Annual Surveillance Report January 2022 to December 2022 for Syphon Canyon Dam

DSOD Dam No. 1029-004

Irvine, California

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

Irvine Ranch Water District

Prepared by:
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GEI Consultants

May 2, 2023
GEI Project No. 1901888

GEI Consultants

Consulting Engineers and Scientists

May 2, 2023
GEI Project No. 1901888

Ms. Danielle Drake,
Assistant Engineer – Dams & Storage
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92618

Re: Syphon Canyon Dam, DSOD Dam No. 1029-004,
Annual Surveillance Report from January 2022 to December 2022

Dear Ms. Drake:

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

We appreciate this opportunity to provide the District with our services. Please contact Emerson Revolorio at erevolorio@geiconsultants.com 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
DSOD	State of California, Department of Water Resources, Division of Safety of Dams
El, EL, Elev	elevation
ft	feet
GEI	GEI Consultants, Inc.
gpm	gallons per minute
gal/min	gallons per minute
H:V	Horizontal to Vertical
ID	identification
in.	inches
liter/min	liters per min
MW	monitoring well
NAVD 88	North American Vertical Datum of 1988
NGVD 29	National Geodetic Vertical Datum of 1929
No.	number
NOAA	National Oceanic and Atmospheric Administration
P.E.	Professional Engineer
P or Piez	Piezometer
RCP	reinforced concrete pipe
Res.	Reservoir
VW or VBW	Vibrating Wire
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 for Syphon Canyon Dam conducted by the Irvine Ranch Water District (District) and GEI Consultants, Inc. (GEI) between January 2022 through December 2022. It includes a review of previous surveillance reports, a compilation of the field measurements, observations, and conclusions related to the general condition and safety of the dam. In addition, recommendations are provided for continued operation, surveillance, and monitoring of the dam. This report is submitted as part of the jurisdictional requirements of the State of California, Department of Water Resources, Division of Safety of Dams (DSOD).

This report includes graphical summaries of the field measurements of water levels in the piezometers and seepage flow rates. It includes two-year graphical summaries (short term) of water levels in the piezometers, flow from the subdrain, and reservoir water levels, as well as historical (long term) graphical and tabular summaries of this data. The historical data is used to evaluate the long-term performance of the dam and reservoir and to identify any adverse trends. Water levels in the piezometers and seepage flow rates are presented with corresponding reservoir water surface elevations.

Figure 1 is a plan view of the dam and reservoir and instrumentation locations. Figure 1A is a section of the dam along the maximum section showing piezometers along this plane. As used in this report, the left and right designations are as viewed looking downstream.

The report also contains tabulated data and graphs of the field measurements of water levels in the piezometers and seepage flow rates. Table 3 provides historical readings of each piezometer and seepage flow measuring point.

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

1.2 Dam and Reservoir

Syphon Canyon Dam and Reservoir are located in Orange County, California, and were constructed in 1949 by the Irvine Company. Irvine Ranch Water District (District) took over operation of the dam and reservoir in January of 2010.

Syphon Canyon Dam is a 59-foot-high homogeneous embankment dam. As Built plans show the dam crest is at Elevation of 385 ft, with a crest length of 843 ft and a crest width of 10 ft. The

upstream face of the dam has a slope of 1.2H:1V from the crest to Elevation 378 ft, 1.4H:1V between Elevations 378 and 370 ft, and then a slope of 6H:1V to the upstream toe of the embankment. The downstream face has a uniform slope of 2.25H:1V with a bench at Elevation 340 ft. The upstream face is covered by low height grass cover and riprap, the downstream face is covered by well-maintained low height grass cover and the crest is surfaced with soil and gravel.

The watershed contributing to the reservoir has a drainage area of only 0.3 square miles. The reservoir area is 27 acres, and the reservoir storage capacity is 578 acre-feet at the spillway crest elevation.

1.3 Spillway

The spillway is located within the left abutment of the dam and consists of an approach apron and a broad-crested weir leading to a 12.5-foot-wide open trapezoidal channel and chute. The weir control section and sides of the spillway channel and chute are lined with shotcrete/gunite. Concrete was also placed to form the control section. The spillway crest is at Elevation 378.0 ft, providing 7 ft of total freeboard.

1.4 Outlet Works

The outlet conduit consists of a 15-inch-diameter reinforced concrete pipe (RCP) with upstream and downstream control valves. The outlet is located at the right end of the dam and the manual operating equipment for the upstream control valve is located near the top of dam. In 2015, the 15-inch slide gate at the inlet was replaced with a 12-inch-diameter valve. The invert of the inlet is at approximately Elevation 336.0 ft.

At the downstream side of the dam, the 15-inch-diameter RCP transitions to a 16-inch-diameter metal pipe with a 16-inch butterfly valve controlling the flow in the pipe. The 16-inch metal pipe then joins a 16-inch-diameter, cement-mortar-lined and-coated (CML&C) steel pipe that connects to the Interim Facility, which serves as a reservoir drain line. The interim facility consists of a strainer facility which is used prior to serving recycled water to customers. An emergency blowoff pipe branches off the 16-inch steel pipe and discharges into the underground storm drain water system.

The District provided a Reservoir Dam Valve Exercising summary table which states that 4/14/2022 was the date the valves were exercised during the 2022 reporting period. The table is provided in the Appendix of this report.

1.5 Subdrains

The dam embankment is homogeneous and there was no internal drainage system installed during the original construction of the dam. However, seepage through the dam and/or

foundation is collected and directed to the seepage collection vault located beyond the downstream toe of the dam (Figure 1). The seepage collection vault has just one seepage subdrain outlet.

2.0 Field Measurements

2.1 General

Based on data provided by the District, field measurements at Syphon Canyon Dam have been taken on a regular basis since March 25, 2008. These measurements include the water levels in 12 piezometers and seepage readings starting in 2009. District personnel measure the water levels in the reservoir, piezometers, and the seepage flow monthly. Precipitation is measured by an onsite rain gage. There are no monitored survey monuments at this dam.

Figure 1 is a Site and Instrumentation Plan showing the layout of the dam and appurtenances, as well as the locations of the piezometers and the seepage collection subdrain. Figure 1A shows the piezometer locations along the maximum section of the dam. The left and right designations are as viewed looking downstream.

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

Based on the ten-year historical data from January 2012 through December 2022, the reservoir water surface elevation varied from dry to a maximum Elevation of 375.9 ft. During the 2022 review period, the reservoir was drained, and the maximum water surface elevation was 374.6 on 2/23/2022. The District started draining the reservoir in April 2022 in preparation for the Syphon Canyon Dam Improvements Project. The reservoir has been fully drained since June 2022.

2.2 Piezometers

Originally, the dam had 12 open-well piezometers. An open-well piezometer is a small-diameter well used mainly to measure the water pressure or depth to groundwater. It is typically installed in a casing inside a vertical borehole and has a discrete perforated zone near its bottom to enable monitoring of changes in groundwater levels within that zone. More than one piezometer can be installed within a single, larger-diameter outer well casing. These groups of piezometers are often referred to as multi-stage or nested piezometers.

In December 2015, the District converted Piezometers VBW/2-A, VBW/2-B, VBW/4, VBW/5, VBW/6, VBW/7, VBW/8, and VBW/9 to vibrating wire piezometers. Vibrating wire piezometers contain high tensile steel wire attached at one end to a diaphragm. The frequency of vibration in the wire induces an alternating electrical current in a coil. The magnitude of the current is detected, and the reading is then converted to a pressure. The pressure fluctuates with

changes in water levels in the immediate vicinity of the piezometer tip. Between May 2020 and November 2020, the District was having problems with the vibrating wire piezometer data logger and did not provide readings, as can be seen in the Table 3 data. The District was able to fix the data logger unit with the help of the manufacturer (Geokon) and provided readings for the 2021 review period. The readings appear to be given as depths and in units of feet and seem to follow the historical trends seen before the data logger malfunction. The exception includes vibrating wire piezometers VBW/2A and 2B, which appear to be providing erroneous readings, which is attributed to incorrect data logger conversion settings.

The location of each piezometer is shown in Figure 1. Table 3 lists piezometer water levels from March 2008 through December 2021. Figures 2 through 5 are graphical plots of piezometer water levels and reservoir water surface elevations during the two-year period from January 2021 through December 2022. Figures 6 through 9 are graphical plots of the historical piezometer water levels and reservoir water surface elevations from 2012.

The following is a discussion of each piezometer including the water level measurements during the 12-month review period as well as comparisons with historical trends.

Table 1 provides the ranges between maximum and minimum water levels in each piezometer based on trends from the ten-year historical data from January 2011 through December 2021, the ranges between maximum and minimum water levels during the 2021 review period, and the ranges between maximum and minimum water levels during the 2022 review period. Outlier readings with isolated spikes or drops were not 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	2011-2021 10-year Maximum and Minimum Range (ft)	2021 Review Period Maximum and Minimum Range (ft)	2022 Review Period Maximum and Minimum Range (ft)	Comment
P-1A	0.3	0	0	Dry
P-1B	12.5	7.6	9.6	Piezometer has been dry since 6/29/2022
P-3A	0.6	0	0	Dry
P-3B	10.3	7.8	9.4	Piezometer has been dry since 6/29/2022
VBW/4	12.9	1.8	3.7	
VBW/5	18.4	5.3	12.6	
VBW/6	0.9	0	0	Dry
VBW/7	4.3	0	0.9	Dry
VBW/8	4.6	2.0	0	Dry
VBW/9	5.0	0	0	Dry

Piezometers P-1, VBW/2 and P-3 are located on the crest of the dam. Piezometer VBW/2 is located near the maximum section of the dam, P-1 is located on the right side of the crest, and P-3 is located on the left side of the crest. Piezometer P-lA is nested in the same well as Piezometer P-1B at the right end of the crest of the dam. The tip of P-lA is located within the dam embankment at Elevation 365.7 ft, while the tip of P-1B is within the dam foundation at Elevation 345.7 ft.

Piezometer P-lA remained dry during the report period. Piezometer P-1B responded to the full drainage of the reservoir and has been dry since 6/29/2022 (Figures 2 and 6).

Piezometer VBW/2-A is nested in the same well as Piezometer VBW/2-B on the crest of the dam, near the maximum section of the dam. The tip of VBW/2-A is located within the dam embankment at Elevation 342.2 ft, while the tip of VBW/2-B is within the dam foundation at Elevation 304 ft. VBW/2-A appears to be providing erroneous readings because on May 26, 2021, the water level elevation rose approximately 20 ft, above the reservoir level, and stayed near this elevation for the rest of 2021, see Figure 3.

The water level readings in Piezometer VBW/2-B have been periodically unreliable (erroneous) since the vibrating wire instrument was installed in December 2015. In 2016, the District determined that the vibrating wire instrument was providing faulty data, which resulted in readings higher than the historic trend. The instrument was repaired, and on February 16, 2017, the District cleaned piezometer VBW/2-B which resulted in the new reported bottom Elevation of 304.0 ft, which is five ft deeper than prior to the cleaning. From Jan 2018 through Nov. 2019, Jan. 2020 through March 2020, and on Dec. 2020, the water levels in Piezometer VBW/2-B appeared to respond normally to the fluctuations in the reservoir levels (Table 3 and Figure 7). VBW/2-B data included in Table 3 for Dec. 2019 and April 2020 is not considered reliable and attributed to the data logger problems. No data was available from May 2020 to Nov. 2020 for VBW/2-A and VBW/2-B due to problems with the data logger.

The District provided readings for VBW/2-A and VBW/2-B during the 2022 review period. VBW/2-A appears to be providing erroneous readings because it has not responded to the full drainage of the reservoir and the piezometer water level has remained approximately between elevations 355 and 357 ft since 1/25/2022, see Figure 3. The readings provided for VBW/2-B also appear to be erroneous. Other piezometers located at the crest are dry in response to the full drainage of the reservoir. GEI did not use the readings from VBW/2-A and 2-B for the evaluation of the dam since they are not reliable. The vibrating wire piezometers' data logger instrument is still providing erratic readings at times based on discussions with the District.

Open well piezometer P-3A is nested in the same well as piezometer P-3B and are located on the far-left portion of the crest of the dam. The tips of both P-3A and P-3B are located within the dam embankment at Elevations 362.3 and 340.3 ft, respectively. P-3A remained dry throughout the review period (Figures 4 and 8). Piezometer P-3B water levels were responsive to

reservoir water level changes during the 2022 review period (Figure 4). The range between maximum and minimum level, during the 2022 review period was within historic trends (Figure 8). Piezometer P-3B has been dry since 6/29/2022, around the time the reservoir was completely drained for the upcoming Syphon Canyon Dam Improvements Project.

Piezometer VBW/4 is located on the downstream face, near the maximum section of the dam. VBW/5 is located at the downstream toe, also near the maximum section of the dam. The tips of both VBW/4 and VBW/5 are located within the dam foundation at Elevations 314.7 and 314.0 ft, respectively. Available water level data during the review period for VBW/4 and VBW/5 indicates the piezometers water levels is trending downwards due to the draining of the reservoir (Figure 5 and 9). No data was available for these piezometers from May 2020 to November 2020 due to data logger problems. During the review period, both VBW/4 and VBW/5 remained within historical levels (Figure 9).

Piezometers VBW/6, VBW/7 and VBW/8 are located on the downstream face of the dam, near the maximum section. The tips of all three piezometers are located within the dam embankment at Elevations 360.6, 338.1 and 336.8 ft, respectively. On June 23, 2015, the tops of casings for all three piezometers were raised from 1.1 ft to as high as 1.6 ft (Table 2). In July 2015, the District cleaned Piezometer VBW/7. Since VBW/6, VBW/7 and VBW/8 were installed in 2015, water level readings have not responded to the reservoir water level and the piezometer water levels have been near the bottom of piezometer tip elevations. Based on this evaluation, the piezometers are considered dry, see Table 3, and Figures 3, 5, 7 and 9. VBW/6, VBW/7, and VBW/8 were dry during the review period.

Piezometer VBW/9 is located on the downstream face of the dam near the right side. The tip of VBW/9 is located within the dam foundation at Elevation 335.4 ft. On June 23, 2015, the top of the casing for VBW/9 was raised 1.5 ft (Table 2). VBW/9 was dry during the 2022 review period (Figure 2). Since the vibrating wire instrument was installed in December 2015 for VBW/9, the level readings have not fluctuated and considered dry (Figure 6). Based on GEI's review of the available piezometer data, most of the piezometers were dry or showing piezometer water levels trending downwards due to the recent drainage of the reservoir.

2.3 Seepage Flows

Seepage through the dam and/or foundation is collected in the seepage collection vault, which is located beyond the downstream toe of the dam (Figure 1). The seepage collection vault has one seepage subdrain outlet. Seepage flow is measured monthly by District personnel at that one point.

Historical seepage flow rates measured at the sole seepage flow point are presented in Table 3. Figure 10 displays the seepage flow rates versus the reservoir water levels from January 2021 through December 2022. From January 2020 to March 2020 seepage flow was zero. The range

of minimum and maximum flow rate for seepage based on trends from the ten-year historical data from January 2011 through December 2021 was between 0 and 18.2 gallons per minute (gpm).

During the review period, seepage was recorded between January and May with a maximum flow of 2.0 gpm on 2/23/22 and a minimum flow of 0.4 gpm on 4/26/2022. No seepage has been observed since 6/29/2022 because the reservoir has been fully drained.

3.0 Field Evaluations

3.1 Field Evaluation of December 13, 2022

A field evaluation and inspection were performed by Richard Sanchez and Emerson Revolorio of GEI, Danielle Drake, and Steve Habiger of the District on December 13, 2022. The reservoir has been drained and is currently dry. Weather conditions were cool and partly cloudy with temperature in high 50s to lows 60s. Photos taken by GEI are included in the Appendix of this report.

3.1.1 Dam

The crest of the dam, downstream slope and groin areas, abutment areas and sections of the upstream slope face were visually inspected, and no adverse signs of movement, significant cracking, or instability were seen, see Photos 1 through 6. The reservoir has been drained since the April 2022 inspection and the reservoir is dry. The exposed upstream riprap with a grass cover slope face had no unusual conditions. No other unusual items were observed. The gravel/dirt crest surface was walked for its entire length and no signs of movement, cracking, or instability were seen. The downstream embankment slope looked well maintained. No rodent activity was seen during this inspection. Rodent abatement containers were examined on the slope and had little to no poison. No signs of seepage or unusual wet spots were seen on the downstream slope face or toe area of the dam. During the inspection, GEI encountered rill erosion along the left and right abutment access roads, see Photo 7. Overall, besides the draining of the reservoir, the condition of the dam remains largely unchanged from the conditions observed during the 4/18/2022, inspection. Overall, the dam was well maintained with no signs of instability, or distress. No dam safety related issues or concerns were found during the inspection.

3.1.2 Spillway

The spillway is ungated and consist of a trapezoidal shaped open channel on the left abutment. The spillway was clear of any obstructions. The channel sides and bottom are covered with shotcrete/gunite and concrete. The gunite and concrete are deteriorating in some areas and has significant cracking, see Photo 8. The District is moving forward with design work for a project to enlarge and significantly modify the existing dam, reservoir, and the construction of a new spillway. The reservoir will be not refilled again until construction of the new dam. Therefore, repairing the existing spillway has not been initiated considering a major replacement would occur in a few years and the watershed drainage area is relatively small.

3.1.3 Outlet Works

The outlet works includes an upstream 12-inch control valve manually operated (hand wheel) from near the top of the dam. The outlet works are located at the right end of the dam, see Photo 9. The upstream outlet valve is at Elevation 336 ft. According to the District, the upstream valve was fully exercised on 4/14/2022. The upstream valve was not exercised during this inspection. The downstream 16-inch control outlet valves are just beyond the right downstream toe area of the dam. Any emergency evacuation flows from this outlet system would go into local storm drain system below the dam.

3.1.4 Seepage

No seepage or wet spots were observed on the dam. Monitored seepage flow rates continue to be measured monthly by District staff. The seepage toe drain vault was examined and found dry, see Photo 10.

4.0 Conclusions and Recommendations

4.1 Conclusions

1) The reservoir water has been drained and is currently dry.
2) Based on the review of available instrumentation data and the field inspection, the dam does not appear to have signs of structural deficiencies, seepage, or instability.
3) Most of the piezometers were dry or showing piezometer water levels trending downward due to the recent draining of the reservoir.
4) Seepage flow was not observed after June 2022 because the reservoir has been fully drained.
5) No rodent activity was observed on the downstream face of the dam during this inspection. There was a lack of poison at most rodent control feeder boxes.
6) The spillway gunite lining cracks and spall areas appeared to be unchanged from the last inspection. Needed spillway repairs are not planned due to major modifications or replacement are currently underway and scheduled to be implemented within the next 3 years.
7) Based on District records the outlet valves were exercised on 4/14/2022.
8) Minor rill erosion was observed along the right and left abutment access roads.

4.2 Recommendations

1) Continue with rodent activity abatement efforts and fill rodent control feeder boxes with poison.
2) Rill erosion along access roads to be repaired by backfilling and compacting soils and maintained when necessary.
3) Operational staff to observe the condition of the dam and appurtenant structures and look for signs of distress or movement, increased seepage, or other unusual conditions during their regular inspections. Any unusual observations should be reported immediately to Dam Safety Engineer for evaluation.
4) GEI recommends continuing following IRWD's Dam Safety Program Guidelines after a 4.0 earthquake.

Syphon Canyon Dam Action Item Summary

Item	Location	Maintenance	Measures
Rodent control feeder boxes	Throughout dam	Lack of poison in rodent control feeder boxes	Place poison in all the rodent control feeder boxes
Access roads	Access roads at left and right abutment	Minor rill erosion	Monitor, repair, and maintain as needed

5.0 Limitations

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

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

The undersigned who performed the inspection and reviewed the instrumentation data and prepared this report, desire that it be clearly understood that the conclusions regarding the condition and safety of the dam and related facilities are not guaranteed but do represent our best judgment. Inevitably, such judgment must be recognized to be affected to an uncertain degree by the practical limitations that affect all dam evaluations, relative principally to approximate knowledge of the existing properties of the structures and their foundations, the potential for storm or seismic damage, and the uncertainties that are known to exist in estimating margins of 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), Syphon Canyon Dam (No. 1029-004) Inspection of Dam and Reservoir in Certified Status report, October 20, 2020.

Genterra, 2018, Annual Surveillance Report January 2017 through December 2017 Syphon Canyon Dam DSOD Dam No. 1029-004, Irvine, CA, by Genterra Consultants Inc., December 19, 2018.

Tables

TABLE 2
SYPHON CANYON DAM
PIEZOMETER DETAILS

Piezometer ID	Location and Approximate Station	Original			Modified Unknown Date			2015 - Current			Material at Tip (if known)	Installation or First Reading
		Top Elev. (ft)	Tip Elev. (ft)	Depth (ft)	Top Elev. (ft)	Tip Elev. (ft)	Depth (ft)	Top Elev. (ft)	Tip Elev. (ft)	Depth (ft)		
P-1A	Dam Crest, Station 6+90	385.1	365.7	19.4	385.1	365.7	19.4	385.1	365.7	19.4	Dam Embankment	Before 2003
P-1B	Dam Crest, Station 6+90	385.1	345.7	39.4	385.1	345.7	39.4	385.1	345.7	39.4	Dam Foundation	Before 2003
VBW/2-A	Dam Crest, Station 4+90	385.9	342.2	43.7	385.9	342.2	43.7	385.9	342.2	43.7	Dam Embankment	Before 2003
VBW/2-B	Dam Crest, Station 4+90	385.0	309.4	75.6	385.0	309.4	75.6	385.0	304.0	81.0	Dam Foundation	Before 2003
P-3A	Dam Crest, Station 3+00	385.6	362.3	23.3	385.6	362.3	23.3	385.6	362.3	23.3	Dam Embankment	Before 2003
P-3B	Dam Crest, Station 3+00	385.6	340.3	45.3	385.6	340.3	45.3	385.6	340.3	45.3	Dam Foundation	Before 2003
VBW/4	Downstream Slope, Station 5+00	340.0	314.7	25.3	340.0	314.7	25.3	342.8	314.7	28.1	Dam Embankment	Before 2003
VBW/5	Downstream Slope, Station 4+60	330.7	314.0	16.7	330.7	314.0	16.7	333.7	314.0	19.7	Dam Foundation	Before 2003
VBW/6	Downstream Slope, Station 4+90	370.2	360.6	9.6	370.2	360.6	9.6	371.4	360.6	10.8	Dam Embankment	1/19/2011
VBW/7	Downstream Slope, Station 4+90	349.7	338.1	11.6	349.7	338.1	11.6	351.3	338.1	13.2	Dam Foundation	1/19/2011
VBW/8	Downstream Slope, Station 4+90	343.4	336.8	6.6	345.3	336.8	8.5	346.4	336.8	9.6	Dam Embankment	1/19/2011
VBW/9	Downstream Slope, Station 6+70	342.9	335.4	7.5	344.9	335.4	9.5	346.4	335.4	11.0	Dam Foundation	1/19/2011

1. Piezometer data based on NGVD 29 datum.

TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10		19.40	365.7	Dry	32.40	352.7	
4/25/2008	366.40		19.40	365.7	Dry	32.40	352.7	
5/28/2008	365.30		19.40	365.7	Dry	32.40	352.7	
6/25/2008	365.00		19.40	365.7	Dry	32.40	352.7	
7/18/2008	364.50		19.40	365.7	Dry	32.40	352.7	
8/25/2008	363.50		19.40	365.7	Dry	32.80	352.3	
9/25/2008	363.00		19.40	365.7	Dry	32.80	352.3	
10/21/2008	362.00		19.40	365.7	Dry	33.40	351.7	
11/25/2008	365.00		19.40	365.7	Dry	33.90	351.2	
12/23/2008	365.00		19.40	365.7	Dry	33.90	351.2	
1/26/2009	364.50		19.40	365.7		33.40	351.7	
2/24/2009	364.50		19.40	365.7		33.40	351.7	
3/23/2009	368.50		19.40	365.7		30.80	354.3	
4/27/2009	367.50		19.40	365.7		30.80	354.3	
5/22/2009	367.00		19.40	365.7		31.40	353.7	
6/29/2009	372.00		19.40	365.7		26.80	358.3	
7/31/2009	371.00		19.40	365.7		28.80	356.3	
8/26/2009	370.00		19.40	365.7		29.40	355.7	
9/29/2009	369.50		19.40	365.7		29.80	355.3	
10/30/2009	369.00		19.40	365.7		29.40	355.7	
11/30/2009	368.00		19.40	365.7		29.40	355.7	
12/30/2009	368.00		19.40	365.7		29.40	355.7	
3/1/2010	368.00		19.90	365.2	Dry	28.20	356.9	
3/30/2010	368.00		19.90	365.2	Dry	28.50	356.6	
4/4/2010	368.70		19.80	365.3	Dry	28.50	356.6	
4/27/2010	368.40		19.70	365.4		28.80	356.6	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84		19.90	365.2	Dry	29.10	356.3	
6/29/2010	367.00		19.60	365.5	Dry	29.50	355.6	
7/27/2010	367.00		19.80	365.3	Dry	29.90	355.2	
8/27/2010	366.80		19.60	365.3	Dry	30.30	354.8	
9/28/2010	366.80		19.70	365.5	Dry	30.70	354.4	
10/26/2010	368.50		19.70	365.4	Dry	31.00	354.1	
11/30/2010	371.40		19.60	365.4		29.50	355.6	
12/28/2010	374.70		19.70	365.5	Dry	27.20	357.9	
1/4/2011	374.80		19.70	365.4	Dry	27.00	358.1	
1/6/2011	374.80		19.50	365.4	Dry	27.00	358.1	
1/7/2011	374.80		19.70	365.6	Dry	26.90	358.2	
1/8/2011	374.80		19.70	365.4	Dry	27.20	357.9	
1/9/2011	374.80		19.70	365.4	Dry	27.20	358.1	
1/10/2011	374.80		19.50	365.6	Dry	27.00	358.1	
1/11/2011	374.80		19.70	365.4	Dry	27.10	358.0	
1/17/2011	374.80		19.60	365.5	Dry	27.10	357.9	
1/19/2011	374.70		19.70	365.4	Dry	27.20	357.9	
1/21/2011	374.80		19.50	365.6	Dry	27.20	357.9	
1/27/2011	374.60		19.70	365.4	Dry	27.20	357.6	
2/3/2011	374.60		19.50	365.6	Dry	27.50	357.6	
2/8/2011	374.70		19.50	365.6	Dry	27.50	357.6	
2/28/2011	374.70		19.70	365.4	Dry	28.00	357.1	
3/28/2011	372.50	2.35	19.60	365.5		28.90	356.2	
4/28/2011	372.10	0.27	19.80	365.3	Dry	28.80	356.3	
5/18/2011	371.80	0.03	19.70	365.4	Dry	29.40	355.7	
5/25/2011	371.70	0.30	19.70	365.4	Dry	29.40	355.7	
6/28/2011	370.90	0.03	19.70	365.4	Dry	29.70	355.4	
7/26/2011	370.30	0.03	19.70	365.4	Dry	30.20	354.9	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	19.60	365.5	Dry	30.60	354.5	
8/30/2011	369.40		19.90	365.2		30.90	354.2	
9/13/2011	364.30	0.00	19.80	365.3	Dry	33.60	351.5	
9/27/2011	361.90		19.70	365.4	Dry	36.50	348.6	
10/11/2011	358.50	1.03	19.60	365.5	Dry	39.60	345.5	
10/25/2011	356.00	1.03	19.70	365.4	Dry	39.60	345.5	
11/29/2011	355.00	1.51	19.70	365.4	Dry	39.60	345.5	
12/28/2011	355.00	0.28	19.80	365.3	Dry	39.70	345.5	
1/26/2012	355.00	1.05	19.70	365.4	Dry	39.50	345.6	
2/28/2012	355.00	0.73	19.70	365.4	Dry	39.50	345.6	
3/27/2012	352.40	0.73	19.90	365.2		39.80	345.3	
4/23/2012	352.10	1.35	19.70	365.4		39.60	345.5	
5/30/2012	352.20	0.07	19.70	365.4		39.70	345.4	
6/13/2012	352.20		19.60	365.4		39.60	345.5	
6/26/2012	352.20	0.00	19.70	365.4		39.50	345.6	
7/24/2012	352.20	0.23	19.60	365.5		39.60	345.5	
8/8/2012	352.20	0.23	19.80	365.3		39.80	345.3	
8/28/2012	351.80	0.00	19.60	365.5		39.50	345.6	
8/29/2012	351.80	0.00	19.80	365.3		39.70	345.4	
9/25/2012	351.30	0.00	19.60	365.5		39.50	345.6	
10/31/2012	351.00	0.09	19.60	365.5		39.50	345.6	
11/27/2012	351.00	0.87	19.60	365.5		39.50	345.6	
12/12/2012	351.00	1.13	19.70	365.4		39.60	345.5	
1/29/2013	366.10	1.30	19.80	365.3		39.90	345.2	
2/21/2013	372.10	0.42	19.80	365.3		35.80	349.3	
3/28/2013	371.90	0.79	19.70	365.4		32.90	352.2	
4/25/2013	371.40	0.00	19.60	365.5		33.00	352.1	
5/22/2013	370.90	0.00	19.80	365.3		32.90	352.2	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	19.70	365.4		33.20	351.9	
7/23/2013	369.40	0.00	19.70	365.4	Dry	33.60	351.5	
8/21/2013	368.60	0.00	19.70	365.4	Dry	34.10	351.0	
9/25/2013	367.70	0.00	19.70	365.4	Dry	34.60	350.5	
10/30/2013	366.90	0.00	19.70	365.4	Dry	35.30	349.8	
11/26/2013	366.50	0.59	19.70	365.4	Dry	35.60	349.5	
12/17/2013	366.20	0.70	19.70	365.4	Dry	35.80	349.3	
1/28/2014	365.50	0.00	19.70	365.4	Dry	36.10	349.0	
2/25/2014	365.40	0.76	19.80	365.3	Dry	36.60	348.6	
3/25/2014	365.30		19.80	365.3	Dry	36.40	348.7	
3/28/2014	365.30	2.02	19.70	365.4		36.50	348.6	
4/25/2014	364.50	0.52	19.70	365.4		36.60	348.5	
5/28/2014	363.80	0.00	19.80	365.3	Dry	37.10	348.0	
6/25/2014	363.00	0.00	19.70	365.2	Dry	37.70	351.5	
7/30/2014	361.90	0.00	19.70	365.2	Dry	38.00	348.6	
8/27/2014	361.10	0.04	19.70	365.4	Dry	38.60	346.5	
9/23/2014	360.50	0.00	19.50	365.6	Dry	39.10	346.0	
10/29/2014	359.50	0.00	19.80	365.3	Dry	39.70	345.4	
11/24/2014	359.40	0.32	19.70	365.4	Dry	39.60	345.5	
12/30/2014	359.40	3.98	19.70	365.4	Dry	39.70	345.4	
1/27/2015	359.00	1.42	19.70	365.4	Dry	39.80	345.3	
2/26/2015	358.60	0.46	19.70	365.4	Dry	39.60	345.5	
3/27/2015	358.00	0.63	19.70	365.4	Dry	39.50	345.6	
4/26/2015	331.00	0.22	19.80	365.3	Dry	39.60	345.5	Dry
5/27/2015	332.00	1.79	19.80	365.3	Dry	39.60	345.5	Dry
6/23/2015	331.00	0.00	19.70	365.4	Dry	39.80	345.3	Dry
7/30/2015	331.00	0.00	19.70	365.4	Dry	39.60	345.5	Dry
8/25/2015	331.00	0.00	19.60	365.5	Dry	39.60	345.5	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	19.10	366.0	Dry	39.80	345.3	Dry
10/29/2015	331.00	0.18	19.70	365.4	Dry	39.70	345.4	Dry
11/25/2015	331.00	0.17	19.70	365.4	Dry	39.70	345.4	Dry
12/30/2015	331.00	1.42	19.70	365.4	Dry	39.70	345.4	Dry
1/26/2016	343.70	2.97	19.60	365.5	Dry	39.60	345.5	Dry
2/24/2016	363.80	0.26	20.60	364.5	Dry	39.60	345.5	Dry
3/29/2016	374.90	1.50	19.60	365.5	Dry	38.40	346.7	
4/28/2016	375.50	0.09	19.70	365.4	Dry	32.40	352.7	
5/24/2016	374.40	0.13	19.50	365.6	Dry	30.80	354.3	
6/29/2016	373.70	0.00	19.50	365.6	Dry	30.80	354.3	
7/28/2016	372.20	0.00	19.70	365.4	Dry	30.70	354.4	
8/25/2016	367.10	0.00	19.70	365.4	Dry	32.20	352.9	
9/27/2016	363.30	0.00	19.60	365.5		34.60	350.5	
10/25/2016	362.10	0.82	19.60	365.5	Dry	35.90	349.2	
11/22/2016	361.80	1.69	19.70	365.4	Dry	36.90	348.2	
12/28/2016	368.55	3.61	19.70	365.4	Dry	36.90	348.2	
1/25/2017	375.80	6.48	19.80	365.3	Dry	32.50	352.6	
2/28/2017	375.90	3.95	19.60	365.5	Dry	28.20	356.9	
3/15/2017	375.80	3.61	19.80	365.3	Dry	28.40	356.7	
3/28/2017	375.50	0.09	19.70	365.4		27.90	357.2	
4/26/2017	375.00	0.04	19.80	365.3	Dry	27.60	357.5	
5/23/2017	374.60	35.00	19.70	365.4	Dry	28.00	357.1	
6/22/2017	373.80	0.00	19.70	365.4	Dry	28.20	356.9	
7/26/2017	371.40	0.00	19.70	365.4	Dry	29.70	355.4	
8/30/2017	368.60	0.00	19.70	365.4	Dry	31.10	354.0	
9/28/2017	364.80	0.00	19.60	365.5	Dry	33.20	351.9	
10/26/2017	359.00	0.00	19.70	365.4	Dry	34.40	350.7	
11/29/2017	357.80	0.15	19.50	365.6	Dry	39.50	345.6	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	19.70	365.4	Dry	39.00	346.1	
1/24/2018	357.30	1.84	19.70	365.40	Dry	39.30	345.80	
2/21/2018	361.00	0.18	19.40	365.70	Dry	38.00	347.10	
3/28/2018	366.90	2.19	19.60	365.50	Dry	33.90	351.20	
4/25/2018	367.00	0.05	19.60	365.50	Dry	33.30	351.80	
5/30/2018	366.40	0.36	19.40	365.70	Dry	33.10	352.00	
6/28/2018	365.60	0.00	19.40	365.70	Dry	33.10	352.00	
7/25/2018	363.20	0.00	19.60	365.50	Dry	34.50	350.60	
8/28/2018	357.30	0.00	19.60	365.50	Dry	38.00	347.10	
9/27/2018	354.60	0.00	19.50	365.60	Dry	39.60	345.50	
10/24/2018	351.90	1.49	19.80	365.30	Dry	39.60	345.50	
11/28/2018	348.60	0.56	19.60	365.50	Dry	39.60	345.50	
12/21/2018	348.80	2.04	19.70	365.40	Dry	39.80	345.30	
1/30/2019	348.90	4.41	19.60	365.50	Dry	39.60	345.50	
2/27/2019	351.70	8.05	19.50	365.60	Dry	39.50	345.60	Dry
3/28/2019	351.60	2.00	19.70	365.40	Dry	39.40	345.70	Dry
4/25/2019	348.70	0.10	19.7	365.40		39.7	345.40	
5/30/2019	348.30	0.99	19.6	365.50		39.6	345.50	
6/26/2019	344.50	0.11	19.7	365.40		39.6	345.50	
7/5/2019	343.30	0.00	19.5	365.60		39.5	345.60	
7/30/2019	341.00	0.00	19.6	365.50		39.6	345.50	
8/27/2019	341.00	0.00	19.8	365.30		39.8	345.30	
9/26/2019	341.00	0.00	19.4	365.70		39.8	345.30	
10/24/2019	341.00	0.00	19.6	365.50		39.5	345.60	
11/26/2019	341.00	2.60	19.6	365.50		39.6	345.50	
12/16/2019	341.00	4.93	19.7	365.40	Dry	39.7	345.40	Dry
1/28/2020	341.00	0.21	19.6	365.50	Dry	39.6	345.50	Dry
2/26/2020	360.60	0.39	19.6	365.50	Dry	39.5	345.60	Dry

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SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	19.6	365.50	Dry	39.7	345.40	Dry
4/23/2020	375.30	4.63	19.8	365.30		33.1	352.00	
5/28/2020	374.80	0.04	19.6	365.50		30.8	354.30	
6/23/2020	373.60	0.00	19.6	365.50		30.5	354.60	
7/29/2020	370.70	0.00	19.7	365.40		31.4	353.70	
8/27/2020	367.80	0.00	19.6	365.50		32.8	352.30	
9/29/2020	364.90	0.00	19.6	365.50		34.6	350.50	
10/29/2020	354.80	0.00	19.7	365.40		37.9	347.20	
11/24/2020	343.00	0.32	19.5	365.60		39.8	345.30	
12/29/2020	343.50	1.14	19.5	365.60		39.6	345.50	
1/27/2021	355.70	2.45	19.70	365.40		39.60	345.50	
2/25/2021	365.90	0.03	19.80	365.30		39.40	345.70	
3/23/2021	370.80	1.27	19.70	365.40		34.40	350.70	
4/28/2021	371.70	0.03	19.60	365.50		31.80	353.30	
5/26/2021	370.00	0.05	19.60	365.50		32.00	353.10	
6/30/2021	366.30	0.00	19.60	365.50		33.50	351.60	
7/27/2021	361.50	0.03	19.40	365.70		35.90	349.20	
8/25/2021	356.30	0.00	19.60	365.50		28.80	356.30	Omitted
9/28/2021	350.60	0.03	19.40	365.70		39.40	345.70	
10/27/2021	343.50	0.79	19.40	365.70		39.40	345.70	
11/25/2021	343.40	0.00	19.40	365.70		39.40	345.70	Dry
12/21/2021	348.90	6.14	19.70	365.40		39.60	345.50	Dry
1/25/2022	372.70	0.01	19.40	365.70	Dry	35.70	349.40	
2/23/2022	374.60	0.32	19.70	365.40	Dry	29.80	355.30	
3/29/2022	370.90	1.21	19.60	365.50	Dry	30.30	354.80	
4/26/2022	367.80	0.04	19.60	365.50	Dry	32.10	353.00	
5/25/2022	360.70	0.03	19.60	365.50	Dry	35.40	349.70	
6/29/2022	343.70	0	19.70	365.40	Dry	39.60	345.50	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-1A			P-1B		
Top of Well Elevation -->			385.10			385.10		
Bottom of Well Elevation -->			365.70			345.70		
Depth of Well			19.40			39.40		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	19.40	365.70	Dry	39.40	345.70	Dry
8/30/2022	342.00	0.03	19.70	365.40	Dry	39.70	345.40	Dry
9/29/2022	342.00	0.32	19.70	365.40	Dry	39.60	345.50	Dry
10/26/2022	342.00	0.32	19.60	365.50	Dry	39.60	345.50	Dry
11/23/2022	342.00	2.04	19.70	365.40	Dry	39.60	345.50	Dry
12/28/2022	341.60	2.11	19.70	365.40	Dry	39.50	345.60	Dry

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SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10		27.70	358.2		45.60	339.4	
4/25/2008	366.40		27.70	358.2		45.60	339.4	
5/28/2008	365.30		27.70	358.2		46.60	338.4	
6/25/2008	365.00		28.20	357.7		46.60	338.4	
7/18/2008	364.50		28.80	357.1		46.60	338.4	
8/25/2008	363.50		28.80	357.1		46.60	338.4	
9/25/2008	363.00		28.80	357.1		46.60	338.4	
10/21/2008	362.00		28.20	357.7		47.00	338.0	
11/25/2008	365.00		28.20	357.7		46.10	338.9	
12/23/2008	365.00		28.20	357.7		46.10	338.9	
1/26/2009	364.50		28.70	357.2		46.60	338.4	
2/24/2009	364.50		28.70	357.2		46.60	338.4	
3/23/2009	368.50		28.70	357.2		44.60	340.4	
4/27/2009	367.50		28.70	357.2		45.00	340.0	
5/22/2009	367.00		28.70	357.2		45.00	340.0	
6/29/2009	372.00		27.70	358.2		43.00	342.0	
7/31/2009	371.00		28.70	357.2		45.00	340.0	
8/26/2009	370.00		28.70	357.2		45.60	339.4	
9/29/2009	369.50		28.70	357.2		46.00	339.0	
10/30/2009	369.00		27.70	358.2		45.00	340.0	
11/30/2009	368.00		27.10	358.8		45.00	340.0	
12/30/2009	368.00		27.10	358.8		45.00	340.0	
3/1/2010	368.00		26.30	359.6		44.00	341.0	
3/30/2010	368.00		26.20	359.7		44.20	340.8	
4/4/2010	368.70		26.10	359.8		44.30	340.7	
4/27/2010	368.40		26.00	359.9		44.20	340.8	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84		26.10	359.8		44.60	340.4	
6/29/2010	367.00		26.20	359.7		44.80	340.2	
7/27/2010	367.00		26.40	359.5		45.10	339.9	
8/27/2010	366.80		26.60	359.3		45.40	339.6	
9/28/2010	366.80		26.60	359.3		45.60	339.4	
10/26/2010	368.50		27.00	358.9		45.80	339.2	
11/30/2010	371.40		27.20	358.7		44.70	340.3	
12/28/2010	374.70		27.20	358.7		43.10	341.9	
1/4/2011	374.80		27.40	358.5		43.10	341.9	
1/6/2011	374.80		27.10	358.8		43.10	342.0	
1/7/2011	374.80		27.10	358.8		43.00	342.0	
1/8/2011	374.80		27.30	358.6		43.40	341.6	
1/9/2011	374.80		27.30	358.6		43.50	341.5	
1/10/2011	374.80		27.10	358.8		43.30	341.7	
1/11/2011	374.80		27.10	358.8		43.20	341.8	
1/17/2011	374.80		27.00	358.9		43.30	341.7	
1/19/2011	374.70		27.00	358.9		43.40	341.6	
1/21/2011	374.80		26.90	359.0		43.30	341.7	
1/27/2011	374.60		26.80	359.1		43.40	341.6	
2/3/2011	374.60		26.70	359.2		43.60	341.4	
2/8/2011	374.70		26.70	359.2		43.60	341.4	
2/28/2011	374.70		26.20	359.7		43.80	341.2	
3/28/2011	372.50	2.35	26.20	359.7		44.20	340.8	
4/28/2011	372.10	0.27	24.20	361.7		44.60	340.4	
5/18/2011	371.80	0.03	26.40	359.5		44.40	340.6	
5/25/2011	371.70	0.30	26.40	359.5		44.30	340.7	
6/28/2011	370.90	0.03	26.50	359.4		44.50	340.5	
7/26/2011	370.30	0.03						

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	26.80	359.1		44.80	340.2	
8/30/2011	369.40		27.10	358.8		45.00	340.0	
9/13/2011	364.30	0.00	27.20	358.7		47.10	337.9	
9/27/2011	361.90		27.20	358.7		49.60	335.4	
10/11/2011	358.50	1.03	27.30	358.6		51.90	333.1	
10/25/2011	356.00	1.03	27.70	358.2		53.20	331.8	
11/29/2011	355.00	1.51	26.30	359.6		54.20	330.8	
12/28/2011	355.00	0.28	28.80	357.1		54.80	330.3	
1/26/2012	355.00	1.05	29.00	356.9		54.90	330.1	
2/28/2012	355.00	0.73	29.30	356.6		55.20	329.8	
3/27/2012	352.40	0.73	29.80	356.1		55.30	329.7	
4/23/2012	352.10	1.35	29.80	356.1		55.20	329.8	
5/30/2012	352.20	0.07	30.00	355.9		55.60	329.4	
6/13/2012	352.20		30.20	355.7		55.40	329.3	
6/26/2012	352.20	0.00	30.30	355.6		56.00	329.0	
7/24/2012	352.20	0.23	30.50	355.4		53.40	331.6	
8/8/2012	352.20	0.23	30.50	355.4		53.60	331.4	
8/28/2012	351.80	0.00	30.60	355.3		54.50	330.5	
8/29/2012	351.80	0.00	30.80	355.1		54.80	330.2	
9/25/2012	351.30	0.00	30.90	355.0		55.10	329.9	
10/31/2012	351.00	0.09	30.90	355.0		55.90	329.1	
11/27/2012	351.00	0.87	31.20	354.7		56.30	328.7	
12/12/2012	351.00	1.13	31.20	354.7		56.30	328.7	
1/29/2013	366.10	1.30	31.20	354.7		46.30	338.7	
2/21/2013	372.10	0.42	32.70	353.2		43.90	341.1	
3/28/2013	371.90	0.79	31.50	354.4		42.20	342.8	
4/25/2013	371.40	0.00	31.40	354.5		42.20	342.8	
5/22/2013	370.90	0.00	31.40	354.5		42.70	342.3	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	30.70	355.2		42.80	342.2	
7/23/2013	369.40	0.00	30.50	355.4		43.20	341.8	
8/21/2013	368.60	0.00	30.40	355.5		43.80	341.3	
9/25/2013	367.70	0.00	30.20	355.7		44.10	340.9	
10/30/2013	366.90	0.00	30.30	355.6		44.80	340.2	
11/26/2013	366.50	0.59	30.30	355.6		45.10	339.9	
12/17/2013	366.20	0.70	30.40	355.5		45.50	339.5	
1/28/2014	365.50	0.00	30.60	355.3		45.90	339.1	
2/25/2014	365.40	0.76	30.80	355.1		46.20	338.9	
3/25/2014	365.30		30.80	355.1		45.90	339.1	
3/28/2014	365.30	2.02	30.70			45.90		
4/25/2014	364.50	0.52	30.80	355.1		46.10	338.9	
5/28/2014	363.80	0.00	30.90	355.0		46.50	338.5	
6/25/2014	363.00	0.00	31.20	358.7		47.00	337.9	
7/30/2014	361.90	0.00	31.10	358.7		47.20	335.4	
8/27/2014	361.10	0.04	31.30	354.6		47.90	337.1	
9/23/2014	360.50	0.00	31.30	354.6		48.30	336.7	
10/29/2014	359.50	0.00	31.80	354.1		49.00	336.0	
11/24/2014	359.40	0.32	31.60	354.3		49.40	335.6	
12/30/2014	359.40	3.98	31.80	354.1		49.90	335.1	
1/27/2015	359.00	1.42	32.10	353.8		49.80	335.2	
2/26/2015	358.60	0.46	31.80	354.1		50.10	334.9	
3/27/2015	358.00	0.63	32.30	353.6		51.30	333.8	
4/26/2015	331.00	0.22	32.10	353.8		56.50	328.5	
5/27/2015	332.00	1.79	32.20	353.7		56.30	328.7	
6/23/2015	331.00	0.00	32.30	353.6		60.40	324.6	
7/30/2015	331.00	0.00	31.10	354.8	In July maint. Cleaned	61.40	323.6	
8/25/2015	331.00	0.00	32.80	353.1	Dry	62.10	322.9	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	32.10	353.8		62.40	322.6	
10/29/2015	331.00	0.18	33.20	352.7		62.40	322.6	
11/25/2015	331.00	0.17	33.30	352.6		63.10	321.9	
12/30/2015	331.00	1.42	33.40	352.5	VW installed	63.60	321.4	VW installed
1/26/2016	343.70	2.97	32.30	353.6		46.10	338.9	
2/24/2016	363.80	0.26	32.50	353.5		31.40	353.6	Erroneous
3/29/2016	374.90	1.50	32.70	353.2		23.30	361.7	Erroneous
4/28/2016	375.50	0.09	32.60	353.3		23.90	361.1	Erroneous
5/24/2016	374.40	0.13	31.70	354.2		21.70	363.3	Erroneous
6/29/2016	373.70	0.00	30.60	355.3		21.60	363.4	Erroneous
7/28/2016	372.20	0.00	30.00	355.9		23.90	361.1	Erroneous
8/25/2016	367.10	0.00	29.50	356.4		26.10	358.9	Erroneous
9/27/2016	363.30	0.00	29.70	356.2		28.20	356.8	Erroneous
10/25/2016	362.10	0.82	29.50	356.4		28.50	356.5	Erroneous
11/22/2016	361.80	1.69			VW was not logging			VW was not logging
12/28/2016	368.55	3.61	30.00	355.9		25.00	360.0	Erroneous
1/25/2017	375.80	6.48	29.90	356.0		34.20	350.8	Measured w/sounder
2/28/2017	375.90	3.95	29.90	356.0		34.00	351.0	Measured w/sounder
3/15/2017	375.80	3.61	28.40	357.5		34.20	350.8	Measured w/sounder
3/28/2017	375.50	0.09	28.20	357.7		13.20	371.8	Erroneous
4/26/2017	375.00	0.04	27.60	358.3		34.00	351.0	Measured w/sounder
5/23/2017	374.60	35.00	27.20	358.7		8.30	376.7	Erroneous
6/22/2017	373.80	0.00	27.00	358.9		2.00	383.0	Erroneous
7/26/2017	371.40	0.00	26.90	359.0		4.10	380.9	Erroneous
8/30/2017	368.60	0.00	27.20	358.7		6.00	379.0	Erroneous
9/28/2017	364.80	0.00	27.20	358.7		8.10	376.9	Erroneous
10/26/2017	359.00	0.00	27.30	358.6		11.60	373.4	Erroneous
11/29/2017	357.80	0.15	28.20	357.7		12.90	372.1	Erroneous

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	28.50	357.4		13.30	371.7	Erroneous
1/24/2018	357.30	1.84	28.90	357.00		13.50	371.50	
2/21/2018	361.00	0.18	29.20	356.70		11.60	373.40	
3/28/2018	366.90	2.19	29.48	356.42		9.20	375.80	
4/25/2018	367.00	0.05	29.60	356.30		4.00	381.00	
5/30/2018	366.40	0.36	29.70	356.20		1.00	384.00	
6/28/2018	365.60	0.00	29.50	356.40		1.40	383.60	
7/25/2018	363.20	0.00	29.40	356.50		2.70	382.30	
8/28/2018	357.30	0.00	29.44	356.46		5.90	379.10	
9/27/2018	354.60	0.00	29.30	356.60		7.40	377.60	
10/24/2018	351.90	1.49	29.80	356.10		10.40	374.60	
11/28/2018	348.60	0.56	30.10	355.80		11.40	373.60	
12/21/2018	348.80	2.04	29.90	356.00		11.10	373.90	
1/30/2019	348.90	4.41	30.50	355.40		11.60	373.40	
2/27/2019	351.70	8.05	30.40	355.50		9.56	375.44	
3/28/2019	351.60	2.00	30.60	355.30		10.20	374.80	
4/25/2019	348.70	0.10	30.70	355.20		11.70	373.30	
5/30/2019	348.30	0.99	31.00	354.90		12.00	373.00	
6/26/2019	344.50	0.11	31.00	354.90		14.00	371.00	
7/5/2019	343.30	0.00	31.00	354.90		15.20	369.80	
7/30/2019	341.00	0.00	31.20	354.70		17.00	368.00	
8/27/2019	341.00	0.00	31.40	354.50		19.50	365.50	
9/26/2019	341.00	0.00	31.40	354.50		21.10	363.90	
10/24/2019	341.00	0.00	31.40	354.50		21.80	363.20	
11/26/2019	341.00	2.60	31.50	354.40		22.40	362.60	
12/16/2019	341.00	4.93	40.71			64.50		
1/28/2020	341.00	0.21	30.40	355.50		11.52	373.48	
2/26/2020	360.60	0.39	31.43	354.47		6.88	378.12	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	32.10	353.80		21.80	363.20	
4/23/2020	375.30	4.63	31.20	354.70		75.60		
5/28/2020	374.80	0.04			No data received			No data received
6/23/2020	373.60	0.00			No data received			No data received
7/29/2020	370.70	0.00			No data received			No data received
8/27/2020	367.80	0.00			No data received			No data received
9/29/2020	364.90	0.00			No data received			No data received
10/29/2020	354.80	0.00			No data received			No data received
11/24/2020	343.00	0.32			No data received			No data received
12/29/2020	343.50	1.14	30.10	355.80		14.30	370.70	
1/27/2021	355.70	2.45	30.00	355.90		6.30		
2/25/2021	365.90	0.03	30.40	355.50		0.30		
3/23/2021	370.80	1.27	30.70	355.20		-3.50		
4/28/2021	371.70	0.03	30.10	355.80		-4.20		
5/26/2021	370.00	0.05	9.20			1.31		
6/30/2021	366.30	0.00	9.01			3.40		
7/27/2021	361.50	0.03	8.90			6.00		
8/25/2021	356.30	0.00	9.10			9.10		
9/28/2021	350.60	0.03	9.50			13.00		
10/27/2021	343.50	0.79	9.60			17.90		
11/25/2021	343.40	0.00	9.90			18.90		
12/21/2021	348.90	6.14	10.00			15.50		
1/25/2022	372.70	0.01	30.60	355.30		-3.80		
2/23/2022	374.60	0.32	30.20	355.70		-4.50		
3/29/2022	370.90	1.21	29.30	356.60		-13.80		
4/26/2022	367.80	0.04	28.70	357.20		12.30		
5/25/2022	360.70	0.03	29.00	356.90		-8.50		
6/29/2022	343.70	0	29.20	356.70		1.90		

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/2-A			VBW/2-B		
Top of Well Elevation -->			385.90			385.00		
Bottom of Well Elevation -->			342.20			309.40	304	Maint. 2/16/2017
Depth of Well			43.70			75.60	81	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	29.60	356.30		28.40		
8/30/2022	342.00	0.03	29.90	356.00		3.90		
9/29/2022	342.00	0.32	30.20	355.70		5.20		
10/26/2022	342.00	0.32	30.20	355.70		7.30		
11/23/2022	342.00	2.04	30.40	355.50		8.00		
12/28/2022	341.60	2.11	30.40	355.50		7.80		

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10		22.70	362.9		38.70	346.9	
4/25/2008	366.40		22.70	362.9		38.70	346.9	
5/28/2008	365.30		23.30	362.3		39.30	346.3	
6/25/2008	365.00		23.30	362.3		39.80	345.8	
7/18/2008	364.50		23.30	362.3		39.80	345.8	
8/25/2008	363.50		23.30	362.3		40.30	345.3	
9/25/2008	363.00		23.30	362.3		40.30	345.3	
10/21/2008	362.00		23.30	362.3		40.30	345.3	
11/25/2008	365.00		23.30	362.3		39.80	345.8	
12/23/2008	365.00		23.30	362.3		39.80	345.8	
1/26/2009	364.50		23.30	362.3		40.30	345.3	
2/24/2009	364.50		23.30	362.3		40.30	345.3	
3/23/2009	368.50		23.30	362.3		38.70	345.9	
4/27/2009	367.50		23.30	362.3		39.30	346.3	
5/22/2009	367.00		23.30	362.3		39.30	346.3	
6/29/2009	372.00		23.30	362.3		36.70	348.9	
7/31/2009	371.00		23.30	362.3		38.30	347.3	
8/26/2009	370.00		23.30	362.3		38.30	347.3	
9/29/2009	369.50		23.30	362.3		39.30	346.3	
10/30/2009	369.00		23.30	362.3		38.30	347.3	
11/30/2009	368.00		23.30	362.3		38.30	347.3	
12/30/2009	368.00		23.30	362.3		38.30	348.2	
3/1/2010	368.00		23.00	362.6		37.40	347.9	
3/30/2010	368.00		23.10	362.5		37.70	347.9	
4/4/2010	368.70		22.80	362.7		37.70	347.9	
4/27/2010	368.40		22.80	362.8		37.80	347.8	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84		22.90	362.7		37.90	347.7	
6/29/2010	367.00		23.00	362.6		38.10	347.5	
7/27/2010	367.00		23.60	362.0		38.30	347.3	
8/27/2010	366.80		23.40	362.2		38.10	347.5	
9/28/2010	366.80		23.00	362.6		38.60	347.0	
10/26/2010	368.50		23.10	362.5		38.70	346.9	
11/30/2010	371.40		23.00	362.6		37.80	347.8	
12/28/2010	374.70		23.20	362.4		36.60	349.0	
1/4/2011	374.80		23.40	362.2		36.50	349.1	
1/6/2011	374.80		23.40	362.2		36.50	349.2	
1/7/2011	374.80		23.40	362.2		36.50	349.1	
1/8/2011	374.80		23.60	362.0		36.80	348.8	
1/9/2011	374.80		23.40	362.2		36.80	348.8	
1/10/2011	374.80		23.40	362.2		36.60	349.0	
1/11/2011	374.80		23.20	362.4		36.80	348.8	
1/17/2011	374.80		23.40	362.2		36.70	348.9	
1/19/2011	374.70		23.40	362.2		36.80	348.8	
1/21/2011	374.80		23.40	362.2		36.90	348.7	
1/27/2011	374.60		23.00	362.6		37.00	348.6	
2/3/2011	374.60		23.40	362.2		37.20	348.4	
2/8/2011	374.70		23.40	362.2		37.20	348.4	
2/28/2011	374.70		22.90	362.7		37.40	348.2	
3/28/2011	372.50	2.35	23.00	362.6		37.50	348.1	
4/28/2011	372.10	0.27	23.20	362.4		37.90	347.7	
5/18/2011	371.80	0.03	23.10	362.5		37.90	347.7	
5/25/2011	371.70	0.30	23.00	362.6		37.90	347.7	
6/28/2011	370.90	0.03	22.90	362.7		38.00	347.6	
7/26/2011	370.30	0.03	23.00	362.7		38.20	347.4	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	23.70	361.9		38.30	347.3	
8/30/2011	369.40		23.10	362.5		38.60	347.0	
9/13/2011	364.30	0.00	23.00	362.6		40.40	345.2	
9/27/2011	361.90		23.00	362.6		43.10	342.5	
10/11/2011	358.50	1.03	23.00	362.6		44.10	341.5	
10/25/2011	356.00	1.03	22.90	362.7		45.30	340.3	
11/29/2011	355.00	1.51	23.70	361.9		45.50	340.1	
12/28/2011	355.00	0.28	23.70	361.9		45.60	340.0	
1/26/2012	355.00	1.05	23.60	362.0		45.60	340.0	
2/28/2012	355.00	0.73	23.60	362.0		45.60	340.0	
3/27/2012	352.40	0.73	23.60	362.0		45.70	339.9	
4/23/2012	352.10	1.35	23.60	362.0		45.70	339.9	
5/30/2012	352.20	0.07	23.70	361.9		45.60	340.0	
6/13/2012	352.20		23.70	361.9		45.60	340.0	
6/26/2012	352.20	0.00	23.60	362.0		45.50	340.1	
7/24/2012	352.20	0.23	23.60	362.0		45.60	340.0	
8/8/2012	352.20	0.23	23.70	362.9		45.70	339.9	
8/28/2012	351.80	0.00	23.60	362.0		45.50	340.1	
8/29/2012	351.80	0.00	23.80	361.8		45.70	339.9	
9/25/2012	351.30	0.00	23.70	361.9		45.60	340.0	
10/31/2012	351.00	0.09	23.60	362.0		45.60	340.0	
11/27/2012	351.00	0.87	23.60	362.0		45.50	340.1	
12/12/2012	351.00	1.13	23.60	362.0		45.60	340.0	
1/29/2013	366.10	1.30	23.80	361.8		46.00	339.6	
2/21/2013	372.10	0.42	23.40	362.2		42.90	342.7	
3/28/2013	371.90	0.79	23.70	361.9		41.10	344.5	
4/25/2013	371.40	0.00	23.60	362.0		41.00	344.6	
5/22/2013	370.90	0.00	23.80	361.8		41.10	344.5	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	23.60	362.0		41.00	344.6	
7/23/2013	369.40	0.00	23.60	362.0		41.30	344.3	
8/21/2013	368.60	0.00	23.70	361.9	Dry	41.70	343.9	
9/25/2013	367.70	0.00	23.70	361.9	Dry	42.00	343.6	
10/30/2013	366.90	0.00	23.70	361.9	Dry	42.70	342.9	
11/26/2013	366.50	0.59	23.60	362.0	Dry	42.60	343.0	
12/17/2013	366.20	0.70	23.70	361.9	Dry	43.00	342.6	
1/28/2014	365.50	0.00	23.80	361.8	Dry	43.70	341.9	
2/25/2014	365.40	0.76	23.80	361.8	Dry	44.00	341.6	
3/25/2014	365.30		23.80	361.8	Dry	43.90	341.7	
3/28/2014	365.30	2.02	23.60	362.0		43.90	341.7	
4/25/2014	364.50	0.52	23.60	362.0		44.10	341.5	
5/28/2014	363.80	0.00	23.70	361.9	Dry	44.40	341.2	
6/25/2014	363.00	0.00	23.70	361.9		45.00	345.2	
7/30/2014	361.90	0.00	23.70	361.9	Wet	45.10	342.5	
8/27/2014	361.10	0.04	23.60	362.0	Dry	45.60	340.0	Wet
9/23/2014	360.50	0.00	23.60	362.0	Wet	45.50	340.1	Wet
10/29/2014	359.50	0.00	23.60	362.0	Dry	45.80	339.8	Dry
11/24/2014	359.40	0.32	23.70	361.9	Dry	45.60	340.0	Dry
12/30/2014	359.40	3.98	23.70	361.9	Dry	45.80	339.8	Dry
1/27/2015	359.00	1.42	23.60	362.0	Wet	45.60	340.0	Dry
2/26/2015	358.60	0.46	23.60	362.0	Wet	45.50	340.1	Wet
3/27/2015	358.00	0.63	23.70	361.9		45.90	339.7	Dry
4/26/2015	331.00	0.22	23.60	362.0		45.60	340.0	Dry
5/27/2015	332.00	1.79	23.60	362.0	Dry	45.60	340.0	Dry
6/23/2015	331.00	0.00	23.60	362.0	Wet	45.70	339.9	Wet
7/30/2015	331.00	0.00	23.70	361.9	Dry	45.60	340.0	Dry
8/25/2015	331.00	0.00	23.50	362.1	Dry	45.50	340.1	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	23.70	361.9	Dry	45.70	339.9	Dry
10/29/2015	331.00	0.18	23.70	361.9	Dry	45.70	339.9	Dry
11/25/2015	331.00	0.17	23.70	361.9	Dry	45.50	340.1	Dry
12/30/2015	331.00	1.42	23.70	361.9	Dry	45.50	340.1	Dry
1/26/2016	343.70	2.97	23.60	362.0	Dry	45.60	340.0	Dry
2/24/2016	363.80	0.26	23.70	361.9	Dry	45.70	339.9	Dry
3/29/2016	374.90	1.50	23.60	362.0		41.90	343.7	
4/28/2016	375.50	0.09	23.60	362.1		37.70	347.9	
5/24/2016	374.40	0.13	23.30	362.3		38.00	347.6	
6/29/2016	373.70	0.00	23.30	362.3		38.10	347.5	
7/28/2016	372.20	0.00	23.60	362.0	Dry	38.50	347.1	
8/25/2016	367.10	0.00	23.70	361.9	Dry	40.90	344.7	
9/27/2016	363.30	0.00	23.80	361.8		41.80	343.8	
10/25/2016	362.10	0.82	23.60	362.0		42.80	342.8	
11/22/2016	361.80	1.69	23.70	361.9	Dry	43.00	342.6	
12/28/2016	368.55	3.61	23.70	361.9		40.70	344.9	
1/25/2017	375.80	6.48	23.60	362.0	Dry	36.40	349.2	
2/28/2017	375.90	3.95	23.60	362.0	Dry	35.30	350.4	
3/15/2017	375.80	3.61	23.70	361.9	Dry	35.70	349.9	
3/28/2017	375.50	0.09	23.90	361.7	Dry	35.00	350.6	
4/26/2017	375.00	0.04	23.70	361.9	Dry	35.20	350.4	
5/23/2017	374.60	35.00	23.60	362.0		35.60	350.0	
6/22/2017	373.80	0.00	23.70	361.9		28.20	357.4	Erroneous
7/26/2017	371.40	0.00	23.50	362.1	Dry	36.70	348.9	
8/30/2017	368.60	0.00	23.70	361.9	Dry	38.10	347.5	
9/28/2017	364.80	0.00	23.50	362.1	Dry	40.10	345.5	
10/26/2017	359.00	0.00	23.60	362.0	Dry	42.10	343.5	
11/29/2017	357.80	0.15	23.60	362.0	Dry	45.60	340.0	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	23.60	362.0	Dry	44.60	341.0	
1/24/2018	357.30	1.84	23.60	362.00	Dry	44.80	340.80	
2/21/2018	361.00	0.18	23.30	362.30	Wet	43.70	341.90	
3/28/2018	366.90	2.19	23.60	362.00		40.70	344.90	
4/25/2018	367.00	0.05	23.60	362.00	Dry	40.20	345.40	
5/30/2018	366.40	0.36	23.30	362.30	Wet	40.40	345.20	
6/28/2018	365.60	0.00	23.50	362.10		40.70	344.90	
7/25/2018	363.20	0.00	23.70	361.90	Dry	41.50	344.10	
8/28/2018	357.30	0.00	23.60	362.00	Dry	44.25	341.35	
9/27/2018	354.60	0.00	23.50	362.10		45.40	340.20	
10/24/2018	351.90	1.49	23.60	362.00	Dry	45.60	340.00	
11/28/2018	348.60	0.56	23.50	362.10	Dry	45.50	340.10	
12/21/2018	348.80	2.04	23.60	362.00	Dry	45.70	339.90	Dry
1/30/2019	348.90	4.41	23.50	362.10	Dry	45.50	340.10	Dry
2/27/2019	351.70	8.05	23.50	362.10	Dry	45.50	340.10	Dry
3/28/2019	351.60	2.00	23.60	362.00	Dry	45.70	339.90	Dry
4/25/2019	348.70	0.10	23.7	361.90		45.5	340.10	Dry
5/30/2019	348.30	0.99	23.6	362.00		45.6	340.00	
6/26/2019	344.50	0.11	26.3	359.30	Omitted	45.5	340.10	Dry
7/5/2019	343.30	0.00	23.6	362.00		45.5	340.10	Dry
7/30/2019	341.00	0.00	23.6	362.00		45.6	340.00	Dry
8/27/2019	341.00	0.00	23.7	361.90		45.6	340.00	Dry
9/26/2019	341.00	0.00	23.6	362.00		45.5	340.10	Dry
10/24/2019	341.00	0.00	23.5	362.10		45.5	340.10	Dry
11/26/2019	341.00	2.60	23.6	362.00		45.7	339.90	Dry
12/16/2019	341.00	4.93	23.5	362.10	Dry	45.6	340.00	Dry
1/28/2020	341.00	0.21	23.5	362.10	Dry	45.5	340.10	Dry
2/26/2020	360.60	0.39	23.4	362.20		45.5	340.10	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	23.5	362.10		45.6	340.00	
4/23/2020	375.30	4.63	23.7	361.90		38.5	347.10	
5/28/2020	374.80	0.04	23.6	362.00		37.8	347.80	
6/23/2020	373.60	0.00	23.5	362.10		37.8	347.80	
7/29/2020	370.70	0.00	23.6	362.00		39	346.60	
8/27/2020	367.80	0.00	23.6	362.00		40.3	345.30	
9/29/2020	364.90	0.00	23.6	362.00		41.4	344.20	
10/29/2020	354.80	0.00	23.6	362.00		43.8	341.80	
11/24/2020	343.00	0.32	23.6	362.00		45.6	340.00	
12/29/2020	343.50	1.14	23.5	362.10		45.5	340.10	
1/27/2021	355.70	2.45	23.60	362.00		45.60	340.00	
2/25/2021	365.90	0.03	23.50	362.10		42.50	343.10	
3/23/2021	370.80	1.27	23.60	362.00		39.00	346.60	
4/28/2021	371.70	0.03	23.50	362.10		37.50	348.10	
5/26/2021	370.00	0.05	23.60	362.00		38.10	347.50	
6/30/2021	366.30	0.00	23.60	362.00		39.70	345.90	
7/27/2021	361.50	0.03	23.30	362.30		41.70	343.90	
8/25/2021	356.30	0.00	23.60	362.00		44.10	341.50	
9/28/2021	350.60	0.03	23.40	362.20		45.40	340.20	
10/27/2021	343.50	0.79	23.30	362.30		45.30	340.30	
11/25/2021	343.40	0.00	23.30	362.30		45.30	340.30	
12/21/2021	348.90	6.14	23.60	362.00		45.60	340.00	
1/25/2022	372.70	0.01	23.60	362.00	Dry	39.20	346.40	
2/23/2022	374.60	0.32	23.60	362.00	Dry	35.90	349.70	
3/29/2022	370.90	1.21	23.60	362.00	Dry	37.40	348.20	
4/26/2022	367.80	0.04	23.60	362.00	Dry	39.30	346.30	
5/25/2022	360.70	0.03	23.60	362.00	Dry	41.90	343.70	
6/29/2022	343.70	0	23.60	362.00	Dry	46.00	339.60	Dry?

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			P-3A			P-3B		
Top of Well Elevation -->			385.60			385.60		
Bottom of Well Elevation -->			362.30			340.30		
Depth of Well			23.30			45.30		
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	23.30	362.30	Dry	45.30	340.30	Dry?
8/30/2022	342.00	0.03	23.60	362.00	Dry	45.60	340.00	Dry?
9/29/2022	342.00	0.32	23.70	361.90	Dry	45.50	340.10	Dry?
10/26/2022	342.00	0.32	23.70	361.90	Dry	45.50	340.10	Dry?
11/23/2022	342.00	2.04	23.60	362.00	Dry	45.60	340.00	Dry?
12/28/2022	341.60	2.11	23.40	362.20	Dry	45.70	339.90	Dry?

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10		13.70	326.3		5.10	325.6	
4/25/2008	366.40		13.70	326.3		5.10	325.6	
5/28/2008	365.30		13.70	326.3		5.10	325.6	
6/25/2008	365.00		14.30	325.7		5.10	325.6	
7/18/2008	364.50		14.30	325.7		5.10	325.6	
8/25/2008	363.50		14.30	325.7		5.70	325.0	
9/25/2008	363.00		14.30	325.7		5.70	325.0	
10/21/2008	362.00		14.30	325.7		5.70	325.0	
11/25/2008	365.00		14.30	325.7		5.70	325.0	
12/23/2008	365.00		14.30	325.7		5.70	325.0	
1/26/2009	364.50		14.30	325.7		5.70	325.0	
2/24/2009	364.50		14.30	325.7		5.70	325.0	
3/23/2009	368.50		14.30	325.7		5.70	325.0	
4/27/2009	367.50		14.30	325.7		5.20	325.5	
5/22/2009	367.00		14.30	325.7		5.20	325.5	
6/29/2009	372.00		14.30	325.7		4.10	326.6	
7/31/2009	371.00		15.30	324.7		5.10	325.6	
8/26/2009	370.00		15.30	324.7		5.10	325.6	
9/29/2009	369.50		15.30	324.7		5.70	325.0	
10/30/2009	369.00		14.30	325.7		4.70	326.0	
11/30/2009	368.00		14.30	325.7		4.10	326.6	
12/30/2009	368.00		14.30	325.7		4.10	326.6	
3/1/2010	368.00		13.50	326.5		3.00	327.7	
3/30/2010	368.00		13.50	326.5		3.20	327.5	
4/4/2010	368.70		13.50	326.5		3.30	327.4	
4/27/2010	368.40		13.40	326.6		3.20	327.5	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84		13.60	326.4		3.40	327.3	
6/29/2010	367.00		13.60	326.4		3.50	327.2	
7/27/2010	367.00		13.60	326.4		3.60	327.1	
8/27/2010	366.80		13.80	326.2		3.60	327.1	
9/28/2010	366.80		13.60	326.4		3.70	327.0	
10/26/2010	368.50		13.60	326.4		2.50	328.2	
11/30/2010	371.40		13.70	326.3		3.30	327.4	
12/28/2010	374.70		13.50	326.5		2.60	328.1	
1/4/2011	374.80		13.40	326.6		2.30	328.4	
1/6/2011	374.80		13.40	326.6		2.50	328.2	
1/7/2011	374.80		13.50	326.5		2.70	328.0	
1/8/2011	374.80		13.60	326.3		3.10	327.6	
1/9/2011	374.80		13.70	326.3		3.10	327.6	
1/10/2011	374.80		13.60	326.4		3.00	327.8	
1/11/2011	374.80		13.40	326.6		2.70	328.0	
1/17/2011	374.80		13.50	326.6		3.00	327.8	
1/19/2011	374.70		13.50	326.5		2.80	327.9	
1/21/2011	374.80		13.50	326.5		2.80	327.9	
1/27/2011	374.60		13.50	326.5		2.90	327.8	
2/3/2011	374.60		13.50	326.5		3.20	327.5	
2/8/2011	374.70		13.50	326.5		3.30	327.4	
2/28/2011	374.70		13.50	326.5		2.90	327.8	
3/28/2011	372.50	2.35	13.50	326.5		3.00	327.7	
4/28/2011	372.10	0.27	13.70	326.3		3.80	326.9	
5/18/2011	371.80	0.03	13.50	326.5		3.40	327.3	
5/25/2011	371.70	0.30	13.70	326.3		3.50	327.2	
6/28/2011	370.90	0.03	13.60	326.4		3.50	327.2	
7/26/2011	370.30	0.03	13.70	326.3		3.90	326.8	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	16.00	324.0		3.50	327.2	
8/30/2011	369.40		16.00	324.0		3.60	327.1	
9/13/2011	364.30	0.00	15.90	324.1		4.00	326.7	
9/27/2011	361.90		16.10	323.9		5.00	325.7	
10/11/2011	358.50	1.03	16.10	323.9		5.60	325.1	
10/25/2011	356.00	1.03	16.30	323.7		6.50	324.2	
11/29/2011	355.00	1.51	16.80	323.2		7.20	323.5	
12/28/2011	355.00	0.28	17.40	322.7		7.60	323.1	
1/26/2012	355.00	1.05	17.50	322.5		7.80	322.9	
2/28/2012	355.00	0.73	17.90	322.1		7.90	322.9	
3/27/2012	352.40	0.73	18.40	321.6		8.30	322.4	
4/23/2012	352.10	1.35	18.30	321.7		8.10	322.6	
5/30/2012	352.20	0.07	18.60	321.4		8.40	322.3	
6/13/2012	352.20		18.70	321.3		8.60	322.1	
6/26/2012	352.20	0.00	2.80	337.2	Cap was off bad read	8.70	322.0	
7/24/2012	352.20	0.23	4.20	335.8	Cap was off bad read	7.75	323.0	
8/8/2012	352.20	0.23	4.70	335.3	Cap was off bad read	7.50	323.2	
8/28/2012	351.80	0.00	19.20	320.8		7.90	322.8	
8/29/2012	351.80	0.00	18.90	321.1		8.20	322.5	
9/25/2012	351.30	0.00	19.40	320.6		8.40	322.3	
10/31/2012	351.00	0.09	19.60	320.4		8.90	321.8	
11/27/2012	351.00	0.87	19.20	320.8		9.20	321.5	
12/12/2012	351.00	1.13	19.00	321.0		9.20	321.5	
1/29/2013	366.10	1.30	19.00	321.0		5.40	325.3	
2/21/2013	372.10	0.42	18.80	321.2		4.30	326.4	
3/28/2013	371.90	0.79	18.10	321.9		3.10	327.6	
4/25/2013	371.40	0.00	17.80	322.2		2.70	328.0	
5/22/2013	370.90	0.00	17.70	322.3		2.90	327.8	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	17.00	323.0		2.50	328.2	
7/23/2013	369.40	0.00	16.80	323.2		2.70	328.0	
8/21/2013	368.60	0.00	16.80	323.4		2.80	327.9	
9/25/2013	367.70	0.00	16.30	323.7		2.80	327.9	
10/30/2013	366.90	0.00	16.10	323.9		3.00	327.7	
11/26/2013	366.50	0.59	15.90	324.1		3.00	327.7	
12/17/2013	366.20	0.70	15.90	324.1		3.20	327.5	
1/28/2014	365.50	0.00	15.70	324.3		3.40	327.3	
2/25/2014	365.40	0.76	15.90	324.2		3.65	327.1	
3/25/2014	365.30		16.00	324.0		3.40	327.3	
3/28/2014	365.30	2.02	15.60	324.5		3.40	327.3	
4/25/2014	364.50	0.52	15.50	324.5		3.50	327.2	
5/28/2014	363.80	0.00	15.50	324.5		3.70	327.0	
6/25/2014	363.00	0.00	15.70	324.3		3.90	326.8	
7/30/2014	361.90	0.00	15.40	324.6		3.90	326.8	
8/27/2014	361.10	0.04	15.50	324.5		4.30	326.4	
9/23/2014	360.50	0.00	13.50	326.5		4.20	326.5	
10/29/2014	359.50	0.00	15.60	324.4		4.50	326.2	
11/24/2014	359.40	0.32	15.70	324.3		4.60	326.1	
12/30/2014	359.40	3.98	15.80	324.2		4.70	326.0	
1/27/2015	359.00	1.42	15.90	324.1		4.70	326.0	
2/26/2015	358.60	0.46	15.90	324.1		4.80	325.9	
3/27/2015	358.00	0.63	16.00	324.0		5.30	325.4	
4/26/2015	331.00	0.22	16.20	323.8		8.00	322.7	
5/27/2015	332.00	1.79	16.10	323.9		7.90	322.8	
6/23/2015	331.00	0.00	20.50	322.3	Extended casing	12.30	318.4	
7/30/2015	331.00	0.00	20.60	322.2		13.70	317.0	
8/25/2015	331.00	0.00	21.50	321.3	Wet	17.60	316.1	Extended Casing

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	22.50	320.3		18.30	315.4	
10/29/2015	331.00	0.18	22.90	319.9		18.40	315.3	
11/25/2015	331.00	0.17	23.40	319.4		19.50	314.2	Dry
12/30/2015	331.00	1.42	23.80	319.0	VW installed	19.50	314.2	Dry; VW Installed
1/26/2016	343.70	2.97	17.90	325.0		16.07	317.6	
2/24/2016	363.80	0.26	18.10	324.7		9.93	323.8	
3/29/2016	374.90	1.50	17.10	325.7		5.40	328.3	
4/28/2016	375.50	0.09	15.60	327.2		4.30	329.4	
5/24/2016	374.40	0.13	14.20	328.6		4.00	329.7	
6/29/2016	373.70	0.00	14.30	328.5		4.10	329.6	
7/28/2016	372.20	0.00	14.40	328.4		4.11	329.6	
8/25/2016	367.10	0.00	14.50	328.3		4.70	329.0	
9/27/2016	363.30	0.00	14.60	328.2		5.30	328.4	
10/25/2016	362.10	0.82	14.10	328.7		5.00	328.7	
11/22/2016	361.80	1.69			VW was not logging			
12/28/2016	368.55	3.61	13.50	329.3		3.00	330.7	
1/25/2017	375.80	6.48	12.90	329.9		1.30	332.4	
2/28/2017	375.90	3.95	12.60	330.2		1.20	332.5	
3/15/2017	375.80	3.61	12.20	330.6		1.10	332.6	
3/28/2017	375.50	0.09	12.10	330.7		1.10	332.6	
4/26/2017	375.00	0.04	11.90	330.9		1.10	332.6	
5/23/2017	374.60	35.00	11.50	331.3		1.10	332.6	
6/22/2017	373.80	0.00	11.30	331.5		1.40	332.3	
7/26/2017	371.40	0.00	11.10	331.7		2.00	331.7	
8/30/2017	368.60	0.00	11.10	331.7		2.90	330.8	
9/28/2017	364.80	0.00	10.90	331.9		3.50	330.2	
10/26/2017	359.00	0.00	11.00	331.8		4.80	328.9	
11/29/2017	357.80	0.15	11.00	331.8		5.80	327.9	

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	11.00	331.8		5.90	327.8	
1/24/2018	357.30	1.84	11.00	331.80		6.10	327.60	
2/21/2018	361.00	0.18	11.00	331.80		5.60	328.10	
3/28/2018	366.90	2.19	11.60	331.20		5.00	328.70	
4/25/2018	367.00	0.05	11.40	331.40		4.90	328.80	
5/30/2018	366.40	0.36	11.60	331.20		5.10	328.60	
6/28/2018	365.60	0.00	11.50	331.30		5.20	328.50	
7/25/2018	363.20	0.00	11.60	331.20		5.50	328.20	
8/28/2018	357.30	0.00	11.70	331.10		6.40	327.30	
9/27/2018	354.60	0.00	11.80	331.00		6.90	326.80	
10/24/2018	351.90	1.49	12.00	330.80		7.60	326.10	
11/28/2018	348.60	0.56	12.30	330.50		8.60	325.10	
12/21/2018	348.80	2.04	12.20	330.60		8.32	325.38	
1/30/2019	348.90	4.41	12.80	330.00		9.00	324.70	
2/27/2019	351.70	8.05	12.70	330.10		7.90	325.80	
3/28/2019	351.60	2.00	12.60	330.20		8.20	325.50	
4/25/2019	348.70	0.10	12.30	330.50		9.20	324.50	
5/30/2019	348.30	0.99	12.30	330.50		9.50	324.20	
6/26/2019	344.50	0.11	12.50	330.30		16.70	317.00	
7/5/2019	343.30	0.00	12.70	330.10		10.60	323.10	
7/30/2019	341.00	0.00	13.80	329.00		11.50	322.20	
8/27/2019	341.00	0.00	15.17	327.63		14.37	319.33	
9/26/2019	341.00	0.00	15.90	326.90		16.40	317.30	
10/24/2019	341.00	0.00	16.50	326.30		16.70	317.00	
11/26/2019	341.00	2.60	12.60	330.20		16.70	317.00	
12/16/2019	341.00	4.93	13.10	329.70		8.70	325.00	
1/28/2020	341.00	0.21	12.80	330.00		9.00	324.70	
2/26/2020	360.60	0.39	18.84	323.96		11.62	322.08	

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	14.30	328.50		4.10	329.60	
4/23/2020	375.30	4.63	17.20	325.60		5.30	328.40	
5/28/2020	374.80	0.04			No data received			No data received
6/23/2020	373.60	0.00			No data received			No data received
7/29/2020	370.70	0.00			No data received			No data received
8/27/2020	367.80	0.00			No data received			No data received
9/29/2020	364.90	0.00			No data received			No data received
10/29/2020	354.80	0.00			No data received			No data received
11/24/2020	343.00	0.32			No data received			No data received
12/29/2020	343.50	1.14	15.20	327.60		11.60	322.10	
1/27/2021	355.70	2.45	15.20	327.60		8.40	325.30	
2/25/2021	365.90	0.03	15.20	327.60		6.20	327.50	
3/23/2021	370.80	1.27	15.00	327.80		5.10	328.60	
4/28/2021	371.70	0.03	14.40	328.40		4.50	329.20	
5/26/2021	370.00	0.05	14.10	328.70		4.50	329.20	
6/30/2021	366.30	0.00	14.00	328.80		4.85	328.85	
7/27/2021	361.50	0.03	13.70	329.10		5.20	328.50	
8/25/2021	356.30	0.00	13.50	329.30		5.70	328.00	
9/28/2021	350.60	0.03	13.90	328.90		6.90	326.80	
10/27/2021	343.50	0.79	13.40	329.40		9.30	324.40	
11/25/2021	343.40	0.00	13.80	329.00		9.80	323.90	
12/21/2021	348.90	6.14	13.90	328.90		9.60	324.10	
1/25/2022	372.70	0.01	14.10	328.70		4.00	329.70	
2/23/2022	374.60	0.32	13.40	329.40		3.80	329.90	
3/29/2022	370.90	1.21	13.30	329.50		4.50	329.20	
4/26/2022	367.80	0.04	13.10	329.70		4.60	329.10	
5/25/2022	360.70	0.03	13.10	329.70		5.70	328.00	
6/29/2022	343.70	0	13.00	329.80		9.50	324.20	

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/4			VBW/5		
Top of Well Elevation -->			340.00	342.8	Raised 6/23/2015	330.70	333.7	Raised 8/25/2015
Bottom of Well Elevation -->			314.70	314.7		314.00	314.0	
Depth of Well			25.30	28.1		16.70	19.7	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	13.40	329.40		10.80	322.90	
8/30/2022	342.00	0.03	14.00	328.80		11.60	322.10	
9/29/2022	342.00	0.32	14.60	328.20		12.80	320.90	
10/26/2022	342.00	0.32	15.10	327.70		14.60	319.10	
11/23/2022	342.00	2.04	16.00	326.80		15.90	317.80	
12/28/2022	341.60	2.11	16.70	326.10		16.40	317.30	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10							
4/25/2008	366.40							
5/28/2008	365.30							
6/25/2008	365.00							
7/18/2008	364.50							
8/25/2008	363.50							
9/25/2008	363.00							
10/21/2008	362.00							
11/25/2008	365.00							
12/23/2008	365.00							
1/26/2009	364.50							
2/24/2009	364.50							
3/23/2009	368.50							
4/27/2009	367.50							
5/22/2009	367.00							
6/29/2009	372.00							
7/31/2009	371.00							
8/26/2009	370.00							
9/29/2009	369.50							
10/30/2009	369.00							
11/30/2009	368.00							
12/30/2009	368.00							
3/1/2010	368.00							
3/30/2010	368.00							
4/4/2010	368.70							
4/27/2010	368.40							

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84							
6/29/2010	367.00							
7/27/2010	367.00							
8/27/2010	366.80							
9/28/2010	366.80							
10/26/2010	368.50							
11/30/2010	371.40							
12/28/2010	374.70							
1/4/2011	374.80							
1/6/2011	374.80							
1/7/2011	374.80							
1/8/2011	374.80							
1/9/2011	374.80							
1/10/2011	374.80							
1/11/2011	374.80							
1/17/2011	374.80							
1/19/2011	374.70		9.40	360.7	Dry	6.90	342.8	
1/21/2011	374.80		9.60	360.6	Dry	7.00	342.6	
1/27/2011	374.60		9.50	360.7	Dry	7.20	342.4	
2/3/2011	374.60		9.50	360.7	Dry	7.70	342.0	
2/8/2011	374.70		9.50	360.7	Dry	7.70	342.0	
2/28/2011	374.70		9.70	361.5	Dry	8.40	341.3	
3/28/2011	372.50	2.35	9.60	360.6	Dry	5.00	344.7	Omitted
4/28/2011	372.10	0.27	9.60	360.6	Dry	8.60	341.1	
5/18/2011	371.80	0.03	9.60	360.6	Dry	8.80	340.9	
5/25/2011	371.70	0.30	9.60	360.6	Dry	9.10	340.6	
6/28/2011	370.90	0.03	9.50	360.7	Dry	10.00	339.7	
7/26/2011	370.30	0.03	9.50	360.7	Dry	9.30	340.4	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	9.50	360.7	Dry	9.20	340.5	
8/30/2011	369.40		9.80	360.4	Dry	10.20	339.5	
9/13/2011	364.30	0.00	9.60	360.6	Dry	10.10	339.6	
9/27/2011	361.90		9.50	360.7	Dry	10.00	339.7	
10/11/2011	358.50	1.03	9.50	360.7	Dry	9.50	340.2	
10/25/2011	356.00	1.03	9.50	360.7	Dry	9.90	339.8	
11/29/2011	355.00	1.51	9.50	360.7	Dry	9.80	339.9	
12/28/2011	355.00	0.28	9.65	360.5	Dry	9.40	340.3	
1/26/2012	355.00	1.05	9.45	360.7	Dry	10.10	339.6	
2/28/2012	355.00	0.73	9.60	360.6	Dry	10.60	339.1	
3/27/2012	352.40	0.73	9.80	360.4	Dry	10.30	339.4	
4/23/2012	352.10	1.35	9.65	360.5	Dry	10.50	339.2	
5/30/2012	352.20	0.07	9.60	360.6	Dry	9.90	339.8	
6/13/2012	352.20		9.70	360.5	Dry	10.40	339.3	
6/26/2012	352.20	0.00	9.70	360.5	Dry	10.50	339.2	
7/24/2012	352.20	0.23	9.60	360.6	Dry	10.50	339.2	
8/8/2012	352.20	0.23	9.80	360.4	Dry	10.70	339.0	
8/28/2012	351.80	0.00	9.60	360.6	Dry	10.10	339.6	
8/29/2012	351.80	0.00	9.80	360.4	Dry	10.30	339.4	
9/25/2012	351.30	0.00	9.50	360.7	Dry	9.90	339.8	
10/31/2012	351.00	0.09	9.60	360.6	Dry	10.30	339.4	
11/27/2012	351.00	0.87	9.60	360.6	Dry	10.20	339.5	
12/12/2012	351.00	1.13	9.50	360.7	Dry	10.50	339.2	
1/29/2013	366.10	1.30	9.70	360.5	Dry	11.00	338.7	
2/21/2013	372.10	0.42	9.70	360.5	Dry	11.20	338.5	
3/28/2013	371.90	0.79	9.60	360.6	Dry	10.80	338.9	
4/25/2013	371.40	0.00	9.40	360.8	Dry	10.30	339.4	
5/22/2013	370.90	0.00	9.80	360.4	Dry	11.20	338.5	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	9.70	360.5	Dry	10.90	338.8	
7/23/2013	369.40	0.00	9.60	360.6	Dry	11.10	338.6	
8/21/2013	368.60	0.00	9.70	360.5	Dry	11.00	338.7	
9/25/2013	367.70	0.00	9.60	360.6	Dry	11.10	338.6	
10/30/2013	366.90	0.00	9.70	360.5	Dry	11.10	338.6	
11/26/2013	366.50	0.59	9.70	360.5	Dry	11.10	338.6	Wet
12/17/2013	366.20	0.70	9.70	360.5	Dry	10.90	338.8	
1/28/2014	365.50	0.00	9.70	360.4	Dry	10.30	339.4	
2/25/2014	365.40	0.76	9.75	360.6	Dry	11.20	338.5	Wet
3/25/2014	365.30		9.60	360.6	Dry	10.80	338.9	
3/28/2014	365.30	2.02	9.60	360.6	Dry	11.10	338.6	
4/25/2014	364.50	0.52	9.60	360.5	Dry	10.70	339.0	
5/28/2014	363.80	0.00	9.70	360.4	Dry	10.80	338.9	
6/25/2014	363.00	0.00	9.80	360.4	Dry	10.30	339.4	
7/30/2014	361.90	0.00	9.80	360.4	Dry	10.50	339.2	
8/27/2014	361.10	0.04	9.70	360.5	Dry	11.10	338.6	Wet
9/23/2014	360.50	0.00	9.60	360.6	Dry	11.10	338.6	Wet
10/29/2014	359.50	0.00	9.70	360.5	Dry	11.10	338.6	Wet
11/24/2014	359.40	0.32	9.70	360.5	Dry	10.90	338.8	Wet
12/30/2014	359.40	3.98	9.70	360.5	Dry	10.50	339.2	Wet
1/27/2015	359.00	1.42	9.70	360.5	Dry	10.90	338.8	
2/26/2015	358.60	0.46	9.70	360.5	Dry	11.10	338.6	Wet
3/27/2015	358.00	0.63	9.70	360.5	Dry	11.20	338.5	Wet
4/26/2015	331.00	0.22	9.60	360.6	Dry	11.10	338.6	Wet
5/27/2015	332.00	1.79	9.60	360.6	Dry	11.10	338.6	Wet
6/23/2015	331.00	0.00	9.80	360.6	Dry	12.30	339.0	
7/30/2015	331.00	0.00	10.40	361.0	Dry	11.00	340.3	Wet
8/25/2015	331.00	0.00	9.80	360.6	Dry	12.50	338.8	Wet

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	10.90	360.5	Dry	12.60	338.7	Wet
10/29/2015	331.00	0.18	9.80	360.6	Dry	12.50	338.8	
11/25/2015	331.00	0.17	10.90	360.5	Dry	12.70	338.6	Dry
12/30/2015	331.00	1.42	10.90	360.5	Dry	12.70	338.6	Dry
1/26/2016	343.70	2.97	9.80	360.6	Dry	12.50	338.8	Dry
2/24/2016	363.80	0.26	10.90	360.5	Dry	12.50	338.8	Dry
3/29/2016	374.90	1.50	10.90	360.5	Dry	12.50	338.8	Dry
4/28/2016	375.50	0.09	10.90	360.5	Dry	12.50	338.8	Dry
5/24/2016	374.40	0.13	10.90	360.5	Dry	12.50	338.8	Dry
6/29/2016	373.70	0.00	10.90	360.5	Dry	12.50	338.8	Dry
7/28/2016	372.20	0.00	10.90	360.5	Dry	12.50	338.8	Dry
8/25/2016	367.10	0.00	10.90	360.5	Dry	12.50	338.8	Dry
9/27/2016	363.30	0.00	10.90	360.5	Dry	12.50	338.8	Dry
10/25/2016	362.10	0.82	10.90	360.5	Dry	12.50	338.8	Dry
11/22/2016	361.80	1.69						Dry
12/28/2016	368.55	3.61	10.90	360.5	Dry	12.50	338.8	Dry
1/25/2017	375.80	6.48	10.80	360.5	Dry	12.50	338.8	Dry
2/28/2017	375.90	3.95	10.90	360.5	Dry	12.50	338.8	Dry
3/15/2017	375.80	3.61	10.90	360.5	Dry	12.50	338.8	Dry
3/28/2017	375.50	0.09	10.90	360.5	Dry	12.50	338.8	Dry
4/26/2017	375.00	0.04	10.90	360.5	Dry	12.50	338.8	Dry
5/23/2017	374.60	35.00	10.90	360.5	Dry	12.50	338.8	Dry
6/22/2017	373.80	0.00	10.90	360.5	Dry	12.50	338.8	Dry
7/26/2017	371.40	0.00	10.90	360.5	Dry	12.50	338.8	Dry
8/30/2017	368.60	0.00	10.90	360.5	Dry	12.50	338.8	Dry
9/28/2017	364.80	0.00	10.90	360.5	Dry	12.50	338.8	Dry
10/26/2017	359.00	0.00	10.90	360.5	Dry	12.50	338.8	Dry
11/29/2017	357.80	0.15	10.90	360.5	Dry	12.50	338.8	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	10.90	360.5	Dry	12.50	338.8	Dry
1/24/2018	357.30	1.84	10.90	360.50	Dry	12.50	338.80	Dry
2/21/2018	361.00	0.18	10.90	360.50	Dry	12.50	338.80	Dry
3/28/2018	366.90	2.19	10.90	360.50	Dry	12.50	338.80	Dry
4/25/2018	367.00	0.05	10.90	360.50	Dry	12.50	338.80	Dry
5/30/2018	366.40	0.36	10.90	360.50	Dry	12.50	338.80	Dry
6/28/2018	365.60	0.00	10.90	360.50	Dry	12.50	338.80	Dry
7/25/2018	363.20	0.00	10.90	360.50	Dry	12.50	338.80	Dry
8/28/2018	357.30	0.00	10.90	360.50	Dry	12.50	338.80	Dry
9/27/2018	354.60	0.00	10.90	360.50	Dry	12.50	338.80	Dry
10/24/2018	351.90	1.49	10.90	360.50	Dry	12.50	338.80	Dry
11/28/2018	348.60	0.56	10.90	360.50	Dry	12.50	338.80	Dry
12/21/2018	348.80	2.04	10.90	360.50	Dry	12.50	338.80	Dry
1/30/2019	348.90	4.41	10.90	360.50	Dry	12.50	338.80	Dry
2/27/2019	351.70	8.05	10.90	360.50	Dry	12.50	338.80	Dry
3/28/2019	351.60	2.00	10.90	360.50	Dry	12.50	338.80	Dry
4/25/2019	348.70	0.10	10.90	360.50	Dry	12.5	338.80	Dry
5/30/2019	348.30	0.99	10.90	360.50	Dry	12.5	338.80	Dry
6/26/2019	344.50	0.11	10.90	360.50	Dry	12.5	338.80	Dry
7/5/2019	343.30	0.00	10.90	360.50	Dry	12.5	338.80	Dry
7/30/2019	341.00	0.00	10.90	360.50	Dry	12.5	338.80	Dry
8/27/2019	341.00	0.00	10.90	360.50	Dry	12.5	338.80	Dry
9/26/2019	341.00	0.00	10.90	360.50	Dry	12.5	338.80	Dry
10/24/2019	341.00	0.00	10.90	360.50	Dry	12.5	338.80	Dry
11/26/2019	341.00	2.60	10.90	360.50	Dry	12.5	338.80	Dry
12/16/2019	341.00	4.93	10.90	360.50	Dry	12.5	338.80	Dry
1/28/2020	341.00	0.21	10.90	360.50	Dry	12.5	338.80	Dry
2/26/2020	360.60	0.39	10.90	360.50	Dry	12.5	338.80	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	10.90	360.50	Dry	12.5	338.80	Dry
4/23/2020	375.30	4.63	10.90	360.50	Dry	12.5	338.80	Dry
5/28/2020	374.80	0.04			No data received			No data received
6/23/2020	373.60	0.00			No data received			No data received
7/29/2020	370.70	0.00			No data received			No data received
8/27/2020	367.80	0.00			No data received			No data received
9/29/2020	364.90	0.00			No data received			No data received
10/29/2020	354.80	0.00			No data received			No data received
11/24/2020	343.00	0.32			No data received			No data received
12/29/2020	343.50	1.14	10.90	360.50	Dry	12.5	338.80	Dry
1/27/2021	355.70	2.45	10.90	360.50	Dry	12.50	338.80	Dry
2/25/2021	365.90	0.03	10.90	360.50	Dry	12.50	338.80	Dry
3/23/2021	370.80	1.27	10.90	360.50	Dry	12.50	338.80	Dry
4/28/2021	371.70	0.03	10.90	360.50	Dry	12.50	338.80	Dry
5/26/2021	370.00	0.05	10.90	360.50	Dry	12.50	338.80	Dry
6/30/2021	366.30	0.00	10.90	360.50	Dry	12.50	338.80	Dry
7/27/2021	361.50	0.03	10.90	360.50	Dry	12.50	338.80	Dry
8/25/2021	356.30	0.00	10.90	360.50	Dry	12.50	338.80	Dry
9/28/2021	350.60	0.03	10.90	360.50	Dry	12.50	338.80	Dry
10/27/2021	343.50	0.79	10.90	360.50	Dry	12.50	338.80	Dry
11/25/2021	343.40	0.00	10.90	360.50	Dry	12.50	338.80	Dry
12/21/2021	348.90	6.14	10.90	360.50	Dry	12.50	338.80	Dry
1/25/2022	372.70	0.01	10.90	360.50	Dry	12.50	338.80	Dry
2/23/2022	374.60	0.32	10.90	360.50	Dry	12.50	338.80	Dry
3/29/2022	370.90	1.21	10.90	360.50	Dry	12.50	338.80	Dry
4/26/2022	367.80	0.04	10.90	360.50	Dry	12.50	338.80	Dry
5/25/2022	360.70	0.03	10.90	360.50	Dry	12.50	338.80	Dry
6/29/2022	343.70	0	10.90	360.50	Dry	12.50	338.80	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/6			VBW/7		
Top of Well Elevation -->			370.20	371.4	Raised 8/23/2015	349.70	351.3	Raised 6/23/2015
Bottom of Well Elevation -->			360.60	360.6		338.10	338.1	
Depth of Well			9.50	10.8		11.50	13.2	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	10.90	360.50	Dry	12.50	338.80	Dry
8/30/2022	342.00	0.03	10.90	360.50	Dry	12.30	339.00	Dry
9/29/2022	342.00	0.32	11.70	359.70	Dry	13.20	338.10	Dry
10/26/2022	342.00	0.32	11.60	359.80	Dry	13.20	338.10	Dry
11/23/2022	342.00	2.04	10.90	360.50	Dry	12.50	338.80	Dry
12/28/2022	341.60	2.11	11.50	359.90	Dry	13.30	338.00	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
1/1/2008								
2/1/2008								
3/25/2008	365.10							
4/25/2008	366.40							
5/28/2008	365.30							
6/25/2008	365.00							
7/18/2008	364.50							
8/25/2008	363.50							
9/25/2008	363.00							
10/21/2008	362.00							
11/25/2008	365.00							
12/23/2008	365.00							
1/26/2009	364.50							
2/24/2009	364.50							
3/23/2009	368.50							
4/27/2009	367.50							
5/22/2009	367.00							
6/29/2009	372.00							
7/31/2009	371.00							
8/26/2009	370.00							
9/29/2009	369.50							
10/30/2009	369.00							
11/30/2009	368.00							
12/30/2009	368.00							
3/1/2010	368.00							
3/30/2010	368.00							
4/4/2010	368.70							
4/27/2010	368.40							

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SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
5/26/2010	367.84							
6/29/2010	367.00							
7/27/2010	367.00							
8/27/2010	366.80							
9/28/2010	366.80							
10/26/2010	368.50							
11/30/2010	371.40							
12/28/2010	374.70							
1/4/2011	374.80							
1/6/2011	374.80							
1/7/2011	374.80							
1/8/2011	374.80							
1/9/2011	374.80							
1/10/2011	374.80							
1/11/2011	374.80							
1/17/2011	374.80							
1/19/2011	374.70		3.90	341.4		4.50	340.4	
1/21/2011	374.80		4.20	341.4		4.80	340.1	
1/27/2011	374.60		4.20	341.2		4.90	340.0	
2/3/2011	374.60		4.40	341.1		5.30	339.6	
2/8/2011	374.70		4.50	340.9		5.30	339.6	
2/28/2011	374.70		4.80	340.9		5.60	339.3	
3/28/2011	372.50	2.35	4.00	340.5		4.90	340.0	
4/28/2011	372.10	0.27	4.50	341.3		5.90	339.0	
5/18/2011	371.80	0.03	4.20	340.8		6.50	338.4	
5/25/2011	371.70	0.30	4.55	340.8		6.90	338.0	
6/28/2011	370.90	0.03	6.10	339.2		7.40	337.5	
7/26/2011	370.30	0.03	6.30	339.0		7.40	337.5	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
8/24/2011	369.60	0.03	8.40	336.9		9.50	335.4	
8/30/2011	369.40		8.40	336.9		9.50	335.4	
9/13/2011	364.30	0.00	7.70	337.6		9.50	335.4	
9/27/2011	361.90		7.70	337.6		9.50	335.4	
10/11/2011	358.50	1.03	7.00	338.3		9.30	335.6	
10/25/2011	356.00	1.03	7.10	338.2		9.50	335.4	
11/29/2011	355.00	1.51	7.50	337.8		9.60	335.3	
12/28/2011	355.00	0.28	6.90	338.4		9.60	335.3	
1/26/2012	355.00	1.05	7.40	337.9		9.40	335.5	
2/28/2012	355.00	0.73	7.80	337.5		9.40	335.5	
3/27/2012	352.40	0.73	7.90	337.4		9.60	335.3	
4/23/2012	352.10	1.35	7.90	337.4		9.40	335.5	
5/30/2012	352.20	0.07	7.80	337.5		9.40	335.5	
6/13/2012	352.20		7.70	337.6		9.40	335.5	
6/26/2012	352.20	0.00	7.60	337.7		9.50	335.4	
7/24/2012	352.20	0.23	8.10	337.2		9.40	335.5	
8/8/2012	352.20	0.23	8.30	337.0		9.60	335.3	
8/28/2012	351.80	0.00	7.60	337.7		9.40	335.5	
8/29/2012	351.80	0.00	8.00	337.3		9.70	335.2	
9/25/2012	351.30	0.00	7.40	337.9		9.40	335.5	
10/31/2012	351.00	0.09	7.60	337.7		9.40	335.5	
11/27/2012	351.00	0.87	7.50	337.8		9.50	335.4	
12/12/2012	351.00	1.13	8.00	337.3		9.50	335.4	
1/29/2013	366.10	1.30	8.30	337.0		9.50	335.4	
2/21/2013	372.10	0.42	8.10	337.2		9.50	335.4	
3/28/2013	371.90	0.79	8.30	337.0		9.40	335.5	
4/25/2013	371.40	0.00	7.90	337.4		9.40	335.5	
5/22/2013	370.90	0.00	8.50	336.8		9.60	335.3	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
6/25/2013	370.20	0.00	8.30	337.0		9.40	335.5	
7/23/2013	369.40	0.00	8.30	337.0		9.40	335.5	
8/21/2013	368.60	0.00	8.30	337.0	Wet	9.50	335.4	
9/25/2013	367.70	0.00	8.30	337.0	Dry	9.45	335.5	
10/30/2013	366.90	0.00	8.40	336.9	Dry	9.10	335.8	
11/26/2013	366.50	0.59	8.30	337.0	Wet	10.90	334.0	Wet
12/17/2013	366.20	0.70	8.30	337.0	Wet	9.50	335.4	
1/28/2014	365.50	0.00	8.40	336.9		9.50	335.4	
2/25/2014	365.40	0.76	8.40	336.9	Wet	9.60	335.3	Dry
3/25/2014	365.30		8.30	337.0		9.50	335.4	
3/28/2014	365.30	2.02	8.30	337.0		9.40	335.5	
4/25/2014	364.50	0.52	8.30	337.0		9.50	335.4	
5/28/2014	363.80	0.00	8.10	337.2		9.40	335.5	
6/25/2014	363.00	0.00	8.40	336.9		9.60	335.3	
7/30/2014	361.90	0.00	8.40	336.9		9.60	335.3	
8/27/2014	361.10	0.04	8.30	337.0		9.50	335.4	
9/23/2014	360.50	0.00	8.20	337.1		9.50	335.4	Wet
10/29/2014	359.50	0.00	8.30	337.0		9.40	335.5	
11/24/2014	359.40	0.32	8.20	337.1		9.50	335.4	
12/30/2014	359.40	3.98	8.30	337.0		9.50	335.4	
1/27/2015	359.00	1.42	8.20	337.1		9.50	335.4	
2/26/2015	358.60	0.46	8.30	337.0		9.50	335.4	
3/27/2015	358.00	0.63	8.30	337.0		9.60	335.3	
4/26/2015	331.00	0.22	8.40	336.9	Wet	9.60	335.3	Wet
5/27/2015	332.00	1.79	8.40	336.9	Wet	9.60	335.3	Wet
6/23/2015	331.00	0.00	9.50	336.9	Wet	11.00	335.4	Dry
7/30/2015	331.00	0.00	8.30	338.1	Dry	10.90	335.5	Wet
8/25/2015	331.00	0.00	9.50	336.9	Wet	10.90	335.5	Wet

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TABLE 3
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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
9/30/2015	331.00	1.97	9.50	336.9	Dry	11.00	335.4	Wet
10/29/2015	331.00	0.18	9.50	336.9	Dry	11.00	335.4	Dry
11/25/2015	331.00	0.17	9.50	336.9	Dry	11.00	335.4	Dry
12/30/2015	331.00	1.42	9.50	336.9	Dry	11.00	335.4	Dry
1/26/2016	343.70	2.97	9.30	337.1		10.75	335.6	
2/24/2016	363.80	0.26	9.50	336.9	Dry	10.90	335.5	
3/29/2016	374.90	1.50	9.50	336.9	Dry	11.00	335.4	
4/28/2016	375.50	0.09	9.50	336.9	Dry	11.00	335.4	
5/24/2016	374.40	0.13	9.50	336.9	Dry	11.00	335.4	
6/29/2016	373.70	0.00	9.50	336.9	Dry	11.00	335.4	
7/28/2016	372.20	0.00	9.50	336.9	Dry	11.00	335.4	
8/25/2016	367.10	0.00	9.50	336.9	Dry	10.97	335.4	
9/27/2016	363.30	0.00	9.50	336.9	Dry	11.00	335.4	
10/25/2016	362.10	0.82	9.50	336.9	Dry	10.90	335.5	
11/22/2016	361.80	1.69						
12/28/2016	368.55	3.61	9.50	336.9	Dry	10.95	335.4	
1/25/2017	375.80	6.48	9.50	336.9	Dry	10.80	335.6	
2/28/2017	375.90	3.95	9.50	336.9	Dry	11.00	335.4	
3/15/2017	375.80	3.61	9.50	336.9	Dry	11.00	335.4	
3/28/2017	375.50	0.09	9.50	336.9	Dry	11.00	335.4	
4/26/2017	375.00	0.04	9.50	336.9	Dry	11.00	335.4	
5/23/2017	374.60	35.00	9.50	336.9	Dry	11.00	335.4	
6/22/2017	373.80	0.00	9.50	336.9	Dry	11.00	335.4	
7/26/2017	371.40	0.00	9.50	336.9	Dry	11.00	335.4	
8/30/2017	368.60	0.00	9.50	336.9	Dry	11.00	335.4	
9/28/2017	364.80	0.00	9.50	336.9	Dry	11.00	335.4	
10/26/2017	359.00	0.00	9.50	336.9	Dry	11.00	335.4	
11/29/2017	357.80	0.15	9.50	336.9	Dry	11.00	335.4	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
12/27/2017	357.30	0.00	9.50	336.9	Dry	11.00	335.4	
1/24/2018	357.30	1.84	9.50	336.90	Dry	11.00	335.40	
2/21/2018	361.00	0.18	9.50	336.90	Dry	11.00	335.40	
3/28/2018	366.90	2.19	9.50	336.90	Dry	11.00	335.40	
4/25/2018	367.00	0.05	9.50	336.90	Dry	11.00	335.40	
5/30/2018	366.40	0.36	9.50	336.90	Dry	11.00	335.40	
6/28/2018	365.60	0.00	9.50	336.90	Dry	11.00	335.40	
7/25/2018	363.20	0.00	9.50	336.90	Dry	11.00	335.40	
8/28/2018	357.30	0.00	9.50	336.90	Dry	11.00	335.40	
9/27/2018	354.60	0.00	9.50	336.90	Dry	11.00	335.40	
10/24/2018	351.90	1.49	9.50	336.90	Dry	11.00	335.40	
11/28/2018	348.60	0.56	9.50	336.90	Dry	11.00	335.40	
12/21/2018	348.80	2.04	9.50	336.90	Dry	11.00	335.40	
1/30/2019	348.90	4.41	9.50	336.90	Dry	11.00	335.40	
2/27/2019	351.70	8.05	9.50	336.90	Dry	11.00	335.40	
3/28/2019	351.60	2.00	9.50	336.90	Dry	11.00	335.40	
4/25/2019	348.70	0.10	9.5	336.90	Dry	11	335.40	
5/30/2019	348.30	0.99	9.5	336.90	Dry	11	335.40	
6/26/2019	344.50	0.11	9.5	336.90	Dry	11	335.40	
7/5/2019	343.30	0.00	9.5	336.90	Dry	11	335.40	
7/30/2019	341.00	0.00	9.5	336.90	Dry	11	335.40	
8/27/2019	341.00	0.00	9.5	336.90	Dry	11	335.40	
9/26/2019	341.00	0.00	9.5	336.90	Dry	11	335.40	
10/24/2019	341.00	0.00	9.5	336.90	Dry	11	335.40	
11/26/2019	341.00	2.60	9.5	336.90	Dry	11	335.40	
12/16/2019	341.00	4.93	9.5	336.90	Dry	11	335.40	
1/28/2020	341.00	0.21	9.8	336.60	Dry	11	335.40	
2/26/2020	360.60	0.39	9.5	336.90	Dry	11	335.40	

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PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
3/24/2020	370.30	3.75	9.5	336.90	Dry	11	335.40	
4/23/2020	375.30	4.63	9.5	336.90	Dry	11	335.40	
5/28/2020	374.80	0.04			No data received			No data received
6/23/2020	373.60	0.00			No data received			No data received
7/29/2020	370.70	0.00			No data received			No data received
8/27/2020	367.80	0.00			No data received			No data received
9/29/2020	364.90	0.00			No data received			No data received
10/29/2020	354.80	0.00			No data received			No data received
11/24/2020	343.00	0.32			No data received			No data received
12/29/2020	343.50	1.14	9.5	336.90	Dry	11	335.40	
1/27/2021	355.70	2.45	9.50	336.90	Dry	11.00	335.40	
2/25/2021	365.90	0.03	9.50	336.90	Dry	11.00	335.40	
3/23/2021	370.80	1.27	9.50	336.90	Dry	11.00	335.40	
4/28/2021	371.70	0.03	9.50	336.90	Dry	11.00	335.40	
5/26/2021	370.00	0.05	9.50	336.90	Dry	11.00	335.40	
6/30/2021	366.30	0.00	9.50	336.90	Dry	11.00	335.40	
7/27/2021	361.50	0.03	9.50	336.90	Dry	11.00	335.40	
8/25/2021	356.30	0.00	9.50	336.90	Dry	11.00	335.40	
9/28/2021	350.60	0.03	7.50	338.90	Dry	11.00	335.40	
10/27/2021	343.50	0.79	9.50	336.90	Dry	11.00	335.40	
11/25/2021	343.40	0.00	9.50	336.90	Dry	11.00	335.40	
12/21/2021	348.90	6.14	9.00	337.40	Dry	11.00	335.40	
1/25/2022	372.70	0.01	9.50	336.90	Dry	11.00	335.40	Dry
2/23/2022	374.60	0.32	9.50	336.90	Dry	11.00	335.40	Dry
3/29/2022	370.90	1.21	9.50	336.90	Dry	11.00	335.40	Dry
4/26/2022	367.80	0.04	9.50	336.90	Dry	11.00	335.40	Dry
5/25/2022	360.70	0.03	9.50	336.90	Dry	11.00	335.40	Dry
6/29/2022	343.70	0	9.50	336.90	Dry	11.00	335.40	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			VBW/8			VBW/9		
Top of Well Elevation -->			345.30	346.4	Raised 6/23/2015	344.90	346.4	Raised 6/23/2015
Bottom of Well Elevation -->			336.80	336.8		335.40	335.4	
Depth of Well			8.50	9.6		9.50	11.0	
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading (ft)	Elevation (ft)	Comment	Reading (ft)	Elevation (ft)	Comment
7/26/2022	343.10	0	9.50	336.90	Dry	11.00	335.40	Dry
8/30/2022	342.00	0.03	9.50	336.90	Dry	11.00	335.40	Dry
9/29/2022	342.00	0.32	10.50	335.90	Dry	11.30	335.10	Dry
10/26/2022	342.00	0.32	10.50	335.90	Dry	11.30	335.10	Dry
11/23/2022	342.00	2.04	9.50	336.90	Dry	11.00	335.40	Dry
12/28/2022	341.60	2.11	10.20	336.20	Dry	11.20	335.20	Dry

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
1/1/2008					
2/1/2008					
3/25/2008	365.10				
4/25/2008	366.40				
5/28/2008	365.30				
6/25/2008	365.00				
7/18/2008	364.50				
8/25/2008	363.50				
9/25/2008	363.00				
10/21/2008	362.00				
11/25/2008	365.00				
12/23/2008	365.00				
1/26/2009	364.50		32.00	8.45	
2/24/2009	364.50		32.00	8.45	
3/23/2009	368.50		37.85	10.00	
4/27/2009	367.50		37.85	10.00	
5/22/2009	367.00		32.00	8.45	
6/29/2009	372.00		56.78	15.00	
7/31/2009	371.00		37.85	10.00	
8/26/2009	370.00		56.78	15.00	
9/29/2009	369.50		45.42	12.00	
10/30/2009	369.00		37.85	10.00	
11/30/2009	368.00		37.85	10.00	
12/30/2009	368.00		37.85	10.00	
3/1/2010	368.00		131.00	34.61	
3/30/2010	368.00		46.80	12.36	
4/4/2010	368.70		38.40	10.14	
4/27/2010	368.40		40.20	10.62	

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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
5/26/2010	367.84		37.50	9.91	
6/29/2010	367.00		39.00	10.30	
7/27/2010	367.00		31.50	8.32	
8/27/2010	366.80		31.24	8.25	
9/28/2010	366.80		31.57	8.34	
10/26/2010	368.50		35.28	9.32	
11/30/2010	371.40		37.50	9.91	
12/28/2010	374.70		75.00	19.81	
1/4/2011	374.80		69.00	18.23	
1/6/2011	374.80				
1/7/2011	374.80				
1/8/2011	374.80		30.30	8.00	
1/9/2011	374.80		31.20	8.24	
1/10/2011	374.80				
1/11/2011	374.80		28.57	7.55	
1/17/2011	374.80				
1/19/2011	374.70		33.80	8.93	
1/21/2011	374.80				
1/27/2011	374.60		45.00	11.89	
2/3/2011	374.60				
2/8/2011	374.70				
2/28/2011	374.70		34.30	9.06	
3/28/2011	372.50	2.35	52.92	13.98	
4/28/2011	372.10	0.27	11.70	3.09	
5/18/2011	371.80	0.03	16.60	4.39	
5/25/2011	371.70	0.30	13.00	3.43	
6/28/2011	370.90	0.03	29.10	7.69	
7/26/2011	370.30	0.03	3.64	0.96	

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SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
8/24/2011	369.60	0.03	7.00	1.85	
8/30/2011	369.40		7.00	1.85	
9/13/2011	364.30	0.00	31.50	8.32	
9/27/2011	361.90		0.05	0.01	
10/11/2011	358.50	1.03	0.05	0.01	
10/25/2011	356.00	1.03	0.00	0.00	
11/29/2011	355.00	1.51	0.00	0.00	
12/28/2011	355.00	0.28	0.00	0.00	
1/26/2012	355.00	1.05	0.00	0.00	
2/28/2012	355.00	0.73	0.00	0.00	
3/27/2012	352.40	0.73	0.00	0.00	
4/23/2012	352.10	1.35	0.00	0.00	
5/30/2012	352.20	0.07	0.00	0.00	
6/13/2012	352.20		0.00	0.00	
6/26/2012	352.20	0.00	0.00	0.00	
7/24/2012	352.20	0.23	0.00	0.00	
8/8/2012	352.20	0.23	0.00	0.00	
8/28/2012	351.80	0.00	0.00	0.00	
8/29/2012	351.80	0.00	0.00	0.00	
9/25/2012	351.30	0.00	0.00	0.00	
10/31/2012	351.00	0.09	0.00	0.00	reservoir was low
11/27/2012	351.00	0.87	0.00	0.00	reservoir was low
12/12/2012	351.00	1.13	0.00	0.00	reservoir was low
1/29/2013	366.10	1.30			reservoir was low
2/21/2013	372.10	0.42			reservoir was low
3/28/2013	371.90	0.79			reservoir was low
4/25/2013	371.40	0.00			reservoir was low
5/22/2013	370.90	0.00			reservoir was low

Notes:
1. Readings in red are classified as erroneous

TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
6/25/2013	370.20	0.00			reservoir was low
7/23/2013	369.40	0.00			reservoir was low
8/21/2013	368.60	0.00			reservoir was low
9/25/2013	367.70	0.00			reservoir was low
10/30/2013	366.90	0.00	23.60	6.23	reservoir was low
11/26/2013	366.50	0.59	22.20	5.86	reservoir was low
12/17/2013	366.20	0.70	23.60	6.23	reservoir was low
1/28/2014	365.50	0.00	18.42	4.87	reservoir was low
2/25/2014	365.40	0.76	15.00	3.96	reservoir was low
3/25/2014	365.30		17.28	4.56	reservoir was low
3/28/2014	365.30	2.02	11.82	3.12	vault is being relocated
4/25/2014	364.50	0.52	18.00	4.76	vault is being relocated
5/28/2014	363.80	0.00	14.98	3.96	vault is being relocated
6/25/2014	363.00	0.00	14.19	3.75	vault is being relocated
7/30/2014	361.90	0.00	14.68	3.88	vault is being relocated
8/27/2014	361.10	0.04	15.20	4.02	vault is being relocated
9/23/2014	360.50	0.00	13.20	3.49	vault is being relocated
10/29/2014	359.50	0.00	12.00	3.17	vault is being relocated
11/24/2014	359.40	0.32	8.70	2.30	vault is being relocated
12/30/2014	359.40	3.98	8.10	2.14	seepage point is back
1/27/2015	359.00	1.42	6.90	1.82	
2/26/2015	358.60	0.46	6.40	1.69	
3/27/2015	358.00	0.63	6.10	1.61	
4/26/2015	331.00	0.22	0.00	0.00	
5/27/2015	332.00	1.79	0.00	0.00	
6/23/2015	331.00	0.00	0.00	0.00	
7/30/2015	331.00	0.00	0.00	0.00	
8/25/2015	331.00	0.00	0.00	0.00	

Notes:
1. Readings in red are classified as erroneous

TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
9/30/2015	331.00	1.97	0.00	0.00	
10/29/2015	331.00	0.18	0.00	0.00	
11/25/2015	331.00	0.17	0.00	0.00	
12/30/2015	331.00	1.42	0.00	0.00	
1/26/2016	343.70	2.97	0.00	0.00	
2/24/2016	363.80	0.26	0.00	0.00	
3/29/2016	374.90	1.50	0.85	0.22	
4/28/2016	375.50	0.09	3.90	1.03	
5/24/2016	374.40	0.13	4.20	1.11	
6/29/2016	373.70	0.00	4.60	1.22	
7/28/2016	372.20	0.00	5.10	1.35	
8/25/2016	367.10	0.00	3.84	1.01	
9/27/2016	363.30	0.00	1.80	0.48	
10/25/2016	362.10	0.82	3.40	0.90	
11/22/2016	361.80	1.69	4.86	1.28	
12/28/2016	368.55	3.61	6.12	1.62	
1/25/2017	375.80	6.48	22.00	5.81	
2/28/2017	375.90	3.95	22.30	5.89	
3/15/2017	375.80	3.61	22.30	5.89	
3/28/2017	375.50	0.09	25.70	6.79	
4/26/2017	375.00	0.04	28.00	7.40	
5/23/2017	374.60	35.00	16.32	4.31	
6/22/2017	373.80	0.00	30.12	7.96	
7/26/2017	371.40	0.00	30.60	8.08	
8/30/2017	368.60	0.00	36.00	9.51	
9/28/2017	364.80	0.00	16.00	4.23	
10/26/2017	359.00	0.00	2.80	0.74	
11/29/2017	357.80	0.15	9.20	2.43	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
12/27/2017	357.30	0.00	6.80	1.80	
1/24/2018	357.30	1.84	5.70	1.51	
2/21/2018	361.00	0.18	6.20	1.64	
3/28/2018	366.90	2.19	22.00	5.81	
4/25/2018	367.00	0.05	12.80	3.38	
5/30/2018	366.40	0.36	14.16	3.74	
6/28/2018	365.60	0.00	11.20	2.96	
7/25/2018	363.20	0.00	12.84	3.39	
8/28/2018	357.30	0.00	4.00	1.06	
9/27/2018	354.60	0.00	1.02	0.27	
10/24/2018	351.90	1.49	0.00	0.00	
11/28/2018	348.60	0.56	0.00	0.00	
12/21/2018	348.80	2.04	0.00	0.00	
1/30/2019	348.90	4.41	0.00	0.00	
2/27/2019	351.70	8.05	0.00	0.00	
3/28/2019	351.60	2.00	0.00	0.00	
4/25/2019	348.70	0.10	0.00	0.00	
5/30/2019	348.30	0.99	0.00	0.00	
6/26/2019	344.50	0.11	0.00	0.00	
7/5/2019	343.30	0.00	0.00	0.00	
7/30/2019	341.00	0.00	0.00	0.00	
8/27/2019	341.00	0.00	0.00	0.00	
9/26/2019	341.00	0.00	0.00	0.00	
10/24/2019	341.00	0.00	0.00	0.00	
11/26/2019	341.00	2.60	0.00	0.00	
12/16/2019	341.00	4.93	0.00	0.00	
1/28/2020	341.00	0.21	0.00	0.00	
2/26/2020	360.60	0.39	0.00	0.00	

Notes:
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TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
3/24/2020	370.30	3.75	0.03	0.01	
4/23/2020	375.30	4.63	0.90	0.24	
5/28/2020	374.80	0.04	1.10	0.29	
6/23/2020	373.60	0.00	2.20	0.58	
7/29/2020	370.70	0.00	1.32	0.35	
8/27/2020	367.80	0.00	0.97	0.26	
9/29/2020	364.90	0.00	0.54	0.14	
10/29/2020	354.80	0.00	0.63	0.17	
11/24/2020	343.00	0.32	0.00	0.00	
12/29/2020	343.50	1.14	0.00	0.00	
1/27/2021	355.70	2.45	0.00	0.00	
2/25/2021	365.90	0.03	1.50	0.40	
3/23/2021	370.80	1.27	3.66	0.97	
4/28/2021	371.70	0.03	4.32	1.14	
5/26/2021	370.00	0.05	4.80	1.27	
6/30/2021	366.30	0.00	5.40	1.43	
7/27/2021	361.50	0.03	4.88	1.29	
8/25/2021	356.30	0.00	3.00	0.79	
9/28/2021	350.60	0.03	1.40	0.37	
10/27/2021	343.50	0.79	0.00	0.00	
11/25/2021	343.40	0.00	0.00	0.00	
12/21/2021	348.90	6.14	0.00	0.00	
1/25/2022	372.70	0.01	2.81	0.74	
2/23/2022	374.60	0.32	7.5	1.98	
3/29/2022	370.90	1.21	5.07	1.34	
4/26/2022	367.80	0.04	1.35	0.36	
5/25/2022	360.70	0.03	3.36	0.89	
6/29/2022	343.70	0	0.00	0.00	

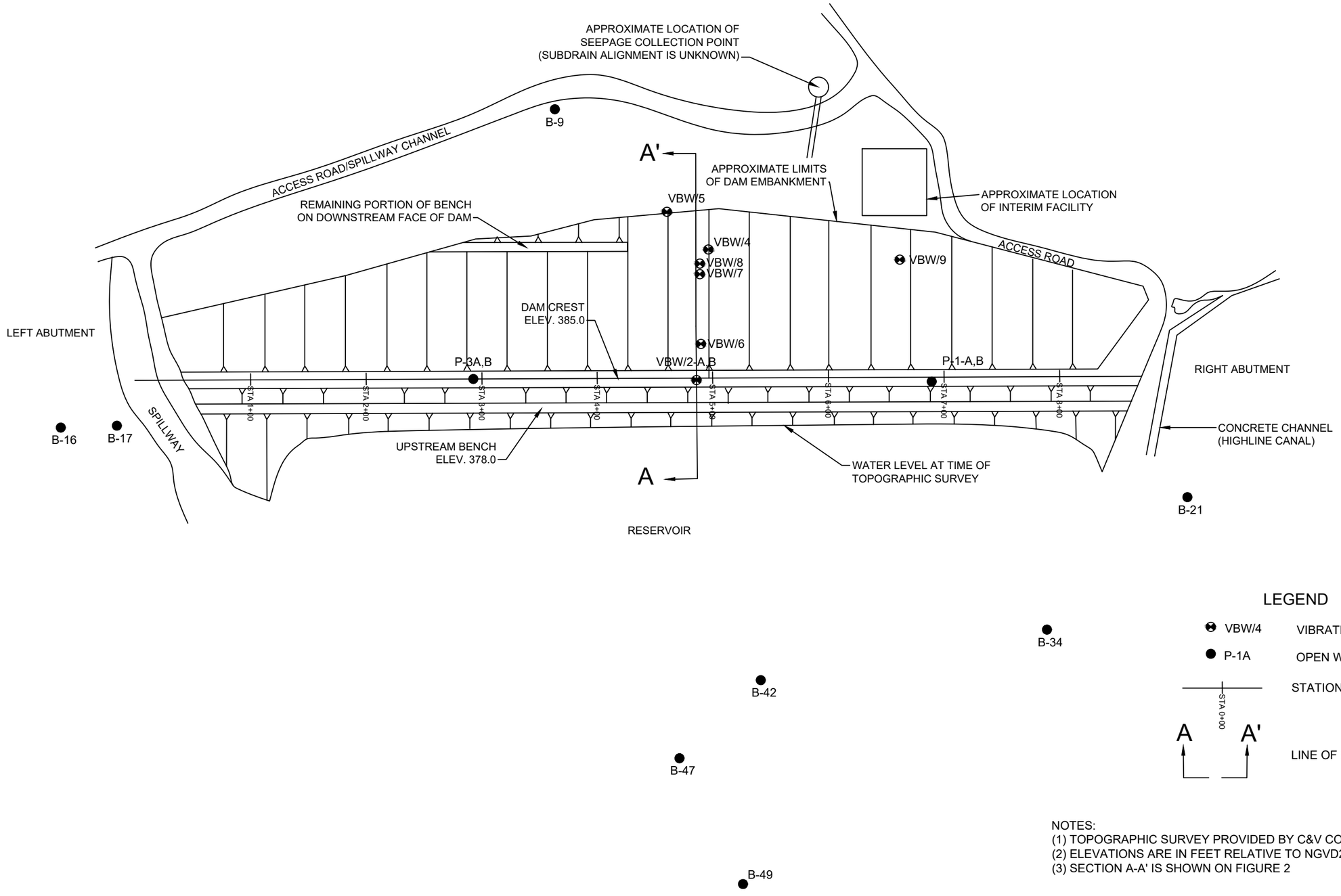
Notes:
1. Readings in red are classified as erroneous

TABLE 3
SYPHON CANYON DAM
PIEZOMETER WATER LEVELS AND SEEPAGE MEASUREMENTS
JANUARY 2008 THROUGH DECEMBER 2022

Monitoring Well -->			Seepage Flow Point		
Top of Well Elevation -->			(liter/min)		
Bottom of Well Elevation -->					
Depth of Well					
Date	Reservoir Elevation (ft)	Monthly Rainfall (in.)	Reading		Comment
			(liter/min)	(gal/min)	
7/26/2022	343.10	0	0.00	0.00	
8/30/2022	342.00	0.03	0.00	0.00	
9/29/2022	342.00	0.32	0.00	0.00	
10/26/2022	342.00	0.32	0.00	0.00	
11/23/2022	342.00	2.04	0.00	0.00	
12/28/2022	341.60	2.11	0.00	0.00	

Notes:
1. Readings in red are classified as erroneous

Figures

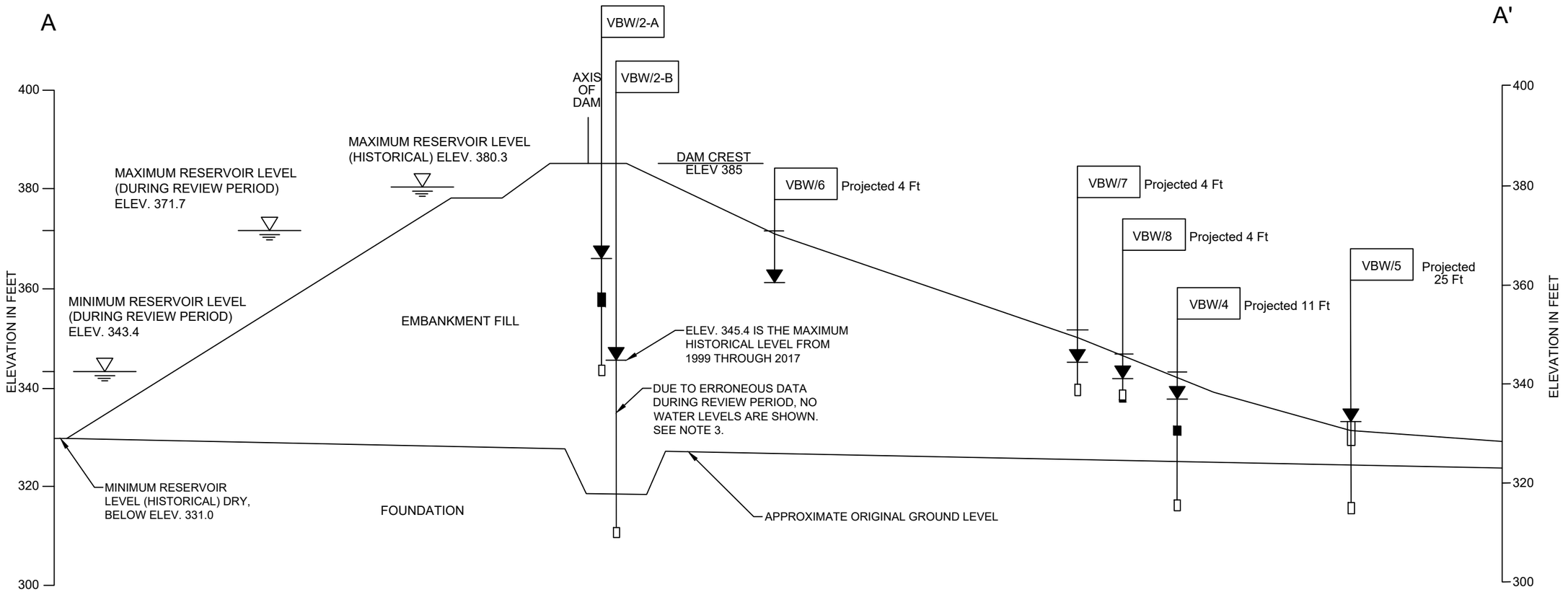


NOTES:
(1) TOPOGRAPHIC SURVEY PROVIDED BY C&V CONSULTANTS ON 2/26/2011
(2) ELEVATIONS ARE IN FEET RELATIVE TO NGVD29
(3) SECTION A-A' IS SHOWN ON FIGURE 2

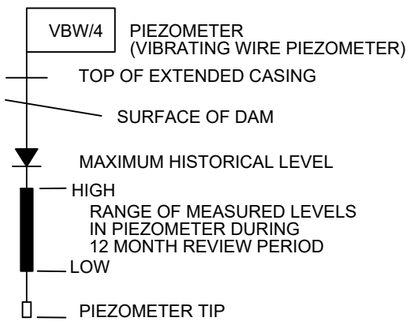
NOT TO SCALE

Annual Surveillance Report from Jan. 2021 to Dec. 2021 Syphon Canyon Dam Irvine, CA	GEI Consultants	SITE AND INSTRUMENTATION PLAN
Irvine Ranch Water District Irvine, CA	Project 1901888	May 2023 Fig. 1

TRAN, KENT \\bos-pzcc-1\CSB-DATA\Projects\1901888 IRWD Dams-3 Year\Monitoring Reports\2022 Draft and Final GEI Reports\Syphon Canyon 2022\Final\Table, Figures and Appendix\CADD\Syphon Canyon Figures.dwg - 4/24/2023



LEGEND



SECTION A-A' (MAXIMUM SECTION)

NOTES:
(1) LOCATION OF SECTION A-A' IA SHOWN ON FIGURE 1
(2) ELEVATIONS ARE IN FEET RELATIVE TO NGVD29
(3) ERRONEOUS READINGS WERE CAUSED BY INCORRECT DATA LOGGER CONVERSION SETTINGS.

NOT TO SCALE

Annual Surveillance Report from Jan. 2021 to Dec. 2021 Syphon Canyon Dam Irvine, CA	GEI Consultants	SECTION A-A'
Irvine Ranch Water District Irvine, CA	Project 1901888	May 2023 Fig. 1A

Figure 2

2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-1A, P-1B AND VBW/9
JANUARY 2021 THROUGH DECEMBER 2022

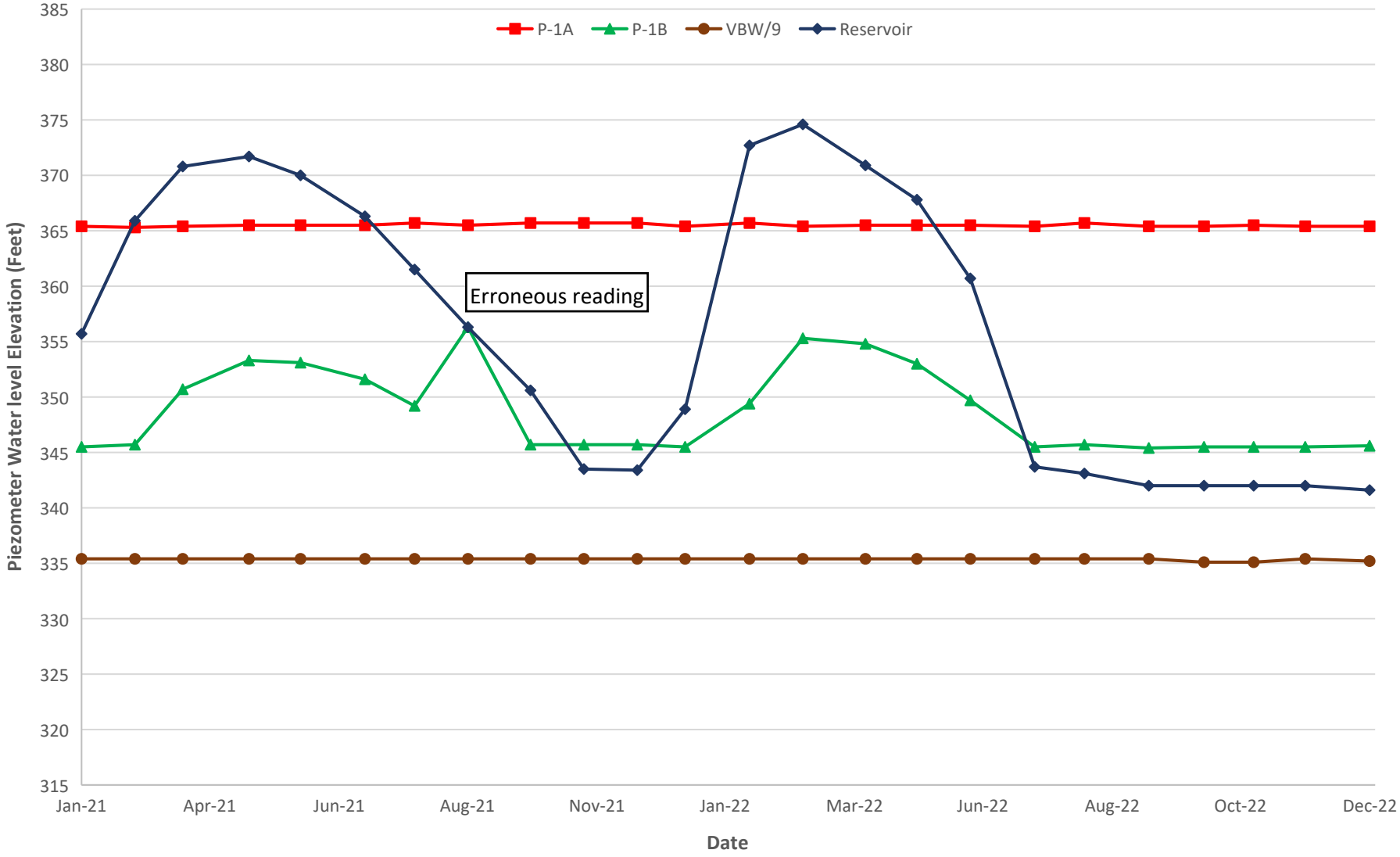


Figure 3

2-YR VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
VIBRATING WIRE PIEZOMETERS VBW/2-A, VBW/2-B, AND VBW/6
JANUARY 2021 THROUGH DECEMBER 2022

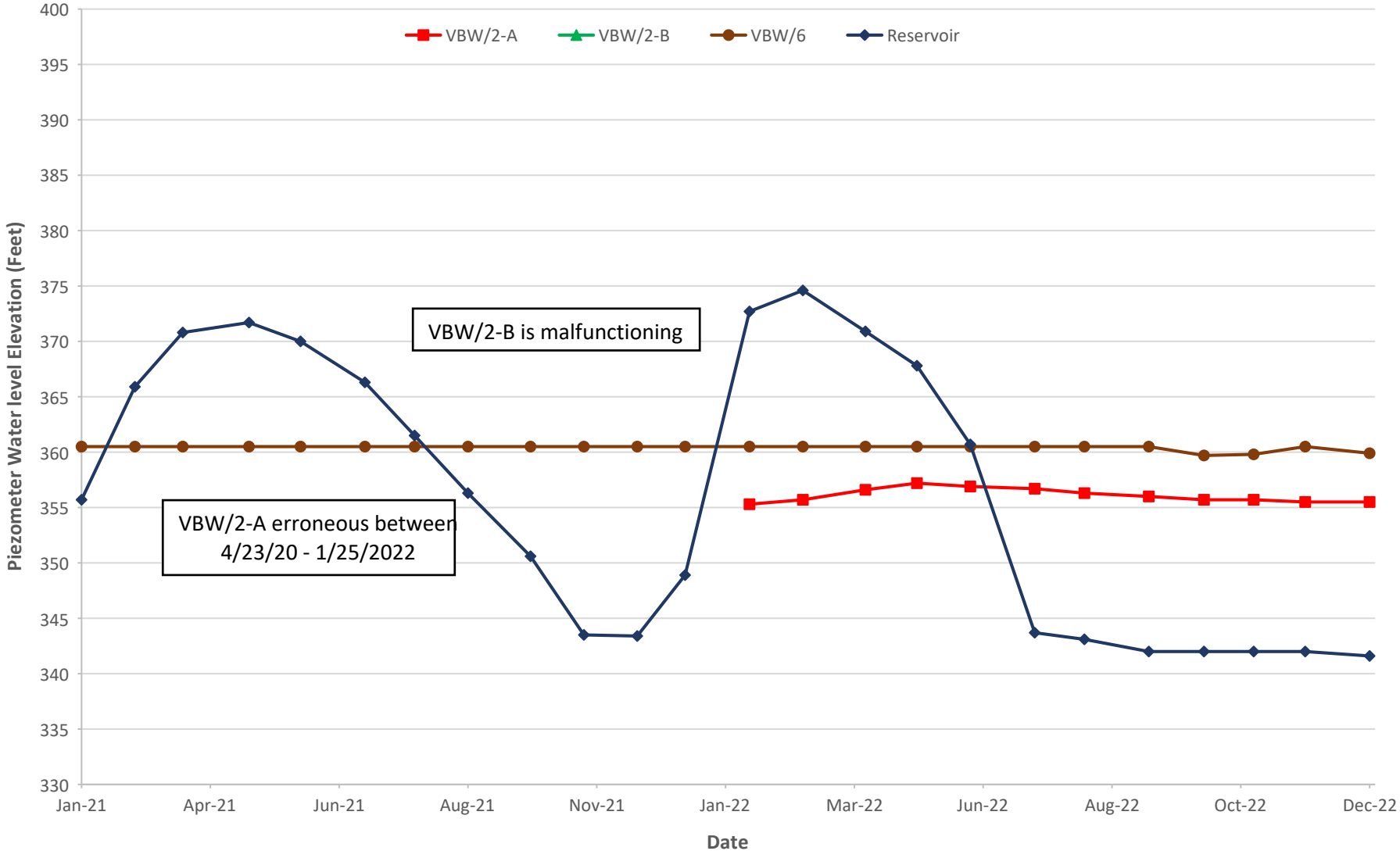


Figure 4

2-YR OPEN WELL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
OPEN WELL PIEZOMETERS P-3A AND P-3B
JANUARY 2021 THROUGH DECEMBER 2022

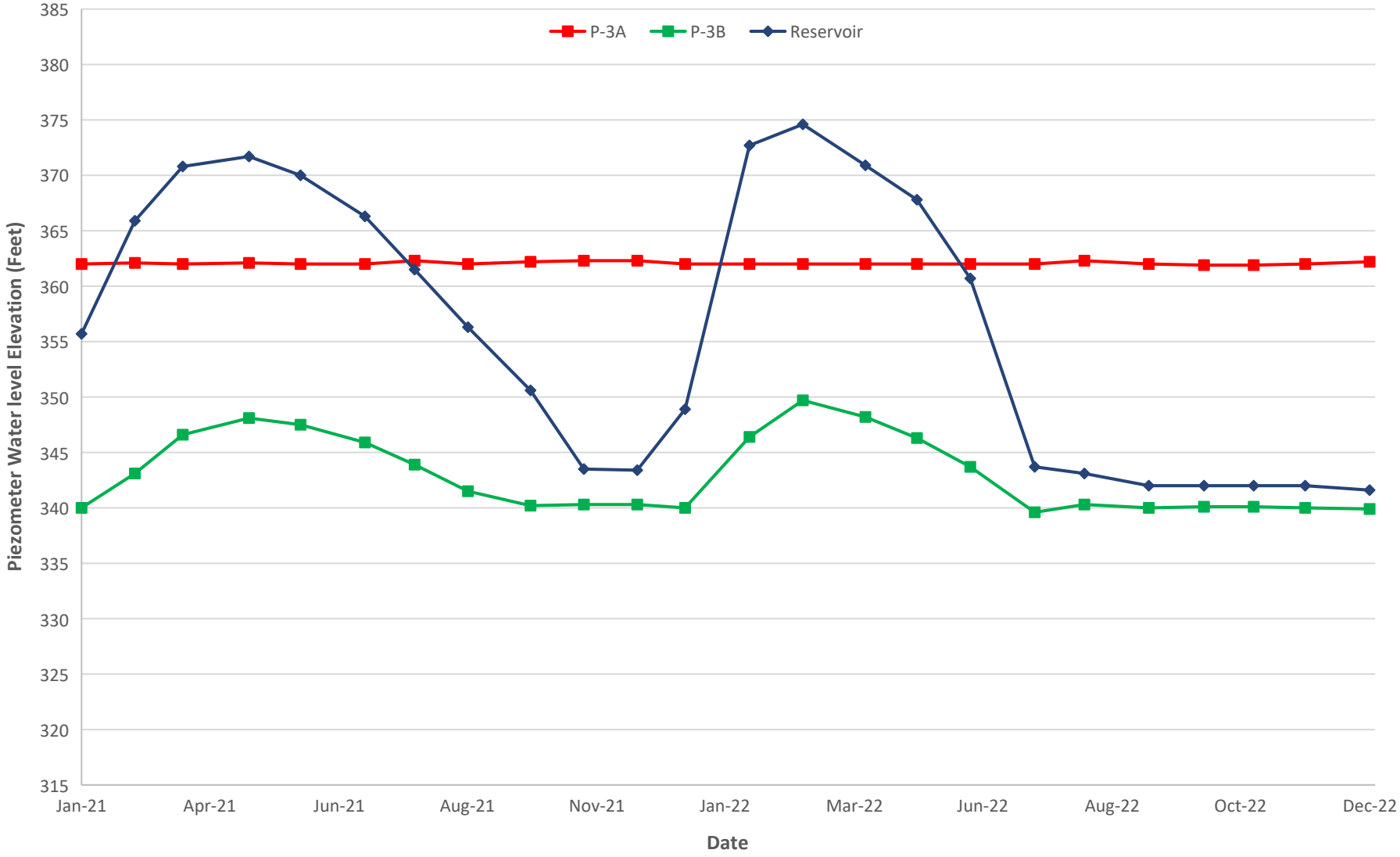


Figure 5

2-YR VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
VIBRATING WIRE PIEZOMETERS VBW/4, VBW/5, VBW/7, AND VBW/8
JANUARY 2021 THROUGH DECEMBER 2022

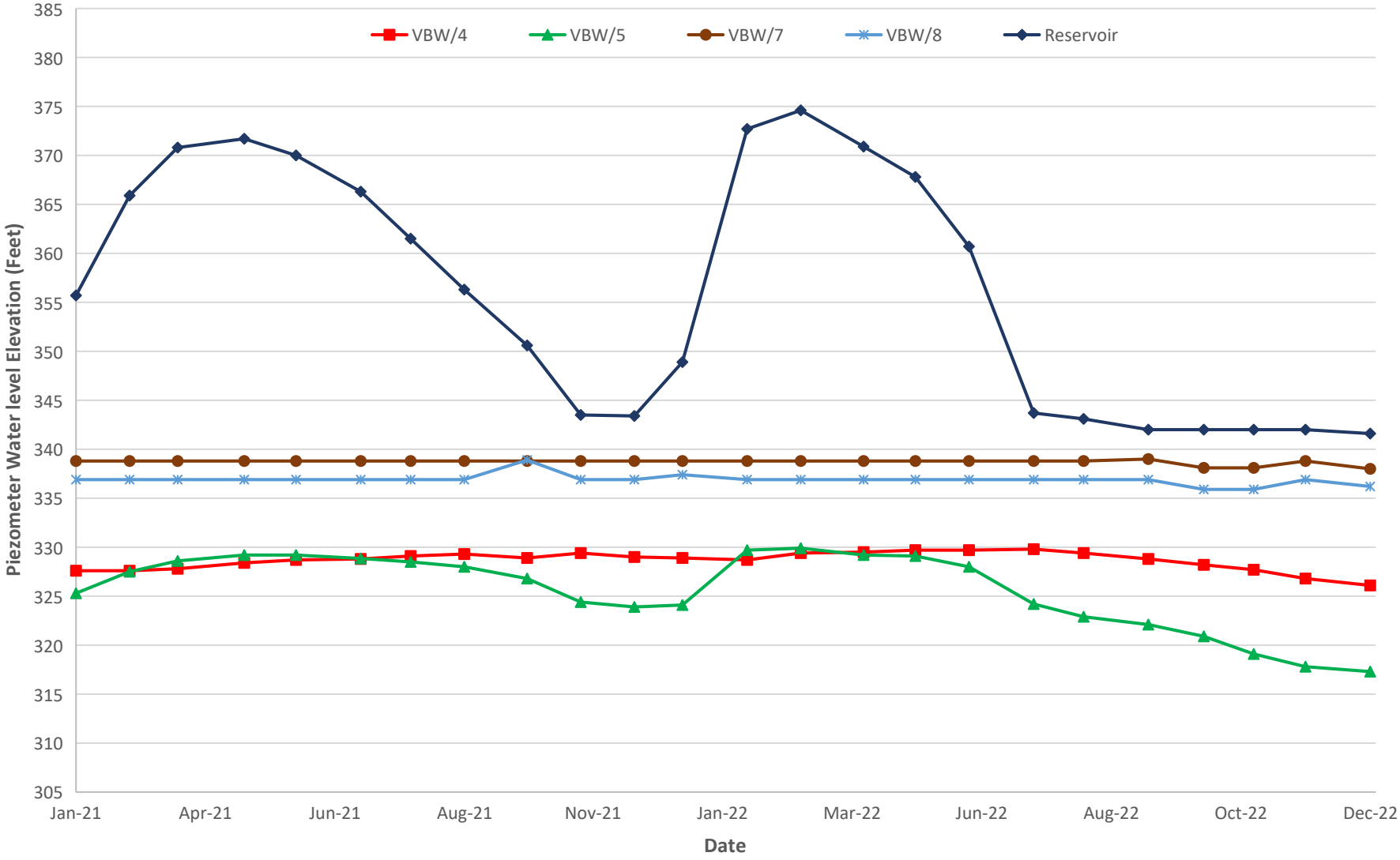


Figure 6

HISTORICAL PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
PIEZOMETERS P-1A, P-1B, AND VBW/9
JANUARY 2012 THROUGH DECEMBER 2022

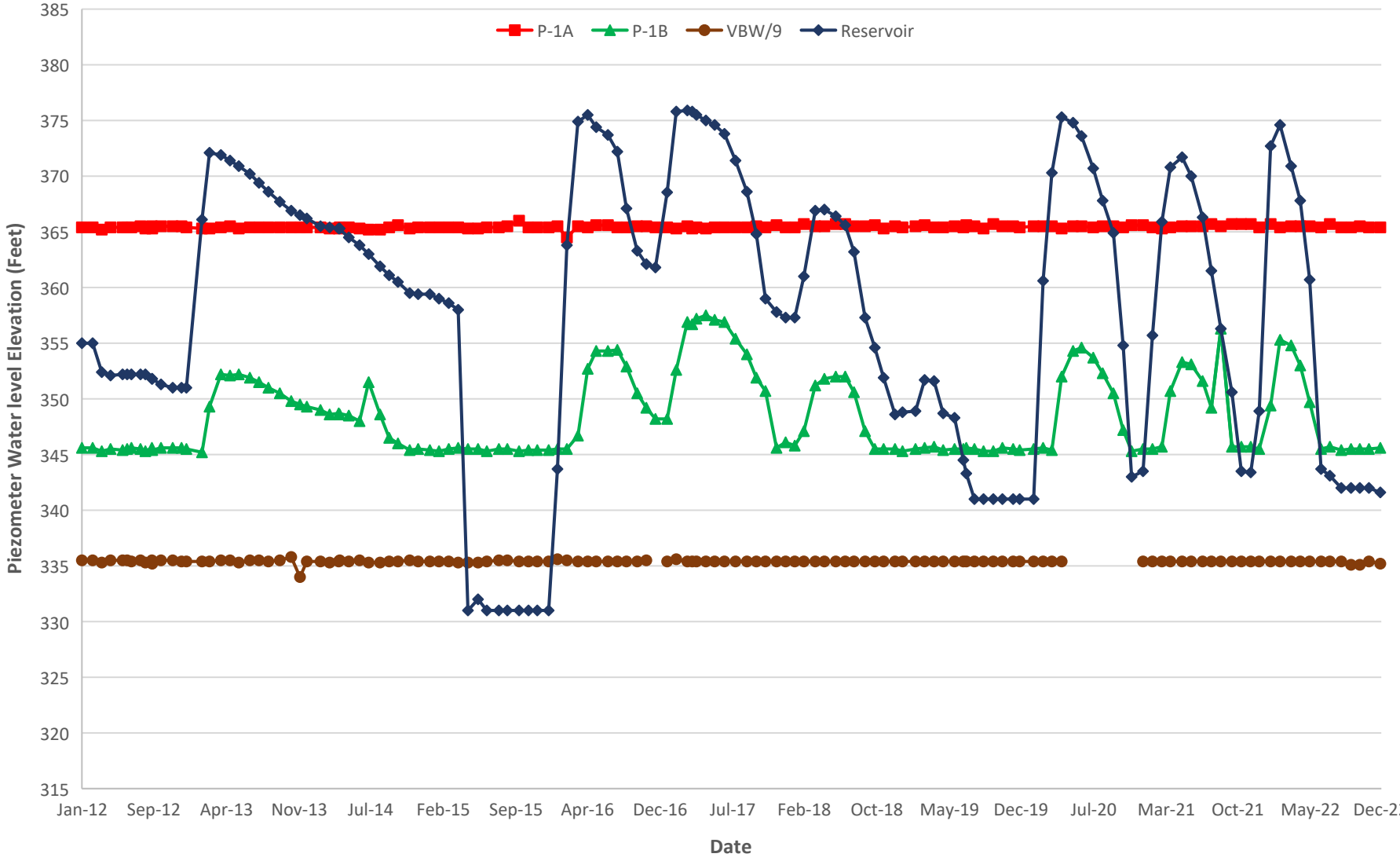


Figure 7

HISTORICAL VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
VIBRATING WIRE PIEZOMETERS VBW/2-A, VBW/2-B, AND VBW/6
JANUARY 2012 THROUGH DECEMBER 2022

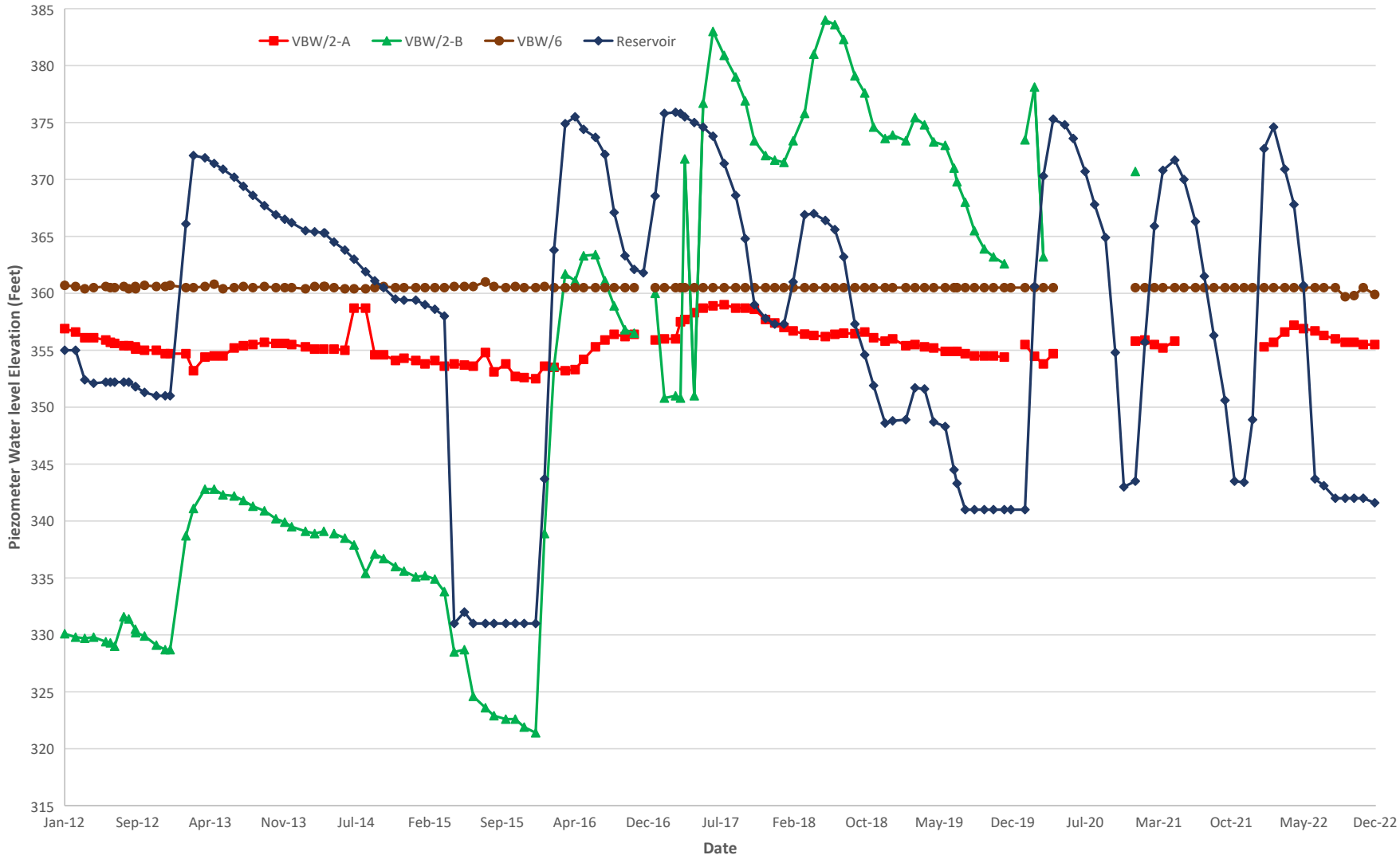


Figure 8

HISTORICAL PIEZOMETER AND RESERVOR WATER SURFACE ELEVATIONS

PIEZOMETERS P-3A AND P-3B

JANUARY 2012 THROUGH DECEMBER 2022

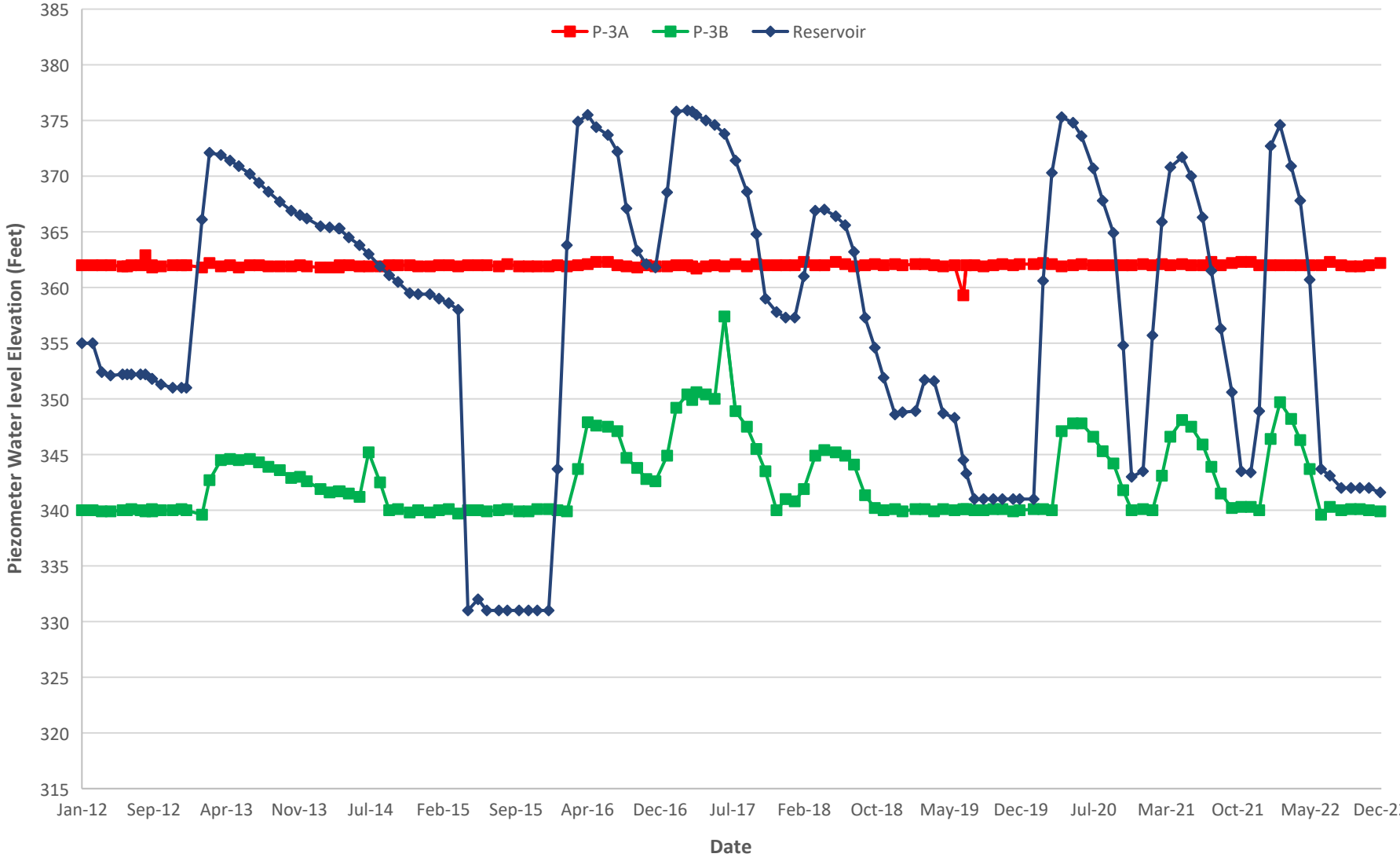


Figure 9

HISTORICAL VIBRATING WIRE PIEZOMETER AND RESERVOIR WATER SURFACE ELEVATIONS
VIBRATING WIRE PIEZOMETERS VBW/4, VBW/5, VBW/7, AND VBW/8
JANUARY 2012 THROUGH DECEMBER 2022

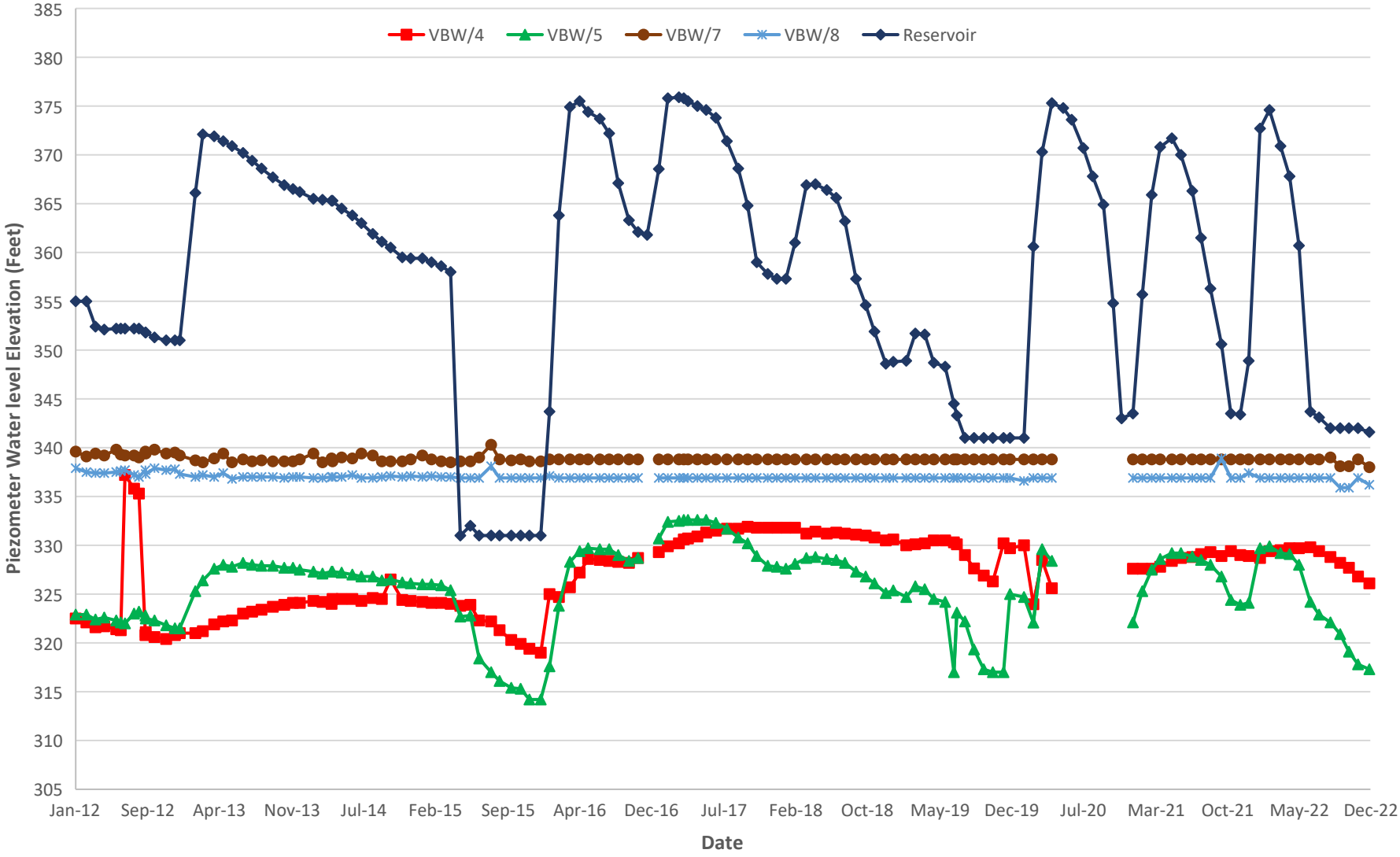


Figure 10

2-YR SEEPAGE, RESERVOIR WATER SURFACE ELEVATIONS, AND RAINFALL

SEEPAGE FLOW POINT

JANUARY 2021 THROUGH DECEMBER 2022

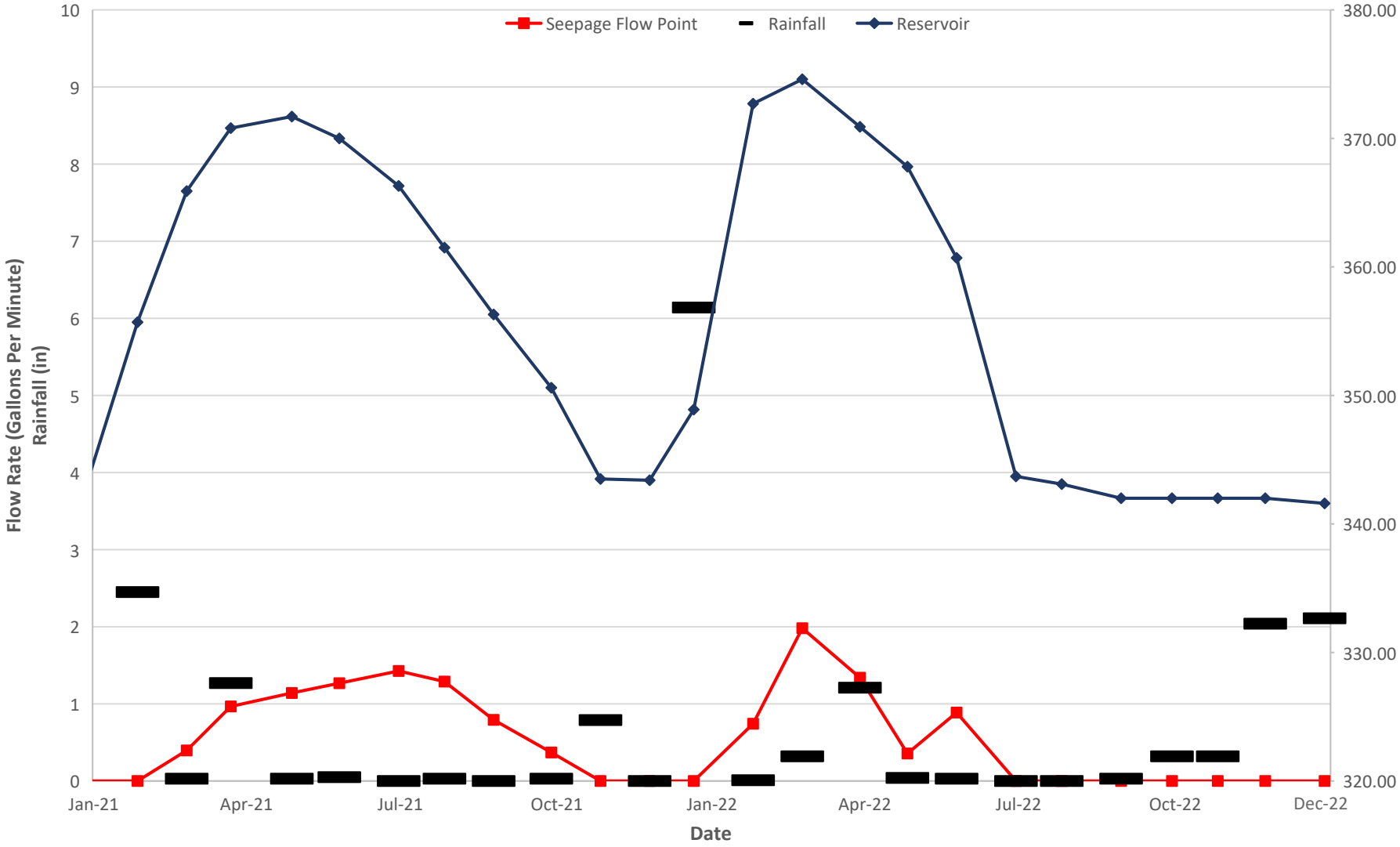
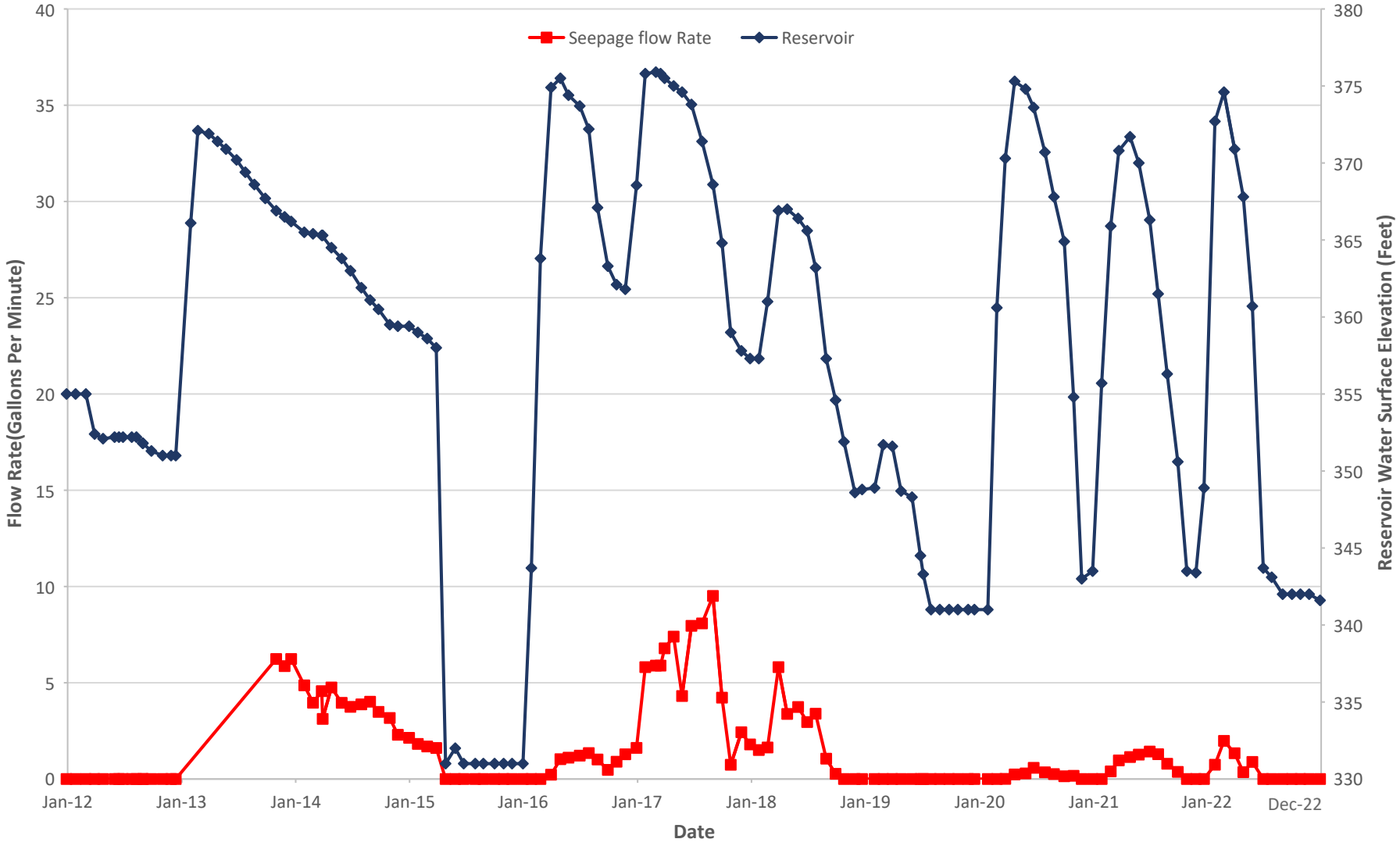


Figure 11

HISTORICAL SEEPAGE AND RESERVOIR WATER SURFACE ELEVATIONS

SEEPAGE FLOW POINT

JANUARY 2012 THROUGH DECEMBER 2022



Appendix

Inspection Photographs of Syphon Canyon Dam - December 13, 2022

Reservoir Dam Valve Exercising Table

Inspection Photographs of Syphon Canyon Dam

December 13, 2022

Photo 1) Upstream face looking towards right abutment showing bench and dry reservoir.

Photo 2) Crest and downstream face looking towards right abutment.

Photo 3) Crest and downstream looking towards left abutment.

Photo 4) Dry Syphon reservoir.

Photo 5) Downstream face looking towards left abutment.

Photo 6) Downstream face looking towards right abutment.

Photo 7) Minor rill erosion at right abutment access road

Photo 8) Spillway channel looking downstream.

Photo 9) Outlet valve wheel and stem and reservoir staff gauge.

Photo 10) Drain outfall inside the seepage vault.

Reservoir Dam Valve Exercising Table

Reservoir Dam Valve Exercising

Syphon Canyon Dam

Date	12" Outlet # of Turns	Down Stream Main # of turns	Blow off valve
4/10/2013	Exercised	Exercised	Exercised
2014	Reservoir is off line and empty		
2015	Reservoir is off line and empty		
5/26/2016 DSOD	36	36	36
7/14/2016	36	36	36
4/18/2017	36	36	36
5/2/2018 DSOD	36	36	36
4/1/2019	36	36	36
1/14/2020 DSOD	36	36	36
4/27/2021	36	36	36
4/14/2022	36	36	36