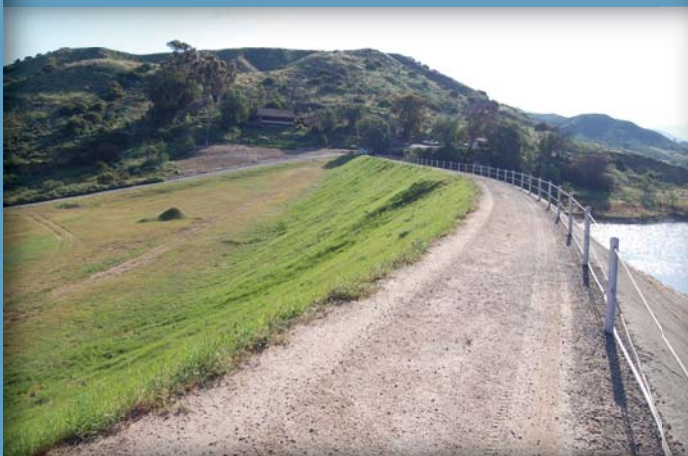


**Annual Surveillance Report**  
**January 2017 through December 2017**  
**Santiago Creek Dam**  
DSOD Dam No. 75-000  
Irvine, CA  
November 26, 2018



**Prepared By:**

**GENTERRA Consultants, Inc.**  
15375 Barranca Pkwy, Bldg L  
Irvine, CA 92618  
[www.genterra.com](http://www.genterra.com)  
Tel: (949) 753-8766  
Fax: (949) 753-8887



**Prepared For:**

**Irvine Ranch Water District**  
Field Operations Department  
P. O. Box 57000  
Irvine, CA 92619-7000  
and  
**Serrano Water District**  
18021 East Lincoln Street  
Villa Park, CA 92861-6446



**ANNUAL SURVEILLANCE REPORT  
JANUARY 2017 THROUGH DECEMBER 2017  
FOR  
SANTIAGO CREEK DAM  
DSOD DAM NO. 75-000  
IRVINE, CALIFORNIA**

**Submitted To:**

**Irvine Ranch Water District  
Field Operations Department  
P. O. Box 57000  
Irvine, CA 92619-7000**

**And**

**Serrano Water District  
18021 East Lincoln Street  
Villa Park, CA 92861-6446**

**Prepared By:**

**GENTERRA Consultants, Inc.  
15375 Barranca Pkwy., Bldg. L  
Irvine, California 92618**

**Project No. 397E-IRW**

**November 26, 2018**



November 26, 2018

Project No. 397E-IRW

Irvine Ranch Water District  
Field Operations Department  
P. O. Box 57000  
Irvine, CA 92619-7000

Attention: Mr. Jeff Smyth, Engineer

Subject: Santiago Creek Dam, DSOD Dam No. 75-000,  
Annual Surveillance Report, January 2017 through December 2017

Dear Mr. Smyth:

GENTERRA Consultants, Inc. (GENTERRA) is pleased to submit this Annual Surveillance Report for Santiago Creek Dam covering the period from January 2017 through December 2017. This report is part of the scope of work described in our proposal dated October 14, 2015, and as authorized by the Irvine Ranch Water District in Purchase Order No. 527854 dated December 22, 2015.

We appreciate this opportunity to provide the District with our services during this annual surveillance program. Please contact either of the undersigned if you have any questions.

Sincerely,  
**GENTERRA CONSULTANTS, INC.**

Douglas A. Harriman, P.E.  
Principal Engineer  
P.E. 55620

Joseph J. Kulikowski, P.E., G.E.  
President & Senior Principal Engineer  
P.E. 17478, G.E. 491



cc: Mr. Jerry Vilander, Serrano Water District  
Enclosure

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**SECTION 1: INTRODUCTION AND BACKGROUND**

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**1.1 GENERAL**

This report presents the results of the dam safety monitoring and surveillance program for Santiago Creek Dam conducted by the Irvine Ranch Water District and the Serrano Water District (Districts), and GENTERRA Consultants, Inc. (GENTERRA) for the 12-month period from January 2017 through December 2017. Irvine Ranch Water District and Serrano Water District jointly own and operate the dam and reservoir. The term “Districts” is used when referring to both responsible parties. This report includes a compilation of field measurements, observations and conclusions related to the general condition, safety and performance of the dam. In addition, this report contains recommendations for continued operation, surveillance, and monitoring of the dam. It is being submitted as part of the jurisdictional requirements of the State of California, Department of Water Resources, Division of Safety of Dams (DSOD).

This report was prepared by GENTERRA and includes recent (2-year) and historical (10-year) plots showing trends of water levels in the piezometers and in the reservoir (Irvine Lake, which is impounded by Santiago Creek Dam), presented in graphical form. The following tabular data are also presented in this report: piezometer water level data for the period from 2008 through 2017, survey monument elevations for the period from 1989 to 2016, and net horizontal displacements of the survey monument data for the period from 1994 to 2016. Survey monument elevations (since 1989) and net horizontal displacements of the survey monuments (since 1994) are presented graphically to provide a visualization of the long-term performance of the dam and reservoir. No surveying of the dam was performed during calendar year 2017.

One of the original as-built plan sheets dated December 1930 notes that the topographic contours are referenced to the “U.S.G.S. Datum”, which may refer to the Sea Level Datum of 1929, renamed in 1973 to the National Geodetic Vertical Datum of 1929 (NGVD 29). The National Oceanic and Atmospheric Administration (NOAA) National Geodetic Survey (NGS) online program VERTCON calculated a height difference (i.e. datum shift) of 2.536 feet that is to be added to elevations in NGVD 29 to obtain estimated elevations in the North American Vertical Datum of 1988 (NAVD 88) for the Santiago Creek Dam and Reservoir.

In July 2002, a survey was performed to determine the vertical conversion factor from the original construction datum to the NAVD 88. That survey showed that a vertical conversion factor of 1.90 feet is to be added to elevations from the original construction datum to obtain NAVD 88 elevations. Although the original construction datum had been assumed to be NGVD 29, the 1.90-foot vertical conversion factor is to be used in place of the VERTCON datum shift since there is no confirmation that the original construction datum was NGVD 29. Therefore, elevations referenced to the original construction datum are indicated simply as “construction datum” (AECOM, 2016).

The crest of the dam is at an elevation of 810.0 feet (construction datum) or an elevation of 811.9 feet (NAVD 88). The spillway crest is at an elevation of 790.0 feet (construction datum) or an

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elevation of 791.9 feet (NAVD 88). All elevations presented in this report are referenced to NAVD 88 unless use of the construction datum is indicated.

## **1.2 DAM AND RESERVOIR**

Santiago Creek Dam is a rolled earthfill embankment dam that was completed in 1932 on Santiago Creek and Limestone Canyon Creek. The dam is 136 feet high with a dam crest length of 1,425 feet. Figure 1A depicts the general plan view of the dam, spillway, and outlet tower. The upstream face has a slope of 1.5H:1V (Horizontal:Vertical) above an elevation of 799.4 feet, whereas the slope is 2.5H:1V below an elevation of 799.4 feet. The width of the dam crest is 10 feet. The downstream face has a slope of 1.5H:1V above an elevation of 791.9 feet (same elevation as the spillway crest), and the slope is 2H:1V below an elevation of 791.9 feet. As used in this report, the left and right designations are as viewed looking downstream.

The reservoir has a drainage area of about 63 square miles. Per the document titled “*Dams within the Jurisdiction of the State of California*” (DSOD, 2000) the reservoir has a storage capacity of 25,000 acre-feet.

A reservoir caretaker’s house is located above and away from the right abutment of the dam. A rain gage is located near the caretaker’s house.

## **1.3 SPILLWAY**

The spillway currently consists of an approach, control structure, chute and flip-bucket. According to a report by AECOM (2016), the spillway was extensively modified in late 1969 and/or early 1970 after being damaged by high spillway discharges from the February 1969 flood event. The original spillway chute did not terminate in the flip-bucket, but rather the chute continued with a slope of 50% to Elevation 689.9 feet, at which point the chute turned approximately 68 degrees and entered a relatively horizontal “waste chute”, which discharged to the streambed at Elevation 683.4 feet. The damaged waste channel and lower chute were removed, and the flip-bucket also known as a “ski jump” was installed at the end of the remaining chute. A portion of the left wall of the original spillway channel was left in place immediately downstream of the flip-bucket.

There is an 8-foot deep cutoff at the upstream end of the spillway (Spillway Station 0+00), and shallower cutoffs at Spillway Stations 1+05, 2+00, 2+75, and 3+10. A subdrain system consisting of a tile drain surrounded by stone was placed downstream of the cutoff at Spillway Station 0+00, upstream of the other cutoffs, and was daylighted through the spillway chute at Spillway Station 3+14 (AECOM, 2016).

The DSOD allows the effective spillway crest to be raised by four feet with stoplogs to Elevation 795.9 feet from April through September of each year.

## **1.4 OUTLET WORKS**

The outlet works consists of: (1) an outlet tower with gated intakes at eight different elevations, (2) an outlet conduit, and (3) a downstream control house where the evacuation of water from the



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reservoir can be accomplished in the event of an emergency situation involving the safety of the dam. The 135-foot tall outlet tower has eight gated intakes at 10-foot elevation intervals. The lower four gates have been inoperable due to siltation for more than 30 years. The outlet conduit is a 592-foot long, 60-inch diameter welded steel outlet pipe. At the downstream toe of the dam, the outlet pipe splits into two pipes: a 36-inch diameter main pipe and a 30-inch diameter emergency release pipe. Water moving through the outlet conduit is controlled by the main valve located in the control house. The main valve is normally kept open to supply water through the Irvine Lake Pipeline to the Districts' customers. The emergency release pipe is controlled by the diverter valve, which is normally kept closed. It can be opened in an emergency to release water into the streambed immediately downstream of the control house (AECOM, 2016).

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**SECTION 2: FIELD MEASUREMENTS**

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There are currently 22 open-well piezometers being monitored at Santiago Creek Dam, labeled as R-1 Upper, R-1 Middle, R-1 Lower, R-2 Upper, R-2 Middle, R-2 Lower, R-3 Upper, R-3 Middle, R-3 Lower, R-4 Upper, R-4 Lower, R-5 Upper, R-5 Lower, R-6 Upper, R-6 Lower, R-7 Upper, R-7 Lower, No. 1, No. 2, No. 3, No. 4 and No. 5. The seven piezometers (R-1 through R-7) with an “Upper” and “Lower”, or “Upper”, “Middle”, and “Lower” designation are nested piezometers, which consist of two or three standpipes that were installed in the same borehole but with their tips at different depths. A piezometer is a small-diameter well used mainly to measure water levels. It is typically installed as a casing in a vertical borehole and has a discrete perforated zone near its bottom to enable monitoring of changes in groundwater levels within that zone. More than one piezometer can be installed within a single, larger-diameter borehole. These groups of piezometers are often referred to as multi-stage or nested piezometers. The tip of each piezometer is placed at its own discrete depth interval. The borehole is filled with permeable sandy material across the vertical zones corresponding to the sensing zone of the piezometer.

There is one benchmark labeled as BM-0 and five survey monuments labeled as BM-1 through BM-5 being monitored at Santiago Creek Dam. The survey monuments’ elevations and net horizontal displacements are typically measured annually. However, during calendar year 2017, no surveying of the dam was performed. Benchmark BM-0 is located on the right abutment of the dam. Survey Monuments BM-1, BM-2 and BM-3 are located along the crest of the dam. Survey Monument BM-4 is located on the right side of the walkway over the spillway. Survey Monument BM-5 is located on the left side of the walkway over the spillway.

Figure 1A is a site and instrumentation plan showing the layout of the dam and appurtenances, as well as the locations of the piezometers and survey monuments. Figures 1B, 1C and 1D are representative cross-sections of Santiago Creek Dam. Piezometers No. 1 and No. 2 are single-stage piezometers that were installed in 1964. Piezometers No. 3, No. 4, and No. 5 are single-stage piezometers that were installed in 2011. Piezometers R-1 through R-6 are multi-stage piezometers that were installed in 1969. Piezometer R-7 is a multi-stage piezometer that was installed in 1990. Additional information about these piezometers is provided in Section 2.2. Seepage through the dam or its foundation is not measured since there are currently no facilities to monitor seepage through the dam or its foundation.

**2.1 RESERVOIR WATER LEVELS**

The reservoir water surface elevation is noted on days when the piezometer field measurements are taken. For this 12-month monitoring period, the reservoir water surface ranged from an elevation of 757.5 feet to 771.9 feet. The spillway crest is at an elevation of 791.9 feet but can be raised to 795.9 feet with flashboards. The crest of the dam is at an elevation of 811.9 feet.

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## **2.2 PIEZOMETERS**

The water levels in the piezometers were generally measured on a weekly basis by Serrano Water District personnel during the current 12-month review period.

Figures 2A through 2F are plots of piezometer water levels during the past two years (January 2016 through December 2017). Figures 3A through 3E present historical (10-year) piezometer water levels from January 2008 through December 2017. Table 1 lists piezometer water level data for the period from January 2008 through December 2017. Note that Figures 2A through 3E also include the reservoir water level.

In May 2012, modifications were made to the upper portion of several piezometers to prevent surface water runoff and sediment from entering the piezometers. The improvements consisted of raising the top of eight selected piezometers: Piezometer Nos. 2, 3, 4, and 5 (located at the toe of the dam), and Piezometers R-4 Upper, R-4 Lower, R-7 Upper and R-7 Lower (located at the downstream bench of the dam). The top elevations of the monitored piezometers were surveyed on August 14, 2012. Table 1 lists the pre- and post-May 2012 top reference elevations (i.e. original and current top elevation), along with the total depth (i.e. total length of piezometer).

There were several abnormal readings (also referred to as anomalies in this report) taken from various piezometers during the five-year period from 2011 to 2015. Piezometers that exhibited anomalies included the following: R-1 Lower (in November 2011 and in February 2013), R-2 Upper (in March 2011), R-4 Lower (in January 2011), No. 1 (in February 2013), No. 2 (in May and December 2012, and in October 2015), and R-7 Upper and R-7 Lower (in June and December 2012, and in October 2015). These anomalies are labeled on Figures 2A through 3E. According to the 2015 Annual Surveillance Report by AECOM (2016), maintenance work was conducted during 2015 on selected piezometers that were thought to be clogged or otherwise not providing reliable readings. Piezometers R-4 Upper and R-5 Lower were jetted to the tip with pressurized water, vacuumed, filled with water, and allowed to drain during early July 2015. Figures 2A, 2B, 3A, and 3B show the specific abnormal readings for these two piezometers that were a result of the maintenance work. From May 2012 to May 2013, Piezometer R-3 Upper had an apparent blockage (see Figure 3C). In May 2012, Piezometer R-3 Middle had no data available, followed by a single data point that was lower than typical readings.

Piezometer R-1 is located on the dam crest near Station 6+00. Figures 2A and 3A present time-series graphs of the water levels measured in Piezometers R-1 Upper, R-1 Middle, and R-1 Lower. Piezometer R-1 Upper was installed in the pervious shell material and was dry throughout the review period. Piezometer R-1 Middle has its tip near the base of the pervious shell material and was dry throughout the review period. Piezometer R-1 Lower was installed in the underlying bedrock foundation. The water level fluctuated during this monitoring period, but the variations did not appear to correlate with reservoir water surface elevation fluctuations.

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Piezometer R-2 is located on the dam crest near Station 2+50. Figures 2B and 3B present plots of the water levels measured in Piezometers R-2 Upper, R-2 Middle, and R-2 Lower. Piezometer R-2 Upper was installed in the pervious shell material, and the water level in this piezometer did not respond to reservoir fluctuations. Water levels in R-2 Upper tend to respond to reservoir fluctuations following periods when the reservoir pool is at or above an elevation of approximately 775 feet. Piezometer R-2 Middle was installed in the foundation alluvium underlying the dam embankment and was fairly constant throughout the review period. In review of previous years recorded readings, there may be 1 to 1.5 feet of sediment accumulating in the piezometer. It is possible that the perforated zone is blocked and is therefore resulting in a slow response to water level changes. GENTERRA recommends a maintenance cleaning of Piezometer R-2 Middle to further evaluate the condition of the piezometer. Piezometer R-2 Lower is in the foundation bedrock, and the water level generally does not respond to reservoir water level changes.

Piezometer R-3 is located on the dam crest near the right abutment at approximately Station 9+50. Figures 2C and 3C are plots of water levels in Piezometers R-3 Upper, R-3 Middle, and R-3 Lower. Piezometer R-3 Upper was installed in terrace materials in the right abutment and was dry throughout the current review period. Piezometer R-3 Middle was also installed in terrace materials. The water level in Piezometer R-3 Middle remained constant throughout the review period. Historically, Piezometer R-3 Middle does not respond to changes in the reservoir water level, and it does not appear to be providing reliable water level data. Since February 2005, the depth to water readings had gradually dropped to below 75 feet. Since June 2012 the depth to water readings had remained constant, ranging from 59.7 to 59.9 feet. GENTERRA recommends a maintenance cleaning of Piezometer R-3 Middle to further evaluate the condition of the piezometer. Piezometer R-3 Lower is in the foundation bedrock and showed little variation in water level during periods when it was not reported as dry.

Piezometer R-4 is located on the downstream bench of the dam, downstream of Piezometer R-2. Figures 2B and 3B are plots of the water levels measured in Piezometers R-4 Upper and R-4 Lower. Piezometer R-4 Upper was installed in foundation alluvium. A maintenance cleaning of R-4 Upper was performed in July 2015, resulting in the water levels in this piezometer dropping by approximately 10 feet. After the cleaning, the water levels in Piezometer R-4 Upper remained between an elevation of 682 feet and 686 feet. Water levels in Piezometer R-4 Upper showed very little fluctuation throughout the current review period. Piezometer R-4 Lower was installed in the underlying bedrock and was reported as being dry from January 2017 through April 2017.

Piezometer R-5 is located on the downstream bench of the dam, downstream of Piezometer R-1. Figures 2A and 3A present graphs of the water levels measured in Piezometers R-5 Upper and R-5 Lower. Piezometer R-5 Upper was installed in foundation alluvium and showed water levels that remained relatively constant throughout the review period. Piezometer R-5 Lower has its tip in bedrock, and water levels generally declined during the review period. A maintenance cleaning was reportedly performed on Piezometer R-5 Lower in July 2015, and the resulting effects can be seen on Figure 3A as an increase in the water level of approximately 8.4 feet in this piezometer. The

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water levels in this piezometer have gradually lowered since the cleaning was performed. Based on a review of historical data, it is likely that this piezometer was plugged starting in late 2010. Attempts at clearing the blockage had not resulted in the piezometer's water levels returning to historical levels, which are around an elevation of 670 feet. GENTERRA recommends bailing out Piezometer R-5 Lower to further evaluate the condition of the piezometer. *(Please note that this was subsequently performed and will be addressed in the next annual report for 2018).*

Piezometer R-6 is located on the dam crest near Station 5+00. Figures 2D and 3D display graphs that show water levels measured in Piezometers R-6 Upper and R-6 Lower. Piezometer R-6 Upper is installed in the pervious shell material. The water level in this piezometer displays a weak correlation with reservoir water level. Water levels in Piezometer R-6 Upper remained fairly constant from approximately October 2012 until September 2014 with no discernable response to reservoir fluctuations. Starting in 2014, the piezometer's water levels began to generally decline as the reservoir water level declined. However, Piezometer R-6 Upper has not responded to the increase in the reservoir water surface elevation that began in November 2016. Piezometer R-6 Lower was installed in the bedrock. This piezometer exhibits relatively low water levels and showed a general trend of decline during the last three years. Historically, the water levels in this piezometer have shown no discernable response to reservoir water level fluctuations.

Piezometer R-7 is located on the downstream bench of the dam at approximately Station 3+50. Figures 2E and 3E are plots of the water levels measured in Piezometers R-7 Upper and R-7 Lower. Piezometer R-7 Upper was installed in the pervious shell material and was reported as dry throughout the review period. R-7 Upper has been reported as dry at an elevation of 678.9 feet, which is higher than the tip elevation and therefore could be erroneous or could indicate a buildup of sediment in the bottom of the piezometer. GENTERRA recommends that the Districts re-sound the bottom of Piezometer R-7 Upper to confirm the bottom elevation and perform a very careful maintenance cleaning after getting recommendations for cleaning from GENTERRA. *(Please note that this was subsequently performed and will be addressed in the next annual report for 2018).* The water level in Piezometer R-7 Lower, installed in the underlying bedrock, was consistently around an elevation of 665.7 feet during the current review period. Water levels in this piezometer showed no correlation with water levels in the reservoir.

Piezometer No. 1 is located on the dam crest near Station 4+00. Figures 2E and 3E are graphs of the water levels measured in Piezometer No. 1. This piezometer was installed in the pervious shell material. Water levels in Piezometer No. 1 have gradually declined since approximately May 2013 and may respond somewhat to fluctuations in the reservoir.

Piezometer No. 2 is located at the downstream toe of the dam, downstream of Piezometer No. 1. Figures 2E and 3E are graphs of water levels measured in Piezometer No. 2. This piezometer, installed in the foundation alluvium, showed little variation, and no discernable response to reservoir fluctuations. This piezometer was reported as dry when a water level reading at an elevation of 678.1 feet was recorded.

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According to the Irvine Ranch Water District, Piezometers No. 3, No. 4, and No. 5 are two-inch-diameter piezometers that were installed along the downstream toe of the dam by GeoPentech. These piezometers were installed in boreholes that had been drilled during an investigation into the alluvial deposits below the dam's foundation as part of GeoPentech's liquefaction evaluation. No adverse conditions or trends were observed in the piezometers' readings during the current reporting period. The first recorded reading of these piezometers took place on November 5, 2011. The data are plotted in Figures 2F and 3F. There were minor variations in the piezometers' water levels during the current reporting period. There was a small accumulation of mud encountered by Serrano personnel in the bottom of Piezometer 3 during the current reporting period. GENTERRA recommends that the Districts perform a very careful maintenance cleaning of Piezometer No. 3. *(Please note that this was subsequently performed and will be addressed in the next annual report for 2018).* Piezometer No. 4 was reported as being dry throughout the 12-month review period.

GENTERRA's review of the piezometer data does not indicate any adverse conditions in the dam embankment or abutments.

### **2.3 MOVEMENT SURVEYS**

There is one benchmark labeled BM-0 and five survey monuments labeled BM-1 through BM-5 being monitored at Santiago Creek Dam. The survey monuments' elevations and net horizontal displacements are typically measured annually. Benchmark BM-0 is located on the right abutment of the dam. Survey Monuments BM-1, BM-2 and BM-3 are located along the crest of the dam. Survey Monument BM-4 is located on the right side of the walkway over the spillway. Survey Monument BM-5 is located on the left side of the walkway over the spillway. Figure 1 shows the locations of the survey monuments and benchmark.

Surveying of the survey monuments' elevations along with determination of the net horizontal displacements of the survey monuments was last performed on July 26, 2016. The dam was not surveyed during calendar year 2017. Graphical plots of the survey monuments' elevations from 1989 through 2016 were developed for this report and are presented as Figures 4A and 4B. Table 2 lists the data for the period from 1989 to 2016.

Surveys to measure the net horizontal displacements of the survey monuments began in 1994. Graphical plots for the period from 1994 through 2016 were developed for this report and are presented as Figures 4C and 4D. Table 3 lists data for the net displacements of the survey monuments for the period from 1994 to 2016.

The elevation data for the survey monuments located along the dam crest (Survey Monuments BM-1, BM-2 and BM-3) indicated a very small amount of settlement since 1989. The elevation data for the survey monuments located on the walkway over the spillway (Survey Monuments BM-4 and BM-5) show little or no settlement. The change in elevation from 1989 to 2016 for each of the survey monuments is less than 1¼ inch.

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The net horizontal displacement data for the survey monuments located along the dam crest (Survey Monuments BM-1, BM-2 and BM-3) show little net movement in the northern or southern directions (upstream or downstream, respectively). The net horizontal displacement data for the survey monuments located on the walkway over the spillway (Survey Monuments BM-4 and BM-5) indicate slight net movement in the southern (upstream) direction.

The net horizontal displacement data for the survey monuments located along the dam crest (Survey Monuments BM-1, BM-2 and BM-3) indicate slight net movement in the eastern (right) direction. The net horizontal displacement data for the survey monuments located on the walkway over the spillway (Survey Monuments BM-4 and BM-5) indicate slight net movement in the western (left) direction.

Based on GENTERRA's review of the survey data, none of the movements indicate any adverse conditions. The dam was not surveyed during calendar year 2017.

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**SECTION 3: FIELD EVALUATIONS**

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**3.1 FIELD EVALUATION OF MARCH 31, 2017**

A field evaluation of Santiago Creek Dam on March 31, 2017 was performed by Nicholas M. Josten, P.E., and J. Will Kulikowski of GENTERRA; Bill Wesson of the Irvine Ranch Water District; and Vinnie Coppola of the Serrano Water District. The reservoir water surface was at an elevation of 768.2 feet at the time of the field evaluation. Photographs were taken and are in the project files at GENTERRA for comparison with previous and future field evaluations. Right and left designations as listed in this report are viewed looking downstream.

**3.1.1 DAM**

The upstream face of the dam is surfaced with concrete. The concrete on the upstream face of the dam appeared to be in satisfactory condition but has undergone some weathering. Cracking has occurred in the concrete slabs and joints, and minor uneven settlement of the concrete slabs was observed in a few locations. The cracks, weathering, and settlement had been noted in the past, and no new cracks were observed. No signs of instability were observed in the upstream face of the dam during this field evaluation. Continued monitoring of these areas is recommended. The minor number of weeds growing through the joints in the concrete slabs, which were observed during previous field evaluations (on November 23, 2016 and as far back as September 1, 2015), have been sprayed with a pesticide according to Mr. Coppola. At the time of this field evaluation, the weeds were all dead and no new growth was observed. The Districts have a program for keeping the weeds under control.

The crest of the dam is surfaced with gravel and was in satisfactory condition with no signs of settlement. Slight depressions/rutting have formed on the crest as a result of vehicular use; these depressions are considered to be minor and do not appear to be of structural significance. The five longitudinal cracks that were observed during the field evaluation performed on September 16, 2016 and were located in the right portion of the crest, to the right of Piezometer R3, were no longer present. It is likely that the cracks were desiccation cracks, and that the rainfall events which took place on November 20, and 21, 2016 caused the soil to saturate, expand and fill the cracks. These cracks varied in length and location, from the center of the crest to the downstream edge. The cracks were up to ¼-inch wide and up to ½-inch deep. All five of the cracks were parallel to the crest. The dam crest and downstream slope area where the cracks had previously been located should continue to be monitored in the future for any changes.

The downstream face of the dam is covered with vegetation and has one bench. The vegetation on the downstream slope of the dam was well trimmed on the upper portion of the dam, above the bench. However, the trimming was still being performed and the vegetation on the downstream face of the dam, below the bench, and in the downstream toe of the dam was taller than the recommended height of approximately 12-inches. This vegetation made it difficult to identify any potential problems in these areas. There were recent signs of rodent activity noticed in the form of fresh rodent burrows on the downstream face of the dam, on the left abutment of the dam, and on the



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downstream toe area of the dam. The Districts' contractor responsible for the rodent control program was on-site at the time of this field evaluation. The contractor was actively backfilling existing rodent holes and implementing the rodent control program at the time of this field evaluation.

There were some areas where the surface of the dam along the downstream face and at the top of the downstream slope was not uniform in slope. Features observed included some local areas with slight depressions and an area with apparent bulges possibly due to an old shallow landslide. The Irvine Ranch Water District mentioned that the cause of these areas of irregularities was mainly due to heavy rains in 1998, and that no change had occurred since those heavy rains. There were no significant changes observed during this field evaluation. These areas should continue to be monitored during routine field evaluations, especially during and following heavy rain periods. GENTERRA representatives took a series of photos for use in comparing the surfaces of the dam for any changes that may be observed during future field evaluations.

### **3.1.2 SPILLWAY**

The concrete on the floor of the spillway inlet and channel was in fair condition, but repair is warranted to fix deteriorating conditions in the walkway bridge over the spillway. There was some cracking and extensive spalling of concrete that has exposed reinforcing steel on the underside of the walkway over the spillway, in the piers that support the spillway bridge, and in local areas on the floor of the spillway. Some recent patching was observed, but some of the patch material is no longer intact.

A small amount of soil and debris has accumulated along the left end of the spillway channel wall, in the left portion of the spillway crest and along the channel walls downstream of the spillway crest. A combination of unstable soils and surface water flows during heavy storm events has caused erosion of the adjacent slope located to the left of the spillway crest area, near the spillway crest, and has resulted in accumulation of colluvial materials near the spillway approach just upstream of the spillway crest. Slope erosion has occurred behind the last column at the left end of the spillway bridge. Further erosion may eventually undermine the spillway bridge support. GENTERRA recommends that some remedial work should be performed to prevent further damage to the spillway and to redirect or slow the surface flow in the slope to the left of the spillway crest area, near the crest of the spillway. The incised erosion gully previously observed approximately 50 feet upstream of the left end of the spillway approach channel was still present.

Erosion was observed along the top portion of the slope on the right side of the spillway. If the existing spillway walls were not designed to resist hydrostatic pressure, then it is recommended that V-ditches be installed to divert the surface flow in this area and to reduce the potential of hydrostatic pressure buildup behind the wall. GENTERRA recommends minor grading on the top portion of the slope on the right side of the spillway to stabilize the slope. Recent rodent activity in the form of fresh animal burrows were also observed in the top portion of the slope on the right side of the spillway.

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Immediately downstream of the spillway flip-bucket, a portion of the left wall of the original spillway channel was left in place. Per the 2015 Annual Surveillance Report by URS, it had been observed during the 2007 inspection that the left channel wall downstream of the flip bucket had been damaged, possibly as a result of a rockfall event. The damage consists of concrete that had broken off leaving exposed steel reinforcing bars. As-built plans dated February 20, 1970 show that the downstream portion of the left wall was deliberately cut. The condition of the wall was observed during previous field evaluations and no major changes were observed since the last field evaluation. This area is at the steeper transition on the downstream left side of the original spillway channel wall. The spillway floor appears to be generally intact in that area, but some boulders are visible adjacent to the damaged area along the slope, above the left side of the spillway wall. Minor erosion has occurred under the bottom portion of the flip bucket, undermining a small portion of the foundation support.

GENTERRA's observations, descriptions, and recommendations regarding spillway issues should be integrated with the information presented by the Districts' consultant who performed the spillway condition assessment for Santiago Creek Dam.

### **3.1.3 OUTLET WORKS**

DSOD recommends that the outlet and the emergency blow-off valves be exercised and documented in a log at least once per year to confirm operability. DSOD requires the valves be exercised once every three years in the presence of a DSOD representative.

The concrete tower appeared to be in satisfactory condition, based on limited visual observation of one side of the tower as viewed from the spillway crest. The upper four gates in the tower, located at Elevation 720, Elevation 730, Elevation 740 and Elevation 750, were last exercised on December 7, 2016 not in the presence of a DSOD representative. The lower four gates in the tower are silted-in and are inoperable. During the field evaluation performed on April 27, 2016, as observed by a DSOD representative, two downstream valves had been cycled 100%.

An evaluation of the outlet tower was performed for the Serrano Water District by another consultant. In June 2016, GENTERRA performed a peer evaluation of the work performed by the consultant and submitted comments to the Serrano Water District in a draft report on June 30, 2016. A copy of the draft report was also sent to the Irvine Ranch Water District.

Releases through the outlet works conduit can also be controlled by two main valves located in the valve building, just downstream of the dam. The valve is normally kept in the open position. In the event of an emergency drawdown, releases are made through a diverter valve, which is normally kept in the closed position.

### **3.1.4 SEEPAGE**

No seepage was observed during this field evaluation.

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**3.2 FIELD EVALUATION OF JULY 21, 2017**

A field evaluation of Santiago Creek Dam on July 21, 2017 was performed by Douglas A. Harriman, P.E., and J. Will Kulikowski of GENTERRA; Bill Wesson of the Irvine Ranch Water District; and Vinnie Coppola of the Serrano Water District. The reservoir water surface was at an elevation of 763.0 feet at the time of the field evaluation. Photographs were taken and are in the project files at GENTERRA for comparison with previous and future field evaluations. Right and left designations as listed in this report are viewed looking downstream.

**3.2.1 DAM**

No significant change has occurred on the upstream slope and crest of the dam since the previous field evaluation on March 31, 2017.

The downstream face of the dam is covered with vegetation and has one bench. The vegetation on the downstream slope of the dam was well trimmed which enables visual observation and identification of any problems. There were recent signs of rodent activity noticed in the form of rodent burrows on the downstream face and on the downstream toe area of the dam.

No significant change has occurred to the areas where the surface of the dam along the downstream face and at the top of the downstream slope were not uniform in slope.

**3.2.2 SPILLWAY**

No significant change has occurred since the previous field evaluation on March 31, 2017.

**3.2.3 OUTLET WORKS**

Since the previous field evaluation on March 31, 2017, the upper four gates in the tower were exercised on July 17, 2017 but not in the presence of a DSOD representative.

**3.2.4 SEEPAGE**

No seepage was observed during this field evaluation on July 21, 2017.

**3.3 FIELD EVALUATION OF OCTOBER 26, 2017**

A field evaluation of Santiago Creek Dam on October 26, 2017 was performed by Douglas A. Harriman, P.E. and J. Will Kulikowski of GENTERRA; Bill Wesson of the Irvine Ranch Water District; and Vinnie Coppola of the Serrano Water District. The reservoir water surface was at an elevation of 756.4 feet at the time of the field visit. Photographs were taken and are in the project files at GENTERRA for comparison with previous and future field evaluations.

**3.3.1 DAM**

No significant change has occurred on the upstream slope and crest of the dam since the previous field evaluation on July 21, 2017. The vegetation on the downstream slope of the dam was well trimmed. There were rodent burrows in several areas on the downstream face of the dam. Bait traps were in place to address this issue.

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**3.3.2 SPILLWAY**

Patch material has been placed along some joints and in local areas where concrete was missing. No significant change has occurred since the previous field evaluation on July 21, 2017.

**3.3.3 OUTLET WORKS**

No change has occurred since the previous field evaluation on July 21, 2017.

**3.3.4 SEEPAGE**

No seepage was observed during this field evaluation on October 26, 2017.

**3.4 FIELD EVALUATION OF DECEMBER 21, 2017**

A field evaluation of Santiago Creek Dam on December 21, 2017 was performed by Nicholas M. Josten, P.E., and J. Will Kulikowski of GENTERRA; Bill Wesson of the Irvine Ranch Water District; and Vinnie Coppola of the Serrano Water District. The reservoir water surface was at an elevation of 747.6 feet at the time of the field evaluation. Photographs were taken and are in the project files at GENTERRA for comparison with previous and future field evaluations.

**3.4.1 DAM**

The Districts rodent control program has been effective and has reduced the rodent activity at the dam. No significant change has occurred since the previous field evaluation on October 26, 2017.

**3.4.2 SPILLWAY**

Some recent patching was observed, but some of the patch material is no longer intact. No significant change has occurred since the previous field evaluation on October 26, 2017.

**3.4.3 OUTLET WORKS**

No change has occurred since the previous field evaluation on October 26, 2017.

**3.4.4 SEEPAGE**

No seepage was observed during this field evaluation on December 21, 2017.

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**SECTION 4: CONCLUSIONS AND RECOMMENDATIONS**

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**4.1 CONCLUSIONS**

- 4.1.1** Based on review of available data for the current 12-month review period, the dam appears to be performing satisfactorily.
- 4.1.2** Horizontal and vertical movement appears to be typical and consistent with historical values and trends. No surveying of the dam was performed during calendar year 2017.
- 4.1.3** Two downstream valves were last exercised on April 27, 2016 in the presence of a DSOD representative. The upper four gates in the tower were last exercised on July 17, 2017 not in the presence of a DSOD representative.
- 4.1.4** The visible portion of the concrete on the upstream face of the dam has undergone some weathering. Cracking has occurred in the concrete slabs, and minor uneven settlement of the concrete slabs was observed.
- 4.1.5** Vegetation and roots are growing through the gaps at some of the joints between the concrete slope protection blocks on the upstream face of the dam.
- 4.1.6** There was some cracking and spalling of concrete that has exposed reinforcing steel on the underside of the walkway over the spillway. There was some cracking in the piers that support the bridge, and in local areas on the floor of the spillway.
- 4.1.7** Erosion of soil material was observed under the bottom portion of the flip bucket, undermining a small portion of the foundation support. There is a potential that the erosion may eventually undermine the flip-bucket and the spillway channel.
- 4.1.8** Immediately downstream of the spillway flip-bucket, a portion of the left wall of the original spillway channel was left in place. Per the 2015 Annual Surveillance Report by URS, it had been observed during the 2007 inspection that the left channel wall downstream of the flip bucket had been damaged, possibly as a result of a rockfall event. The damage consists of concrete that had broken off leaving exposed steel reinforcing bars. Review of the as-built plans dated February 20, 1970 shows that the downstream portion of the left wall was deliberately cut. As-built plans dated February 20, 1970 show that the downstream portion of the left wall was deliberately cut. The condition of the wall was observed during previous field evaluations and no major changes were observed since the last field evaluation.
- 4.1.9** Erosion of the foundation support for the lower portion of the spillway chute was observed but has not worsened.

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**4.2 RECOMMENDATIONS**

- 4.2.1** The Districts should continue to implement the rodent control program, with emphasis on the downstream face of the dam and the downstream toe of the dam.
- 4.2.2** GENTERRA recommends that the cracks and uneven settlement in the concrete slabs on the upstream face of the dam be monitored for any changes, and consideration be given to making proper repairs of these cracks and areas of uneven settlement.
- 4.2.3** GENTERRA recommends clearing and removal of all vegetation and roots that are growing through the joints between the concrete protection blocks on the upstream face of the dam. This will reduce further damage to the upstream concrete slope protection. Vegetation should be removed on a regular basis as part of the maintenance program, but proper safety precautions should be implemented while performing these routine maintenance activities. Cutting the vegetation but leaving the roots in place will not help to reduce the potential for future damage.
- 4.2.4** GENTERRA recommends bailing out Piezometer R-5 Lower to further evaluate the condition of this piezometer. Measurements of the water level in the piezometer should be recorded before, during and after the bailing and the results should be evaluated to determine if the piezometer is plugged. GENTERRA recommends that the Districts re-sound the bottom of Piezometer R-7 Upper to confirm the bottom elevation and if necessary, perform a very careful maintenance cleaning of Piezometer R-7 Upper after getting recommendations for cleaning from GENTERRA. GENTERRA also recommends that the Districts perform a very careful maintenance cleaning of Piezometer No. 3 after getting recommendations for cleaning from GENTERRA. *Piezometers Nos. R-5 Lower, R-7 Upper, and No. 3 were subsequently cleaned by GENTERRA in February 2018 as will be discussed in the next annual report.*
- 4.2.5** GENTERRA recommends a maintenance cleaning of Piezometers R-2 Middle and R-3 Middle to further evaluate the condition of the piezometers.
- 4.2.6** GENTERRA recommends that if the cracks on the crest of the dam that were observed during the field evaluation performed on September 16, 2016 return, that the Districts mark the ends of the cracks with paint so that any increase in length in the cracks in the future can be more easily observed. In addition to marking the ends of the cracks, GENTERRA also recommends that the Districts place matching marks on the upstream edge of the dam crest on the concrete along with the date the markings are made. The purpose of putting matching marks on the upstream edge of the dam crest is so that if vehicular traffic or other events cause disturbance of the

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paint marked in the dirt/gravel on the dam crest, there will be a reference on the concrete.

- 4.2.7** The Districts should continue the on-going valve exercise program for the outlet works tower.
- 4.2.8** GENTERRA's observations, descriptions, and recommendations regarding issues with the spillway should be integrated with the information presented by the Districts' consultant who performed the spillway condition assessment for Santiago Creek Dam.
- 4.2.9** Based on the satisfactory performance of the dam, the following general frequencies of field measurements are recommended for the dam:

**Piezometers:** The water levels in the piezometers, together with the corresponding reservoir surface elevation at the time of the readings, should be measured at least once per month.

**Horizontal and Vertical Surveys:** Annually

**Complete Visual Field Evaluations:** Quarterly

These recommended frequencies are subject to revision following continued review and evaluation of the dam based on the results of water level measurements in all piezometers, surveys, and field evaluations of the dam.

- 4.2.10** GENTERRA recommends a special evaluation of the dam immediately after any earthquake with a Magnitude of 4.5 or greater within a 50-mile radius of the dam, and/or any seismic event that would cause heavy furniture overturning in areas near the dam and reservoir.

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**SECTION 5: LIMITATIONS**

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This report represents the results of our review of the surveillance data for Santiago Creek Dam, covering the period from January 2017 through December 2017. Professional services were provided to evaluate the performance of the existing dam based upon review of previous data, instrumentation readings, and surveys.

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



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**SECTION 6: REFERENCES**

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3. GENTERRA Consultants, Inc. (GENTERRA), 2017, *Annual Surveillance Report, January 2016 through December 2016, for Santiago Creek Dam, No. 75-000, Irvine, California*; by GENTERRA; dated August 25, 2017.
4. GENTERRA, 2013, *Annual Surveillance Report, January 2012 through December 2012, for Santiago Creek Dam, No. 75, Irvine, California*; by GENTERRA; dated April 8, 2013.
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**TABLES**

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2008	770.5		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
1/19/2008	770.3		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
1/29/2008	772.7		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
2/9/2008	774.1		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
2/19/2008	774.4		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
2/27/2008	775.0		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
3/7/2008	775.0		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
3/18/2008	775.0		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
3/29/2008	774.9		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
4/10/2008	775.0		77.5	734.0	Dry	109.2	702.3	Dry	119.7	691.8	Wet	100.0	711.9	Dry
4/20/2008	774.8		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
5/5/2008	774.7		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
5/13/2008	773.9		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
5/21/2008	772.9		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
5/31/2008	772.1		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
6/9/2008	771.2		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
6/18/2008	770.5		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
6/26/2008	769.6		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
7/8/2008	768.1		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
7/19/2008	766.6		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
7/29/2008	765.5		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
8/4/2008	764.6		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
8/9/2008	764.3		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
8/19/2008	763.2		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
8/28/2008	762.3		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0	Wet	100.0	711.9	Dry
9/6/2008	761.0		77.5	734.0	Dry	109.2	702.3	Dry	119.7	691.8	Wet	100.0	711.9	Dry
9/17/2008	760.1		77.5	734.0	Dry	109.2	702.3	Dry	119.7	691.8	Wet	100.0	711.9	Dry
9/29/2008	759.2		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
10/8/2008	759.0		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
10/18/2008	758.9		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
10/29/2008	761.3		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
11/8/2008	764.3		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
11/17/2008	766.9		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
11/25/2008	769.9	1.71	77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
12/4/2008	773.9		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
12/13/2008	777.3		77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
12/21/2008	779.1		77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
12/30/2008	779.4	3.99	77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
1/9/2008	770.5		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.8	741.4	Wet
1/19/2008	770.3		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
1/29/2008	772.7		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
2/9/2008	774.1		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.8	741.4	Wet
2/19/2008	774.4		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.8	741.4	Wet
2/27/2008	775.0		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
3/7/2008	775.0		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
3/18/2008	775.0		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
3/29/2008	774.9		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
4/10/2008	775.0		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
4/20/2008	774.8		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
5/5/2008	774.7		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
5/13/2008	773.9		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
5/21/2008	772.9		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
5/31/2008	772.1		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.7	741.5	Wet
6/9/2008	771.2		140.3	671.6	Dry	145.0	666.9	Wet	74.5	737.7	Dry	70.8	741.4	Wet
6/18/2008	770.5		140.3	671.6	Dry	144.9	667.0	Wet	74.5	737.7	Dry	70.8	741.4	Wet
6/26/2008	769.6		140.3	671.6	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
7/8/2008	768.1		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
7/19/2008	766.6		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
7/29/2008	765.5		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
8/4/2008	764.6		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
8/9/2008	764.3		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
8/19/2008	763.2		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	70.8	741.4	Wet
8/28/2008	762.3		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
9/6/2008	761.0		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
9/17/2008	760.1		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
9/29/2008	759.2		140.0	671.9	Dry	144.5	667.4	Wet	74.5	737.7	Dry	70.8	741.4	Wet
10/8/2008	759.0		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
10/18/2008	758.9		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
10/29/2008	761.3		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
11/8/2008	764.3		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
11/17/2008	766.9		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
11/25/2008	769.9	1.71	140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
12/4/2008	773.9		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.8	741.4	Wet
12/13/2008	777.3		140.0	671.9	Dry	144.9	667.0	Wet	74.5	737.7	Dry	70.5	741.7	Wet
12/21/2008	779.1		140.0	671.9	Dry	144.9	667.0	Wet	74.5	737.7	Dry	70.2	742.0	Wet
12/30/2008	779.4	3.99	140.0	671.9	Dry	144.9	667.0	Wet	74.5	737.7	Dry	69.8	742.4	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2008	770.5		135.7	676.5	Dry	52.3	699.8	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.3	670.1	Wet
1/19/2008	770.3		135.7	676.5	Dry	52.4	699.7	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.3	670.1	Wet
1/29/2008	772.7		135.7	676.5	Dry	52.4	699.7	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.3	670.1	Wet
2/9/2008	774.1		135.7	676.5	Dry	52.4	699.7	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.3	670.1	Wet
2/19/2008	774.4		135.7	676.5	Dry	52.2	699.9	Wet	88.9	663.2	Wet	74.5	677.9	Dry	82.3	670.1	Wet
2/27/2008	775.0		135.7	676.5	Dry	52.2	699.9	Wet	88.9	663.2	Wet	74.5	677.9	Dry	82.3	670.1	Wet
3/7/2008	775.0		135.7	676.5	Dry	52.2	699.9	Wet	88.9	663.2	Wet	74.5	677.9	Dry	82.2	670.2	Wet
3/18/2008	775.0		135.7	676.5	Dry	52.2	699.9	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.2	670.2	Wet
3/29/2008	774.9		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.2	670.2	Wet
4/10/2008	775.0		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.2	670.2	Wet
4/20/2008	774.8		135.7	676.5	Dry	52.0	700.1	Wet	88.9	663.2	Wet	74.5	677.9	Dry	82.2	670.2	Wet
5/5/2008	774.7		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.1	670.3	Wet
5/13/2008	773.9		135.7	676.5	Dry	52.0	700.1	Wet	88.9	663.2	Wet	74.5	677.9	Dry	82.1	670.3	Wet
5/21/2008	772.9		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
5/31/2008	772.1		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
6/9/2008	771.2		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
6/18/2008	770.5		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
6/26/2008	769.6		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.1	670.3	Wet
7/8/2008	768.1		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
7/19/2008	766.6		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.2	670.2	Wet
7/29/2008	765.5		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.2	670.2	Wet
8/4/2008	764.6		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
8/9/2008	764.3		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
8/19/2008	763.2		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
8/28/2008	762.3		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.5	677.9	Dry	82.0	670.4	Wet
9/6/2008	761.0		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.4	678	Dry	82.2	670.2	Wet
9/17/2008	760.1		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	74.0	678.4	Dry	82.2	670.2	Wet
9/29/2008	759.2		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Dry	82.3	670.1	Wet
10/8/2008	759.0		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
10/18/2008	758.9		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
10/29/2008	761.3		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
11/8/2008	764.3		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
11/17/2008	766.9		135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
11/25/2008	769.9	1.71	135.7	676.5	Dry	52.0	700.1	Wet	89.0	663.1	Wet	73.7	678.7	Wet	82.4	670.0	Wet
12/4/2008	773.9		135.7	676.5	Dry	52.1	700.0	Wet	88.8	663.3	Wet	73.7	678.7	Wet	82.0	670.4	Wet
12/13/2008	777.3		135.7	676.5	Dry	52.1	700.0	Wet	88.8	663.3	Wet	73.7	678.7	Wet	81.7	670.7	Wet
12/21/2008	779.1		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.7	678.7	Wet	81.1	671.3	Wet
12/30/2008	779.4	3.99	135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.5	678.9	Wet	80.6	671.8	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
1/9/2008	770.5		97.4	714.8	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/19/2008	770.3		97.7	714.5	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/29/2008	772.7		98.0	714.2	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/9/2008	774.1		98.3	713.9	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/19/2008	774.4		97.9	714.3	Wet	132.9	679.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/27/2008	775.0		97.9	714.3	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/7/2008	775.0		97.8	714.4	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/18/2008	775.0		97.7	714.5	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/29/2008	774.9		97.5	714.7	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/10/2008	775.0		97.5	714.7	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/20/2008	774.8		97.4	714.8	Wet	132.9	679.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/5/2008	774.7		97.7	714.5	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/13/2008	773.9		97.7	714.5	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/21/2008	772.9		97.6	714.6	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/31/2008	772.1		97.6	714.6	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/9/2008	771.2		97.7	714.5	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/18/2008	770.5		97.8	714.4	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/26/2008	769.6		98.0	714.2	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/8/2008	768.1		98.5	713.7	Wet	133.6	678.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/19/2008	766.6		98.8	713.4	Wet	133.7	678.5	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/29/2008	765.5		98.9	713.3	Wet	133.6	678.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/4/2008	764.6		98.9	713.3	Wet	133.6	678.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/9/2008	764.3		98.9	713.3	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/19/2008	763.2		98.8	713.4	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/28/2008	762.3		98.7	713.5	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/6/2008	761.0		98.9	713.3	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/17/2008	760.1		99.2	713.0	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/29/2008	759.2		99.5	712.7	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/8/2008	759.0		99.8	712.4	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/18/2008	758.9		100.2	712.0	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/29/2008	761.3		100.6	711.6	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/8/2008	764.3		100.3	711.9	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/17/2008	766.9		99.0	713.2	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/25/2008	769.9	1.71	98.4	713.8	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/4/2008	773.9		98.6	713.6	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/13/2008	777.3		98.6	713.6	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/21/2008	779.1		98.6	713.6	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/30/2008	779.4	3.99	98.6	713.6	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			No. 1			No. 2			No. 3			No. 4			No. 5		
1/9/2008	770.5		105.0	706.5	Wet	19.4	678.1	Dry									
1/19/2008	770.3		104.8	706.7	Wet	19.4	678.1	Dry									
1/29/2008	772.7		104.8	706.7	Wet	19.4	678.1	Dry									
2/9/2008	774.1		104.3	707.2	Wet	19.4	678.1	Dry									
2/19/2008	774.4		103.8	707.7	Wet	19.4	678.1	Dry									
2/27/2008	775.0		103.7	707.8	Wet	19.4	678.1	Dry									
3/7/2008	775.0		103.5	708	Wet	19.4	678.1	Dry									
3/18/2008	775.0		103.4	708.1	Wet	19.4	678.1	Dry									
3/29/2008	774.9		103.3	708.2	Wet	19.4	678.1	Dry									
4/10/2008	775.0		103.1	708.4	Wet	19.4	678.1	Dry									
4/20/2008	774.8		102.8	708.7	Wet	19.4	678.1	Dry									
5/5/2008	774.7		102.6	708.9	Wet	19.4	678.1	Dry									
5/13/2008	773.9		102.5	709	Wet	19.4	678.1	Dry									
5/21/2008	772.9		102.4	709.1	Wet	19.4	678.1	Dry									
5/31/2008	772.1		102.3	709.2	Wet	19.4	678.1	Dry									
6/9/2008	771.2		102.2	709.3	Wet	19.4	678.1	Dry									
6/18/2008	770.5		102.2	709.3	Wet	19.4	678.1	Dry									
6/26/2008	769.6		102.1	709.4	Wet	19.4	678.1	Dry									
7/8/2008	768.1		102.1	709.4	Wet	19.4	678.1	Dry									
7/19/2008	766.6		102.4	709.1	Wet	19.4	678.1	Dry									
7/29/2008	765.5		102.6	708.9	Wet	19.4	678.1	Dry									
8/4/2008	764.6		102.6	708.9	Wet	19.4	678.1	Dry									
8/9/2008	764.3		102.6	708.9	Wet	19.4	678.1	Dry									
8/19/2008	763.2		102.6	708.9	Wet	19.4	678.1	Dry									
8/28/2008	762.3		102.6	708.9	Wet	19.4	678.1	Dry									
9/6/2008	761.0		102.8	708.7	Wet	19.4	678.1	Dry									
9/17/2008	760.1		103.1	708.4	Wet	19.4	678.1	Dry									
9/29/2008	759.2		103.4	708.1	Wet	19.4	678.1	Dry									
10/8/2008	759.0		103.5	708	Wet	19.4	678.1	Dry									
10/18/2008	758.9		103.5	708	Wet	19.4	678.1	Dry									
10/29/2008	761.3		103.7	707.8	Wet	19.4	678.1	Dry									
11/8/2008	764.3		103.7	707.8	Wet	19.4	678.1	Dry									
11/17/2008	766.9		103.8	707.7	Wet	19.4	678.1	Dry									
11/25/2008	769.9	1.71	103.9	707.6	Wet	19.4	678.1	Dry									
12/4/2008	773.9		103.8	707.7	Wet	19.4	678.1	Dry									
12/13/2008	777.3		103.8	707.7	Wet	19.4	678.1	Dry									
12/21/2008	779.1		103.8	707.7	Wet	19.4	678.1	Dry									
12/30/2008	779.4	3.99	103.8	707.7	Wet	19.4	678.1	Dry									

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/8/2009	779.3		77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
1/19/2009	778.5		77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
1/29/2009	778.3	0.38	77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
2/12/2009	779.8		77.5	734.0	Dry	109.2	702.3	Dry	120.0	691.5	Wet	100.0	711.9	Dry
2/19/2009	781.3		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
2/27/2009	782.2	4.33	77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
3/10/2009	782.7		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	100.0	711.9	Dry
3/20/2009	782.4		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7	Wet	100.0	711.9	Dry
3/25/2009	782.2	0.43	77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6	Wet	100.0	711.9	Dry
4/4/2009	785.3		77.5	734.0	Dry	109.2	702.3	Dry	119.7	691.8	Wet	100.0	711.9	Dry
4/13/2009	788.5		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9	Wet	99.0	712.9	Wet
4/21/2009	790.5		77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2	Wet	95.9	716.0	Wet
4/26/2009	791.2	0.00	77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2	Wet	94.8	717.1	Wet
5/4/2009	791.3		77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7	Wet	92.1	719.8	Wet
5/13/2009	790.6		77.5	734.0	Dry	109.2	702.3	Dry	118.5	693.0	Wet	91.8	720.1	Wet
5/21/2009	789.9		77.5	734.0	Dry	109.2	702.3	Dry	118.3	693.2	Wet	90.8	721.1	Wet
5/30/2009	789.3	0.00	77.5	734.0	Dry	109.2	702.3	Dry	118.2	693.3	Wet	89.0	722.9	Wet
6/8/2009	788.7		77.5	734.0	Dry	109.2	702.3	Dry	118.0	693.5	Wet	88.8	723.1	Wet
6/17/2009	788.2		77.5	734.0	Dry	109.2	702.3	Dry	117.7	693.8	Wet	88.7	723.2	Wet
6/27/2009	787.6	0.00	77.5	734.0	Dry	109.2	702.3	Dry	117.4	694.1	Wet	88.5	723.4	Wet
7/7/2009	786.8		77.5	734.0	Dry	109.2	702.3	Dry	117.4	694.1	Wet	88.6	723.3	Wet
7/15/2009	786.1		77.5	734.0	Dry	109.2	702.3	Dry	117.4	694.1	Wet	88.7	723.2	Wet
7/22/2009	785.5		77.5	734.0	Dry	109.2	702.3	Dry	117.4	694.1	Wet	88.7	723.2	Wet
7/30/2009	784.7	0.00	77.5	734.0	Dry	109.2	702.3	Dry	117.5	694.0	Wet	88.9	723.0	Wet
8/8/2009	783.9		77.5	734.0	Dry	109.2	702.3	Dry	116.9	694.6	Wet	89.3	722.6	Wet
8/15/2009	783.3		77.5	734.0	Dry	109.2	702.3	Dry	116.6	694.9	Wet	89.7	722.2	Wet
8/26/2009	782.3	0.00	77.5	734.0	Dry	109.2	702.3	Dry	116.2	695.3	Wet	90.1	721.8	Wet
9/5/2009	781.5		77.5	734.0	Dry	109.2	702.3	Dry	116.2	695.3	Wet	90.9	721.0	Wet
9/12/2009	780.8		77.5	734.0	Dry	109.2	702.3	Dry	116.3	695.2	Wet	91.6	720.3	Wet
9/19/2009	780.2		77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	91.8	720.1	Wet
9/28/2009	779.5	0.00	77.5	734.0	Dry	109.2	702.3	Dry	115.9	695.6	Wet	92.1	719.8	Wet
10/8/2009	778.5		77.5	734.0	Dry	109.2	702.3	Dry	115.9	695.6	Wet	92.9	719.0	Wet
10/19/2009	777.8		77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	93.6	718.3	Wet
10/30/2009	776.8	0.24	77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	94.1	717.8	Wet
11/9/2009	776.1		77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	94.7	717.2	Wet
11/20/2009	775.4		77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	95.0	716.9	Wet
11/28/2009	774.9	0.00	77.5	734.0	Dry	109.2	702.3	Dry	116.0	695.5	Wet	95.6	716.3	Wet
12/9/2009	774.6		77.5	734.0	Dry	109.2	702.3	Dry	116.2	695.3	Wet	96.2	715.7	Wet
12/18/2009	774.6		77.5	734.0	Dry	109.2	702.3	Dry	116.2	695.3	Wet	96.7	715.2	Wet
12/29/2009	774.3	3.56	77.5	734.0	Dry	109.2	702.3	Dry	116.4	695.1	Wet	97.0	714.9	Wet



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/8/2009	779.3		140.0	671.9	Dry	144.8	667.1	Wet	74.5	737.7	Dry	70.0	742.2	Wet
1/19/2009	778.5		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
1/29/2009	778.3	0.38	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
2/12/2009	779.8		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
2/19/2009	781.3		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
2/27/2009	782.2	4.33	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
3/10/2009	782.7		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
3/20/2009	782.4		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
3/25/2009	782.2	0.43	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
4/4/2009	785.3		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
4/13/2009	788.5		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
4/21/2009	790.5		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
4/26/2009	791.2	0.00	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
5/4/2009	791.3		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
5/13/2009	790.6		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
5/21/2009	789.9		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.8	742.4	Wet
5/30/2009	789.3	0.00	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
6/8/2009	788.7		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
6/17/2009	788.2		140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
6/27/2009	787.6	0.00	140.0	671.9	Dry	144.7	667.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
7/7/2009	786.8		140.0	671.9	Dry	144.5	667.4	Wet	74.5	737.7	Dry	69.9	742.3	Wet
7/15/2009	786.1		140.0	671.9	Dry	143.4	668.5	Wet	74.5	737.7	Dry	69.9	742.3	Wet
7/22/2009	785.5		140.0	671.9	Dry	143.4	668.5	Wet	74.5	737.7	Dry	69.9	742.3	Wet
7/30/2009	784.7	0.00	140.0	671.9	Dry	143.4	668.5	Wet	74.5	737.7	Dry	69.9	742.3	Wet
8/8/2009	783.9		140.0	671.9	Dry	143.5	668.4	Wet	74.5	737.7	Dry	69.9	742.3	Wet
8/15/2009	783.3		140.0	671.9	Dry	143.6	668.3	Wet	74.5	737.7	Dry	69.9	742.3	Wet
8/26/2009	782.3	0.00	140.0	671.9	Dry	143.6	668.3	Wet	74.5	737.7	Dry	69.9	742.3	Wet
9/5/2009	781.5		140.0	671.9	Dry	143.7	668.2	Wet	74.5	737.7	Dry	69.9	742.3	Wet
9/12/2009	780.8		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
9/19/2009	780.2		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
9/28/2009	779.5	0.00	140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
10/8/2009	778.5		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
10/19/2009	777.8		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
10/30/2009	776.8	0.24	140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
11/9/2009	776.1		140.0	671.9	Dry	143.9	668.0	Wet	74.5	737.7	Dry	69.9	742.3	Wet
11/20/2009	775.4		140.0	671.9	Dry	144.0	667.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet
11/28/2009	774.9	0.00	140.0	671.9	Dry	143.0	668.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet
12/9/2009	774.6		140.0	671.9	Dry	143.0	668.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet
12/18/2009	774.6		140.0	671.9	Dry	143.0	668.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet
12/29/2009	774.3	3.56	140.0	671.9	Dry	143.0	668.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/8/2009	779.3		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.6	678.8	Wet	81.0	671.4	Wet
1/19/2009	778.5		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.8	678.6	Wet	81.7	670.7	Wet
1/29/2009	778.3	0.38	135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	74.0	678.4	Wet	82.0	670.4	Wet
2/12/2009	779.8		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.5	678.9	Wet	79.6	672.8	Wet
2/19/2009	781.3		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.4	679	Wet	79.6	672.8	Wet
2/27/2009	782.2	4.33	135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.3	679.1	Wet	79.6	672.8	Wet
3/10/2009	782.7		135.7	676.5	Dry	52.2	699.9	Wet	88.8	663.3	Wet	73.4	679	Wet	80.0	672.4	Wet
3/20/2009	782.4		135.7	676.5	Dry	52.1	700.0	Wet	88.8	663.3	Wet	73.4	679	Wet	80.3	672.1	Wet
3/25/2009	782.2	0.43	135.7	676.5	Dry	51.9	700.2	Wet	88.7	663.4	Wet	73.5	678.9	Wet	80.6	671.8	Wet
4/4/2009	785.3		135.7	676.5	Dry	51.9	700.2	Wet	88.4	663.7	Wet	73.6	678.8	Wet	80.7	671.7	Wet
4/13/2009	788.5		135.7	676.5	Dry	51.9	700.2	Wet	88.3	663.8	Wet	73.8	678.6	Wet	80.9	671.5	Wet
4/21/2009	790.5		135.7	676.5	Dry	51.9	700.2	Wet	88.2	663.9	Wet	73.9	678.5	Wet	80.9	671.5	Wet
4/26/2009	791.2	0.00	135.7	676.5	Dry	51.9	700.2	Wet	88.2	663.9	Wet	73.9	678.5	Wet	80.9	671.5	Wet
5/4/2009	791.3		135.7	676.5	Dry	51.9	700.2	Wet	87.6	664.5	Wet	74.0	678.4	Wet	80.9	671.5	Wet
5/13/2009	790.6		135.7	676.5	Dry	51.9	700.2	Wet	87.5	664.6	Wet	74.0	678.4	Wet	81.0	671.4	Wet
5/21/2009	789.9		135.7	676.5	Dry	51.9	700.2	Wet	87.3	664.8	Wet	74.1	678.3	Wet	81.0	671.4	Wet
5/30/2009	789.3	0.00	135.7	676.5	Dry	51.9	700.2	Wet	87.2	664.9	Wet	74.1	678.3	Wet	81.1	671.3	Wet
6/8/2009	788.7		135.7	676.5	Dry	51.9	700.2	Wet	87.2	664.9	Wet	74.1	678.3	Wet	81.1	671.3	Wet
6/17/2009	788.2		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.1	671.3	Wet
6/27/2009	787.6	0.00	135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.1	671.3	Wet
7/7/2009	786.8		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.2	671.2	Wet
7/15/2009	786.1		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.3	671.1	Wet
7/22/2009	785.5		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
7/30/2009	784.7	0.00	135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
8/8/2009	783.9		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
8/15/2009	783.3		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
8/26/2009	782.3	0.00	135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
9/5/2009	781.5		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
9/12/2009	780.8		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
9/19/2009	780.2		135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
9/28/2009	779.5	0.00	135.7	676.5	Dry	51.9	700.2	Wet	87.1	665.0	Wet	73.9	678.5	Wet	81.4	671.0	Wet
10/8/2009	778.5		135.7	676.5	Dry	51.9	700.2	Wet	87.2	664.9	Wet	73.9	678.5	Wet	81.5	670.9	Wet
10/19/2009	777.8		135.7	676.5	Dry	51.9	700.2	Wet	87.2	664.9	Wet	73.9	678.5	Wet	81.6	670.8	Wet
10/30/2009	776.8	0.24	135.7	676.5	Dry	51.9	700.2	Wet	87.4	664.7	Wet	73.9	678.5	Wet	81.6	670.8	Wet
11/9/2009	776.1		135.7	676.5	Dry	51.9	700.2	Wet	87.5	664.6	Wet	73.9	678.5	Wet	81.6	670.8	Wet
11/20/2009	775.4		135.7	676.5	Dry	52.0	700.1	Wet	87.7	664.4	Wet	73.9	678.5	Wet	81.7	670.7	Wet
11/28/2009	774.9	0.00	135.7	676.5	Dry	52.0	700.1	Wet	87.8	664.3	Wet	73.9	678.5	Wet	81.7	670.7	Wet
12/9/2009	774.6		135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	73.8	678.6	Wet	81.7	670.7	Wet
12/18/2009	774.6		135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	73.8	678.6	Wet	81.6	670.8	Wet
12/29/2009	774.3	3.56	135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	73.7	678.7	Wet	81.6	670.8	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/8/2009	779.3		98.0	714.2	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/19/2009	778.5		96.9	715.3	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/29/2009	778.3	0.38	96.0	716.2	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/12/2009	779.8		96.0	716.2	Wet	132.6	679.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/19/2009	781.3		96.0	716.2	Wet	132.9	679.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/27/2009	782.2	4.33	96.0	716.2	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/10/2009	782.7		96.0	716.2	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/20/2009	782.4		96.0	716.2	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/25/2009	782.2	0.43	95.9	716.3	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/4/2009	785.3		95.8	716.4	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/13/2009	788.5		95.6	716.6	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/21/2009	790.5		95.5	716.7	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
4/26/2009	791.2	0.00	95.5	716.7	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/4/2009	791.3		95.0	717.2	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/13/2009	790.6		94.6	717.6	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/21/2009	789.9		94.6	717.6	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry
5/30/2009	789.3	0.00	94.4	717.8	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/8/2009	788.7		94.1	718.1	Wet	132.9	679.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/17/2009	788.2		95.9	716.3	Wet	132.8	679.4	Wet	72.2	678.5	Dry	85.7	665.1	Dry
6/27/2009	787.6	0.00	95.8	716.4	Wet	132.8	679.4	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/7/2009	786.8		93.8	718.4	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/15/2009	786.1		93.8	718.4	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/22/2009	785.5		93.7	718.5	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
7/30/2009	784.7	0.00	93.7	718.5	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/8/2009	783.9		93.8	718.4	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/15/2009	783.3		93.9	718.3	Wet	133.6	678.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
8/26/2009	782.3	0.00	93.9	718.3	Wet	133.9	678.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/5/2009	781.5		94.1	718.1	Wet	133.5	678.7	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/12/2009	780.8		94.2	718.0	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/19/2009	780.2		94.3	717.9	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
9/28/2009	779.5	0.00	94.4	717.8	Wet	132.6	679.6	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/8/2009	778.5		94.5	717.7	Wet	132.8	679.4	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/19/2009	777.8		94.7	717.5	Wet	132.8	679.4	Wet	72.2	678.5	Dry	85.7	665.1	Dry
10/30/2009	776.8	0.24	94.9	717.3	Wet	132.9	679.3	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/9/2009	776.1		94.9	717.3	Wet	132.7	679.5	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/20/2009	775.4		95.0	717.2	Wet	132.7	679.5	Wet	72.2	678.5	Dry	85.7	665.1	Dry
11/28/2009	774.9	0.00	95.0	717.2	Wet	132.7	679.5	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/9/2009	774.6		95.4	716.8	Wet	133.0	679.2	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/18/2009	774.6		95.7	716.5	Wet	133.1	679.1	Wet	72.2	678.5	Dry	85.7	665.1	Dry
12/29/2009	774.3	3.56	95.9	716.3	Wet	133.2	679.0	Wet	72.2	678.5	Dry	85.7	665.1	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/8/2009	779.3		103.4	708.1	Wet	19.4	678.1	Dry									
1/19/2009	778.5		103.0	708.5	Wet	19.4	678.1	Dry									
1/29/2009	778.3	0.38	102.5	709	Wet	19.4	678.1	Dry									
2/12/2009	779.8		101.7	709.8	Wet	19.4	678.1	Dry									
2/19/2009	781.3		101.5	710	Wet	19.4	678.1	Dry									
2/27/2009	782.2	4.33	101.4	710.1	Wet	19.4	678.1	Dry									
3/10/2009	782.7		101.4	710.1	Wet	19.4	678.1	Dry									
3/20/2009	782.4		101.5	710	Wet	19.4	678.1	Dry									
3/25/2009	782.2	0.43	101.4	710.1	Wet	19.4	678.1	Dry									
4/4/2009	785.3		101.4	710.1	Wet	19.4	678.1	Dry									
4/13/2009	788.5		100.0	711.5	Wet	19.4	678.1	Dry									
4/21/2009	790.5		98.3	713.2	Wet	19.4	678.1	Dry									
4/26/2009	791.2	0.00	97.8	713.7	Wet	19.4	678.1	Dry									
5/4/2009	791.3		95.8	715.7	Wet	19.4	678.1	Dry									
5/13/2009	790.6		94.4	717.1	Wet	19.4	678.1	Dry									
5/21/2009	789.9		93.9	717.6	Wet	19.4	678.1	Dry									
5/30/2009	789.3	0.00	93.1	718.4	Wet	19.4	678.1	Dry									
6/8/2009	788.7		93.1	718.4	Wet	19.4	678.1	Dry									
6/17/2009	788.2		93.2	718.3	Wet	19.4	678.1	Dry									
6/27/2009	787.6	0.00	95.2	716.3	Wet	19.4	678.1	Dry									
7/7/2009	786.8		94.9	716.6	Wet	19.4	678.1	Dry									
7/15/2009	786.1		94.6	716.9	Wet	19.4	678.1	Dry									
7/22/2009	785.5		94.4	717.1	Wet	19.4	678.1	Dry									
7/30/2009	784.7	0.00	94.1	717.4	Wet	19.4	678.1	Dry									
8/8/2009	783.9		94.4	717.1	Wet	19.4	678.1	Dry									
8/15/2009	783.3		94.5	717	Wet	19.4	678.1	Dry									
8/26/2009	782.3	0.00	94.8	716.7	Wet	19.4	678.1	Dry									
9/5/2009	781.5		95.0	716.5	Wet	19.4	678.1	Dry									
9/12/2009	780.8		95.1	716.4	Wet	19.4	678.1	Dry									
9/19/2009	780.2		95.3	716.2	Wet	19.4	678.1	Dry									
9/28/2009	779.5	0.00	95.5	716	Wet	19.4	678.1	Dry									
10/8/2009	778.5		95.7	715.8	Wet	19.4	678.1	Dry									
10/19/2009	777.8		96.0	715.5	Wet	19.4	678.1	Dry									
10/30/2009	776.8	0.24	96.4	715.1	Wet	19.4	678.1	Dry									
11/9/2009	776.1		96.5	715	Wet	19.4	678.1	Dry									
11/20/2009	775.4		96.9	714.6	Wet	19.4	678.1	Dry									
11/28/2009	774.9	0.00	97.2	714.3	Wet	19.4	678.1	Dry									
12/9/2009	774.6		97.6	713.9	Wet	19.4	678.1	Dry									
12/18/2009	774.6		97.8	713.7	Wet	19.4	678.1	Dry									
12/29/2009	774.3	3.56	98.2	713.3	Wet	19.4	678.1	Dry									

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2010	773.9		77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	97.1	714.8	Wet
1/17/2010	773.6		77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	97.2	714.7	Wet
1/28/2010	779.9	7.84	77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	97.2	714.7	Wet
2/4/2010	780.2		77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	96.9	715.0	Wet
2/12/2010	783.4		77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	96.6	715.3	Wet
2/19/2010	784.0		77.5	734.0	Dry	109.2	702.3	Dry	116.6	694.9	Wet	96.2	715.7	Wet
2/26/2010	784.5	2.69	77.5	734.0	Dry	109.2	702.3	Dry	116.6	694.9	Wet	95.9	716.0	Wet
3/6/2010	785.6		77.5	734.0	Dry	109.2	702.3	Dry	116.6	694.9	Wet	95.8	716.1	Wet
3/15/2010	786.2		77.5	734.0	Dry	109.2	702.3	Dry	116.5	695.0	Wet	94.8	717.1	Wet
3/16/2010	786.3		77.5	734.0	Dry	109.2	702.3	Dry	116.4	695.1	Wet	94.8	717.1	Wet
3/24/2010	786.2	2.03	77.5	734.0	Dry	109.2	702.3	Dry	116.3	695.2	Wet	93.8	718.1	Wet
4/2/2010	785.8		77.5	734.0	Dry	109.1	702.4	Dry	116.0	695.5	Wet	92.2	719.7	Wet
4/4/2010	785.8		77.5	734.0	Dry	109.1	702.4	Dry	116.0	695.5	Wet	92.1	719.8	Wet
4/12/2010	787.4		77.5	734.0	Dry	109.1	702.4	Dry	116.0	695.5	Wet	91.6	720.3	Wet
4/20/2010	790.1		77.5	734.0	Dry	109.1	702.4	Dry	115.9	695.6	Wet	90.8	721.1	Wet
4/28/2010	792.6	1.19	77.5	734.0	Dry	109.1	702.4	Dry	115.9	695.6	Wet	90.1	721.8	Wet
5/14/2010	792.4		77.5	734.0	Dry	109.1	702.4	Dry	115.7	695.8	Wet	86.0	725.9	Wet
5/21/2010	792.1		77.5	734.0	Dry	109.1	702.4	Dry	115.5	696.0	Wet	84.5	727.4	Wet
5/29/2010	791.7	0.00	77.5	734.0	Dry	109.1	702.4	Dry	115.2	696.3	Wet	82.7	729.2	Wet
6/8/2010	791.0		77.5	734.0	Dry	109.0	702.5	Dry	114.7	696.8	Wet	81.9	730.0	Wet
6/15/2010	790.6		77.5	734.0	Dry	109.0	702.5	Dry	114.4	697.1	Wet	81.6	730.3	Wet
6/22/2010	790.1		77.5	734.0	Dry	109.0	702.5	Dry	114.2	697.3	Wet	81.2	730.7	Wet
6/29/2010	789.7	0.00	77.5	734.0	Dry	109.0	702.5	Dry	113.8	697.7	Wet	80.9	731.0	Wet
7/8/2010	789.2		77.5	734.0	Dry	109.0	702.5	Dry	113.7	697.8	Wet	80.9	731.0	Wet
7/16/2010	788.7		77.5	734.0	Dry	109.0	702.5	Dry	113.5	698.0	Wet	80.9	731.0	Wet
7/23/2010	788.3		77.5	734.0	Dry	109.0	702.5	Dry	113.4	698.1	Wet	80.9	731.0	Wet
7/31/2010	787.7	0.00	77.5	734.0	Dry	109.0	702.5	Dry	113.4	698.1	Wet	80.8	731.1	Wet
8/7/2010	787.3		77.5	734.0	Dry	109.2	702.3	Dry	113.3	698.2	Wet	81.2	730.7	Wet
8/15/2010	786.7		77.5	734.0	Dry	109.2	702.3	Dry	113.2	698.3	Wet	81.8	730.1	Wet
8/23/2010	786.1		77.5	734.0	Dry	109.2	702.3	Dry	113.1	698.4	Wet	82.3	729.6	Wet
8/29/2010	785.6	0.00	77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	82.8	729.1	Wet
9/8/2010	784.9		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	83.3	728.6	Wet
9/17/2010	784.2		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	83.6	728.3	Wet
9/27/2010	783.5	0.00	77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	84.7	727.2	Wet
10/8/2010	782.8		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	84.6	727.3	Wet
10/18/2010	782.2		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	85.1	726.8	Wet
10/28/2010	782.0	1.76	77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	85.7	726.2	Wet
11/4/2010	781.7		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	86.0	725.9	Wet
11/15/2010	781.1		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	86.4	725.5	Wet
11/26/2010	780.8	1.33	77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	86.8	725.1	Wet
12/6/2010	780.5		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	86.9	725.0	Wet
12/16/2010	780.4		77.5	734.0	Dry	109.2	702.3	Dry	113.0	698.5	Wet	87.2	724.7	Wet
12/30/2010	792.6	11.72	77.5	734.0	Dry	109.1	702.4	Dry	113.2	698.3	Wet	83.7	728.2	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2010	773.9		140.0	671.9	Dry	143.1	668.8	Wet	74.5	737.7	Dry	69.9	742.3	Wet
1/17/2010	773.6		140.0	671.9	Dry	143.2	668.7	Wet	74.5	737.7	Dry	69.9	742.3	Wet
1/28/2010	779.9	7.84	140.0	671.9	Dry	143.0	668.9	Wet	74.5	737.7	Dry	69.9	742.3	Wet
2/4/2010	780.2		140.0	671.9	Dry	143.9	668.0	Wet	74.5	737.7	Dry	69.9	742.3	Wet
2/12/2010	783.4		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
2/19/2010	784.0		140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
2/26/2010	784.5	2.69	140.0	671.9	Dry	143.8	668.1	Wet	74.5	737.7	Dry	69.9	742.3	Wet
3/6/2010	785.6		140.0	671.9	Dry	143.7	668.2	Wet	74.5	737.7	Dry	69.7	742.5	Wet
3/15/2010	786.2		140.0	671.9	Dry	143.7	668.2	Wet	74.5	737.7	Dry	69.5	742.7	Wet
3/16/2010	786.3		140.0	671.9	Dry	143.7	668.2	Wet	74.5	737.7	Dry	69.5	742.7	Wet
3/24/2010	786.2	2.03	140.0	671.9	Dry	143.7	668.2	Wet	74.5	737.7	Dry	69.5	742.7	Wet
4/2/2010	785.8		140.0	671.9	Dry	143.6	668.3	Wet	74.5	737.7	Dry	69.0	743.2	Wet
4/4/2010	785.8		140.0	671.9	Dry	143.6	668.3	Wet	74.5	737.7	Dry	69.0	743.2	Wet
4/12/2010	787.4		140.0	671.9	Dry	143.5	668.4	Wet	74.5	737.7	Dry	69.0	743.2	Wet
4/20/2010	790.1		140.0	671.9	Dry	143.5	668.4	Wet	74.5	737.7	Dry	69.0	743.2	Wet
4/28/2010	792.6	1.19	140.0	671.9	Dry	143.4	668.5	Wet	74.5	737.7	Dry	69.0	743.2	Wet
5/14/2010	792.4		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.0	743.2	Wet
5/21/2010	792.1		140.0	671.9	Dry	143.0	668.9	Wet	74.50	737.7	Dry	69.1	743.1	Wet
5/29/2010	791.7	0.00	140.0	671.9	Dry	142.9	669.0	Wet	74.50	737.7	Dry	69.1	743.1	Wet
6/8/2010	791.0		140.0	671.9	Dry	142.9	669.0	Wet	74.50	737.7	Dry	69.1	743.1	Wet
6/15/2010	790.6		140.0	671.9	Dry	142.8	669.1	Wet	74.50	737.7	Dry	69.1	743.1	Wet
6/22/2010	790.1		140.0	671.9	Dry	142.8	669.1	Wet	74.50	737.7	Dry	69.1	743.1	Wet
6/29/2010	789.7	0.00	140.0	671.9	Dry	142.8	669.1	Wet	74.50	737.7	Dry	69.1	743.1	Wet
7/8/2010	789.2		140.0	671.9	Dry	143.0	668.9	Wet	74.50	737.7	Dry	69.1	743.1	Wet
7/16/2010	788.7		140.0	671.9	Dry	143.0	668.9	Wet	74.50	737.7	Dry	69.1	743.1	Wet
7/23/2010	788.3		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
7/31/2010	787.7	0.00	140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
8/7/2010	787.3		140.0	671.9	Dry	143.0	668.9	Wet	74.50	737.7	Dry	69.1	743.1	Wet
8/15/2010	786.7		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
8/23/2010	786.1		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
8/29/2010	785.6	0.00	140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
9/8/2010	784.9		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
9/17/2010	784.2		140.0	671.9	Dry	143.1	668.8	Wet	74.50	737.7	Dry	69.1	743.1	Wet
9/27/2010	783.5	0.00	140.0	671.9	Dry	143.2	668.7	Wet	74.50	737.7	Dry	69.1	743.1	Wet
10/8/2010	782.8		140.0	671.9	Dry	143.2	668.7	Wet	74.50	737.7	Dry	69.1	743.1	Wet
10/18/2010	782.2		140.0	671.9	Dry	143.2	668.7	Wet	74.50	737.7	Dry	69.1	743.1	Wet
10/28/2010	782.0	1.76	140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
11/4/2010	781.7		140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
11/15/2010	781.1		140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
11/26/2010	780.8	1.33	140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
12/8/2010	780.5		140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
12/16/2010	780.4		140.0	671.9	Dry	143.3	668.6	Wet	74.50	737.7	Dry	69.1	743.1	Wet
12/30/2010	792.6	11.72	139.9	672.0		142.9	669.0	Wet	75.40	736.8		62.8	749.4	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2010	773.9		135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
1/17/2010	773.6		135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	73.8	678.6	Wet	81.6	670.8	Wet
1/28/2010	779.9	7.84	135.7	676.5	Dry	52.1	700.0	Wet	87.9	664.2	Wet	74.1	678.3	Wet	81.9	670.5	Wet
2/4/2010	780.2		135.7	676.5	Dry	52.0	700.1	Wet	87.8	664.3	Wet	74.1	678.3	Wet	82.0	670.4	Wet
2/12/2010	783.4		135.7	676.5	Dry	51.9	700.2	Wet	87.8	664.3	Wet	74.1	678.3	Wet	82.0	670.4	Wet
2/19/2010	784.0		135.7	676.5	Dry	51.8	700.3	Wet	87.8	664.3	Wet	74.1	678.3	Wet	82.0	670.4	Wet
2/26/2010	784.5	2.69	135.7	676.5	Dry	51.6	700.5	Wet	87.6	664.5	Wet	74.1	678.3	Wet	82.0	670.4	Wet
3/6/2010	785.6		135.7	676.5	Dry	51.6	700.5	Wet	87.6	664.5	Wet	74.1	678.3	Wet	81.8	670.6	Wet
3/15/2010	786.2		135.5	676.7	Dry	51.5	700.6	Wet	87.6	664.5	Wet	74.1	678.3	Wet	81.6	670.8	Wet
3/16/2010	786.3		135.5	676.7	Dry	51.5	700.6	Wet	87.6	664.5	Wet	74.1	678.3	Wet	81.6	670.8	Wet
3/24/2010	786.2	2.03	135.7	676.5	Dry	51.4	700.7	Wet	87.6	664.5	Wet	73.9	678.5	Wet	81.0	671.4	Wet
4/2/2010	785.8		135.8	676.4	Dry	51.5	700.6	Wet	87.6	664.5	Wet	73.5	678.9	Wet	81.2	671.2	Wet
4/4/2010	785.8		135.8	676.4	Dry	51.5	700.6	Wet	87.6	664.5	Wet	73.5	678.9	Wet	81.2	671.2	Wet
4/12/2010	787.4		135.9	676.3	Dry	51.5	700.6	Wet	87.5	664.6	Wet	73.4	679	Wet	81.3	671.1	Wet
4/20/2010	790.1		136.0	676.2	Dry	51.5	700.6	Wet	87.4	664.7	Wet	73.4	679	Wet	81.4	671.0	Wet
4/28/2010	792.6	1.19	136.0	676.2	Dry	51.5	700.6	Wet	87.3	664.8	Wet	73.5	678.9	Wet	81.4	671.0	Wet
5/14/2010	792.4		136.0	676.2	Dry	51.5	700.6	Wet	87.3	664.8	Wet	73.5	678.9	Wet	81.5	670.9	Wet
5/21/2010	792.1		136.1	676.1	Dry	51.5	700.6	Wet	87.1	665.0	Wet	73.6	678.8	Wet	81.5	670.9	Wet
5/29/2010	791.7	0.00	136.1	676.1	Dry	51.5	700.6	Wet	87.0	665.1	Wet	73.6	678.8	Wet	81.6	670.8	Wet
6/8/2010	791.0		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.6	678.8	Wet	81.5	670.9	Wet
6/15/2010	790.6		136.1	676.1	Dry	51.6	700.5	Wet	86.8	665.3	Wet	73.0	679.4	Wet	81.5	670.9	Wet
6/22/2010	790.1		136.1	676.1	Dry	51.6	700.5	Wet	86.7	665.4	Wet	73.6	678.8	Wet	81.6	670.8	Wet
6/29/2010	789.7	0.00	136.1	676.1	Dry	51.6	700.5	Wet	86.7	665.4	Wet	73.6	678.8	Wet	81.6	670.8	Wet
7/8/2010	789.2		136.1	676.1	Dry	51.6	700.5	Wet	86.8	665.3	Wet	73.4	679	Wet	81.5	670.9	Wet
7/16/2010	788.7		136.1	676.1	Dry	51.6	700.5	Wet	86.7	665.4	Wet	73.8	678.6	Wet	81.6	670.8	Wet
7/23/2010	788.3		136.1	676.1	Dry	51.6	700.5	Wet	86.8	665.3	Wet	73.9	678.5	Wet	81.6	670.8	Wet
7/31/2010	787.7	0.00	136.1	676.1	Dry	51.6	700.5	Wet	86.8	665.3	Wet	74.0	678.4	Wet	81.6	670.8	Wet
8/7/2010	787.3		136.1	676.1	Dry	51.6	700.5	Wet	86.8	665.3	Wet	73.9	678.5	Wet	81.6	670.8	Wet
8/15/2010	786.7		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	74.0	678.4	Wet	81.6	670.8	Wet
8/23/2010	786.1		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	74.0	678.4	Wet	81.6	670.8	Wet
8/29/2010	785.6	0.00	136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
9/8/2010	784.9		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
9/17/2010	784.2		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
9/27/2010	783.5	0.00	136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
10/8/2010	782.8		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
10/18/2010	782.2		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
10/28/2010	782.0	1.76	136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
11/4/2010	781.7		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
11/15/2010	781.1		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
11/26/2010	780.8	1.33	136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
12/8/2010	780.5		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
12/16/2010	780.4		136.1	676.1	Dry	51.6	700.5	Wet	86.9	665.2	Wet	73.9	678.5	Wet	81.6	670.8	Wet
12/30/2010	792.6	11.72	136.1	676.1	Dry							73.6	678.8	Wet		752.4	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/9/2010	773.9		95.9	716.3	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/17/2010	773.6		95.9	716.3	Wet	133.3	678.9	Wet	72.2	678.5	Dry	85.7	665.1	Dry
1/28/2010	779.9	7.84	95.9	716.3	Wet	133.4	678.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/4/2010	780.2		95.9	716.3	Wet	132.4	679.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/12/2010	783.4		95.9	716.3	Wet	132.4	679.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/19/2010	784.0		95.9	716.3	Wet	132.4	679.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
2/26/2010	784.5	2.69	95.9	716.3	Wet	132.4	679.8	Wet	72.2	678.5	Dry	85.7	665.1	Dry
3/6/2010	785.6		95.7	716.5	Wet	132.9	679.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/15/2010	786.2		95.4	716.8	Wet	132.9	679.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/16/2010	786.3		95.4	716.8	Wet	132.9	679.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/24/2010	786.2	2.03	95.0	717.2	Wet	133.0	679.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/2/2010	785.8		94.7	717.5	Wet	133.2	679.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/4/2010	785.8		94.6	717.6	Wet	133.2	679.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/12/2010	787.4		94.4	717.8	Wet	133.2	679.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/20/2010	790.1		93.8	718.4	Wet	133.2	679.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/28/2010	792.6	1.19	93.4	718.8	Wet	133.2	679.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/14/2010	792.4		92.4	719.8	Wet	133.0	679.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/21/2010	792.1		91.2	721.0	Wet	132.8	679.4	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/29/2010	791.7	0.00	91.1	721.1	Wet	132.2	680.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/8/2010	791.0		90.8	721.4	Wet	131.8	680.4	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/15/2010	790.6		90.5	721.7	Wet	131.7	680.5	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/22/2010	790.1		90.2	722.0	Wet	131.7	680.5	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/29/2010	789.7	0.00	89.6	722.6	Wet	131.7	680.5	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/8/2010	789.2		89.5	722.7	Wet	131.6	680.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/16/2010	788.7		89.5	722.7	Wet	131.6	680.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/23/2010	788.3		89.4	722.8	Wet	131.5	680.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/31/2010	787.7	0.00	89.4	722.8	Wet	131.5	680.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/7/2010	787.3		89.4	722.8	Wet	131.5	680.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/15/2010	786.7		89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/23/2010	786.1		89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/29/2010	785.6	0.00	89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
9/8/2010	784.9		89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
9/17/2010	784.2		89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
9/27/2010	783.5	0.00	89.5	722.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
10/8/2010	782.8		89.8	722.4	Wet	131.5	680.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
10/18/2010	782.2		90.3	721.9	Wet	131.5	680.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
10/28/2010	782.0	1.76	90.6	721.6	Wet	131.7	680.5	Wet	72.1	678.6	Dry	85.7	665.1	Dry
11/4/2010	781.7		91.8	720.4	Wet	131.3	680.9	Wet	72.1	678.6	Dry	85.7	665.1	Dry
11/15/2010	781.1		91.5	720.7	Wet	131.1	681.1	Wet	72.1	678.6	Dry	85.7	665.1	Dry
11/26/2010	780.8	1.33	91.2	721.0	Wet	130.9	681.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
12/8/2010	780.5		91.2	721.0	Wet	130.7	681.5	Wet						
12/16/2010	780.4		91.0	721.2	Wet	130.7	681.5	Wet						
12/30/2010	792.6	11.72	90.4	721.8	Wet	132.2	680.0	Wet						



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			No. 1			No. 2			No. 3			No. 4			No. 5		
1/9/2010	773.9		98.2	713.3	Wet	19.4	678.1	Dry									
1/17/2010	773.6		98.4	713.1	Wet	19.4	678.1	Dry									
1/28/2010	779.9	7.84	98.4	713.1	Wet	19.4	678.1	Dry									
2/4/2010	780.2		98.0	713.5	Wet	19.4	678.1	Dry									
2/12/2010	783.4		97.9	713.6	Wet	19.4	678.1	Dry									
2/19/2010	784.0		97.7	713.8	Wet	19.4	678.1	Dry									
2/26/2010	784.5	2.69	97.6	713.9	Wet	19.4	678.1	Dry									
3/6/2010	785.6		97.4	714.1	Wet	19.3	678.2	Dry									
3/15/2010	786.2		96.9	714.6	Wet	19.3	678.2	Dry									
3/16/2010	786.3		96.8	714.7	Wet	19.3	678.2	Dry									
3/24/2010	786.2	2.03	96.0	715.5	Wet	19.3	678.2	Dry									
4/2/2010	785.8		95.0	716.5	Wet	19.3	678.2	Dry									
4/4/2010	785.8		95.0	716.5	Wet	19.3	678.2	Dry									
4/12/2010	787.4		95.0	716.5	Wet	19.3	678.2	Dry									
4/20/2010	790.1		95.0	716.5	Wet	19.3	678.2	Dry									
4/28/2010	792.6	1.19	95.0	716.5	Wet	19.3	678.2	Dry									
5/14/2010	792.4		93.3	718.2	Wet	19.3	678.2	Dry									
5/21/2010	792.1		91.9	719.6	Wet	19.3	678.2	Dry									
5/29/2010	791.7	0.00	89.4	722.1	Wet	19.3	678.2	Dry									
6/8/2010	791.0		88.9	722.6	Wet	19.3	678.2	Dry									
6/15/2010	790.6		88.7	722.8	Wet	19.3	678.2	Dry									
6/22/2010	790.1		88.5	723	Wet	19.3	678.2	Dry									
6/29/2010	789.7	0.00	88.4	723.1	Wet	19.3	678.2	Dry									
7/8/2010	789.2		88.4	723.1	Wet	19.3	678.2	Dry									
7/16/2010	788.7		88.5	723	Wet	19.3	678.2	Dry									
7/23/2010	788.3		88.6	722.9	Wet	19.3	678.2	Dry									
7/31/2010	787.7	0.00	88.7	722.8	Wet	19.3	678.2	Dry									
8/7/2010	787.3		89.1	722.4	Wet	19.3	678.2	Dry									
8/15/2010	786.7		89.3	722.2	Wet	19.3	678.2	Dry									
8/23/2010	786.1		89.5	722	Wet	19.3	678.2	Dry									
8/29/2010	785.6	0.00	89.7	721.8	Wet	19.3	678.2	Dry									
9/8/2010	784.9		90.0	721.5	Wet	19.3	678.2	Dry									
9/17/2010	784.2		90.3	721.2	Wet	19.3	678.2	Dry									
9/27/2010	783.5	0.00	90.6	720.9	Wet	19.3	678.2	Dry									
10/8/2010	782.8		90.8	720.7	Wet	19.3	678.2	Dry									
10/18/2010	782.2		91.2	720.3	Wet	19.3	678.2	Dry									
10/28/2010	782.0	1.76	91.5	720	Wet	19.3	678.2	Dry									
11/4/2010	781.7		91.7	719.8	Wet	19.3	678.2	Dry									
11/15/2010	781.1		91.8	719.7	Wet	19.3	678.2	Dry									
11/26/2010	780.8	1.33	92.0	719.5	Wet	19.3	678.2	Dry									
12/8/2010	780.5		92.1	719.4	Wet	19.3	678.2	Dry									
12/16/2010	780.4		92.3	719.2	Wet	19.3	678.2	Dry									
12/30/2010	792.6	11.72	89.8	721.7	Wet												

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2011	792.2		77.5	734.0	Dry	107.1	704.4		113.2	698.3	Wet	81.8	730.1	Wet
1/7/2011	792.2		77.5	734.0	Dry	107.3	704.2		113.2	698.3	Wet	81.8	730.1	Wet
1/17/2011	792.0		77.5	734.0	Dry	106.7	704.8		112.7	698.8	Wet	79.8	732.1	Wet
1/27/2011	791.8	1.11	77.5	734.0	Dry	106.5	705.0		112.5	699.0	Wet	78.9	733.0	Wet
2/5/2011	791.8		77.5	734.0	Dry	106.0	705.5		112.3	699.2	Wet	78.9	733.0	Wet
2/15/2011	791.8		77.5	734.0	Dry	105.8	705.7		112.1	699.4	Wet	78.9	733.0	Wet
2/23/2011	792.2	2.87	77.5	734.0	Dry	105.8	705.7		112.0	699.5	Wet	78.7	733.2	Wet
3/8/2011	792.1		77.5	734.0	Dry	105.1	706.4		111.6	699.9	Wet	78.0	733.9	Wet
3/19/2011	791.8		77.5	734.0	Dry	104.6	706.9		111.4	700.1	Wet	77.6	734.3	Wet
3/30/2011	791.5	3.23	77.5	734.0	Dry	104.3	707.2		111.2	700.3	Wet	71.1	740.8	Wet
4/7/2011	792.1		77.5	734.0	Dry	104.0	707.5		110.9	700.6	Wet	77.1	734.8	Wet
4/16/2011	792.5		77.5	734.0	Dry	103.8	707.7		110.7	700.8	Wet	77.2	734.7	Wet
4/23/2011	792.6		77.5	734.0	Dry	103.6	707.9		110.5	701.0	Wet	77.2	734.7	Wet
4/30/2011	792.6	0.00	77.5	734.0	Dry	103.4	708.1		110.4	701.1	Wet	77.2	734.7	Wet
5/9/2011	792.4		77.5	734.0	Dry	103.2	708.3		110.4	701.1	Wet	77.2	734.7	Wet
5/16/2011	792.4		77.5	734.0	Dry	103.0	708.5		110.3	701.2	Wet	77.2	734.7	Wet
5/24/2011	792.4		77.5	734.0	Dry	102.8	708.7		110.1	701.4	Wet	77.3	734.6	Wet
5/31/2011	792.4	0.81	77.5	734.0	Dry	102.6	708.9		110.0	701.5	Wet	77.3	734.6	Wet
6/8/2011	792.1		77.5	734.0	Dry	102.3	709.2		111.0	700.5	Wet	77.3	734.6	Wet
6/16/2011	791.9		77.5	734.0	Dry	102.3	709.2		109.9	701.6	Wet	77.3	734.6	Wet
6/23/2011	791.8		77.5	734.0	Dry	102.3	709.2		109.6	701.9	Wet	77.3	734.6	Wet
6/30/2011	791.6	0.00	77.5	734.0	Dry	102.2	709.3		109.4	702.1	Wet	77.3	734.6	Wet
7/8/2011	791.4		77.5	734.0	Dry	102.2	709.3		109.2	702.3	Wet	77.6	734.3	Wet
7/14/2011	791.2		77.5	734.0	Dry	102.2	709.3		109.2	702.3	Wet	77.9	734.0	Wet
7/21/2011	790.9		77.5	734.0	Dry	102.2	709.3		109.0	702.5	Wet	78.1	733.8	Wet
7/30/2011	790.4	0.00	77.5	734.0	Dry	102.2	709.3		108.8	702.7	Wet	78.5	733.4	Wet
8/9/2011	789.9		77.5	734.0	Dry	102.2	709.3		109.0	702.5	Wet	79.1	732.8	Wet
8/15/2011	789.7		77.5	734.0	Dry	102.2	709.3		108.8	702.7	Wet	79.3	732.6	Wet
8/24/2011	789.0		77.5	734.0	Dry	102.2	709.3		109.0	702.5	Wet	79.6	732.3	Wet
9/1/2011	788.7	0.00	77.5	734.0	Dry	102.2	709.3		109.6	701.9	Wet	80.0	731.9	Wet
9/9/2011	787.9		77.5	734.0	Dry	102.4	709.1		109.7	701.8	Wet	81.4	730.5	Wet
9/16/2011	787.3		77.5	734.0	Dry	102.5	709.0		109.8	701.7	Wet	81.6	730.3	Wet
9/23/2011	787.0		77.5	734.0	Dry	102.6	708.9		109.8	701.7	Wet	81.8	730.1	Wet
9/29/2011	786.8	0.08	77.5	734.0	Dry	102.7	708.8		109.9	701.6	Wet	82.0	729.9	Wet
10/8/2011	786.6		77.5	734.0	Dry	102.8	708.7		110.2	701.3	Wet	82.7	729.2	Wet
10/15/2011	786.4		77.5	734.0	Dry	103.0	708.5		110.3	701.2	Wet	83.1	728.8	Wet
10/26/2011	786.0	1.29	77.5	734.0	Dry	103.1	708.4		110.3	701.2	Wet	83.5	728.4	Wet
11/5/2011	785.5		77.5	734.0	Dry	103.2	708.3		110.3	701.2		83.8	728.1	
11/14/2011	785.4		77.5	734.0	Dry	103.2	708.3		110.3	701.2		84.3	727.6	
11/22/2011	785.1		77.5	734.0	Dry	103.5	708.0		105.0	706.5		84.5	727.4	
11/30/2011	785.1	1.79	77.5	734.0	Dry	103.8	707.7		107.0	704.5		84.7	727.2	
12/9/2011	784.8		77.5	734.0	Dry	104.1	707.4		110.8	700.7		84.9	727.0	
12/17/2011	784.6		77.5	734.0	Dry	104.3	707.2		111.0	700.5		84.9	727.0	
12/22/2011	784.5		77.5	734.0	Dry	104.2	707.3		111.1	700.4		85.1	726.8	
12/30/2011	784.3	0.45	77.5	734.0	Dry	104.3	707.2		111.2	700.3		85.2	726.7	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2011	792.2		140.0	671.9	Dry	143.1	668.8	Wet	74.60	737.6		62.3	749.9	Wet
1/7/2011	792.2		140.0	671.9	Dry	143.1	668.8	Wet	74.60	737.6		62.3	749.9	Wet
1/17/2011	792.0		139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.3	749.9	Wet
1/27/2011	791.8	1.11	139.1	672.8		143.1	668.8	Wet	74.60	737.6		62.3	749.9	Wet
2/5/2011	791.8		139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.1	750.1	Wet
2/15/2011	791.8		139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.1	750.1	Wet
2/23/2011	792.2	2.87	139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.0	750.2	Wet
3/8/2011	792.1		139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.0	750.2	Wet
3/19/2011	791.8		139.0	672.9		143.1	668.8	Wet	74.60	737.6		62.0	750.2	Wet
3/30/2011	791.5	3.23	139.0	672.9		143.1	668.8	Wet	74.80	737.4		61.4	750.8	Wet
4/7/2011	792.1		139.0	672.9		143.0	668.9	Wet	74.80	737.4		61.3	750.9	Wet
4/16/2011	792.5		139.0	672.9		143.7	668.2	Wet	74.80	737.4		60.7	751.5	Wet
4/23/2011	792.6		139.7	672.2		143.4	668.5	Wet	74.70	737.5		60.4	751.8	Wet
4/30/2011	792.6	0.00	139.9	672.0		142.8	669.1	Wet	74.60	737.6		60.0	752.2	Wet
5/9/2011	792.4		139.9	672.0		142.8	669.1	Wet	74.60	737.6		60.0	752.2	Wet
5/16/2011	792.4		139.9	672.0		142.8	669.1	Wet	74.60	737.6		60.0	752.2	Wet
5/24/2011	792.4		139.9	672.0		142.8	669.1	Wet	74.60	737.6		59.9	752.3	Wet
5/31/2011	792.4	0.81	139.9	672.0		142.8	669.1	Wet	74.60	737.6		59.9	752.3	Wet
6/8/2011	792.1		140.0	671.9		142.8	669.1	Wet	74.60	737.6		59.9	752.3	Wet
6/16/2011	791.9		140.0	671.9		142.8	669.1	Wet	74.60	737.6		59.9	752.3	Wet
6/23/2011	791.8		140.0	671.9		142.8	669.1	Wet	74.60	737.6		59.9	752.3	Wet
6/30/2011	791.6	0.00	140.0	671.9		142.8	669.1	Wet	74.60	737.6		60.0	752.2	Wet
7/8/2011	791.4		140.0	671.9		142.9	669.0	Wet	74.60	737.6	Dry	59.9	752.3	Wet
7/14/2011	791.2		140.0	671.9		142.9	669.0	Wet	74.60	737.6	Dry	59.9	752.3	Wet
7/21/2011	790.9		140.0	671.9		142.9	669.0	Wet	74.60	737.6	Dry	59.9	752.3	Wet
7/30/2011	790.4	0.00	140.0	671.9		142.9	669.0	Wet	74.60	737.6	Dry	59.9	752.3	Wet
8/9/2011	789.9		140.0	671.9		142.9	669.0	Wet	74.60	737.6	Dry	59.9	752.3	Wet
8/15/2011	789.7		140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
8/24/2011	789.0		140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
9/1/2011	788.7	0.00	140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
9/9/2011	787.9		140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
9/16/2011	787.3		140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
9/23/2011	787.0		140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
9/29/2011	786.8	0.08	140.0	671.9		143.0	668.9	Wet	74.60	737.6	Dry	59.9	752.3	Wet
10/8/2011	786.6		140.0	671.9		143.1	668.8	Wet	74.60	737.6	Dry	59.9	752.3	Wet
10/15/2011	786.4		140.0	671.9		143.3	668.6	Wet	74.60	737.6	Dry	59.9	752.3	Wet
10/26/2011	786.0	1.29	140.0	671.9		143.4	668.5	Wet	74.60	737.6	Dry	59.9	752.3	Wet
11/5/2011	785.5		140.0	671.9		143.4	668.5		74.60	737.6	Dry	59.9	752.3	Wet
11/14/2011	785.4		140.0	671.9		143.4	668.5		74.60	737.6	Dry	59.9	752.3	Wet
11/22/2011	785.1		140.0	671.9		143.4	668.5		74.60	737.6	Dry	58.8	753.4	
11/30/2011	785.1	1.79	140.0	671.9		143.4	668.5		74.60	737.6	Dry	59.3	752.9	
12/9/2011	784.8		140.0	671.9		143.5	668.4		74.60	737.6	Dry	59.4	752.8	Wet
12/17/2011	784.6		140.1	671.8		143.5	668.4		74.60	737.6	Dry	59.5	752.7	Wet
12/22/2011	784.5		140.1	671.8		143.3	668.6		74.60	737.6	Dry	59.6	752.6	
12/30/2011	784.3	0.45	140.2	671.7		143.3	668.6		74.60	737.6	Dry	59.8	752.4	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2011	792.2		136.1	676.1	Dry							73.6	678.8	Wet	81.6	670.8	Wet
1/7/2011	792.2		136.1	676.1	Dry	51.6	700.5	Wet	98.0	654.1	Wet	73.6	678.8	Wet	81.6	670.8	Wet
1/17/2011	792.0		136.1	676.1	Dry	51.8	700.3	Wet	97.0	655.1	Wet	74.0	678.4	Wet	31.1	721.3	Wet
1/27/2011	791.8	1.11	136.1	676.1	Dry	51.8	700.3	Wet	86.2	665.9	Wet	73.9	678.5	Wet	32.0	720.4	Wet
2/5/2011	791.8		136.1	676.1	Dry	51.8	700.3	Wet	86.2	665.9	Wet	73.9	678.5	Wet	33.5	718.9	Wet
2/15/2011	791.8		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	73.9	678.5	Wet	34.4	718.0	Wet
2/23/2011	792.2	2.87	136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	73.9	678.5	Wet	34.8	717.6	Wet
3/8/2011	792.1		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	73.6	678.8	Wet	34.7	717.7	Wet
3/19/2011	791.8		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	72.8	679.6	Wet	34.7	717.7	Wet
3/30/2011	791.5	3.23	136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	72.3	680.1	Wet	34.7	717.7	Wet
4/7/2011	792.1		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	72.2	680.2	Wet	34.7	717.7	Wet
4/16/2011	792.5		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	72.2	680.2	Wet	34.7	717.7	Wet
4/23/2011	792.6		136.2	676.0	Dry	51.8	700.3	Wet	86.2	665.9	Wet	72.0	680.4	Wet	34.8	717.6	Wet
4/30/2011	792.6	0.00	136.1	676.1	Dry	51.8	700.3	Wet	86.3	665.8	Wet	72.0	680.4	Wet	34.7	717.7	Wet
5/9/2011	792.4		136.1	676.1	Dry	51.7	700.4	Wet	86.3	665.8	Wet	72.3	680.1	Wet	35.1	717.3	Wet
5/16/2011	792.4		136.2	676.0	Dry	51.7	700.4	Wet	86.3	665.8	Wet	72.5	679.9	Wet	37.1	715.3	Wet
5/24/2011	792.4		136.2	676.0	Dry	51.7	700.4	Wet	86.3	665.8	Wet	73.0	679.4	Wet	36.1	716.3	Wet
5/31/2011	792.4	0.81	136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	73.6	678.8	Wet	37.0	715.4	Wet
6/8/2011	792.1		136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	73.9	678.5	Wet	37.0	715.4	Wet
6/16/2011	791.9		136.3	675.9	Dry	51.7	700.4	Wet	86.7	665.4	Wet	73.9	678.5	Wet	37.1	715.3	Wet
6/23/2011	791.8		136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	72.1	680.3	Wet	37.1	715.3	Wet
6/30/2011	791.6	0.00	136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	72.5	679.9	Wet	37.8	714.6	Wet
7/8/2011	791.4		136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	73.3	679.1	Wet	37.8	714.6	Wet
7/14/2011	791.2		136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet				36.0	716.4	Wet
7/21/2011	790.9		136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	73.5	678.9	Wet	34.9	717.5	Wet
7/30/2011	790.4	0.00	136.3	675.9	Dry	51.7	700.4	Wet	86.4	665.7	Wet	73.7	678.7	Wet	35.0	717.4	Wet
8/9/2011	789.9		136.4	675.8	Dry	51.7	700.4	Wet	86.5	665.6	Wet	73.7	678.7	Wet	35.0	717.4	Wet
8/15/2011	789.7		136.4	675.8	Dry	51.7	700.4	Wet	86.5	665.6	Wet	73.7	678.7	Wet	35.0	717.4	Wet
8/24/2011	789.0		136.5	675.7	Dry	51.7	700.4	Wet	86.6	665.5	Wet	73.7	678.7	Wet	35.0	717.4	Wet
9/1/2011	788.7	0.00	135.9	676.3	Dry	51.7	700.4	Wet	86.7	665.4	Wet	73.7	678.7	Wet	35.0	717.4	Wet
9/9/2011	787.9		136.0	676.2	Dry	51.8	700.3	Wet	86.7	665.4	Wet	73.7	678.7	Wet	35.0	717.4	Wet
9/16/2011	787.3		136.1	676.1	Dry	51.8	700.3	Wet	86.7	665.4	Wet	73.7	678.7	Wet	35.0	717.4	Wet
9/23/2011	787.0		136.1	676.1	Dry	51.8	700.3	Wet	86.8	665.3	Wet	73.7	678.7	Wet	35.0	717.4	Wet
9/29/2011	786.8	0.08	136.1	676.1	Dry	51.8	700.3	Wet	86.8	665.3	Wet	73.7	678.7	Wet	35.0	717.4	Wet
10/8/2011	786.6		136.1	676.1	Dry	51.8	700.3	Wet	86.9	665.2	Wet	73.6	678.8	Wet	36.0	716.4	Wet
10/15/2011	786.4		136.1	676.1	Dry	51.8	700.3	Wet	86.9	665.2	Wet	73.4	679	Wet	37.8	714.6	Wet
10/26/2011	786.0	1.29	136.1	676.1	Dry	51.8	700.3	Wet	87.0	665.1	Wet	73.3	679.1	Wet	38.6	713.8	Wet
11/5/2011	785.5		136.1	676.1		51.8	700.3	Wet	87.0	665.1		73.2	679.2		38.6	713.8	
11/14/2011	785.4		136.1	676.1		51.8	700.3	Wet	87.0	665.1		73.1	679.3		38.6	713.8	
11/22/2011	785.1		136.0	676.2		51.8	700.3	Wet	87.1	665.0		73.3	679.1		38.6	713.8	
11/30/2011	785.1	1.79	135.8	676.4		51.8	700.3	Wet	87.1	665.0		73.3	679.1		38.6	713.8	
12/9/2011	784.8		136.1	676.1		51.8	700.3	Wet	87.1	665.0		73.3	679.1		38.4	714.0	
12/17/2011	784.6		136.1	676.1		51.9	700.2	Wet	87.1	665.0		73.3	679.1		38.0	714.4	
12/22/2011	784.5		136.3	675.9		51.9	700.2	Wet	87.1	665.0		73.3	679.1		37.6	714.8	
12/30/2011	784.3	0.45	136.3	675.9		51.9	700.2	Wet	87.1	665.0		73.3	679.1		37.4	715.0	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2011	792.2		90.4	721.8	Wet	131.5	680.7	Wet						
1/7/2011	792.2		90.4	721.8	Wet	131.6	680.6	Wet						
1/17/2011	792.0		88.1	724.1	Wet	129.6	682.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
1/27/2011	791.8	1.11	87.1	725.1	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
2/5/2011	791.8		86.9	725.3	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
2/15/2011	791.8		86.6	725.6	Wet	130.8	681.4	Wet	72.1	678.6	Dry	85.7	665.1	Dry
2/23/2011	792.2	2.87	86.4	725.8	Wet	130.6	681.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/8/2011	792.1		86.0	726.2	Wet	130.9	681.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/19/2011	791.8		85.8	726.4	Wet	131.2	681.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
3/30/2011	791.5	3.23	85.5	726.7	Wet	131.4	680.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/7/2011	792.1		85.4	726.8	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/16/2011	792.5		85.3	726.9	Wet	130.9	681.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/23/2011	792.6		85.2	727.0	Wet	130.6	681.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
4/30/2011	792.6	0.00	85.1	727.1	Wet	130.2	682.0	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/9/2011	792.4		84.8	727.4	Wet	130.6	681.6	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/16/2011	792.4		84.9	727.3	Wet	130.9	681.3	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/24/2011	792.4		84.9	727.3	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
5/31/2011	792.4	0.81	85.0	727.2	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/8/2011	792.1		85.0	727.2	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/16/2011	791.9		85.0	727.2	Wet	131.0	681.2	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/23/2011	791.8		85.0	727.2	Wet	130.4	681.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
6/30/2011	791.6	0.00	85.0	727.2	Wet	130.5	681.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/8/2011	791.4		85.0	727.2	Wet	130.5	681.7	Wet	72.1	678.6	Dry	85.5	665.3	Dry
7/14/2011	791.2		85.0	727.2	Wet	130.5	681.7	Wet	72.1	678.6	Dry	85.7	665.1	Dry
7/21/2011	790.9		85.0	727.2	Wet	130.5	681.7	Wet	72.1	678.6	Dry	85.8	665.0	Dry
7/30/2011	790.4	0.00	85.0	727.2	Wet	130.5	681.7	Wet	72.1	678.6	Dry	85.6	665.2	Dry
8/9/2011	789.9		86.1	726.1	Wet	130.4	681.8	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/15/2011	789.7		85.3	726.9	Wet	130.3	681.9	Wet	72.1	678.6	Dry	85.7	665.1	Dry
8/24/2011	789.0		87.7	724.5	Wet	130.2	682.0	Wet	72.1	678.6	Dry	85.8	665.0	Dry
9/1/2011	788.7	0.00	86.0	726.2	Wet	130.1	682.1	Wet	72.1	678.6	Dry	85.9	664.9	Dry
9/9/2011	787.9		87.2	725.0	Wet	130.3	681.9	Wet	72.1	678.6	Dry	85.9	664.9	Dry
9/16/2011	787.3		85.3	726.9	Wet	130.5	681.7	Wet	72.1	678.6	Dry	86.0	664.8	Dry
9/23/2011	787.0		85.0	727.2	Wet	130.7	681.5	Wet	72.1	678.6	Dry	86.0	664.8	Dry
9/29/2011	786.8	0.08	87.0	725.2	Wet	130.9	681.3	Wet	72.1	678.6	Dry	86.1	664.7	Dry
10/8/2011	786.6		87.6	724.6	Wet	130.7	681.5	Wet	72.1	678.6	Dry	86.1	664.7	Dry
10/15/2011	786.4		87.8	724.4	Wet	130.4	681.8	Wet	72.1	678.6	Dry	86.0	664.8	Dry
10/26/2011	786.0	1.29	88.2	724.0	Wet	130.3	681.9	Wet	72.1	678.6	Dry	86.1	664.7	Dry
11/5/2011	785.5		88.3	723.9	Wet	130.3	681.9	Dry	72.1	678.6	Dry	86.0	664.8	Wet
11/14/2011	785.4		88.3	723.9	Wet	130.3	681.9	Dry	72.1	678.6	Dry	86.1	664.7	Wet
11/22/2011	785.1		88.3	723.9	Wet	130.3	681.9	Dry	72.1	678.6	Dry	86.0	664.8	Wet
11/30/2011	785.1	1.79	88.3	723.9	Wet	130.3	681.9	Dry	72.1	678.6	Dry	85.9	664.9	Wet
12/9/2011	784.8		88.3	723.9	Wet	130.3	681.9	Dry	72.1	678.6	Dry	85.9	664.9	Wet
12/17/2011	784.6		88.5	723.7	Wet	130.6	681.6	Dry	72.1	678.6	Dry	85.9	664.9	Wet
12/22/2011	784.5		88.6	723.6	Wet	130.0	682.2	Dry	72.1	678.6	Dry	85.8	665.0	Wet
12/30/2011	784.3	0.45	89.2	723.0	Wet	131.2	681.0	Dry	72.1	678.6	Dry	85.9	664.9	Wet

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			No. 1			No. 2			No. 3			No. 4			No. 5		
1/6/2011	792.2		89.8	721.7	Wet												
1/7/2011	792.2		89.8	721.7	Wet												
1/17/2011	792.0		87.2	724.3	Wet	20.1	677.4	Dry									
1/27/2011	791.8	1.11	87.5	724	Wet	20.0	677.5	Dry									
2/5/2011	791.8		87.0	724.5	Wet	20.0	677.5	Dry									
2/15/2011	791.8		86.8	724.7	Wet	20.0	677.5	Dry									
2/23/2011	792.2	2.87	86.3	725.2	Wet	20.0	677.5	Dry									
3/8/2011	792.1		85.8	725.7	Wet	20.0	677.5	Dry									
3/19/2011	791.8		85.5	726	Wet	20.0	677.5	Dry									
3/30/2011	791.5	3.23	85.1	726.4	Wet	20.0	677.5	Dry									
4/7/2011	792.1		85.0	726.5	Wet	19.9	677.6										
4/16/2011	792.5		84.9	726.6	Wet	19.7	677.8										
4/23/2011	792.6		84.8	726.7	Wet	19.6	677.9										
4/30/2011	792.6	0.00	84.7	726.8	Wet	19.6	677.9										
5/9/2011	792.4		84.8	726.7	Wet	19.6	677.9										
5/16/2011	792.4		84.8	726.7	Wet	19.6	677.9										
5/24/2011	792.4		84.9	726.6	Wet	19.6	677.9										
5/31/2011	792.4	0.81	85.0	726.5	Wet	19.6	677.9										
6/8/2011	792.1		85.0	726.5	Wet	19.6	677.9										
6/16/2011	791.9		85.2	726.3	Wet	19.6	677.9										
6/23/2011	791.8		85.4	726.1	Wet	19.6	677.9										
6/30/2011	791.6	0.00	85.5	726	Wet	19.6	677.9										
7/8/2011	791.4		85.4	726.1	Wet	19.6	677.9										
7/14/2011	791.2		85.4	726.1	Wet	19.6	677.9										
7/21/2011	790.9		85.6	725.9	Wet	19.6	677.9										
7/30/2011	790.4	0.00	85.7	725.8	Wet	19.6	677.9										
8/9/2011	789.9		86.3	725.2	Wet	19.6	677.9										
8/15/2011	789.7		86.8	724.7	Wet	19.6	677.9										
8/24/2011	789.0		87.1	724.4	Wet	19.6	677.9										
9/1/2011	788.7	0.00	87.3	724.2	Wet	19.6	677.9										
9/9/2011	787.9		87.5	724	Wet	19.6	677.9										
9/16/2011	787.3		87.8	723.7	Wet	19.6	677.9										
9/23/2011	787.0		88.2	723.3	Wet	19.6	677.9										
9/29/2011	786.8	0.08	88.6	722.9	Wet	19.6	677.9										
10/8/2011	786.6		88.7	722.8	Wet	19.6	677.9										
10/15/2011	786.4		88.8	722.7	Wet	19.6	677.9										
10/26/2011	786.0	1.29	90.0	721.5	Wet	18.1	679.4										
11/5/2011	785.5		90.2	721.3		18.2	679.3		34.0	662.0		37.0	661.0		36.2	667.3	
11/14/2011	785.4		90.4	721.1		18.4	679.1		34.0	662.0		37.0	661.0		36.2	667.3	
11/22/2011	785.1		90.6	720.9		18.3	679.2		35.0	661.0		37.0	661.0		37.8	665.7	
11/30/2011	785.1	1.79	90.7	720.8		18.2	679.3		36.3	659.7		37.0	661.0		39.0	664.5	
12/9/2011	784.8		90.8	720.7		18.3	679.2		36.3	659.7		37.0	661.0		39.0	664.5	
12/17/2011	784.6		90.9	720.6		18.3	679.2		36.3	659.7		37.0	661.0		39.0	664.5	
12/22/2011	784.5		91.1	720.4		18.4	679.1		36.3	659.7		37.0	661.0		39.0	664.5	
12/30/2011	784.3	0.45	91.2	720.3		18.5	679.0		36.3	659.7		37.0	661.0		39.0	664.5	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/7/2012	784.0		77.5	734.0	Dry	104.3	707.2		111.2	700.3		85.4	726.5	
1/14/2012	783.8		77.5	734.0	Dry	104.4	707.1		111.2	700.3		85.7	726.2	
1/21/2012	783.6		77.5	734.0	Dry	104.5	707.0		111.3	700.2		85.9	726.0	
1/28/2012	783.6	1.72	77.5	734.0	Dry	104.6	706.9		111.3	700.2		86.0	725.9	
2/7/2012	783.4		77.5	734.0	Dry	104.6	706.9		111.3	700.2		86.0	725.9	
2/15/2012	783.4		77.5	734.0	Dry	104.6	706.9		111.3	700.2		86.1	725.8	
2/25/2012	783.4	0.62	77.5	734.0	Dry	104.7	706.8		111.3	700.2		86.1	725.8	
3/5/2012	783.2		77.5	734.0	Dry	105.0	706.5		111.7	699.8		86.4	725.5	
3/15/2012	782.7		77.5	734.0	Dry	105.2	706.3		111.9	699.6		86.7	725.2	
3/22/2012	782.6	2.01	77.5	734.0	Dry	105.4	706.1		111.9	699.6		86.9	725.0	
4/3/2012	782.5		77.5	734.0	Dry	105.5	706.0		111.9	699.6		86.9	725.0	
4/12/2012	782.1		77.5	734.0	Dry	105.6	705.9		111.9	699.6		87.0	724.9	
4/21/2012	782.0		77.5	734.0	Dry	105.7	705.8		112.0	699.5		87.0	724.9	
4/23/2012	781.9	1.32	77.5	734.0	Dry	105.7	705.8		112.0	699.5		87.2	724.7	
5/1/2012	781.7		77.5	734.0	Dry	105.7	705.8		112.1	699.4		87.0	724.9	
5/7/2012	781.3		77.5	734.0	Dry	105.6	705.9		112.1	699.4		87.1	724.8	
5/21/2012	780.9		77.5	734.0	Dry	105.2	706.3		112.1	699.4		87.3	724.6	
5/25/2012	780.0	0.06	77.5	733.9	New Survey/Dry	105.9	705.5	New Survey	112.1	699.3	New Survey	87.5	724.2	New Survey
6/4/2012	779.6		77.5	733.9	Dry	105.9	705.5		112.4	699.0		87.5	724.2	
6/13/2012	778.7		77.5	733.9	Dry	105.9	705.5		112.4	699.0		88.2	723.5	
6/20/2012	778.0		77.5	733.9	Dry	106.2	705.2		112.4	699.0		88.2	723.5	
6/25/2012	777.3	0.00	77.5	733.9	Dry	106.3	705.1		112.5	698.9		88.6	723.1	
7/4/2012	776.3		77.5	733.9	Dry	106.3	705.1		112.5	698.9		89.3	722.4	
7/13/2012	775.7		77.5	733.9	Dry	106.5	704.9		112.5	698.9		89.8	721.9	
7/20/2012	775.2		77.5	733.9	Dry	106.6	704.8		112.7	698.7		90.6	721.1	
7/30/2012	775.0	0.10	77.5	733.9	Dry	106.9	704.5		112.9	698.5		91.0	720.7	
8/8/2012	773.0		77.5	733.9	Dry	107.0	704.4		113.0	698.4		92.6	719.1	
8/9/2012	772.9		77.5	733.9	Dry	107.1	704.3		113.0	698.4		92.7	719.0	
8/18/2012	772.0		77.5	733.9	Dry	107.3	704.1		113.2	698.2		93.5	718.2	
8/27/2012	771.1		77.5	733.9	Dry	107.4	704.0		113.3	698.1		94.6	717.1	
8/29/2012	770.9	0.00	77.5	733.9	Dry	107.4	704.0		113.3	698.1		94.6	717.1	
9/8/2012	769.8		77.5	733.9	Dry	107.6	703.8		113.7	697.7		97.0	714.7	
9/15/2012	768.9		77.5	733.9	Dry	107.8	703.6		113.8	697.6				No Response
9/29/2012	767.8	0.00	77.5	733.9	Dry	108.0	703.4		113.8	697.6		98.0	713.7	
10/11/2012	766.8		77.5	733.9	Dry	108.3	703.1		114.0	697.4		99.0	712.7	
10/23/2012	765.9	1.10	77.5	733.9	Dry	108.5	702.9		114.2	697.2		99.0	712.7	
11/12/2012	764.6		77.5	733.9	Dry	109.0	702.4		114.8	696.6		99.0	712.7	
11/23/2012	764.3	0.16	77.5	733.9	Dry	109.0	702.4		114.8	696.6		99.0	712.7	
12/12/2012	764.5	2.46	77.5	733.9	Dry	109.0	702.4		114.8	696.6		99.0	712.7	
12/27/2012	769.1		77.5	734.0	Dry	109.0	702.5		115.0	696.5		99.8	712.1	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/7/2012	784.0		140.2	671.7		143.5	668.4		74.60	737.6	Dry	59.7	752.5	
1/14/2012	783.8		140.1	671.8		143.5	668.4		74.60	737.6	Dry	59.6	752.6	
1/21/2012	783.6		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
1/28/2012	783.6	1.72	140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
2/7/2012	783.4		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
2/15/2012	783.4		140.1	671.8		143.7	668.2		74.60	737.6	Dry	59.6	752.6	
2/25/2012	783.4	0.62	140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
3/5/2012	783.2		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.6	752.6	
3/15/2012	782.7		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
3/22/2012	782.6	2.01	140.1	671.8		143.7	668.2		74.60	737.6	Dry	59.7	752.5	
4/3/2012	782.5		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
4/12/2012	782.1		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
4/21/2012	782.0		140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
4/23/2012	781.9	1.32	140.1	671.8		143.6	668.3		74.60	737.6	Dry	59.7	752.5	
5/1/2012	781.7		140.1	671.8		143.9	668.0		74.60	737.6	Dry			?
5/7/2012	781.3		140.1	671.8		143.6	668.3		74.60	737.6	Dry			?
5/21/2012	780.9		140.1	671.8		143.6	668.3		74.60	737.6	Dry			?
5/25/2012	780.0	0.06	140.1	671.6	New Survey	143.7	668.0	New Survey	4.30	807.7	New Survey/Clogged	69.6	742.4	New Survey
6/4/2012	779.6		140.1	671.6		143.7	668.0		4.30	807.7	Clogged	59.7	752.3	
6/13/2012	778.7		140.1	671.6		143.7	668.0		4.30	807.7	Clogged	59.7	752.3	
6/20/2012	778.0		140.1	671.6		143.7	668.0		4.30	807.7	Clogged	59.7	752.3	
6/25/2012	777.3	0.00	140.1	671.6		143.7	668.0		4.30	807.7	Clogged	59.7	752.3	
7/4/2012	776.3		140.1	671.6		143.8	667.9		4.30	807.7	Clogged	59.7	752.3	
7/13/2012	775.7		140.1	671.6		144.0	667.7		4.30	807.7	Clogged	59.7	752.3	
7/20/2012	775.2		140.1	671.6		144.0	667.7		4.30	807.7	Clogged	59.7	752.3	
7/30/2012	775.0	0.10	140.1	671.6		144.0	667.7		4.30	807.7	Clogged	59.7	752.3	
8/8/2012	773.0		140.1	671.6		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
8/9/2012	772.9		140.1	671.6		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
8/18/2012	772.0		140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
8/27/2012	771.1		140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
8/29/2012	770.9	0.00	140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
9/8/2012	769.8		140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
9/15/2012	768.9		140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
9/29/2012	767.8	0.00	140.2	671.5		144.1	667.6		4.20	807.8	Clogged	59.7	752.3	
10/11/2012	766.8		140.3	671.4		144.2	667.5		4.20	807.8	Clogged	59.7	752.3	
10/23/2012	765.9	1.10	140.3	671.4		144.3	667.4		4.20	807.8	Clogged	59.7	752.3	
11/12/2012	764.6		140.3	671.4		144.3	667.4		4.20	807.8	Clogged	59.7	752.3	
11/23/2012	764.3	0.16	140.3	671.4		144.3	667.4		4.20	807.8	Clogged	59.7	752.3	
12/12/2012	764.5	2.46	140.3	671.4		144.3	667.4		4.20	807.8	Clogged	59.7	752.3	
12/27/2012	769.1		140.3	671.6		144.3	667.6		4.2	808.0		59.7	752.5	



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/7/2012	784.0		136.3	675.9		51.9	700.2		87.1	665.0		72.8	679.6		37.1	715.3	
1/14/2012	783.8		136.3	675.9		51.9	700.2		87.1	665.0		72.5	679.9		37.4	715.0	
1/21/2012	783.6		136.3	675.9		51.9	700.2		87.1	665.0		71.9	680.5		37.1	715.3	
1/28/2012	783.6	1.72	136.3	675.9		51.9	700.2		87.1	665.0		71.7	680.7		36.7	715.7	
2/7/2012	783.4		136.1	676.1		52.0	700.1		87.1	665.0		71.6	680.8		36.5	715.9	
2/15/2012	783.4		136.1	676.1		52.0	700.1		87.1	665.0		71.4	681		36.4	716.0	
2/25/2012	783.4	0.62	136.1	676.1		52.0	700.1		87.1	665.0		71.4	681		36.2	716.2	
3/5/2012	783.2		136.1	676.1		52.0	700.1		87.1	665.0		71.4	681		36.2	716.2	
3/15/2012	782.7		136.1	676.1		52.0	700.1		87.1	665.0		71.4	681		36.1	716.3	
3/22/2012	782.6	2.01	136.2	676.0		52.0	700.1		87.1	665.0		71.4	681		36.2	716.2	
4/3/2012	782.5		136.1	676.1		52.0	700.1		87.2	664.9		70.6	681.8		36.4	716.0	
4/12/2012	782.1		136.1	676.1		52.0	700.1		87.2	664.9		70.6	681.8		36.4	716.0	
4/21/2012	782.0		136.1	676.1		52.0	700.1		87.3	664.8		70.8	681.6		36.6	715.8	
4/23/2012	781.9	1.32	136.1	676.1		52.0	700.1		87.3	664.8		70.8	681.6		36.6	715.8	
5/1/2012	781.7		136.1	676.1		52.0	700.1		87.3	664.8		70.6	681.8		36.6	715.8	
5/7/2012	781.3		136.1	676.1		52.0	700.1		87.3	664.8		70.6	681.8		36.6	715.8	
5/21/2012	780.9		136.1	676.1		52.0	700.1		87.3	664.8		70.7	681.7		36.7	715.7	
5/25/2012	780.0	0.06	136.0	676.0	New Survey	54.8	699.7	New Survey	88.3	666.2	New Survey	71.6	680.3	New Survey	37.3	714.6	New Survey
6/4/2012	779.6		135.8	676.2		53.5	701.0		87.3	667.2		73.4	678.5		36.7	715.2	
6/13/2012	778.7		135.9	676.1		53.7	700.8		87.3	667.2		73.4	678.5		37.3	714.6	
6/20/2012	778.0		135.8	676.2		54.0	700.5		89.4	665.1		73.4	678.5		37.7	714.2	
6/25/2012	777.3	0.00	135.6	676.4		54.8	699.7		90.3	664.2		73.4	678.5		37.6	714.3	
7/4/2012	776.3		136.0	676.0		54.9	699.6		90.3	664.2		73.6	678.3		37.8	714.1	
7/13/2012	775.7		135.9	676.1		54.9	699.6		90.4	664.1		73.7	678.2		37.8	714.1	
7/20/2012	775.2		136.0	676.0		54.9	699.6		90.5	664.0		73.7	678.2		38.0	713.9	
7/30/2012	775.0	0.10	136.1	675.9		55.0	699.5		90.5	664.0		73.8	678.1		38.1	713.8	
8/8/2012	773.0		136.1	675.9		55.0	699.5		90.5	664.0		73.8	678.1		38.1	713.8	
8/9/2012	772.9		136.1	675.9		55.0	699.5		90.6	663.9		73.8	678.1		38.1	713.8	
8/18/2012	772.0		136.1	675.9		55.0	699.5		90.7	663.8		73.8	678.1		38.3	713.6	
8/27/2012	771.1		136.1	675.9		55.0	699.5		90.7	663.8		73.8	678.1		38.5	713.4	
8/29/2012	770.9	0.00	136.1	675.9		55.0	699.5		90.7	663.8		73.8	678.1		38.5	713.4	
9/8/2012	769.8		136.1	675.9		55.0	699.5		90.7	663.8		73.8	678.1		38.9	713.0	
9/15/2012	768.9		136.1	675.9		55.0	699.5		90.6	663.9		73.8	678.1		38.9	713.0	
9/29/2012	767.8	0.00	136.1	675.9		55.0	699.5		90.6	663.9		73.8	678.1		39.0	712.9	
10/11/2012	766.8		136.1	675.9		55.0	699.5		90.8	663.7		73.8	678.1		39.3	712.6	
10/23/2012	765.9	1.10	136.1	675.9		55.0	699.5		91.0	663.5		73.8	678.1		39.3	712.6	
11/12/2012	764.6		136.1	675.9		55.0	699.5		91.0	663.5		73.7	678.2		39.8	712.1	
11/23/2012	764.3	0.16	136.1	675.9		55.1	699.4		91.2	663.3		73.7	678.2		39.8	712.1	
12/12/2012	764.5	2.46	136.1	675.9		55.1	699.4		91.2	663.3		73.7	678.2		39.8	712.1	
12/27/2012	769.1		136.1	676.1		55.1	697.0		91.2	660.9		73.7	678.7		40.0	712.4	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/7/2012	784.0		89.3	722.9		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
1/14/2012	783.8		89.4	722.8		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
1/21/2012	783.6		89.9	722.3		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
1/28/2012	783.6	1.72	89.8	722.4		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
2/7/2012	783.4		89.0	723.2		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
2/15/2012	783.4		90.0	722.2		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
2/25/2012	783.4	0.62	90.1	722.1		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
3/5/2012	783.2		90.2	722.0		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
3/15/2012	782.7		90.4	721.8		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
3/22/2012	782.6	2.01	90.8	721.4		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
4/3/2012	782.5		90.9	721.3		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
4/12/2012	782.1		90.9	721.3		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
4/21/2012	782.0		91.1	721.1		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
4/23/2012	781.9	1.32	91.1	721.1		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
5/1/2012	781.7		90.9	721.3		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
5/7/2012	781.3		91.0	721.2		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
5/21/2012	780.9		91.1	721.1		131.2	681.0		72.1	678.6	Dry	85.8	665.0	
5/25/2012	780.0	0.06	91.3	720.2	New Survey	131.2	680.3	New Survey	75.3	679.1	New Survey	87.2	667.2	New Survey
6/4/2012	779.6		91.0	720.5		131.2	680.3		72.1	682.3		85.8	668.6	
6/13/2012	778.7		91.1	720.4		131.2	680.3		72.1	682.3		85.8	668.6	
6/20/2012	778.0		91.9	719.6		131.3	680.2		75.3	679.1		89.2	665.2	
6/25/2012	777.3	0.00	92.1	719.4		131.3	680.2		75.3	679.1		89.1	665.3	
7/4/2012	776.3		92.4	719.1		131.3	680.2		75.2	679.2		88.8	665.6	
7/13/2012	775.7		92.6	718.9		131.2	680.3		75.2	679.2		88.7	665.7	
7/20/2012	775.2		92.9	718.6		131.4	680.1		75.2	679.2		88.7	665.7	
7/30/2012	775.0	0.10	93.1	718.4		131.5	680.0		75.2	679.2		88.8	665.6	
8/8/2012	773.0		93.1	718.4		131.7	679.8		75.2	679.2		88.9	665.5	
8/9/2012	772.9		93.1	718.4		131.7	679.8		75.2	679.2		88.9	665.5	
8/18/2012	772.0		93.1	718.4		131.7	679.8		75.2	679.2		88.9	665.5	
8/27/2012	771.1		93.1	718.4		131.7	679.8		75.3	679.1		89.0	665.4	
8/29/2012	770.9	0.00	93.1	718.4		131.7	679.8		75.3	679.1		89.0	665.4	
9/8/2012	769.8		93.1	718.4		131.0	680.5		75.3	679.1		89.0	665.4	
9/15/2012	768.9		93.1	718.4		130.1	681.4		75.3	679.1		89.0	665.4	
9/29/2012	767.8	0.00	93.1	718.4		132.5	679.0		75.3	679.1		89.0	665.4	
10/11/2012	766.8		95.7	715.8		132.6	678.9		75.3	679.1		89.0	665.4	
10/23/2012	765.9	1.10	95.7	715.8		132.6	678.9		75.3	679.1		89.0	665.4	
11/12/2012	764.6		95.7	715.8		132.5	679.0		75.2	679.2		88.9	665.5	
11/23/2012	764.3	0.16	95.7	715.8		132.2	679.3		75.2	679.2		88.9	665.5	
12/12/2012	764.5	2.46	95.7	715.8		132.6	678.9		75.2	679.2		88.9	665.5	
12/27/2012	769.1		95.8	716.4		132.6	679.6		75.2	675.5		88.9	661.9	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			No. 1			No. 2			No. 3			No. 4			No. 5		
1/7/2012	784.0		91.3	720.2		18.6	678.9		36.3	659.7		37.0	661.0		39.0	664.5	
1/14/2012	783.8		91.4	720.1		18.5	679.0		36.3	659.7		37.0	661.0		39.0	664.5	
1/21/2012	783.6		91.6	719.9		18.6	678.9		36.3	659.7		37.0	661.0		39.0	664.5	
1/28/2012	783.6	1.72	91.8	719.7		18.8	678.7		36.3	659.7		37.0	661.0		39.0	664.5	
2/7/2012	783.4		89.0	722.5		18.4	679.1		36.4	659.6		37.0	661.0		39.0	664.5	
2/15/2012	783.4		90.0	721.5		18.0	679.5		36.4	659.6		37.0	661.0		39.0	664.5	
2/25/2012	783.4	0.62	90.1	721.4		17.8	679.7		36.4	659.6		37.0	661.0		39.0	664.5	
3/5/2012	783.2		90.2	721.3		18.0	679.5		36.4	659.6		37.0	661.0		39.0	664.5	
3/15/2012	782.7		90.4	721.1		18.6	678.9		36.5	659.5		37.0	661.0		39.0	664.5	
3/22/2012	782.6	2.01	90.6	720.9		19.1	678.4		36.5	659.5		37.0	661.0		39.0	664.5	
4/3/2012	782.5		92.6	718.9		19.1	678.4		36.5	659.5		37.0	661.0		39.0	664.5	
4/12/2012	782.1		92.8	718.7		19.1	678.4		36.5	659.5		37.0	661.0		39.0	664.5	
4/21/2012	782.0		93.1	718.4		19.2	678.3		36.5	659.5		37.0	661.0		39.0	664.5	
4/23/2012	781.9	1.32	93.1	718.4		19.2	678.3		36.5	659.5		37.0	661.0		39.0	664.5	
5/1/2012	781.7		93.1	718.4		19.2	678.3		36.5	659.5		37.0	661.0		39.0	664.5	
5/7/2012	781.3		93.0	718.5		19.2	678.3		36.5	659.5		37.0	661.0		39.0	664.5	
5/21/2012	780.9		93.0	718.5		21.6	675.9		36.5	659.5		37.0	661.0		39.0	664.5	
5/25/2012	780.0	0.06	93.0	718.5	New Survey	21.6	678.2	New Survey	39.8	659.3	New Survey	40.2	660.1	New Survey	42.3	664.6	New Survey
6/4/2012	779.6		93.0	718.5		21.6	678.2		36.5	662.6		37.0	663.3		39.0	667.9	
6/13/2012	778.7		93.5	718.0		21.3	678.5		39.8	659.3		40.2	660.1		42.3	664.6	
6/20/2012	778.0		93.7	717.8		21.4	678.4		39.8	659.3		40.2	660.1		42.3	664.6	
6/25/2012	777.3	0.00	93.9	717.6		21.4	678.4		39.8	659.3		40.2	660.1		42.6	664.3	
7/4/2012	776.3		94.1	717.4		21.4	678.4		39.9	659.2		40.3	660.0		42.5	664.4	
7/13/2012	775.7		94.4	717.1		21.3	678.5		39.9	659.2		40.2	660.1		42.4	664.5	
7/20/2012	775.2		95.0	716.5		20.4	679.4		39.9	659.2		40.3	660.0		42.4	664.5	
7/30/2012	775.0	0.10	95.2	716.3		20.4	679.4		40.0	659.1		40.3	660.0		42.4	664.5	
8/8/2012	773.0		95.4	716.1		20.3	679.5		40.0	659.1		40.3	660.0		42.5	664.4	
8/9/2012	772.9		95.4	716.1		20.3	679.5		40.0	659.1		40.3	660.0		42.5	664.4	
8/18/2012	772.0		96.1	715.4		20.3	679.5		40.0	659.1		40.3	660.0		42.4	664.5	
8/27/2012	771.1		96.5	715.0		20.4	679.4		40.0	659.1		40.2	660.1		42.3	664.6	
8/29/2012	770.9	0.00	96.5	715.0		20.4	679.4		40.0	659.1		40.2	660.1		42.3	664.6	
9/8/2012	769.8		96.5	715.0		20.4	679.4		40.0	659.1		40.2	660.1		42.3	664.6	
9/15/2012	768.9		96.5	715.0		20.4	679.4		40.0	659.1		40.2	660.1		42.3	664.6	
9/29/2012	767.8	0.00	96.5	715.0		20.4	679.4		40.0	659.1		40.1	660.2		42.3	664.6	
10/11/2012	766.8		98.0	713.5		20.4	679.4		40.1	659.0		40.1	660.2		42.3	664.6	
10/23/2012	765.9	1.10	99.2	712.3		20.4	679.4		40.1	659.0		40.1	660.2		42.3	664.6	
11/12/2012	764.6		99.2	712.3		20.4	679.4		40.1	659.0		40.1	660.2		42.3	664.6	
11/23/2012	764.3	0.16	99.8	711.7		20.4	679.4		40.1	659.0		40.1	660.2		42.3	664.6	
12/12/2012	764.5	2.46	99.9	711.6		20.4	679.4		40.1	659.0		40.1	660.2		42.3	664.6	
12/27/2012	769.1		100.7	710.8		20.4	677.1		40.4	658.7		40.1	660.2		42.3	664.6	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/16/2013	770.4		77.5	734.0	Dry	109.0	702.5		115.0	696.5		100.0	711.9	
1/28/2013	769.9	1.82	77.5	734.0	Dry	109.0	702.5		115.0	696.5		100.0	711.9	
2/15/2013	769.6		77.5	734.0	Dry	109.1	702.4		113.0	698.5		100.0	711.9	
2/26/2013	769.4	0.68	77.5	734.0	Dry	109.2	702.3		115.4	696.1		100.0	711.9	
3/13/2013	768.8		77.5	734.0	Dry	109.2	702.3		116.0	695.5		99.1	712.8	
3/26/2013	768.6	0.66	77.5	734.0	Dry	109.2	702.3		116.0	695.5		99.1	712.8	
4/10/2013	771.1		77.5	734.0	Dry	109.2	702.3		116.0	695.5		99.1	712.8	
4/30/2013	772.2	0.00	77.5	734.0	Dry	109.2	702.3		116.0	695.5		99.8	712.1	
5/9/2013	771.9		77.5	734.0	Dry	109.2	702.3		116.4	695.1		99.1	712.8	
5/15/2013	771.7		77.5	734.0	Dry	109.2	702.3		116.4	695.1		99.1	712.8	
5/22/2013	771.4		77.5	734.0	Dry	109.2	702.3		116.4	695.1		99.1	712.8	
5/30/2013	771.0	0.00	77.5	734.0	Dry	109.2	702.3		116.4	695.1		99.2	712.7	
6/6/2013	770.8		77.5	734.0	Dry	109.1	702.4		116.5	695.0		99.2	712.7	
6/13/2013	769.3		77.5	734.0	Dry	109.1	702.4		116.5	695.0		99.2	712.7	
6/20/2013	769.0		77.5	734.0	Dry	109.1	702.4		116.5	695.0		99.2	712.7	
6/26/2013	768.6	0.00	77.5	734.0	Dry	109.1	702.4		116.5	695.0		99.2	712.7	
7/2/2013	767.8		77.5	734.0	Dry	109.1	702.4		116.5	695.0		99.2	712.7	
7/10/2013	766.9		77.5	734.0	Dry	109.1	702.4		116.6	694.9		99.2	712.7	
7/16/2013	766.5		77.5	734.0	Dry	109.1	702.4		116.7	694.8		99.2	712.7	
7/29/2013	765.2	0.00	77.5	734.0	Dry	109.1	702.4		116.7	694.8		99.2	712.7	
8/5/2013	764.5		77.5	734.0	Dry	109.1	702.4	Dry	116.5	695.0		99.2	712.7	
8/12/2013	763.8		77.5	734.0	Dry	109.1	702.4	Dry	116.9	694.6		99.2	712.7	
8/19/2013	763.3		77.5	734.0	Dry	109.1	702.4	Dry	116.9	694.6		99.2	712.7	
8/26/2013	762.4	0.00	77.5	734.0	Dry	109.1	702.4	Dry	116.9	694.6		99.4	712.5	
9/2/2013	761.5		77.5	734.0	Dry	109.1	702.4	Dry	116.9	694.6		99.2	712.7	
9/10/2013	760.7		77.5	734.0	Dry	109.3	702.2	Dry	117.2	694.3		99.5	712.4	
9/17/2013	759.9		77.5	734.0	Dry	109.3	702.2	Dry	117.2	694.3		99.5	712.4	
9/23/2013	759.4		77.5	734.0	Dry	109.3	702.2	Dry	117.2	694.3		99.5	712.4	
9/30/2013	758.7	0.00	77.5	734.0	Dry	109.3	702.2	Dry	117.2	694.3		99.2	712.7	
10/7/2013	758.3		77.5	734.0	Dry	109.4	702.1	Dry	117.3	694.2		99.2	712.7	
10/14/2013	757.6		77.5	734.0	Dry	109.4	702.1	Dry	117.3	694.2		99.2	712.7	
10/21/2013	756.6		77.5	734.0	Dry	109.4	702.1	Dry	117.5	694.0		99.2	712.7	
10/28/2013	756.0	0.00	77.5	734.0	Dry	109.4	702.1	Dry	117.5	694.0		99.2	712.7	
11/4/2013	755.7		77.5	734.0	Dry	109.4	702.1	Dry	117.9	693.6		99.2	712.7	
11/11/2013	756.1		77.5	734.0	Dry	109.4	702.1	Dry	117.8	693.7		99.2	712.7	
11/18/2013	755.7		77.5	734.0	Dry	109.4	702.1	Dry	117.9	693.6		99.2	712.7	
11/25/2013	755.4	0.55	77.5	734.0	Dry	109.4	702.1	Dry	117.9	693.6		99.3	712.6	
12/2/2013	755.3		77.5	734.0	Dry	109.4	702.1	Dry	117.9	693.6		99.2	712.7	
12/10/2013	755.4		77.5	734.0	Dry	109.4	702.1	Dry	118.0	693.5		99.6	712.3	
12/16/2013	755.2		77.5	734.0	Dry	109.4	702.1	Dry	118.0	693.5		99.4	712.5	
12/23/2013	755.2		77.5	734.0	Dry	109.4	702.1	Dry	118.2	693.3		99.3	712.6	
12/30/2013	754.8	0.83	77.5	734.0	Dry	109.4	702.1	Dry	118.2	693.3		99.2	712.7	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/16/2013	770.4		140.3	671.6		144.3	667.6		4.2	808.0		59.7	752.5	
1/28/2013	769.9	1.82	140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
2/15/2013	769.6		140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
2/26/2013	769.4	0.68	140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
3/13/2013	768.8		140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
3/26/2013	768.6	0.66	140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
4/10/2013	771.1		140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
4/30/2013	772.2	0.00	140.3	671.6		144.4	667.5		4.2	808.0		59.7	752.5	
5/9/2013	771.9		140.2	671.7		144.6	667.3		4.6	807.6		59.7	752.5	
5/15/2013	771.7		140.2	671.7		144.6	667.3		73.8	738.4		59.7	752.5	
5/22/2013	771.4		140.2	671.7		144.6	667.3		73.8	738.4		59.7	752.5	
5/30/2013	771.0	0.00	140.2	671.7		144.6	667.3		73.8	738.4		59.7	752.5	
6/6/2013	770.8		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
6/13/2013	769.3		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
6/20/2013	769.0		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
6/26/2013	768.6	0.00	140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
7/2/2013	767.8		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
7/10/2013	766.9		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
7/16/2013	766.5		140.3	671.6		144.6	667.3		73.9	738.3		59.8	752.4	
7/29/2013	765.2	0.00	140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
8/5/2013	764.5		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
8/12/2013	763.8		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
8/19/2013	763.3		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
8/26/2013	762.4	0.00	140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
9/2/2013	761.5		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
9/10/2013	760.7		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
9/17/2013	759.9		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
9/23/2013	759.4		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
9/30/2013	758.7	0.00	140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.8	752.4	
10/7/2013	758.3		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.7	752.5	
10/14/2013	757.6		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.7	752.5	
10/21/2013	756.6		140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.7	752.5	
10/28/2013	756.0	0.00	140.3	671.6		144.6	667.3		73.9	738.3	Dry	59.7	752.5	
11/4/2013	755.7		140.3	671.6		144.7	667.2		73.9	738.3	Dry	59.7	752.5	
11/11/2013	756.1		140.4	671.5		144.7	667.2		73.9	738.3	Dry	59.7	752.5	
11/18/2013	755.7		140.4	671.5		144.7	667.2		73.9	738.3	Dry	59.7	752.5	
11/25/2013	755.4	0.55	140.3	671.6		144.7	667.2		73.9	738.3	Dry	59.7	752.5	
12/2/2013	755.3		140.3	671.6		144.8	667.1		73.9	738.3	Dry	59.7	752.5	
12/10/2013	755.4		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
12/16/2013	755.2		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
12/23/2013	755.2		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
12/30/2013	754.8	0.83	140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/16/2013	770.4		137.0	675.2		55.1	697.0		91.2	660.9		73.8	678.6		40.3	712.1	
1/28/2013	769.9	1.82	137.0	675.2		55.1	697.0		91.3	660.8		73.8	678.6		40.4	712.0	
2/15/2013	769.6		136.1	676.1		55.1	697.0		91.4	660.7		73.8	678.6		40.6	711.8	
2/26/2013	769.4	0.68	136.1	676.1		55.1	697.0		91.4	660.7		73.8	678.6		40.7	711.7	
3/13/2013	768.8		136.0	676.2		55.2	696.9		91.4	660.7		73.8	678.6		40.9	711.5	
3/26/2013	768.6	0.66	136.0	676.2		55.2	696.9		91.4	660.7		73.8	678.6		41.3	711.1	
4/10/2013	771.1		136.0	676.2		55.3	696.8		91.4	660.7		73.8	678.6		41.6	710.8	
4/30/2013	772.2	0.00	136.0	676.2		55.3	696.8		91.4	660.7		73.8	678.6		41.6	710.8	
5/9/2013	771.9		136.0	676.2		55.3	696.8		91.4	660.7		73.9	678.5		42.0	710.4	
5/15/2013	771.7		136.0	676.2		55.3	696.8		91.4	660.7		73.9	678.5		42.0	710.4	
5/22/2013	771.4		136.0	676.2		55.3	696.8		91.4	660.7		73.9	678.5		42.0	710.4	
5/30/2013	771.0	0.00	136.0	676.2		55.3	696.8		91.3	660.8		73.5	678.9		42.0	710.4	
6/6/2013	770.8		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.2	710.2	
6/13/2013	769.3		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.2	710.2	
6/20/2013	769.0		135.7	676.5		55.3	696.8		91.4	660.7		73.8	678.6		42.4	710.0	
6/26/2013	768.6	0.00	135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.1	710.3	
7/2/2013	767.8		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.7	709.7	
7/10/2013	766.9		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.7	709.7	
7/16/2013	766.5		135.7	676.5		55.3	696.8		91.4	660.7		73.8	678.6		42.7	709.7	
7/29/2013	765.2	0.00	135.7	676.5		55.3	696.8		91.4	660.7		73.8	678.6		42.7	709.7	
8/5/2013	764.5		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.7	709.7	
8/12/2013	763.8		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.7	709.7	
8/19/2013	763.3		135.7	676.5		55.3	696.8		91.5	660.6		73.8	678.6		42.9	709.5	
8/26/2013	762.4	0.00	135.7	676.5		55.3	696.8		91.5	660.6		73.8	678.6		42.9	709.5	
9/2/2013	761.5		135.7	676.5		55.3	696.8		91.3	660.8		73.8	678.6		42.7	709.7	
9/10/2013	760.7		136.2	676.0	Dry	55.3	696.8		91.5	660.6		73.8	678.6		43.2	709.2	
9/17/2013	759.9		136.2	676.0	Dry	55.3	696.8		91.5	660.6		73.8	678.6		42.8	709.6	
9/23/2013	759.4		136.2	676.0	Dry	55.3	696.8		91.5	660.6		73.8	678.6		39.3	713.1	
9/30/2013	758.7	0.00	136.2	676.0	Dry	55.3	696.8		91.5	660.6		73.8	678.6		39.3	713.1	
10/7/2013	758.3		135.9	676.3	Dry	55.3	696.8		91.5	660.6		73.8	678.6		39.5	712.9	
10/14/2013	757.6		135.9	676.3	Dry	55.3	696.8		91.5	660.6		73.8	678.6		39.5	712.9	
10/21/2013	756.6		135.7	676.5		55.3	696.8		91.5	660.6		73.8	678.6		39.5	712.9	
10/28/2013	756.0	0.00	135.7	676.5		55.4	696.7		91.6	660.5		73.8	678.6		39.7	712.7	
11/4/2013	755.7		135.9	676.3	Dry	55.4	696.7		91.5	660.6		73.8	678.6		39.8	712.6	
11/11/2013	756.1		135.7	676.5		55.4	696.7		91.7	660.4		73.8	678.6		39.8	712.6	
11/18/2013	755.7		135.7	676.5		55.4	696.7		91.7	660.4		73.8	678.6		39.9	712.5	
11/25/2013	755.4	0.55	135.7	676.5		55.4	696.7		91.7	660.4		73.8	678.6		39.9	712.5	
12/2/2013	755.3		135.9	676.3	Dry	55.4	696.7		91.6	660.5		73.8	678.6		40.0	712.4	
12/10/2013	755.4		135.9	676.3	Dry	55.4	696.7		91.6	660.5		73.9	678.5		40.2	712.2	
12/16/2013	755.2		135.7	676.5		55.4	696.7		91.6	660.5		73.8	678.6		40.2	712.2	
12/23/2013	755.2		135.7	676.5		55.4	696.7		91.7	660.4		73.9	678.5		40.3	712.1	
12/30/2013	754.8	0.83	135.7	676.5		55.5	696.6		91.8	660.3		73.9	678.5		40.4	712.0	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/16/2013	770.4		95.8	716.4		132.5	679.7		75.1	675.6		88.9	661.9	
1/28/2013	769.9	1.82	95.8	716.4		132.5	679.7		75.1	675.6		88.9	661.9	
2/15/2013	769.6		95.6	716.6		132.5	679.7		75.1	675.6		88.9	661.9	
2/26/2013	769.4	0.68	95.6	716.6		135.1	677.1		75.4	675.3		88.9	661.9	
3/13/2013	768.8		95.8	716.4		132.4	679.8		75.1	675.6		89.0	661.8	
3/26/2013	768.6	0.66	95.8	716.4		132.4	679.8		75.1	675.6		88.7	662.1	
4/10/2013	771.1		95.8	716.4		132.4	679.8		75.1	675.6		88.7	662.1	
4/30/2013	772.2	0.00	95.8	716.4		132.4	679.8		75.1	675.6		88.7	662.1	
5/9/2013	771.9		95.9	716.3		132.0	680.2		75.6	675.1		89.0	661.8	
5/15/2013	771.7		95.9	716.3		132.0	680.2		75.6	675.1		89.0	661.8	
5/22/2013	771.4		95.9	716.3		132.0	680.2		75.6	675.1		89.0	661.8	
5/30/2013	771.0	0.00	95.9	716.3		132.0	680.2		75.9	674.8		88.2	662.6	
6/6/2013	770.8		96.0	716.2		129.9	682.3		75.5	675.2		88.8	662.0	
6/13/2013	769.3		96.0	716.2		129.9	682.3		75.5	675.2		88.7	662.1	
6/20/2013	769.0		96.0	716.2		132.4	679.8		75.5	675.2		88.7	662.1	
6/26/2013	768.6	0.00	96.0	716.2		132.4	679.8		75.5	675.2		88.2	662.6	
7/2/2013	767.8		96.0	716.2		129.9	682.3		75.5	675.2		88.8	662.0	
7/10/2013	766.9		96.0	716.2		129.9	682.3		75.6	675.1		88.8	662.0	
7/16/2013	766.5		95.9	716.3		129.8	682.4		75.8	674.9		88.7	662.1	
7/29/2013	765.2	0.00	95.9	716.3		129.8	682.4		75.8	674.9		88.7	662.1	
8/5/2013	764.5		96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
8/12/2013	763.8		95.8	716.4		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
8/19/2013	763.3		95.8	716.4		131.8	680.4		75.5	675.2	Dry	88.8	662.0	
8/26/2013	762.4	0.00	95.8	716.4		130.4	681.8		75.5	675.2	Dry	88.8	662.0	
9/2/2013	761.5		96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
9/10/2013	760.7		96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
9/17/2013	759.9		96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
9/23/2013	759.4		96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
9/30/2013	758.7	0.00	96.0	716.2		129.9	682.3		75.5	675.2	Dry	88.8	662.0	
10/7/2013	758.3		95.9	716.3		130.0	682.2		75.5	675.2	Dry	88.8	662.0	
10/14/2013	757.6		95.9	716.3		133.2	679.0		75.5	675.2	Dry	88.8	662.0	
10/21/2013	756.6		95.9	716.3		133.0	679.2		75.5	675.2	Dry	88.8	662.0	
10/28/2013	756.0	0.00	95.9	716.3		133.0	679.2		75.5	675.2	Dry	88.8	662.0	
11/4/2013	755.7		95.9	716.3		132.9	679.3		75.5	675.2	Dry	88.8	662.0	
11/11/2013	756.1		95.9	716.3		132.9	679.3		75.5	675.2	Dry	88.8	662.0	
11/18/2013	755.7		96.0	716.2		132.8	679.4		75.5	675.2	Dry	88.7	662.1	
11/25/2013	755.4	0.55	96.0	716.2		132.8	679.4		75.5	675.2	Dry	88.7	662.1	
12/2/2013	755.3		95.9	716.3		132.8	679.4		75.5	675.2	Dry	88.7	662.1	
12/10/2013	755.4		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
12/16/2013	755.2		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
12/23/2013	755.2		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
12/30/2013	754.8	0.83	96.0	716.2		133.0	679.2		75.5	675.2	Dry	88.7	662.1	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/16/2013	770.4		99.0	712.5		20.4	677.1		40.1	659.0		40.1	660.2		42.3	664.6	
1/28/2013	769.9	1.82	101.0	710.5		20.4	677.1		40.4	658.7		40.2	660.1		42.3	664.6	
2/15/2013	769.6		104.0	707.5		20.4	677.1		40.1	659.0		40.2	660.1		42.3	664.6	
2/26/2013	769.4	0.68	107.0	704.5		21.0	676.5		40.4	658.7		40.2	660.1		42.3	664.6	
3/13/2013	768.8		100.0	711.5		20.5	677.0		40.4	658.7		40.0	660.3		42.3	664.6	
3/26/2013	768.6	0.66	100.0	711.5		20.5	677.0		40.4	658.7		40.1	660.2		42.3	664.6	
4/10/2013	771.1		100.0	711.5		20.5	677.0		40.4	658.7		40.1	660.2		42.3	664.6	
4/30/2013	772.2	0.00	100.0	711.5		20.4	677.1		40.4	658.7		40.1	660.2		42.3	664.6	
5/9/2013	771.9		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
5/15/2013	771.7		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
5/22/2013	771.4		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
5/30/2013	771.0	0.00	101.1	710.4		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
6/6/2013	770.8		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
6/13/2013	769.3		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
6/20/2013	769.0		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
6/26/2013	768.6	0.00	101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
7/2/2013	767.8		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
7/10/2013	766.9		101.3	710.2		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
7/16/2013	766.5		101.4	710.1		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
7/29/2013	765.2	0.00	101.5	710		21.1	676.4		40.4	658.7		40.1	660.2		42.6	664.3	
8/5/2013	764.5		101.7	709.8		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
8/12/2013	763.8		101.7	709.8		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
8/19/2013	763.3		101.7	709.8		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
8/26/2013	762.4	0.00	101.7	709.8		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
9/2/2013	761.5		101.7	709.8		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
9/10/2013	760.7		102.3	709.2		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
9/17/2013	759.9		102.3	709.2		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
9/23/2013	759.4		102.3	709.2		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
9/30/2013	758.7	0.00	102.6	708.9		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
10/7/2013	758.3		102.6	708.9		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
10/14/2013	757.6		102.9	708.6		21.1	676.4		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
10/21/2013	756.6		102.9	708.6		21.4	676.1		40.4	658.7		40.1	660.2	Dry	42.6	664.3	Dry
10/28/2013	756.0	0.00	103.0	708.5		21.4	676.1		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
11/4/2013	755.7		103.1	708.4		21.1	676.4		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
11/11/2013	756.1		103.1	708.4		21.1	676.4		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
11/18/2013	755.7		103.4	708.1		20.5	677.0		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
11/25/2013	755.4	0.55	103.4	708.1		20.5	677.0		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
12/2/2013	755.3		103.5	708		20.6	676.9		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
12/10/2013	755.4		103.6	707.9		20.6	676.9		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
12/16/2013	755.2		103.6	707.9		20.6	676.9		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
12/23/2013	755.2		103.8	707.7		20.8	676.7		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
12/30/2013	754.8	0.83	104.0	707.5		21.2	676.3		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2014	754.5		77.5	734.0	Dry	109.2	702.3	Dry	118.2	693.3		100.2	711.7	
1/13/2014	755.0		77.5	734.0	Dry	109.2	702.3	Dry	118.4	693.1		99.8	712.1	
1/20/2014	754.6		77.5	734.0	Dry	109.2	702.3	Dry	118.4	693.1		99.6	712.3	
1/27/2014	754.3	0.00	77.5	734.0	Dry	109.2	702.3	Dry	118.4	693.1		99.3	712.6	
2/3/2014	754.1		77.5	734.0	Dry	109.2	702.3	Dry	118.6	692.9		100.3	711.6	Dry
2/10/2014	754.7		77.5	734.0	Dry	109.2	702.3	Dry	118.6	692.9		100.0	711.9	
2/17/2014	754.5		77.5	734.0	Dry	109.2	702.3	Dry	118.6	692.9		99.9	712.0	
2/24/2014	754.2	0.83	77.5	734.0	Dry	109.2	702.3	Dry	118.7	692.8		99.8	712.1	
3/3/2014	754.5		77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7		99.8	712.1	
3/10/2014	755.2		77.5	734.0	Dry	109.2	702.3	Dry	118.7	692.8		99.7	712.2	
3/19/2014	755.9		77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7		99.9	712.0	
3/25/2014	758.8		77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7		99.9	712.0	
3/29/2014	760.5		77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7		99.9	712.0	
3/31/2014	761.6	1.85	77.5	734.0	Dry	109.2	702.3	Dry	118.8	692.7		99.8	712.1	
4/1/2014	762.0		77.5	734.0	Dry	109.2	702.3	Dry	118.9	692.6		99.9	712.0	
4/8/2014	764.7		77.5	734.0	Dry	109.2	702.3	Dry	118.9	692.6		99.9	712.0	
4/15/2014	766.6		77.5	734.0	Dry	109.2	702.3	Dry	118.9	692.6		99.9	712.0	
4/22/2014	768.6		77.5	734.0	Dry	109.2	702.3	Dry	119.1	692.4		99.9	712.0	
4/29/2014	770.4	0.88	77.5	734.0	Dry	109.2	702.3	Dry	119.1	692.4		99.9	712.0	
5/5/2014	769.7		77.5	734.0	Dry	109.2	702.3	Dry	119.2	692.3		99.9	712.0	
5/12/2014	769.0		77.5	734.0	Dry	109.2	702.3	Dry	119.2	692.3		99.9	712.0	
5/19/2014	768.0		77.5	734.0	Dry	109.2	702.3	Dry	119.2	692.3		99.9	712.0	
5/26/2014	767.1	0.00	77.5	734.0	Dry	109.2	702.3	Dry	119.2	692.3		99.9	712.0	
6/2/2014	766.2		77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2		99.9	712.0	
6/9/2014	765.4		77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2		99.9	712.0	
6/16/2014	764.3		77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2		99.9	712.0	
6/23/2014	763.1		77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2		99.9	712.0	
6/27/2014	762.3	0.00	77.5	734.0	Dry	109.2	702.3	Dry	119.3	692.2		99.9	712.0	
7/7/2014	760.9		77.5	734.0	Dry	109.2	702.3	Dry	119.4	692.1		99.9	712.0	
7/14/2014	760.0		77.5	734.0	Dry	109.2	702.3	Dry	119.4	692.1		99.9	712.0	
7/21/2014	759.1		77.5	734.0	Dry	109.2	702.3	Dry	119.4	692.1		99.9	712.0	
7/28/2014	757.9	0.06	77.5	734.0	Dry	109.2	702.3	Dry	119.4	692.1		99.9	712.0	
8/4/2014	756.8		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0		99.9	712.0	
8/11/2014	755.6		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0		99.9	712.0	
8/18/2014	754.7		77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0		99.9	712.0	
8/25/2014	753.3	0.05	77.5	734.0	Dry	109.2	702.3	Dry	119.5	692.0		99.9	712.0	
9/2/2014	751.6		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9		99.9	712.0	
9/8/2014	750.5		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9		99.9	712.0	
9/15/2014	749.4		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9		99.9	712.0	
9/22/2014	748.3		77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9		99.9	712.0	
9/29/2014	747.2	0.00	77.5	734.0	Dry	109.2	702.3	Dry	119.6	691.9		99.9	712.0	
10/6/2014	745.7		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7		99.9	712.0	
10/13/2014	746.7		77.5	734.0	Dry	109.2	702.3	Dry	119.8	691.7		99.9	712.0	
10/20/2014	746.6		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
10/27/2014	745.8	0.00	77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
11/3/2014	746.4		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
11/10/2014	747.2		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
11/17/2014	747.7		77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
11/24/2014	748.8	0.61	77.5	734.0	Dry	109.2	702.3	Dry	119.9	691.6		100.0	711.9	
12/1/2014	748.3		77.5	734.0	Dry	109.2	702.3	Dry	120.1	691.4		100.0	711.9	
12/8/2014	749.1		77.5	734.0	Dry	109.2	702.3	Dry	120.1	691.4		100.0	711.9	
12/15/2014	749.8		77.5	734.0	Dry	109.2	702.3	Dry	120.1	691.4		100.0	711.9	
12/29/2014	750.9	5.37	77.5	734.0	Dry	109.2	702.3	Dry	120.2	691.3		100.0	711.9	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2014	754.5		140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
1/13/2014	755.0		140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
1/20/2014	754.6		140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
1/27/2014	754.3	0.00	140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
2/3/2014	754.1		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
2/10/2014	754.7		140.2	671.7		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
2/17/2014	754.5		140.2	671.7		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
2/24/2014	754.2	0.83	140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/3/2014	754.5		140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/10/2014	755.2		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/19/2014	755.9		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/25/2014	758.8		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/29/2014	760.5		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
3/31/2014	761.6	1.85	140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
4/1/2014	762.0		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
4/8/2014	764.7		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
4/15/2014	766.6		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
4/22/2014	768.6		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
4/29/2014	770.4	0.88	140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
5/5/2014	769.7		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
5/12/2014	769.0		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
5/19/2014	768.0		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
5/26/2014	767.1	0.00	140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
6/2/2014	766.2		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
6/9/2014	765.4		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
6/16/2014	764.3		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
6/23/2014	763.1		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
6/27/2014	762.3	0.00	140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
7/7/2014	760.9		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
7/14/2014	760.0		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
7/21/2014	759.1		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
7/28/2014	757.9	0.06	140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
8/4/2014	756.8		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
8/11/2014	755.6		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
8/18/2014	754.7		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
8/25/2014	753.3	0.05	140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
9/2/2014	751.6		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
9/8/2014	750.5		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
9/15/2014	749.4		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
9/22/2014	748.3		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
9/29/2014	747.2	0.00	140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
10/6/2014	745.7		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
10/13/2014	746.7		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
10/20/2014	746.6		140.3	671.6		144.9	667.0		73.9	738.3	Dry	59.7	752.5	
10/27/2014	745.8	0.00	140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
11/3/2014	746.4		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
11/10/2014	747.2		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
11/17/2014	747.7		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
11/24/2014	748.8	0.61	140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
12/1/2014	748.3		140.3	671.6		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
12/8/2014	749.1		140.0	671.9		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
12/15/2014	749.8		140.0	671.9		145.1	666.8		73.9	738.3	Dry	59.7	752.5	
12/29/2014	750.9	5.37	140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2014	754.5		135.7	676.5		55.5	696.6		91.8	660.3		74.1	678.3	Dry	40.5	711.9	
1/13/2014	755.0		135.8	676.4		55.5	696.6		91.8	660.3		73.8	678.6		40.5	711.9	
1/20/2014	754.6		135.7	676.5		55.5	696.6		91.8	660.3		73.7	678.7		40.6	711.8	
1/27/2014	754.3	0.00	135.7	676.5		55.5	696.6		91.8	660.3		73.7	678.7		40.7	711.7	
2/3/2014	754.1		135.7	676.5		55.5	696.6		91.8	660.3		73.9	678.5		40.5	711.9	
2/10/2014	754.7		136.1	676.1	Dry	55.5	696.6		91.8	660.3		73.9	678.5		40.8	711.6	
2/17/2014	754.5		135.9	676.3		55.5	696.6		91.8	660.3		73.8	678.6		40.8	711.6	
2/24/2014	754.2	0.83	135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		40.8	711.6	
3/3/2014	754.5		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		40.8	711.6	
3/10/2014	755.2		136.1	676.1	Dry	55.5	696.6		91.8	660.3		73.8	678.6		40.8	711.6	
3/19/2014	755.9		135.7	676.5		55.5	696.6		91.9	660.2		73.8	678.6		41.2	711.2	
3/25/2014	758.8		136.1	676.1	Dry	55.5	696.6		91.9	660.2		73.8	678.6		41.2	711.2	
3/29/2014	760.5		136.1	676.1	Dry	55.5	696.6		91.9	660.2		73.8	678.6		41.2	711.2	
3/31/2014	761.6	1.85	136.1	676.1	Dry	55.6	696.5		91.8	660.3		73.8	678.6		41.2	711.2	
4/1/2014	762.0		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.4	711.0	
4/8/2014	764.7		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.4	711.0	
4/15/2014	766.6		135.9	676.3		55.5	696.6		91.8	660.3		73.8	678.6		41.4	711.0	
4/22/2014	768.6		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.4	711.0	
4/29/2014	770.4	0.88	135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.4	711.0	
5/5/2014	769.7		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.6	710.8	
5/12/2014	769.0		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.6	710.8	
5/19/2014	768.0		135.7	676.5		55.5	696.6		91.8	660.3		73.8	678.6		41.6	710.8	
5/26/2014	767.1	0.00	135.7	676.5		55.5	696.6		91.8	660.3		73.9	678.5		41.6	710.8	
6/2/2014	766.2		135.7	676.5		55.5	696.6		91.8	660.3		73.9	678.5		41.9	710.5	
6/9/2014	765.4		135.7	676.5		55.5	696.6		91.8	660.3		73.9	678.5		41.9	710.5	
6/16/2014	764.3		135.7	676.5		55.5	696.6		91.8	660.3		74.0	678.4		42.0	710.4	
6/23/2014	763.1		135.7	676.5		55.5	696.6		91.8	660.3		74.0	678.4		42.0	710.4	
6/27/2014	762.3	0.00	135.7	676.5		55.5	696.6		91.8	660.3		74.0	678.4		42.0	710.4	
7/7/2014	760.9		135.7	676.5		55.6	696.5		91.8	660.3		73.9	678.5		42.2	710.2	
7/14/2014	760.0		135.7	676.5		55.6			91.8			73.9	678.5		42.2	710.2	
7/21/2014	759.1		135.7	676.5		55.6			91.8			73.9	678.5		42.3	710.1	
7/28/2014	757.9	0.06	135.7	676.5		55.6	696.5		91.8	660.3		73.9	678.5		42.3	710.1	
8/4/2014	756.8		135.7	676.5		55.6	696.5		91.8	660.3		73.9	678.5		42.4	710.0	
8/11/2014	755.6		135.7	676.5		55.6	696.5		91.8	660.3		73.9	678.5		42.4	710.0	
8/18/2014	754.7		135.7	676.5		55.6	696.5		91.9	660.2		73.8	678.6		42.6	709.8	
8/25/2014	753.3	0.05	135.7	676.5		55.6	696.5		91.9	660.2		73.8	678.6		42.6	709.8	
9/2/2014	751.6		136.2	676.0	Dry	55.6	696.5		91.8	660.3		73.8	678.6		42.8	709.6	
9/8/2014	750.5		136.2	676.0	Dry	55.6	696.5		91.8	660.3		73.8	678.6		42.8	709.6	
9/15/2014	749.4		135.7	676.5		55.6	696.5		91.8	660.3		73.8	678.6		42.8	709.6	
9/22/2014	748.3		135.7	676.5		55.6	696.5		91.8	660.3		73.8	678.6		42.8	709.6	
9/29/2014	747.2	0.00	135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		42.9	709.5	
10/6/2014	745.7		136.2	676.0	Dry	55.6	696.5		91.9	660.2		73.9	678.5		43.1	709.3	
10/13/2014	746.7		136.2	676.0	Dry	55.6	696.5		92.0	660.1		73.9	678.5		43.1	709.3	
10/20/2014	746.6		136.2	676.0	Dry	55.7	696.4		92.0	660.1		73.9	678.5		43.1	709.3	
10/27/2014	745.8	0.00	136.2	676.0	Dry	55.7	696.4		92.0	660.1		73.9	678.5		43.1	709.3	
11/3/2014	746.4		136.2	676.0	Dry	55.7	696.4		92.0	660.1		73.9	678.5		43.1	709.3	
11/10/2014	747.2		136.2	676.0	Dry	55.7	696.4		92.0	660.1		73.9	678.5		43.1	709.3	
11/17/2014	747.7		135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.3	709.1	
11/24/2014	748.8	0.61	135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.3	709.1	
12/1/2014	748.3		135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.6	708.8	
12/8/2014	749.1		135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.7	708.7	
12/15/2014	749.8		135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.7	708.7	
12/29/2014	750.9	5.37	135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.9	708.5	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2014	754.5		96.0	716.2		133.3	678.9		75.5	675.2	Dry	89.6	661.2	Dry
1/13/2014	755.0		96.1	716.1		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
1/20/2014	754.6		96.1	716.1		132.9	679.3		75.5	675.2	Dry	88.7	662.1	
1/27/2014	754.3	0.00	96.1	716.1		132.9	679.3		75.5	675.2	Dry	88.7	662.1	
2/3/2014	754.1		96.0	716.2		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
2/10/2014	754.7		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
2/17/2014	754.5		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
2/24/2014	754.2	0.83	96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/3/2014	754.5		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/10/2014	755.2		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/19/2014	755.9		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/25/2014	758.8		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/29/2014	760.5		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
3/31/2014	761.6	1.85	96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
4/1/2014	762.0		96.0	716.2		132.3	679.9		75.5	675.2	Dry	88.7	662.1	
4/8/2014	764.7		96.0	716.2		132.3	679.9		75.5	675.2	Dry	88.7	662.1	
4/15/2014	766.6		96.0	716.2		132.3	679.9		75.5	675.2	Dry	88.7	662.1	
4/22/2014	768.6		96.0	716.2		132.3	679.9		75.5	675.2	Dry	88.7	662.1	
4/29/2014	770.4	0.88	96.0	716.2		132.3	679.9		75.5	675.2	Dry	88.7	662.1	
5/5/2014	769.7		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
5/12/2014	769.0		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
5/19/2014	768.0		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
5/26/2014	767.1	0.00	96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
6/2/2014	766.2		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
6/9/2014	765.4		96.0	716.2		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
6/16/2014	764.3		96.1	716.1		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
6/23/2014	763.1		96.1	716.1		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
6/27/2014	762.3	0.00	96.1	716.1		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
7/7/2014	760.9		96.3	715.9		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
7/14/2014	760.0		96.3	715.9		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
7/21/2014	759.1		96.5	715.7		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
7/28/2014	757.9	0.06	96.5	715.7		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
8/4/2014	756.8		96.7	715.5		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
8/11/2014	755.6		96.7	715.5		132.6	679.6		75.5	675.2	Dry	88.7	662.1	
8/18/2014	754.7		96.4	715.8		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
8/25/2014	753.3	0.05	96.4	715.8		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
9/2/2014	751.6		96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
9/8/2014	750.5		96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
9/15/2014	749.4		96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
9/22/2014	748.3		96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
9/29/2014	747.2	0.00	96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
10/6/2014	745.7		96.5	715.7		132.7	679.5		75.5	675.2	Dry	88.7	662.1	
10/13/2014	746.7		97.7	714.5		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
10/20/2014	746.6		97.8	714.4		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
10/27/2014	745.8	0.00	98.0	714.2		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
11/3/2014	746.4		98.0	714.2		133.2	679.0		75.5	675.2	Dry	88.7	662.1	
11/10/2014	747.2		98.0	714.2		133.2	679.0		75.5	675.2	Dry	88.7	662.1	
11/17/2014	747.7		98.1	714.1		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
11/24/2014	748.8	0.61	98.1	714.1		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
12/1/2014	748.3		98.5	713.7		133.2	679.0		75.5	675.2	Dry	88.7	662.1	
12/8/2014	749.1		98.5	713.7		133.2	679.0		75.5	675.2	Dry	88.7	662.1	
12/15/2014	749.8		99.6	712.6		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
12/29/2014	750.9	5.37	100.8	711.4		133.3	678.9		75.5	675.2	Dry	88.7	662.1	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/6/2014	754.5		104.0	707.5		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
1/13/2014	755.0		104.2	707.3		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
1/20/2014	754.6		104.2	707.3		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
1/27/2014	754.3	0.00	104.2	707.3		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
2/3/2014	754.1		104.2	707.3		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
2/10/2014	754.7		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
2/17/2014	754.5		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
2/24/2014	754.2	0.83	104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/3/2014	754.5		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/10/2014	755.2		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/19/2014	755.9		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/25/2014	758.8		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/29/2014	760.5		104.8	706.7		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
3/31/2014	761.6	1.85	104.8	706.7		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
4/1/2014	762.0		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
4/8/2014	764.7		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
4/15/2014	766.6		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
4/22/2014	768.6		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
4/29/2014	770.4	0.88	104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
5/5/2014	769.7		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
5/12/2014	769.0		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
5/19/2014	768.0		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
5/26/2014	767.1	0.00	104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
6/2/2014	766.2		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
6/9/2014	765.4		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
6/16/2014	764.3		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
6/23/2014	763.1		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
6/27/2014	762.3	0.00	104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
7/7/2014	760.9		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
7/14/2014	760.0		104.3	707.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
7/21/2014	759.1		104.4	707.1		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
7/28/2014	757.9	0.06	104.4	707.1		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
8/4/2014	756.8		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
8/11/2014	755.6		104.5	707		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
8/18/2014	754.7		104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
8/25/2014	753.3	0.05	104.6	706.9		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/2/2014	751.6		104.8	706.7		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/8/2014	750.5		104.8	706.7		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/15/2014	749.4		104.8	706.7		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/22/2014	748.3		105.1	706.4		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/29/2014	747.2	0.00	105.3	706.2		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
10/6/2014	745.7		105.1	706.4		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
10/13/2014	746.7		105.5	706		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
10/20/2014	746.6		105.6	705.9		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
10/27/2014	745.8	0.00	105.7	705.8		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
11/3/2014	746.4		105.7	705.8		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
11/10/2014	747.2		105.7	705.8		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
11/17/2014	747.7		105.7	705.8		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
11/24/2014	748.8	0.61	105.9	705.6		21.6	675.9		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
12/1/2014	748.3		106.1	705.4		21.7	675.8		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
12/8/2014	749.1		106.1	705.4		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
12/15/2014	749.8		106.1	705.4		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
12/29/2014	750.9	5.37	106.3	705.2		21.5	676.0		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2015	751.3		77.5	734.0	Dry	109.2	702.3	Dry	120.2	691.3		100.0	711.9	
1/12/2015	751.8		77.5	734.0	Dry	109.2	702.3	Dry	120.3	691.2		99.9	712.0	
1/19/2015	752.3		77.5	734.0	Dry	109.2	702.3	Dry	120.3	691.2		99.9	712.0	
1/26/2015	752.6	1.48	77.5	734.0	Dry	109.2	702.3	Dry	120.3	691.2		99.9	712.0	
2/4/2015	753.1		77.5	734.0	Dry	109.2	702.3	Dry	120.2	691.3		100.0	711.9	
2/9/2015	753.3		77.5	734.0	Dry	109.2	702.3	Dry	120.3	691.2		100.0	711.9	
2/16/2015	753.8		77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
2/23/2015	753.9	0.44	77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
3/2/2015	754.5		77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
3/9/2015	755.0		77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
3/16/2015	755.3		77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
3/23/2015	755.5		77.5	734.0	Dry	109.2	702.3	Dry	120.4	691.1		100.0	711.9	
3/30/2015	755.7	0.57	77.5	734.0	Dry	109.2	702.3	Dry	120.5	691.0		100.0	711.9	
4/6/2015	755.6		77.5	734.0	Dry	109.2	702.3	Dry	120.5	691.0		100.0	711.9	
4/13/2015	755.8		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
4/20/2015	755.9		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
4/27/2015	755.9	0.20	77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
5/4/2015	755.6		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
5/11/2015	755.3		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
5/18/2015	755.2		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
5/26/2015	755.3	0.95	77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
6/1/2015	755.2		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
6/8/2015	755.1		77.5	734.0	Dry	109.2	702.3	Dry	120.6	690.9		100.0	711.9	
6/15/2015	755.2		77.5	734.0	Dry	109.2	702.3	Dry	120.7	690.8		100.0	711.9	
6/22/2015	754.8		77.5	734.0	Dry	109.2	702.3	Dry	120.8	690.7		100.0	711.9	
6/29/2015	754.2	0.00	77.5	734.0	Dry	109.2	702.3	Dry	120.8	690.7		100.0	711.9	
7/10/2015	753.3		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.0	711.9	
7/15/2015	753.0		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.0	711.9	
7/21/2015	752.8		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.0	711.9	
7/28/2015	752.4	0.00	77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.3	711.6	
8/4/2015	752.0		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.3	711.6	
8/11/2015	751.6		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.3	711.6	
8/18/2015	751.1		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.3	711.6	
8/25/2015	750.6	0.00	77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.0	711.9	
9/1/2015	749.9		77.5	734.0	Dry	109.2	702.3	Dry	120.9	690.6		100.0	711.9	
9/8/2015	749.0		77.5	734.0	Dry	109.2	702.3	Dry	121.0	690.5		100.0	711.9	
9/15/2015	748.7		77.5	734.0	Dry	109.2	702.3	Dry	121.0	690.5		100.0	711.9	
9/22/2015	748.4		77.5	734.0	Dry	109.2	702.3	Dry	121.0	690.5		100.0	711.9	
9/29/2015	748.0	2.27	77.5	734.0	Dry	109.2	702.3	Dry	121.1	690.4		100.0	711.9	
10/6/2015	747.6		77.5	733.9	Dry	109.2	702.2	Dry	121.1	690.3		100.0	711.7	
10/13/2015	747.1		77.5	733.9	Dry	109.2	702.2	Dry	121.2	690.2		100.0	711.7	
10/20/2015	746.7		77.5	733.9	Dry	109.2	702.2	Dry	121.2	690.2		100.0	711.7	
10/27/2015	746.0	0.56	77.5	733.9	Dry	109.2	702.2	Dry	121.1	690.3		100.0	711.7	
11/4/2015	745.7		77.5	733.9	Dry	109.2	702.2	Dry	121.3	690.1		100.0	711.7	
11/11/2015	745.2		77.5	733.9	Dry	109.2	702.2	Dry	121.3	690.1		100.0	711.7	
11/18/2015	744.8		77.5	733.9	Dry	109.2	702.2	Dry	121.4	690.0		99.8	711.9	
11/25/2015	744.2	0.12	77.5	733.9	Dry	109.2	702.2	Dry	121.3	690.1		100.0	711.7	
12/1/2015	743.7		77.5	733.9	Dry	109.2	702.2	Dry	121.4	690.0		100.0	711.7	
12/8/2015	743.1		77.5	733.9	Dry	109.2	702.2	Dry	121.4	690.0		100.0	711.7	
12/15/2015	742.7		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
12/22/2015	742.3		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
12/29/2015	742.1	1.29	77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2015	751.3		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
1/12/2015	751.8		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
1/19/2015	752.3		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
1/26/2015	752.6	1.48	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
2/4/2015	753.1		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
2/9/2015	753.3		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
2/16/2015	753.8		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
2/23/2015	753.9	0.44	140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
3/2/2015	754.5		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
3/9/2015	755.0		140.4	671.5		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
3/16/2015	755.3		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
3/23/2015	755.5		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
3/30/2015	755.7	0.57	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
4/6/2015	755.6		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
4/13/2015	755.8		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.8	752.4	
4/20/2015	755.9		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.8	752.4	
4/27/2015	755.9	0.20	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.8	752.4	
5/4/2015	755.6		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
5/11/2015	755.3		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
5/18/2015	755.2		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.8	752.4	
5/26/2015	755.3	0.95	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.8	752.4	
6/1/2015	755.2		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
6/8/2015	755.1		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
6/15/2015	755.2		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
6/22/2015	754.8		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
6/29/2015	754.2	0.00	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
7/10/2015	753.3		140.1	671.8		145.5	666.4		73.9	738.3	Dry	59.7	752.5	
7/15/2015	753.0		140.1	671.8		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
7/21/2015	752.8		140.4	671.5		145.0	666.9		73.9	738.3	Dry	59.7	752.5	
7/28/2015	752.4	0.00	140.7	671.2	Dry	145.2	666.7		73.9	738.3	Dry	59.7	752.5	
8/4/2015	752.0		140.7	671.2	Dry	145.2	666.7		73.9	738.3	Dry	59.7	752.5	
8/11/2015	751.6		140.3	671.6		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
8/18/2015	751.1		140.3	671.6		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
8/25/2015	750.6	0.00	140.3	671.6		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
9/1/2015	749.9		140.3	671.6		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
9/8/2015	749.0		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
9/15/2015	748.7		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
9/22/2015	748.4		140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
9/29/2015	748.0	2.27	140.2	671.7		145.2	666.7		73.9	738.3	Dry	59.7	752.5	
10/6/2015	747.6		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
10/13/2015	747.1		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
10/20/2015	746.7		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
10/27/2015	746.0	0.56	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
11/4/2015	745.7		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
11/11/2015	745.2		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
11/18/2015	744.8		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
11/25/2015	744.2	0.12	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
12/1/2015	743.7		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
12/8/2015	743.1		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
12/15/2015	742.7		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
12/22/2015	742.3		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
12/29/2015	742.1	1.29	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2015	751.3		135.7	676.5		55.7	696.4		92.0	660.1		73.9			43.9	708.5	
1/12/2015	751.8		136.2	676.0	Dry	55.7	696.4		92.0	660.1		74.0	678.4		43.9	708.5	
1/19/2015	752.3		136.2	676.0	Dry	55.7	696.4		92.0	660.1		74.0	678.4		43.9	708.5	
1/26/2015	752.6	1.48	135.8	676.4		55.7	696.4		92.0	660.1		73.9	678.5		44.1	708.3	
2/4/2015	753.1		135.7	676.5		55.7	696.4		92.0	660.1		73.9	678.5		43.9	708.5	
2/9/2015	753.3		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.2	708.2	
2/16/2015	753.8		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.3	708.1	
2/23/2015	753.9	0.44	135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.3	708.1	
3/2/2015	754.5		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.4	708.0	
3/9/2015	755.0		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.4	708.0	
3/16/2015	755.3		136.1	676.1		55.8	696.3		92.0	660.1		73.9	678.5		44.6	707.8	
3/23/2015	755.5		136.1	676.1		55.8	696.3		92.0	660.1		73.9	678.5		44.6	707.8	
3/30/2015	755.7	0.57	136.1	676.1		55.8	696.3		92.0	660.1		73.9	678.5		44.6	707.8	
4/6/2015	755.6		136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		44.6	707.8	
4/13/2015	755.8		136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		44.8	707.6	
4/20/2015	755.9		136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		44.9	707.5	
4/27/2015	755.9	0.20	136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		44.9	707.5	
5/4/2015	755.6		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.9	707.5	
5/11/2015	755.3		135.7	676.5		55.8	696.3		92.0	660.1		73.9	678.5		44.9	707.5	
5/18/2015	755.2		136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.1	707.3	
5/26/2015	755.3	0.95	136.1	676.1	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.1	707.3	
6/1/2015	755.2		136.0	676.2	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.3	707.1	
6/8/2015	755.1		136.0	676.2	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.3	707.1	
6/15/2015	755.2		136.0	676.2	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.4	707.0	
6/22/2015	754.8		136.0	676.2	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.4	707.0	
6/29/2015	754.2	0.00	136.0	676.2	Dry	55.8	696.3		92.0	660.1		73.9	678.5		45.4	707.0	
7/10/2015	753.3		136.0	676.2	Dry	65.8	686.3		92.0	660.1		73.9	678.5		37.0	715.4	
7/15/2015	753.0		136.0	676.2	Dry	67.8	684.3		92.0	660.1		73.9	678.5		37.1	715.3	
7/21/2015	752.8		136.0	676.2	Dry	69.4	682.7		92.0	660.1		73.9	678.5		37.2	715.2	
7/28/2015	752.4	0.00	136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.2	715.2	
8/4/2015	752.0		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.2	715.2	
8/11/2015	751.6		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.3	715.1	
8/18/2015	751.1		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.3	715.1	
8/25/2015	750.6	0.00	136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
9/1/2015	749.9		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
9/8/2015	749.0		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
9/15/2015	748.7		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
9/22/2015	748.4		136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
9/29/2015	748.0	2.27	136.0	676.2	Dry	69.3	682.8		92.0	660.1		73.9	678.5		37.4	715.0	
10/6/2015	747.6		136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		37.5	714.4	
10/13/2015	747.1		136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		38.0	713.9	
10/20/2015	746.7		136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		38.0	713.9	
10/27/2015	746.0	0.56	136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		38.0	713.9	
11/4/2015	745.7		136.0	676.0		69.3	685.2		92.0	662.5		73.9	678.0		38.1	713.8	
11/11/2015	745.2		136.0	676.0		69.3	685.2		92.0	662.5		73.9	678.0		38.1	713.8	
11/18/2015	744.8		136.0	676.0		69.3	685.2		92.0	662.5		73.9	678.0		38.2	713.7	
11/25/2015	744.2	0.12	136.0	676.0		69.3	685.2		92.0	662.5		73.9	678.0		38.2	713.7	
12/1/2015	743.7		136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		38.3	713.6	
12/8/2015	743.1		135.8	676.2		69.3	685.2		92.0	662.5		73.9	678.0		38.5	713.4	
12/15/2015	742.7		135.8	676.2		69.3	685.2		92.0	662.5		73.9	678.0		38.6	713.3	
12/22/2015	742.3		135.8	676.2		69.3	685.2		92.0	662.5		73.9	678.0		38.5	713.4	
12/29/2015	742.1	1.29	136.0	676.0	Dry	69.3	685.2		92.0	662.5		73.9	678.0		38.6	713.3	



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2015	751.3		100.8	711.4		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
1/12/2015	751.8		99.9	712.3		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
1/19/2015	752.3		99.9	712.3		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
1/26/2015	752.6	1.48	99.9	712.3		133.1	679.1		75.5	675.2	Dry	88.7	662.1	
2/4/2015	753.1		100.8	711.4		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
2/9/2015	753.3		100.8	711.4		133.3	678.9		75.5	675.2	Dry	88.7	662.1	
2/16/2015	753.8		100.8	711.4		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
2/23/2015	753.9	0.44	100.8	711.4		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
3/2/2015	754.5		100.9	711.3		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
3/9/2015	755.0		100.9	711.3		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
3/16/2015	755.3		101.4	710.8		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
3/23/2015	755.5		101.4	710.8		133.4	678.8		75.5	675.2	Dry	88.7	662.1	
3/30/2015	755.7	0.57	101.8	710.4		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
4/6/2015	755.6		101.8	710.4		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
4/13/2015	755.8		102.3	709.9		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
4/20/2015	755.9		102.0	710.2		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
4/27/2015	755.9	0.20	102.0	710.2		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
5/4/2015	755.6		102.7	709.5		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
5/11/2015	755.3		102.7	709.5		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
5/18/2015	755.2		103.2	709.0		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
5/26/2015	755.3	0.95	103.2	709.0		133.7	678.5		75.5	675.2	Dry	88.7	662.1	
6/1/2015	755.2		103.7	708.5		134.1	678.1		75.5	675.2	Dry	88.9	661.9	Dry
6/8/2015	755.1		103.7	708.5		134.1	678.1		75.5	675.2	Dry	88.9	661.9	Dry
6/15/2015	755.2		104.4	707.8		134.1	678.1		75.5	675.2	Dry	88.9	661.9	Dry
6/22/2015	754.8		104.4	707.8		134.1	678.1		75.5	675.2	Dry	88.9	661.9	Dry
6/29/2015	754.2	0.00	104.4	707.8		134.1	678.1		75.5	675.2	Dry	88.9	661.9	Dry
7/10/2015	753.3		105.2	707.0		134.0	678.2		75.5	675.2	Dry	88.6	662.2	
7/15/2015	753.0		105.4	706.8		134.0	678.2		75.5	675.2	Dry	88.6	662.2	
7/21/2015	752.8		105.3	706.9		134.2	678.0		75.5	675.2	Dry	88.6	662.2	
7/28/2015	752.4	0.00	105.3	706.9		134.5	677.7		75.5	675.2	Dry	88.6	662.2	
8/4/2015	752.0		105.3	706.9		134.5	677.7		75.5	675.2	Dry	88.6	662.2	
8/11/2015	751.6		105.6	706.6		134.7	677.5		75.5	675.2	Dry	88.9	661.9	
8/18/2015	751.1		105.6	706.6		134.7	677.5		75.5	675.2	Dry	88.9	661.9	
8/25/2015	750.6	0.00	105.7	706.5		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
9/1/2015	749.9		105.7	706.5		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
9/8/2015	749.0		105.7	706.5		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
9/15/2015	748.7		105.7	706.5		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
9/22/2015	748.4		106.5	705.7		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
9/29/2015	748.0	2.27	107.2	705.0		134.8	677.4		75.5	675.2	Dry	88.7	662.1	
10/6/2015	747.6		107.2	704.3		134.8	676.7		75.5	678.9	Dry	88.7	665.7	
10/13/2015	747.1		107.5	704.0		134.8	676.7		75.5	678.9	Dry	89.0	665.4	Dry
10/20/2015	746.7		107.5	704.0		134.8	676.7		75.5	678.9	Dry	89.0	665.4	Dry
10/27/2015	746.0	0.56	107.5	704.0		134.8	676.7		75.5	678.9	Dry	89.0	665.4	Dry
11/4/2015	745.7		107.5	704.0		134.8	676.7		75.5	678.9	Dry	89.0	665.4	Dry
11/11/2015	745.2		107.5	704.0		134.8	676.7		75.5	678.9	Dry	89.0	665.4	Dry
11/18/2015	744.8		107.5	704.0		134.8	676.7		75.5	678.9	Dry	88.6	665.8	
11/25/2015	744.2	0.12	107.5	704.0		134.8	676.7		75.5	678.9	Dry	88.6	665.8	
12/1/2015	743.7		110.4	701.1		135.0	676.5		75.5	678.9	Dry	88.6	665.8	
12/8/2015	743.1		110.5	701.0		135.1	676.4		75.5	678.9	Dry	88.6	665.8	
12/15/2015	742.7		111.2	700.3		135.2	676.3		75.5	678.9	Dry	88.6	665.8	
12/22/2015	742.3		111.2	700.3		135.2	676.3		75.5	678.9	Dry	88.6	665.8	
12/29/2015	742.1	1.29	110.6	700.9		135.2	676.3		75.5	678.9	Dry	89.0	665.4	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2015	751.3		106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
1/12/2015	751.8		106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
1/19/2015	752.3		106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
1/26/2015	752.6	1.48	106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
2/4/2015	753.1		106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
2/9/2015	753.3		106.3	705.2		21.5	676.0		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
2/16/2015	753.8		106.4	705.1		21.5	676.0	Dry	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
2/23/2015	753.9	0.44	106.4	705.1		21.5	676.0	Dry	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
3/2/2015	754.5		106.4	705.1		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
3/9/2015	755.0		106.4	705.1		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
3/16/2015	755.3		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
3/23/2015	755.5		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
3/30/2015	755.7	0.57	106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
4/6/2015	755.6		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
4/13/2015	755.8		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
4/20/2015	755.9		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
4/27/2015	755.9	0.20	106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
5/4/2015	755.6		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
5/11/2015	755.3		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
5/18/2015	755.2		106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
5/26/2015	755.3	0.95	106.5	705		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
6/1/2015	755.2		106.6	704.9		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
6/8/2015	755.1		106.6	704.9		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
6/15/2015	755.2		106.7	704.8		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
6/22/2015	754.8		106.7	704.8		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
6/29/2015	754.2	0.00	106.7	704.8		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
7/10/2015	753.3		106.8	704.7		21.5	676.0	Wet	39.9	659.2		40.1	660.2	Dry	42.6	664.3	Dry
7/15/2015	753.0		106.8	704.7		21.5	676.0	Wet	39.9	659.2		40.1	660.2	Dry	42.6	664.3	Dry
7/21/2015	752.8		106.8	704.7		21.5	676.0	Wet	39.9	659.2		40.1	660.2	Dry	42.6	664.3	Dry
7/28/2015	752.4	0.00	106.9	704.6		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
8/4/2015	752.0		106.9	704.6		21.5	676.0	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
8/11/2015	751.6		106.7	704.8		21.5	676.0	Wet	41.2	657.9		40.1	660.2	Dry	42.6	664.3	Dry
8/18/2015	751.1		106.7	704.8		21.5	676.0	Wet	41.2	657.9		40.1	660.2	Dry	42.6	664.3	Dry
8/25/2015	750.6	0.00	106.7	704.8		21.5	676.0	Wet	41.1	658.0		40.1	660.2	Dry	42.6	664.3	Dry
9/1/2015	749.9		107.0	704.5		21.5	676.0	Wet	41.1	658.0		40.1	660.2	Dry	42.6	664.3	Dry
9/8/2015	749.0		107.1	704.4		21.6	675.9	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
9/15/2015	748.7		107.1	704.4		21.6	675.9	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
9/22/2015	748.4		107.1	704.4		21.6	675.9	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
9/29/2015	748.0	2.27	107.1	704.4		21.6	675.9	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
10/6/2015	747.6		107.1	704.4		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
10/13/2015	747.1		107.3	704.2		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
10/20/2015	746.7		107.3	704.2		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
10/27/2015	746.0	0.56	107.3	704.2		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
11/4/2015	745.7		107.5	704.0		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
11/11/2015	745.2		107.5	704.0		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
11/18/2015	744.8		107.6	703.9		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
11/25/2015	744.2	0.12	107.5	704.0		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
12/1/2015	743.7		107.7	703.8		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
12/8/2015	743.1		107.7	703.8		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
12/15/2015	742.7		107.9	703.6		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
12/22/2015	742.3		107.9	703.6		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry
12/29/2015	742.1	1.29	108.0	703.5		21.6	678.2	Wet	41.3	657.8		40.1	660.2	Dry	42.6	664.3	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2016	741.7		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
1/12/2016	742.3		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
1/19/2016	742.0		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
1/26/2016	741.8	3.51	77.5	733.9	Dry	109.2	702.2	Dry	121.6	689.8		100.0	711.7	
2/2/2016	741.4		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
2/9/2016	741.0		77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
2/16/2016	740.5		77.5	733.9	Dry	109.2	702.2	Dry	121.6	689.8		100.0	711.7	
2/23/2016	740.2	0.35	77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
3/1/2016	739.7		77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
3/9/2016	739.4		77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
3/17/2016	739.3		77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
3/23/2016	739.1		77.5	733.9	Dry	109.2	702.2	Dry	121.8	689.6		100.0	711.7	
3/30/2016	738.5	1.59	77.5	733.9	Dry	109.2	702.2	Dry	121.8	689.6		100.0	711.7	
4/6/2016	738.0		77.5	733.9	Dry	109.2	702.2	Dry	121.8	689.6		100.0	711.7	
4/13/2016	737.6		77.5	733.9	Dry	109.2	702.2	Dry	121.9	689.5		98.0	713.7	
4/20/2016	736.9		77.5	733.9	Dry	109.2	702.2	Dry	121.9	689.5		98.0	713.7	
4/27/2016	736.2	0.07	77.5	733.9	Dry	109.2	702.2	Dry	121.9	689.5		98.0	713.7	
5/4/2016	736.9		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
5/11/2016	737.5		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
5/18/2016	737.0		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
5/25/2016	737.6	1.21	77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
6/1/2016	737.6		77.5	733.9	Dry	109.2	702.2	Dry	121.6	689.8		100.0	711.7	
6/8/2016	737.9		77.5	733.9	Dry	109.2	702.2	Dry	121.5	689.9		100.0	711.7	
6/15/2016	738.0		77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
6/23/2016	737.7		77.5	733.9	Dry	109.2	702.2	Dry	121.6	689.8		100.0	711.7	
6/29/2016	737.5	0.00	77.5	733.9	Dry	109.2	702.2	Dry	121.7	689.7		100.0	711.7	
7/6/2016	737.4		77.5	733.9	Dry	109.2	702.2	Dry	122.1	689.3		100.0	711.7	
7/15/2016	737.4		77.5	733.9	Dry	109.2	702.2	Dry	122.1	689.3		100.0	711.7	
7/20/2016	737.1		77.5	733.9	Dry	109.2	702.2	Dry	122.1	689.3		99.8	711.9	
7/27/2016	736.7	0.00	77.5	733.9	Dry	109.2	702.2	Dry	122.1	689.3		99.9	711.8	
8/3/2016	736.9		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.0	711.7	
8/10/2016	737.1		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.0	711.7	
8/17/2016	736.6		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.3	711.4	
8/24/2016	736.7		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.3	711.4	
8/30/2016	736.7	0.00	77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.3	711.4	
9/7/2016	737.3		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.3	711.4	
9/14/2016	737.9		77.5	733.9	Dry	109.2	702.2	Dry	122.4	689.0		100.1	711.6	
9/21/2016	738.8		77.5	733.9	Dry	109.2	702.2	Dry	122.4	689.0		100.1	711.6	
9/28/2016	739.6	0.00	77.5	733.9	Dry	109.2	702.2	Dry	122.4	689.0		100.1	711.6	
10/5/2016	739.5		77.5	733.9	Dry	109.2	702.2	Dry	122.3	689.1		100.1	711.6	
10/12/2016	739.2		77.5	733.9	Dry	109.2	702.2	Dry	122.5	688.9		100.1	711.6	
10/19/2016	739.3		77.5	733.9	Dry	109.2	702.2	Dry	122.5	688.9		100.1	711.6	
10/26/2016	740.0	0.89	77.5	733.9	Dry	109.2	702.2	Dry	122.5	688.9		100.1	711.6	
11/2/2016	741.8		77.5	733.9	Dry	109.2	702.2	Dry	122.5	688.9		100.1	711.6	
11/9/2016	741.8		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
11/16/2016	744.0		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
11/23/2016	747.6		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
11/29/2016	750.9	1.62	77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
12/7/2016	753.4		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
12/14/2016	753.7		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
12/21/2016	755.6		77.5	733.9	Dry	109.2	702.2	Dry	122.6	688.8		100.1	711.6	
12/28/2016	757.0	4.37	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
1/4/2017	757.5		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
1/13/2017	758.1		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
1/18/2017	758.3		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
1/25/2017	758.0	6.73	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2016	741.7		140.2	671.5		145.3	666.4		73.9	738.1	Dry	59.7	752.5	
1/12/2016	742.3		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
1/19/2016	742.0		140.2	671.5		145.3	666.4		73.9	738.1	Dry	59.7	752.5	
1/26/2016	741.8	3.51	140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
2/2/2016	741.4		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
2/9/2016	741.0		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
2/16/2016	740.5		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
2/23/2016	740.2	0.35	140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
3/1/2016	739.7		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
3/9/2016	739.4		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
3/17/2016	739.3		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
3/23/2016	739.1		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
3/30/2016	738.5	1.59	140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
4/6/2016	738.0		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
4/13/2016	737.6		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
4/20/2016	736.9		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
4/27/2016	736.2	0.07	140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
5/4/2016	736.9		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.7	752.5	
5/11/2016	737.5		140.2	671.5		145.3	666.4		73.9	738.1	Dry	59.7	752.5	
5/18/2016	737.0		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
5/25/2016	737.6	1.21	140.2	671.5		145.3	666.4		73.9	738.1	Dry	59.7	752.5	
6/1/2016	737.6		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
6/8/2016	737.9		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.7	752.5	
6/15/2016	738.0		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
6/23/2016	737.7		140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
6/29/2016	737.5	0.00	140.2	671.5		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
7/6/2016	737.4		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
7/15/2016	737.4		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
7/20/2016	737.1		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
7/27/2016	736.7	0.00	140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
8/3/2016	736.9		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
8/10/2016	737.1		140.2	671.5		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
8/17/2016	736.6		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
8/24/2016	736.7		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
8/30/2016	736.7	0.00	140.5	671.2		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
9/7/2016	737.3		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
9/14/2016	737.9		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
9/21/2016	738.8		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
9/28/2016	739.6	0.00	140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
10/5/2016	739.5		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
10/12/2016	739.2		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
10/19/2016	739.3		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
10/26/2016	740.0	0.89	140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
11/2/2016	741.8		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
11/9/2016	741.8		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
11/16/2016	744.0		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
11/23/2016	747.6		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
11/29/2016	750.9	1.62	140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
12/7/2016	753.4		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
12/14/2016	753.7		140.3	671.4		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
12/21/2016	755.6		140.0	671.7		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
12/28/2016	757.0	4.37	139.6	672.1		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
1/4/2017	757.5		139.6	672.1		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
1/13/2017	758.1		140.1	671.6		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
1/18/2017	758.3		139.6	672.1		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
1/25/2017	758.0	6.73	138.4	673.3		145.6	666.1		73.9	738.1	Dry	59.8	752.4	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
1/5/2016	741.7		135.8	676.2		69.3	685.2		92.2	662.3		73.9	678.0		38.7	713.2	
1/12/2016	742.3		135.8	676.2		69.3	685.2		92.2	662.3		73.9	678.0		38.7	713.2	
1/19/2016	742.0		135.8	676.2		69.3	685.2		92.2	662.3		73.9	678.0		38.8	713.1	
1/26/2016	741.8	3.51	136.0	676.0	Dry	69.3	685.2		92.2	662.3		73.9	678.0		39.0	712.9	
2/2/2016	741.4		136.0	676.0	Dry	69.3	685.2		92.2	662.3		73.9	678.0		39.0	712.9	
2/9/2016	741.0		136.0	676.0	Dry	69.3	685.2		92.2	662.3		73.9	678.0		39.1	712.8	
2/16/2016	740.5		136.0	676.0	Dry	69.3	685.2		92.2	662.3		73.9	678.0		39.2	712.7	
2/23/2016	740.2	0.35	135.8	676.2		69.3	685.2		92.3	662.2		74.0	677.9		39.3	712.6	
3/1/2016	739.7		135.8	676.2		69.3	685.2		92.3	662.2		74.0	677.9		39.3	712.6	
3/9/2016	739.4		135.9	676.1		69.3	685.2		92.1	662.4		74.0	677.9		39.4	712.5	
3/17/2016	739.3		135.9	676.1		69.3	685.2		92.1	662.4		74.0	677.9		39.4	712.5	
3/23/2016	739.1		136.0	676.0	Dry	69.3	685.2		92.1	662.4		74.0	677.9		39.5	712.4	
3/30/2016	738.5	1.59	136.0	676.0	Dry	69.3	685.2		92.1	662.4		74.0	677.9		39.6	712.3	
4/6/2016	738.0		136.0	676.0	Dry	69.3	685.2		92.2	662.3		74.0	677.9		39.6	712.3	
4/13/2016	737.6		136.0	676.0	Dry	69.4	685.1		92.2	662.3		74.0	677.9		39.8	712.1	
4/20/2016	736.9		136.0	676.0	Dry	69.4	685.1		92.2	662.3		74.0	677.9		39.7	712.2	
4/27/2016	736.2	0.07	136.0	676.0	Dry	69.4	685.1		92.2	662.3		74.0	677.9		39.7	712.2	
5/4/2016	736.9		137.0	675.0	Dry	69.3	685.2		92.1	662.4		73.9	678.0		38.6	713.3	
5/11/2016	737.5		138.0	674.0	Dry	69.3	685.2		92.1	662.4		73.9	678.0		38.7	713.2	
5/18/2016	737.0		139.0	673.0	Dry	69.5	685.0	Dry	92.3	662.2	Dry	73.9	678.0		38.7	713.2	
5/25/2016	737.6	1.21	135.8	676.2		69.5	685.0	Dry	92.3	662.2	Dry	73.9	678.0		38.8	713.1	
6/1/2016	737.6		135.8	676.2		69.5	685.0	Dry	92.3	662.2	Dry	73.9	678.0		39.0	712.9	
6/8/2016	737.9		135.8	676.2		69.5	685.0	Dry	92.3	662.2	Dry	73.9	678.0		39.0	712.9	
6/15/2016	738.0		135.8	676.2		69.2	685.3		92.3	662.2	Dry	73.9	678.0		39.1	712.8	
6/23/2016	737.7		135.8	676.2		69.2	685.3		92.3	662.2	Dry	73.9	678.0		39.2	712.7	
6/29/2016	737.5	0.00	135.8	676.2		69.2	685.3		92.3	662.2	Dry	74.0	677.9		39.3	712.6	
7/6/2016	737.4		135.8	676.2		69.2	685.3		92.3	662.2	Dry	73.9	678.0		40.4	711.5	
7/15/2016	737.4		136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		40.6	711.3	
7/20/2016	737.1		136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		40.8	711.1	
7/27/2016	736.7	0.00	136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		40.8	711.1	
8/3/2016	736.9		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.0	710.9	
8/10/2016	737.1		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		40.9	711.0	
8/17/2016	736.6		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.1	710.8	
8/24/2016	736.7		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.1	710.8	
8/30/2016	736.7	0.00	136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.1	710.8	
9/7/2016	737.3		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.1	710.8	
9/14/2016	737.9		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		41.8	710.1	
9/21/2016	738.8		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		42.4	709.5	
9/28/2016	739.6	0.00	136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		42.6	709.3	
10/5/2016	739.5		136.0	676.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		42.6	709.3	
10/12/2016	739.2		136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		42.9	709.0	
10/19/2016	739.3		136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		43.3	708.6	
10/26/2016	740.0	0.89	136.0	676.0	Dry	69.2	685.3		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
11/2/2016	741.8		137.0	675.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
11/9/2016	741.8		138.0	674.0	Dry	69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
11/16/2016	744.0		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
11/23/2016	747.6		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
11/29/2016	750.9	1.62	135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
12/7/2016	753.4		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		43.2	708.7	
12/14/2016	753.7		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		44.7	707.2	
12/21/2016	755.6		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		45.1	706.8	
12/28/2016	757.0	4.37	135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		45.7	706.2	
1/4/2017	757.5		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		45.7	706.2	
1/13/2017	758.1		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		46.3	705.6	
1/18/2017	758.3		135.8	676.2		69.3	685.2		92.3	662.2	Dry	73.9	678.0		46.5	705.4	
1/25/2017	758.0	6.73	135.8	676.2		69.4	685.1		91.8	662.7		73.7	678.2		46.7	705.2	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2016	741.7		111.5	700.0		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
1/12/2016	742.3		111.5	700.0		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
1/19/2016	742.0		111.5	700.0		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
1/26/2016	741.8	3.51	111.6	699.9		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
2/2/2016	741.4		111.6	699.9		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
2/9/2016	741.0		111.2	700.3		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
2/16/2016	740.5		111.3	700.2		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
2/23/2016	740.2	0.35	111.3	700.2		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
3/1/2016	739.7		111.3	700.2		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
3/9/2016	739.4		110.9	700.6		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
3/17/2016	739.3		111.0	700.5		135.4	676.1		75.5	678.9	Dry	88.6	665.8	
3/23/2016	739.1		111.0	700.5		135.4	676.1		75.5	678.9	Dry	88.8	665.6	
3/30/2016	738.5	1.59	111.0	700.5		135.4	676.1		75.5	678.9	Dry	89.0	665.4	
4/6/2016	738.0		111.3	700.2		135.4	676.1		75.5	678.9	Dry	89.0	665.4	
4/13/2016	737.6		111.5	700.0		135.4	676.1		75.5	678.9	Dry	89.0	665.4	
4/20/2016	736.9		111.4	700.1		135.4	676.1		75.5	678.9	Dry	89.0	665.4	
4/27/2016	736.2	0.07	111.4	700.1		135.4	676.1		75.5	678.9	Dry	89.0	665.4	
5/4/2016	736.9		111.3	700.2		135.2	676.3		77.5	676.9	Dry	89.0	665.4	Dry
5/11/2016	737.5		111.6	699.9		135.4	676.1		77.5	676.9	Dry	89.0	665.4	Dry
5/18/2016	737.0		112.2	699.3		135.4	676.1		77.5	676.9	Dry	89.0	665.4	Dry
5/25/2016	737.6	1.21	112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	89.0	665.4	Dry
6/1/2016	737.6		112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	89.0	665.4	Dry
6/8/2016	737.9		112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	89.0	665.4	Dry
6/15/2016	738.0		112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	88.6	665.8	
6/23/2016	737.7		112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	88.4	666.0	
6/29/2016	737.5	0.00	112.6	698.9	Dry	135.4	676.1		77.5	676.9	Dry	88.5	665.9	
7/6/2016	737.4		112.6	698.9	Dry	135.5	676.0		77.5	676.9	Dry	88.5	665.9	
7/15/2016	737.4		112.6	698.9	Dry	135.5	676.0		77.5	676.9	Dry	88.5	665.9	
7/20/2016	737.1		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	Dry
7/27/2016	736.7	0.00	112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	Dry
8/3/2016	736.9		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	88.4	666.0	
8/10/2016	737.1		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	88.4	666.0	
8/17/2016	736.6		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	Dry
8/24/2016	736.7		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	90.0	664.4	Dry
8/30/2016	736.7	0.00	112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	91.0	663.4	Dry
9/7/2016	737.3		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	
9/14/2016	737.9		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	
9/21/2016	738.8		112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	
9/28/2016	739.6	0.00	112.6	698.9	Dry	135.6	675.9		77.5	676.9	Dry	89.0	665.4	
10/5/2016	739.5		112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
10/12/2016	739.2		112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
10/19/2016	739.3		112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
10/26/2016	740.0	0.89	112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
11/2/2016	741.8		112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
11/9/2016	741.8		112.6	698.9	Dry	135.6	675.9		75.5	678.9	Dry	89.0	665.4	
11/16/2016	744.0		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	89.0	665.4	
11/23/2016	747.6		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	89.0	665.4	
11/29/2016	750.9	1.62	112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	89.0	665.4	
12/7/2016	753.4		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	89.0	665.4	
12/14/2016	753.7		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
12/21/2016	755.6		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
12/28/2016	757.0	4.37	112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
1/4/2017	757.5		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
1/13/2017	758.1		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
1/18/2017	758.3		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
1/25/2017	758.0	6.73	112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
1/5/2016	741.7		108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/12/2016	742.3		108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/19/2016	742.0		108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/26/2016	741.8	3.51	108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
2/2/2016	741.4		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
2/9/2016	741.0		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
2/16/2016	740.5		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
2/23/2016	740.2	0.35	108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
3/1/2016	739.7		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
3/9/2016	739.4		108.2	703.3		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
3/17/2016	739.3		108.2	703.3		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
3/23/2016	739.1		108.3	703.2		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
3/30/2016	738.5	1.59	108.3	703.2		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
4/6/2016	738.0		108.3	703.2		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
4/13/2016	737.6		108.4	703.1		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
4/20/2016	736.9		108.4	703.1		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
4/27/2016	736.2	0.07	108.4	703.1		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
5/4/2016	736.9		108.0	703.5		21.6	678.2		41.3	657.8	Wet	40.1	660.2	Dry	42.6	664.3	Dry
5/11/2016	737.5		108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
5/18/2016	737.0		108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
5/25/2016	737.6	1.21	108.0	703.5		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
6/1/2016	737.6		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
6/8/2016	737.9		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
6/15/2016	738.0		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
6/23/2016	737.7		108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
6/29/2016	737.5	0.00	108.1	703.4		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
7/6/2016	737.4		108.6	702.9		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
7/15/2016	737.4		108.7	702.8		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
7/20/2016	737.1		108.7	702.8		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
7/27/2016	736.7	0.00	108.7	702.8		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
8/3/2016	736.9		108.7	702.8		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
8/10/2016	737.1		108.8	702.7		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
8/17/2016	736.6		108.9	702.6		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
8/24/2016	736.7		108.9	702.6		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
8/30/2016	736.7	0.00	108.9	702.6		21.6	678.2		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
9/7/2016	737.3		108.9	702.6		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
9/14/2016	737.9		109.1	702.4		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
9/21/2016	738.8		109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
9/28/2016	739.6	0.00	109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
10/5/2016	739.5		109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
10/12/2016	739.2		109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
10/19/2016	739.3		109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
10/26/2016	740.0	0.89	109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
11/2/2016	741.8		109.1	702.4		21.7	678.1	Dry	41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
11/9/2016	741.8		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
11/16/2016	744.0		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
11/23/2016	747.6		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
11/29/2016	750.9	1.62	109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
12/7/2016	753.4		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
12/14/2016	753.7		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
12/21/2016	755.6		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
12/28/2016	757.0	4.37	109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/4/2017	757.5		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/13/2017	758.1		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/18/2017	758.3		109.2	702.3		21.5	678.3		41.3	657.8	Mud	40.1	660.2	Dry	42.6	664.3	Dry
1/25/2017	758.0	6.73	109.2	702.3		21.5	678.3		39.5	659.6		40.1	660.2	Dry	42.6	664.3	Dry

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-1 Upper			R-1 Middle			R-1 Lower			R-2 Upper		
Top Ref. Elev. (ft)			811.500			811.500			811.500			811.900		
Top Ref. Elev. (ft) After 5/21/2012			811.405			811.425			811.380			811.675		
Tip Elev. (ft)			733.405			701.425			669.880			711.675		
Total Depth (ft)			78.0			110.0			141.5			100.0		
Total Depth (ft) After 5/21/2012			78.0			110.0			141.5			100.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
2/1/2017	769.1		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
2/8/2017	769.7		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
2/15/2017	770.1		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
2/22/2017	771.8	4.17	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
3/1/2017	771.9		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
3/8/2017	771.2		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
3/15/2017	770.6		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
3/22/2017	769.6		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
3/29/2017	768.4	0.13	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
4/5/2017	769.1		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
4/12/2017	768.0		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
4/19/2017	767.9		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
4/26/2017	767.7	0.07	77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
5/1/2017	767.4		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
5/10/2017	766.5		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
5/17/2017	765.9		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
5/24/2017	765.7		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
5/30/2017	765.5	0.36	77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
6/7/2017	765.3		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
6/14/2017	765.1		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
6/21/2017	764.8		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
6/28/2017	764.7	0.05	77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
7/5/2017	764.2		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
7/12/2017	763.8		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
7/19/2017	763.2		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
7/26/2017	762.7	0.00	77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
8/2/2017	761.9		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
8/9/2017	761.6		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
8/16/2017	761.2		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
8/23/2017	760.6		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
8/30/2017	759.8	0.05	77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
9/6/2017	758.9		77.5	733.9	Dry	109.2	702.2	Dry	122.8	688.6		100.0	711.7	
9/13/2017	758.7		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
9/20/2017	758.3		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.3	711.4	
9/27/2017	757.8	0.00	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.3	711.4	
10/4/2017	757.6		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.3	711.4	
10/10/2017	757.1		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.3	711.4	
10/18/2017	756.9		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.2	711.5	
10/25/2017	756.6	0.0	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.1	711.6	
11/1/2017	755.7		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.1	711.6	
11/8/2017	755.3		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.1	711.6	
11/15/2017	755.1	0.3	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.1	711.6	
12/6/2017	754.2		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.2	711.5	
12/13/2017	753.9		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.2	711.5	
12/20/2017	753.6		77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.0	711.7	
12/27/2017	753.3	0.0	77.5	733.9	Dry	109.2	702.2	Dry	122.7	688.7		100.1	711.6	



**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-2 Middle			R-2 Lower			R-3 Upper			R-3 Middle		
Top Ref. Elev. (ft)			811.900			811.900			812.200			812.200		
Top Ref. Elev. (ft) After 5/21/2012			811.675			811.675			812.000			812.025		
Tip Elev. (ft)			670.175			654.675			737.500			690.025		
Total Depth (ft)			141.5			157.0			74.5			122.0		
Total Depth (ft) After 5/21/2012			141.5			157.0			74.5			122.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
2/1/2017	769.1		138.4	673.3		145.6	666.1		73.9	738.1	Dry	59.8	752.4	
2/8/2017	769.7		140.3	671.4		145.4	666.3		73.9	738.1	Dry	59.8	752.4	
2/15/2017	770.1		140.3	671.4		145.5	666.2		73.9	738.1	Dry	59.8	752.4	
2/22/2017	771.8	4.17	140.3	671.4		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
3/1/2017	771.9		140.3	671.4		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
3/8/2017	771.2		140.3	671.4		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
3/15/2017	770.6		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
3/22/2017	769.6		140.1	671.6		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
3/29/2017	768.4	0.13	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
4/5/2017	769.1		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
4/12/2017	768.0		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.8	752.4	
4/19/2017	767.9		140.2	671.5		145.0	666.7		73.9	738.1	Dry	59.8	752.4	
4/26/2017	767.7	0.07	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
5/1/2017	767.4		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
5/10/2017	766.5		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
5/17/2017	765.9		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
5/24/2017	765.7		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
5/30/2017	765.5	0.36	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
6/7/2017	765.3		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
6/14/2017	765.1		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
6/21/2017	764.8		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
6/28/2017	764.7	0.05	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
7/5/2017	764.2		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
7/12/2017	763.8		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
7/19/2017	763.2		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
7/26/2017	762.7	0.00	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
8/2/2017	761.9		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
8/9/2017	761.6		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
8/16/2017	761.2		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
8/23/2017	760.6		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
8/30/2017	759.8	0.05	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
9/6/2017	758.9		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.8	752.4	
9/13/2017	758.7		140.1	671.6		145.1	666.6		73.9	738.1	Dry	59.9	752.3	
9/20/2017	758.3		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.9	752.3	
9/27/2017	757.8	0.00	140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.9	752.3	
10/4/2017	757.6		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.9	752.3	
10/10/2017	757.1		140.2	671.5		145.1	666.6		73.9	738.1	Dry	59.9	752.3	
10/18/2017	756.9		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
10/25/2017	756.6	0.0	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
11/1/2017	755.7		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
11/8/2017	755.3		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
11/15/2017	755.1	0.3	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
12/6/2017	754.2		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
12/13/2017	753.9		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
12/20/2017	753.6		140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	
12/27/2017	753.3	0.0	140.2	671.5		145.2	666.5		73.9	738.1	Dry	59.9	752.3	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM

Piezometer Number			R-3 Lower			R-4 Upper			R-4 Lower			R-5 Upper			R-5 Lower		
Top Ref. Elev. (ft)			812.200			752.100			752.100			752.400			752.400		
Top Ref. Elev. (ft) After 5/21/2012			811.995			754.455			754.455			751.930			751.920		
Tip Elev. (ft)			675.995			667.100			655.600			654.430			676.920		
Total Depth (ft)			136.0			85.0			96.5			97.5			75.0		
Total Depth (ft) After 5/21/2012			136.0			87.4			98.9			97.5			75.0		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
2/1/2017	769.1		135.8	676.2		69.4	685.1		91.8	662.7		73.7	678.2		46.7	705.2	
2/8/2017	769.7		136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		47.0	704.9	
2/15/2017	770.1		136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		46.8	705.1	
2/22/2017	771.8	4.17	136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		46.7	705.2	
3/1/2017	771.9		136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		46.7	705.2	
3/8/2017	771.2		136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		46.7	705.2	
3/15/2017	770.6		136.1	675.9		69.4	685.1		91.8	662.7		74.1	677.8		47.6	704.3	
3/22/2017	769.6		136.1	675.9		69.4	685.1		91.8	662.7		74.0	677.9		48.5	703.4	
3/29/2017	768.4	0.13	136.1	675.9		69.4	685.1		91.8	662.7		73.9	678.0		48.7	703.2	
4/5/2017	769.1		136.1	675.9	Dry	69.4	685.1		91.8	662.7		73.9	678.0		48.7	703.2	
4/12/2017	768.0		135.8	676.2		69.4	685.1		91.8	662.7		73.9	678.0		48.8	703.1	
4/19/2017	767.9		135.8	676.2		69.5	685.0		92.3	662.2	Dry	73.9	678.0		49.3	702.6	
4/26/2017	767.7	0.07	135.8	676.2		69.4	685.1		92.3	662.2	Dry	73.9	678.0		49.3	702.6	
5/1/2017	767.4		135.8	676.2		69.4	685.1		92.3	662.2	Dry	73.9	678.0		49.3	702.6	
5/10/2017	766.5		135.8	676.2		69.6	684.9		92.3	662.2	Dry	73.9	678.0		49.6	702.3	
5/17/2017	765.9		135.8	676.2		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.0	701.9	
5/24/2017	765.7		135.8	676.2		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.0	701.9	
5/30/2017	765.5	0.36	135.8	676.2		69.6	684.9		92.3	662.2	Dry	73.9	678.0		49.9	702.0	
6/7/2017	765.3		135.8	676.2		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.2	701.7	
6/14/2017	765.1		136.0	676.0		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.4	701.5	
6/21/2017	764.8		136.0	676.0		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.7	701.2	
6/28/2017	764.7	0.05	136.0	676.0		69.6	684.9		92.3	662.2	Dry	73.9	678.0		50.7	701.2	
7/5/2017	764.2		136.0	676.0		69.6	684.9		92.3	662.2	Dry	73.9	678.0		51.5	700.4	
7/12/2017	763.8		136.0	676.0		69.6	684.9		91.8	662.7	Dry	73.9	678.0		51.7	700.2	
7/19/2017	763.2		136.0	676.0		69.6	684.9		91.9	662.6	Dry	73.9	678.0		51.8	700.1	
7/26/2017	762.7	0.00	136.0	676.0		69.6	684.9		91.9	662.6	Dry	73.9	678.0		51.8	700.1	
8/2/2017	761.9		136.0	676.0		69.6	684.9		91.9	662.6	Dry	73.9	678.0		51.8	700.1	
8/9/2017	761.6		136.0	676.0		69.4	685.1		91.9	662.6	Dry	73.9	678.0		51.8	700.1	
8/16/2017	761.2		136.0	676.0		69.4	685.1		91.8	662.7	Dry	73.9	678.0		52.2	699.7	
8/23/2017	760.6		136.0	676.0		69.4	685.1		91.9	662.6	Dry	73.9	678.0		52.3	699.6	
8/30/2017	759.8	0.05	136.0	676.0		69.4	685.1		91.8	662.7	Dry	73.9	678.0		52.3	699.6	
9/6/2017	758.9		136.0	676.0		69.4	685.1		91.8	662.7	Dry	73.9	678.0		52.5	699.4	
9/13/2017	758.7		136.0	676.0		69.4	685.1		91.8	662.7	Dry	74.1	677.8		52.9	699.0	
9/20/2017	758.3		136.0	676.0		69.2	685.3		91.8	662.7	Dry	74.2	677.7		53.1	698.8	
9/27/2017	757.8	0.00	136.0	676.0		69.3	685.2		91.8	662.7	Dry	74.2	677.7		53.2	698.7	
10/4/2017	757.6		136.0	676.0		69.3	685.2		91.8	662.7	Dry	74.2	677.7		53.4	698.5	
10/10/2017	757.1		136.0	676.0		69.1	685.4		92.1	662.4	Dry	74.1	677.8		53.4	698.5	
10/18/2017	756.9		136.0	676.0		68.9	685.6		92.1	662.4	Dry	74.1	677.8		53.6	698.3	
10/25/2017	756.6	0.0	136.0	676.0		69.0	685.5		92.1	662.4	Dry	74.1	677.8		53.7	698.2	
11/1/2017	755.7		137.0	675.0		69.0	685.5		92.1	662.4	Dry	74.1	677.8		53.8	698.1	
11/8/2017	755.3		135.8	676.2		69.0	685.5		92.1	662.4	Dry	74.1	677.8		54.0	697.9	
11/15/2017	755.1	0.3	135.8	676.2		69.0	685.5		92.1	662.4	Dry	74.1	677.8		54.3	697.6	
12/6/2017	754.2		136.0	676.0		69.0	685.5		92.1	662.4	Dry	74.1	677.8		54.4	697.5	
12/13/2017	753.9		136.0	676.0		69.0	685.5		92.1	662.4	Dry	74.1	677.8		54.7	697.2	
12/20/2017	753.6		135.9	676.1		69.0	685.5		92.1	662.4	Dry	74.1	677.8		54.9	697.0	
12/27/2017	753.3	0.0	135.8	676.2		69.0	685.5		92.1	662.4	Dry	74.1	677.8		55.0	696.9	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

NAVD88 DATUM														
Piezometer Number			R-6 Upper			R-6 Lower			R-7 Upper			R-7 Lower		
Top Ref. Elev. (ft)			812.200			812.200			750.700			750.800		
Top Ref. Elev. (ft) After 5/21/2012			811.520			811.510			754.355			754.370		
Tip Elev. (ft)			700.020			674.510			677.200			664.700		
Total Depth (ft)			111.5			137.0			73.5			86.1		
Total Depth (ft) After 5/21/2012			111.5			137.0			77.2			89.7		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
2/1/2017	769.1		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
2/8/2017	769.7		112.6	698.9	Dry	135.8	675.7		75.5	678.9	Dry	88.6	665.8	
2/15/2017	770.1		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
2/22/2017	771.8	4.17	112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
3/1/2017	771.9		112.6	698.9	Dry	135.7	675.8		75.5	678.9	Dry	88.6	665.8	
3/8/2017	771.2		112.6	698.9	Dry	135.8	675.7		75.5	678.9	Dry	88.6	665.8	
3/15/2017	770.6		112.3	699.2		135.9	675.6		75.5	678.9	Dry	88.6	665.8	
3/22/2017	769.6		112.6	698.9	Dry	135.9	675.6		75.5	678.9	Dry	88.6	665.8	
3/29/2017	768.4	0.13	112.6	698.9	Dry	135.9	675.6		75.5	678.9	Dry	88.6	665.8	
4/5/2017	769.1		112.6	698.9	Dry	135.9	675.6		75.5	678.9	Dry	88.6	665.8	
4/12/2017	768.0		111.9	699.6		135.9	675.6		75.5	678.9	Dry	88.6	665.8	
4/19/2017	767.9		111.8	699.7		135.9	675.6		75.5	678.9	Dry	88.6	665.8	
4/26/2017	767.7	0.07	111.9	699.6		135.9	675.6		75.5	678.9	Dry	88.6	665.8	
5/1/2017	767.4		111.9	699.6		135.9	675.6		75.5	678.9	Dry	88.6	665.8	
5/10/2017	766.5		111.6	699.9		135.6	675.9		75.5	678.9	Dry	88.6	665.8	
5/17/2017	765.9		111.5	700.0		135.6	675.9		75.5	678.9	Dry	88.9	665.5	
5/24/2017	765.7		111.5	700.0		135.6	675.9		75.5	678.9	Dry	88.9	665.5	
5/30/2017	765.5	0.36	111.5	700.0		135.6	675.9		75.5	678.9	Dry	88.9	665.5	
6/7/2017	765.3		111.5	700.0		135.6	675.9		75.5	678.9	Dry	88.9	665.5	
6/14/2017	765.1		111.4	700.1		135.6	675.9		75.5	678.9	Dry	88.9	665.5	
6/21/2017	764.8		111.4	700.1		135.7	675.8		75.5	678.9	Dry	88.9	665.5	
6/28/2017	764.7	0.05	111.1	700.4		135.7	675.8		75.5	678.9	Dry	88.9	665.5	
7/5/2017	764.2		111.1	700.4		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
7/12/2017	763.8		111.3	700.2		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
7/19/2017	763.2		111.3	700.2		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
7/26/2017	762.7	0.00	111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
8/2/2017	761.9		111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
8/9/2017	761.6		111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
8/16/2017	761.2		111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
8/23/2017	760.6		111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
8/30/2017	759.8	0.05	111.2	700.3		135.7	675.8		75.5	678.9	Dry	89.0	665.4	
9/6/2017	758.9		111.2	700.3		135.7	675.8		75.5	678.9	Dry	90.0	664.4	
9/13/2017	758.7		111.1	700.4		135.6	675.9		75.5	678.9	Dry	91.0	663.4	
9/20/2017	758.3		111.2	700.3		135.7	675.8		75.5	678.9	Dry	88.5	665.9	
9/27/2017	757.8	0.00	111.2	700.3		135.7	675.8		75.5	678.9	Dry	88.5	665.9	
10/4/2017	757.6		111.2	700.3		135.7	675.8		75.5	678.9	Dry	88.5	665.9	
10/10/2017	757.1		111.1	700.4		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
10/18/2017	756.9		111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
10/25/2017	756.6	0.0	111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
11/1/2017	755.7		111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
11/8/2017	755.3		111.0	700.5		135.6	675.9		75.5	678.9	Dry	88.8	665.6	
11/15/2017	755.1	0.3	111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
12/6/2017	754.2		111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
12/13/2017	753.9		111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
12/20/2017	753.6		111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	
12/27/2017	753.3	0.0	111.0	700.5		135.8	675.7		75.5	678.9	Dry	88.8	665.6	

**TABLE 1  
SANTIAGO CREEK DAM  
PIEZOMETER READINGS  
JANUARY 2008 THROUGH DECEMBER 2017**

**NAVD88 DATUM**

Piezometer Number			No. 1			No. 2			No. 3			No. 4			No. 5		
Top Ref. Elev. (ft)			811.500			697.500			696.000			698.000			703.500		
Top Ref. Elev. (ft) After 5/21/2012			811.510			699.835			699.090			700.345			706.935		
Tip Elev. (ft)			695.310			677.700			654.000			654.000			655.500		
Total Depth (ft)			116.2			19.8			42.0			44.0			48.0		
Total Depth (ft) After 5/21/2012			116.2			22.1			45.1			46.3			51.4		
Date	Reservoir W.S. Elev. (ft)	Monthly Rainfall (Inch)	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment	Depth to Water (ft)	W.S. Elev. (ft)	Comment
2/1/2017	769.1		109.2	702.3		21.5	678.3		39.5	659.6		40.1	660.2	Dry	42.6	664.3	Dry
2/8/2017	769.7		108.9	702.6		21.5	678.3		40.2	658.9		40.1	660.2	Dry	42.6	664.3	Dry
2/15/2017	770.1		109.0	702.5		21.5	678.3		40.0	659.1		40.1	660.2	Dry	42.6	664.3	Dry
2/22/2017	771.8	4.17	108.8	702.7		21.5	678.3		40.1	659.0		40.1	660.2	Dry	42.6	664.3	Dry
3/1/2017	771.9		108.8	702.7		21.5	678.3		40.1	659.0		40.1	660.2	Dry	42.6	664.3	Dry
3/8/2017	771.2		108.6	702.9		21.5	678.3		40.1	659.0		40.1	660.2	Dry	42.0	664.9	
3/15/2017	770.6		108.4	703.1		21.5	678.3		40.3	658.8		40.1	660.2	Dry	42.3	664.6	
3/22/2017	769.6		108.3	703.2		21.5	678.3		40.4	658.7		40.1	660.2	Dry	42.3	664.6	
3/29/2017	768.4	0.13	107.9	703.6		21.5	678.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
4/5/2017	769.1		107.9	703.6		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
4/12/2017	768.0		107.9	703.6		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
4/19/2017	767.9		107.8	703.7		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
4/26/2017	767.7	0.07	107.9	703.6		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
5/1/2017	767.4		107.9	703.6		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
5/10/2017	766.5		107.6	703.9		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
5/17/2017	765.9		107.5	704.0		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
5/24/2017	765.7		107.5	704.0		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
5/30/2017	765.5	0.36	107.5	704.0		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
6/7/2017	765.3		107.5	704.0		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
6/14/2017	765.1		107.3	704.2		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
6/21/2017	764.8		107.2	704.3		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
6/28/2017	764.7	0.05	107.1	704.4		21.0	678.8		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
7/5/2017	764.2		107.1	704.4		20.5	679.3		40.8	658.3		40.1	660.2	Dry	42.6	664.3	Dry
7/12/2017	763.8		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
7/19/2017	763.2		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
7/26/2017	762.7	0.00	107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
8/2/2017	761.9		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
8/9/2017	761.6		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
8/16/2017	761.2		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
8/23/2017	760.6		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
8/30/2017	759.8	0.05	107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
9/6/2017	758.9		107.1	704.4		20.5	679.3		40.6	658.5		40.1	660.2	Dry	42.6	664.3	Dry
9/13/2017	758.7		107.2	704.3		20.6	679.2		40.7	658.4		40.1	660.2	Dry	42.6	664.3	Dry
9/20/2017	758.3		107.2	704.3		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
9/27/2017	757.8	0.00	107.2	704.3		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
10/4/2017	757.6		107.1	704.4		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
10/10/2017	757.1		107.2	704.3		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
10/18/2017	756.9		107.3	704.2		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
10/25/2017	756.6	0.0	107.0	704.5		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
11/1/2017	755.7		107.4	704.1		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
11/8/2017	755.3		107.5	704.0		20.3	679.5		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
11/15/2017	755.1	0.3	107.5	704.0		20.3	679.5		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
12/6/2017	754.2		107.2	704.3		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
12/13/2017	753.9		107.8	703.7		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
12/20/2017	753.6		107.9	703.6		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry
12/27/2017	753.3	0.0	107.9	703.6		20.6	679.2		40.6	658.5	mud	40.1	660.2	Dry	42.6	664.3	Dry

**TABLE 2**  
**SANTIAGO CREEK DAM**  
**ELEVATIONS OF BENCHMARK BM-0 AND**  
**SURVEY MONUMENTS BM-1, BM-2, BM-3, BM-4 AND BM-5**  
**1989 THROUGH 2016**

**NAVD88 Datum**

<b>Date</b>	<b>BM-0 (ft)</b>	<b>BM-1 (ft)</b>	<b>BM-2 (ft)</b>	<b>BM-3 (ft)</b>	<b>BM-4 (ft)</b>	<b>BM-5 (ft)</b>
12/21/1989	830.540	811.923	811.768	811.620	815.450	815.610
10/11/1990	830.538	811.923	811.748	811.613	815.455	815.620
7/26/1991	830.535	811.918	811.743	811.613	815.458	815.625
12/20/1991	830.540	811.918	811.745	811.615	815.450	815.620
8/4/1992	830.535	811.913	811.750	811.613	815.440	815.610
1/14/1993	830.545	811.913	811.747	811.623	815.445	815.620
9/15/1993	830.535	811.888	811.728	811.600	815.420	815.600
1/7/1994	830.540	811.890	811.730	811.600	815.418	815.600
7/28/1994	830.538	811.893	811.730	811.600	815.415	815.595
2/6/1995	830.543	811.898	811.730	811.600	815.408	815.590
6/26/1996	830.538	811.893	811.733	811.600	815.405	815.595
1/24/1997	830.543	811.905	811.750	811.615	815.403	815.595
1/24/1997	830.543	811.905	811.750	811.615	815.403	815.595
1/16/1998	830.540	811.900	811.748	811.610	815.405	815.600
1/20/1999	830.540	811.890	811.738	811.608	815.395	815.600
3/14/2000	830.540	811.897	811.740	811.610	815.395	815.600
1/31/2002	830.540	811.900	811.745	811.610	815.395	815.605
8/27/2003	830.540	811.890	811.730	811.590	815.400	815.605
8/2/2004	830.540	811.900	811.750	811.605	815.405	815.610
2/7/2005	830.540	811.900	811.745	811.615	815.410	815.620
3/1/2006	830.540	811.900	811.745	811.610	815.400	815.615
1/9/2007	830.540	811.900	811.750	811.610	815.395	815.610
6/5/2008	830.540	811.900	811.745	811.610	815.390	815.610
6/15/2009	830.540	811.905	811.750	811.620	815.400	815.630
5/20/2010	830.540	811.885	811.730	811.600	815.390	815.610
5/12/2011	530.540	811.895	811.740	811.610	815.400	815.625
5/21/2012	830.540	811.900	811.740	811.615	815.400	815.630
6/12/2013	830.540	811.895	811.740	811.600	815.390	815.620
4/22/2014	830.540	811.895	811.740	811.600	815.385	815.615
6/5/2015	830.540	811.900	811.740	811.600	815.380	815.610
7/26/2016	830.540	811.905	811.745	811.605	815.390	815.620

**TABLE 3  
SANTIAGO CREEK DAM  
NET HORIZONTAL DISPLACEMENTS OF SURVEY MONUMENTS  
BM-1, BM-2, BM-3, BM-4, AND BM-5  
IN THE NORTH-SOUTH AND EAST-WEST DIRECTIONS  
1994 THROUGH 2016**

Date	Horizontal Displacement Measured in Feet and Inches.													
	BM-0		BM-1						BM-2					
	Northing	Easting	Northing	N(+)/S(-) Feet	N(+)/S(-) Inches	Easting	E(+)/W(-) Feet	E(+)/W(-) Inches	Northing	N(+)/S(-) Feet	N(+)/S(-) Inches	Easting	E(+)/W(-) Feet	E(+)/W(-) Inches
1/7/1994	4875.1482	4987.4599	5251.5595	0.0000	0.0000	4711.7814	0.0000	0.0000	5544.9316	0.0000	0.0000	4597.1356	0.0000	0.0000
7/28/1994	4875.1390	4987.4510	5251.5558	-0.0037	-0.0444	4711.7914	0.0100	0.1200	5544.9194	-0.0122	-0.1464	4597.1528	0.0172	0.2064
2/6/1995	4875.1388	4987.4534	5251.5540	-0.0055	-0.0660	4711.7765	-0.0049	-0.0588	5544.9218	-0.0098	-0.1176	4597.1224	-0.0132	-0.1584
6/26/1996	4875.1390	4987.4510	5251.5581	-0.0014	-0.0168	4711.7802	-0.0012	-0.0144	5544.9177	-0.0139	-0.1668	4597.1336	-0.0020	-0.0240
1/24/1997	4875.1393	4987.4480	5251.5817	0.0222	0.2664	4711.7476	-0.0338	-0.4056	5544.9240	-0.0076	-0.0912	4597.1085	-0.0271	-0.3252
1/24/1997	4875.1393	4987.4480	5251.5817	0.0222	0.2664	4711.7476	-0.0338	-0.4056	5544.9294	-0.0022	-0.0264	4597.1085	-0.0271	-0.3252
1/16/1998	4875.1339	4987.4523	5251.5756	0.0161	0.1932	4711.7490	-0.0324	-0.3888	5544.9179	-0.0137	-0.1644	4597.1171	-0.0185	-0.2220
1/20/1999	4875.1345	4987.4664	5251.5644	0.0049	0.0588	4711.7618	-0.0196	-0.2352	5544.9046	-0.0270	-0.3240	4597.1310	-0.0046	-0.0552
3/14/2000	4875.1354	4987.4672	5251.5552	-0.0043	-0.0516	4711.7949	0.0135	0.1620	5544.9129	-0.0187	-0.2244	4597.1372	0.0016	0.0192
1/31/2002	4875.1402	4987.4591	5251.5637	0.0042	0.0504	4711.7851	0.0037	0.0444	5544.9277	-0.0039	-0.0468	4597.1303	-0.0053	-0.0636
8/27/2003	4875.1394	4987.4669	5251.5584	-0.0011	-0.0132	4711.8109	0.0295	0.3540	5544.9063	-0.0253	-0.3036	4597.1502	0.0146	0.1752
8/2/2004	4875.1505	4987.4668	5251.5631	0.0036	0.0432	4711.8084	0.0270	0.3240	5544.9111	-0.0205	-0.2460	4597.1466	0.0110	0.1320
2/7/2005	4875.1387	4987.4644	5251.5589	-0.0006	-0.0072	4711.8047	0.0233	0.2796	5544.9131	-0.0185	-0.2220	4597.1493	0.0137	0.1644
3/1/2006	4875.1408	4987.4438	5251.5682	0.0087	0.1044	4711.7969	0.0155	0.1860	5544.9260	-0.0056	-0.0672	4597.1397	0.0041	0.0492
1/9/2007	4875.1424	4987.4575	5251.5562	-0.0033	-0.0396	4711.8050	0.0236	0.2832	5544.9198	-0.0118	-0.1416	4597.1566	0.0210	0.2520
6/5/2008	4875.1551	4987.4612	5251.5571	-0.0024	-0.0288	4711.8124	0.0310	0.3720	5544.9157	-0.0159	-0.1908	4597.1596	0.0240	0.2880
6/15/2009	4875.1524	4987.4579	5251.5663	0.0068	0.0816	4711.8019	0.0205	0.2460	5544.9262	-0.0054	-0.0648	4597.1518	0.0162	0.1944
5/20/2010	4875.1519	4987.4627	5251.5630	0.0035	0.0420	4711.8057	0.0243	0.2916	5544.9190	-0.0126	-0.1512	4597.1572	0.0216	0.2592
5/12/2011	4875.1504	4987.4583	5251.5628	0.0033	0.0396	4711.8002	0.0188	0.2256	5544.9210	-0.0106	-0.1272	4597.1516	0.0160	0.1920
5/21/2012	4875.1476	4987.4561	5251.5614	0.0019	0.0228	4711.7990	0.0176	0.2112	5544.9194	-0.0122	-0.1464	4597.1528	0.0172	0.2064
6/12/2013	4875.1484	4987.4575	5251.5621	0.0026	0.0312	4711.7982	0.0168	0.2016	5544.9214	-0.0102	-0.1224	4597.1554	0.0198	0.2376
4/22/2014	4875.1527	7987.4554	5251.5636	0.0041	0.0492	4711.8022	0.0208	0.2496	5544.9230	-0.0086	-0.1032	4597.1542	0.0186	0.2232
6/5/2015	4875.1513	4987.4590	5251.5720	0.0125	0.1500	4711.8095	0.0281	0.3372	5544.9284	-0.0032	-0.0384	4597.1666	0.0310	0.3720
7/26/2016	4875.1543	4987.4587	5251.5631	0.0036	0.0432	4711.8084	0.0270	0.3240	5544.9185	-0.0131	-0.1572	4597.1616	0.0260	0.3120

**TABLE 3  
SANTIAGO CREEK DAM  
NET HORIZONTAL DISPLACEMENTS OF SURVEY MONUMENTS  
BM-1, BM-2, BM-3, BM-4, AND BM-5  
IN THE NORTH-SOUTH AND EAST-WEST DIRECTIONS  
1994 THROUGH 2016**

Date	Horizontal Displacement Measured in Feet and Inches.											
	BM-3						BM-4					
	Northing	N(+)/S(-) Feet	N(+)/S(-) Inches	Easting	E(+)/W(-) Feet	E(+)/W(-) Inches	Northing	N(+)/S(-) Feet	N(+)/S(-) Inches	Easting	E(+)/W(-) Feet	E(+)/W(-) Inches
1/7/1994	5892.2253	0.0000	0.0000	4555.7198	0.0000	0.0000	6204.5658	0.0000	0.0000	4455.1964	0.0000	0.0000
7/28/1994	5892.2209	-0.0044	-0.0528	4555.7112	-0.0086	-0.1032	6204.5514	-0.0144	-0.1728	4455.1889	-0.0075	-0.0900
2/6/1995	5892.2256	0.0003	0.0036	4555.6981	-0.0217	-0.2604	6204.5291	-0.0367	-0.4404	4455.1638	-0.0326	-0.3912
6/26/1996	5892.2141	-0.0112	-0.1344	4555.7200	0.0002	0.0024	6204.5174	-0.0484	-0.5808	4455.1621	-0.0343	-0.4116
1/24/1997	5892.2387	0.0134	0.1608	4555.7132	-0.0066	-0.0792	6204.5356	-0.0302	-0.3624	4455.1538	-0.0426	-0.5112
1/24/1997	5892.2387	0.0134	0.1608	4555.7132	-0.0066	-0.0792	6204.5356	-0.0302	-0.3624	4455.1538	-0.0426	-0.5112
1/16/1998	5892.2410	0.0157	0.1884	4555.7066	-0.0132	-0.1584	6204.5212	-0.0446	-0.5352	4455.1463	-0.0501	-0.6012
1/20/1999	5892.2111	-0.0142	-0.1704	4555.7161	-0.0037	-0.0444	6204.5203	-0.0455	-0.5460	4455.1467	-0.0497	-0.5964
3/14/2000	5892.2303	0.0050	0.0600	4555.7389	0.0191	0.2292	6204.5075	-0.0583	-0.6996	4455.1524	-0.0440	-0.5280
1/31/2002	5892.2329	0.0076	0.0912	4555.7106	-0.0092	-0.1104	6204.5311	-0.0347	-0.4164	4455.1488	-0.0476	-0.5712
8/27/2003	5892.2102	-0.0151	-0.1812	4555.7435	0.0237	0.2844	6204.5134	-0.0524	-0.6288	4455.1849	-0.0115	-0.1380
8/2/2004	5892.2122	-0.0131	-0.1572	4555.7318	0.0120	0.1440	6204.5130	-0.0528	-0.6336	4455.1816	-0.0148	-0.1776
2/7/2005	5892.2154	-0.0099	-0.1188	4555.7248	0.0050	0.0600	6204.5365	-0.0293	-0.3516	4455.1534	-0.0430	-0.5160
3/1/2006	5892.2254	0.0001	0.0012	4555.7090	-0.0108	-0.1296	6204.5365	-0.0293	-0.3516	4455.1534	-0.0430	-0.5160
1/9/2007	5892.2124	-0.0129	-0.1548	4555.7209	0.0011	0.0132	6204.5121	-0.0537	-0.6444	4455.1504	-0.0460	-0.5520
6/5/2008	5892.2125	-0.0128	-0.1536	4555.7356	0.0158	0.1896	6204.5228	-0.0430	-0.5160	4455.1596	-0.0368	-0.4416
6/15/2009	5892.2202	-0.0051	-0.0612	4555.7277	0.0079	0.0948	6204.5290	-0.0368	-0.4416	4455.1709	-0.0255	-0.3060
5/20/2010	5892.2201	-0.0052	-0.0624	4555.7386	0.0188	0.2256	6204.5391	-0.0267	-0.3204	4455.1593	-0.0371	-0.4452
5/12/2011	5892.2240	-0.0013	-0.0156	4555.7421	0.0223	0.2676	6204.5347	-0.0311	-0.3732	4455.1542	-0.0422	-0.5064
5/21/2012	5892.2197	-0.0056	-0.0672	4555.7334	0.0136	0.1632	6204.5292	-0.0366	-0.4392	4455.1567	-0.0397	-0.4764
6/12/2013	5892.2255	0.0002	0.0024	4555.7359	0.0161	0.1932	6204.5183	-0.0475	-0.5700	4455.1617	-0.0347	-0.4164
4/22/2014	5892.2344	0.0091	0.1092	4555.7315	0.0117	0.1404	6204.5274	-0.0384	-0.4608	4455.1575	-0.0389	-0.4668
6/5/2015	5892.2373	0.0120	0.1440	4555.7462	0.0264	0.3168	6204.5346	-0.0312	-0.3744	4455.1613	-0.0351	-0.4212
7/26/2016	5892.2263	0.0010	0.0120	4555.7355	0.0157	0.1884	6204.5103	-0.0555	-0.6660	4455.1512	-0.0452	-0.5424

**TABLE 3  
SANTIAGO CREEK DAM  
NET HORIZONTAL DISPLACEMENTS OF SURVEY MONUMENTS  
BM-1, BM-2, BM-3, BM-4, AND BM-5  
IN THE NORTH-SOUTH AND EAST-WEST DIRECTIONS  
1994 THROUGH 2016**

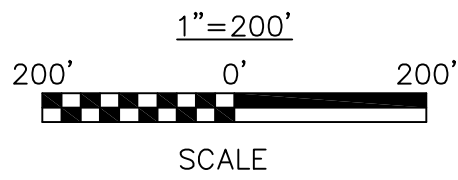
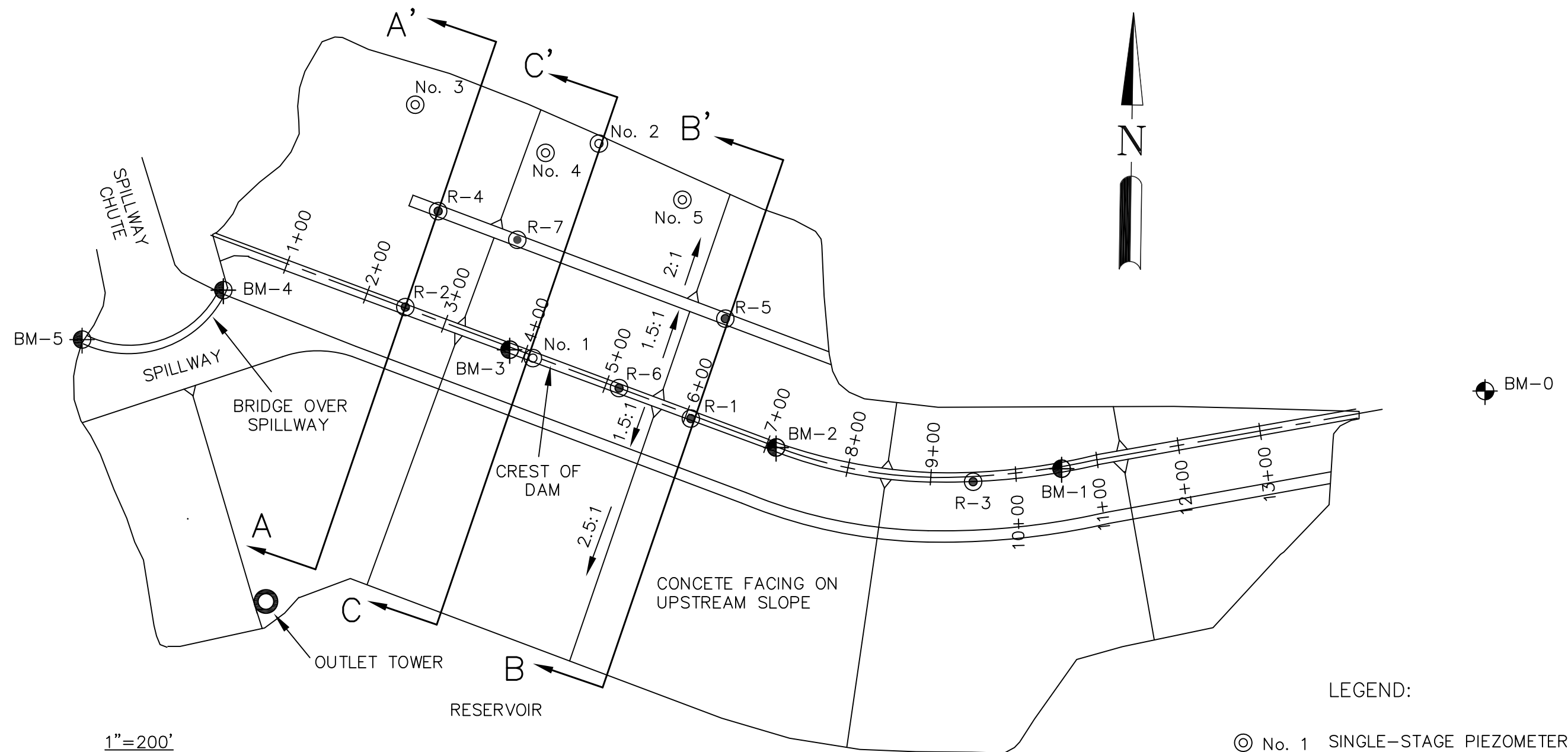
Date	Horizontal Displacement Measured in Feet and Inches.					
	BM-5					
	Northing	N(+)/S(-) Feet	N(+)/S(-) Inches	Easting	E(+)/W(-) Feet	E(+)/W(-) Inches
1/7/1994	6327.7984	0.0000	0.0000	4332.9289	0.0000	0.0000
7/28/1994	6327.7932	-0.0052	-0.0624	4332.9073	-0.0216	-0.2592
2/6/1995	6327.7972	-0.0012	-0.0144	4332.9375	0.0086	0.1032
6/26/1996	6327.8029	0.0045	0.0540	4332.9266	-0.0023	-0.0276
1/24/1997	6327.8061	0.0077	0.0924	4332.9330	0.0041	0.0492
1/24/1997	6327.8061	0.0077	0.0924	4332.9330	0.0041	0.0492
1/16/1998	6327.7838	-0.0146	-0.1752	4332.9443	0.0154	0.1848
1/20/1999	6327.7642	-0.0342	-0.4104	4332.8896	-0.0393	-0.4716
3/14/2000	6327.7638	-0.0346	-0.4152	4332.8979	-0.0310	-0.3720
1/31/2002	6327.7805	-0.0179	-0.2148	4332.9378	0.0089	0.1068
8/27/2003	6327.7616	-0.0368	-0.4416	4332.9312	0.0023	0.0276
8/2/2004	6327.7582	-0.0402	-0.4824	4332.9289	0.0000	0.0000
2/7/2005	6327.7694	-0.0290	-0.3480	4332.9112	-0.0177	-0.2124
3/1/2006	6327.7579	-0.0405	-0.4860	4332.8928	-0.0361	-0.4332
1/9/2007	6327.7420	-0.0564	-0.6768	4332.9169	-0.0120	-0.1440
6/5/2008	6327.7445	-0.0539	-0.6468	4332.8995	-0.0294	-0.3528
6/15/2009	6327.7592	-0.0392	-0.4704	4332.9244	-0.0045	-0.0540
5/20/2010	6327.7667	-0.0317	-0.3804	4332.9125	-0.0164	-0.1968
5/12/2011	6327.7631	-0.0353	-0.4236	4332.9143	-0.0146	-0.1752
5/21/2012	6327.7599	-0.0385	-0.4620	4332.9079	-0.0210	-0.2520
6/12/2013	6327.7438	-0.0546	-0.6552	4332.9160	-0.0129	-0.1548
4/22/2014	6327.7409	-0.0575	-0.6900	4332.9013	-0.0276	-0.3312
6/5/2015	6327.7515	-0.0469	-0.5628	4332.9202	-0.0087	-0.1044
7/26/2016	6327.7394	-0.0590	-0.7080	4332.9182	-0.0107	-0.1284



**ANNUAL SURVEILLANCE REPORT  
JANUARY 2017 THROUGH DECEMBER 2017  
SANTIAGO CREEK DAM, DSOD DAM NO. 75-000**

**FIGURES**

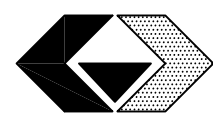
G:\PROJECTS 300-399\397-IRW-DamSafety-50dams\_2016-2018\Drawings\2017\397E-IRW-Figure 1A\_2017\_Plan.dwg



LEGEND:

- ⊙ No. 1 SINGLE-STAGE PIEZOMETER
- ⊙ R-2 MULTI-STAGE PIEZOMETER
- ⊙ BM-0 BENCHMARK
- ⊙ BM-5 SURVEY MONUMENT

NOTE: SECTIONS A-A', B-B' AND C-C' ARE SHOWN ON FIGURES 1B, 1C AND 1D RESPECTIVELY.

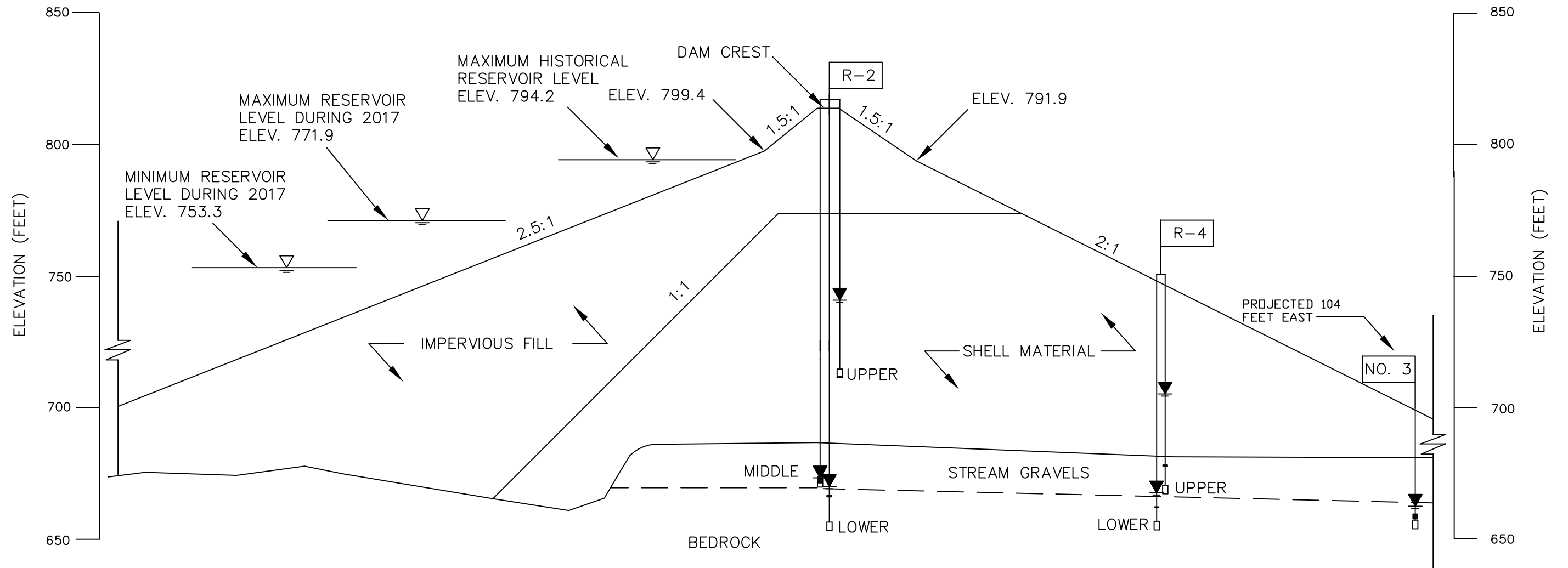


**GENTERRA**  
CONSULTANTS, INC.  
Engineering & Geotechnical Services  
Irvine, California

SANTIAGO CREEK DAM

SITE AND INSTRUMENTATION PLAN		
PROJECT NO.	DATE	FIGURE
397E-IRW	NOVEMBER 2018	1A

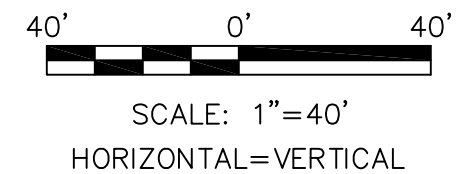
G:\PROJECTS 300-399\397-IRW-DamSafety-50dms\_2016-2018\Drawings\2017\397E-IRW-Figure 1B\_2017\_Section AA.dwg



**LEGEND:**

- R-4    PIEZOMETER NUMBER
- SURFACE OF DAM
- ▼    MAXIMUM HISTORICAL LEVEL (SINCE JAN. 1998)
- HIGH
- LOW
- RANGE OF MEASURED LEVELS IN PIEZOMETER DURING REVIEW PERIOD (12 MONTHS)
- PIEZOMETER TIP
- ▽    RESERVOIR WATER SURFACE

**SECTION A-A'**  
**MAXIMUM SECTION**  
 (APPROX. STA. 2+50)

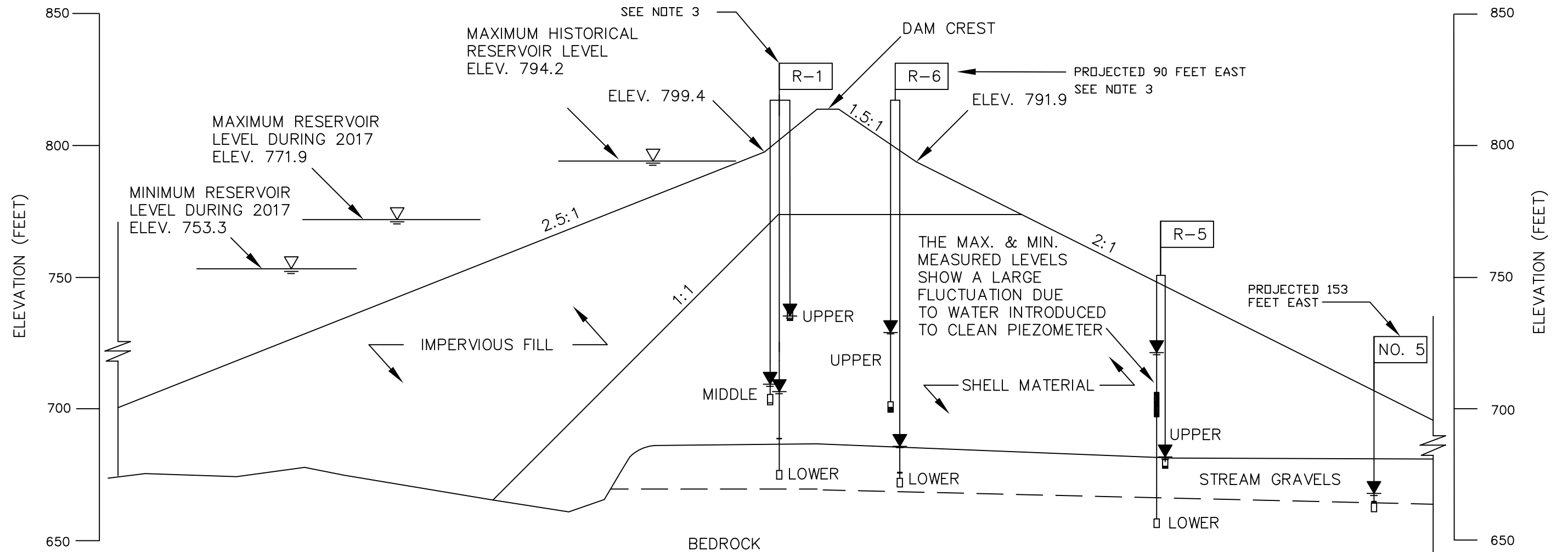


**NOTES:**

1. QUESTIONABLE READINGS ARE NOT SHOWN
2. LOCATION OF SECTION IS SHOWN ON FIGURE 1A

 <b>Irvine Ranch</b> <small>WATER DISTRICT</small>	 <b>GENTERRA</b> <small>CONSULTANTS, INC.</small> <small>Engineering &amp; Geotechnical Services</small> <small>Irvine, California</small>	<b>SANTIAGO CREEK DAM</b>	<b>SECTION A-A'</b>		
			PROJECT NO.	DATE	FIGURE
			397E-IRW	NOVEMBER 2018	1B

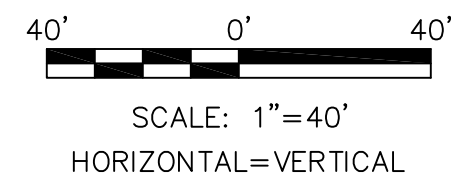
G:\PROJECTS 300-399\397-IRW-DamSafety-5Dams\_2016-2018\Drawings\2017\397E-IRW-SantiagoCkDam\_2017\Figure 1C\_2017\_Section BB.dwg



LEGEND:

- R-6 PIEZOMETER NUMBER
- SURFACE OF DAM
- MAXIMUM HISTORICAL LEVEL (SINCE JAN. 1998)
- RANGE OF MEASURED LEVELS IN PIEZOMETER DURING REVIEW PERIOD (12 MONTHS)
- PIEZOMETER TIP
- RESERVOIR WATER SURFACE

SECTION B-B'  
(APPROX. STA. 6+00)



NOTES:

1. QUESTIONABLE READINGS ARE NOT SHOWN
2. LOCATION OF SECTION IS SHOWN ON FIGURE 1A
3. PIEZOMETERS R-1 AND R-6 ALIGN HORIZONTALLY WITH THE CENTER OF THE DAM CREST AND HAVE BEEN DISPLACED FOR PRESENTATION PURPOSES



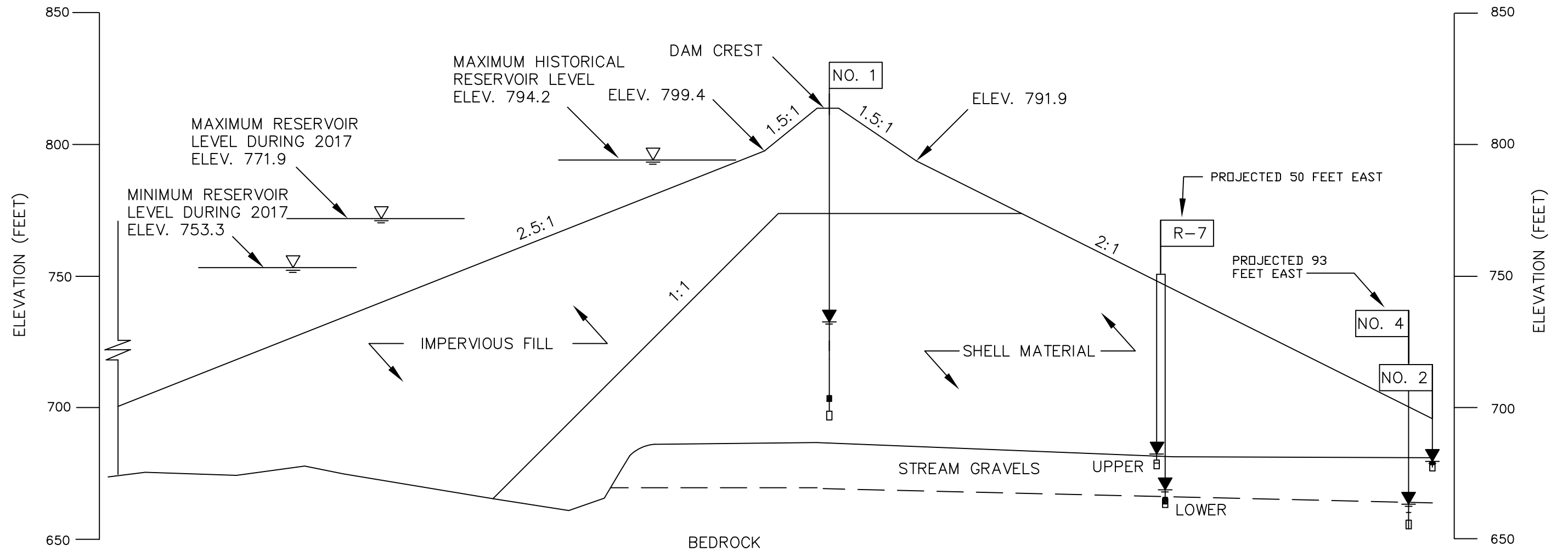
**GENTERRA**  
CONSULTANTS, INC.  
Engineering & Environmental Services  
Irvine, California

SANTIAGO CREEK DAM

SECTION B-B'

PROJECT NO.	DATE	FIGURE
397E-IRW	NOVEMBER 2018	1C

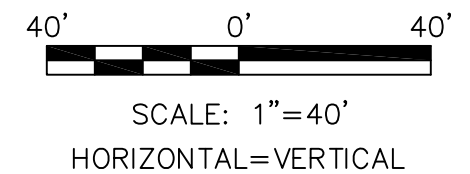
G:\PROJECTS 300-399\397-IRW-DamSafety-50dams\_2016-2018\397E-IRW-SantiagoCkDam\_2016-2018\Drawings\2017\397E-IRW-Figure 1D\_2017\_Section CC.dwg



LEGEND:

- R-7 ———— PIEZOMETER NUMBER
- SURFACE OF DAM
- ▼ ———— MAXIMUM HISTORICAL LEVEL (SINCE JAN. 1998)
- HIGH ———— RANGE OF MEASURED LEVELS IN
- LOW ———— PIEZOMETER DURING
- REVIEW PERIOD (12 MONTHS)
- ———— PIEZOMETER TIP
- ▽ ———— RESERVOIR WATER SURFACE

SECTION C-C'  
(APPROX. STA. 4+00)

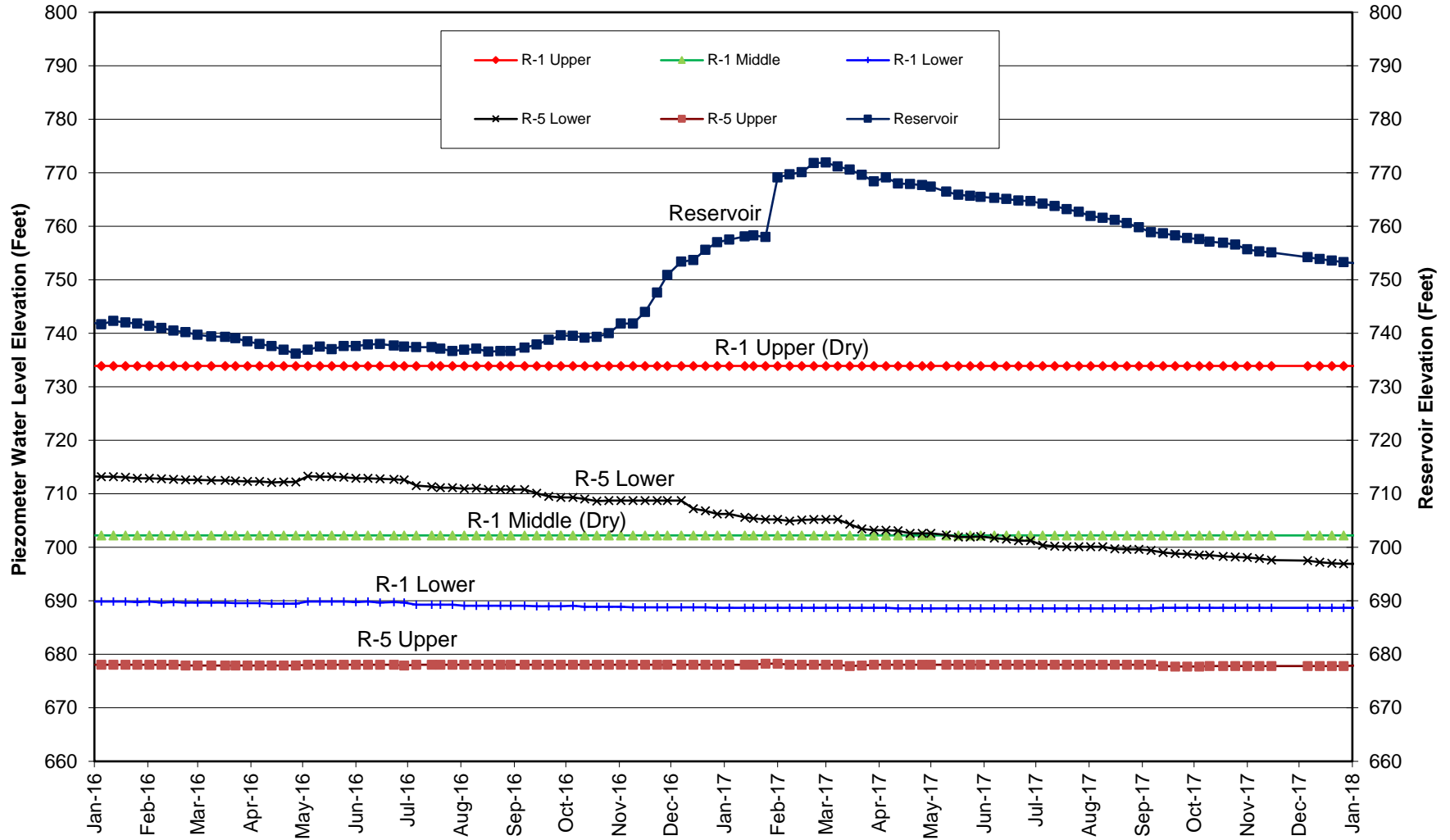


NOTES:

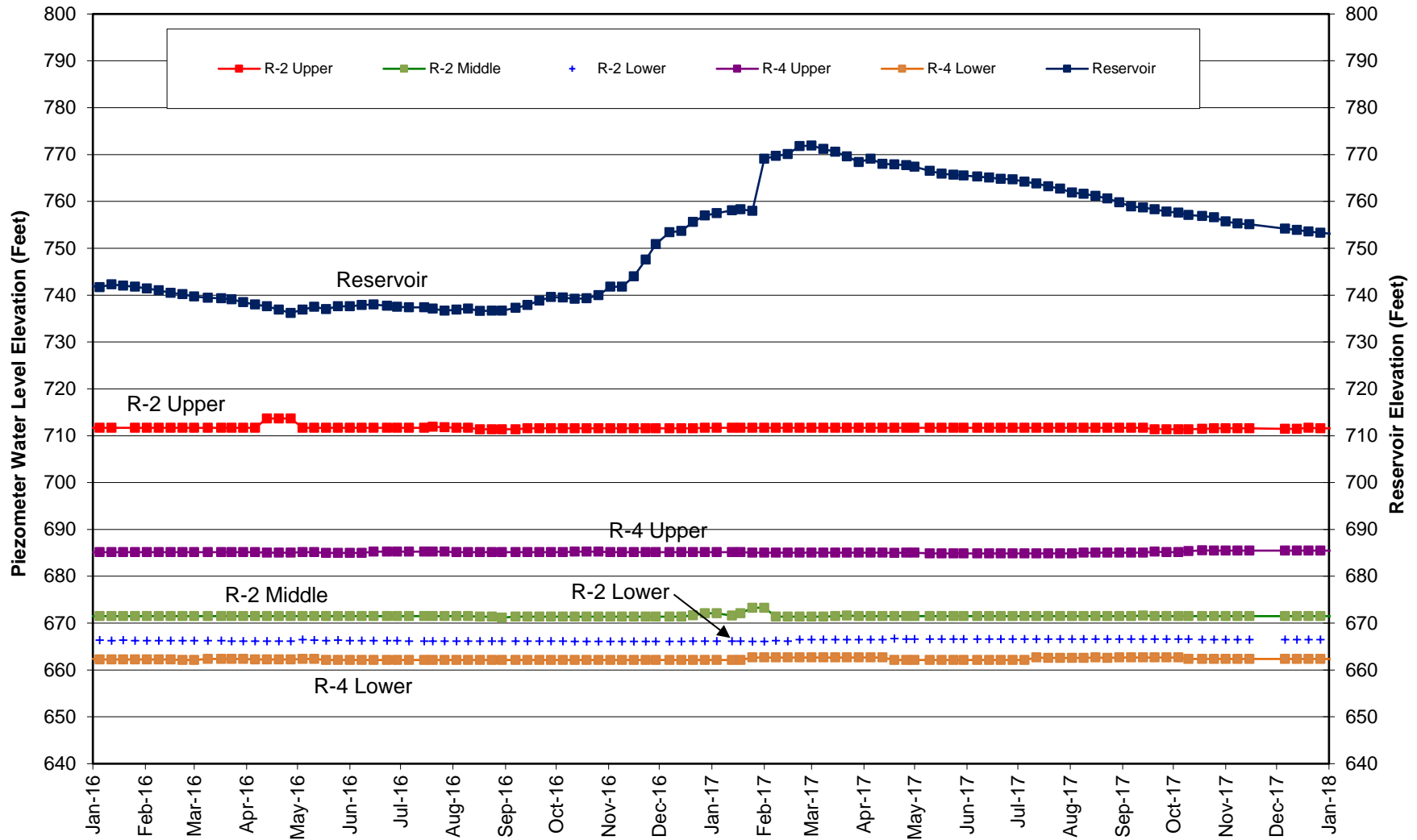
1. QUESTIONABLE READINGS ARE NOT SHOWN
2. LOCATION OF SECTION IS SHOWN ON FIGURE 1A

	 <p><b>GENTERRA</b> CONSULTANTS, INC. <i>Engineering &amp; Geotechnical Services</i> Irvine, California</p>	<p>SANTIAGO CREEK DAM</p>	SECTION C-C'		
			PROJECT NO.	DATE	FIGURE
			397E-IRW	NOVEMBER 2018	1D

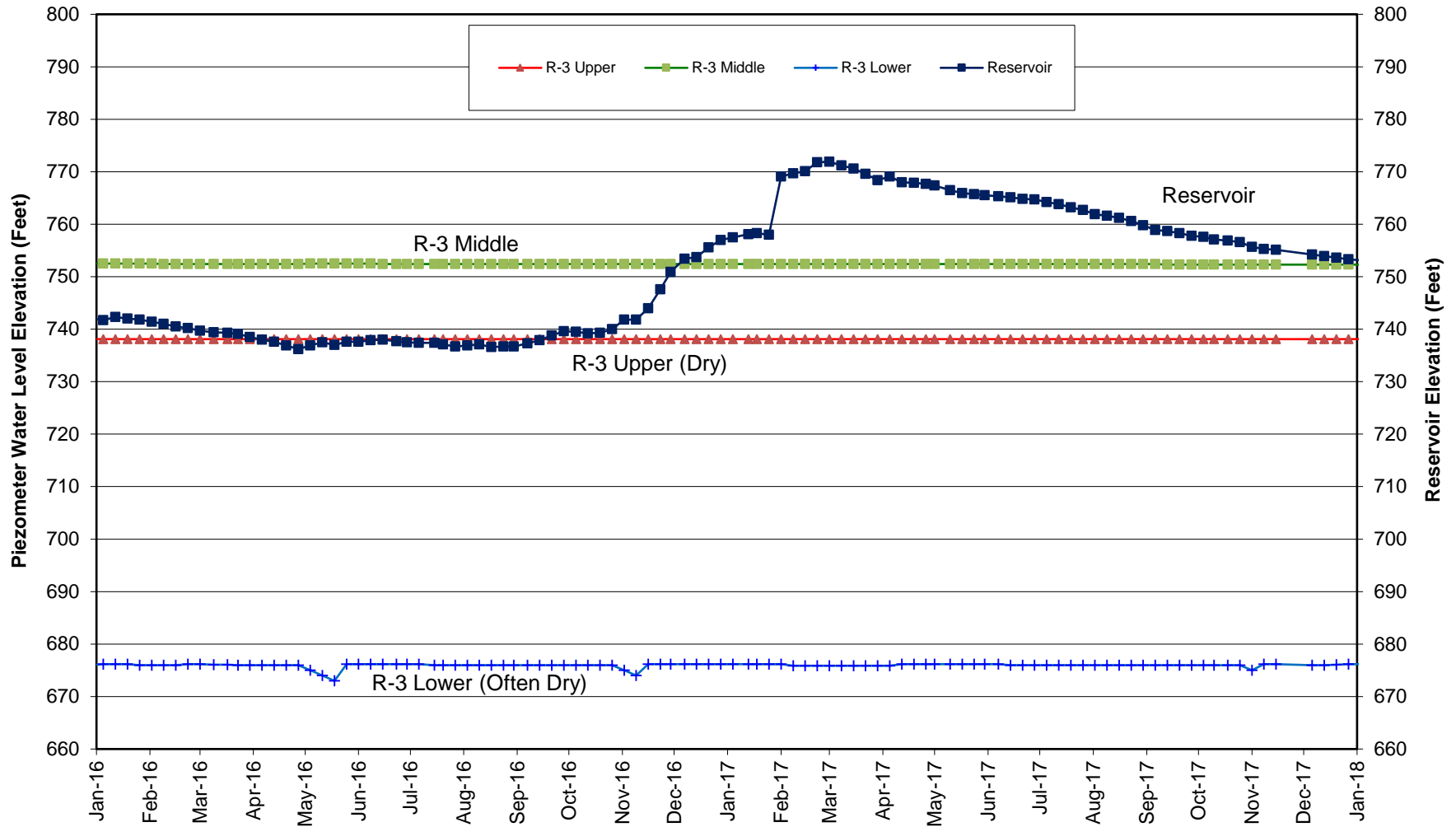
### SANTIAGO CREEK DAM 2-YR PIEZOMETER LEVELS PIEZOMETERS R-1 AND R-5 JANUARY 2016 THROUGH DECEMBER 2017



### SANTIAGO CREEK DAM 2-YR PIEZOMETER LEVELS PIEZOMETERS R-2 AND R-4 JANUARY 2016 THROUGH DECEMBER 2017

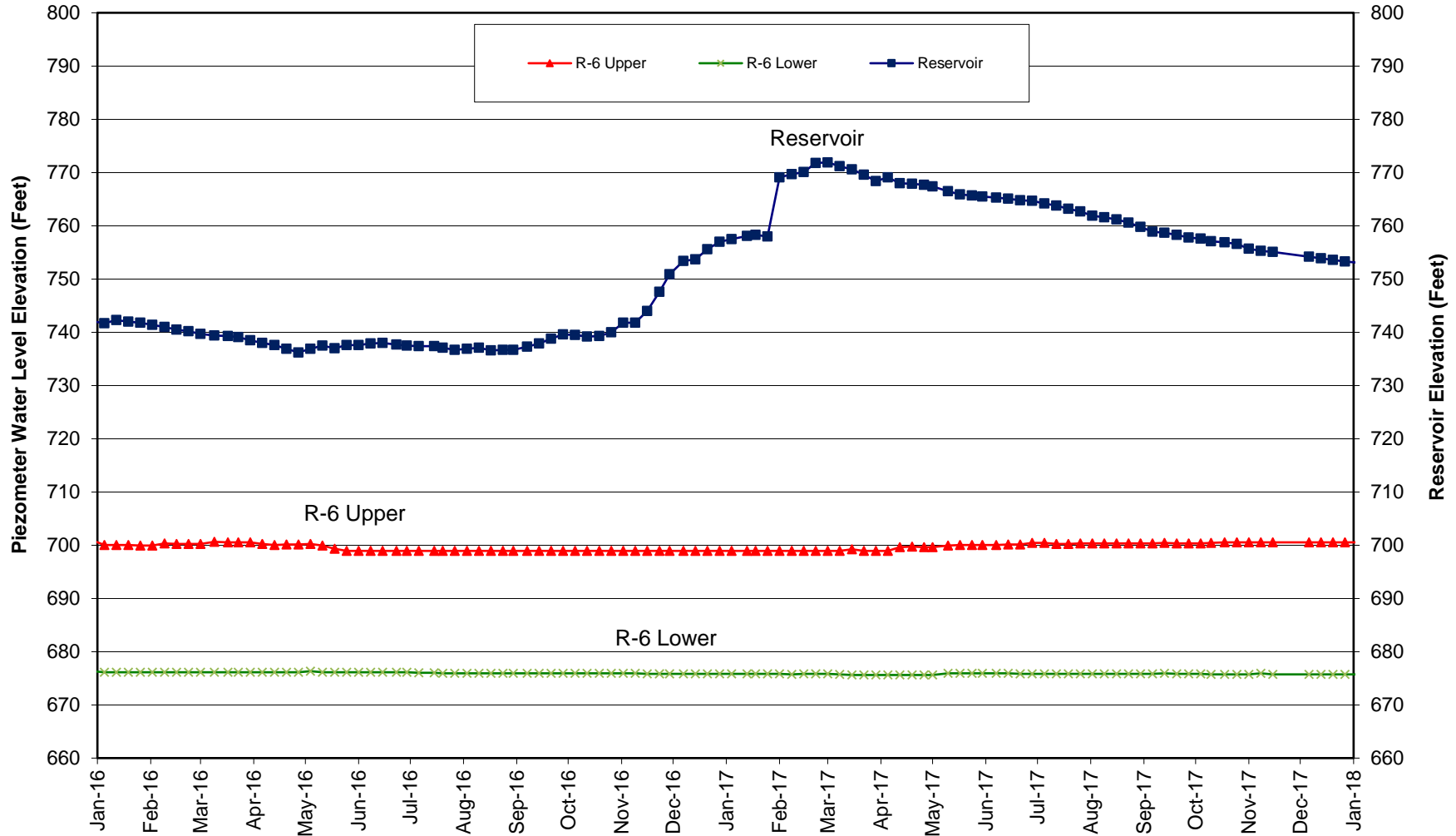


### SANTIAGO CREEK DAM 2-YR PIEZOMETER LEVELS PIEZOMETER R-3 JANUARY 2016 THROUGH DECEMBER 2017

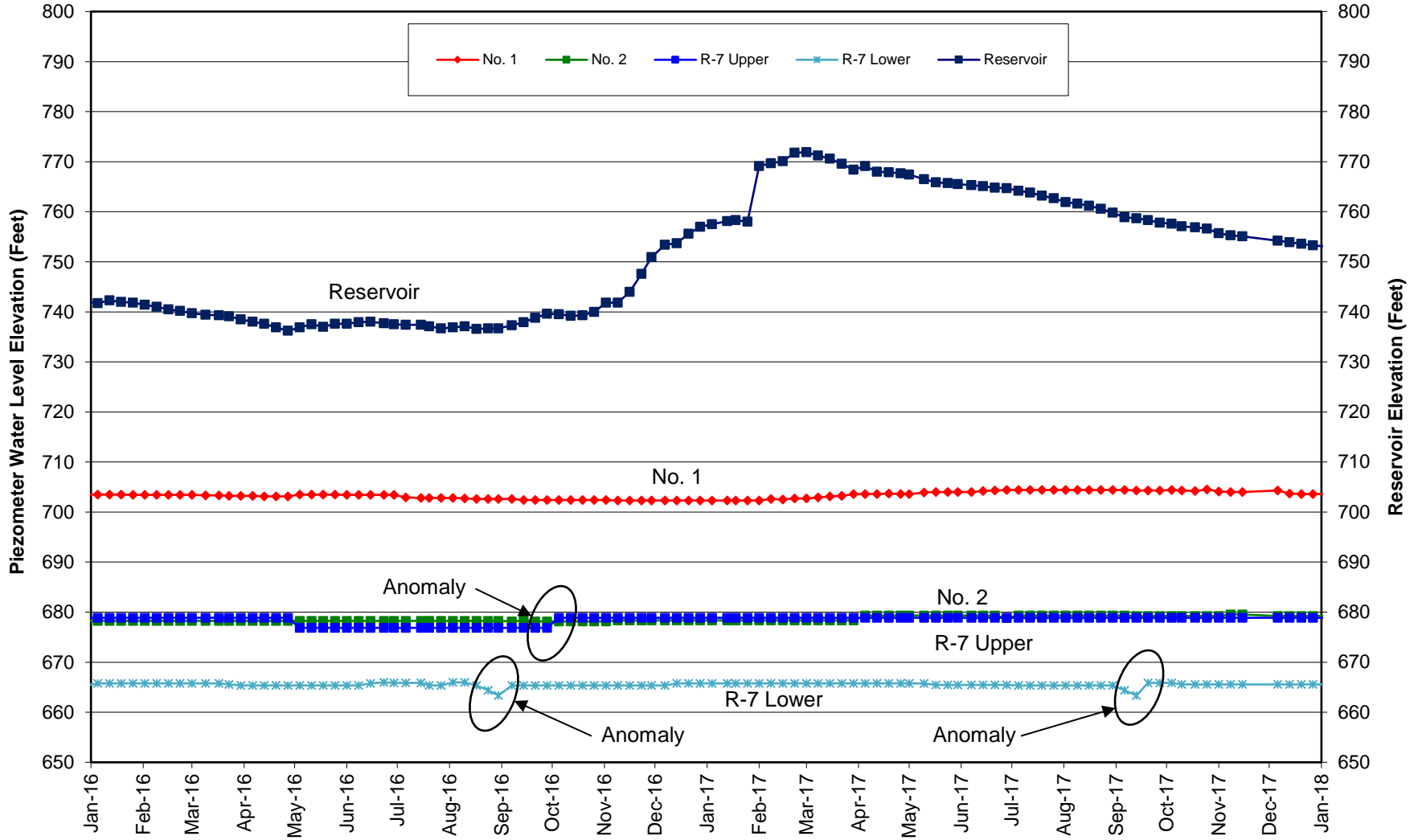




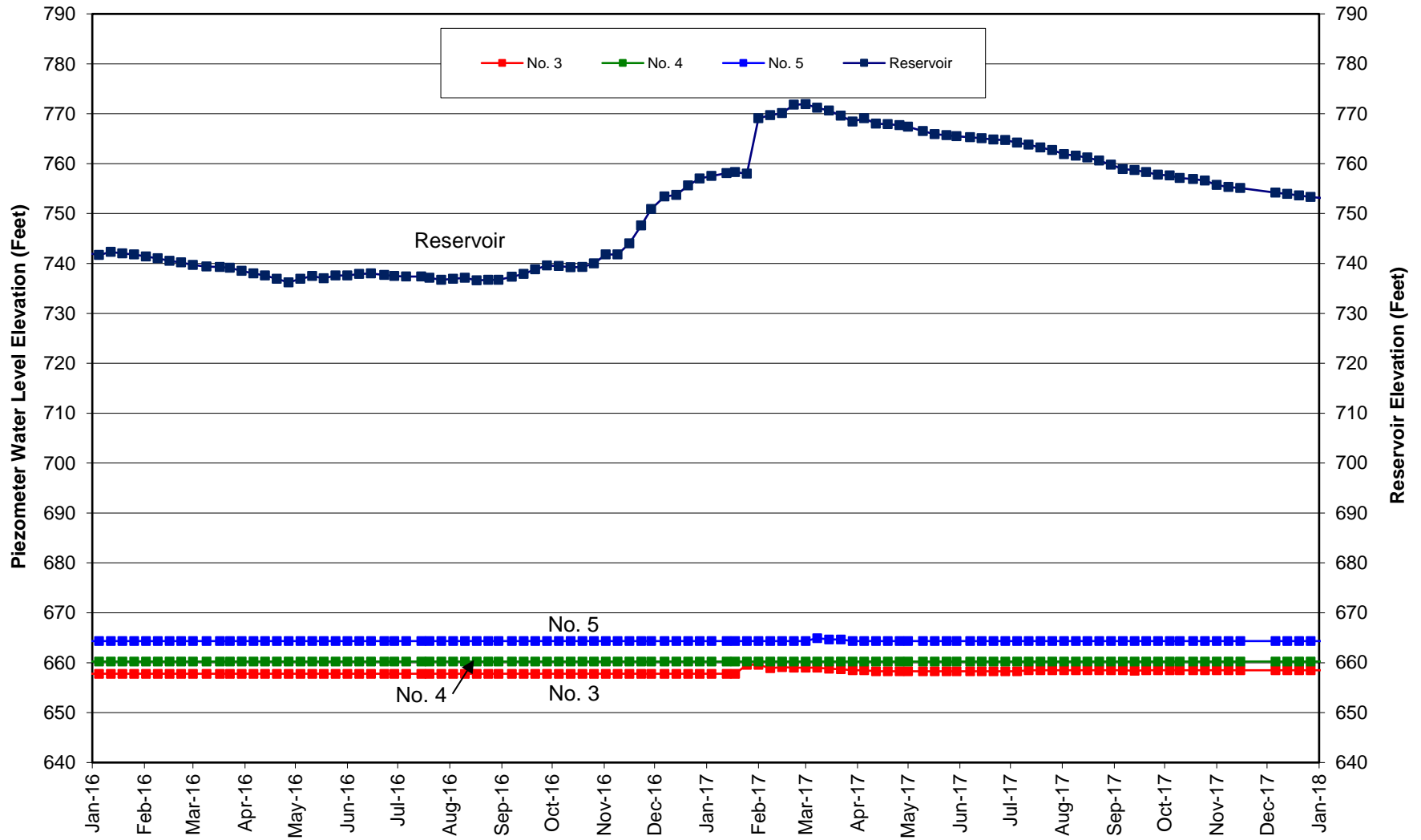
### SANTIAGO CREEK DAM 2-YR PIEZOMETER LEVELS PIEZOMETER R-6 JANUARY 2016 THROUGH DECEMBER 2017



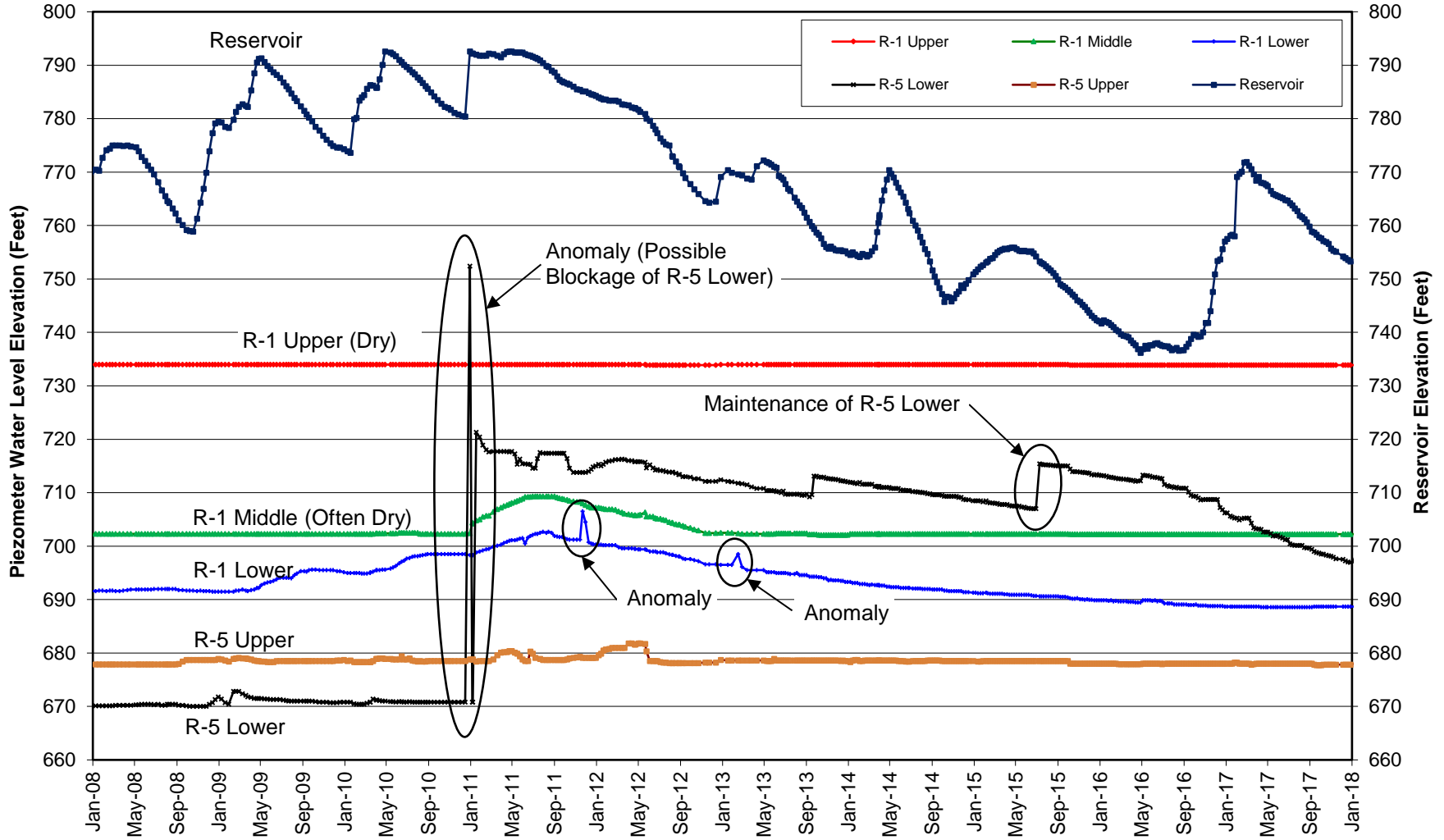
### SANTIAGO CREEK DAM 2-YR PIEZOMETER LEVELS PIEZOMETERS No.1, No. 2, AND R-7 JANUARY 2016 THROUGH DECEMBER 2017



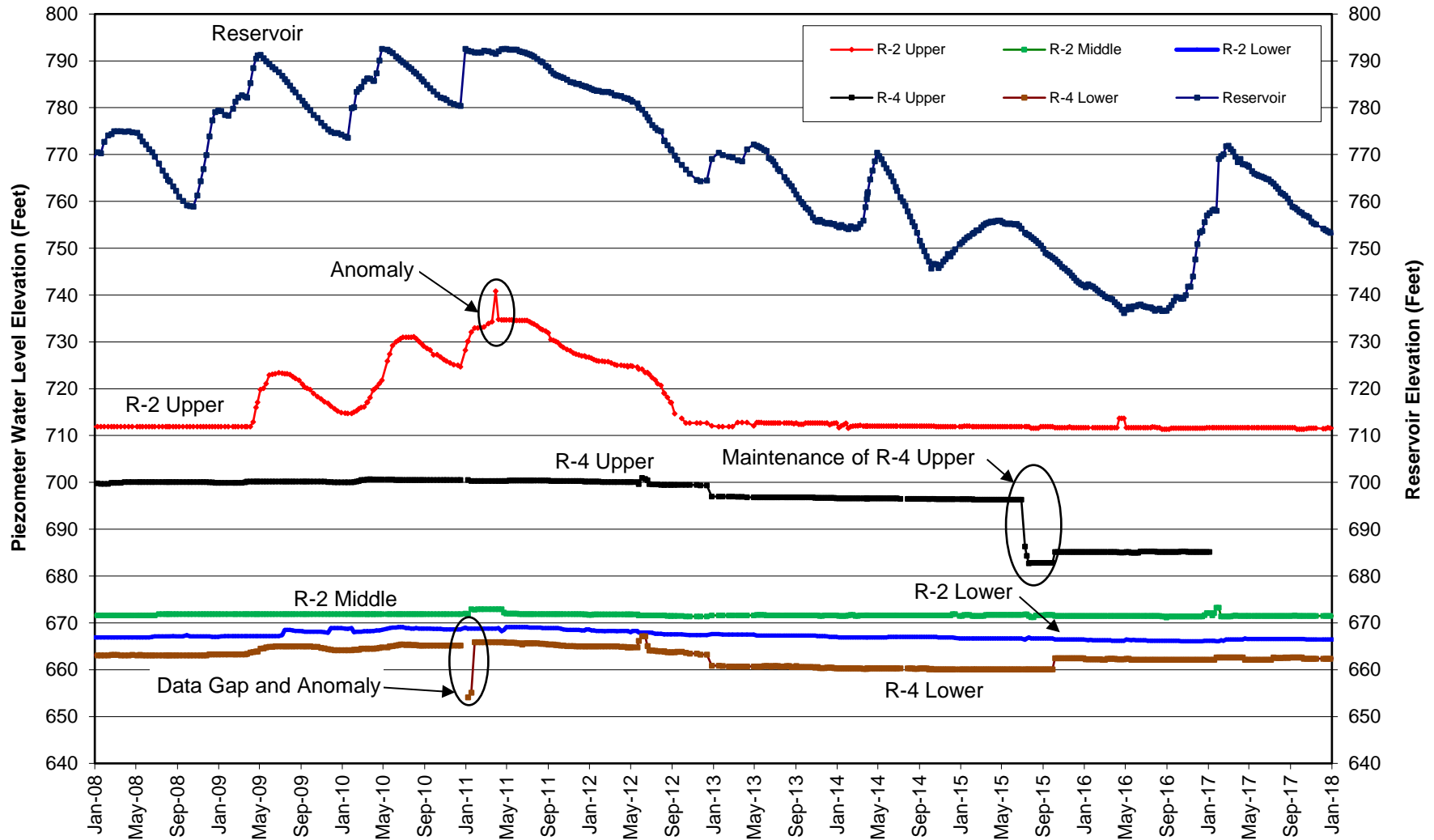
**SANTIAGO CREEK DAM  
2-YR PIEZOMETER LEVELS  
PIEZOMETERS No. 3, No. 4, and No. 5  
JANUARY 2016 THROUGH DECEMBER 2017**



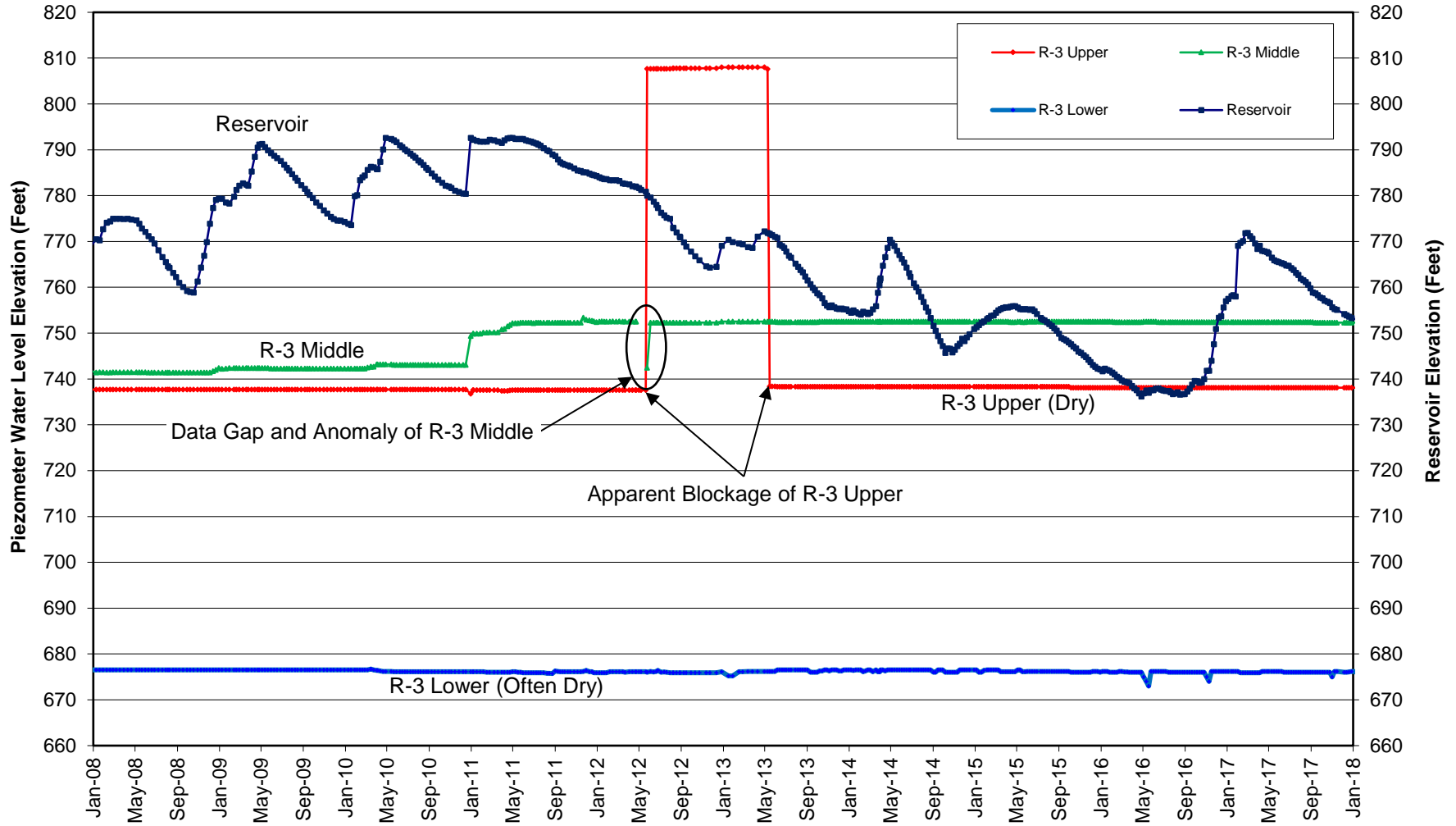
### SANTIAGO CREEK DAM 10-YR HISTORICAL PIEZOMETER LEVELS PIEZOMETERS R-1 AND R-5 JANUARY 2008 THROUGH DECEMBER 2017



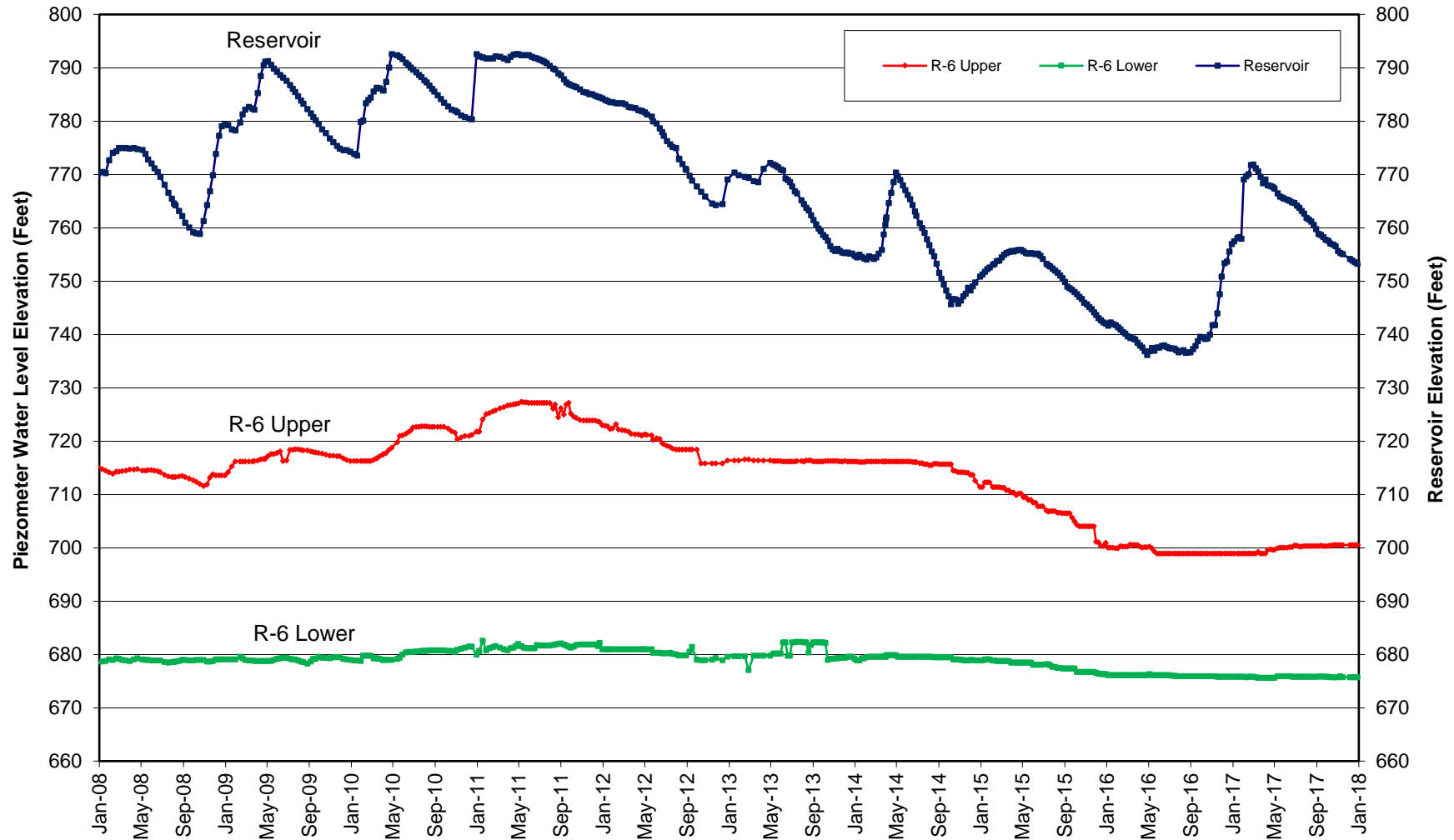
### SANTIAGO CREEK DAM 10-YR HISTORICAL PIEZOMETETER LEVELS PIEZOMETERS R-2 AND R-4 JANUARY 2008 THROUGH DECEMBER 2017



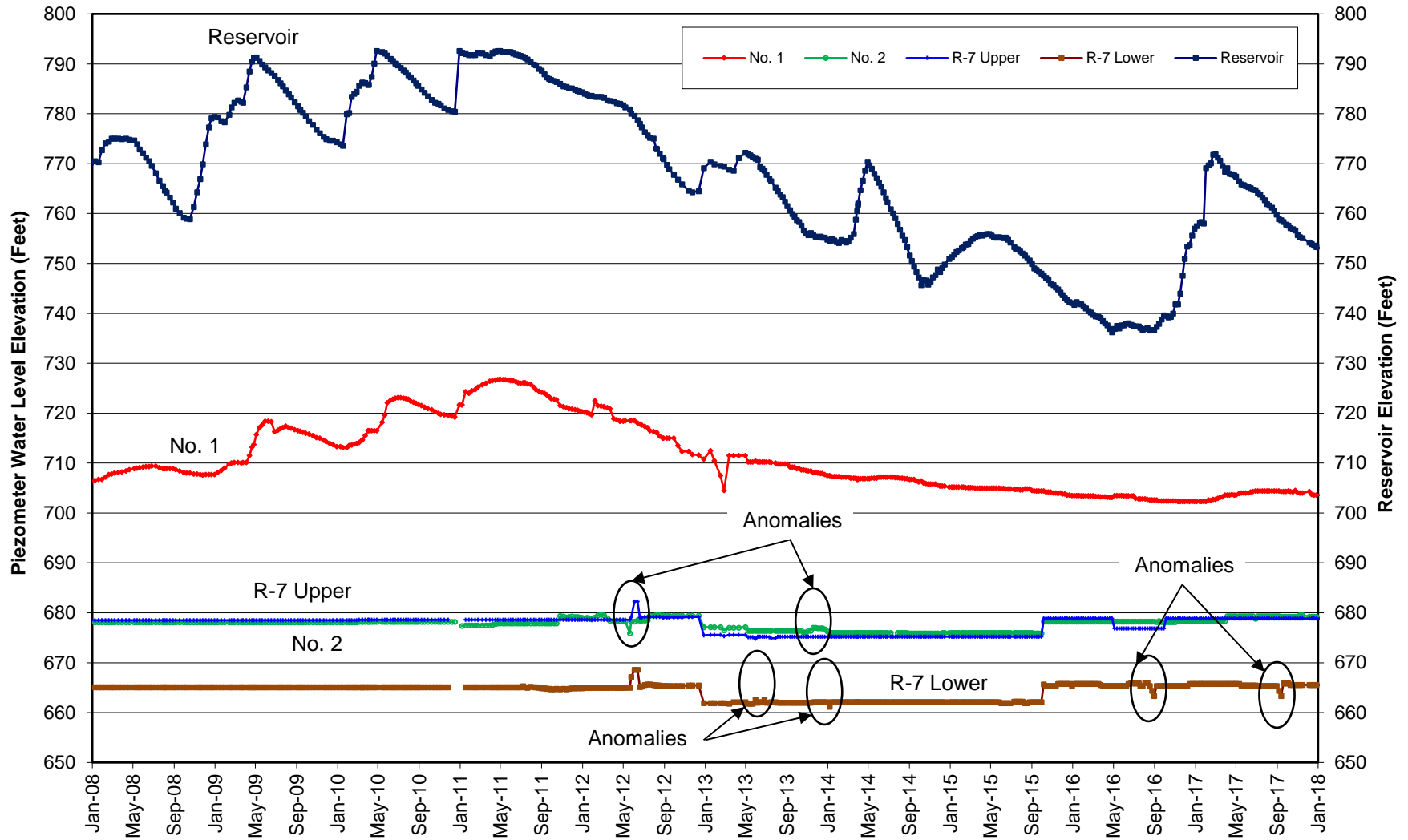
### SANTIAGO CREEK DAM 10-YR HISTORICAL PIEZOMETER LEVELS PIEZOMETER R-3 JANUARY 2008 THROUGH DECEMBER 2017



### SANTIAGO CREEK DAM 10-YR HISTORICAL PIEZOMETER LEVELS PIEZOMETER R-6 JANUARY 2008 THROUGH DECEMBER 2017

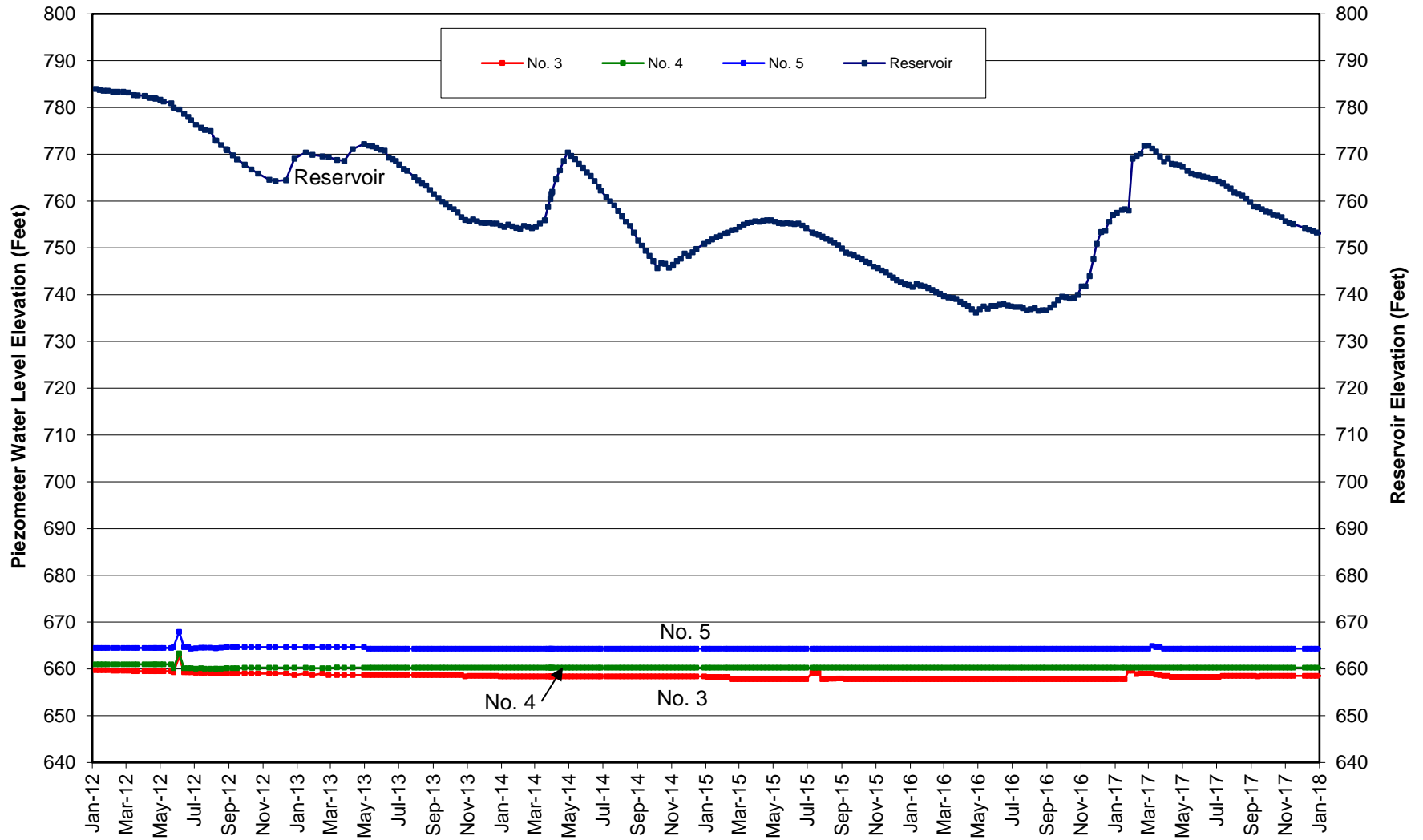


### SANTIAGO CREEK DAM 10-YR HISTORICAL PIEZOMETER LEVELS PIEZOMETERS No.1, No. 2, AND R-7 JANUARY 2008 THROUGH DECEMBER 2017

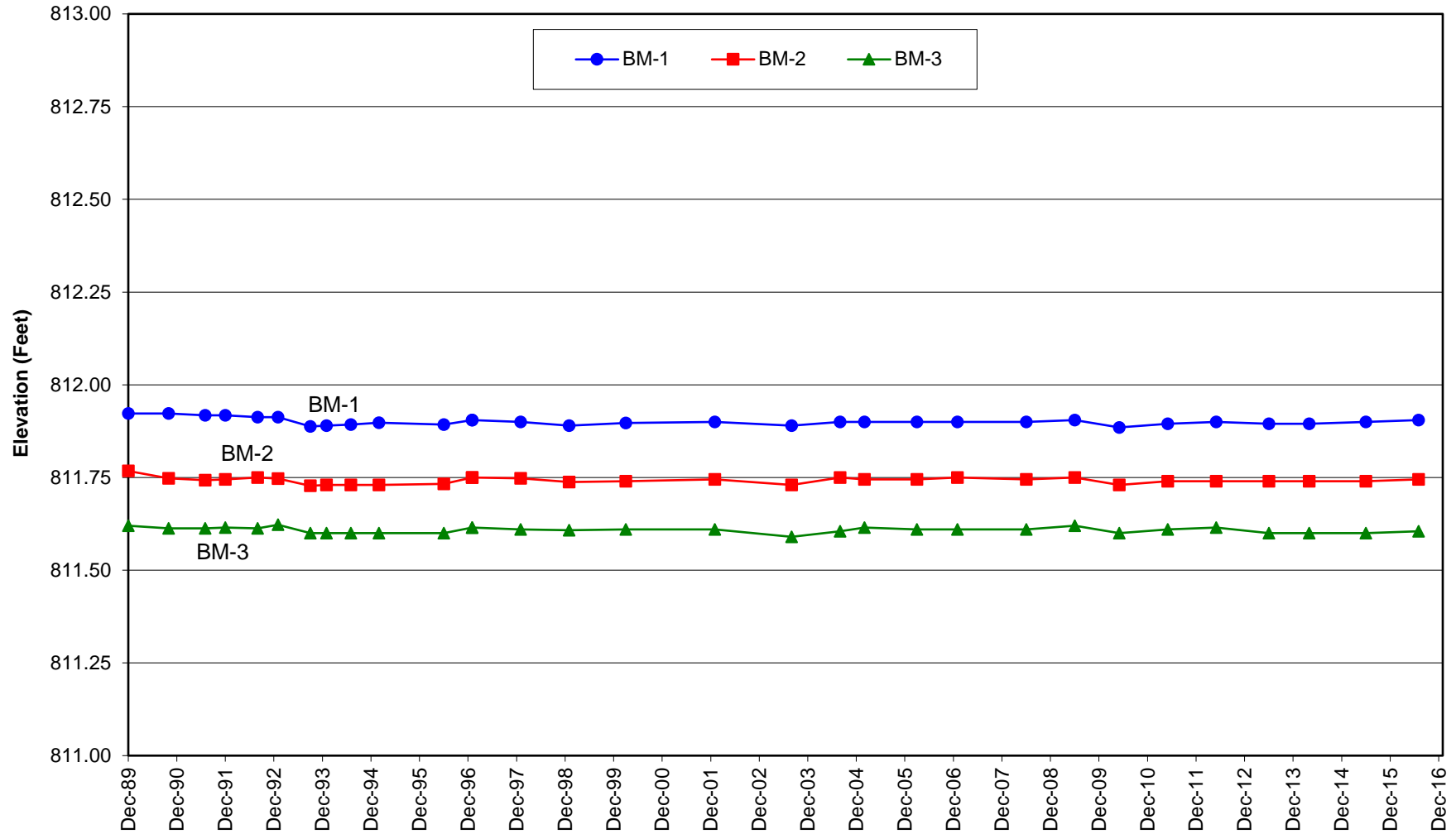




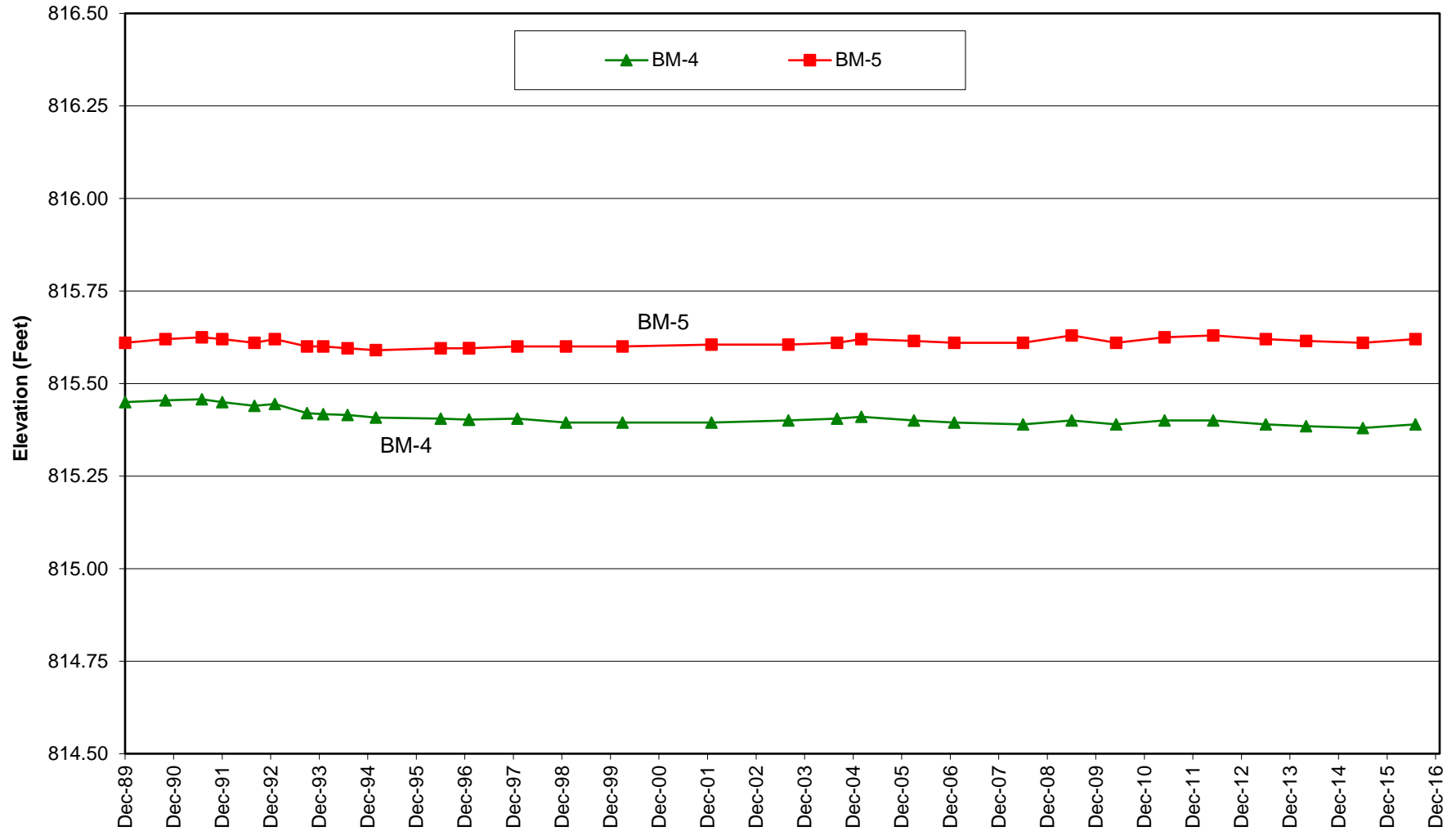
### SANTIAGO CREEK DAM 6-YR HISTORICAL PIEZOMETER LEVELS PIEZOMETERS No. 3, No. 4, and No. 5 JANUARY 2012 THROUGH DECEMBER 2017



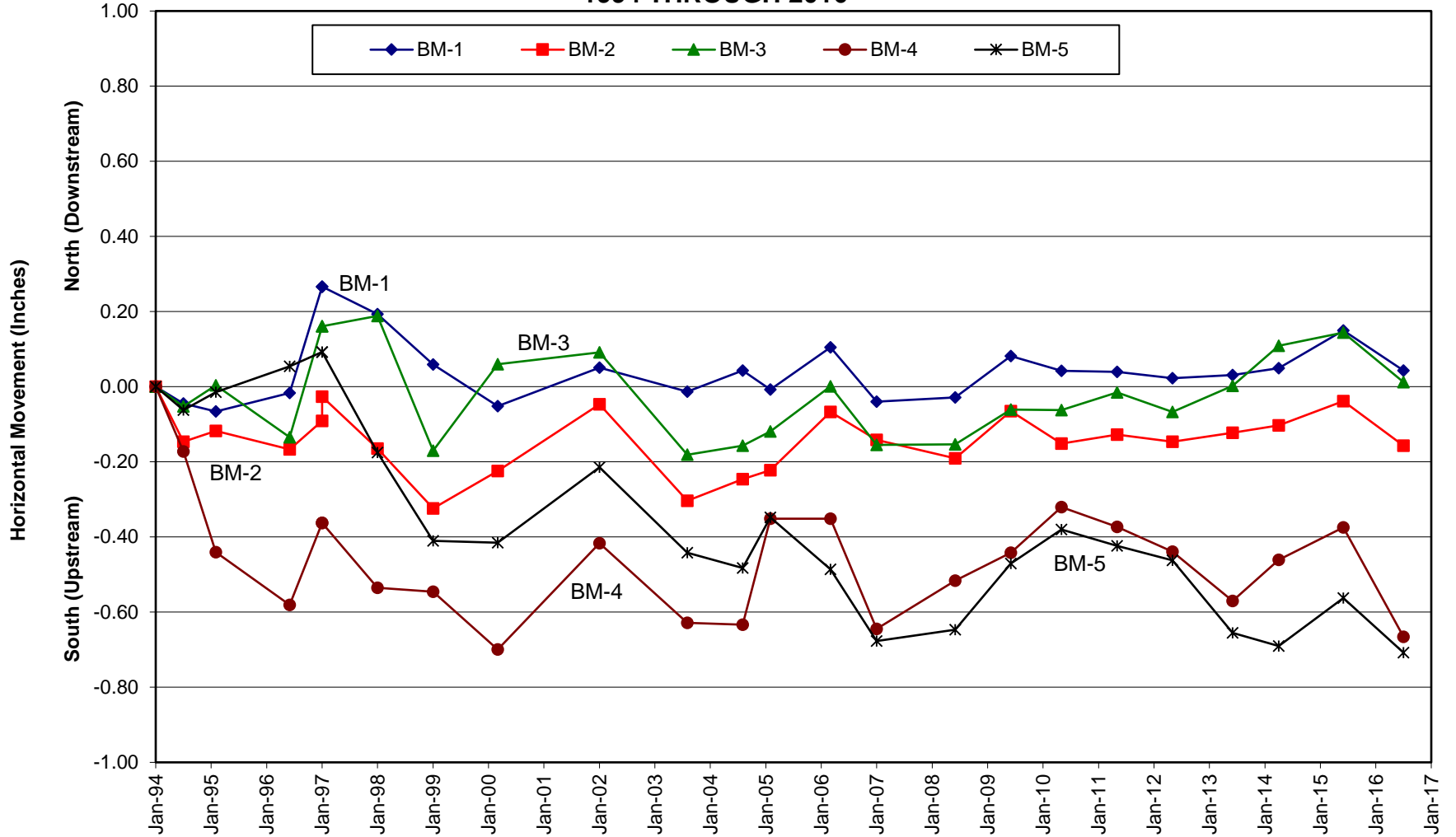
### SANTIAGO CREEK DAM ELEVATIONS OF SURVEY MONUMENTS BM-1, BM-2, AND BM-3 1989 THROUGH 2016



### SANTIAGO CREEK DAM ELEVATIONS OF SURVEY MONUMENTS BM-4 AND BM-5 1989 THROUGH 2016



**SANTIAGO CREEK DAM  
NET HORIZONTAL DISPLACEMENTS OF SURVEY MONUMENTS  
BM-1, BM-2, BM-3, BM-4, AND BM-5  
IN THE NORTH-SOUTH DIRECTION  
1994 THROUGH 2016**



**SANTIAGO CREEK DAM  
NET HORIZONTAL DISPLACEMENTS OF SURVEY MONUEMENTS  
BM-1, BM-2, BM-3, BM-4, AND BM-5  
IN THE EAST-WEST DIRECTION  
1994 THROUGH 2016**

