	Dry
7/28/2009	396.53	0.00	21.8	333.2		34.5	433.7	Dry	34.4	408.5	Dry
8/25/2009	396.60	0.00	22.6	332.4		34.5	433.7	Dry	34.4	408.5	Dry
9/30/2009	393.10	0.00	23.7	331.3		34.5	433.7	Dry	34.3	408.6	Dry
10/28/2009	401.60	0.42	22.3	332.7		34.5	433.7	Dry	34.4	408.5	Dry
11/30/2009	402.50	0.00	21.4	333.6		34.5	433.7	Dry	34.4	408.5	Dry
12/29/2009	399.90	2.80	21.5	333.5		34.5	433.7	Dry	34.4	408.5	Dry
1/26/2010	401.10	6.75	21.8	333.2		33.1	435.1		34.3	408.6	Dry
2/23/2010	402.50	2.66	21.4	333.6		34.2	434.0		34.4	408.5	Dry
3/30/2010	400.00	1.25	21.5	333.5	Dry	34.5	433.7	Dry	34.4	408.5	Dry
4/4/2010	399.60		21.6	333.4	Dry	34.6	433.6	Dry	34.2	408.7	Dry
4/27/2010	403.80	1.32	20.5	334.5		34.6	433.6	Dry	34.4	408.5	Dry
5/26/2010	403.60	0.03	21.3	333.7		34.6	433.6	Dry	34.4	408.5	Dry
6/29/2010	397.70	0.00	22.0	333.0		34.5	433.7	Dry	34.2	408.7	Dry
7/27/2010	396.30	0.00	22.6	332.4		34.5	433.7	Dry	34.3	408.6	Dry
8/26/2010	390.70	0.00	23.6	331.4		34.6	433.6	Dry	34.5	408.4	Dry
9/28/2010	390.30	0.00	24.6	330.4	Dry	34.5	433.7	Dry	34.4	408.5	Dry
10/26/2010	403.20	1.56	22.8	332.2		34.6	433.6	Dry	34.3	408.6	Dry
11/30/2010	397.10	1.34	22.4	332.6		34.5	433.7		34.3	408.6	Dry
12/28/2010	401.40	9.03	22.3	332.7		23.3	444.9	Dry	34.4	408.5	Dry
1/27/2011	393.80	1.10	22.4	332.6		34.0	434.2	Dry	34.3	408.6	
2/23/2011	391.70	1.17	23.9	331.1	Dry	34.5	433.7	Dry	34.4	408.5	Dry
3/29/2011	403.00	3.10	22.0	333.0		34.4	433.8	Dry	34.3	408.6	Dry
4/27/2011	401.20	0.33	22.1	332.9		34.5	433.7	Dry	34.4	408.5	Dry
5/26/2011	399.50	0.48	22.4	332.7		34.5	433.7	Dry	34.4	408.5	Dry
6/28/2011	391.00	0.02	23.8	331.2		34.6	433.6	Dry	34.5	408.4	Dry
7/26/2011	384.00	0.00	25.8	329.2		34.6	433.6	Dry	34.4	408.5	Dry
8/24/2011	382.80	0.00	26.5	328.5		34.5	433.7	Dry	34.9	408.0	Dry

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	26.6	328.4		34.5	433.7	Dry	34.4	408.5	Dry
10/26/2011	383.90	0.98	26.2	328.8		34.5	433.7	Dry	34.4	408.5	Dry
11/22/2011	389.80	1.46	25.5	329.5		32.9	435.3		34.2	408.7	
12/28/2011	382.30	0.35	25.9	329.1		34.5	433.7		34.4	408.5	
1/25/2012	387.50	1.17	26.8	328.2		34.5	433.7		34.3	408.6	
2/28/2012	381.10	0.79	26.9	328.1		34.5	433.7		34.3	408.6	
3/27/2012	387.70	1.61	26.2	328.8		35.1	433.1		35.3	407.6	Erroneous
4/23/2012	392.30	1.51	25.3	329.8		34.8	433.4		34.4	408.5	
5/25/2012	388.30	0.06	25.3	329.7		35.5	432.7	Erroneous	35.8	407.1	Erroneous
6/13/2012	385.10	0.06	25.3	329.7		34.5	433.7		34.3	408.6	
6/26/2012	386.90	0.00	23.9	331.1		34.5	433.7		34.4	408.5	
7/24/2012	378.00	0.10	26.8	328.2		34.5	433.7		34.4	408.5	
8/8/2012	382.90	0.10	26.7	328.3		34.4	433.8		34.3	408.6	
8/29/2012	382.70	0.00	27.1	327.9		34.5	433.7		34.3	408.6	
8/29/2012	382.70	0.00	27.1	327.9		34.5	433.7		34.3	408.6	
9/25/2012	381.90	0.00	27.2	327.8		34.6	433.6		34.4	408.5	
10/24/2012	384.40	0.08	27.0	328.0		34.5	433.7		34.4	408.5	
11/27/2012	389.60	0.86	25.6	329.4		34.4	433.8		34.3	408.6	
12/18/2012	394.70	1.96	24.4	330.6		34.4	433.8		34.3	408.6	
1/23/2013	393.00	1.53	23.6	331.4		35.7	432.5	Erroneous	35.8	407.1	Erroneous
2/26/2013	391.50	0.49	23.9	331.1		34.5	433.7		34.2	408.7	
3/26/2013	394.40	1.00	24.6	330.4		34.4	433.8		35.3	407.6	
4/25/2013	391.00	0.01	24.2	330.8		34.8	433.4		34.3	408.6	
5/22/2013	392.00	0.00	24.0	331.0		34.5	433.7		34.4	408.5	
6/25/2013	380.60	0.00	25.6	329.4		34.5	433.7		34.4	408.5	
7/23/2013	380.20	0.00	26.6	328.4		34.5	433.7		34.4	408.5	
8/21/2013	379.60	0.00	26.7	328.3		34.5	433.7	Dry	34.4	408.5	Dry
9/25/2013	382.20	0.00	26.7	328.3		34.5	433.7	Dry	34.6	408.3	Dry
10/29/2013	382.00	0.00	27.4	327.6		34.5	433.7	Dry	34.6	408.3	Dry
11/26/2013	390.10	0.44	26.4	328.6		34.5	433.7	Dry	34.3	408.6	Dry

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	25.1	329.9		34.6	433.6	Dry	34.3	408.6	Dry
1/28/2014	392.30	0.00	24.4	330.6		34.4	433.8	Dry	34.3	408.6	Dry
2/26/2014	389.90	0.72	24.4	330.6		34.5	433.7	Dry	34.3	408.6	Dry
3/26/2014	387.20		24.7	330.3		34.5	433.7	Dry	34.4	408.5	Dry
3/28/2014	387.20	1.78	24.7	330.3		34.5	433.7	Dry	34.4	408.5	Dry
4/23/2014	393.00	0.34	25.0	330.0		34.5	433.7	Dry	34.3	408.6	Dry
5/28/2014	387.50	0.00	24.6	330.4		34.5	433.7	Dry	34.4	408.5	Dry
6/25/2014	388.70	0.00	25.2	329.8		34.5	433.7	Dry	34.3	408.6	Dry
7/29/2014	382.80	0.00	25.8	329.2		34.5	433.7	Dry	34.3	408.6	Dry
8/28/2014	386.80	0.04	25.8	329.2		34.4	433.8		34.3	408.6	Dry
9/24/2014	387.90	0.00	25.8	329.2		34.5	433.7	Dry	34.3	408.6	Dry
10/29/2014	383.90	0.00	26.4	328.6	Dry	34.8	433.4	Dry	34.4	408.5	Dry
11/21/2014	388.30	0.35	25.5	329.5		34.5	433.7	Dry	34.3	408.6	Dry
12/22/2014	399.80	4.75	23.4	331.6		34.5	433.7	Dry	34.3	408.6	Dry
1/28/2015	396.90	1.28	23.2	331.8	Dry	34.5	433.7	Dry	34.3	408.6	Dry
2/24/2015	392.70	0.34	23.5	331.5	Dry	34.4	433.8	Dry	34.2	408.7	Dry
3/31/2015	388.90	0.67	23.9	331.1	Dry	34.5	433.7	Dry	34.3	408.6	Dry
4/23/2015	390.30	0.20	24.0	331.0		34.5	433.7	Dry	34.3	408.6	Dry
5/28/2015	400.30	1.87	22.7	332.3		34.5	433.7	Dry	34.4	408.5	Dry
6/24/2015	400.70	0.00	22.5	332.5	Wet	35.0	433.2	Dry	34.8	408.1	Dry
7/30/2015	400.20	0.00	22.4	332.6	Wet	34.4	433.8	Dry	35.3	407.6	Dry
8/25/2015	384.00	0.00	22.5	332.5		34.4	433.8	Dry	34.6	408.3	Dry
9/23/2015	388.60	2.17	25.2	329.8	Wet	34.5	433.7	Dry	34.4	408.5	Dry
10/29/2015	387.60	0.16	25.2	329.8		34.5	433.7	Dry	34.4	408.5	Dry
11/25/2015	386.90	0.15	25.3	329.7		34.6	433.6	Dry	34.4	408.5	Dry
12/23/2015	395.90	1.55	24.7	330.3		33.8	434.4	Dry	33.4	409.5	Dry
1/26/2016	401.20	2.86	22.8	332.2		33.8	434.4	Dry	33.4	409.5	Dry
2/24/2016	393.60	0.39	22.8	332.2	Dry	33.8	434.4	Dry	33.4	409.5	Dry
3/29/2016	397.10	1.55	22.9	332.1	Wet	34.5	433.7		34.5	408.4	
4/29/2016	391.60	0.04	23.5	331.5		34.5	433.7		34.5	408.4	

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	23.1	331.9		34.5	433.7		34.5	408.4	
6/29/2016	392.50	0.00	23.5	331.5		34.5	433.7		34.5	408.4	
7/26/2016	377.70	0.00	25.5	329.5		34.5	433.7		34.5	408.4	
8/24/2016	388.10	0.00	26.0	329.0				Abandoned			Abandoned
9/29/2016	388.20	0.00	25.5	329.5				Abandoned			Abandoned
10/26/2016	392.10	0.96	25.3	329.7				Abandoned			Abandoned
11/22/2016	395.70	1.42	24.2	330.8				Abandoned			Abandoned
12/28/2016	400.70	4.11	23.0	332.0				Abandoned			Abandoned
1/26/2017	402.40	6.70	22.0	333.0				Abandoned			Abandoned
2/28/2017	389.60	4.01	22.8	332.2				Abandoned			Abandoned
3/29/2017	391.80	0.14	24.4	330.6				Abandoned			Abandoned
4/26/2017	387.00	0.04	24.8	330.2				Abandoned			Abandoned
5/23/2017	399.40	0.30	23.5	331.5				Abandoned			Abandoned
6/21/2017	392.60	0.00	23.3	331.7				Abandoned			Abandoned
7/26/2017	384.60	0.00	23.7	331.3	Dry			Abandoned			Abandoned
8/30/2017	383.00	0.00	23.7	331.3	Dry			Abandoned			Abandoned
9/27/2017	382.00	0.00	23.4	331.6				Abandoned			Abandoned
10/27/2017	375.00	0.00	23.5	331.5				Abandoned			Abandoned
11/30/2017	382.80	0.14	23.2	331.8				Abandoned			Abandoned
12/21/2017	380.50	0.00	23.6	331.4				Abandoned			Abandoned
1/24/2018	397.80	1.43	23.5	331.5				Abandoned			Abandoned
2/21/2018	382.40	0.17	24.5	330.5				Abandoned			Abandoned
3/29/2018	392.10	0.00	28.1	326.9				Abandoned			Abandoned
4/25/2018	388.00	0.05	24.6	330.4				Abandoned			Abandoned
5/30/2018	399.50	0.21	23.8	331.2				Abandoned			Abandoned
6/28/2018	398.90	0.00	23.0	332.0				Abandoned			Abandoned
7/25/2018	388.60	0.00	22.9	332.1				Abandoned			Abandoned
8/24/2018	378.60	0.00	22.9	332.1				Abandoned			Abandoned
9/27/2018	381.40	0.00	26.9	328.1				Abandoned			Abandoned
10/18/2018	385.20	1.45	26.8	328.2				Abandoned			Abandoned

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JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	27.4	327.6				Abandoned			Abandoned
12/20/2018	394.20	2.12	25.2	329.8				Abandoned			Abandoned
2/21/2019	396.00	8.26	23.00	332.0				Abandoned			Abandoned
3/27/2019	376.00	1.88	23.00	332.0				Abandoned			Abandoned
4/25/2019	377.70	0.03	23.00	332.0	Dry			Abandoned			Abandoned
5/30/2019	395.30	0.92	23.00	332.0	Dry			Abandoned			Abandoned
6/26/2019	388.40	0.01	23.00	332.0	Dry			Abandoned			Abandoned
7/5/2019	385.50	0.00	23.30	331.7				Abandoned			Abandoned
7/30/2019	385.20	0.00	23.40	331.6				Abandoned			Abandoned
8/27/2019	387.90	0.00	23.40	331.6				Abandoned			Abandoned
9/26/2019	380.00	0.00	23.30	331.7				Abandoned			Abandoned
10/23/2019	378.90	0.00	24.20	330.8				Abandoned			Abandoned
11/26/2019	383.80	2.60	24.30	330.7				Abandoned			Abandoned
12/18/2019	389.20	4.63	24.30	330.7				Abandoned			Abandoned
1/29/2020	388.20	0.15	25.30	329.7				Abandoned			Abandoned
2/25/2020	384.70	0.33	26.00	329.0				Abandoned			Abandoned
3/24/2020	391.70	3.91	71.80		Omitted			Abandoned			Abandoned
4/23/2020	399.40	4.05	23.30	331.7				Abandoned			Abandoned
5/27/2020	388.50	0.40	24.70	330.3				Abandoned			Abandoned
6/24/2020	388.00	0.01	25.10	329.9				Abandoned			Abandoned
7/29/2020	358.70	0.00	25.50	329.5				Abandoned			Abandoned
8/26/2020	379.30	0.00	26.90	328.1				Abandoned			Abandoned
9/29/2020	381.30	0.00	27.30	327.7				Abandoned			Abandoned
10/28/2020	376.50	0.00	28.40	326.6				Abandoned			Abandoned
11/24/2020	380.70	0.25	28.00	327.0				Abandoned			Abandoned
12/23/2020	384.10	1.40	27.30	327.7				Abandoned			Abandoned
1/26/2021	386.2	2.42	26.7	328.34				Abandoned			Abandoned
2/25/2021	385.4	0.07	25.9	329.14				Abandoned			Abandoned
3/23/2021	394.8	1.35	24.8	330.24				Abandoned			Abandoned
4/27/2021	384.1	0.04	25.9	329.14				Abandoned			Abandoned

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Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	26.1	328.94				Abandoned			Abandoned
6/30/2021	385.4	0	25.8	329.24				Abandoned			Abandoned
7/29/2021	381.7	0.03	27.4	327.64				Abandoned			Abandoned
8/24/2021	383.4	0	27.5	327.54				Abandoned			Abandoned
9/28/2021	381.3	0.06	27	328.04				Abandoned			Abandoned
10/27/2021	382.7	0.71	27.3	327.74				Abandoned			Abandoned
11/23/2021	381	0	28	327.04				Abandoned			Abandoned
12/21/2021	386.3	6.1	27.1	327.94				Abandoned			Abandoned
1/25/2022	382	0.05	27.3	327.74				Abandoned			Abandoned
2/22/2022	382.3	0.36	27.7	327.34				Abandoned			Abandoned
3/29/2022	390.6	1.33	26.5	328.54				Abandoned			Abandoned
4/27/2022	393.2	0.02	25.1	329.94				Abandoned			Abandoned
5/24/2022	391.4	0.05	24.7	330.34				Abandoned			Abandoned
6/28/2022	392.7	0	24.8	330.24				Abandoned			Abandoned
7/26/2022	386.1	0	25.5	329.54				Abandoned			Abandoned
8/25/2022	382.2	0.02	26.5	328.54				Abandoned			Abandoned
9/29/2022	392.7	0.36	24.8	330.24				Abandoned			Abandoned
10/25/2022	390	0.32	26.3	328.74				Abandoned			Abandoned
11/17/2022	391.4	2.12	25.2	329.84				Abandoned			Abandoned
12/22/2022	386.4	2.28	25.3	329.74				Abandoned			Abandoned
1/26/2023	391.6	7.39	25.00	330.04				Abandoned			Abandoned
2/23/2023	389.9	3.88	25.04	330.00				Abandoned			Abandoned
3/28/2023	390.8	5.62	24.40	330.64				Abandoned			Abandoned
4/25/2023	390.8	0.16	24.50	330.54				Abandoned			Abandoned
5/23/2023	391.3	0.95	24.45	330.59				Abandoned			Abandoned
6/27/2023	388.80	0.14	24.70	330.34				Abandoned			Abandoned
7/27/2023	384.40	0.00	25.80	329.24				Abandoned			Abandoned
8/29/2023	382.80	2.22	26.60	328.44				Abandoned			Abandoned
9/26/2023	377.90	0.00	27.48	327.56				Abandoned			Abandoned
10/30/2023	385.30	0.26	27.50	327.54				Abandoned			Abandoned

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-67			VBW/OW-1			VBW/OW-2		
Top of Well Elevation -->			355.04			468.16			442.91		
Bottom of Well Elevation -->			282.50			433.46			407.91		
Depth of Well			72.5			34.7			35.0		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	27.40	327.64				Abandoned			Abandoned
12/20/2023	388.50	1.10	26.82	328.22				Abandoned			Abandoned
1/24/2024	391.90	2.23	25.10	329.94				Abandoned			Abandoned
2/22/2024	388.60	7.64	24.90	330.14				Abandoned			Abandoned
3/27/2024	390.90	2.54	24.80	330.24				Abandoned			Abandoned
4/23/2024	391.60	1.62	24.50	330.54				Abandoned			Abandoned
5/1/2024	389.10	0.00	24.80	330.24				Abandoned			Abandoned
5/23/2024	389.20	0.16	25.30	329.74				Abandoned			Abandoned
5/30/2024	392.80	#N/A	24.90	330.14				Abandoned			Abandoned
6/20/2024	392.90	0.00	24.40	330.64				Abandoned			Abandoned
7/24/2024	386.40	0.00	25.80	329.24				Abandoned			Abandoned
8/27/2024	384.10	0.00	26.80	328.24				Abandoned			Abandoned
9/24/2024	380.50	0.03	27.10	327.94				Abandoned			Abandoned
10/29/2024	387.40	0.00	26.60	328.44				Abandoned			Abandoned
11/21/2024	384.50	0.09	29.90	325.14				Abandoned			Abandoned
12/17/2024	386.30	0.01	26.80	328.24				Abandoned			Abandoned

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90		25.3	393.6							
2/28/2007	380.90		27.3	391.6							
3/29/2007	397.00		26.3	392.6							
4/27/2007	405.60		21.0	397.9							
5/24/2007	404.40		18.5	400.4							
6/28/2007	396.90		19.5	399.4							
7/31/2007	392.60		21.9	397.0							
8/29/2007	388.60		23.3	395.6							
9/2/2007	387.40		21.9	397.0							
9/26/2007	387.90		23.1	395.8							
10/25/2007	382.00		26.1	392.8							
11/27/2007	380.30		26.6	392.3							
12/27/2007	381.40		29.1	389.8							
1/31/2008	381.20		25.2	393.7							
2/28/2008	393.10		22.3	396.6							
3/27/2008	387.90		19.1	399.8							
4/28/2008	404.70		17.6	401.3							
5/28/2008	404.00		17.1	401.8							
6/25/2008	400.20		17.6	401.3							
7/29/2008	398.70		19.1	399.8							
7/30/2008	398.70	0.00	19.1	399.8							
8/29/2008	395.00	0.00	21.3	397.6							
9/25/2008	391.70	0.00	23.5	395.4							
10/28/2008	384.05	0.00	27.0	391.9	Dry						
11/26/2008	391.10	1.94	26.8	392.1							
12/31/2008	397.90	3.20	24.6	394.3							
1/29/2009	393.40	0.34	25.6	393.3							
2/25/2009	398.60	3.91	25.1	393.8							
3/31/2009	393.40	0.16	24.6	394.3							
4/28/2009	400.70	0.10	24.2	394.7							

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00	22.3	396.6							
5/27/2009	400.10	0.00	22.4	396.5							
6/29/2009	403.00	0.15	19.6	399.3							
7/28/2009	396.53	0.00	22.3	396.6							
8/25/2009	396.60	0.00	23.8	395.1							
9/30/2009	393.10	0.00	25.5	393.4							
10/28/2009	401.60	0.42	23.5	395.4							
11/30/2009	402.50	0.00	19.8	399.1							
12/29/2009	399.90	2.80	20.5	398.4							
1/26/2010	401.10	6.75	19.7	399.2							
2/23/2010	402.50	2.66	18.7	400.2							
3/30/2010	400.00	1.25	19.4	399.5							
4/4/2010	399.60		19.6	399.3							
4/27/2010	403.80	1.32	19.2	399.7							
5/26/2010	403.60	0.03	19.0	399.9							
6/29/2010	397.70	0.00	20.6	398.3							
7/27/2010	396.30	0.00	21.6	397.3							
8/26/2010	390.70	0.00	22.8	396.1							
9/28/2010	390.30	0.00	22.4	396.5							
10/26/2010	403.20	1.56	22.9	396.0							
11/30/2010	397.10	1.34	21.7	397.2							
12/28/2010	401.40	9.03	18.2	400.7							
1/27/2011	393.80	1.10	19.4	399.5							
2/23/2011	391.70	1.17	22.9	396.0							
3/29/2011	403.00	3.10	20.2	398.7							
4/27/2011	401.20	0.33	20.2	398.7							
5/26/2011	399.50	0.48	20.8	398.1							
6/28/2011	391.00	0.02	23.0	395.9							
7/26/2011	384.00	0.00	27.1	391.8							
8/24/2011	382.80	0.00	28.5	390.4							

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08	29.7	389.2							
10/26/2011	383.90	0.98	29.8	389.1							
11/22/2011	389.80	1.46	34.1	384.8	Erroneous						
12/28/2011	382.30	0.35	29.2	389.7							
1/25/2012	387.50	1.17	32.0	386.9							
2/28/2012	381.10	0.79	32.3	386.6							
3/27/2012	387.70	1.61	32.2	386.7							
4/23/2012	392.30	1.51	31.4	387.5							
5/25/2012	388.30	0.06	27.4	391.5							
6/13/2012	385.10	0.06	28.9	390.0							
6/26/2012	386.90	0.00	28.7	390.2							
7/24/2012	378.00	0.10	29.4	389.5							
8/8/2012	382.90	0.10	30.7	388.2							
8/29/2012	382.70	0.00	28.4	390.5							
8/29/2012	382.70	0.00	28.4	390.5							
9/25/2012	381.90	0.00	26.6	392.3							
10/24/2012	384.40	0.08	30.3	388.6							
11/27/2012	389.60	0.86	29.0	389.9							
12/18/2012	394.70	1.96	29.0	389.9							
1/23/2013	393.00	1.53	25.8	393.1							
2/26/2013	391.50	0.49	26.9	392.0							
3/26/2013	394.40	1.00	27.7	391.2							
4/25/2013	391.00	0.01	26.9	392.0							
5/22/2013	392.00	0.00	26.1	392.8							
6/25/2013	380.60	0.00	27.2	391.7							
7/23/2013	380.20	0.00	27.6	391.3							
8/21/2013	379.60	0.00	28.3	390.6							
9/25/2013	382.20	0.00	27.9	391.0							
10/29/2013	382.00	0.00	29.9	389.0							
11/26/2013	390.10	0.44	30.0	388.9							

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10	29.4	389.5							
1/28/2014	392.30	0.00	25.6	393.3							
2/26/2014	389.90	0.72	26.3	392.6							
3/26/2014	387.20		26.8	392.1	Dry						
3/28/2014	387.20	1.78	26.8	392.1	Dry						
4/23/2014	393.00	0.34	27.0	391.9							
5/28/2014	387.50	0.00	25.8	393.1							
6/25/2014	388.70	0.00	26.2	392.7							
7/29/2014	382.80	0.00	26.5	392.4							
8/28/2014	386.80	0.04	27.6	391.3							
9/24/2014	387.90	0.00	27.3	391.6							
10/29/2014	383.90	0.00	28.3	390.6							
11/21/2014	388.30	0.35	26.3	392.6							
12/22/2014	399.80	4.75	26.7	392.2							
1/28/2015	396.90	1.28	24.4	394.5							
2/24/2015	392.70	0.34	24.7	394.2							
3/31/2015	388.90	0.67	22.0	396.9							
4/23/2015	390.30	0.20	26.4	392.5							
5/28/2015	400.30	1.87	24.4	394.5							
6/24/2015	400.70	0.00	23.3	395.6							
7/30/2015	400.20	0.00	21.5	397.4							
8/25/2015	384.00	0.00	25.0	393.9							
9/23/2015	388.60	2.17	29.7	389.2							
10/29/2015	387.60	0.16	32.4	386.5	Dry						
11/25/2015	386.90	0.15	31.9	387.0							
12/23/2015	395.90	1.55	31.7	387.2	OW-1,2 and 3 are read by VB wire						
1/26/2016	401.20	2.86	24.1	394.7							
2/24/2016	393.60	0.39	23.9	395.0							
3/29/2016	397.10	1.55	24.7	394.2							
4/29/2016	391.60	0.04	24.7	394.2							

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13	25.2	393.7							
6/29/2016	392.50	0.00	24.0	394.9							
7/26/2016	377.70	0.00	29.0	389.9							
8/24/2016	388.10	0.00		Not Read, Construction							
9/29/2016	388.20	0.00		Not Read, Construction							
10/26/2016	392.10	0.96		Not Read, Construction							
11/22/2016	395.70	1.42		Not Read, Construction							
12/28/2016	400.70	4.11		Not Read, Construction							
1/26/2017	402.40	6.70		Not Read, Construction							
2/28/2017	389.60	4.01		Not Read, Construction							
3/29/2017	391.80	0.14		Not Read, Construction							
4/26/2017	387.00	0.04		Not Read, Construction							
5/23/2017	399.40	0.30		Not Read, Construction							
6/21/2017	392.60	0.00		Not Read, Construction							
7/26/2017	384.60	0.00		Not Read, Construction							
8/30/2017	383.00	0.00		Not Read, Construction							
9/27/2017	382.00	0.00		Not Read, Construction							
10/27/2017	375.00	0.00		Not Read, Construction							
11/30/2017	382.80	0.14		Not Read, Construction							
12/21/2017	380.50	0.00		Not Read, Construction							
1/24/2018	397.80	1.43		Not Read, Construction							
2/21/2018	382.40	0.17		Not Read, Construction							
3/29/2018	392.10	0.00		Not Read, Construction							
4/25/2018	388.00	0.05		Not Read, Construction							
5/30/2018	399.50	0.21		Not Read, Construction							
6/28/2018	398.90	0.00	28.5	390.4							
7/25/2018	388.60	0.00	28.5	390.4							
8/24/2018	378.60	0.00	28.5	390.4							
9/27/2018	381.40	0.00	28.5	390.4							
10/18/2018	385.20	1.45	28.5	390.4							

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32	28.5	390.4							
12/20/2018	394.20	2.12	28.5	390.4							
2/21/2019	396.00	8.26	21.30	397.6							
3/27/2019	376.00	1.88	26.01	392.9							
4/25/2019	377.70	0.03	29.20	389.7							
5/30/2019	395.30	0.92	29.50	389.4							
6/26/2019	388.40	0.01	29.40	389.5							
7/5/2019	385.50	0.00	29.50	389.4							
7/30/2019	385.20	0.00	29.50	389.4							
8/27/2019	387.90	0.00	29.50	389.4							
9/26/2019	380.00	0.00	29.50	389.4							
10/23/2019	378.90	0.00	29.50	389.4							
11/26/2019	383.80	2.60	29.50	389.4							
12/18/2019	389.20	4.63	29.50	389.4							
1/29/2020	388.20	0.15	29.50	389.4							
2/25/2020	384.70	0.33	29.50	389.4							
3/24/2020	391.70	3.91	29.50	389.4							
4/23/2020	399.40	4.05	26.70	392.2							
5/27/2020	388.50	0.40	27.80	391.1							
6/24/2020	388.00	0.01	29.50	389.4							
7/29/2020	358.70	0.00	29.50	389.4							
8/26/2020	379.30	0.00	29.50	389.4							
9/29/2020	381.30	0.00	29.50	389.4							
10/28/2020	376.50	0.00	29.50	389.4							
11/24/2020	380.70	0.25	29.50	389.4							
12/23/2020	384.10	1.40	29.50	389.4							
1/26/2021	386.2	2.42	29.5	389.37							
2/25/2021	385.4	0.07	29.5	389.37							
3/23/2021	394.8	1.35	29.5	389.37							
4/27/2021	384.1	0.04	29.5	389.37							

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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04	29.5	389.37							
6/30/2021	385.4	0	29.5	389.37							
7/29/2021	381.7	0.03	29.5	389.37							
8/24/2021	383.4	0	29.5	389.37							
9/28/2021	381.3	0.06	29.5	389.37							
10/27/2021	382.7	0.71	29.5	389.37							
11/23/2021	381	0	29.5	389.37							
12/21/2021	386.3	6.1	29.9	388.97							
1/25/2022	382	0.05	29.5	389.37	Temp 23.4						
2/22/2022	382.3	0.36	29.5	389.37	Temp 23.4						
3/29/2022	390.6	1.33	29.5	389.37	Temp 23.3						
4/27/2022	393.2	0.02	29.5	389.37	Temp 23.2						
5/24/2022	391.4	0.05	29.5	389.37	Temp 23.1						
6/28/2022	392.7	0	29.5	389.37	Temp 23.15						
7/26/2022	386.1	0	28.8	390.07	Temp 22.9						
8/25/2022	382.2	0.02	29.4	389.47	Temp 25.3						
9/29/2022	392.7	0.36	29.5	389.37	Temp 23.2						
10/25/2022	390	0.32	29.5	389.37	Temp 23.2						
11/17/2022	391.4	2.12	29.42	389.45	Temp 23.0						
12/22/2022	386.4	2.28	29.5	389.37	Temp 23.5						
1/26/2023	391.6	7.39	29.50	389.37	Temp 23.5						
2/23/2023	389.9	3.88	28.52	390.35	Temp 23.5						
3/28/2023	390.8	5.62	24.34	394.53	Temp 23.4						
4/25/2023	390.8	0.16	23.20	395.67	Temp 23.2						
5/23/2023	391.3	0.95	26.31	392.56	Temp 23.0						
6/27/2023	388.80	0.14	26.68	392.19	Temp 22.8						
7/27/2023	384.40	0.00	29.43	389.44	Temp 22.8						
8/29/2023	382.80	2.22	29.50	389.37	Temp 22.7						
9/26/2023	377.90	0.00	29.50	389.37	Temp 22.7						
10/30/2023	385.30	0.26	29.50	389.37	Temp 22.8						

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			VBW/OW-3			P-101A (VW4)			P-101B (VB2)		
Top of Well Elevation -->			418.87			419.88			419.88		
Bottom of Well Elevation -->			386.27			261.88			287.68		
Depth of Well			32.6								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70	29.50	389.37	Temp 22.9						
12/20/2023	388.50	1.10	29.50	389.37	Temp 23.0	66.85	353.03		20.90	398.98	
1/24/2024	391.90	2.23	29.50	389.37	Temp 23.0	63.23	356.65		20.92	398.96	
2/22/2024	388.60	7.64	27.27	391.60	Temp 23.0	64.38	355.50		20.92	398.96	
3/27/2024	390.90	2.54	27.06	391.81	Temp 23.0	63.58	356.30		20.92	398.96	
4/23/2024	391.60	1.62	25.95	392.92	Temp 22.8	63.90	355.98		20.92	398.96	
5/1/2024	389.10	0.00	#N/A		No reading taken	64.70	355.18		20.92	398.96	
5/23/2024	389.20	0.16	27.76	391.11	Temp 22.7	64.80	355.08		20.92	398.96	
5/30/2024	392.80	#N/A	#N/A		No reading taken	#N/A			#N/A		
6/20/2024	392.90	0.00	26.70	392.17	Temp 22.6	69.20	350.68		21.60	398.28	
7/24/2024	386.40	0.00	29.50	389.37	Temp 23.1	66.40	353.48		20.99	398.89	
8/27/2024	384.10	0.00	29.50	389.37	Temp 22.5	63.42	356.46		20.98	398.90	
9/24/2024	380.50	0.03	29.50	389.37	Temp 22.6	N/A			N/A		
10/29/2024	387.40	0.00	29.50	389.37	Temp 22.7	66.30	353.58		20.90	398.98	
11/21/2024	384.50	0.09	29.50	389.37	Temp 22.9	N/A			N/A		
12/17/2024	386.30	0.01	29.50	389.37	Temp 23.0	N/A			N/A		

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/31/2007	376.90							
2/28/2007	380.90							
3/29/2007	397.00							
4/27/2007	405.60							
5/24/2007	404.40							
6/28/2007	396.90							
7/31/2007	392.60							
8/29/2007	388.60							
9/2/2007	387.40							
9/26/2007	387.90							
10/25/2007	382.00							
11/27/2007	380.30							
12/27/2007	381.40							
1/31/2008	381.20							
2/28/2008	393.10							
3/27/2008	387.90							
4/28/2008	404.70							
5/28/2008	404.00							
6/25/2008	400.20							
7/29/2008	398.70							
7/30/2008	398.70	0.00						
8/29/2008	395.00	0.00						
9/25/2008	391.70	0.00						
10/28/2008	384.05	0.00						
11/26/2008	391.10	1.94						
12/31/2008	397.90	3.20						
1/29/2009	393.40	0.34						
2/25/2009	398.60	3.91						
3/31/2009	393.40	0.16						
4/28/2009	400.70	0.10						

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/18/2009	400.80	0.00						
5/27/2009	400.10	0.00						
6/29/2009	403.00	0.15						
7/28/2009	396.53	0.00						
8/25/2009	396.60	0.00						
9/30/2009	393.10	0.00						
10/28/2009	401.60	0.42						
11/30/2009	402.50	0.00						
12/29/2009	399.90	2.80						
1/26/2010	401.10	6.75						
2/23/2010	402.50	2.66						
3/30/2010	400.00	1.25						
4/4/2010	399.60							
4/27/2010	403.80	1.32						
5/26/2010	403.60	0.03						
6/29/2010	397.70	0.00						
7/27/2010	396.30	0.00						
8/26/2010	390.70	0.00						
9/28/2010	390.30	0.00						
10/26/2010	403.20	1.56						
11/30/2010	397.10	1.34						
12/28/2010	401.40	9.03						
1/27/2011	393.80	1.10						
2/23/2011	391.70	1.17						
3/29/2011	403.00	3.10						
4/27/2011	401.20	0.33						
5/26/2011	399.50	0.48						
6/28/2011	391.00	0.02						
7/26/2011	384.00	0.00						
8/24/2011	382.80	0.00						

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/27/2011	381.80	0.08						
10/26/2011	383.90	0.98						
11/22/2011	389.80	1.46						
12/28/2011	382.30	0.35						
1/25/2012	387.50	1.17						
2/28/2012	381.10	0.79						
3/27/2012	387.70	1.61						
4/23/2012	392.30	1.51						
5/25/2012	388.30	0.06						
6/13/2012	385.10	0.06						
6/26/2012	386.90	0.00						
7/24/2012	378.00	0.10						
8/8/2012	382.90	0.10						
8/29/2012	382.70	0.00						
8/29/2012	382.70	0.00						
9/25/2012	381.90	0.00						
10/24/2012	384.40	0.08						
11/27/2012	389.60	0.86						
12/18/2012	394.70	1.96						
1/23/2013	393.00	1.53						
2/26/2013	391.50	0.49						
3/26/2013	394.40	1.00						
4/25/2013	391.00	0.01						
5/22/2013	392.00	0.00						
6/25/2013	380.60	0.00						
7/23/2013	380.20	0.00						
8/21/2013	379.60	0.00						
9/25/2013	382.20	0.00						
10/29/2013	382.00	0.00						
11/26/2013	390.10	0.44						

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/17/2013	394.70	1.10						
1/28/2014	392.30	0.00						
2/26/2014	389.90	0.72						
3/26/2014	387.20							
3/28/2014	387.20	1.78						
4/23/2014	393.00	0.34						
5/28/2014	387.50	0.00						
6/25/2014	388.70	0.00						
7/29/2014	382.80	0.00						
8/28/2014	386.80	0.04						
9/24/2014	387.90	0.00						
10/29/2014	383.90	0.00						
11/21/2014	388.30	0.35						
12/22/2014	399.80	4.75						
1/28/2015	396.90	1.28						
2/24/2015	392.70	0.34						
3/31/2015	388.90	0.67						
4/23/2015	390.30	0.20						
5/28/2015	400.30	1.87						
6/24/2015	400.70	0.00						
7/30/2015	400.20	0.00						
8/25/2015	384.00	0.00						
9/23/2015	388.60	2.17						
10/29/2015	387.60	0.16						
11/25/2015	386.90	0.15						
12/23/2015	395.90	1.55						
1/26/2016	401.20	2.86						
2/24/2016	393.60	0.39						
3/29/2016	397.10	1.55						
4/29/2016	391.60	0.04						

Note:
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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/24/2016	401.60	0.13						
6/29/2016	392.50	0.00						
7/26/2016	377.70	0.00						
8/24/2016	388.10	0.00						
9/29/2016	388.20	0.00						
10/26/2016	392.10	0.96						
11/22/2016	395.70	1.42						
12/28/2016	400.70	4.11						
1/26/2017	402.40	6.70						
2/28/2017	389.60	4.01						
3/29/2017	391.80	0.14						
4/26/2017	387.00	0.04						
5/23/2017	399.40	0.30						
6/21/2017	392.60	0.00						
7/26/2017	384.60	0.00						
8/30/2017	383.00	0.00						
9/27/2017	382.00	0.00						
10/27/2017	375.00	0.00						
11/30/2017	382.80	0.14						
12/21/2017	380.50	0.00						
1/24/2018	397.80	1.43						
2/21/2018	382.40	0.17						
3/29/2018	392.10	0.00						
4/25/2018	388.00	0.05						
5/30/2018	399.50	0.21						
6/28/2018	398.90	0.00						
7/25/2018	388.60	0.00						
8/24/2018	378.60	0.00						
9/27/2018	381.40	0.00						
10/18/2018	385.20	1.45						

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/28/2018	389.10	1.32						
12/20/2018	394.20	2.12						
2/21/2019	396.00	8.26						
3/27/2019	376.00	1.88						
4/25/2019	377.70	0.03						
5/30/2019	395.30	0.92						
6/26/2019	388.40	0.01						
7/5/2019	385.50	0.00						
7/30/2019	385.20	0.00						
8/27/2019	387.90	0.00						
9/26/2019	380.00	0.00						
10/23/2019	378.90	0.00						
11/26/2019	383.80	2.60						
12/18/2019	389.20	4.63						
1/29/2020	388.20	0.15						
2/25/2020	384.70	0.33						
3/24/2020	391.70	3.91						
4/23/2020	399.40	4.05						
5/27/2020	388.50	0.40						
6/24/2020	388.00	0.01						
7/29/2020	358.70	0.00						
8/26/2020	379.30	0.00						
9/29/2020	381.30	0.00						
10/28/2020	376.50	0.00						
11/24/2020	380.70	0.25						
12/23/2020	384.10	1.40						
1/26/2021	386.2	2.42						
2/25/2021	385.4	0.07						
3/23/2021	394.8	1.35						
4/27/2021	384.1	0.04						

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TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/27/2021	383.5	0.04						
6/30/2021	385.4	0						
7/29/2021	381.7	0.03						
8/24/2021	383.4	0						
9/28/2021	381.3	0.06						
10/27/2021	382.7	0.71						
11/23/2021	381	0						
12/21/2021	386.3	6.1						
1/25/2022	382	0.05						
2/22/2022	382.3	0.36						
3/29/2022	390.6	1.33						
4/27/2022	393.2	0.02						
5/24/2022	391.4	0.05						
6/28/2022	392.7	0						
7/26/2022	386.1	0						
8/25/2022	382.2	0.02						
9/29/2022	392.7	0.36						
10/25/2022	390	0.32						
11/17/2022	391.4	2.12						
12/22/2022	386.4	2.28						
1/26/2023	391.6	7.39						
2/23/2023	389.9	3.88						
3/28/2023	390.8	5.62						
4/25/2023	390.8	0.16						
5/23/2023	391.3	0.95						
6/27/2023	388.80	0.14						
7/27/2023	384.40	0.00						
8/29/2023	382.80	2.22						
9/26/2023	377.90	0.00						
10/30/2023	385.30	0.26						

Note:
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2. Piezometer data based on NGVD 29 datum

TABLE 6
RATTLESNAKE CANYON DAM
PIEZOMETER WATER LEVEL MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Monitoring Well -->			P-102A (VW4)			P-102B (VB2)		
Top of Well Elevation -->			390.30			390.30		
Bottom of Well Elevation -->			327.30			353.40		
Depth of Well								
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
11/30/2023	382.90	0.70						
12/20/2023	388.50	1.10	44.00	346.30		0.00	390.30	
1/24/2024	391.90	2.23	40.12	350.18		8.00	382.30	
2/22/2024	388.60	7.64	40.31	349.99		13.50	376.80	
3/27/2024	390.90	2.54	40.04	350.26		9.00	381.30	
4/23/2024	391.60	1.62	40.30	350.00		6.66	383.64	
5/1/2024	389.10	0.00	39.95	350.35		5.30	385.00	
5/23/2024	389.20	0.16	40.70	349.60		8.30	382.00	
5/30/2024	392.80	#N/A	#N/A			#N/A		
6/20/2024	392.90	0.00	39.20	351.10		11.40	378.90	
7/24/2024	386.40	0.00	41.40	348.90		3.86	386.44	
8/27/2024	384.10	0.00	42.76	347.54		0.50	389.80	
9/24/2024	380.50	0.03	43.23	347.07		0.35	389.95	
10/29/2024	387.40	0.00	42.39	347.91		0.00	390.30	
11/21/2024	384.50	0.09	42.66	347.64		0.00	390.30	
12/17/2024	386.30	0.01	42.53	347.77		0.00	390.30	

Note:
1. Readings in red are classified as erroneous
2. Piezometer data based on NGVD 29 datum

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
1/31/2007	376.90						0.05		0.79	
2/28/2007	380.90						0.06		0.85	
3/29/2007	397.00						0.06		0.51	
4/27/2007	405.60						0.08		0.89	
5/24/2007	404.40						0.08		1.11	
6/28/2007	396.90		21.13				0.11		1.06	
7/31/2007	392.60		19.02				0.11		0.10	
8/29/2007	388.60		17.96				0.08		0.97	
9/2/2007	387.40		17.17				0.12		0.97	
9/26/2007	387.90		4.36				0.08		0.97	
10/25/2007	382.00		4.70				0.08		0.99	
11/27/2007	380.30		4.20				0.06		0.74	
12/27/2007	381.40		4.16				0.05		0.71	
1/31/2008	381.20		0.75				0.06		0.67	
2/28/2008	393.10		2.39				0.06		0.66	
3/27/2008	387.90		4.24				0.06		0.74	
4/28/2008	404.70		6.66		11.73		0.09		0.86	
5/28/2008	404.00		17.12		8.01		0.10		1.14	
6/25/2008	400.20		15.85		12.10		0.10		0.99	
7/29/2008	398.70			Not Read		Not Read		Not Read		Not Read
7/30/2008	398.70	0.00	19.02		8.45		0.14		1.30	
8/29/2008	395.00	0.00	3.49		13.08		0.09		1.13	
9/25/2008	391.70	0.00	0.61		4.06		0.00		0.30	
10/28/2008	384.05	0.00	2.00		5.00		0.09		1.00	
11/26/2008	391.10	1.94	6.45		1.59		0.07		0.98	
12/31/2008	397.90	3.20	4.68		14.13		0.10		1.01	
1/29/2009	393.40	0.34	2.59		9.03		0.08		1.08	
2/25/2009	398.60	3.91	4.50		11.42		0.30		0.94	
3/31/2009	393.40	0.16	3.17		7.93		0.11		1.20	
4/28/2009	400.70	0.10	7.19		10.09		0.09		0.05	
5/18/2009	400.80	0.00	8.24		11.10		0.10		1.11	
5/27/2009	400.10	0.00	7.50		11.31		0.10		0.32	
6/29/2009	403.00	0.15	10.65		12.47		0.10		1.20	
7/28/2009	396.53	0.00	7.93		13.20		0.09		1.10	

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
8/25/2009	396.60	0.00	5.39		10.46		0.08		1.19	
9/30/2009	393.10	0.00	3.60		9.60		0.07		1.00	
10/28/2009	401.60	0.42	6.00		9.20		0.10		1.06	
11/30/2009	402.50	0.00	13.63		8.69		0.16		1.30	
12/29/2009	399.90	2.80	11.10		15.37		0.10		1.06	
1/26/2010	401.10	6.75	12.68		12.68		0.09		1.22	
2/23/2010	402.50	2.66	15.85		12.68		0.09		1.16	
3/30/2010	400.00	1.25	12.68		12.92		0.10		1.27	
4/4/2010	399.60		14.47		11.32		0.11		1.19	
4/27/2010	403.80	1.32	5.28		12.94		0.13		1.35	
5/26/2010	403.60	0.03	17.70		11.78		0.11		1.29	
6/29/2010	397.70	0.00	14.27		11.10		0.11		1.06	
7/27/2010	396.30	0.00	8.72		15.85		0.08		1.16	
8/26/2010	390.70	0.00	5.86		7.13		0.08		1.16	
9/28/2010	390.30	0.00	2.64		5.28		0.08		0.99	
10/26/2010	403.20	1.56	3.57		7.50		0.09		1.06	
11/30/2010	397.10	1.34	11.10		3.96		0.09		1.16	
12/28/2010	401.40	9.03	15.32		2.64		0.10		0.99	
1/27/2011	393.80	1.10	11.60		4.02		0.16		1.36	
2/23/2011	391.70	1.17	6.74		2.48		0.31		1.06	
3/29/2011	403.00	3.10	17.44		2.11		0.10		1.15	
4/27/2011	401.20	0.33	13.00		1.66		0.13		1.16	
5/26/2011	399.50	0.48	12.13		1.66		0.11		1.26	
6/28/2011	391.00	0.02	6.18		1.39		0.07		1.08	
7/26/2011	384.00	0.00	6.34		0.12		0.05		0.93	
8/24/2011	382.80	0.00	1.32		0.08		0.04		0.44	
9/27/2011	381.80	0.08	1.30		0.00		0.06		0.74	
10/26/2011	383.90	0.98	1.06		0.00		0.02		0.79	
11/22/2011	389.80	1.46	1.55		0.00		0.02		0.81	
12/28/2011	382.30	0.35	1.24		0.10		0.03		0.79	
1/25/2012	387.50	1.17	1.11		0.00		0.02		0.74	
2/28/2012	381.10	0.79	0.95		0.00		0.02		0.69	
3/27/2012	387.70	1.61	0.94		0.00		0.02		0.71	
4/23/2012	392.30	1.51	1.18		0.00		0.02		0.76	

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
5/25/2012	388.30	0.06	1.84		0.74		0.03		0.89	
6/13/2012	385.10	0.06	0.74		0.74		0.03		0.85	
6/26/2012	386.90	0.00	1.45		1.56		0.01		0.86	
7/24/2012	378.00	0.10	0.97		0.16		0.02		0.65	
8/8/2012	382.90	0.10	0.88		0.01		0.03		0.66	
8/29/2012	382.70	0.00	0.96		0.00		0.02		0.73	
9/25/2012	381.90	0.00	0.91		0.00		0.02		0.94	
10/24/2012	384.40	0.08	0.82		0.00		0.02		0.64	
11/27/2012	389.60	0.86	0.73		1.29		0.07		0.71	
12/18/2012	394.70	1.96	1.27		1.74		0.03		0.82	
1/23/2013	393.00	1.53	1.27		1.77		0.05		1.03	
2/26/2013	391.50	0.49	2.77		4.91		0.04		0.98	
3/26/2013	394.40	1.00	2.25		3.41		0.08		0.87	
4/25/2013	391.00	0.01	2.50		3.53		0.06		0.95	
5/22/2013	392.00	0.00	2.38		4.07		0.06		0.86	
6/25/2013	380.60	0.00	1.33		1.90		0.07		0.86	
7/23/2013	380.20	0.00	1.17		0.45		0.05		0.51	
8/21/2013	379.60	0.00	0.77		0.06		0.34		0.77	
9/25/2013	382.20	0.00	0.91		0.00		0.03		0.73	
10/29/2013	382.00	0.00	0.83		0.00		0.03		0.35	
11/26/2013	390.10	0.44	0.85		0.00		0.03		0.69	
12/17/2013	394.70	1.10	1.24		1.00		0.04		0.85	
1/28/2014	392.30	0.00	2.36		3.41		0.05		0.90	
2/26/2014	389.90	0.72	2.27		2.69		0.04		0.92	
3/26/2014	387.20		1.98		2.93		0.04		0.94	
3/28/2014	387.20	1.78	1.98		2.93		0.04		0.74	
4/23/2014	393.00	0.34	1.66		2.67		0.23		0.87	
5/28/2014	387.50	0.00	1.98		2.73		0.02		0.90	
6/25/2014	388.70	0.00	1.29		2.69		0.01		0.92	
7/29/2014	382.80	0.00	1.20		0.85		0.03		0.89	
8/28/2014	386.80	0.04	1.12		0.62		0.04		0.82	
9/24/2014	387.90	0.00	1.22		1.27		0.02		0.85	
10/29/2014	383.90	0.00	0.79		0.32		0.04		0.78	
11/21/2014	388.30	0.35	1.19		1.19		0.02		0.82	

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RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
12/22/2014	399.80	4.75	1.48		1.31		0.04		0.81	
1/28/2015	396.90	1.28	2.71		5.31		0.05		1.06	
2/24/2015	392.70	0.34	3.33		4.36		0.06		1.10	
3/31/2015	388.90	0.67	2.79		5.55		0.04		1.10	
4/23/2015	390.30	0.20	2.54		3.80		0.03		1.11	
5/28/2015	400.30	1.87	3.28		4.62		0.04		1.09	
6/24/2015	400.70	0.00	3.09		4.31		0.16		1.06	
7/30/2015	400.20	0.00	3.78		4.95		0.09		1.19	
8/25/2015	384.00	0.00	3.50		7.77		0.02		0.90	
9/23/2015	388.60	2.17	1.95		3.67		0.04		1.00	
10/29/2015	387.60	0.16	1.60		2.22		0.04		0.95	
11/25/2015	386.90	0.15	1.43		1.78		0.03		0.97	
12/23/2015	395.90	1.55	1.80		2.54		0.08		0.95	
1/26/2016	401.20	2.86	3.87		9.27		0.04		1.06	
2/24/2016	393.60	0.39	3.01		6.58		0.05		1.16	
3/29/2016	397.10	1.55	3.60		6.34		0.05		1.15	
4/29/2016	391.60	0.04	3.17		5.26		0.06		1.08	
5/24/2016	401.60	0.13	4.04		5.47		0.10		1.22	
6/29/2016	392.50	0.00	3.61		5.61		0.07		1.13	
7/26/2016	377.70	0.00	1.69		1.51		0.06		1.10	
8/24/2016	388.10	0.00	0.72		0.00		0.06		1.22	
9/29/2016	388.20	0.00	0.58		0.00		0.03		0.89	
10/26/2016	392.10	0.96	1.53		0.00		0.05		1.03	
11/22/2016	395.70	1.42	2.12		0.00		0.17		0.97	
12/28/2016	400.70	4.11	6.18		0.32		0.06		1.66	
1/26/2017	402.40	6.70	5.23		7.29		0.08		1.24	
2/28/2017	389.60	4.01	2.38		3.01		0.10		1.16	
3/29/2017	391.80	0.14	4.28		3.17		0.04		0.95	
4/26/2017	387.00	0.04	1.74		3.72		0.04		0.98	
5/23/2017	399.40	0.30	2.36		4.47		0.06		0.98	
6/21/2017	392.60	0.00	2.85		5.39		0.04		1.18	
7/26/2017	384.60	0.00	1.64		2.85		0.08		1.00	
8/30/2017	383.00	0.00	1.05		0.63		0.06		0.94	
9/27/2017	382.00	0.00	0.84		0.00		0.04		0.65	

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RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
10/27/2017	375.00	0.00	0.73		0.00		0.05		0.78	
11/30/2017	382.80	0.14	0.69		0.00		0.05		0.79	
12/21/2017	380.50	0.00	0.69		0.00		0.02		0.77	
1/24/2018	397.80	1.43	0.84		0.00		0.06		0.71	
2/21/2018	382.40	0.17	1.53		0.00		0.09		0.92	
3/29/2018	392.10	0.00	1.59		0.50		0.03		0.83	
4/25/2018	388.00	0.05	0.97		0.00		0.07		0.86	
5/30/2018	399.50	0.21	1.02		1.52		0.04		0.89	
6/28/2018	398.90	0.00	1.74		3.49		0.12		1.19	
7/25/2018	388.60	0.00	0.82		3.82		0.06		1.16	
8/24/2018	378.60	0.00	0.17		0.21		0.07		0.79	
9/27/2018	381.40	0.00	0.05		0.00		0.06		0.85	
10/18/2018	385.20	1.45	0.05		0.00		0.03		0.87	
11/28/2018	389.10	1.32	0.04		0.00		0.03		0.71	
12/20/2018	394.20	2.12	0.07		0.00		0.05		0.68	
1/30/2019	394.90	4.31	0.04		4.83		0.06		0.82	
2/21/2019	396.00	8.26	2.22		6.34		0.08		1.90	
3/27/2019	376.00	1.88	1.00		4.12		0.11		0.95	
4/25/2019	377.70	0.03	0.74		1.06		0.07		0.85	
5/30/2019	395.30	0.92	0.10		2.46		0.07		0.82	
6/26/2019	388.40	0.01	0.06		3.06		0.04		1.00	
7/5/2019	385.50	0.00	0.10		2.80		0.04		1.00	
7/30/2019	385.20	0.00	0.03		0.32		0.02		0.74	
8/27/2019	387.90	0.00	0.08		0.92		0.04		0.87	
9/26/2019	380.00	0.00	0.06		0.00		0.03		0.88	
10/23/2019	378.90	0.00	0.04		0.00		0.03		0.89	
11/26/2019	383.80	2.60	0.04		0.00		0.03		0.77	
12/18/2019	389.20	4.63	0.04		0.00		0.03		0.59	
1/29/2020	388.20	0.15	1.90		1.66		0.00		0.42	
2/25/2020	384.70	0.33	1.43		1.22		0.00		1.19	
3/24/2020	391.70	3.91	1.90		2.85		0.04		0.85	
4/23/2020	399.40	4.05	2.27		3.59		0.09		1.32	
5/27/2020	388.50	0.40	1.90		4.18		0.00		1.27	
6/24/2020	388.00	0.01	1.90		2.85		0.00		0.79	

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RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
7/29/2020	358.70	0.00	1.77		1.98		0.00		1.16	
8/26/2020	379.30	0.00	1.90		0.30		0.00		1.27	
9/29/2020	381.30	0.00	0.99		0.11		0.02		0.95	
10/28/2020	376.50	0.00	1.15		0.00		0.00		0.87	
11/24/2020	380.70	0.25	0.90		0.00		0.01		0.90	
12/23/2020	384.10	1.40	0.93		0.00		0.00		0.68	
1/26/2021	386.20	2.42	1.03		0.24		0.00		0.76	
2/25/2021	385.40	0.07	0.99		0.32		0.00		0.78	
3/23/2021	394.80	1.35	1.30		1.90		0.00		1.01	
4/27/2021	384.10	0.04	1.14		0.76		0.00		0.68	
5/27/2021	383.50	0.04	1.15		0.52		0.00		0.77	
6/30/2021	385.40	0.00	1.35		0.34		0.00		1.08	
7/29/2021	381.70	0.03	1.32		0.00		0.00		1.05	
8/24/2021	383.40	0.00	1.11		0.00		0.00		0.85	
9/28/2021	381.30	0.06	1.03		0.05		0.00		0.82	
10/27/2021	382.70	0.71	1.43		0.00		0.00		0.63	
11/23/2021	381.00	0.00	1.19		0.00		0.00		0.95	
12/21/2021	386.30	6.10	1.12		0.00		0.00		0.97	
1/25/2022	382.00	0.05	1.03		0.00		0.00		0.82	
2/22/2022	382.30	0.36	0.71		0.00		0.00		0.79	
3/29/2022	390.60	1.33	0.91		0.00		0.01		0.81	
4/27/2022	393.20	0.02	1.16		0.64		0.00		0.54	
5/24/2022	391.40	0.05	1.61		1.98		0.00		0.85	
6/28/2022	392.70	0.00	1.49		1.55		0.02		0.91	
7/26/2022	386.10	0.00	1.72		0.87		0.00		1.00	
8/25/2022	382.20	0.02	1.11		0.22		0.00		1.08	
9/29/2022	392.70	0.36	1.47		1.55		0.02		0.91	
10/25/2022	390.00	0.32	1.03		0.00		0.01		0.87	
11/17/2022	391.40	2.12	1.03		1.19		0.00		0.95	
12/22/2022	386.40	2.28	2.22		0.00		0.00		0.95	
1/26/2023	391.60	7.39	1.51		3.01		0.00		1.03	
2/23/2023	389.90	3.88	1.52		2.41		0.00		0.94	
3/28/2023	390.80	5.62	2.45		3.91		0.00		0.86	
4/25/2023	390.80	0.16	1.66		3.57		0.03		1.00	

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JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-1 South		FP-1 North		FP-2		FP-3	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
5/23/2023	391.30	0.95	2.11		2.91		0.06		1.08	
6/27/2023	388.80	0.14	1.77		3.12		0.00		0.81	
7/27/2023	384.40	0.00	1.48		1.37		0.00		0.95	
8/29/2023	382.80	2.22	0.72		0.52		0.01		1.03	
9/26/2023	377.90	0.00	0.92		0.00		0.00		0.95	
10/30/2023	385.30	0.26	0.52		0.02		0.00		0.85	
11/30/2023	382.90	0.70	0.63		0.00		0.00		0.82	
12/20/2023	388.50	1.10	0.67		0.00		0.00		0.92	
1/24/2024	391.90	2.23	0.74		2.11		0.00		0.87	
2/22/2024	388.60	7.64	1.14		3.57		0.00		1.03	
3/27/2024	390.90	2.54	1.08		2.38		0.00		0.79	
4/23/2024	391.60	1.62	0.92		1.76		0.00		1.08	
5/1/2024	389.10	0	0.62		1.40		0.00		0.87	
5/23/2024	389.20	0.16	0.77		2.19		0.00		0.43	
5/30/2024	392.80	#N/A	#N/A	Not Read	#N/A	Not Read	0.00		1.20	
6/20/2024	392.90	0	1.59		3.01		0.00		1.06	
7/24/2024	386.40	0	1.53		1.02		0.00		1.05	
8/27/2024	384.10	0	1.37		0.13		0.00		1.06	
9/24/2024	380.50	0.03	1.00		0.09		0.00		0.74	
10/29/2024	387.40	0	0.02		0.00		0.00		0.92	
11/21/2024	384.50	0.09	0.99		0.00		0.00		0.55	
12/17/2024	386.30	0.01	1.07		0.00		0.00		0.90	

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
1/31/2007	376.90		0.48		0.00	dry	0.00	dry	0.00	dry
2/28/2007	380.90		0.42		0.00	dry	0.00	dry	0.00	dry
3/29/2007	397.00		0.69		0.00	dry	0.00	dry	0.00	dry
4/27/2007	405.60		0.48		0.25		0.00	dry	0.00	dry
5/24/2007	404.40		0.62		1.35		0.26		0.00	dry
6/28/2007	396.90		0.66		0.74		0.00	dry	0.00	dry
7/31/2007	392.60		0.61		0.25		0.00	dry	0.00	dry
8/29/2007	388.60		0.55		0.00	dry	0.00	dry	0.00	dry
9/2/2007	387.40		0.53		0.00	dry	0.00	dry	0.00	dry
9/26/2007	387.90		0.50		0.00	dry	0.00	dry	0.00	dry
10/25/2007	382.00		0.53		0.00	dry	0.00	dry	0.00	dry
11/27/2007	380.30		0.45		0.00	dry	0.00	dry	0.00	dry
12/27/2007	381.40		0.37		0.00	dry	0.00	dry	0.00	dry
1/31/2008	381.20		0.35		0.00	dry	0.00	dry	0.00	dry
2/28/2008	393.10		0.33		0.00	dry	0.00	dry	0.00	dry
3/27/2008	387.90		0.38		0.00	dry	0.00	dry	0.00	dry
4/28/2008	404.70		0.48		0.95		0.00	dry	0.00	dry
5/28/2008	404.00		0.63		1.35		0.13		0.00	dry
6/25/2008	400.20		0.66		1.06		0.00	dry	0.00	dry
7/29/2008	398.70			Not Read		Not Read				
7/30/2008	398.70	0.00	0.98		1.09		0.00	dry	0.00	dry
8/29/2008	395.00	0.00	0.63		0.61		0.00	dry	0.00	dry
9/25/2008	391.70	0.00	0.19		0.10		0.00	dry	0.00	dry
10/28/2008	384.05	0.00	0.53		0.00		0.00	dry	0.00	dry
11/26/2008	391.10	1.94	0.51		0.00		0.00	dry	0.00	dry
12/31/2008	397.90	3.20	0.59		0.26		0.00	dry	0.00	dry
1/29/2009	393.40	0.34	0.63		0.29		0.00	dry	0.00	dry
2/25/2009	398.60	3.91	0.59		0.46		0.00	dry	0.00	dry
3/31/2009	393.40	0.16	0.67		0.37		0.00	dry	0.00	dry
4/28/2009	400.70	0.10	0.32		0.36		0.00	dry	0.00	dry
5/18/2009	400.80	0.00	0.69		0.95		0.00	dry	0.00	dry
5/27/2009	400.10	0.00	0.73		0.97		0.00	dry	0.00	dry
6/29/2009	403.00	0.15	0.80		1.59		0.00	dry	0.00	dry
7/28/2009	396.53	0.00	0.79		1.05		0.00	dry	0.00	dry

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
8/25/2009	396.60	0.00	0.69		0.62		0.00	dry	0.00	dry
9/30/2009	393.10	0.00	0.75		0.25		0.00	dry	0.00	dry
10/28/2009	401.60	0.42	0.71		0.85		0.00	dry	0.00	dry
11/30/2009	402.50	0.00	0.87		1.45		0.00	dry	0.00	dry
12/29/2009	399.90	2.80	0.85		1.19		0.00	dry	0.00	dry
1/26/2010	401.10	6.75	0.84		1.33		0.00	dry	0.00	dry
2/23/2010	402.50	2.66	0.85		1.59		0.00	dry	0.00	dry
3/30/2010	400.00	1.25	0.88		1.32		0.00	dry	0.00	dry
4/4/2010	399.60		0.79		1.29		0.00	dry	0.00	dry
4/27/2010	403.80	1.32	0.92		1.72		0.00	dry	0.00	dry
5/26/2010	403.60	0.03	0.90		1.80		0.00	dry	0.00	dry
6/29/2010	397.70	0.00	0.90		1.37		0.00	dry	0.00	dry
7/27/2010	396.30	0.00	0.79		0.79		0.00	dry	0.00	dry
8/26/2010	390.70	0.00	0.74		0.42		0.00	dry	0.00	dry
9/28/2010	390.30	0.00	0.66		0.06		0.00	dry	0.00	dry
10/26/2010	403.20	1.56	0.71		0.79		0.00	dry	0.00	dry
11/30/2010	397.10	1.34	0.79		0.92		0.00	dry	0.00	dry
12/28/2010	401.40	9.03	0.79		1.71		0.00	dry	0.00	dry
1/27/2011	393.80	1.10	0.83		1.00		0.00	dry	0.00	dry
2/23/2011	391.70	1.17	0.74		0.36		0.00	dry	0.00	dry
3/29/2011	403.00	3.10	0.79		1.32		0.00	dry	0.00	dry
4/27/2011	401.20	0.33	0.79		1.14		0.00	dry	0.00	dry
5/26/2011	399.50	0.48	0.86		1.06		0.00	dry	0.00	dry
6/28/2011	391.00	0.02	0.76		0.30		0.00	dry	0.00	dry
7/26/2011	384.00	0.00	0.97		0.00	dry	0.00	dry	0.00	dry
8/24/2011	382.80	0.00	0.27		0.00	dry	0.00	dry	0.00	dry
9/27/2011	381.80	0.08	0.46		0.00	dry	0.00	dry	0.00	dry
10/26/2011	383.90	0.98	0.52		0.00	dry	0.00	dry	0.00	dry
11/22/2011	389.80	1.46	0.50		0.00	dry	0.00	dry	0.00	dry
12/28/2011	382.30	0.35	0.45		0.00	dry	0.00	dry	0.00	dry
1/25/2012	387.50	1.17	0.45		0.00	dry	0.00	dry	0.00	dry
2/28/2012	381.10	0.79	0.37		0.00	dry	0.00	dry	0.00	dry
3/27/2012	387.70	1.61	0.37		0.00	dry	0.00	dry	0.00	dry
4/23/2012	392.30	1.51	0.39		0.00	dry	0.00	dry	0.00	dry

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
5/25/2012	388.30	0.06	0.46		0.00	dry	0.00	dry	0.00	dry
6/13/2012	385.10	0.06	0.48		0.00	dry	0.00	dry	0.00	dry
6/26/2012	386.90	0.00	0.61		0.00	dry	0.00	dry	0.00	dry
7/24/2012	378.00	0.10	0.40		0.00	dry	0.00	dry	0.00	dry
8/8/2012	382.90	0.10	0.34		0.00	dry	0.00	dry	0.00	dry
8/29/2012	382.70	0.00	0.40		0.00	dry	0.00	dry	0.00	dry
9/25/2012	381.90	0.00	0.35		0.00	dry	0.00	dry	0.00	dry
10/24/2012	384.40	0.08	0.32		0.00	dry	0.00	dry	0.00	dry
11/27/2012	389.60	0.86	0.38		0.00	dry	0.00	dry	0.00	dry
12/18/2012	394.70	1.96	0.40		0.00	dry	0.00	dry	0.00	dry
1/23/2013	393.00	1.53	0.55		0.02		0.00	dry	0.00	dry
2/26/2013	391.50	0.49	0.55		0.00		0.00	dry	0.00	dry
3/26/2013	394.40	1.00	0.49		0.00		0.00	dry	0.00	dry
4/25/2013	391.00	0.01	0.50		0.00	dry	0.00	dry	0.00	dry
5/22/2013	392.00	0.00	0.55		0.00	dry	0.00	dry	0.00	dry
6/25/2013	380.60	0.00	0.46		0.00	dry	0.00	dry	0.00	dry
7/23/2013	380.20	0.00	0.43		0.00	dry	0.00	dry	0.00	dry
8/21/2013	379.60	0.00	0.45		0.00	dry	0.00	dry	0.00	dry
9/25/2013	382.20	0.00	0.37		0.00	dry	0.00	dry	0.00	dry
10/29/2013	382.00	0.00	0.33		0.00	dry	0.00	dry	0.00	dry
11/26/2013	390.10	0.44	0.33		0.00	dry	0.00	dry	0.00	dry
12/17/2013	394.70	1.10	0.41		0.00	dry	0.00	dry	0.00	dry
1/28/2014	392.30	0.00	0.48		0.00	dry	0.00	dry	0.00	dry
2/26/2014	389.90	0.72	0.48		0.00	dry	0.00	dry	0.00	dry
3/26/2014	387.20		0.48		0.00	dry	0.00	dry	0.00	dry
3/28/2014	387.20	1.78	0.42		0.00	dry	0.00	dry	0.00	dry
4/23/2014	393.00	0.34	0.45		0.00	dry	0.00	dry	0.00	dry
5/28/2014	387.50	0.00	0.49		0.00	dry	0.00	dry	0.00	dry
6/25/2014	388.70	0.00	0.48		0.00	dry	0.00	dry	0.00	dry
7/29/2014	382.80	0.00	0.45		0.00	dry	0.00	dry	0.00	dry
8/28/2014	386.80	0.04	0.40		0.00	dry	0.00	dry	0.00	dry
9/24/2014	387.90	0.00	0.41		0.00	dry	0.00	dry	0.00	dry
10/29/2014	383.90	0.00	0.36		0.00	dry	0.00	dry	0.00	dry
11/21/2014	388.30	0.35	0.43		0.00	dry	0.00	dry	0.00	dry

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
12/22/2014	399.80	4.75	0.41		0.00	dry	0.00	dry	0.00	dry
1/28/2015	396.90	1.28	0.55		0.30		0.00	dry	0.00	dry
2/24/2015	392.70	0.34	0.50		0.10		0.00	dry	0.00	dry
3/31/2015	388.90	0.67	0.58		0.04		0.00	dry	0.00	dry
4/23/2015	390.30	0.20	0.61		0.00	dry	0.00	dry	0.00	dry
5/28/2015	400.30	1.87	0.60		0.55		0.00	dry	0.00	dry
6/24/2015	400.70	0.00	0.69		0.63		0.00	dry	0.00	dry
7/30/2015	400.20	0.00	0.69		0.87		0.00	dry	0.00	dry
8/25/2015	384.00	0.00	0.71		0.01		0.00	dry	0.00	dry
9/23/2015	388.60	2.17	0.55		0.00		0.00	dry	0.00	dry
10/29/2015	387.60	0.16	0.58		0.00		0.00	dry	0.00	dry
11/25/2015	386.90	0.15	0.52		0.00		0.00		0.00	dry
12/23/2015	395.90	1.55	0.50		0.04		0.01		0.00	dry
1/26/2016	401.20	2.86	0.62		0.63		0.00	dry	0.00	dry
2/24/2016	393.60	0.39	0.62		0.24		0.00	dry	0.00	dry
3/29/2016	397.10	1.55	0.71		0.36		0.08		0.00	dry
4/29/2016	391.60	0.04	0.81		0.16		0.00		0.00	dry
5/24/2016	401.60	0.13	0.55		0.46		0.00		0.00	dry
6/29/2016	392.50	0.00	0.69		0.25		0.00		0.00	dry
7/26/2016	377.70	0.00	0.64		0.00		0.00		0.00	dry
8/24/2016	388.10	0.00	0.59		0.00		0.00		0.00	dry
9/29/2016	388.20	0.00	0.55		0.00		0.00		0.00	dry
10/26/2016	392.10	0.96	0.53		0.00		0.00		0.00	dry
11/22/2016	395.70	1.42	0.78		0.09		0.00		0.00	dry
12/28/2016	400.70	4.11	0.63		0.55		0.00		0.00	dry
1/26/2017	402.40	6.70	0.56		1.25		0.00		0.00	dry
2/28/2017	389.60	4.01	0.66		0.13		0.00		0.00	dry
3/29/2017	391.80	0.14	0.55		0.00		0.00		0.00	dry
4/26/2017	387.00	0.04	0.53		0.00		0.00		0.00	dry
5/23/2017	399.40	0.30	0.59		0.60		0.00		0.00	dry
6/21/2017	392.60	0.00	0.62		0.12		0.00		0.00	dry
7/26/2017	384.60	0.00	0.58		0.00		0.00		0.00	dry
8/30/2017	383.00	0.00	0.48		0.00		0.00		0.00	dry
9/27/2017	382.00	0.00	0.44		0.00		0.00		0.00	dry

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
10/27/2017	375.00	0.00	0.40		0.00		0.00		0.00	dry
11/30/2017	382.80	0.14	0.37		0.01		0.00		0.00	dry
12/21/2017	380.50	0.00	0.36		0.00		0.00		0.00	dry
1/24/2018	397.80	1.43	0.34		0.00		0.00		0.00	dry
2/21/2018	382.40	0.17	0.51		0.00		0.00		0.00	dry
3/29/2018	392.10	0.00	0.42		0.00		0.00		0.00	dry
4/25/2018	388.00	0.05	0.44		0.00		0.00		0.00	dry
5/30/2018	399.50	0.21	0.48		0.00		0.00		0.00	dry
6/28/2018	398.90	0.00	0.48		0.40		0.00		0.00	dry
7/25/2018	388.60	0.00	0.60		0.00		0.00		0.00	dry
8/24/2018	378.60	0.00	0.44		0.00		0.00		0.00	dry
9/27/2018	381.40	0.00	0.48		0.00		0.00		0.00	dry
10/18/2018	385.20	1.45	0.37		0.00		0.00		0.00	dry
11/28/2018	389.10	1.32	0.37		0.00		0.00		0.00	dry
12/20/2018	394.20	2.12	0.35		0.00		0.00		0.00	dry
1/30/2019	394.90	4.31	0.45		0.00		0.00		0.00	dry
2/21/2019	396.00	8.26	0.87		0.26		0.00		0.00	dry
3/27/2019	376.00	1.88	0.55		0.00		0.00		0.00	dry
4/25/2019	377.70	0.03	0.45		0.00		0.00		0.00	dry
5/30/2019	395.30	0.92	0.54		0.00		0.00		0.00	dry
6/26/2019	388.40	0.01	0.57		0.00		0.00		0.00	dry
7/5/2019	385.50	0.00	0.48		0.00		0.00		0.00	dry
7/30/2019	385.20	0.00	0.55		0.00		0.00		0.00	dry
8/27/2019	387.90	0.00	0.47		0.00		0.00		0.00	dry
9/26/2019	380.00	0.00	0.36		0.00		0.00		0.00	dry
10/23/2019	378.90	0.00	0.39		0.00		0.00		0.00	dry
11/26/2019	383.80	2.60	0.34		0.00		0.00		0.00	dry
12/18/2019	389.20	4.63	0.33		0.00		0.00		0.00	dry
1/29/2020	388.20	0.15	1.27		0.00		0.00		0.00	dry
2/25/2020	384.70	0.33	0.55		0.00		0.00		0.00	
3/24/2020	391.70	3.91	0.42		0.00		0.00		0.00	
4/23/2020	399.40	4.05	0.58		0.17		0.00		0.00	
5/27/2020	388.50	0.40	0.63		0.00		0.00		0.00	
6/24/2020	388.00	0.01	0.61		0.00		0.00		0.00	

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
7/29/2020	358.70	0.00	0.67		0.00		0.00		0.00	
8/26/2020	379.30	0.00	0.75		0.00		0.00		0.00	
9/29/2020	381.30	0.00	0.43		0.00		0.00		0.00	
10/28/2020	376.50	0.00	0.40		0.00		0.00		0.00	
11/24/2020	380.70	0.25	0.40		0.00		0.00		0.00	
12/23/2020	384.10	1.40	0.28		0.00		0.00		0.00	
1/26/2021	386.20	2.42	0.35		0.00		0.00		0.00	
2/25/2021	385.40	0.07	0.39		0.00		0.00		0.00	
3/23/2021	394.80	1.35	0.48		0.00		0.00		0.00	
4/27/2021	384.10	0.04	0.35		0.00		0.00		0.00	
5/27/2021	383.50	0.04	0.40		0.00		0.00		0.00	
6/30/2021	385.40	0.00	0.24		0.00		0.00		0.00	
7/29/2021	381.70	0.03	0.23		0.00		0.00		0.00	
8/24/2021	383.40	0.00	0.40		0.00		0.00		0.00	
9/28/2021	381.30	0.06	0.38		0.00		0.00		0.00	
10/27/2021	382.70	0.71	0.51		0.00		0.00		0.00	
11/23/2021	381.00	0.00	0.44		0.00		0.00		0.00	
12/21/2021	386.30	6.10	0.40		0.00		0.00		0.00	
1/25/2022	382.00	0.05	0.34		0.00		0.00		0.00	
2/22/2022	382.30	0.36	0.32		0.00		0.00		0.00	
3/29/2022	390.60	1.33	0.31		0.00		0.00		0.00	
4/27/2022	393.20	0.02	0.30		0.00		0.00		0.00	
5/24/2022	391.40	0.05	0.43		0.00		0.00		0.00	
6/28/2022	392.70	0.00	0.51		0.00		0.00		0.00	
7/26/2022	386.10	0.00	0.48		0.00		0.00		0.00	
8/25/2022	382.20	0.02	0.51		0.00		0.00		0.00	
9/29/2022	392.70	0.36	0.51		0.00		0.00		0.00	
10/25/2022	390.00	0.32	0.40		0.00		0.00		0.00	
11/17/2022	391.40	2.12	0.41		0.00		0.00		0.00	
12/22/2022	386.40	2.28	0.40		0.00		0.00		0.00	
1/26/2023	391.60	7.39	0.44		0.00		0.00		0.00	
2/23/2023	389.90	3.88	0.51		0.00		0.00		0.00	
3/28/2023	390.80	5.62	0.44		0.00		0.00		0.00	
4/25/2023	390.80	0.16	0.48		0.00		0.00		0.00	

TABLE 7
RATTLESNAKE CANYON DAM
SEEPAGE FLOW RATE MEASUREMENTS
JANUARY 2007 THROUGH DECEMBER 2024

Flow Point ID -->			FP-4		FP-5		FP-8		FP-11	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment	Reading (gpm)	Comment
5/23/2023	391.30	0.95	0.55		0.00		0.00		0.00	
6/27/2023	388.80	0.14	0.58		0.00		0.00		0.00	
7/27/2023	384.40	0.00	0.50		0.00		0.00		0.00	
8/29/2023	382.80	2.22	0.44		0.00		0.00		0.00	
9/26/2023	377.90	0.00	0.35		0.00		0.00		0.00	
10/30/2023	385.30	0.26	0.50		0.00		0.00		0.00	
11/30/2023	382.90	0.70	0.37		0.00		0.00		0.00	
12/20/2023	388.50	1.10	0.51		0.00		0.00		0.00	
1/24/2024	391.90	2.23	0.45		0.00		0.00		0.00	
2/22/2024	388.60	7.64	0.46		0.00		0.00		0.00	
3/27/2024	390.90	2.54	0.54		0.00		0.00		0.00	
4/23/2024	391.60	1.62	0.46		0.00		0.00		0.00	
5/1/2024	389.10	0	0.49		0.00		0.00		0.00	
5/23/2024	389.20	0.16	0.27		0.00		0.00		0.00	
5/30/2024	392.80	#N/A	0.51		0.00		0.00		0.00	
6/20/2024	392.90	0	0.55		0.00		0.00		0.00	
7/24/2024	386.40	0	0.52		0.00		0.00		0.00	
8/27/2024	384.10	0	0.53		0.00		0.00		0.00	
9/24/2024	380.50	0.03	0.42		0.00		0.00		0.00	
10/29/2024	387.40	0	0.44		0.00		0.00		0.00	
11/21/2024	384.50	0.09	0.92		0.00		0.00		0.00	
12/17/2024	386.30	0.01	0.42		0.00		0.00		0.00	

TABLE 8
RATTLESNAKE CANYON DAM
HORIZONTAL MOVEMENT OF SURVEY MONUMENTS
1985 THROUGH 2024

Monument ID		Reservoir	Temp.	A		B		B-1		C		D		E		E-1		Comment
Approx. Station		Elevation		2+14.8		2+74.7		2+77.7		5+74.6		8+74.6		11+74.7		11+75.1		
Year	Date	(feet)	(°C)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	
1985	10/19/1985			-0.090	-1.080					0.010	0.120	0.000	0.000	-0.010	-0.100			Initial Reading for A,C,D & E
1986																		Data was not found
1987	8/19/1987			-0.100	-1.200					0.020	0.240	0.000	0.000	-0.010	-0.120			
1990	10/5/1990			-0.050	-0.600			0.000	0.000	0.060	0.720	0.020	0.240	0.000	0.000			Initial Reading for B-1
1991	6/12/1991			-0.020	-0.240			0.000	0.000	0.080	0.960	0.050	0.600	0.010	0.120			
1992																		Data was not found
1993																		Data was not found
1994	5/11/1994			-0.040	-0.480			0.020	0.240	0.080	0.960	0.060	0.720	0.020	0.240			BM-2 was destroyed
1995																		Data was not found
1996	5/2/1996			-0.050	-0.600			0.000	0.000	0.040	0.480	0.050	0.600	0.020	0.240			
1997	5/28/1997			-0.050	-0.600			0.000	0.000	0.050	0.600	0.050	0.600	0.020	0.240			
1998	5/1/1998			-0.060	-0.720			-0.020	-0.240	0.050	0.600	0.050	0.600	0.020	0.240			
1999	4/28/1999			-0.065	-0.780			0.010	0.120	0.070	0.840	0.050	0.600					Monument E was caved over
2000	6/28/2000			-0.065	-0.780			0.005	0.060	0.065	0.780	0.050	0.600	0.080	0.960			Monument E was reestablished
2001	5/3/2001			-0.070	-0.840	0.060	0.720	0.020	0.240	0.080	0.960	0.050	0.600	0.085	1.020	0.000	0.000	Initial Reading for Band E-1
2002	5/20/2002			-0.075	-0.900	0.070	0.840	0.020	0.240	0.085	1.020	0.060	0.720	0.090	1.080	-0.005	-0.060	
2003	5/22/2003			-0.070	-0.840	0.085	1.020	0.030	0.360	0.090	1.080	0.055	0.660	0.100	1.200	0.000	0.000	
2004	5/18/2004			-0.070	-0.840	0.085	1.020	0.030	0.360	0.095	1.140	0.060	0.720	0.100	1.200	0.000	0.000	
2005	5/31/2005			-0.070	-0.840	0.080	0.960	0.030	0.360	0.095	1.140	0.060	0.720	0.105	1.260	0.000	0.000	
2006	5/31/2006			-0.065	-0.780	0.085	1.020	0.040	0.480	0.095	1.140	0.060	0.720	0.100	1.200	0.000	0.000	
2007	5/16/2007			-0.065	-0.780	0.090	1.080	0.040	0.480	0.090	1.080	0.065	0.780	0.100	1.200	0.000	0.000	
2008	5/23/2008			-0.065	-0.780	0.095	1.140	0.045	0.540	0.100	1.200	0.065	0.780	0.115	1.380	0.000	0.000	
2009	6/10/2009			-0.075	-0.900	0.115	1.380	0.060	0.720	0.110	1.320	0.070	0.840	0.120	1.440	0.000	0.000	
2010	5/19/2010			-0.065	-0.780	0.105	1.260	0.055	0.660	0.100	1.200	0.075	0.900	0.105	1.260	0.000	0.000	
2011	5/18/2011			-0.065	-0.780	0.115	1.380	0.065	0.780	0.100	1.200	0.075	0.900	0.110	1.320	0.015	0.180	
2012	5/18/2012			-0.070	-0.840	0.115	1.380	0.065	0.780	0.095	1.140	0.075	0.900	0.095	1.140	0.010	0.120	
2013	6/6/2013			-0.075	-0.900	0.120	1.440	0.070	0.840	0.095	1.140	0.075	0.900	0.115	1.380	0.005	0.060	
2014	4/21/2014			-0.075	-0.900	0.120	1.440	0.080	0.960	0.110	1.320	0.090	1.080	0.125	1.500	0.010	0.120	
2015	6/4/2015			-0.080	-0.960	0.120	1.440	0.080	0.960	0.110	1.320	0.085	1.020	0.115	1.380	0.010	0.120	
2016	7/25/2016			-0.085	-1.020	0.125	1.500	0.080	0.960	0.110	1.320	0.085	1.020	0.115	1.380	0.010	0.120	BM-4 was destroyed
2017																		No survey was done in 2017
2018	5/31/2018			-0.087	-1.044	0.125	1.500	0.075	0.900	0.105	1.260	0.075	0.900	0.100	1.200	0.000	0.000	
2019	5/31/2019			-0.085	-1.020	0.125	1.500	0.080	0.960	0.105	1.260	0.075	0.900	0.095	1.140	0.000	0.000	
2020	7/18/2020			-0.080	-0.960	0.120	1.440	0.080	0.960	0.110	1.320	0.080	0.960	0.090	1.080	0.000	0.000	
2022	4/26/2022			-0.075	-0.900	0.140	1.680	0.080	0.960	0.130	1.560	0.070	0.840	0.110	1.320	0.000	0.000	Survey for 2021 Review Period
2022	10/27/2022	388.6	18.9	-0.075	-0.900	0.125	1.500	0.075	0.900	0.100	1.200	0.060	0.720	0.085	1.020	0.000	0.000	Survey for 2022 Review Period
2023	12/15/2023	382.9	21.7	-0.075	-0.900	0.115	1.380	0.070	0.840	0.095	1.140	0.050	0.600	0.080	0.960	0.000	0.000	BM-3 re-established
2024	6/7/2024	392.9	18.3	-0.093	-1.116	0.123	1.476	0.081	0.972	0.089	1.068	0.060	0.720	0.116	1.392	-0.010	-0.120	

TABLE 9
RATTLESNAKE CANYON DAM
CUMULATIVE HORIZONTAL DISPLACEMENT OF SURVEY MONUMENTS
1985 THROUGH 2024

Monument ID		Reservoir	Temp.	A		B		B-1		C		D		E		E-1		Comment
Approx . Station		Elevation		2+14.8		2+74.7		2+77.7		5+74.6		8+74.6		11+74.7		11+75.1		
Year	Date	(feet)	(°C)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	(feet)	(inches)	
1985	10/19/1985			0.000	0.000					0.000	0.000	0.000	0.000	0.000	0.000			Initial Reading for A, C, D & E
1986																		Data was not found
1987	8/19/1987			-0.010	-0.120					0.010	0.120	0.000	0.000	0.000	0.000			
1988																		Data was not found
1989																		Data was not found
1990	10/5/1990			0.040	0.480			0.000	0.000	0.050	0.600	0.020	0.240	0.010	0.120			Initial Reading for B-1
1991	6/12/1991			0.070	0.840			0.000	0.000	0.070	0.840	0.050	0.600	0.020	0.240			
1992																		Data was not found
1993																		Data was not found
1994	5/11/1994			0.050	0.600			0.020	0.240	0.070	0.840	0.060	0.720	0.030	0.360			BM-2 was destroyed
1995														0.000	0.000			Data was not found
1996	5/2/1996			0.040	0.480			0.000	0.000	0.030	0.360	0.050	0.600	0.030	0.360			
1997	5/28/1997			0.040	0.480			0.000	0.000	0.040	0.480	0.050	0.600	0.030	0.360			
1998	5/1/1998			0.030	0.360			-0.020	-0.240	0.040	0.480	0.050	0.600	0.030	0.360			
1999	4/28/1999			0.025	0.300			0.010	0.120	0.060	0.720	0.050	0.600					Monument E was paved over
2000	6/28/2000			0.025	0.300			0.005	0.060	0.055	0.660	0.050	0.600	0.030	0.360			Monument E was reestablished
2001	5/3/2001			0.020	0.240	0.000	0.000	0.020	0.240	0.070	0.840	0.050	0.600	0.035	0.420	0.000	0.000	Initial Reading for Band E-1
2002	5/20/2002			0.015	0.180	0.010	0.120	0.020	0.240	0.075	0.900	0.060	0.720	0.040	0.480	-0.005	-0.060	
2003	5/22/2003			0.020	0.240	0.025	0.300	0.030	0.360	0.080	0.960	0.055	0.660	0.050	0.600	0.000	0.000	
2004	5/18/2004			0.020	0.240	0.025	0.300	0.030	0.360	0.085	1.020	0.060	0.720	0.050	0.600	0.000	0.000	
2005	5/31/2005			0.020	0.240	0.020	0.240	0.030	0.360	0.085	1.020	0.060	0.720	0.055	0.660	0.000	0.000	
2006	5/31/2006			0.025	0.300	0.025	0.300	0.040	0.480	0.085	1.020	0.060	0.720	0.050	0.600	0.000	0.000	
2007	5/16/2007			0.025	0.300	0.030	0.360	0.040	0.480	0.080	0.960	0.065	0.780	0.050	0.600	0.000	0.000	
2008	5/23/2008			0.025	0.300	0.035	0.420	0.045	0.540	0.090	1.080	0.065	0.780	0.065	0.780	0.000	0.000	
2009	6/10/2009			0.015	0.180	0.055	0.660	0.060	0.720	0.100	1.200	0.070	0.840	0.070	0.840	0.000	0.000	
2010	5/19/2010			0.025	0.300	0.045	0.540	0.055	0.660	0.090	1.080	0.075	0.900	0.055	0.660	0.000	0.000	
2011	5/18/2011			0.025	0.300	0.055	0.660	0.065	0.780	0.090	1.080	0.075	0.900	0.060	0.720	0.015	0.180	
2012	5/18/2012			0.020	0.240	0.055	0.660	0.065	0.780	0.085	1.020	0.075	0.900	0.045	0.540	0.010	0.120	
2013	6/6/2013			0.015	0.180	0.060	0.720	0.070	0.840	0.085	1.020	0.075	0.900	0.065	0.780	0.005	0.060	
2014	4/21/2014			0.015	0.180	0.060	0.720	0.080	0.960	0.100	1.200	0.090	0.080	0.075	0.900	0.010	0.120	
2015	6/4/2015			0.010	0.120	0.060	0.720	0.080	0.960	0.100	1.200	0.085	0.020	0.065	0.780	0.010	0.120	
2016	7/25/2016			0.005	0.060	0.065	0.780	0.080	0.960	0.100	1.200	0.085	0.020	0.065	0.780	0.010	0.120	BM-4 was destroyed
2017																		No survey was done in 2017
2018	5/31/2018			0.003	0.036	0.065	0.780	0.075	0.900	0.095	1.140	0.075	0.900	0.110	1.320	0.000	0.000	
2019	5/31/2019			0.005	0.060	0.065	0.780	0.080	0.960	0.095	1.140	0.075	0.900	0.105	1.260	0.000	0.000	
2020	7/18/2020			0.010	0.120	0.060	0.720	0.080	0.960	0.100	1.200	0.080	0.960	0.100	1.200	0.000	0.000	
2022	4/26/2022			0.015	0.180	0.080	0.960	0.080	0.960	0.120	1.440	0.070	0.840	0.120	1.440	0.000	0.000	Survey for 2021 Review Period
2022	10/27/2022	388.6	18.9	0.015	0.180	0.065	0.780	0.075	0.900	0.090	1.080	0.060	0.720	0.095	1.140	0.000	0.000	Survey for 2021 Review Period
2023	12/15/2023	382.9	21.7	0.015	0.180	0.055	0.660	0.070	0.840	0.085	1.020	0.050	0.600	0.090	1.080	0.000	0.000	BM-3 re-established
2024	6/7/2024	392.9	18.3	-0.003	-0.036	0.063	0.756	0.081	0.972	0.079	0.948	0.060	0.720	0.126	1.512	-0.010	-0.120	

TABLE 10
RATTLESNAKE CANYON DAM
ELEVATIONS OF SURVEY MONUMENTS
1985 THROUGH 2024

Monument ID		Reservoir	Temp.	A	B	B-1	C	D	E	E-1	Comment
Approx. Station		Elevation		2+14.8	2+74.7	2+77.7	5+74.6	8+74.6	11+74.7	11+75.1	
Year	Date	(feet)	(°C)	(feet)	(feet)	(feet)	(feet)	{feet)	{feet)	(feet}	
1985	10/19/1985			419.320			417.980	418.280	418.530		Initial Reading for AC.D & E
1986											Data were not found
1987	8/19/1987			419.280			417.970	418.260	418.560		
1988											Data was not found
1989											Data was not found
1990	10/5/1990			419.200		417.980	417.930	418.250	418.530		Initial Reading for B-1
1991	6/12/1991			419.190		417.980	417.910	418.210	418.530		
1992											Data was not found
1993											Data was not found
1994	5/11/1994			419.180		417.950	417.910	418.220	418.530		BM-2 was destroyed
1995											Data was not found
1996	5/2/1996			419.180		417.940	417.900	418.220	418.530		
1997	5/28/1997			419.180		417.940	417.910	418.230	418.530		
1998	5/1/1998			419.180		417.930	417.900	418.220	418.530		
1999	4/28/1999			419.180		417.925	417.905	418.230			Monument E was paved over
2000	6/28/2000			419.180		417.920	417.900	418.225	418.065		Monument E was reestablished
2001	5/3/2001			419.185	418.015	417.925	417.915	418.250	418.090	418.745	Initial Reading for Band E-1
2002	5/21/2002			419.185	418.005	417.915	417.915	418.245	418.090	418.745	
2003	5/22/2003			419.105	418.000	417.915	417.910	418.245	418.090	418.750	
2004	5/18/2004			419.185	418.000	417.915	417.910	418.250	418.100	418.750	
2005	5/31/2005			419.180	417.995	417.905	417.915	418.245	418.095	418.750	
2006	5/31/2006			419.185	417.990	417.900	417.920	418.250	418.095	418.755	
2007	5/16/2007			419.182	417.987	417.898	417.921	418.254	418.106	418.759	
2008	5/23/2008			419.185	417.985	417.900	417.925	418.260	418.115	418.770	
2009	6/10/2009			419.180	417.980	417.895	417.925	418.260	418.100	418.760	
2010	5/19/2010			419.180	417.980	417.890	417.920	418.255	418.100	418.755	
2011	5/18/2011			419.180	417.975	417.885	417.925	418.260	418.110	418.760	
2012	5/24/2012			419.175	417.970	417.880	417.930	418.265	418.115	418.765	
2013	6/6/2013			419.170	417.970	417.880	417.935	418.270	418.120	418.775	
2014	4/21/2014			419.170	417.970	417.885	417.940	418.275	418.125	418.780	
2015	6/4/2015			419.165	417.975	417.890	417.945	418.280	418.135	418.790	
2016	7/25/2016			419.160	417.975	417.890	417.950	418.290	418.145	418.800	BM-4 was destroyed
2017											No survey was done in 2017
2018	5/31/2018			419.160	417.980	417.890	417.950	418.290	418.160	418.815	
2019	5/31/2019			419.160	417.970	417.885	417.950	418.295	418.165	418.815	
2020	7/18/2020			419.159	417.966	417.878	417.940	418.277	418.152	418.810	
2022	4/26/2022			419.158	417.959	417.871	417.93	418.273	418.151	418.806	Survey for 2021 Review Period
2022	10/27/2022	388.6	18.9	419.149	417.941	417.853	417.909	418.251	418.127	418.782	Survey for 2022 Review Period
2023	12/15/2023	382.9	21.7	419.159	417.944	417.858	417.909	418.249	418.127	418.782	BM-3 re-established
2024	6/7/2024	392.9	18.3	419.158	417.945	417.857	417.907	418.250	418.129	418.783	

Note:
1. Vertical data is referenced in NGVD 29 datum.

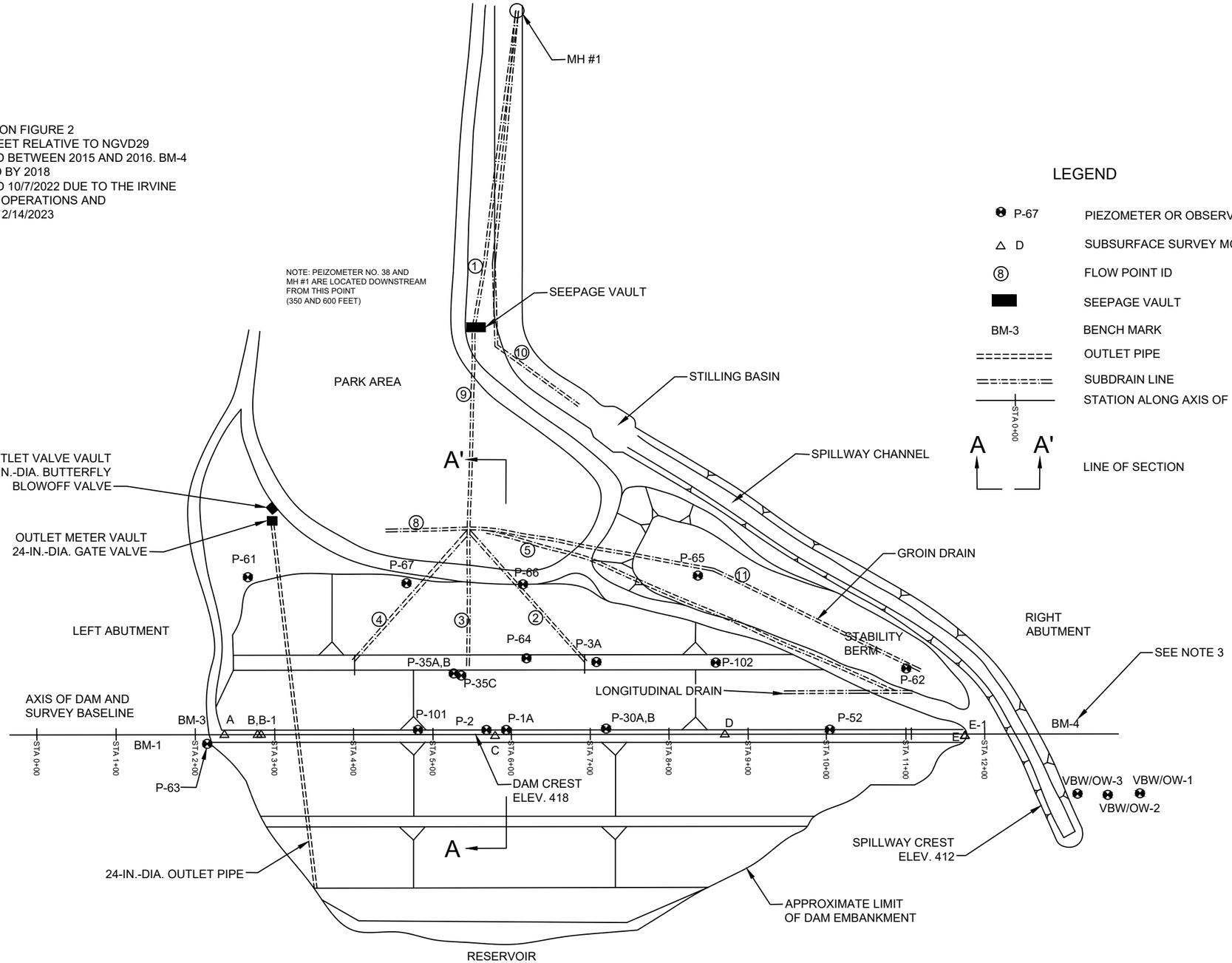
TABLE 11
RATTLESNAKE CANYON DAM
CUMULATIVE VERTICAL MOVEMENT OF SURVEY MONUMENTS
1985 THROUGH 2024

Monument ID		Reservoir	Temp.	A		B		B-1		C		D		E		E-1		Comment
Approx. Station		Elevation		2+14.8		2+74.7		2+77.7		5+74.6		8+74.6		11+74.7		11+75.1		
Year	Date	(feet)	(°C)	(feet)	(inches)	(feet)	(inches)	(feet)	(Inches)	(feet)	(inches)	(feet)	(Inches)	(feet)	(inches}	(feet)	(Inches)	
1985	10/19/1985			0.000	0.000					0.000	0.000	0.000	0.000	0.000	0.000			Initial Reading for A,C,D & E
1986																		Data was not found
1987	8/19/1987			0.040	0.480					0.010	0.120	0.020	0.240	-0.030	-0.360			
1988																		Data was not found
1989																		Data was not found
1990	10/5/1990			0.120	1.440			0.000	0.000	0.050	0.600	0.030	0.360	0.000	0.000			Initial Reading for B-1
1991	6/12/1991			0.130	1.560			0.000	0.000	0.070	0.840	0.070	0.840	0.000	0.000			
1992																		Data was not found
1993																		Data was not found
1994	5/11/1994			0.140	1.680			0.030	0.360	0.070	0.840	0.060	0.720	0.000	0.000			BM-2 was destroyed
1995																		Data was not found
1996	5/2/1996			0.140	1.680			0.040	0.480	0.080	0.960	0.060	0.720	0.000	0.000			
1997	5/28/1997			0.140	1.680			0.040	0.480	0.070	0.840	0.050	0.600	0.000	0.000			
1998	5/1/1998			0.140	1.680			0.050	0.600	0.080	0.960	0.060	0.720	0.000	0.000			
1999	4/28/1999			0.140	1.680			0.055	0.660	0.075	0.900	0.050	0.600					Monument E was paved over
2000	6/28/2000			0.140	1.680			0.060	0.720	0.080	0.960	0.055	0.660	0.000	0.000			Monument E was reestablished
2001	5/3/2001			0.135	1.620	0.000	0.000	0.055	0.660	0.065	0.780	0.030	0.360	-0.025	-0.300	0.000	0.000	Initial Reading for Band E-1
2002	5/21/2002			0.135	1.620	0.010	0.120	0.065	0.780	0.065	0.780	0.035	0.420	-0.025	-0.300	0.000	0.000	
2003	5/22/2003			0.215	2.580	0.015	0.180	0.065	0.780	0.070	0.840	0.035	0.420	-0.025	-0.300	-0.005	-0.060	
2004	5/18/2004			0.135	1.620	0.015	0.180	0.065	0.780	0.070	0.840	0.030	0.360	-0.035	-0.420	-0.005	-0.060	
2005	5/31/2005			0.140	1.680	0.020	0.240	0.075	0.900	0.065	0.780	0.035	0.420	-0.030	-0.360	-0.005	-0.060	
2006	5/31/2006			0.135	1.620	0.025	0.300	0.080	0.960	0.060	0.720	0.030	0.360	-0.030	-0.360	-0.010	-0.120	
2007	5/16/2007			0.138	1.656	0.028	0.336	0.082	0.984	0.059	0.708	0.026	0.312	-0.041	-0.492	-0.014	-0.168	
2008	5/23/2008			0.135	1.620	0.030	0.360	0.080	0.960	0.055	0.660	0.020	0.240	-0.050	-0.600	-0.025	-0.300	
2009	6/10/2009			0.140	1.680	0.035	0.420	0.085	1.020	0.055	0.660	0.020	0.240	-0.035	-0.420	-0.015	-0.180	
2010	5/19/2010			0.140	1.680	0.035	0.420	0.090	1.080	0.060	0.720	0.025	0.300	-0.035	-0.420	-0.010	-0.120	
2011	5/18/2011			0.140	1.680	0.040	0.480	0.095	1.140	0.055	0.660	0.020	0.240	-0.045	-0.540	-0.015	-0.180	
2012	5/24/2012			0.145	1.740	0.045	0.540	0.100	1.200	0.050	0.600	0.015	0.180	-0.050	-0.600	-0.020	-0.240	
2013	6/6/2013			0.150	1.800	0.045	0.540	0.100	1.200	0.045	0.540	0.010	0.120	-0.055	-0.660	-0.030	-0.360	
2014	4/21/2014			0.150	1.800	0.045	0.540	0.095	1.140	0.040	0.480	0.005	0.060	-0.060	-0.720	-0.035	-0.420	
2015	6/4/2015			0.155	1.860	0.040	0.480	0.093	1.116	0.038	0.456	0.000	0.000	-0.070	-0.840	-0.045	-0.540	
2016	7/25/2016			0.160	1.920	0.040	0.480	0.090	1.080	0.030	0.360	-0.010	-0.120	-0.080	-0.960	-0.055	-0.660	BM-4 was destroyed
2017																		No survey was done in 2017
2018	5/31/2018			0.160	1.920	0.035	0.420	0.090	1.080	0.030	0.360	-0.010	-0.120	-0.095	-1.140	-0.070	-0.840	
2019	5/31/2019			0.160	1.920	0.045	0.540	0.095	1.140	0.030	0.360	-0.015	-0.180	-0.100	-1.200	-0.070	-0.840	
2020	7/18/2020			0.161	1.932	0.049	0.588	0.102	1.224	0.040	0.480	0.003	0.036	-0.087	-1.044	-0.065	-0.780	
2022	4/26/2022			0.162	1.944	0.056	0.672	0.109	1.308	0.050	0.600	0.007	0.084	-0.086	-1.032	-0.061	-0.732	Survey for 2021 Review Period
2022	10/27/2022	388.6	18.9	0.171	2.052	0.074	0.888	0.127	1.524	0.071	0.852	0.029	0.348	-0.062	-0.744	-0.037	-0.444	Survey for 2022 Review Period
2023	12/15/2023	382.9	21.7	0.161	1.932	0.071	0.852	0.122	1.464	0.071	0.852	0.031	0.372	-0.062	-0.744	-0.037	-0.444	BM-3 re-established
2024	6/7/2024	392.9	18.3	0.162	1.944	0.070	0.840	0.123	1.476	0.073	0.876	0.030	0.360	-0.064	-0.768	-0.038	-0.456	

Note:
1. Piezometer data based on NGVD 29 datum.

Figures

NOTES:
1. SECTION A-A' SHOWN ON FIGURE 2
2. ELEVATIONS ARE IN FEET RELATIVE TO NGVD29
3. BM-4 WAS DESTROYED BETWEEN 2015 AND 2016. BM-4 WAS RE-ESTABLISHED BY 2018
4. BM-3 WAS DESTROYED 10/7/2022 DUE TO THE IRVINE COMPANY'S GRADING OPERATIONS AND RE-ESTABLISHED ON 12/14/2023



LEGEND

P-67	PIEZOMETER OR OBSERVATION WELL
D	SUBSURFACE SURVEY MONUMENT
⑧	FLOW POINT ID
	SEEPAGE VAULT
BM-3	BENCH MARK
	OUTLET PIPE
	SUBDRAIN LINE
STA 0+00	STATION ALONG AXIS OF DAM
A A'	LINE OF SECTION

NOT TO SCALE

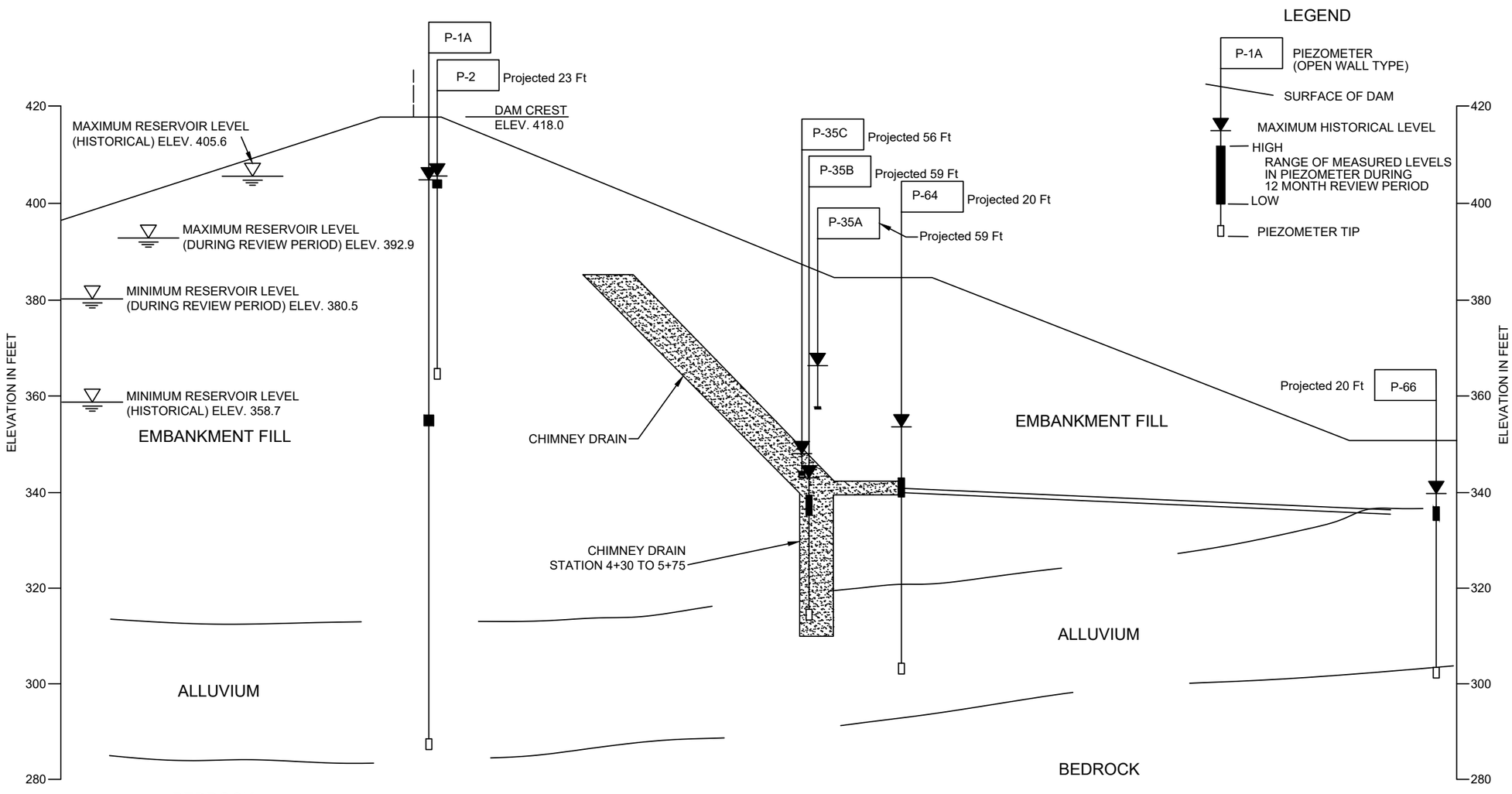
Annual Surveillance Report from Jan. 2024 to Dec. 2024
Rattlesnake Canyon Dam and Reservoir
Irvine, CA

Irvine Ranch Water District
Irvine, CA

GEI Consultants

SITE AND INSTRUMENTATION PLAN

Project 2305575 | May 2025 | Fig. 1



SECTION A-A' (STATION 5+94)
(MAXIMUM SECTION)

NOTES:
(1) LOCATION OF SECTION A-A' IA SHOWN ON FIGURE 1
(2) ELEVATIONS ARE IN FEET RELATIVE TO NGVD29

NOT TO SCALE

Annual Surveillance Report from Jan. 2024 to Dec. 2024 Rattlesnake Canyon Dam and Reservoir Irvine, CA	GEI Consultants	SECTION A-A'
Irvine Ranch Water District Irvine, CA	Project 2305575	May 2025 Fig. 2

Figure 3
RATTLESNAKE CANYON DAM
2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-35A, P-35B, P-35C, P-67, P-101A, and P-101B
JANUARY 2023 THROUGH DECEMBER 2024

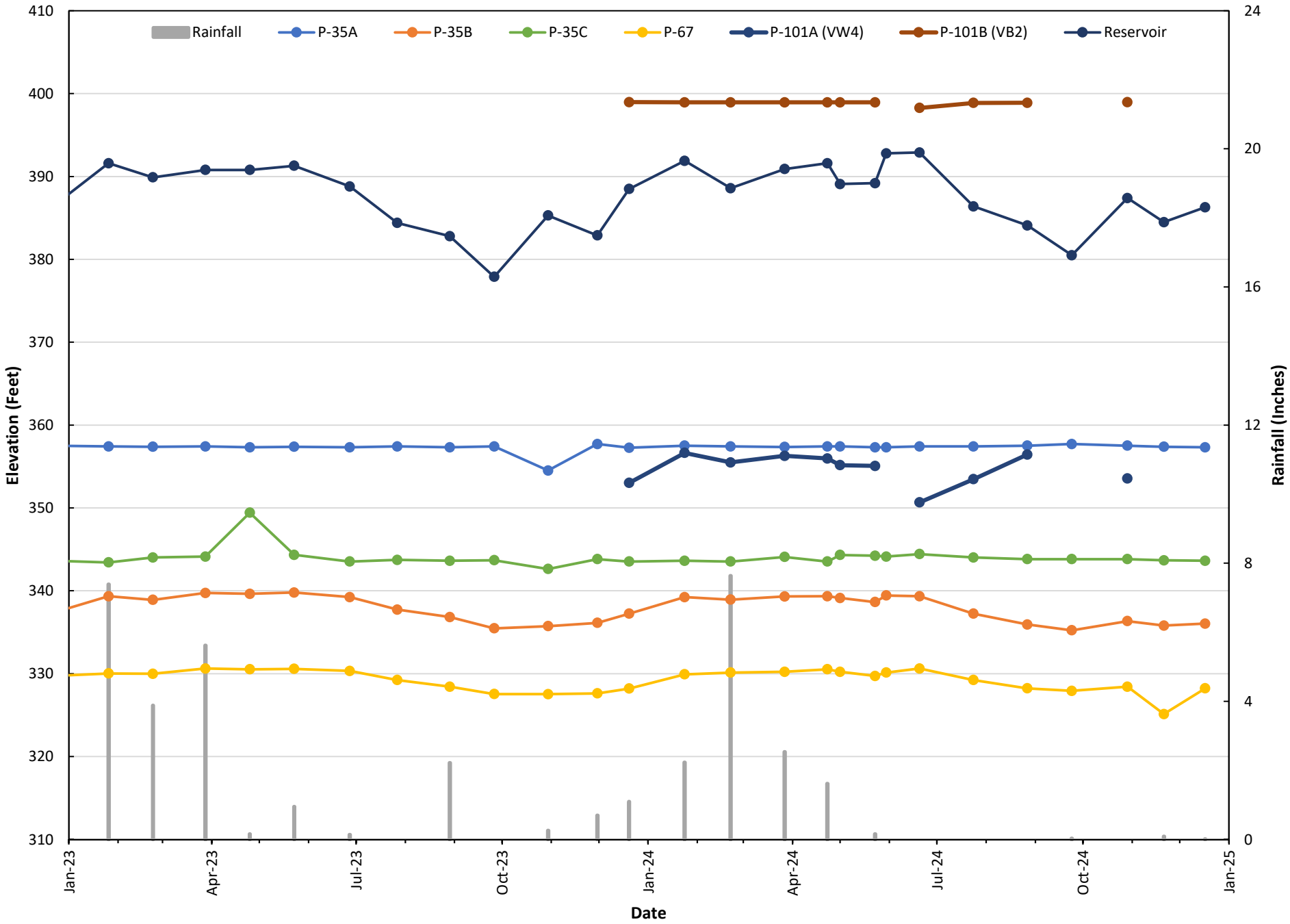


Figure 4
RATTLESNAKE CANYON DAM
2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-1A, P-2, P-64, AND P-66
JANUARY 2023 THROUGH DECEMBER 2024

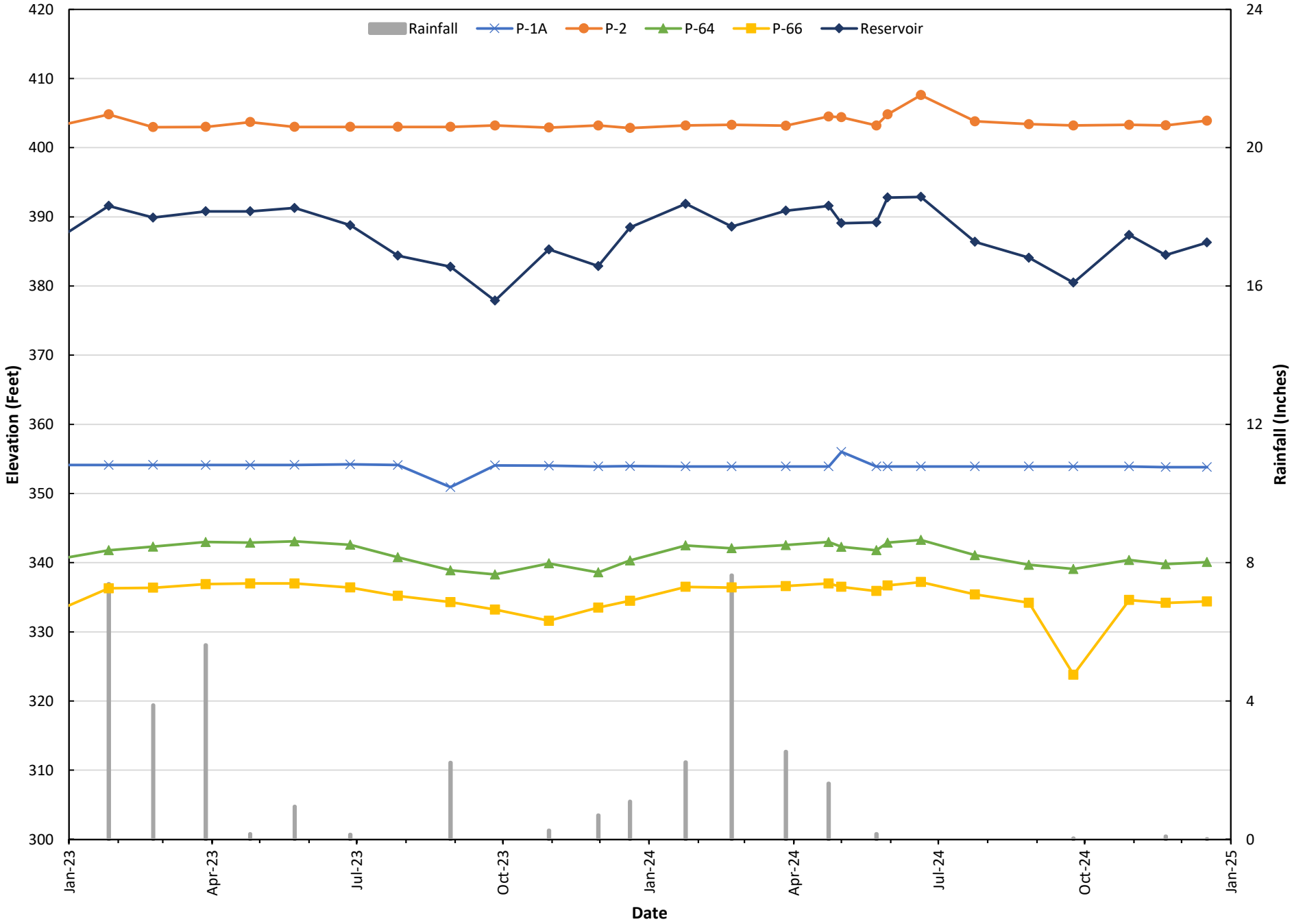


Figure 5
RATTLESNAKE CANYON DAM
2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-3A, AND P-30B
JANUARY 2023 THROUGH DECEMBER 2024

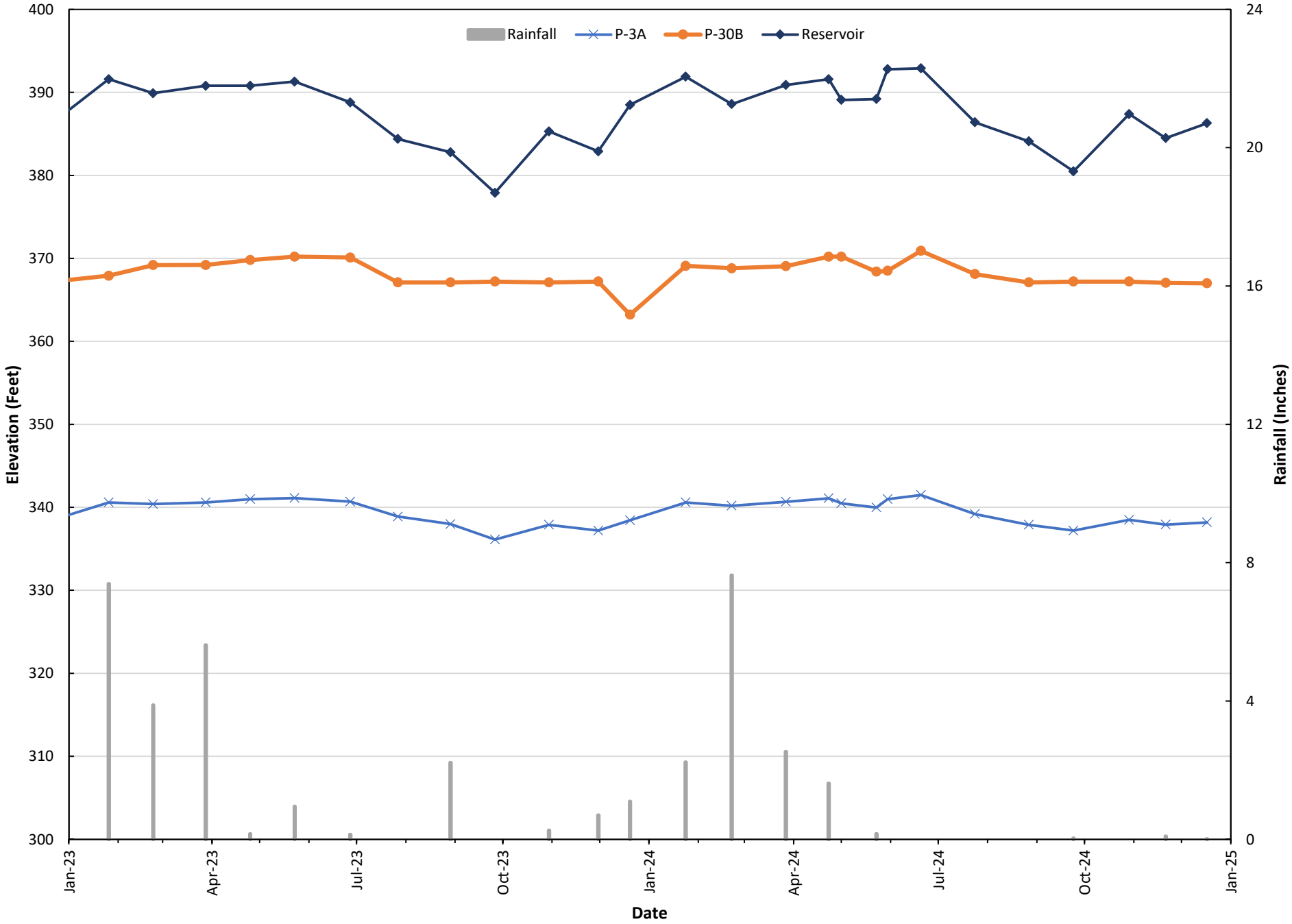


Figure 6
RATTLESNAKE CANYON DAM
2-YR OBSERVATION WELL AND RESERVOIR WATER SURFACE ELEVATIONS
OBSERVATION WELLS VBW/OW-1, VBW/OW-2, AND VBW/OW-3
JANUARY 2023 THROUGH DECEMBER 2024

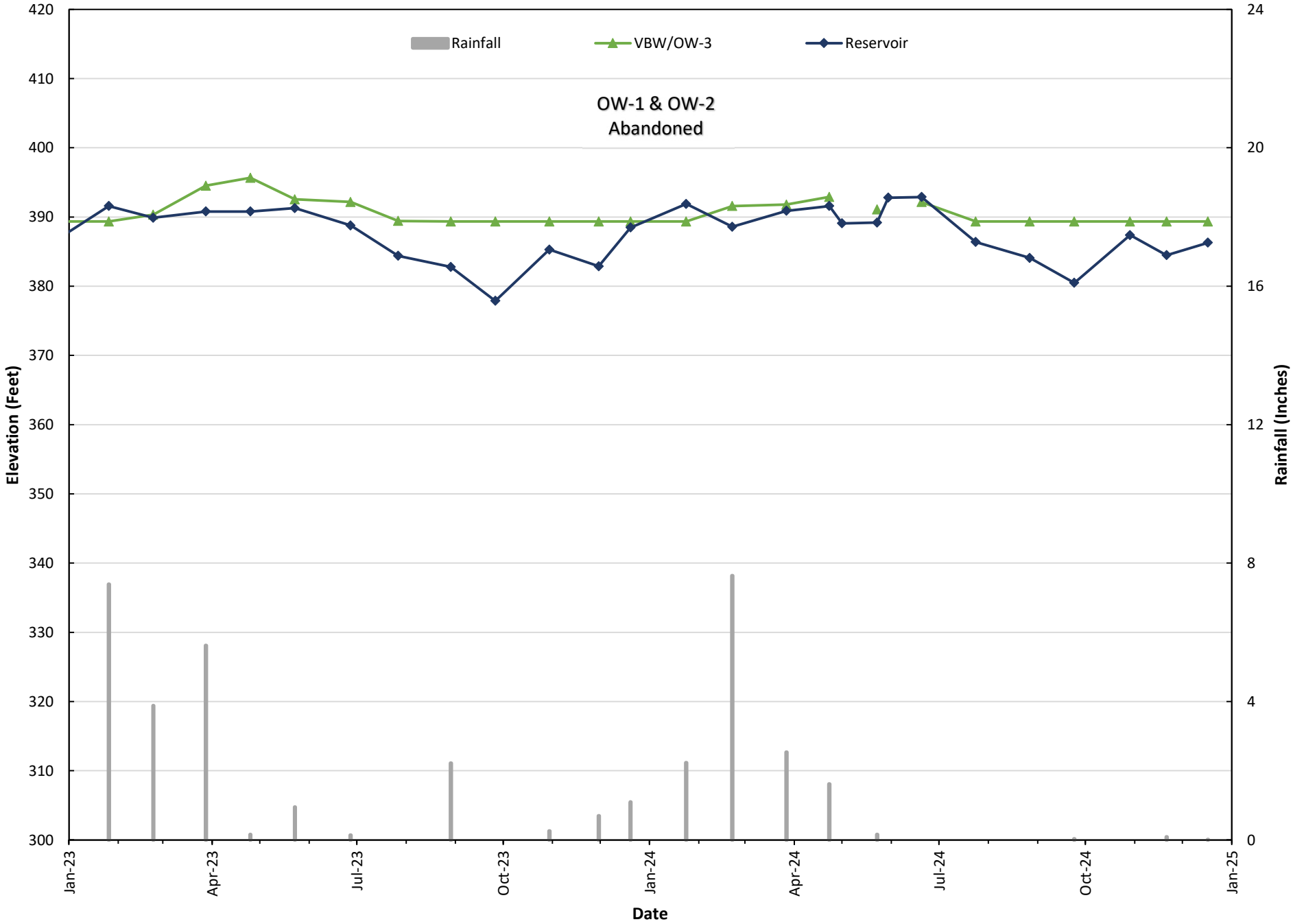


Figure 7
RATTLESNAKE CANYON DAM
2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-52, P-61, P-62, P-63, P-65, P-102A, AND P-102B
JANUARY 2023 THROUGH DECEMBER 2024

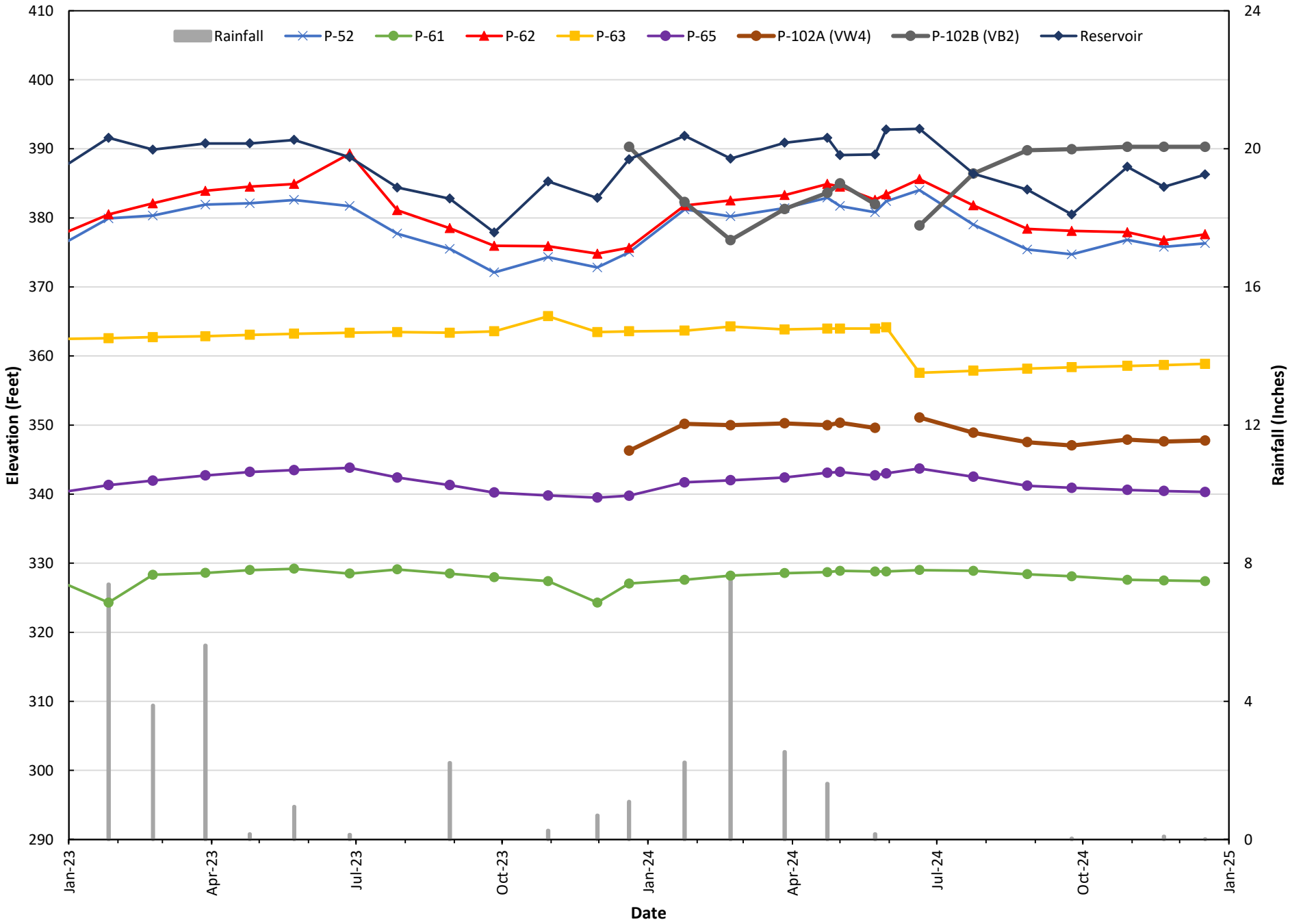


Figure 8
RATTLESNAKE CANYON DAM
HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-35A, P-35B, P-35C, P-67, P-101A, AND P-101B
JANUARY 2014 THROUGH DECEMBER 2024

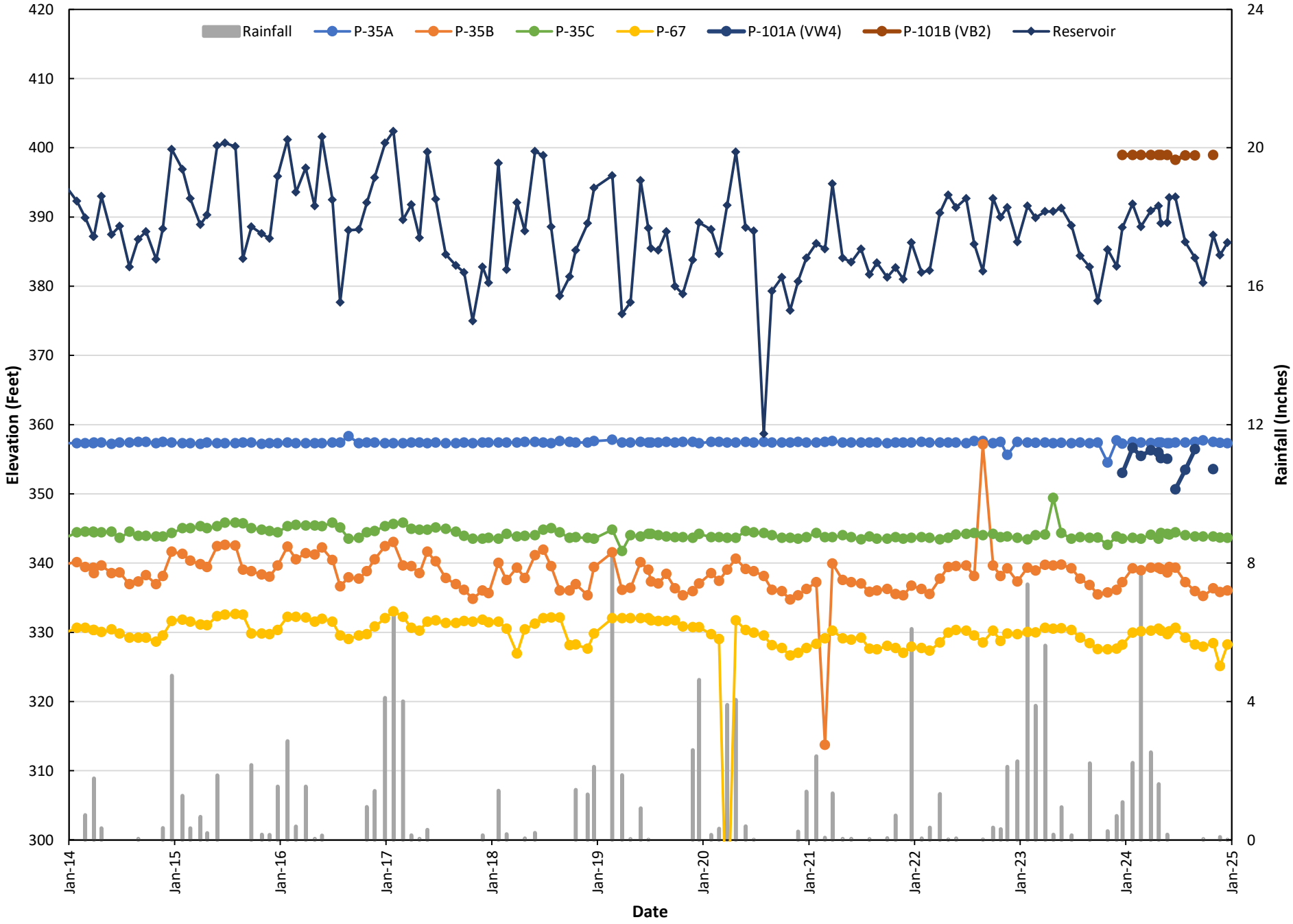


Figure 9
RATTLESNAKE CANYON DAM
HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-1A, P-2, P-64, AND P-66
JANUARY 2014 THROUGH DECEMBER 2024

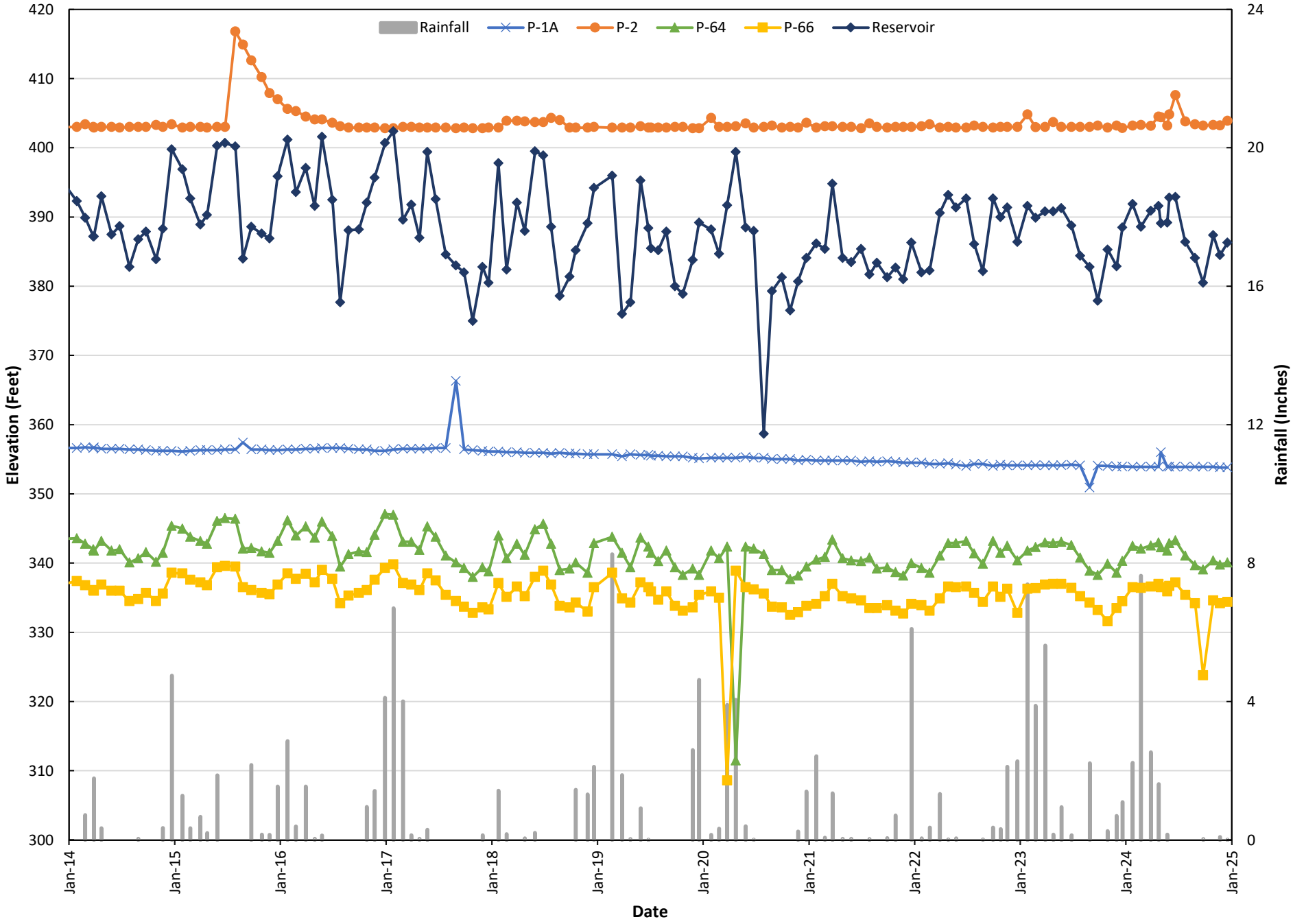


Figure 10
RATTLESNAKE CANYON DAM
HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-3A, AND P-30B
JANUARY 2014 THROUGH DECEMBER 2024

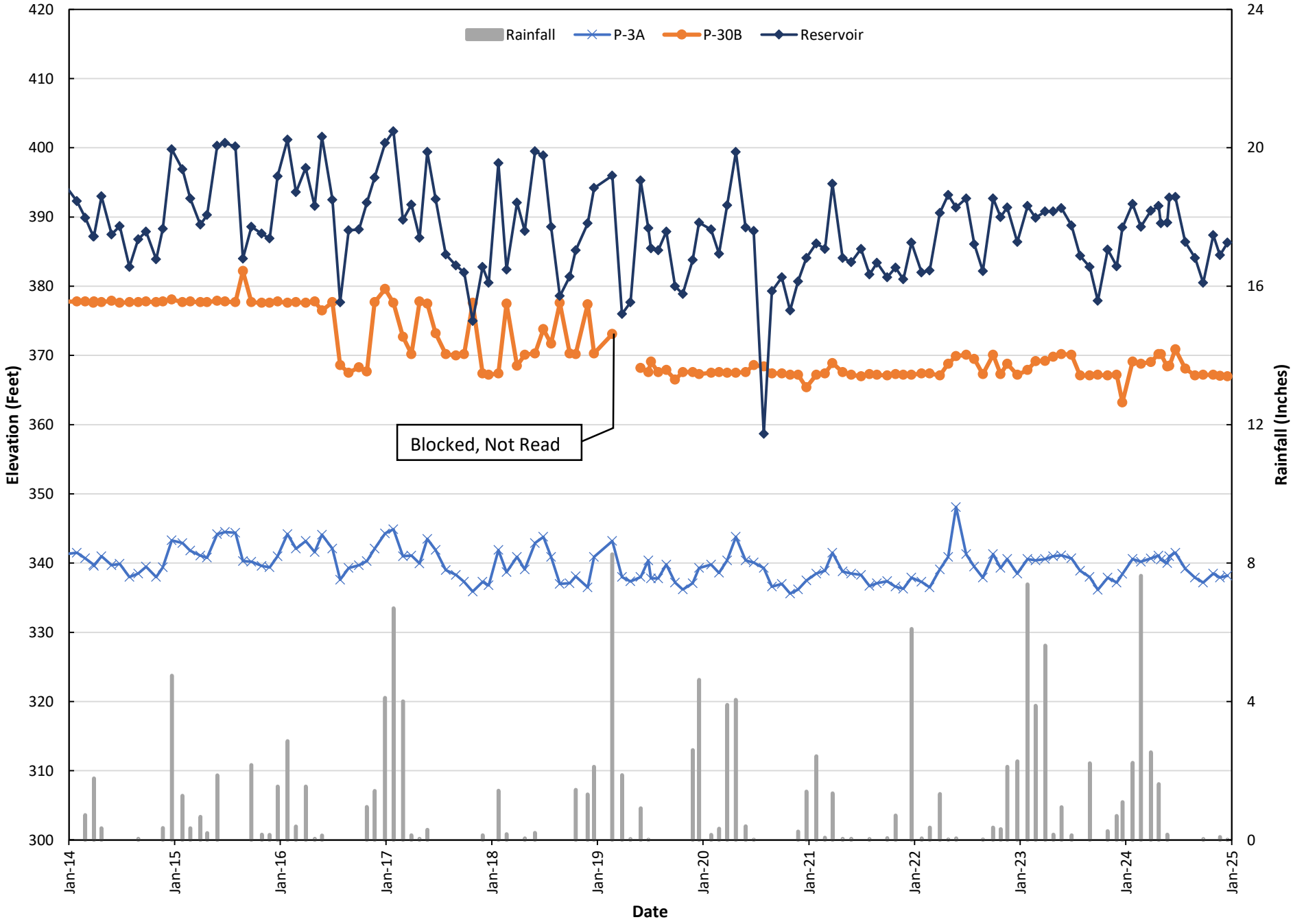


Figure 11
RATTLESNAKE CANYON DAM
HISTORICAL OBSERVATION WELL AND RESERVOIR WATER SURFACE ELEVATIONS
OBSERVATION WELLS VBW/OW-1, VBW/OW-2, AND VBW/OW-3
JANUARY 2014 THROUGH DECEMBER 2024

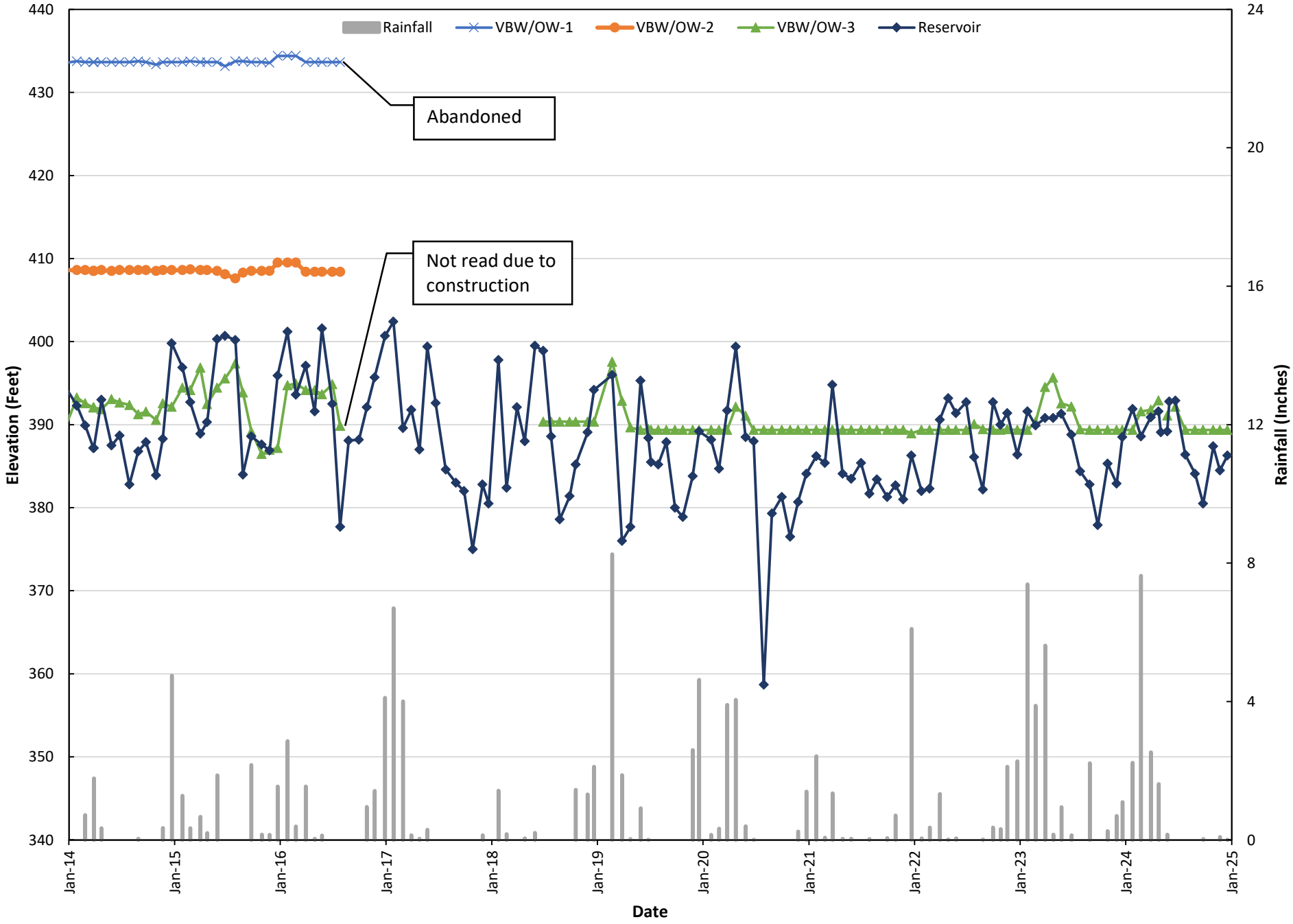


Figure 12
RATTLESNAKE CANYON DAM
HISTORICAL OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-52, P-61, P-62, P-63, P-65, P-102A AND P-102B
JANUARY 2014 THROUGH DECEMBER 2024

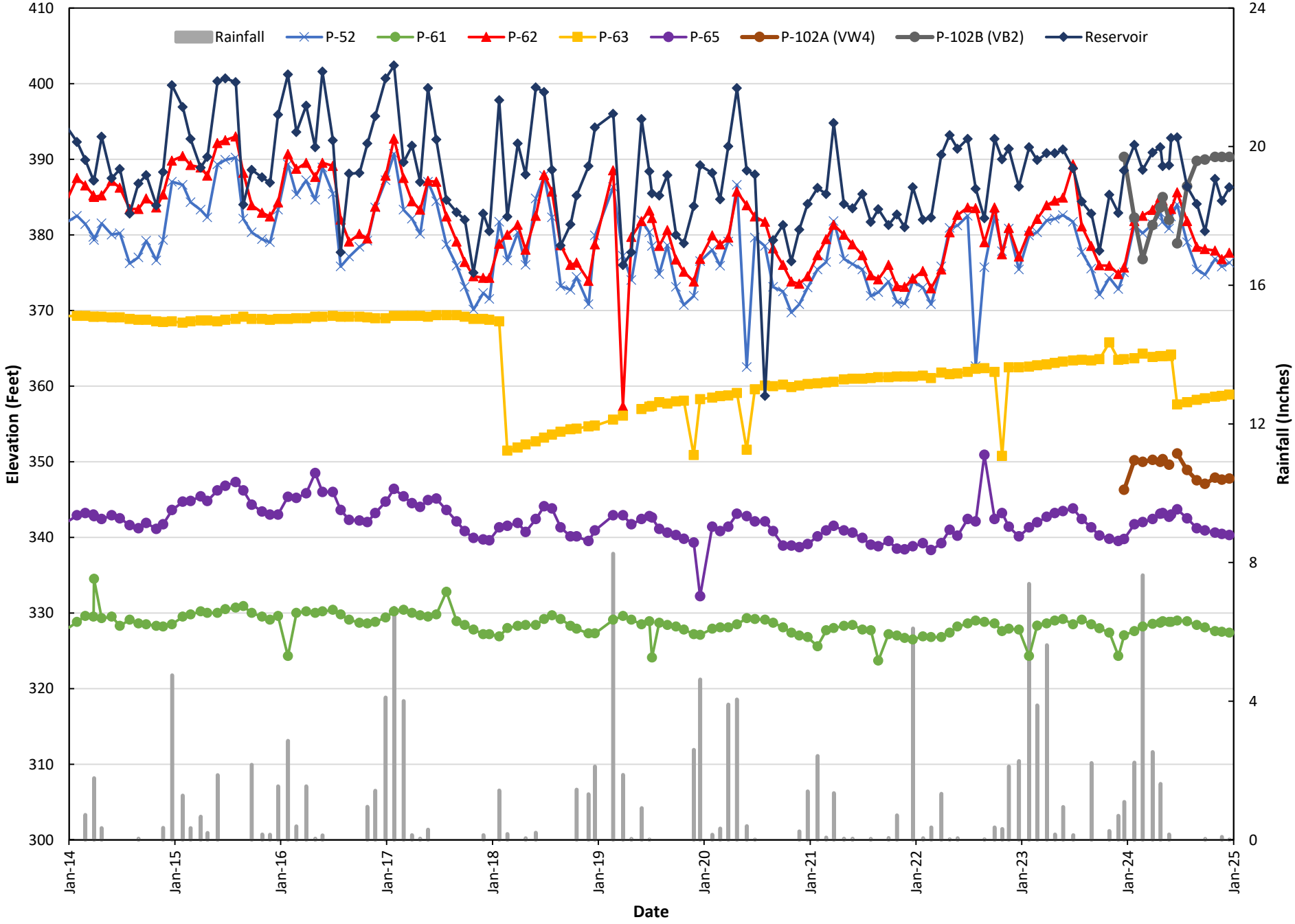


Figure 13
RATTLESNAKE CANYON DAM
2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL
FLOW POINTS FP-11, FP-1 NORTH, FP-1 SOUTH
JANUARY 2023 THROUGH DECEMBER 2024

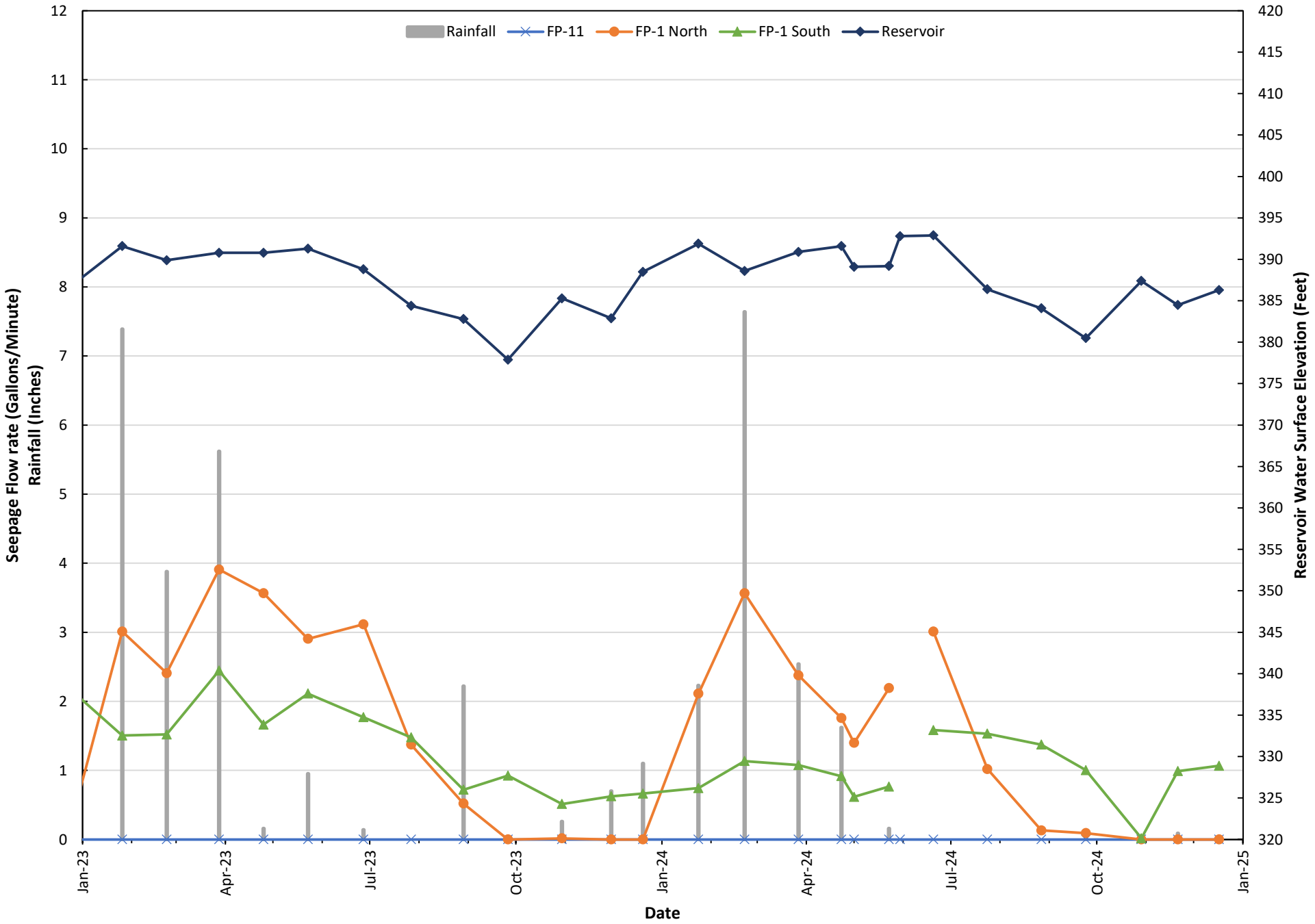


Figure 14
RATTLESNAKE CANYON DAM
2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL
FLOW POINTS FP-2, FP-3, FP-4
JANUARY 2023 THROUGH DECEMBER 2024

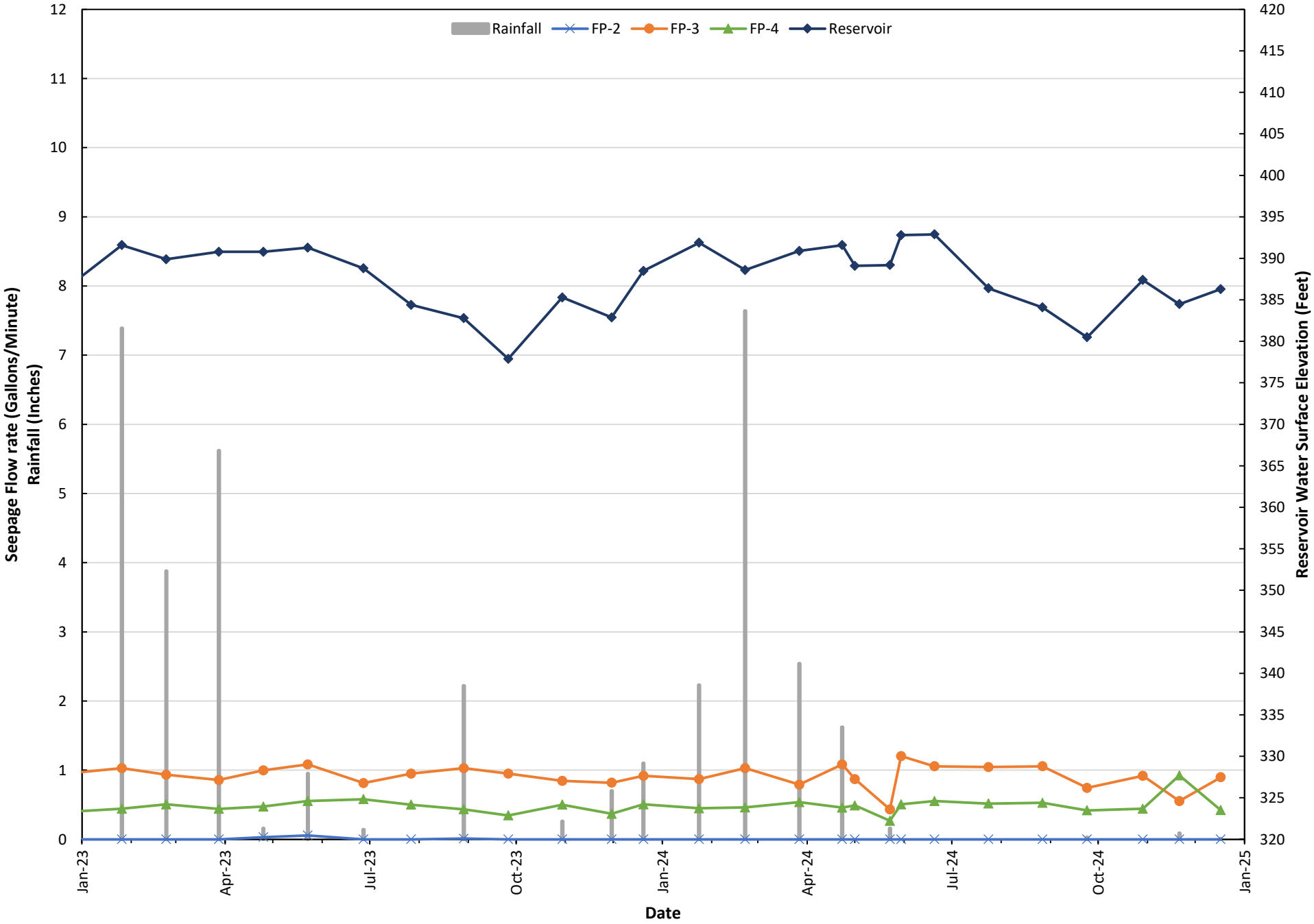


Figure 15
RATTLESNAKE CANYON DAM
2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL
FLOW POINTS FP-5, FP-8
JANUARY 2023 THROUGH DECEMBER 2024

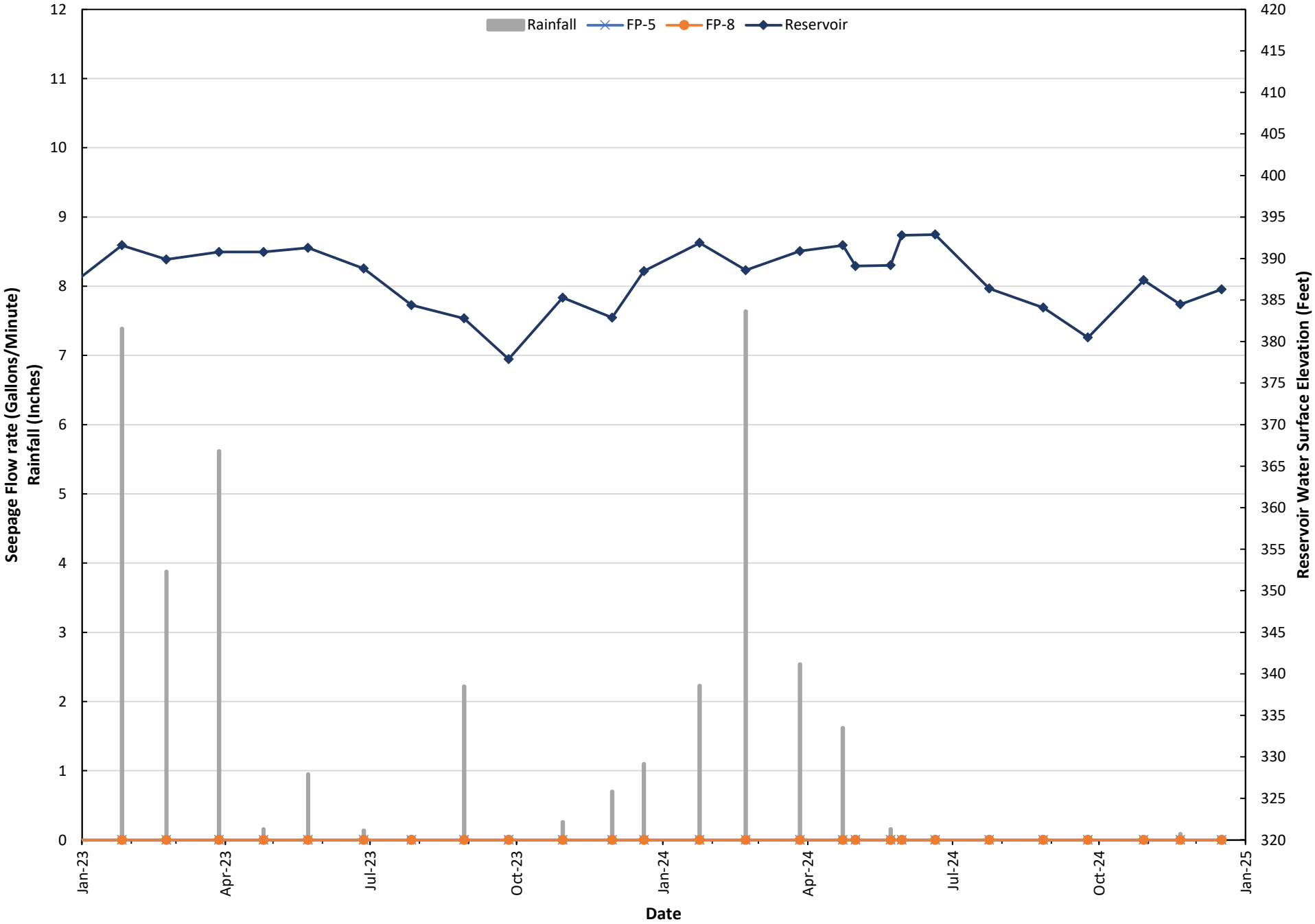


Figure 16
RATTLESNAKE CANYON DAM
HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS
FLOW POINTS FP-11, FP-1 NORTH, AND FP-1 SOUTH
JANUARY 2014 THROUGH DECEMBER 2024

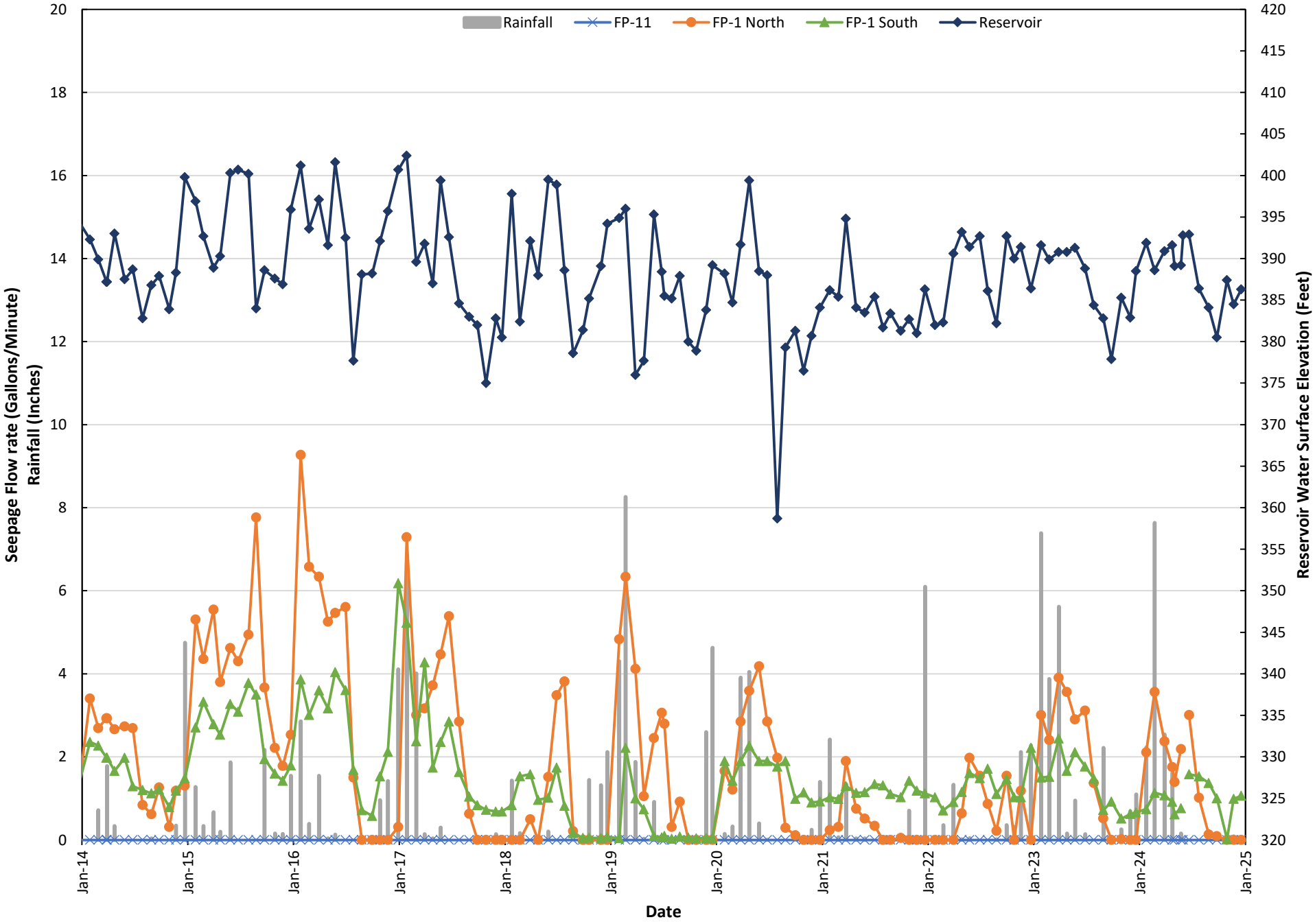


Figure 17
RATTLESNAKE CANYON DAM
HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS
FLOW POINTS FP-2, FP-3, AND FP-4
JANUARY 2014 THROUGH DECEMBER 2024

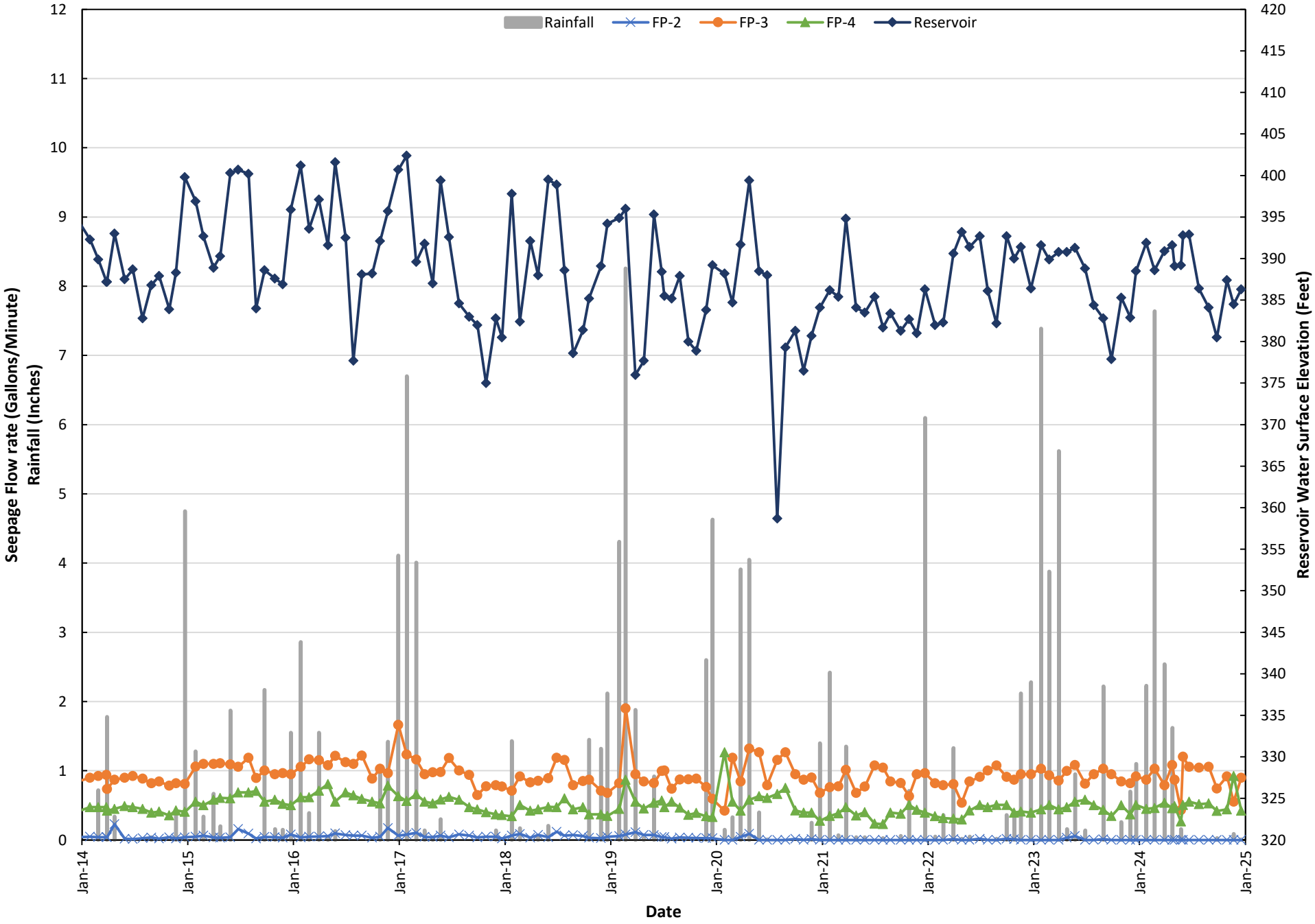


Figure 18
RATTLESNAKE CANYON DAM
HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS
FLOW POINTS FP-5, AND FP-8
JANUARY 2014 THROUGH DECEMBER 2024

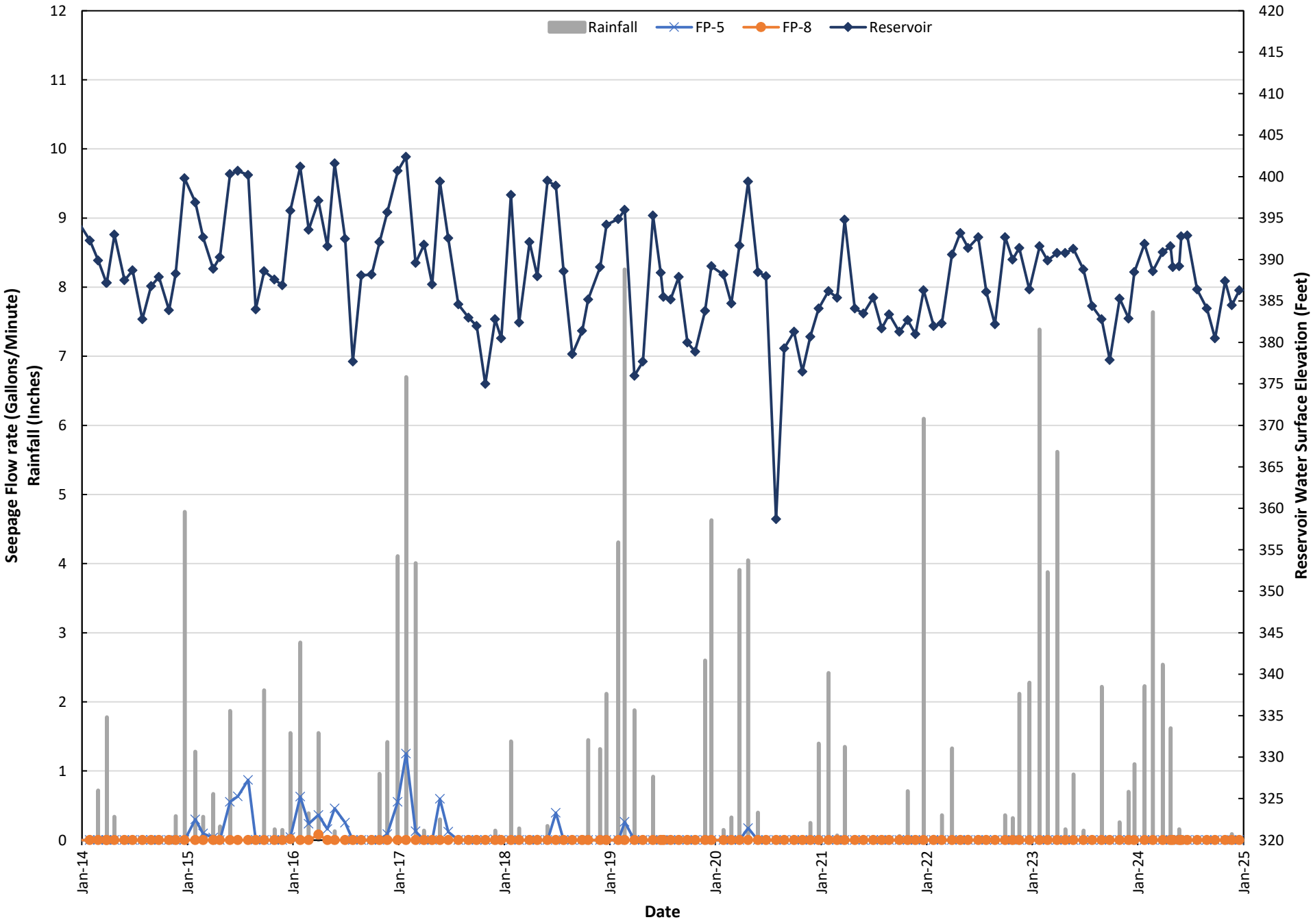


Figure 19
RATTLESNAKE CANYON DAM
HISTORICAL CUMULATIVE HORIZONTAL DISPLACEMENT
SURVEY MONUMENTS A, B, B-1, C, D, E AND E-1
1985 THROUGH 2024

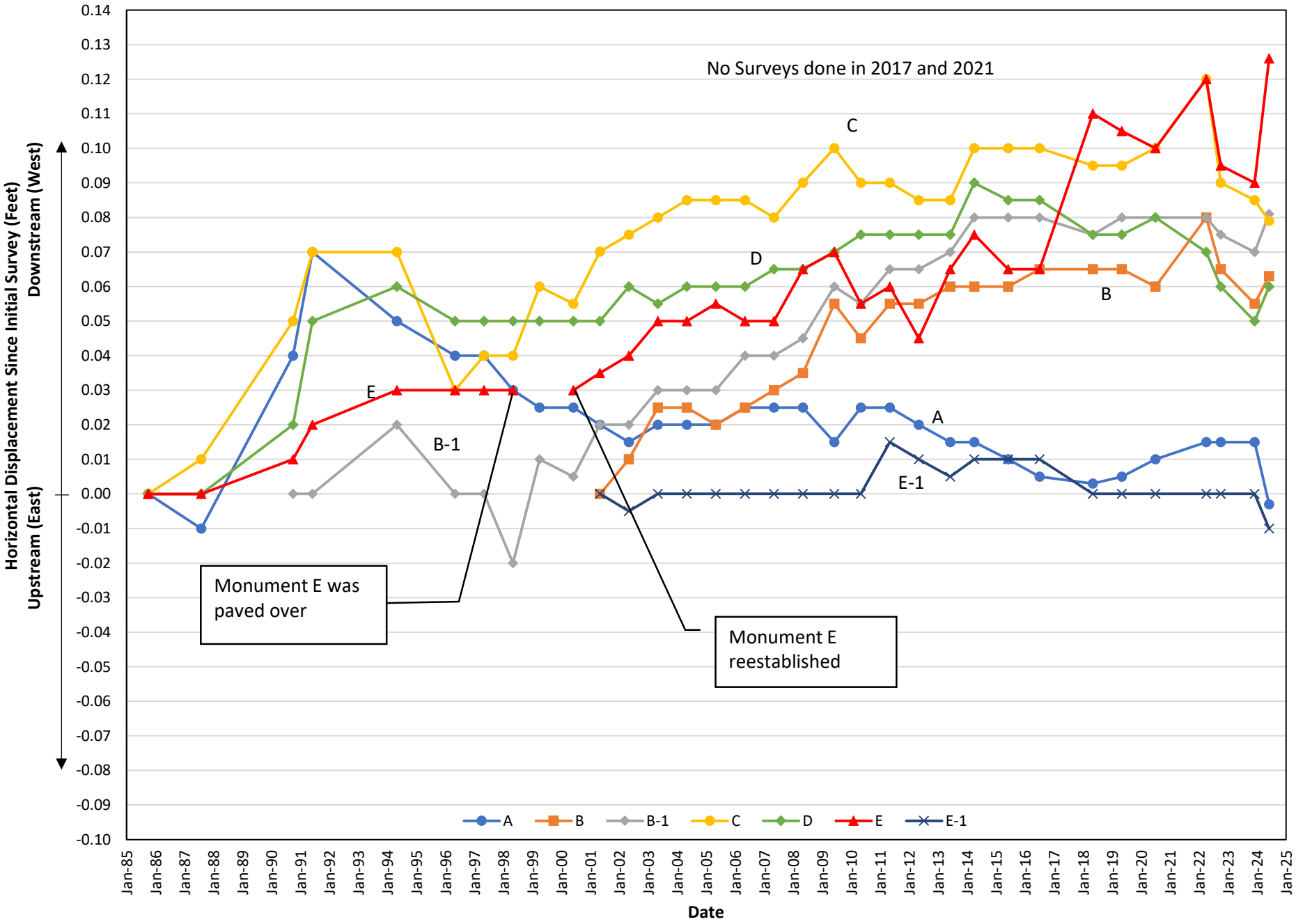
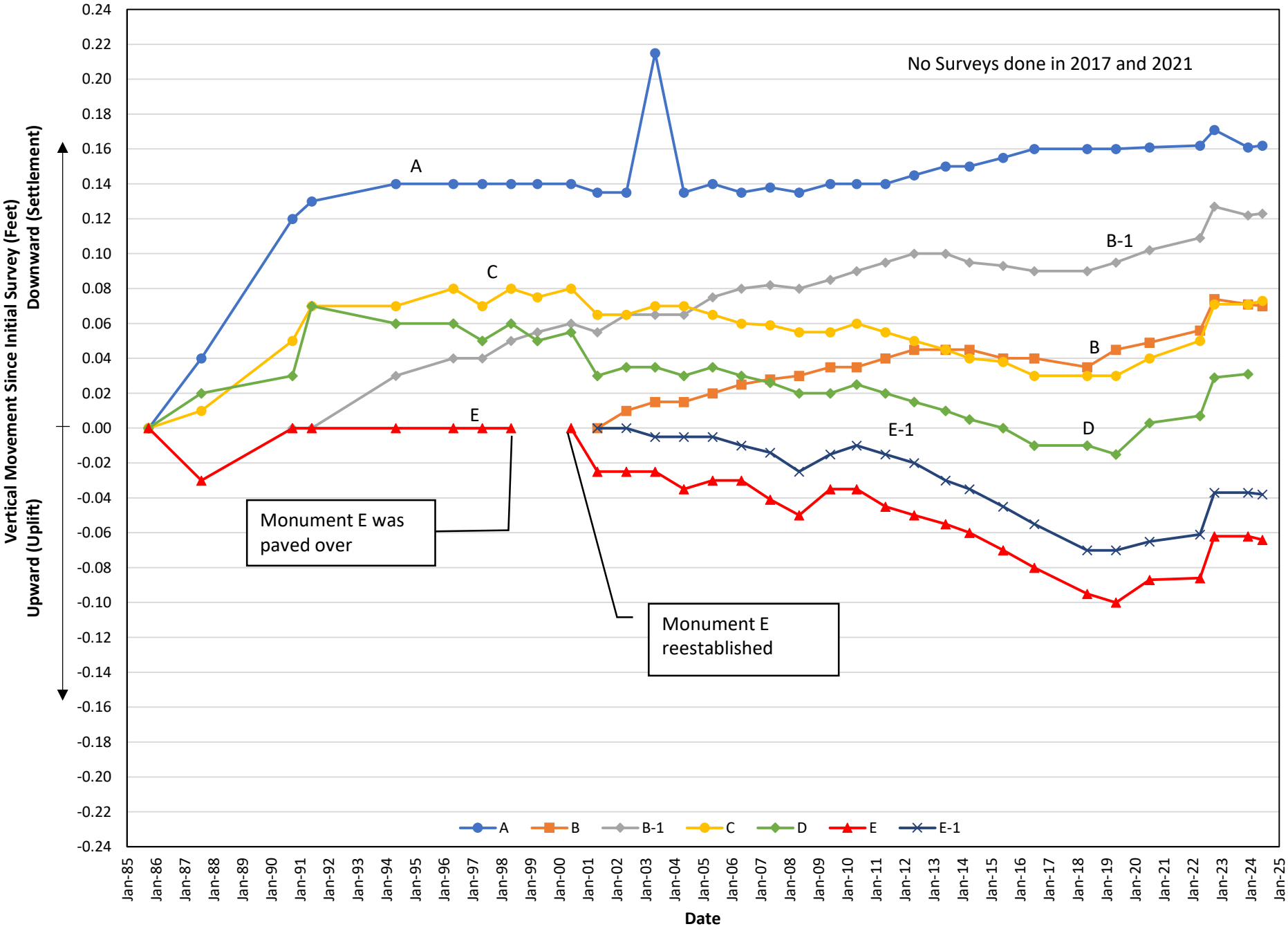


Figure 20
RATTLESNAKE CANYON DAM
HSTORICAL CUMULATIVE VERTICAL DISPLACEMENT
SURVEY MONUMENTS A, B, B-1, C, D, E AND E-1
1985 THROUGH 2024



Appendix

Inspection Photographs of Rattlesnake Canyon Dam – March 25, 2024

IRWD Dam Outlet Valve Exercising Log

GUIDA Survey Report

As-Built Well Details for P-101 and P-102

Spillway Inspection Exhibit

Spillway Inspection Photographs – October 24, 2024

Inspection Photographs of Rattlesnake Canyon Dam

March 25, 2024

Photo 1) Downstream face looking towards right abutment from the middle bench.

Photo 2) Dam crest, downstream face, and upstream face looking towards right abutment. Note recent crack sealant repairs.

Photo 3) Dam crest, downstream face, and upstream face looking towards left abutment.

Photo 4) Downstream face and bench as viewed from right abutment access road.

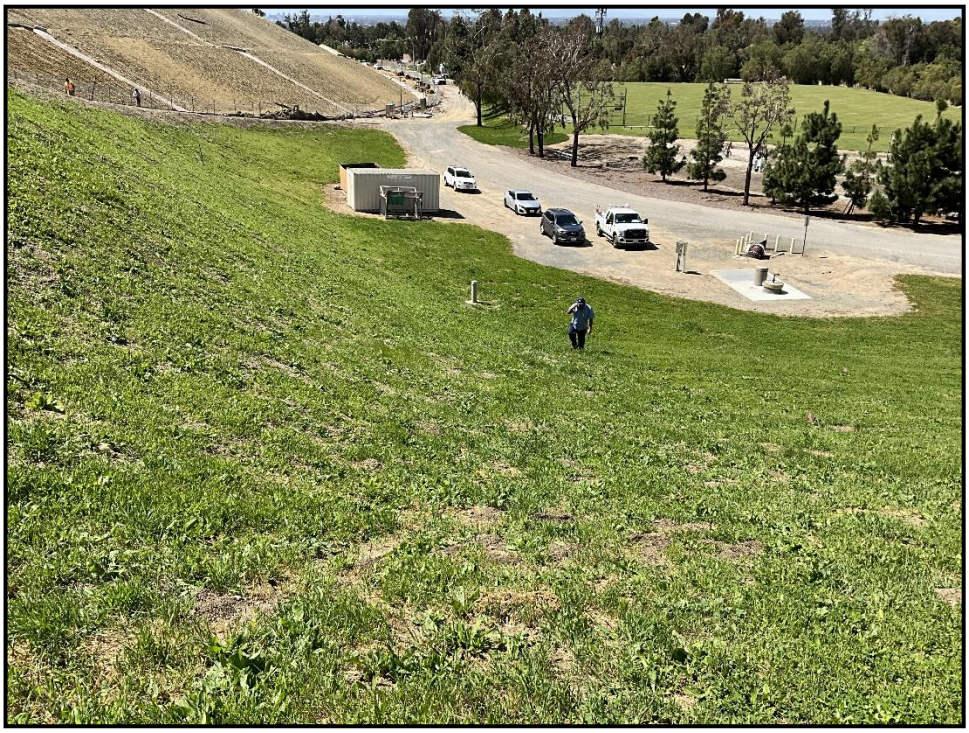


Photo 5) View along the left downstream face.

Photo 6) Downstream face and toe as viewed from right abutment access road.

Photo 7) Rodent activity along left downstream face.

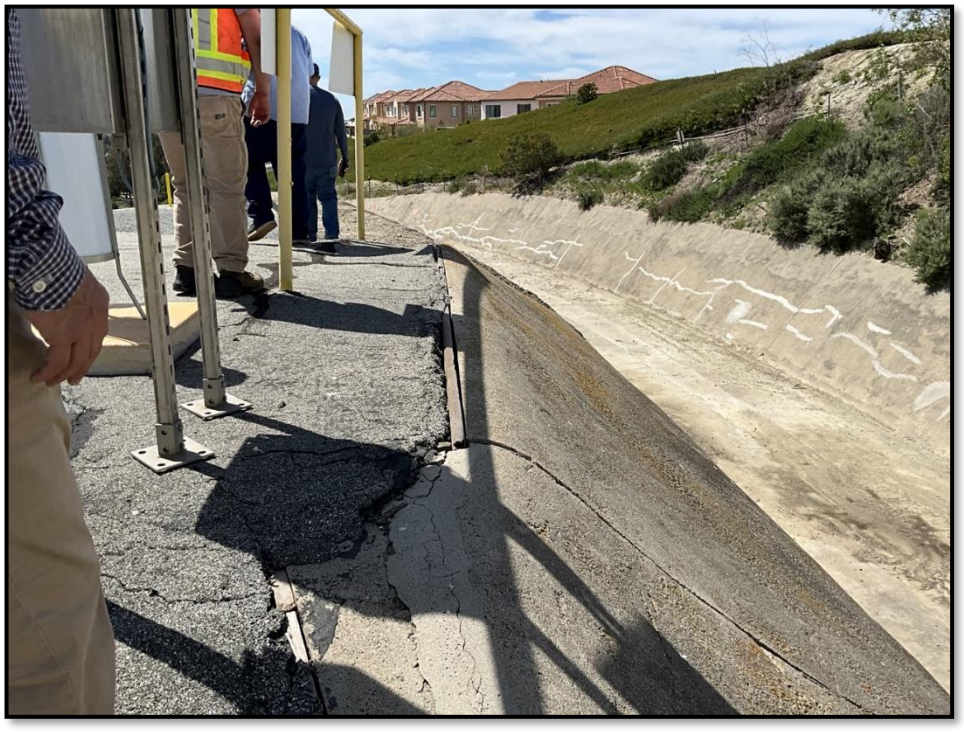


Photo 8) Separation between AC pavement and spillway concrete liner joint.

Photo 9) Spillway channel looking upstream. Note recent sealant repair on the right spillway wall.

Photo 10) Spillway channel looking downstream. Note recent sealant repair on the right spillway wall.

Photo 11) Spillway channel. Note hairline cracking on the right spillway wall.

Photo 12) Hairline cracking on right spillway wall. Note crack gauge on longitudinal crack.

Photo 13) Spillway stilling basin looking downstream. Note trees and vegetation.

Photo 14) Upstream outlet valves.

Photo 15) Seepage drain-pipe outfalls at the bottom of the seepage vault downstream of dam.

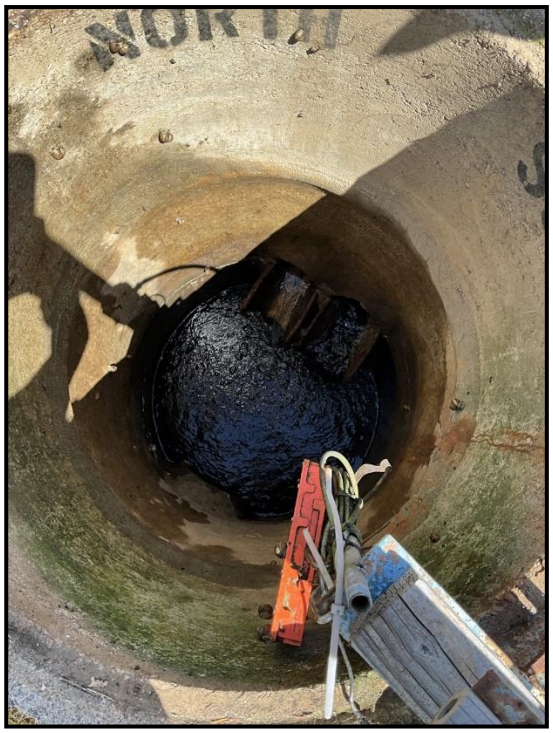


Photo 16) Seepage drain-pipe outfalls at the bottom of MH #1 downstream of dam.

IRWD Dam Outlet Valve Exercising Log

IRWD DAM OUTLET VALVE EXERCISING LOG

RATTLESNAKE CANYON DAM VALVE EXERCISING

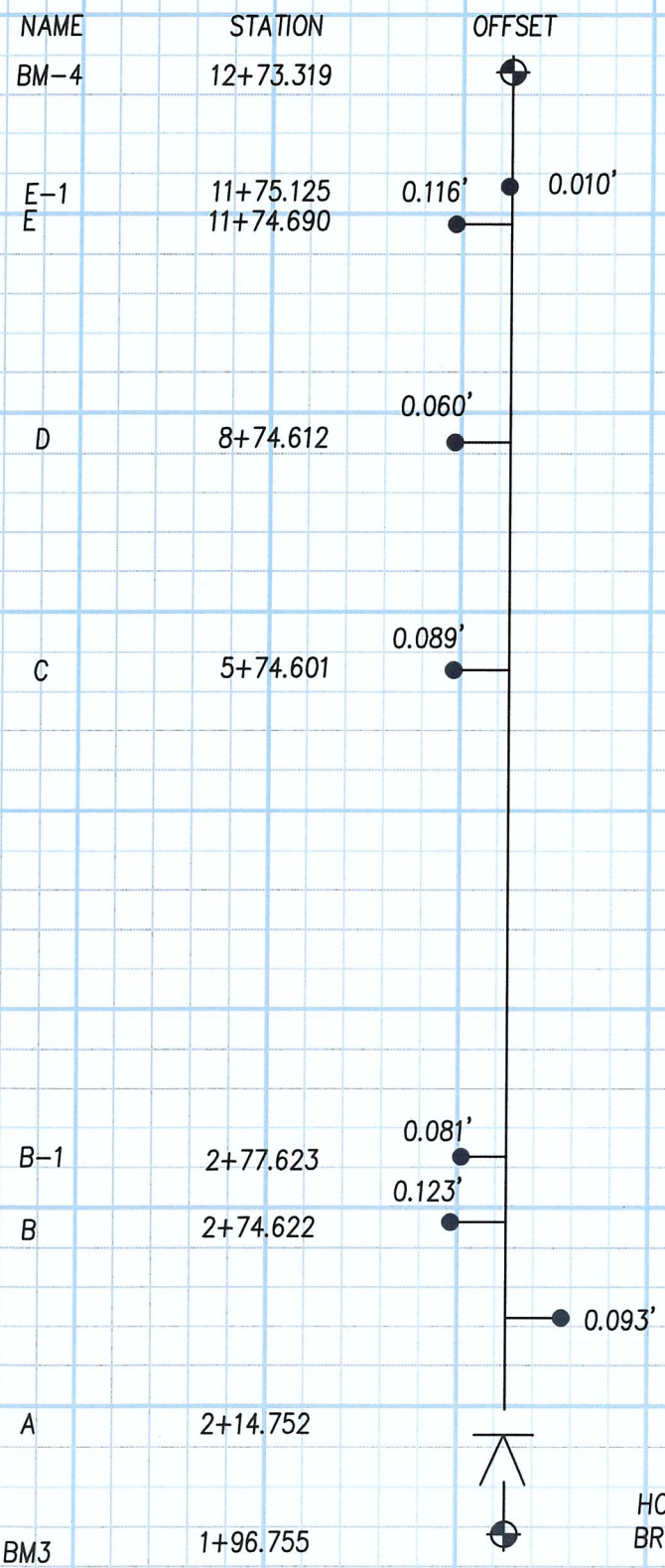
DATE	INITIALS	30" TOP # OF TURNS 390'	30" MIDDLE # OF TURNS 384'	30" BOTTOM # OF TURNS 375'	24" MAIN # OF TURNS 369'	BLOW-OFF VALVE # 2	BLOW-OFF VALVE # 1	24" EMERGENCY VALVE FLOW (CFS)	TIME (MIN)	TOTAL GALLONS	REASON	COMMENT
5/7/2013		135	53	55	270	N/A	Not Turned			0		
4/22/2014		135	53	55	270	N/A	Not Turned			0		
4/20/2015		135	53	55	270	N/A	36			0	DSOD	
4/15/2016		135	53	55	270	N/A	Not Turned			0		
6/12/2016		135	53	55	270	N/A	36			0		
4/18/2017		135	53	55	270	N/A	36			0		
5/2/2018		135	53	55	270	N/A	Not Turned			0	DSOD	
8/14/2018		135	53	55	270	Installed; 36	36			0		
3/28/2019		135	53	55	270	36	36			0	DSOD	
1/14/2020		Not Turned	Not Turned	Not Turned	Not Turned	Not Turned	Not Turned			0	DSOD	
4/23/2020		135	53	55	270	36	36			0		
4/27/2021		135	53	55	270	36	36			0		
5/9/2022		135	53	55	270	36	36			0		
4/18/2023		135	53	55	270	36	36			0	DSOD	
11/6/2024	SH,AL,DQ	310	158	Broken	268	Not Turned	Not Turned			0	Inspection	Bottom valve
										0		
										0		
										0		
										0		
										0		
										0		

GUIDA Survey Report

GUIDA GEOSPATIAL SOLUTIONS

CREW: J.GROEN/J.PINTAVALLE
DATE: 2024-06-07
GUIDA JOB NUMBER: 0123-02577
JOB DESCRIPTIONS: RATTLESNAKE RESERVOIR

RESERVOIR MONITORING LAND SURVEYING NOTES



NOTES:

- A- REBAR/PUNCH MARK IN AC HOLE DN 0.20' (HELD 0.075' OFFSET W/LN BM4 AND E-1)
- B-E REBAR/PUNCH IN WELL MONUMENT
- E-1 PUNCH MARK ON RIM OF WELL MONUMENT

WEATHER CONDITIONS:
TEMP 65°
OVERCAST SKIES
HUMIDITY 90%
BAROMETRIC PRESSURE (INHG) 29.50
RESERVOIR WATER ELEVATION=392.9 +/-

INSTRUMENT SETUP

JOSHUA R. GROEN PLS 9753

GUIDA LEVEL NOTES

PAGE 2 OF 2

DATE: 2024-06-07

GUIDA JOB

CREW: J. GROEN/ J. PINTAVALLE

NUMBER: 0123-02577

CLIENT NAME: IRWD

PROJECT NAME: IRWD ANNUAL DAM MONITORING

PROJECT LOCATION: RATTLESNAKE RESERVOIR

INSTRUMENT S/N: D1N1 754759

WEATHER: OVERCAST

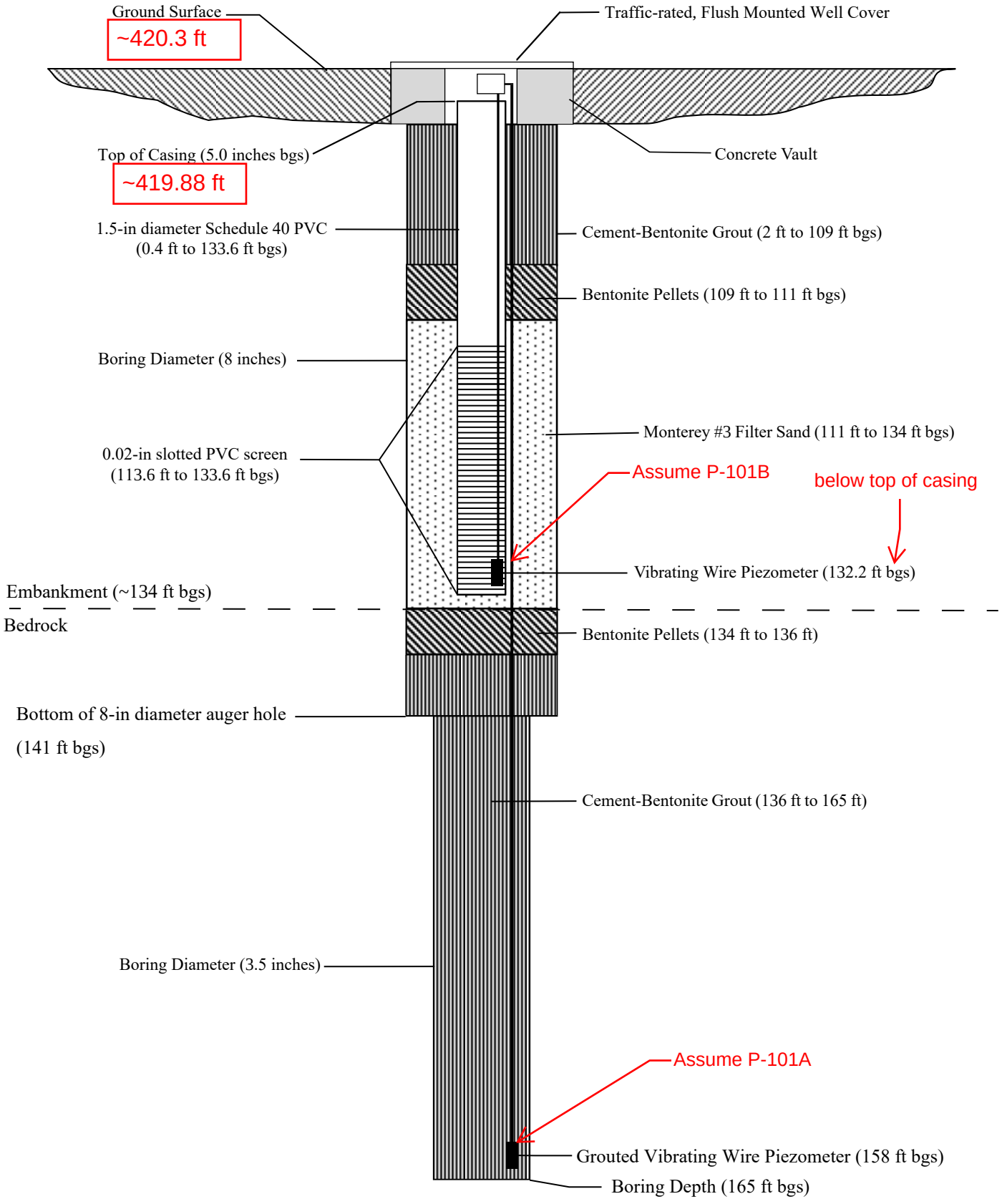
PRESSURE: 29.50

TEMP: 65° F

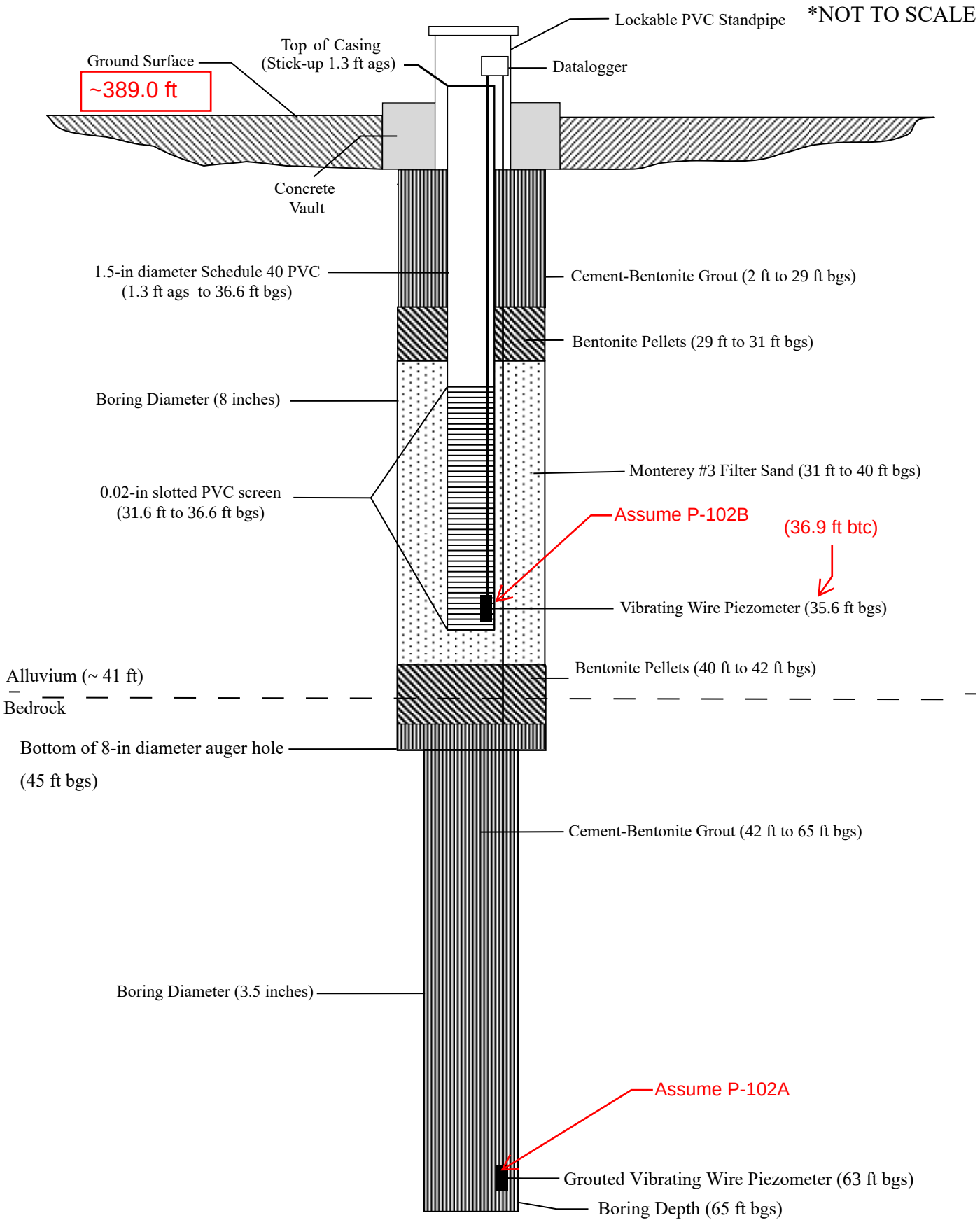
STATION	BS	HI	FS	ELEV	ADJUSTED ELEVATION	DESCRIPTION/NOTES
BM3					420.005	
	7.534	427.539				
A			8.381	419.158		REBAR W/PUNCH IN AC
	4.282	423.440				
B			5.495	417.945		REBAR W/PUNCH IN AC
	5.624	423.569				AT PTS B THRU E
B1			5.711	417.857		
	5.291	423.148				
C			5.242	417.907		
	5.278	423.185				
D			4.935	418.250		
	5.513	423.763				
E			5.633	418.129		
	5.791	423.921				
E1			5.137	418.783		PUNCH ON WELL RIM
	5.046	423.829				
D			5.580	418.249		
	4.873	483.182				
C			5.215	417.907		
	5.236	423.143				
B			5.197	417.946		
	5.519	423.465				
A			4.307	419.158		
	9.245	428.403				
BM3			8.398	420.005		

As-Built Well Details for P-101 and P-102

*NOT TO SCALE



AECOM	As-built Well Details for 23SPT-3 P-101	Figure D-1
	Location: Rattlesnake Dam Irvine,CA	Date Installed: 10/7/23



AECOM

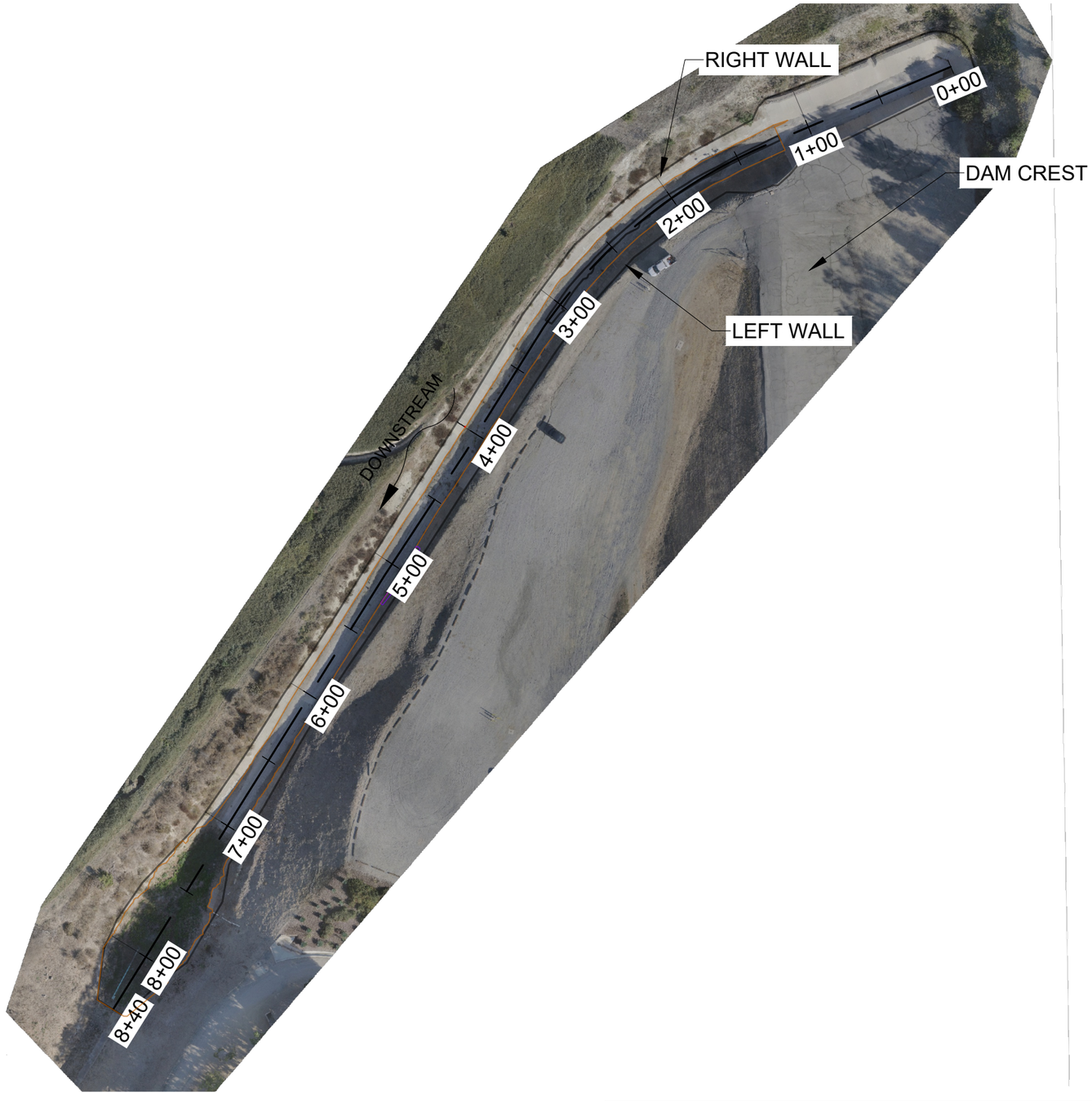
As-Built Well Details for 23SPT-5A P-102

Location: Rattlesnake Dam Irvine,CA

Date Installed: 10/3/23

Figure
D-2

Spillway Inspection Exhibit



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NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

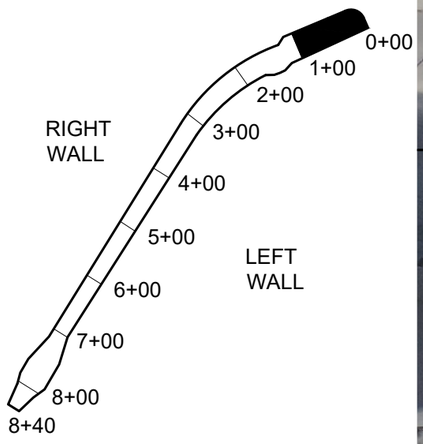
GEI Consultants

PLAN OVERVIEW

Project 2305575 | October 2024 | Fig. 1

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

0 10 20
SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

GEI Consultants

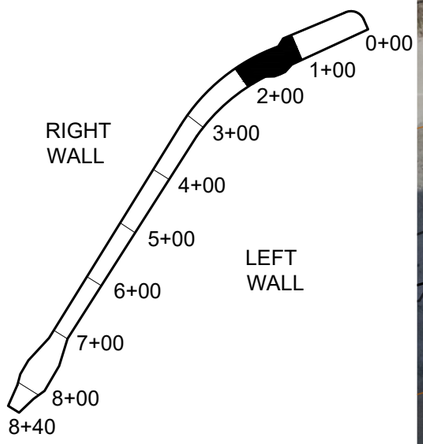
SPILLWAY FLOOR AND WALLS
STA 0+00 TO STA 1+00

Project 2305575 | October 2024 | Fig. 2

MARTINEZ-GRANATA, SANTIAGO C:\Users\sangra3887\OneDrive - GEI Consultants, Inc\Desktop\Working\3-year\2305575_Rattlesnake Canyon Spillway Inspection_Working.dwg - 2/27/2025

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

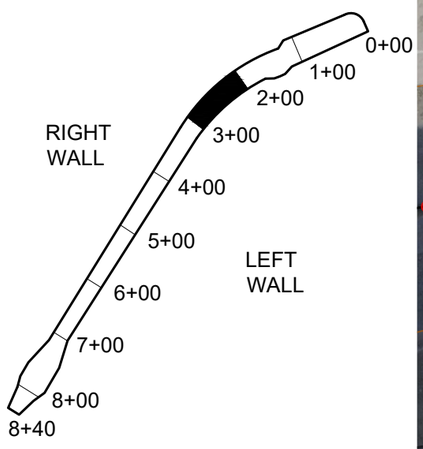
GEI Consultants

SPILLWAY FLOOR AND WALLS
STA 1+00 TO STA 2+00

Project 2305575 | October 2024 | Fig. 3

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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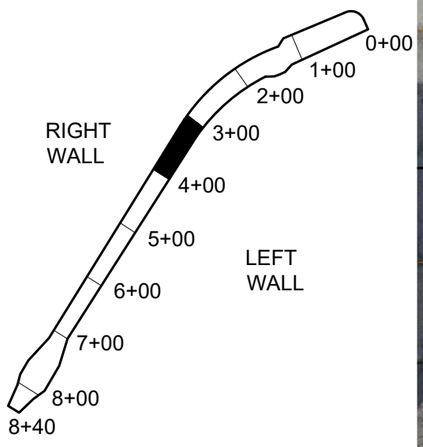
SCALE, FEET

SPILLWAY INSPECTION RATTLESNAKE CANYON DAM IRVINE, CALIFORNIA	GEI Consultants	SPILLWAY FLOOR AND WALLS STA 2+00 TO STA 3+00
IRVINE RANCH WATER DISTRICT IRVINE, CALIFORNIA	Project 2305575	October 2024 Fig. 4

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

GEI Consultants

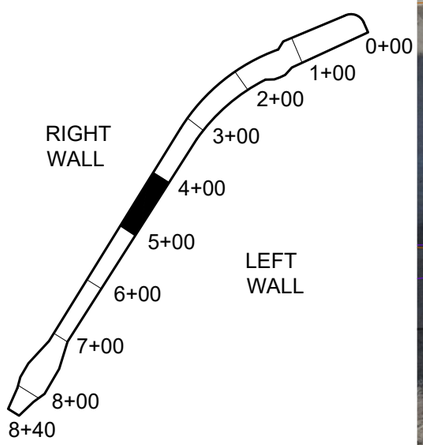
Project 2305575

SPILLWAY FLOOR AND WALLS
STA 3+00 TO STA 4+00

October 2024 Fig. 5

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

GEI Consultants

SPILLWAY FLOOR AND WALLS
STA 4+00 TO STA 5+00

Project 2305575 | October 2024 | Fig. 6

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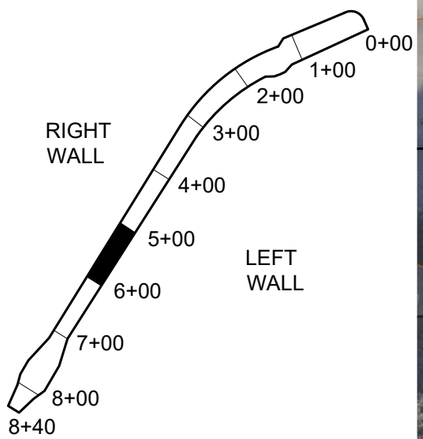
LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

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SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

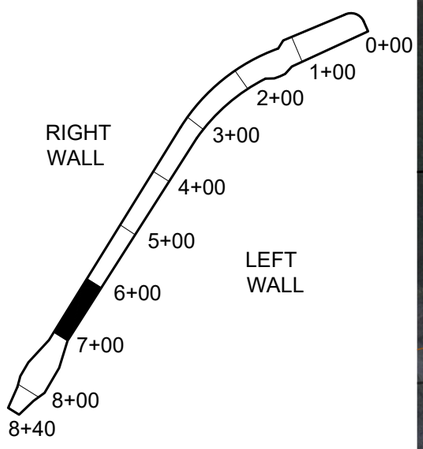
GEI Consultants

SPILLWAY FLOOR AND WALLS
STA 5+00 TO STA 6+00

Project 2305575 | October 2024 | Fig. 7

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

1. ORTHOMOSAIC COMPILED FROM IMAGERY CAPTURED ON 10/23/2024 FROM APPROXIMATELY 8:00 AM TO 12:00 PM.

0 10 20

SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

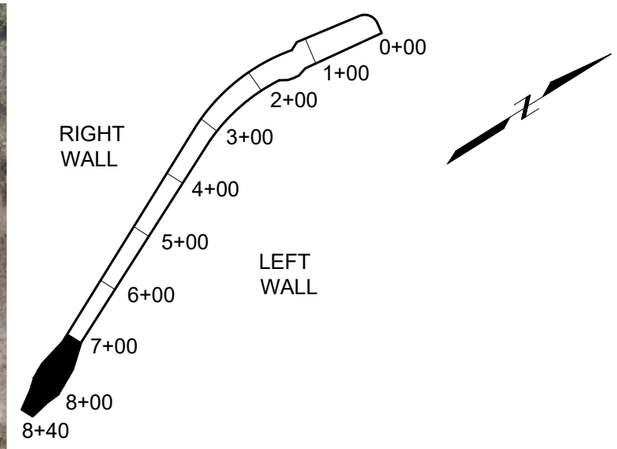
GEI Consultants

SPILLWAY FLOOR AND WALLS
STA 6+00 TO STA 7+00

Project 2305575 | October 2024 | Fig. 8

LEGEND:

- CONCRETE SPALL
- PREVIOUS REPAIR
- DELAMINATED PREV. REPAIR
- CONCRETE POPOUT
- DEBRIS / VEGETATION
- CRACKING
- DRAIN CLEANOUT
- PHOTO 2 — PHOTO REFERENCE
- L1, R1, C1 — WALL PANEL NUMBER



NOTES:

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0 10 20
SCALE, FEET

SPILLWAY INSPECTION
RATTLESNAKE CANYON DAM
IRVINE, CALIFORNIA

IRVINE RANCH WATER DISTRICT
IRVINE, CALIFORNIA

GEI Consultants

SPILLWAY FLOOR AND WALLS
STA 7+00 TO STA 8+40

Project 2305575 | October 2024 | Fig. 9

Spillway Inspection Photographs
October 24, 2024

10/23/2024: Spillway Inspection

Photo 1) Wall panel R1. Note 10” PVC pipe and mineral precipitate.

Photo 2) Wall panel C1 and L1. Note debris.

Photo 3) Wall panel L2. Note weep holes.

Photo 4) Typical 3”diameter weep hole. Note concrete popout.

Photo 5) Wall panel R2. Wall joint open ½" max between wall panel R2 and R3. Note previous concrete repairs.

Photo 6) Wall panel L4.

Photo 7) Wall joint open ½" max between wall panels L4 and L5.

Photo 8) Wall joint open ½" max between wall panels R4 and R5. Note recent concrete repairs.

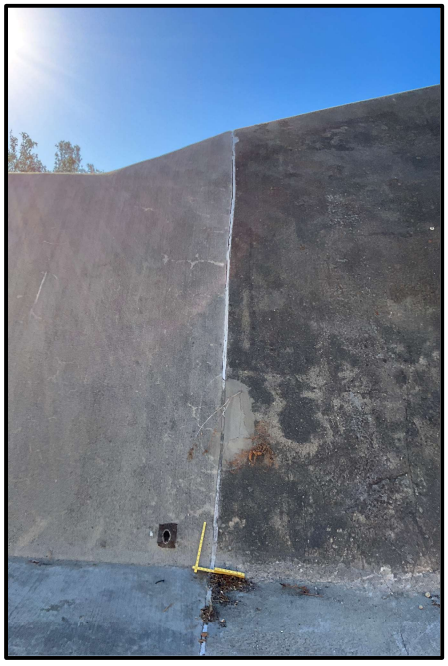

Photo 9) Wall joint open ½" top to middle between wall panels L5 and L6. Note delaminated previous concrete repair.

Photo 10) Wall joint open ½" top to middle between wall panels R5 and R6. Note delaminated previous concrete repair and 1/4" cracks. Note debris.

Photo 11) Panel R6. Note delaminated concrete repairs and ¼" cracks. Note debris.

Photo 12) Wall joint open ¼" max between wall panels L6 and L7. Note delaminated previous concrete repair and ¼" cracks.

Photo 13) Previous concrete repairs (typ) wall panels R8 and R9. Note debris.

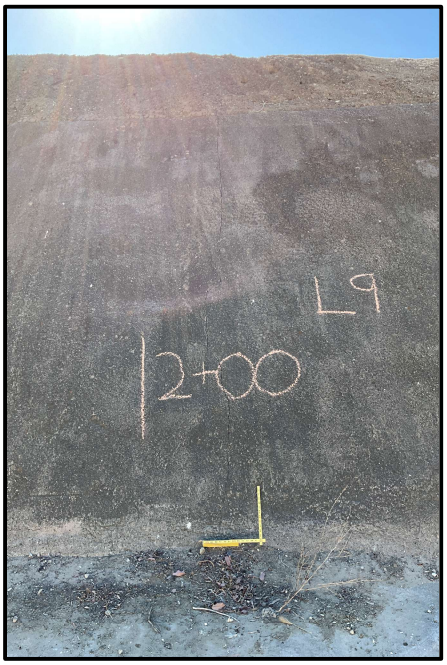

Photo 14) ¼”crack at wall panel L9.

Photo 15) ¼" crack at wall panel L10.

Photo 16) Delaminated previous repair and ¼" crack at wall panel L11.

Photo 17) Existing crack gauge along at wall panel R11.

Photo 18) Existing bulge along wall panel R11. Note previous concrete repairs.

Photo 19) View of spillway and existing utility trench looking upstream (U/S). Note cracks along trench construction joints and surrounding debris.

Photo 20) ¼" max slab joint opening and wall joint opening at wall panels L13 and L14. Note utility trench construction joints.

Photo 21) Wall joint open ¼" max between wall panels R12 and R13. Note previous concrete repair

Photo 22) 8" diameter PVC spillway drain looking U/S. Note debris.

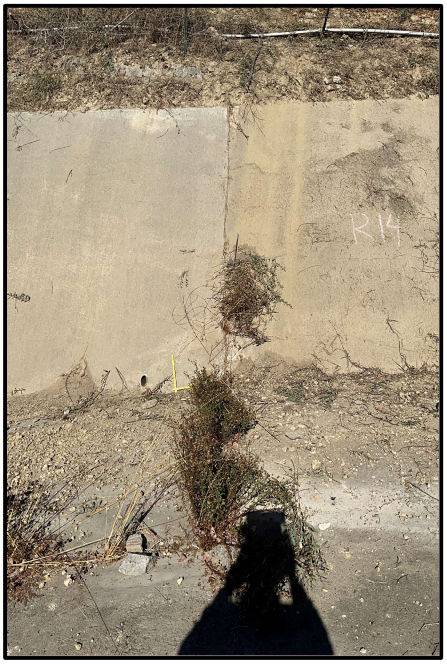

Photo 23) 1” Downstream (D/S) projecting wall joint open ¼” max between wall panels R14 and R15. Slab joint open ½” max. Note vegetation growing in slab and wall joints.

Photo 24) Existing trench from previous spillway channel repairs looking U/S. Note cracks and vegetation along construction joints.

Photo 25) Wall joint open ½" max between wall panels R15 and R16. Note vegetation at slab joint.

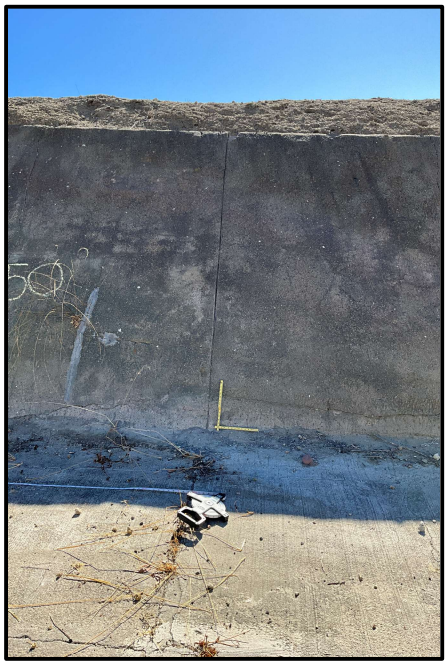

Photo 26) Wall joint open ½" max between wall panels L14 and L15. Note ½" longitudinal crack, concrete spalling, and delaminated previous repair.

Photo 27) ½" longitudinal and transverse cracks along wall panel L15. Note concrete spalling at bottom of wall.

Photo 28) ¼" crack at panel R16. Note 2" diameter PVC weep hole.

Photo 29) 1” D/S projecting wall joint open ¼” max between wall panels L16 US and L16 DS. Note ½” longitudinal cracks.

Photo 30) 1” D/S projecting wall joint open ¼” max between wall panels L16 US and L16 DS. Note ½” longitudinal cracks and concrete popout.

Photo 31) ½" U/S projecting wall joint open 1" max between wall panels L16 DS and L17. Note vegetation growing in wall and slab joints.

Photo 32) Bulge along wall panels L19, L20, and L21.

Photo 33) 1” U/S projecting wall joint open ½” max between wall panels R17 and R18. Note vegetation growing in wall and slab joints.

Photo 34) Bulge along wall panels L19, L20, and L21. Note ¼” transverse crack.

Photo 35) Bulge along wall panel L21. Note wall joint open ¼" max between wall panels L21 and L22.

Photo 36) ½" D/S projecting wall crack open ¼" max at wall panel L23.

Photo 37) 2” U/S projecting wall crack open 1” max at wall panel L23.

Photo 38) 2” U/S projecting wall crack open 1” max at wall panel L24.

Photo 39) ¼” U/S projecting wall joint open ½” max between wall panels L25 and L26. Note ½” transverse crack.

Photo 40) 1 ¾” U/S projecting wall joint open ½” max between wall panels R25 and R26. Note vegetation growing in wall joint

Photo 41) ½” longitudinal crack along spillway floor.

Photo 42) 1 ½” D/S projecting wall joint open ½” max between wall panels R28 and R29. Note vegetation growing in wall joint.

Photo 43) 1 ½” D/S projecting wall joint open ½” max between wall panels R28 and R29. Note vegetation growing in wall joint and ½” transverse cracks.

Photo 44) ½” transverse crack along wall panel L28.

Photo 45) View of spillway stilling basing looking D/S. Note vegetation and sediment.

Photo 46) View of spillway stilling basin looking U/S. Note vegetation and sediment.