Electronic Report Transmittal Form

Attention: Brendan Kenny (916) 464-4635

Discharger: Wild Wings County Service Area
Name of Facility: Wild Wings Water Recycling Facility
WDRs Order Number:R5-2002-0077
CIWQS Place ID: 272537
County: Yolo

I am hereby submitting to the Central Valley Water Board the following information:

Check all that apply:

Technical Report Title and Date Wild Wings WRF Groundwater Monitoring Report July 27, 2018

Monthly Monitoring Report for the month of _____

1st / (2nd) / 3rd / 4th (**circle one**) Quarterly Monitoring Report for the year of 2018

1st / 2nd (**circle one**) Semi-annual Monitoring Report for the year _____

Annual Monitoring Report for the year _____

Violation Notification:

During the monitoring period, there were / (were not) (circle one) any violations of the WDRs.

1. The violations were:

2. Have the violations been corrected? Yes / No. If no, what will be done to correct the violations:

Certification Statement:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Signature: _____ Phone: (916) 553-4900

Printed Name: Dan DeMoss Date: 7/26/18

Wild Wings Water Recycling Facility – Second Quarter 2018 Groundwater Monitoring Report

WDR Order No. R5-2002-0077

Prepared for: Yolo County, CA

Prepared by: Silver State Analytical laboratories, Inc. in association with Frohnen Consultants

Date: July 27, 2018

SSAL WO. No. 18071194

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July 27, 2018

Ms. Beth Gabor
Yolo County
625 Court Street,
Room 202
Woodland, CA 95695

VIA Email.

Re: Groundwater Monitoring Report
Second Quarter 2018
Wild Wings Water Recycling Facility, Yolo County, CA
WDR No. R5-2002-0077

Dear Ms. Gabor:

Silver State Analytical Laboratories, Inc. and Frohnen Consultants are pleased to present this report as a summary of the Groundwater Monitoring Data from the Second Quarter of 2018.

If you have any questions regarding this report, please call our Project Manager, Joe Trapasso III at (916) 975-7492 or Carly Wood at 775-857-2400.

Sincerely,
Silver State Analytical Laboratories, Inc.

Carly Wood
Laboratory Director

Frohnen Consultants

David J. Frohnen, PE (CA # 43942)
Principal

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FIGURES

1 INTRODUCTION

Silver State Analytical Laboratories (SSAL) in conjunction with Frohnen Consultants prepared this groundwater monitoring report on behalf of Yolo County for the Wild Wings Water Recycling Facility (WWRF) at the Wild Wings residential development, in Yolo County, California. This report represents and summarizes data collected and analyzed by SSAL, in conjunction with contract laboratory work, in May and June 2018; and also includes historical data and information from previous reports, consultants and laboratories.

Yolo County requested that SSAL provide groundwater monitoring and reporting for the WWRF to comply with Regional Water Quality Control Board (RWQCB) Waste Discharge Requirements (WDR) Order R5-2002-0077. The WDR requires quarterly monitoring and reporting of the groundwater levels and quality at the monitoring wells. SSAL performed the field sampling and monitoring at the site on May 24, 2018.

1.1 LOCATION

The Wild Wings development is located north of Highway 16 and west of County Road 94B at 18530 Wildwings Drive, Woodland, CA 95695, and is surrounded by agricultural land to the west, Cache Creek and the Yolo Fliers Golf Club to the north, the Watts-Woodland Airport to the east, and several rural residences to the south. In early 2015, almond orchards were planted in the agricultural land to the west of the site and water wells were installed to provide water for the orchards. The WWRF encompasses 3.67 acres (400 by 400 feet) along the southwestern side of the Wild Wings development. Figure 1 shows the location of the WWRF along with general site information and locations of seven (7) monitoring wells.

1.2 SITE INFORMATION

The Wild Wings development consists of over 300 homes, a nine-hole golf course (including several ponds/lakes), and the WWRF, all built on 238 acres of previously undeveloped land. The WWRF has been operating since February 2005. Domestic wastewater from the Wild Wings development is treated to a tertiary level at the WWRF. The treated water is then blended with groundwater obtained from two deep on-site water supply wells and is used for irrigation of the golf course. The mixture of applied irrigation water typically consists of approximately one-fourth recycled water, but this ratio will vary by month. When irrigation demands are reduced, a lined storage pond on the WWRF site stores the recycled water. Separate entities operate the Recycle Facility and the golf course irrigation system.

1.3 MONITORING WELLS

Seven monitoring wells, MW-1 through MW-7, were constructed in May through June 2004. The monitoring wells were installed on the Wild Wings development in the vicinity of the WWRF. The locations of the monitoring wells are shown on Figure 1.

The WDR required that the monitoring wells be constructed to monitor the uppermost aquifer. While drilling, soil samples were collected to assess the subsurface lithology and to locate the uppermost aquifer. Review of the well logs shows that clays with various amounts of silt, sand, and gravel are predominant at the site. However, beds of coarse-grained materials, sands and gravels, with trace amounts of silt and clay were also logged at all monitoring well sites.

The monitoring wells were completed to depths ranging from 31 to 74 feet below ground surface (bgs). Each well is constructed with 2-inch schedule 40 PVC well casing and screen. The screen intervals are 10 feet in length at most wells, with the exception of MW-4 and MW-5R, which have 15-foot and 20-foot screen intervals, respectively. The top of each well casing is fitted with an expandable plug to prevent surface water from entering the wells. The top of each well is secured in a subsurface vault. Table 1 summarizes the well construction details.

The well screens are not at the same depth in all of the monitoring wells. The depths varied based on when groundwater was first encountered. Thick clay beds were encountered at MW-4 and MW-5R and continued to relatively deep depths. MW-4 and MW-5R have deeper screen intervals than the other monitoring wells, ranging from an elevation of 51 to 71 feet mean sea level (msl). In contrast, MW-1, MW-2, MW-6, and MW-7 are screened at shallower depths, between 73 to 95 feet msl. MW-3 has the shallowest screen interval ranging from an elevation of 90 to 100 feet msl.

The lithologic sequences of strata encountered during well drilling show a heterogeneous appearance across the site making lateral geologic correlation difficult on a site scale (Luhdorff and Scalmanini, 2006). Furthermore, the uppermost water-bearing zone in which all monitoring wells are screened has weak to no lateral continuity across the site based on the lithologic logs. Based on evaluation of the lithology and well construction details, the consistent anomalously high groundwater elevations, and analytical results from previous monitoring reports, MW-3 appears to be screened in a perched water zone and not within the unconfined to semi-confined aquifers in which the other monitoring wells are screened. Therefore, groundwater in MW-3 does not appear to be in direct hydraulic communication with the other network wells.

1.4 PUMP DETAILS

The wells are equipped to use a WaTerra inertia sampling pump. A dedicated high density polyethylene 5/8-inch OD tube equipped with a one-way valve at the bottom (foot valve) is stored in each well. The polyethylene tubing and foot valve rest on the bottom of the well casing when not in use and extend to within a few inches of the top of the well casing at each well. The foot valve allows water to enter the tubing as it is pushed downwards and retains the water when the tube is pulled upwards again. The repeated action of raising and lowering the tube lifts the water to the surface in a continuous column. The pump mechanism, which the tubing attaches to, is transported between wells.

1.5 HISTORIC MONITORING RESULTS

The WWRF has been active since February 2005. The WDR required that three monitoring events take place prior to the startup of the WWRF; however, only one monitoring event was performed. Quarterly monitoring commenced in March 2005. Historic monitoring results are summarized below:

- Groundwater levels have ranged from 19.7 to 56.7 feet below top of casing (btoc) or 64.0 to 101.7 feet mean sea level (msl). Groundwater has consistently been the shallowest at MW-3 and the deepest at MW-4. Since the fourth quarter 2008 MW-7 has been dry about 75 percent of the sampling events and has been dry from the third quarter 2013 until the first quarter of 2017 – corresponding to the California regional drought conditions. Table 2 summarizes the historic groundwater levels and Figure 2 displays a line graph of these historical groundwater levels.

- Groundwater flow direction has been consistently towards the northeast to east-northeast. Using MW-1, MW-4, and MW-5R to determine flow direction and gradient, the flow direction has varied from 53.3 to 79.0 degrees and the groundwater gradient has ranged from 0.005 to 0.009 ft./ft. The gradient has gradually steepened, and the flow direction has changed to a more easterly direction since monitoring started in 2005. The most recent monitoring event in May 2018 indicates a 3-point gradient of 0.006 ft./ft. and a direction of 79 degrees. Table 3 summarizes historic groundwater flow directions and gradients.

- MW-1 has been consistently up-gradient of the recycled water effluent pond, whereas MW-4, MW-6, and MW-7 have consistently been down-gradient of the recycled water effluent pond. MW-2 is located adjacent to the recycled water effluent pond. MW-5R appears to be an up-gradient well that is recharged from Cache Creek but is slightly down-gradient to the recycled water effluent pond.

- MW-3 has consistently had higher groundwater surface elevations than the other monitoring wells. Because of this, supplemented by the shallow screen interval, poor recharge, persistent presence of total coliform organisms as well as an overall different water quality than the other wells, and often gray to tan color of the water, MW-3 appears to be screened in a perched water zone. This perched or mounded water table appears prominently in the August 2017 data – but the November 2017 data did not look as pronounced. Again, the May 2018 data indicates MW-3 is in a perched/mounded water table condition.

- The WDR requires that monitoring wells be sampled and analyzed for the following constituents: pH, total dissolved solids (TDS), sodium, chloride, boron, iron, manganese, nitrate (as nitrogen), nitrite (as nitrogen), ammonia (as nitrogen), total nitrogen, total coliform organisms, and total trihalomethanes (TTHMs). In addition to the WDR requirements, samples collected up to February 2008 were analyzed for fecal coliform. Historical monitoring results are summarized in Table 4. Figures 3 through 9 show concentration trend graphs for the monitoring parameters.

- Metals analyses are required from the monitoring wells. Sampling protocol requires that the turbidity be below 5 Nephelometric Units (NTU) when collecting water samples for metal analyses, otherwise the sample must be filtered prior to being collected and reported as dissolved metals. Due to historical issues with turbidity and purging, the sampling protocol for Q4 2017 was adopted to field filter and continued for Q2 of 2018.

- Total coliform organisms have been sporadically detected at all wells since monitoring commenced. They have been most consistently detected at MW-3, which also has had positive results for fecal bacteria; however, since the second quarter 2013, total coliform organisms at MW-3 have only been detected eight times. MW-3 has had past worm-like organisms and has been treated with disinfection products. Recently, no organisms have been visible and the Q2 2018 sampling event had no detections for disinfection by-products, as analyzed for TTHM's.

- Groundwater quality samples were not obtained from MW-7 between November 2006 and November 2016, except for May and August 2011, due to either the well being dry or an insufficient amount of water in the well to collect samples. Since the wet weather in winter 2016 -2017, sufficient amounts of sample water from

MW-7 have been retrieved for laboratory analyses – Until November 2017. In November 2017, there was not sufficient water to purge in MW-7 to collect samples and perform laboratory analyses. Again, in February 2018 and May 2018, there was insufficient water in MW-7 for sample collection.

- Groundwater quality analytical results were not available for the fourth quarter 2006 (except for total coliform results), first quarter 2007, and first quarter 2008.

- MW-2 has had historical security issues related to soils and foreign water entering the well vault. Previous reports contain details of this issue.

1.6 GROUNDWATER QUALITY LIMITATIONS

Interim Groundwater Limitations

Borings HB-2, HB-3, HB-7, and B-27 were drilled prior to the startup of the WWRF and within the vicinity of the WWRF. Water samples collected from these borings were used as the background water quality, using the average value for each constituent. Interim groundwater limitations for the WWRF were developed by comparing the basin plan Water Quality Objectives (WQOs) and background water quality data and using the highest value as the interim groundwater limitation. The interim groundwater limitations are listed at the top of Table 4.

The following summarizes how the WWRF monitoring wells have historically compared to the interim groundwater limitations:

- Boron has exceeded the interim groundwater limitations at all wells since quarterly monitoring commenced. Down-gradient monitoring wells MW-2 and MW-6 have had higher concentrations than up-gradient well MW-1.

- Up-gradient MW-1 is typically at or exceeding the interim groundwater limitations for TDS, chloride, nitrate (as nitrogen), and total nitrogen. Historically the TDS, chloride, nitrate (as nitrogen) and total nitrogen results are higher at MW-1 than at any other well in the monitoring well network. However, since 2013 chloride has been highest at down-gradient well MW-4. Nitrate concentrations have been variable and now (Q2 of 2018) several wells exceed the nitrate levels in MW-1.

- MW-2, the closest well to the WWRF, regularly exceeded the interim groundwater limitations for total nitrogen prior to 2008, from 2008 through 2016 total nitrogen has been less than the interim limitations. But since 2017, is again above the interim limit.

For Q2 2018, MW-2 depicts steady but relatively high nitrate and total nitrogen concentrations. Prior to the fourth quarter 2013 the interim groundwater limitations were occasionally exceeded for sodium at MW-2, but since this time they have been below the interim groundwater limitations, until June 2017 when they again were slightly above the interim limit. Sodium in MW-2 has declined in recent sampling events and in Q2 2018 is slightly below the interim standard. Chloride levels at MW-2 exceeded the interim groundwater limitations from the fourth quarter 2010 through the first quarter 2012, but since this time the levels have been less than the interim limitations.

- Quarterly monitoring results at cross-gradient MW-5R and down-gradient MW-4, MW-6, and MW-7 have rarely exceeded the interim groundwater limitations for any constituent, with the exception of chloride and total nitrogen at MW-4 and sodium at MW-6 (with some exceptions).

Final Groundwater Limitations

On January 8, 2008, the RWQCB requested Yolo County prepare a Background Groundwater Quality Study/Groundwater Degradation Assessment Report to establish statistically derived water quality limitations. Central Valley Environmental, Incorporated (CVEI) prepared a Background Groundwater Quality Study/Groundwater Degradation Assessment Report dated April 1, 2009. Yolo County submitted the report to the RWQCB. CVEI used statistical methods to derive tolerance intervals representing the 95th quantile of all water quality sampling results from 2004 through February 2009. CVEI used these values in conjunction with the WQOs, using the greater of the two, to recommend Final Groundwater Limitations. Approval of the Final Groundwater Limitations by the RWQCB is still pending. However, since 2009 the sample population has more than doubled and therefore the analyses may be outdated.

2 GROUNDWATER MONITORING

Groundwater monitoring was performed on May 24, 2018 by SSAL personnel experienced with groundwater sampling. The following sections describe the monitoring protocol used to measure the depth to water, purge the wells, and collect water quality samples from the monitoring wells.

2.1 GROUNDWATER LEVELS

SSAL personnel measured the depth to groundwater at the monitoring wells using an electric water level sounder accurate to 0.01 foot. The sounder was cleaned and decontaminated prior to the first monitoring well measurement and between each well site by thoroughly washing and scrubbing the sounding probe and line with a laboratory-grade detergent (Alconox) and distilled water, followed by a triple rinse with distilled water. The sounding probe and line was then sprayed with a 10 percent bleach solution to kill any bacteria. The sounding probe was allowed to air dry between wells.

2.2 PRE-SAMPLING ACTIVITIES

After the depth to groundwater was measured at a monitoring well, the well was purged. Each monitoring well was purged by lifting the polyethylene tubing that resides in each well and connecting it to the WaTerra Hydrolift II electric pump. Prior to purging, the top 6 inches of the polyethylene tubing was decontaminated. The polyethylene tube was then connected to a vinyl tube via a double-barbed nipple and the vinyl tubing was routed to an empty 5-gallon bucket. The double-barbed nipple and vinyl tubing were cleaned and decontaminated prior to initial use and between each well (primary disinfection). The procedures for cleaning and decontaminating are the same as listed above (Groundwater Levels) except the vinyl tubing received six rinses with distilled water after cleaning.

Prior to collecting the groundwater samples, each monitoring well was micro purged (verbal approval, RWQCB 2008). Micro purging consisted of pumping each well until field parameters such as pH, temperature, and EC stabilized. Field parameters were measured by collecting purge water from the discharge line at select intervals and using a calibrated multi-parameter meter to record the readings. The volume purged, and field parameters are documented on purge logs, which are presented in Appendix A. The purge water was collected in 5-gallon buckets and then transported back to the WWRF and discharged to the wastewater holding tanks.

2.3 GROUNDWATER SAMPLING

Once each monitoring well was purged, SSAL personnel collected water samples in laboratory-prepared bottles. Prior to collecting the first sample, the vinyl tube connected to the 5-gallon bucket was disconnected from the bucket and the tip was sprayed with a 10 percent bleach solution to kill any bacteria that may have been present in the bucket and inadvertently transferred to the sampling tube (secondary disinfection). To eliminate any residual chlorine, pumping was then resumed for about 30 to 60 seconds (approximately 0.25 to 0.5 gallons) and the end of the vinyl tube was elevated and pinched so that the entire tubing surface was in contact with the purge water prior to sampling. The bacteriological (total coliform) sample was the first sample collected and was collected directly from the end of the vinyl tube, followed by collection of samples for THMs. The samples for all other constituents analyzed were collected next. Water samples for metals were filtered in the field using a disposable 0.45 micron filter before being placed into acidified laboratory prepared sample bottles. Trip blanks are included by CLS for TTHM's analysis, when requested.

Nitrile gloves were worn while collecting samples. A new set of gloves was used at every monitoring well. The samples were placed in an ice chest and cooled to 4 degrees Celsius and delivered to California Laboratory Services (CLS) of Rancho Cordova, California, a California-certified laboratory, under standard chain-of-custody procedures. Samples collected from the monitoring wells were analyzed for TDS, sodium, chloride, boron, iron, manganese, nitrate (as N), nitrite (as N), ammonia (as N), total N, total coliform organisms, and total trihalomethanes per the WDR requirements. Table 4 presents the results for the monitoring wells and Table 5 presents the results for the trip blank and equipment blank samples. Appendix B contains the laboratory data sheets and chain-of-custody forms.

2.4 GROUNDWATER LEVELS AND FLOW DIRECTION

The measured groundwater levels in each well were subtracted from the surveyed ground surface elevation at each well. Table 2 lists the elevation of the top of the well casing (TOC) (reference point) at each well and presents the current and historic depths-to-water and groundwater surface elevations. The groundwater surface elevations were used to generate groundwater contours from which the groundwater gradient was calculated. Figure 10 shows the groundwater contours and flow direction for February 2018. Groundwater gradients and flow directions were estimated using wells MW-1, MW-4, and MW-5R. Table 3 summarizes these estimates.

3 FINDINGS

3.1 GROUNDWATER LEVELS

Groundwater levels in May 2018 (second quarter 2018) ranged from 71.02 to 95.83 feet msl and were within historic ranges. Relative to msl, the highest elevation is 95.83 feet at MW-3 followed closely by MW-1 at 93.19. The lowest groundwater elevation is at MW-4 at 71.02 feet and is consistent with historical trends. The Q2 water levels reflect regional conditions of a "wet and late spring" with appreciable amounts of rainfall in the area in March and April 2018. Table 2 lists the water level measurements. Figure 2 shows the current and historic groundwater levels.

Due to MW-3 being screened within a perched water zone it was left out of groundwater contouring, flow direction, and gradient calculations.

Between the first quarter of 2018 and second quarter of 2018, groundwater levels increased approximately 1.0 foot overall. This matches what is commonly understood to be seasonal variations with wet winter/spring seasons followed by dry summers and early falls. Looking at the generalized pattern of rainfall and groundwater levels in the area since fall 2016 the trends in those 2 parameters tend to correlate. Winter 2016-17 was wet early and wet throughout which translated to increases in water levels. Winter 2017-18 was abnormally dry until March 2018 hence the continued dry season declines in water levels – until the wet March and April 2018 conditions are reflected in the May 2018 water level data (noticeably elevated water levels).

3.2 GROUNDWATER FLOW DIRECTION AND GRADIENT

The groundwater flow direction and gradient for May 2018 were calculated using wells MW-1, MW-4, and MW-5R, which is consistent with past practice and historically reported data. Using these wells, the groundwater flow direction was to the east northeast (79.0 degrees) with a gradient of 0.006 feet/feet. The groundwater gradient and direction are consistent with historic results, although the direction is tending to move more easterly over time. Figure 10 displays the groundwater surface elevations at each well, the groundwater contours, and flow direction. In the northern portion of the site the groundwater flow direction appears to be influenced by Cache Creek. Table 3 lists the historic and current groundwater flow directions and gradients.

3.3 GROUNDWATER QUALITY

Tables 4 and 5 summarize the analytical results in table format and Figures 3 through 9 show

the historical water quality parameter concentrations in graphical format.

Current (second quarter 2018) water quality results were compared to historic water quality results to assess potential increasing trends. Overall, the water quality analytical testing results for the second quarter of 2018 were within historical ranges and trends. Specific to Q2 2018 data, almost all parameters were in relative range of recent data. One anomaly is the Boron at 6.1 ppm in MW-1. The analytical data for pH this quarter is quite steady and consistent with historical ranges. Boron was observed to slightly decrease overall with the exception of MW-2 – which showed an increase. Nitrogen and nitrate levels were near recent analytical ranges for all wells. Overall TDS levels appear very close to historical levels and ranges at each well. The spatial variation of TDS, nitrate and boron concentrations over the recent past are best explained by the recent rainfall/dryness patterns, recharge and pumping changes in the area groundwater. The ammonia levels in MW-3 while still concerning were not detected for Q2 2018 but still reason to discount MW-3's overall WQ data. No other significant trends in groundwater quality trends were observed from this quarter's monitoring results.

MW-3 continues to be the outlier in water quality as those results are significantly different from the remaining monitoring wells. Further, the consistent high levels of coliform and ammonia are indicators of perched groundwater that is more influence by shallow groundwater the may be influenced more by surface water and shallow ground conditions.

Historically, up-gradient MW-1 has had the highest concentrations of TDS, chloride, nitrate (as N), and total nitrogen. However, beginning in 2013 chloride concentrations at MW-4 have consistently been above those at MW-1 and continued through this quarter (2nd 2018). Concentrations of chloride in both MW-4 and MW-6 are still below the historic high levels in MW-1.

MW-2 showed pronounced increases in water quality parameters in Q1 of 2018. However, results for Q2 of 2018 have tempered the increases and parameters at MW-2 are more in line with historical ranges – excepting a recent trend in higher but steady nitrogen forms. The historic pattern of MW-1 (up gradient) being the location of the highest TDS, Chloride and sodium is no longer the case. MW-2 is now the highest for TDS, nitrate/TN, and sodium. Refer to the water quality figures for additional trends.

The highest nitrate (as N) (18 mg/L) and total N (18 mg/L) concentrations were detected in the samples from MW-2, these levels now exceed those at MW-1 for the current quarter. MW-2 had the highest boron (6.1 mg/L) concentration detected, also consistent with historic results and mirroring the recent trend of all boron levels being elevated.

For Q2 – 2018 sampling, total coliform was detected in the samples from only MW-3, at levels appreciably above detection limits. Coliform results in MW-3 of 13 MPN/100 mL further substantiate the opinion that MW-3 is an unreliable indicator of area groundwater quality. At these levels, no serious contamination threat is considered – however continued caution in sampling protocols and attention to analytical trends is warranted. The coliform positive trend since the last quarter indicated an improvement in water quality as measured and influenced by field sampling protocols. Total coliform is typically detected in the sample from MW-3 at high levels.

Ammonia (as N) was not detected at measurable concentrations at any wells. This recent decrease in ammonia at MW-3 could reflect dilution from the recent rain prior to sampling. All others were below the reporting limit of 0.10 mg/L. Ammonia (as N) is not typically detected at any of the wells in the monitoring network (aside from MW-3).

Iron was not reported in any of the monitoring wells for second quarter 2018. Manganese was not reported at any MW – but is typical of MW-3, consistent with past data and again indicating a partially separated aquifer for sampling at MW-3.

THMs were detected at levels barely above detection at MW-5R and MW-6. This was for chloroform only and could be from various sources or cross contamination concerns at the field, transit or lab. Again, the levels were only just above detection limits and do not indicate a major concern. QC trip blanks for THM's were negative (the duplicate lab label for MW-3 was interpreted as the requested travel blank).

3.4 COMPARISON TO INTERIM GROUNDWATER LIMITATIONS

The water quality results from the second quarter 2018 monitoring event show that every monitoring well sampled exceeded the interim groundwater limitation for boron, consistent with historic results. Based on the understanding that the interim groundwater quality limits remain the higher of the background level for the site and the basin wide WQO (water quality objective), the following is a summary of each wells exceedances for the current quarter (Second Quarter 2018) for other general mineral analytes (excluding boron). Comparing to the previous quarter; the number of parameters in exceedance is less.

MW-1: none (nitrate is at the limit)
MW-2: None (nitrate is at the limit)
MW-3: not applicable
MW-4: chloride
MW-5R: none
MW-6: none
MW-7: No Data. Insufficient sample volume.

4 CONCLUSION

The groundwater contours and flow directions show there are two potential sources of groundwater to the area. MW-5R monitors water entering the area that is recharged by Cache Creek, north of the WWRF area. Water also enters the area from the south near MW- 1 and MW-2 from regions used for agriculture. MW-4, MW-6, and MW-7 are in a mixing zone between these water sources and as such minor shifts in groundwater gradients may result in a change in water quality that reflects these two different water sources. In 2015, almond orchards were planted in the fields just west of the monitoring area and water wells were installed to provide water for the orchards. Deep percolation from irrigation or pumping for water supply could affect groundwater levels and flow directions, but to date they do not appear to be affecting groundwater beneath the WWRF area. In past monitoring events, it appeared groundwater pumping east of the monitoring well network was affecting MW-4 and could be affecting MW-7.

In general, the annual rainfall amounts, irrigation practices at farm lands and golf courses, and variations in groundwater pumping to meet local domestic water needs can impact the local groundwater contours, flow direction and gradients. However, for the second quarter 2018 monitoring event, these parameters remained within historical ranges for groundwater levels. The most recent GW contours reflect an overall increase from the winter/spring 2018 data corresponding to a late but wet spring rainy season in 2018. GW flow gradients remain in the range of historical observations at 0.006 ft/ft for the quarter and the direction of flow remains to the north east.

The analytical results from the second quarter 2018 sampling event show fewer parameters above the interim groundwater limitations than recent past quarters. All wells exceeded the interim groundwater limitations for boron, which is consistent with historic monitoring results. Additionally, several wells have chloride and total nitrogen levels slightly above the interim limits. However, overall, the second quarter 2018 sample event indicated overall decreases in mineral concentrations in groundwater samples when compared to recent past quarters.

Compared to the previous quarters, MW-2 shows decreased levels for nitrate, total nitrogen, and chloride. However, several of these are in historical high ranges. Continued vigilance and water quality monitoring should be undertaken to detect any further degradation of the water quality in this area.

MW-6 appears stable this quarter. Whereas in the past this well had a pattern where TDS and

chloride concentrations spike upward after the well receives considerable recharge. This could be due to minerals/salts which have been deposited/trapped in the unsaturated sediments getting flushed and dissolved into solution when groundwater levels rise into these sediments.

MW-1 historically has several constituents above the interim groundwater limitations since monitoring began, including the initial sampling event prior to the startup of the WWRF. The interim groundwater limitations are based on both WQOs and background water quality data. The borings used to establish background water quality data for the WWRF are down-gradient of MW-1 and therefore do not actually reflect background concentrations for up-gradient MW-1. The higher concentrations at MW-1 are indicative of the groundwater quality up-gradient from the WWRF and not due to the WWRF. Interestingly, for fourth quarter 2017, quarter 2018 and second quarter 2018; MW-1 saw a few water quality parameters go lower and currently none exceed the interim water quality limitations. This trend will be tracked in the future.

The second quarter 2018 analyses for THM's resulted in 2 detections barely above detection limits for chloroform – a common laboratory and industrial chemical. This indicates a possible cross-contamination in the field, transit or lab. Field blanks showed no detections for THM's.

Review of the current quarter and historical data trends indicate the local groundwater quality appears to remain in historical ranges since before and after the operations of the WWRF.

Wild Wings Water Recycling Facility – Second Quarter 2018
Groundwater Monitoring Report
WDR Order No. R5-2002-0077

TABLES

Table 1
Monitoring Well Construction Details
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date Installed	Depth of Borehole (feet bgs)	Depth of Well Casing (feet bgs)	Screened Interval (feet bgs)	Slot Size (inches)	Grout (feet bgs)	Bentonite Seal (feet bgs)	Sand Pack (feet bgs)	Casing Material	TOC Elevation (feet msl)	Screen Elevations (feet msl)
MW-1	6/3/2004	46	41	31-41	0.010	0.5-25.5	25.5-28.5	28.5-45	2-inch Sch. 40 PVC, flush thread	126.22	95.22 - 85.22
MW-2	6/2/2004	51.5	47	37-47	0.010	0.5-31	31-34.5	34.5-47	2-inch Sch. 40 PVC, flush thread	124.93	87.93 - 77.93
MW-3	6/3/2004	31.5	31	21-31	0.010	0.5-14.5	14.5-19	19-32	2-inch Sch. 40 PVC, flush thread	121.37	100.37 - 90.37
MW-4	6/1/2004	71.5	70	55-70	0.010	0.5-48	48-52	52-70	2-inch Sch. 40 PVC, flush thread	120.71	65.71 - 50.71
MW-5R	6/10/2004	75	74	54-74	0.010	0.5-47	47-52	52-75	2-inch Sch. 40 PVC, flush thread	125.42	71.42 - 51.42
MW-6	5/27/2004	50	49	39-49	0.010	0.5-33	33-37	37-50	2-inch Sch. 40 PVC, flush thread	121.59	82.59 - 72.59
MW-7	5/28/2004	45	39	29-39	0.010	0.5-22	22-26.5	26.5-45	2-inch Sch. 40 PVC, flush thread	114.55	85.55 - 75.55

Notes:
Information for monitoring wells was extracted from Monitoring Well Installation Report (Geologic and Hydrogeologic Study) for the Wild Wings Residential Development , Jacobson Helgoth Consultants, Inc., August 2004.

All monitoring wells were drilled and constructed by PC Exploration of Rocklin, CA. An Ingersol Rand A-400 drill rig with an 8-inch diameter hollow stem auger was used. Oversight was provided by Jacobson Helgoth Consultants. Wellheads were constructed in subsurface vaults with flush mount covers and locking well caps. The top of the PVC casing is approximately 1.3 feet below ground surface (bgs).

TOC = top of casing; surveyed in reference to mean sea level by Morrow Surveying of West Sacramento, CA, on June 26, 2004

Table 2 (MW-1)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-1	6/15/2004	126.22	32.81	93.41
	3/29/2005		30.62	95.6
	6/16/2005		29.62	96.6
	9/29/2005		31.75	94.47
	12/6/2005		31.4	94.82
	2/16/2006		29.99	96.23
	5/16/2006		27.25	98.97
	8/21/2006		29.73	96.49
	11/20/2006		30.27	95.95
	2/8/2007		31.37	94.85
	5/7/2007		30.79	95.43
	8/29/2007		32.38	93.84
	2/21/2008		29.96	96.26
	5/27/2008		29.7	96.52
	8/27/2008		30.49	95.73
	11/24/2008		32.43	93.79
	2/18/2009		30.72	95.5
	5/21/2009		31.28	94.94
	8/7/2009		32.96	93.26
	11/5/2009		34.34	91.88
	2/8/2010		32.05	94.17
	5/7/2010		31.85	94.37
	8/18/2010		31.22	95
	11/2/2010		32	94.22
	12/28/2010		30.76	95.46
	2/23/2011		31.33	94.89
	5/5/2011		29.44	96.78
	8/16/2011		30.23	95.99
	11/8/2011		31.95	94.27
	2/27/2012		32.84	93.38
	5/21/2012		32.8	93.42
	8/9/2012		33.84	92.38
	11/19/2012		34.39	91.83
	2/21/2013		32.1	94.12
	5/15/2013		31.73	94.49
	8/15/2013		32.84	93.38
	11/7/2013		33.69	92.53
	2/25/2014		34.38	91.84
	5/22/2014		35.22	91
	8/27/2014		36.65	89.57
	11/12/2014		36.93	89.29
	2/26/2015		34.88	91.34
	5/13/2015		35.6	90.62
	8/4/2015		36.03	90.19
	11/5/2015		36.9	89.32
	2/4/2016		35.33	90.89
	6/30/2016		34.37	91.85
	8/25/2016		34.59	91.63
	11/17/2016		34.9	91.32
	3/7/2017		26.18	100.04
	6/27/2017		28.14	98.08
	8/23/2017		30.09	96.13
	11/14/2017		31.07	95.15
	2/21/2018		32.94	93.28
	5/24/2018		33.03	93.19

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-2)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-2	6/15/2004	124.93	34.75	90.18
	3/29/2005		33.2	91.73
	6/16/2005		31.71	93.22
	9/29/2005		36.67	88.26
	12/6/2005		36.29	88.64
	2/16/2006		31.85	93.08
	5/16/2006		28.12	96.81
	8/21/2006		33.17	91.76
	11/20/2006		34.75	90.18
	2/8/2007		34.81	90.12
	5/7/2007		35.53	89.4
	8/29/2007		39.92	85.01
	2/21/2008		33.15	91.78
	5/27/2008		34.25	90.68
	8/27/2008		37.59	87.34
	11/25/2008		37.3	87.63
	2/19/2009		36.01	88.92
	5/21/2009		36.47	88.46
	8/7/2009		40.14	84.79
	11/5/2009		41.38	83.55
	2/8/2010		38.48	86.45
	5/7/2010		35.8	89.13
	8/18/2010		36.66	88.27
	11/2/2010		38.25	86.68
	12/28/2010		37.08	87.85
	2/23/2011		35.68	89.25
	5/5/2011		30.87	94.06
	8/16/2011		33.73	91.2
	11/8/2011		35.93	89
	2/27/2012		36.04	88.89
	5/21/2012		35.89	89.04
	8/9/2012		37.54	87.39
	11/19/2012		37.9	87.03
	2/21/2013		34.6	90.33
	5/15/2013		36.4	88.53
	8/15/2013		38.8	86.13
	11/7/2013		38.74	86.19
	2/25/2014		38.78	86.15
	5/22/2014		41.17	83.76
	8/27/2014		dry	
	11/12/2014		45.07	79.86
	2/26/2015		39.83	85.1
	5/13/2015		39.72	85.21
	8/4/2015		39.35	85.58
	11/5/2015		41.79	83.14
	2/4/2016		40.41	84.52
	6/30/2016		37.44	87.49
	8/25/2016		38.39	86.54
	11/17/2016		37.67	87.26
	3/7/2017		27.4	97.53
	6/27/2017		30.42	94.51
	8/23/2017		33.31	91.62
	11/14/2017		35.97	88.96
	2/21/18		35.87	89.06
	5/24/18		35.50	89.34

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-3)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-3	6/15/2004	121.37	20.42	100.95
	3/29/2005		21.33	100.04
	6/16/2005		20.14	101.23
	9/29/2005		22.45	98.92
	12/6/2005		21.54	99.83
	2/16/2006		21.65	99.72
	5/16/2006		26.51	94.86
	8/21/2006		21.49	99.88
	11/20/2006		21.14	100.23
	2/8/2007		23.02	98.35
	5/7/2007		20.63	100.74
	8/29/2007		22.99	98.38
	2/21/2008		21.24	100.13
	5/27/2008		22.19	99.18
	8/28/2008		23	98.37
	11/25/2008		24.39	96.98
	2/19/2009		19.67	101.7
	5/21/2009		21.31	100.06
	8/7/2009		22.49	98.88
	11/5/2009		24.29	97.08
	2/8/2010		20.2	101.17
	5/7/2010		23.21	98.16
	8/18/2010		23.55	97.82
	11/2/2010		25.13	96.24
	12/28/2010		19.95	101.42
	2/23/2011		20.66	100.71
	5/5/2011		21.64	99.73
	8/16/2011		23.3	98.07
	11/8/2011		25.03	96.34
	2/27/2012		24.69	96.68
	5/21/2012		24.44	96.93
	8/9/2012		25.58	95.79
	11/19/2012		25.96	95.41
	2/21/2013		24.15	97.22
	5/15/2013		25.45	95.92
	8/16/2013		26.67	94.7
	11/7/2013		25.97	95.4
	2/25/2014		25.44	95.93
	5/22/2014		26.5	94.87
	8/27/2014		28.75	92.62
	11/12/2014		29.53	91.84
	2/26/2015		21.33	100.04
	5/13/2015		23.53	97.84
	8/4/2015		25.7	95.67
	11/5/2015		28.7	92.67
	2/4/2016		24.81	96.56
	6/30/2016		25.89	95.48
	8/25/2016		27.74	93.63
	11/17/2016		29.6	91.77
	3/7/2017		19.13	102.24
	6/27/2017		22.75	98.62
	8/23/2017		23.33	98.04
	11/14/2017		25.87	95.50
	2/21/2018		26.98	94.39
	5/24/2018		25.54	95.83

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-4)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-4	6/15/2004	120.71	44.59	76.12
	3/29/2005		42.83	77.88
	6/16/2005		41.93	78.78
	9/29/2005		na	
	12/6/2005		46.6	74.11
	2/16/2006		42.31	78.4
	5/16/2006		37.61	83.1
	8/21/2006		42.25	78.46
	11/20/2006		41.8	78.91
	2/8/2007		40.85	79.86
	5/7/2007		40.92	79.79
	8/29/2007		46.13	74.58
	2/21/2008		41.2	79.51
	5/27/2008		42.34	78.37
	8/28/2008		45.65	75.06
	11/25/2008		46.07	74.64
	2/19/2009		45.29	75.42
	5/21/2009		44.44	76.27
	8/7/2009		49.54	71.17
	11/5/2009		51	69.71
	2/8/2010		49.31	71.4
	5/7/2010		45.94	74.77
	8/18/2010		48.05	72.66
	11/2/2010		49.05	71.66
	12/28/2010		48.01	72.7
	2/23/2011		46.31	74.4
	5/5/2011		42.04	78.67
	8/16/2011		45.02	75.69
	11/8/2011		46.64	74.07
	2/27/2012		44.72	75.99
	5/21/2012		44.56	76.15
	8/9/2012		48.08	72.63
	11/19/2012		49.78	70.93
	2/21/2013		45.9	74.81
	5/15/2013		46.69	74.02
	8/16/2013		50.67	70.04
	11/7/2013		51.99	68.72
	2/25/2014		50.88	69.83
	5/22/2014		51.08	69.63
	8/27/2014		55.49	65.22
	11/12/2014		56.36	64.35
	2/26/2015		53.85	66.86
	5/13/2015		53.9	66.81
	8/4/2015		55.42	65.29
	11/5/2015		56.74	63.97
	2/4/2016		56.4	64.31
	6/30/2016		54.22	66.49
	8/25/2016		55.21	65.5
	11/17/2016		55.54	65.17
	3/7/2017		48.46	72.25
	6/27/2017		47.06	73.65
	8/23/2017		48.59	72.12
	11/14/2017		49.98	70.73
	2/21/2018		49.98	70.73
	5/24/2018		49.69	71.02

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-5R)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-5R	6/15/2004	125.42	39.37	86.05
	3/29/2005		37.65	87.77
	6/16/2005		35.62	89.8
	9/29/2005		40.73	84.69
	12/6/2005		40.78	84.64
	2/16/2006		36.02	89.4
	5/16/2006		37.05	88.37
	8/21/2006		36.12	89.3
	11/20/2006		38.95	86.47
	2/8/2007		38.97	86.45
	5/7/2007		38.42	87
	8/29/2007		42.97	82.45
	2/21/2008		37.5	87.92
	5/27/2008		38.06	87.36
	8/27/2008		41.41	84.01
	11/24/2008		41.84	83.58
	2/18/2009		40.73	84.69
	5/21/2009		40.54	84.88
	8/7/2009		43.1	82.32
	11/5/2009		45.2	80.22
	2/8/2010		42.4	83.02
	5/7/2010		39.77	85.65
	8/18/2010		40.15	85.27
	11/2/2010		42.53	82.89
	12/28/2010		41.53	83.89
	2/23/2011		40.1	85.32
	5/5/2011		34.65	90.77
	8/16/2011		36.78	88.64
	11/8/2011		40.14	85.28
	2/27/2012		40.31	85.11
	5/21/2012		38.6	86.82
	8/9/2012		40.68	84.74
	11/19/2012		42.11	83.31
	2/21/2013		39.03	86.39
	5/15/2013		39.69	85.73
	8/15/2013		41.55	83.87
	11/7/2013		42.43	82.99
	2/25/2014		42.28	83.14
	5/22/2014		44.12	81.3
	8/27/2014		49.26	76.16
	11/12/2014		48.34	77.08
	2/26/2015		43.39	82.03
	5/13/2015		43.03	82.39
	8/4/2015		42.8	82.62
	11/5/2015		45.3	80.12
	2/4/2016		43.76	81.66
	6/30/2016		41.06	84.36
	8/25/2016		42.23	83.19
	11/17/2016		41.53	83.89
	3/7/2017		32.08	93.34
	6/27/2017		34.96	90.46
	8/23/2017		38.11	87.31
	11/14/2017		39.69	85.73
	2/21/2018		40.39	85.03
	5/24/2018		38.03	87.39

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-6)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-6	6/15/2004	121.59	37.96	83.63
	3/29/2005		37.26	84.33
	6/16/2005		34.92	86.67
	9/29/2005		40.59	81
	12/6/2005		40.77	80.82
	2/16/2006		35.32	86.27
	5/16/2006		30.28	91.31
	8/21/2006		35.59	86
	11/20/2006		38.57	83.02
	2/8/2007		38.46	83.13
	5/7/2007		37.97	83.62
	8/29/2007		42.96	78.63
	2/21/2008		37.02	84.57
	5/27/2008		37.56	84.03
	8/27/2008		41.26	80.33
	11/24/2008		41.98	79.61
	2/18/2009		40.67	80.92
	5/21/2009		39.94	81.65
	8/7/2009		42.98	78.61
	11/5/2009		45.37	76.22
	2/8/2010		42.51	79.08
	5/7/2010		39.51	82.08
	8/18/2010		40.14	81.45
	11/2/2010		42	75.57
	12/28/2010		41.67	79.92
	2/23/2011		40.1	81.49
	5/5/2011		34.03	87.56
	8/16/2011		36.23	85.36
	11/8/2011		40.27	81.32
	2/27/2012		40.2	81.39
	5/21/2012		38.67	82.92
	8/9/2012		41.03	80.56
	11/19/2012		42.47	79.12
	2/21/2013		38.91	82.68
	5/15/2013		39.64	81.95
	8/15/2013		41.84	79.75
	11/7/2013		42.65	78.94
	2/25/2014		42.34	79.25
	5/22/2014		44.14	77.45
	8/27/2014		dry	
	11/12/2014		dry	
	2/26/2015		43.62	77.97
	5/13/2015		43.65	77.94
	8/4/2015		43.2	78.39
	11/5/2015		45.58	76.01
	2/4/2016		43.92	77.67
	6/30/2016		41.31	80.28
	8/25/2016		42.62	78.97
	11/17/2016		41.8	79.79
	3/7/2017		31.88	89.71
	6/27/2017		34.37	87.22
	8/23/2017		37.96	83.63
	11/14/2017		39.71	81.88
	2/21/2018		40.15	81.44
	5/24/2018		39.25	82.34

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 2 (MW-7)
Static Water Level Measurement in Monitoring Wells
Wild Wings Water Recycling Facility, Yolo County, CA

Well	Date	TOC Elevation (feet msl)	DTW (feet btoc)	Water Surface Elevation (feet msl)
MW-7	6/15/2004	114.55	36.22	78.33
	3/29/2005		35.8	78.75
	6/16/2005		33.77	80.78
	9/29/2005		38.09	76.46
	12/6/2005		dry	
	2/16/2006		34.08	80.47
	5/16/2006		28.69	85.86
	8/21/2006		34.29	80.26
	11/20/2006		36.96	77.59
	2/8/2007		36.85	77.7
	5/7/2007		36.22	78.33
	8/29/2007		dry	
	2/21/2008		35.55	79
	5/27/2008		35.92	78.63
	8/27/2008		38.16	76.39
	11/24/2008		dry	
	2/18/2009		dry	
	5/21/2009		dry	
	8/7/2009		dry	
	11/5/2009		dry	
	2/8/2010		dry	
	5/7/2010		37.4	77.15
	8/18/2010		dry	
	11/2/2010		dry	
	12/28/2010		dry	
	2/23/2011		37.95	76.6
	5/5/2011		33.15	81.4
	8/16/2011		34.92	79.63
	11/8/2011		dry	
	2/27/2012		38.04	76.51
	5/21/2012		36.95	77.6
	8/9/2012		dry	
	11/19/2012		dry	
	2/21/2013		37.21	77.34
	5/15/2013		37.55	77
	8/15/2013		dry	
	11/7/2013		dry	
	2/25/2014		dry	
	5/22/2014		dry	
	8/27/2014		dry	
	11/12/2010		dry	
	2/26/2015		dry	
	5/13/2015		dry	
	8/4/2015		dry	
	11/5/2015		dry	
	2/4/2016		dry	
	6/30/2016		dry	
	8/25/2016		dry	
	11/17/2016		dry	
	3/7/2017		32.01	82.54
	6/27/2017		33.57	80.98
	8/23/2017		36.69	77.86
	11/14/2017		38.26	76.29
	2/21/2018		38.42	76.13
	5/24/2018		39.35	75.20

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 3
Groundwater Flow Direction and Gradient
Wild Wings Water Recycling Facility, Yolo County, CA

Sample Date	Water Surface Elevation 1			Gradient (ft/ft)	Flow Direction (degrees)2
	MW-1	MW-5R	MW-4		
6/15/2004	93.41	86.05	76.12	0.006	65
3/29/2005	95.6	87.77	77.88	0.006	64.2
6/16/2005	96.6	89.8	78.78	0.006	67.3
9/29/2005	94.47	84.69	n/a	n/a	n/a
12/6/2005	94.82	84.64	74.11	0.007	61.7
2/16/2006	96.23	89.4	78.4	0.006	67.2
5/16/2006	98.97	88.37	83.1	0.006	53.3
8/21/2006	96.49	89.3	78.46	0.006	66.4
11/20/2006	95.95	86.47	78.91	0.006	58.5
2/8/2007	94.85	86.45	79.86	0.005	58.3
5/7/2007	95.43	87	79.79	0.005	59.4
8/29/2007	93.84	82.45	74.58	0.007	56.9
2/21/2008	96.26	87.92	79.51	0.006	61.4
5/27/2008	96.52	87.36	78.37	0.006	61.1
8/27/2008	95.73	84.01	75.06	0.007	58
11/24/2008	93.79	83.58	74.64	0.007	59.7
2/18/2009	95.5	84.69	75.42	0.007	59.4
5/21/2009	94.9	84.88	76.27	0.006	59.4
8/4/2009	93.26	82.32	71.17	0.008	61.5
11/5/2009	91.88	80.22	69.71	0.008	60
2/8/2010	94.17	83.02	71.4	0.008	61.8
5/7/2010	94.37	85.65	74.77	0.007	64
8/18/2010	95	85.27	72.66	0.008	64.5
11/2/2010	94.22	82.89	71.66	0.008	61.2
12/28/2010	95.46	83.89	72.7	0.008	60.9
2/23/2011	94.89	85.32	74.4	0.007	62.9
5/5/2011	96.78	90.77	78.67	0.006	69.9
8/16/2011	95.99	88.64	75.69	0.007	68.3
11/8/2011	94.27	85.28	74.07	0.007	64
2/27/2012	93.38	85.11	75.99	0.006	62.5
5/21/2012	93.42	86.82	76.15	0.006	67.3
8/9/2012	92.38	84.74	72.63	0.007	67
11/19/2012	91.83	83.31	70.93	0.007	65.9
2/21/2013	94.12	86.39	74.81	0.007	66.3
5/15/2013	94.49	85.73	74.02	0.007	64.9
8/15/2013	93.38	83.87	70.04	0.008	66
11/7/2013	92.53	82.99	68.72	0.008	66.3
2/25/2014	91.84	83.14	69.83	0.007	66.6
5/22/2014	91	81.3	69.63	0.007	63.6
8/27/2014	89.57	76.16	65.22	0.009	58.8
11/12/2014	89.29	77.08	64.35	0.009	61.8
2/26/2015	91.34	82.03	66.86	0.008	67.4
5/13/2015	90.62	82.39	66.81	0.008	69.2
8/4/2015	90.19	82.62	65.29	0.008	71.3
11/5/2015	89.32	80.12	63.97	0.009	68.3
2/4/2016	90.89	81.66	64.31	0.009	69.1
6/30/2016	91.85	84.36	66.49	0.009	71.8
8/25/2016	91.63	83.19	65.5	0.009	70.3
11/17/2016	91.32	83.89	65.17	0.009	72.4
3/7/2017	100.04	93.34	72.25	0.009	74.7
6/27/2017	98.08	90.46	73.66	0.008	71.0
8/23/17	96.13	87.31	72.12	0.006	74.0
11/14/2017	95.15	85.73	70.73	0.006	75.0
2/21/2018	93.28	85.03	70.73	0.006	72.0
5/24/18	93.19	87.39	71.02	0.006	79.0

[1] Groundwater elevations from 6/15/04 to 2/21/08 were provided by DelTech and groundwater elevations from 5/27/08 to 3/7/2017 are provided by GEI. Groundwater elevations from 6/27/2017 to present by SSAL.

[2] Measured clockwise with North as 0.0 degrees, Using graphical methods perpendicular to groundwater contours.

TOC = Top of Casing
msl = mean sea level
DTW = depth to water
btoc = below top of casing

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	*(fecal)* (MPN/100 mL)	*(E. coli)* (MPN/100 mL)	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-1	6/15/2004	STL	7.7	1,410	112	391	2.1	<0.10	-	18.7	<0.05	<0.10	18.7	>23.0	<1.1	<1.1	<0.5	
MW-1	3/29/2005	BSK	7.9	1,200	160	360	3.7	<0.05	<0.01	27	<0.15	<1	27	2.2	<1.1	-	<0.5	
MW-1	6/16/2005	BSK	7.7	1,200	130	340	3.2	<0.05	<0.01	25	<0.20	<1	25	<1.1	<1.1	-	5.1	3
MW-1	9/29/2005	BSK	7.8	1,200	130	310	3.2	<0.05	<0.01	27	<0.15	<1	27	<1.1	<1.1	-	<0.5	
MW-1	12/6/2005	BSK	8.1	1,100	120	340	2.9	<0.05	<0.01	27	<0.15	<1	27	<1.1	<1.1	<1.1	6.12	3
MW-1	2/16/2006	BSK	8.0	1,300	110	340	2.7	<0.05	<0.01	27	<0.10	<1	27	<1.1	<1.1	-	<0.5	
MW-1	5/16/2006	BSK	8.0	1,100	130	300	3.4	<0.05	<0.01	27	<0.15	<1	27	<1.1	<1.1	-	<0.5	
MW-1	8/21/2006	BSK	8.0	1,000	120	270	3.6	<0.05	<0.01	25	<0.05	<0.10		<1.1	<1.1	-	<0.5	
MW-1	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	>23.0	<1.1	-	-	
MW-1	2/16/2007								No sample retrieved									
MW-1	5/7/2007	BSK	8.0	1,100	140	250	4.2	<0.05	<0.01	27	<0.05	<1.0	27	2.2	<1.1	-	<0.5	
MW-1	8/29/2007	BSK	8.0	1,100	110	240	3.6	<0.05	<0.01	24	*	<1.0	24	<1.1	<1.1	-	<0.5	
MW-1	11/28/2007	BSK	8.0	1,100	130	220	4.0	<0.05	<0.01	26	*	<1.0	26	<1.1	<1.1	-	<0.5	
MW-1	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-1	5/27/2008	CLS	7.3	1,100	120	250	3.5	0.10	<0.02	23	<0.10	<0.10	23	13	-	-	<0.50	
MW-1	8/27/2008	CLS	7.4	1,100	120	230	3.6	<0.10	<0.02	24	<0.10	<0.10	24	<1.8	-	-	<0.50	
MW-1	11/24/2008	CLS	7.4	1,100	120	260	3.2	0.44	<0.02	25	<0.10	<0.10	25	<1.8	-	-	<0.50	
MW-1	2/18/2009	CLS	-	980 (5)	130	170	4.0	<0.10	<0.02	19	<0.10	<0.10	19	<1.8	-	-	<0.50	
MW-1	5/21/2009	CLS	7.3	1,100	110	210	3.5	<0.10	<0.02	21	<0.10	<0.10	21	<1.8	-	-	<0.50	
MW-1	8/4/2009	CLS	7.3	1,100	96	240	3.1	0.13	<0.02	23	<0.10	<0.10	23	2.0	-	-	<0.50	
MW-1	11/5/2009	CLS	7.1 [6]	1,100 [5]	110	260	3.1	0.15	<0.02	24	<0.10	<0.10	24	<1.8	-	-	<0.50	
MW-1	2/8/2010	CLS	7.4	1,200	120	290	3.5	<0.10	<0.02	25	<0.10	<0.10	25	<1.8	-	-	<0.50	
MW-1	5/7/2010	CLS	7.4	1,100	120	280	3.0	<0.10	<0.02	25	<0.10	<0.10	25	<1.8	-	-	<0.50	
MW-1	8/18/2010	CLS	7.2	1,100	140	250	3.6	<0.10	<0.02	24	<0.10	<0.10	24	2.0	-	-	<0.50	
MW-1	11/2/2010	CLS	7.4	1,200	130	280	3.3	<0.10	<0.02	26	<0.10	<0.10	27	<1.8	-	-	<0.50	
MW-1	2/23/2011	CLS	7.4	1,100	130	270	3.6	<0.10	<0.02	26	<0.10	<0.10	26	<1.8	-	-	<0.50	
MW-1	5/5/2011	CLS	7.4	1,100	130	250	3.7	<0.10	<0.02	24	<0.10	<0.10	24	<1.8	-	-	<0.50	
MW-1	8/16/2011	CLS	7.4	1,200	140	200	4.2	<0.10	<0.02	24	<0.10	<0.10	24	<1.8	-	-	<0.50	
MW-1	11/8/2011	CLS	7.3	1,200	130	220	4.0	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	2/27/2012	CLS	7.3	1,100	140	220	4.4	<0.10	<0.02	21	<0.10	<0.10	21	<1.8	-	-	<0.50	
MW-1	5/21/2012	CLS	7.5	1,100	130	230	4.0	<0.10	<0.02	23	<0.10	0.13	23	<1.8	-	-	<0.50	
MW-1	8/9/2012	CLS	7.6	1,100	130	210	3.9	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	11/19/2012	CLS	7.3	1,200	120	220	3.5	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	2/21/2013	CLS	7.2	1,100	140	200	4.1	<0.10	<0.02	19	<0.10	0.14	19	<1.8	-	-	<0.50	
MW-1	5/15/2013	CLS	7.2	1,200	130	220	4.1	<0.10	<0.02	23	<0.10	<0.10	23	<1.8	-	-	<0.50	
MW-1	8/15/2013	CLS	7.3	1,100	130	230	3.7	0.15	<0.02	22	<0.10	<0.10	22	<1.8	-	-	<0.50	
MW-1	11/7/2013	CLS	7.4	1,100	150	240	3.4	<0.10	<0.02	22	<0.10	<0.10	22	<1.8	-	-	<0.50	
MW-1	2/25/2014	CLS	7.4	1,100	100	260	3.5	<0.10	<0.02	22	<0.10	<0.10	22	<1.8	-	-	<0.50	
MW-1	5/22/2014	CLS	7.4	1,100	110	220	3.3	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	8/27/2014	CLS	7.5	1,200	110	230	3.5	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	11/12/2014	CLS	7.3 [6]	1,000 [7]	93	240	2.8	<0.10	<0.02	20	<0.10	<0.10	20	<1	-	-	<0.50	
MW-1	2/26/2015	CLS	7.3	990	110	200	3.5	<0.10	<0.02	17	<0.10	<0.10	17	<1.8	-	-	<0.50	
MW-1	5/13/2015	CLS	7.4	1,100	100	200	3.5	<0.10	<0.02	17	<0.10	<0.10	17	<1.8	-	-	<0.50	
MW-1	8/4/2015	CLS	7.3	1,200	110	200	3.6	<0.10	<0.02	19	<0.10	<0.10	19	<1.8	-	-	<0.50	
MW-1	11/5/2015	CLS	7.3	1,200	100	220	3.2	<0.10	<0.02	20	<0.10	<0.10	20	<1.8	-	-	<0.50	
MW-1	2/4/2016	CLS	7.3	1,200	110	200	3.9	<0.10	<0.02	20	<0.40	<0.10	20	<1.8	-	-	<0.50	
MW-1	6/30/2016	CLS	7.2	1,100	110	180	3.9	<0.10	<0.02	16	<0.40	<0.10	16	<1.8	-	-	<0.50	
MW-1	8/25/2016	CLS	7.3	990	100	170	3.3	<0.10	<0.02	16	<0.40	<0.10	16	2.0	-	-	8.5	
MW-1	11/17/2016	CLS	7.4	1,100	110	180	3.7	<0.10	<0.02	17	<0.40	<0.10	17	<1.8	-	-	<0.50	
MW-1	3/7/2017	CLS	7.4	990	110	230	3.5	<0.10	<0 02	15	<0.40	0.18	15	<1.8	-	-	<0.50	
MW-1	6/27/2017	CLS	7.1	1100	150	140	4.6	<0.10	<0.02	16	<0.40	0.19	16	2.0	-	-	<0.50	
MW-1	8/23/2017	CLS	6.6	960	150	130	5.1	<0.10	<0.02	14	<0.40	<0.10	14	2.0	-	-	<0.50	
MW-1	11/14/2017	CLS	7.2	960	150	120	5.1	<0.10	<0.02	11	<0.40	<0.10	11	<1.8			<0.50	
MW-1	2/21/2018	CLS	7.4	960	140	120	5.4	<0.10	<0.02	12	<0.40	<0.10	12	<1.8	-	-	<0.50	
MW-1	5/24/2018	CLS	7.4	970	120	120	6.1	<0.10	<0.02	18	<0.40	<0.10	18	<1.8	-	-	<0.50	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	Coliform Bacteria *(fecal)* (MPN/100 mL)	Coliform Bacteria *(E. coli)* (MPN/100 mL)	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-2	6/15/2004	STL	7.6	884	147	78.4	5.9	<0.10	-	11.9	<0.05	<0.10	11.9	23.0	<1.1	<1.1	<0.5	
MW-2	3/29/2005	BSK	7.8	880	200	95	7.2	<0.05	<0.01	11	<0.15	<1	11	1.1	<1.1	-	<0.5	
MW-2	6/16/2005	BSK	7.6	920	150	100	5.5	<0.05	<0.01	11	<0.10	<1	11	>23.0	>23.0	-	<0.5	
MW-2	9/29/2005	BSK	7.8	960	170	110	5.8	<0.05	<0.01	12	<0.15	<1	12	5.1	<1.1	-	<0.5	
MW-2	12/6/2005	BSK	8.0	970	180	130	6.1	<0.05	<0.01	12	<0.10	<1	12	1.1	<1.1	<1.1	0.88	3
MW-2	2/16/2006	BSK	7.9	940	150	120	5.4	<0.05	<0.01	11	<0.10	<1	11	<1.1	<1.1	-	0.92	3
MW-2	5/16/2006	BSK	8.0	1,000	170	120	5.9	<0.05	<0.01	13	<0.15	4.0	13	<1.1	<1.1	-	0.63	3
MW-2	8/21/2006	BSK	7.9	1,000	150	140	5.2	<0.05	<0.01	14	<0.05	<0.10	-	<1.1	<1.1	-	<0.5	
MW-2	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	>23.0	<1.1	-	-	
MW-2	2/16/2007								No sample retrieved									
MW-2	5/7/2007	BSK	7.9	920	170	120	6.0	<0.05	<0.01	11	<0.05	<1.0	11	<1.1	<1.1	-	<0.5	
MW-2	8/29/2007	BSK	7.9	850	130	110	4.8	<0.05	<0.01	10	*	<1.0	10	<1.1	<1.1	-	<0.5	
MW-2	11/28/2007	BSK	7.8	890	150	100	5.3	<0.05	<0.01	11	*	<1.0	11	<1.1	<1.1	-	<0.5	
MW-2	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	1.1	<1.1	-	-	
MW-2	5/28/2008	CLS	7.0	910	170	97	5.7	<0.10	<0.01	9.1	<0.10	<0.10	9.2	<1.8	-	-	<0.50	
MW-2	8/27/2008	CLS	7.0	910	150	100	5.0	<0.10	<0.02	9.5	<0.10	0.11	9.6	<1.8	-	-	<0.50	
MW-2	11/25/2008	CLS	7.2	950	150	100	5.0	<0.10	<0.02	9.1	<0.10	<0.10	9.1	79	-	-	<0.50	
MW-2	2/19/2009	CLS	-	880(5)	140	100	4.9	<0.10	<0.02	8.2	<0.10	<0.10	8.5	6.8	-	-	<0.50	
MW-2	5/21/2009	CLS	7.1	870	140	89	4.7	<0.10	<0.02	8.1	<0.10	<0.10	8.3	<1.8	-	-	<0.50	
MW-2	8/4/2009	CLS	7.0	860	120	91	4.2	<0.10	<0.02	8.0	<0.10	<0.10	8.0	<1.8	-	-	<0.50	
MW-2	11/5/2009	CLS	-	790(5)	150	100	4.8	<0.10	<0.02	7.9	<0.10	<0.10	8.0	<1.8	-	-	<0.50	
MW-2	2/8/2010	CLS	7.2	960	170	110	5.6	0.10	<0.02	7.9	<0.10	<0.10	7.9	7.8	-	-	<0.50	
MW-2	5/7/2010	CLS	7.1	950	160	120	5.1	<0.10	<0.02	7.5	<0.10	<0.10	7.5	<1.8	-	-	<0.50	
MW-2	8/18/2010	CLS	7.1	1,000	180	130	5.7	0.22	<0.02	8.3	<0.10	0.11	8.5	<1.8	-	-	<0.50	
MW-2	11/2/2010	CLS	7.1	1,100	210	140	6.1	<0.10	<0.02	8.4	<0.10	<0.10	8.7	<1.8	-	-	<0.50	
MW-2	2/23/2011	CLS	7.1	1,200	160	160	5.7	<0.10	<0.02	8.5	<0.10	0.17	11	13	-	-	<0.50	
MW-2	5/5/2011	CLS	7.1	970	160	150	5.6	<0.10	<0.02	7.3	<0.10	<0.10	7.6	<1.8	-	-	<0.50	
MW-2	8/16/2011	CLS	7.1	1,100	190	170	6.6	0.17	<0.02	9.4	<0.10	<0.10	9.6	<1.8	-	-	<0.50	
MW-2	11/8/2011	CLS	7.0	1,200	180	170	6.3	<0.10	<0.02	8.8	<0.10	<0.10	8.8	<1.8	-	-	<0.50	
MW-2	2/27/2012	CLS	7.0	1,100	190	140	7.0	<0.10	<0.02	8.0	<0.10	<0.10	8.2	<1.8	-	-	<0.50	
MW-2	5/21/2012	CLS	7.1	990	180	130	7.3	<0.10	<0.02	8.2	<0.10	0.20	8.4	2.0	-	-	<0.50	
MW-2	8/9/2012	CLS	7.4	1,000	140	120	4.7	<0.10	<0.02	8.8	<0.10	0.11	9.0	<1.8	-	-	<0.50	
MW-2	11/19/2012	CLS	7.0	1,000	170	110	6.0	<0.10	<0.02	8.6	<0.10	<0.10	8.9	2.0	-	-	<0.50	
MW-2	2/21/2013	CLS	7.0	930	170	100	6.2	0.14	<0.02	8.7	<0.10	0.12	8.9	14.0	-	-	<0.50	
MW-2	5/15/2013	CLS	7.1	940	170	120	6.2	<0.10	<0.02	8.6	<0.10	<0.10	8.7	<1.8	-	-	<0.50	
MW-2	8/15/2013	CLS	7.0	990	160	120	5.2	<0.10	<0.02	8.3	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-2	11/7/2013	CLS	7.0	900	150	110	5.7	<0.10	<0.02	8.1	<0.10	0.17	8.4	<1.8	-	-	<0.50	
MW-2	2/25/2014	CLS	7.1	830	140	86	5.9	<0.10	<0.02	8.4	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-2	5/22/2014	CLS	7.0	830	140	73	5.6	<0.10	<0.02	8.1	<0.10	<0.10	8.1	<1.8	-	-	<0.50	
MW-2	8/27/2014								No sample retrieved									
MW-2	11/12/2014								No sample retrieved									
MW-2	2/26/2015	CLS	7.0	800	130	87	5.3	<0.10	<0.02	8.3	<0.10	<0.10	8.4	<1.8	-	-	<0.50	
MW-2	5/13/2015	CLS	7.2	830	130	86	5.3	<0.10	<0.02	9.2	<0.10	<0.10	9.3	<1.8	-	-	<0.50	
MW-2	8/4/2015	CLS	7.2	830	150	88	5.4	<0.10	<0.02	8.3	<0.10	<0.10	8.5	<1.8	-	-	<0.50	
MW-2	11/5/2015	CLS	7.1	920	130	84	4.5	<0.10	<0.02	8.5	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-2	2/4/2016	CLS	7.1	840	140	83	5.4	<0.10	<0.02	9.0	<0.40	<0.10	9.2	<1.8	-	-	<0.50	
MW-2	6/30/2016	CLS	7.0	770	130	83	5.1	<0.10	<0.02	9.2	<0.40	<0.10	9.2	<1.8	-	-	0.94	
MW-2	8/25/2016	CLS	7.1	820	150	88	4.8	<0.10	<0.02	9.7	<0.40	0.17	9.7	<1.8	-	-	9.9	
MW-2	11/17/2016	CLS	7.3	820	140	94	4.9	<0.10	<0.02	10.0	<0.40	0.12	11.0	<1.8	-	-	<0.50	
MW-2	3/7/2017	CLS	7.2	840	140	120	5.4	<0.10	<0.02	8.8	<0.40	<0.10	9.0	<1.8	-	-	<0.50	
MW-2	6/27/2017	CLS	6.9	940	160	130	5.5	<0.10	<0.02	16	--	0.12	16	7.8			<0.50	
MW-2	8/23/2017	CLS	7.1	960	180	130	6.3	<0.10	<0.02	18	<0.40	<0.10	18	17	-	-	<0.50	
MW-2	11/14/2017	CLS	7.1	1,000	170	140	6.2	<0.10	<0.02	21	<0.40	0.10	21	4.5	-	-	<0.50	
MW-2	2/21/2018	CLS	7.1	1,000	160	130	6.3	<0.10	<0.02	19	<0.40	<0.10	19	7.8	-	-	<0.50	
MW-2	5/24/2018	CLS	7.1	970	150	130	6.1	<0.10	<0.02	18	<0.40	<0.10	18	<1.8	-	-	<0.50	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	*(fecal)* (MPN/100 mL)	*(E. coli)*	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	WQ Objective		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-3	6/15/2004	STL	7.7	435	90.6	34.8	1.7	<0.10	-	1.7	<0.05	<0.10	1.7	23.0	<1.1	<1.1	<0.5	
MW-3	3/29/2005	BSK	7.8	390	96	38	1.5	<0.05	<0.01	2.9	<0.05	<1	2.9	>23.0	1.1	-	<0.5	
MW-3	6/16/2005	BSK	7.6	380	81	26	1.2	<0.05	<0.01	0.70	<0.10	<1	0.70	5.1	<1.1	-	1.6	3
MW-3	9/29/2005	BSK	7.8	620	120	57	2.0	<0.05	<0.01	1.8	<0.10	<1	1.8	>23.0	12.0	-	0.79	3
MW-3	12/6/2005	BSK	8.1	610	140	62	2.1	<0.05	<0.01	1.6	<0.10	<1	1.6	>23.0	3.6	3.6	5.4	3
MW-3	2/16/2006	BSK	7.9	380	74	31	1.1	0.10	<0.01	1.4	<0.05	<1	1.4	16.1	1.1	-	<0.5	
MW-3	5/16/2006	BSK	8.0	420	72	32	1.1	<0.05	<0.01	1.6	<0.05	<1	1.6	>23.0	5.1	-	2.6	3
MW-3	8/21/2006	BSK	8.0	480	110	49	1.7	0.15	<0.01	0.9	<0.05	<0.10	-	<1.1	<1.1	-	<0.5	
MW-3	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	>23.0	<1.1	-	-	
MW-3	2/16/2007								No sample retrieved									
MW-3	5/7/2007	BSK	7.9	550	160	65	2.0	<0.05	<0.01	0.54	<0.05	<1.0		2.2	<1.1	-	<0.5	
MW-3	8/29/2007	BSK	7.9	690	160	92	2.4	<0.05	<0.01	1.4	*	<1.0	1.4	>23.0	<1.1	-	<0.5	
MW-3	11/28/2007	BSK	7.8	770	170	94	2.4	0.27	0.45	2.3	*	<1.0	5.3	23.0	2.2	-	<0.5	
MW-3	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	12.0	<1.1	-	-	
MW-3	5/28/2008	CLS	7.0	530	120	56	1.7	7.1	0.17	2.1	<0.10	<0.10	9.4	280	-	-	<0.50	
MW-3	8/28/2008	CLS	7.0	640	160	69	2.0	<0.10	<0.02	2.0	<0.10	0.12	2.7	540	-	-	<0.50	
MW-3	11/25/2008	CLS	7.1	680	170	67	2.1	0.34	0.19	0.58	<0.10	0.17	1.6	240	-	-	<0.50	
MW-3	2/19/2009	CLS	-	580(5)	130	75	1.8	0.69	0.14	1.3	<0.10	0.14	2.6	>1600	-	-	<0.50	
MW-3	5/21/2009	CLS	7.1	500	130	53	1.6	20	0.68	<0.50	<0.10	<0.10	1.2	79	-	-	<0.50	
MW-3	8/5/2009	CLS	7.0	690	130	73	1.8	0.31	0.04	0.55	<0.10	0.14	1.8	430	-	-	<0.50	
MW-3	11/5/2009	CLS	-	600(5)	160	77	2.1	0.33	0.25	1.0	<0.10	0.64	2.8	>1600	-	-	<0.50	
MW-3	2/8/2010	CLS	7.0	530	130	52	1.7	0.55	0.04	0.69	<0.10	0.15	1.5	1600	-	-	<0.50	
MW-3	5/7/2010	CLS	6.9	580	140	78	1.6	<0.10	0.06	1.1	<0.10	0.26	2.6	23	-	-	<0.50	
MW-3	8/18/2010	CLS	7.1	670	200	87	2.4	2.7	0.50	1.2	<0.10	0.93	3.4	350	-	-	5.2	
MW-3	11/2/2010	CLS	7.0	870	200	120	2.8	0.28	0.46	5.3	<0.10	0.36	7.2	280	-	-	1.5	
MW-3	2/24/2011	CLS	6.7	590	140	73	1.8	<0.10	<0.02	1.6	<0.10	0.17	2.5	1600	-	-	<0.50	
MW-3	5/5/2011	CLS	6.9	650	130	95	1.9	0.11	0.03	4.0	<0.10	0.30	4.6	33	-	-	<0.50	
MW-3	8/16/2011	CLS	7.4	910	170	120	3.2	<0.10	<0.02	5.0	<0.10	<0.10	5.4	94	-	-	<0.50	
MW-3	11/8/2011	CLS	7.0	920	180	130	2.7	2.0	0.35	3.7	<0.10	0.56	4.9	63	-	-	<0.50	
MW-3	2/27/2012	CLS	6.9	740	180	110	2.4	5.5	0.33	2.0	<0.10	0.43	3.2	49	-	-	<0.50	
MW-3	5/21/2012	CLS	7.0	760	160	98	2.3	<0.10	0.03	2.1	<0.10	0.13	3	13	-	-	<0.50	
MW-3	8/9/2012	CLS	7.3	850	180	110	2.3	0.22	0.03	2.9	<0.10	0.37	3.5	<1.8	-	-	1.7	
MW-3	11/19/2012	CLS	7.0	900	180	120	2.3	0.59	0.18	4.1	<0.10	0.31	5.4	130	-	-	<0.50	
MW-3	2/21/2013	CLS	6.9	670	170	110	2.0	0.18	0.04	2.4	<0.10	0.35	3.2	4	-	-	<0.50	
MW-3	5/15/2013	CLS	7.0	710	160	110	2.1	<0.10	0.07	1.8	<0.10	<0.10	2.1	<1.8	-	-	0.93	
MW-3	8/16/2013	CLS	7.4	630(5)	140	82	1.8	9.10	0.15	1.6	<0.10	0.16	3.7	<1.8	-	-	0.63	
MW-3	11/7/2013	CLS	6.9	620	150	81	1.4	<0.10	0.07	1.8	<0.10	0.12	2.5	<1.8	-	-	<0.50	
MW-3	2/25/2014	CLS	7.2	760	180	170	2.3	3.10	0.13	2.7	<0.10	0.32	3.3	>1600	-	-	<0.50	
MW-3	5/22/2014	CLS	7.0	860	170	170	2.3	0.96	0.03	1.9	<0.10	<0.10	2.3	<1.8	-	-	<0.50	
MW-3	8/27/2014	CLS	7.1	900	150	170	1.9	0.55	0.13	1.8	<0.10	0.20	2.4	<1.8	-	-	0.62	
MW-3	11/12/2014								No sample retrieved									
MW-3	2/26/2015	CLS	7.0	650	130	110	1.9	<0.10	<0.02	1.1	<0.10	<0.10	1.7	920	-	-	<0.50	
MW-3	5/13/2015	CLS	7.0	700	140	150	1.7	0.26	<0.02	2.4	<0.10	<0.10	2.6	<1.8	-	-	<0.50	
MW-3	8/4/2015	CLS	7.0	700	150	120	1.9	16.00	0.32	2.1	<0.10	0.30	2.7	<1.8	-	-	<0.50	
MW-3	11/5/2015								No sample retrieved									
MW-3	2/4/2016	CLS	7.1	980	210	230	2.1	<0.10	<0.02	1.7	<0.40	0.25	2.4	220	-	-	<0.50	
MW-3	6/30/2016	CLS	7.0	740	150	150	2.1	11.00	0.18	2.2	<0.40	0.16	3.1	9.0	-	-	3.1	
MW-3	8/25/2016								No sample retrieved									
MW-3	11/17/2016								No sample retrieved									
MW-3	3/7/2017	CLS	7.2	420	84	52	0.94	1.10	0.10	<0.40	<0.40	0.17	0.95	23.0	-	-	<0.50	
MW-3	6/27/2017	CLS	6.9	510	120	66	1.3	<0.10	<0.10	0.90	<0.40	0.44	4.6	540			<0.50	
MW-3	8/23/2017	CLS	7.3	610	170	55	2.1	0.12	<0.02	0.48	<0.40	0.33	1.7	>1600	-	-	<0.50	
MW-3	11/14/2017	CLS	7.1	580	130	78	1.7	<0.10	0.039	1.6	<0.40	0.13	4.2	13	-	-	<0.50	
MW-3	2/21/2018	CLS	7.1	690	180	110	2.3	<0.10	0.3	0.94	<0.40	0.26	2.2	220	-	-	<0.50	
MW-3	5/24/2018	CLS	7.3	620	140	81	2.0	<0.10	<0.20	1.7	<0.40	<0.10	2.0	13	-	-	<0.50	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Nitrogen mg/L	Total Coliform Bacteria (total) (MPN/100 mL)	Total Coliform Bacteria *(fecal)* (MPN/100 mL)	Total Coliform Bacteria *(E. coli)* (MPN/100 mL)	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-4	6/15/2004	STL	8.0	647	53.3	138	1.0	0.87	--	8.4	<0.05	<0.10	8.4	9.2	<1.1	<1.	<0.5	
MW-4	3/29/2005	BSK	8.1	570	69	170	1.2	<0.05	<0.01	9.7	<0.10	<1	9.7	23.0	<1.1	-	<0.5	
MW-4	6/16/2005	BSK	8.0	600	59	170	1.0	<0.05	<0.01	9.7	<0.10	<1	9.7	<1.1	<1.1	-	0.81	3
MW-4	9/29/2005								No sample retrieved									
MW-4	12/6/2005	BSK	8.2	570	55	180	1.1	<0.05	<0.01	9.9	<0.10	<1	9.9	<1.1	<1.1	<1.1	1.4	3
MW-4	2/16/2006	BSK	8.1	590	49	180	0.96	<0.05	<0.01	9.7	<0.10	<1	9.7	<1.1	<1.1	-	1.8	3
MW-4	5/16/2006	BSK	8.2	650	56	180	1.1	<0.05	<0.01	9.9	<0.10	<1	9.9	<1.1	<1.1	-	0.99	3
MW-4	8/21/2006	BSK	8.2	590	49	170	1.0	<0.05	<0.01	9.7	<0.05	<0.10	-	>23.0	9.2	-	<0.5	
MW-4	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-4	2/16/2007								No sample retrieved									
MW-4	5/7/2007	BSK	8.2	560	54	170	1.1	<0.05	<0.01	44 [4]	<0.05	<1.0	44 [4]	<1.1	<1.1	-	<0.5	
MW-4	8/29/2007	BSK	8.2	570	47	180	1.1	<0.05	<0.01	9.5	*	<1.0	9.5	6.9	<1.1	-	<0.5	
MW-4	11/28/2007	BSK	8.1	570	52	190	1.0	<0.05	<0.01	11	*	<1.0	11	<1.1	<1.1	-	<0.5	
MW-4	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-4	5/27/2008	CLS	7.7	550	51	180	1.0	<0.10	<0.02	9.4	<0.10	<0.10	9.5	<1.8	-	-	<0.50	
MW-4	8/28/2008	CLS	7.5	560	52	170	0.94	<0.10	<0.02	9.5	<0.10	<0.10	9.7	<1.8	-	-	<0.50	
MW-4	11/25/2008	CLS	7.8	620	51	190	0.98	<0.10	<0.02	10	<0.10	<0.10	10	<1.8	-	-	<0.50	
MW-4	2/19/2009	CLS	-	650(5)	53	190	1.2	<0.10	<0.02	10	<0.10	<0.10	10	<1.8	-	-	<0.50	
MW-4	5/21/2009	CLS	7.9	620	50	170	0.98	<0.10	<0.02	9.3	<0.10	<0.10	9.3	<1.8	-	-	<0.50	
MW-4	8/5/2009	CLS	7.6	600	41	190	0.88	<0.10	<0.02	10	<0.10	<0.10	10	<1.8	-	-	<0.50	
MW-4	11/5/2009	CLS	7.8 (6)	710(5)	53	190	1.0	<0.10	<0.02	10	<0.10	<0.10	10	<1.8	-	-	<0.50	
MW-4	2/8/2010	CLS	7.8	630	59	210	1.2	0.15	<0.02	11	<0.10	<0.10	11	<1.8	-	-	<0.50	
MW-4	5/7/2010	CLS	7.6	710	54	220	0.96	0.12	<0.02	12	<0.10	<0.10	12	<1.8	-	-	<0.50	
MW-4	8/18/2010	CLS	7.6	560	59	200	1.1	<0.10	<0.02	11	<0.10	<0.10	11	<1.8	-	-	<0.50	
MW-4	11/2/2010	CLS	7.8	650	66	210	1.2	<0.10	<0.02	11	<0.10	<0.10	11	<1.8	-	-	<0.50	
MW-4	2/23/2011	CLS	7.7	680	57	220	1.1	<0.10	<0.02	12	<0.10	<0.10	12	<1.8	-	-	<0.50	
MW-4	5/5/2011	CLS	7.8	810	53	230	0.98	<0.10	<0.02	12	<0.10	<0.10	12	<1.8	-	-	<0.50	
MW-4	8/16/2011	CLS	8.0	690	58	210	1.1	<0.10	<0.02	12	<0.10	<0.10	12	<1.8	-	-	<0.50	
MW-4	11/8/2011	CLS	7.7	630	57	210	1.0	<0.10	<0.02	11	<0.10	<0.10	11	<1.8	-	-	<0.50	
MW-4	2/27/2012	CLS	7.7	610	62	210	1.2	<0.10	<0.02	11	<0.10	<0.10	11	<1.8	-	-	<0.50	
MW-4	5/21/2012	CLS	7.7	650	58	210	1.2	<0.10	<0.02	12	<0.10	0.26	12	<1.8	-	-	<0.50	
MW-4	8/9/2012	CLS	8.0	600	63	220	1.1	<0.10	<0.02	12	<0.10	0.19	12	<1.8	-	-	<0.50	
MW-4	11/19/2012	CLS	7.6	610	55	210	1.0	<0.10	<0.02	12	<0.10	<0.10	12	<1.8	-	-	<0.50	
MW-4	2/21/2013	CLS	7.6	670	66	230	1.1	<0.10	<0.02	15	<0.10	<0.10	15	<1.8	-	-	<0.50	
MW-4	5/15/2013	CLS	7.6	680	57	240	1.1	0.21	<0.02	15	<0.10	<0.10	15	<1.8	-	-	<0.50	
MW-4	8/16/2013	CLS	7.7	870(5)	58	250	1.1	<0.10	<0.02	14	<0.10	0.14	14	<1.8	-	-	<0.50	
MW-4	11/7/2013	CLS	7.6	670	56	250	1.0	<0.10	<0.02	14	<0.10	0.14	14	<1.8	-	-	<0.50	
MW-4	2/25/2014	CLS	7.7	830	70	250	1.0	<0.10	<0.02	14	<0.10	<0.10	14	<1.8	-	-	<0.50	
MW-4	5/22/2014	CLS	7.8	700	57	230	1.1	<0.10	<0.02	13	<0.10	<0.10	13	<1.8	-	-	<0.50	
MW-4	8/27/2014	CLS	7.8	840	58	250	1.0	<0.10	<0.02	14	<0.10	<0.10	14	<1.8	-	-	<0.50	
MW-4	11/12/2014	CLS	7.7 [6]	749 [7]	54	260	1.0	<0.10	<0.02	15	<0.10	<0.10	15	<1	-	-	<0.50	
MW-4	2/26/2015	CLS	7.7	720	52	260	1.0	<0.10	<0.02	16	<0.10	<0.10	16	<1.8	-	-	<0.50	
MW-4	5/13/2015	CLS	7.8	770	53	250	1.0	<0.10	<0.02	15	<0.10	<0.10	15	<1.8	-	-	<0.50	
MW-4	8/4/2015	CLS	7.8	750	56	240	1.0	<0.10	<0.02	16	<0.10	<0.10	16	<1.8	-	-	<0.50	
MW-4	11/5/2015	CLS	7.8	970	60	240	1.1	<0.10	<0.02	17	<0.10	<0.10	17	<1.8	-	-	<0.50	
MW-4	2/4/2016	CLS	7.8	760	49	240	0.82	<0.10	<0.02	17	<0.40	0.17	17	<1.8	-	-	<0.50	
MW-4	6/30/2016	CLS	7.6	690	50	240	0.95	<0.10	<0.02	16	<0.40	<0.10	16	<1.8	-	-	<0.50	
MW-4	8/25/2016	CLS	7.7	560	56	220	0.88	<0.10	<0.02	16	<0.40	0.14	16	<1.8	-	-	12	
MW-4	11/17/2016	CLS	7.7	660	50	220	0.85	<0.10	<0.02	17	<0.40	<0.10	17	<1.8	-	-	<0.50	
MW-4	3/7/2017	CLS	7.7	670	49	250	0.95	<0.10	<0.02	14	<0.40	<0.10	14	<1.8	-	-	<0.50	
MW-4	6/27/2017	CLS	7.5	680	55	230	0.87	<0.10	<0.02	15	<0.40	<0.10	15	<1.8			<0.50	
MW-4	8/23/2017	CLS	7.5	630	57	220	1.0	<0.10	<0.02	14	<0.40	<0.10	14	79	-	-	<0.50	
MW-4	11/14/2017	CLS	7.5	660	58	240	0.97	<0.10	<0.02	15	<0.40	0.13	15	540	-	-	<0.50	
MW-4	2/21/2018	CLS	7.8	610	53	220	0.96	<0.10	<0.02	14	<0.40	<0.10	15	49	-	-	<0.50	
MW-4	5/24/2018	CLS	7.7	620	47	210	0.93	<0.10	<0.02	14	<0.40	<0.10	14	2.0	-	-	<0.50	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	*(fecal)*	*(E. coli)*	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-5R	6/15/2004	STL	8.1	461	91.7	42.3	2.1	<0.10	-	1.6	<0.05	<0.10	1.6	>23.0	<1.1	<1.1	<0.5	
MW-5R	3/29/2005	BSK	8.2	490	120	48	2.6	<0.05	<0.01	2.0	<0.10	<1	2.0	5.1	<1.1	-	<0.5	
MW-5R	6/16/2005	BSK	8.2	450	95	49	2.0	<0.05	<0.01	1.4	<0.10	<1	1.4	1.1	<1.1	-	4.0	3
MW-5R	9/29/2005	BSK	8.2	430	92	48	2.0	<0.05	<0.01	1.1	<0.10	<1	1.1	1.1	<1.1	-	<0.5	
MW-5R	12/6/2005	BSK	8.4	430	92	51	2.1	<0.05	<0.01	1.6	<0.10	<1	1.6	<1.1	<1.1	<1.1	1.8	3
MW-5R	2/16/2006	BSK	8.3	450	91	48	2.0	<0.05	<0.01	1.7	<0.10	<1	1.7	<1.1	<1.1	-	1.6	3
MW-5R	5/16/2006	BSK	8.3	360	92	47	2.1	<0.05	<0.01	1.1	<0.10	<1	1.1	<1.1	<1.1	-	1.6	3
MW-5R	8/21/2006	BSK	8.3	420	78	47	1.8	<0.05	<0.01	1.1	<0.05	<0.10	-	<1.1	<1.1	-	<0.5	
MW-5R	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	23.0	<1.1	-	-	
MW-5R	2/16/2007								No sample retrieved									
MW-5R	5/7/2007	BSK	8.3	420	89	49	2.0	<0.05	<0.01	1.1	<0.05	<1.0	1.1	<1.1	<1.1	-	<0.5	
MW-5R	8/29/2007	BSK	8.3	470	91	44	1.9	<0.05	<0.01	2.0	*	<1.0	2.0	<1.1	<1.1	-	1.14	
MW-5R	11/28/2007	BSK	8.2	460	95	45	2.1	<0.05	<0.01	2.1	*	<1.0	2.1	1.1	<1.1	-	<0.5	
MW-5R	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-5R	5/28/2008	CLS	7.7	450	97	44	2.1	<0.05	<0.01	1.4	<0.10	<0.10	1.5	<1.8	-	-	<0.50	
MW-5R	8/27/2008	CLS	7.9	450	91	44	2.0	<0.10	<0.02	1.5	<0.10	<0.10	1.7	<1.8	-	-	<0.50	
MW-5R	11/24/2008	CLS	7.9	470	93	46	2.0	<0.10	<0.02	1.8	<0.10	<0.10	1.9	<1.8	-	-	<0.50	
MW-5R	2/18/2009	CLS	-	470(5)	92	48	2.1	<0.10	<0.02	1.8	<0.10	<0.10	2.0	<1.8	-	-	<0.50	
MW-5R	5/21/2009	CLS	7.9	470	86	44	1.9	<0.10	<0.02	1.6	<0.10	<0.10	1.6	<1.8	-	-	<0.50	
MW-5R	8/4/2009	CLS	7.9	480	78	44	1.9	<0.10	<0.02	1.7	<0.10	<0.10	1.7	<1.8	-	-	<0.50	
MW-5R	11/5/2009	CLS	7.7(6)	450(5)	98	44	2.1	<0.10	<0.02	1.7	<0.10	<0.10	1.8	<1.8	-	-	<0.50	
MW-5R	2/8/2010	CLS	7.9	490	110	45	2.4	0.12	<0.02	2.0	<0.10	<0.10	2.0	<1.8	-	-	<0.50	
MW-5R	5/7/2010	CLS	7.9	490	100	43	2.1	<0.10	<0.02	2.2	<0.10	<0.10	2.2	<1.8	-	-	<0.50	
MW-5R	8/18/2010	CLS	7.8	520	120	43	2.2	<0.10	<0.02	2.6	<0.10	<0.10	2.9	110	-	-	<0.50	
MW-5R	11/2/2010	CLS	8.0	560	120	42	2.2	<0.10	<0.02	2.8	<0.10	<0.10	2.8	<1.8	-	-	<0.50	
MW-5R	2/23/2011	CLS	7.9	520	100	42	2.2	<0.10	<0.02	3.0	<0.10	<0.10	3.4	<1.8	-	-	<0.50	
MW-5R	5/5/2011	CLS	7.9	380	92	45	1.9	<0.10	<0.02	2.9	<0.10	<0.10	2.9	2.0	-	-	<0.50	
MW-5R	8/16/2011	CLS	7.9	470	100	50	2.2	<0.10	<0.02	1.8	<0.10	<0.10	1.8	<1.8	-	-	<0.50	
MW-5R	11/8/2011	CLS	7.9	460	97	46	2.1	<0.10	<0.02	2.1	<0.10	<0.10	2.1	<1.8	-	-	<0.50	
MW-5R	2/27/2012	CLS	7.9	460	110	45	2.3	<0.10	<0.02	2.3	<0.10	<0.10	2.3	<1.8	-	-	<0.50	
MW-5R	5/21/2012	CLS	8.0	440	100	44	2.3	<0.10	<0.02	2.4	<0.10	<0.10	2.6	<1.8	-	-	<0.50	
MW-5R	8/9/2012	CLS	8.1	510	120	42	2.5	<0.10	<0.02	2.5	<0.10	<0.10	2.7	<1.8	-	-	<0.50	
MW-5R	11/19/2012	CLS	7.9	480	100	39	2.1	<0.10	<0.02	2.5	<0.10	<0.10	2.6	<1.8	-	-	<0.50	
MW-5R	2/21/2013	CLS	7.8	490	100	39	2.1	<0.10	<0.02	2.2	<0.10	<0.10	2.2	4.5	-	-	<0.50	
MW-5R	5/15/2013	CLS	7.7	460	100	48	2.2	<0.10	<0.02	2.5	<0.10	<0.10	2.6	<1.8	-	-	<0.50	
MW-5R	8/15/2013	CLS	7.9	480	110	45	2.0	<0.10	<0.02	2.7	<0.10	<0.10	3.1	<1.8	-	-	<0.50	
MW-5R	11/7/2013	CLS	7.8	480	110	45	2.1	<0.10	<0.02	2.7	<0.10	<0.10	3.0	<1.8	-	-	<0.50	
MW-5R	2/25/2014	CLS	8.0	520	110	41	2.3	<0.10	<0.02	2.7	<0.10	<0.10	2.8	<1.8	-	-	<0.50	
MW-5R	5/22/2014	CLS	8.0	490	96	38	2.0	<0.10	<0.02	2.5	<0.10	<0.10	2.5	<1.8	-	-	<0.50	
MW-5R	8/27/2014	CLS	8.0	530	98	40	2.0	<0.10	<0.02	2.7	<0.10	<0.10	2.7	<1.8	-	-	<0.50	
MW-5R	11/12/2014	CLS	7.9 [6]	524 [7]	99	35	2.1	<0.10	<0.02	3.2	<0.10	<0.10	3.2	<1	-	-	<0.50	
MW-5R	2/26/2015	CLS	7.9	520	100	39	2.2	<0.10	<0.02	3.4	<0.10	<0.10	3.5	<1.8	-	-	<0.50	
MW-5R	5/13/2015	CLS	8.0	520	98	43	2.1	<0.10	<0.02	3.3	<0.10	<0.10	3.3	<1.8	-	-	<0.50	
MW-5R	8/4/2015	CLS	7.9	530	110	40	2.1	<0.10	<0.02	3.3	<0.10	<0.10	3.6	<1.8	-	-	<0.50	
MW-5R	11/5/2015	CLS	7.9	560	95	38	1.9	<0.10	<0.02	3.1	<0.10	<0.10	3.2	<1.8	-	-	<0.50	
MW-5R	2/4/2016	CLS	8.0	550	99	38	2.1	0.18	<0.02	3.1	<0.40	<0.10	3.2	<1.8	-	-	<0.50	
MW-5R	6/30/2016	CLS	7.8	500	96	38	2.1	<0.10	<0.02	2.9	<0.40	<0.10	3.2	<1.8	-	-	0.68	
MW-5R	8/25/2016	CLS	7.9	490	110	40	2.0	<0.10	<0.02	2.9	<0.40	<0.10	2.9	<1.8	-	-	2.1	
MW-5R	11/17/2016	CLS	8.0	500	100	39	2.0	<0.10	<0.02	3.0	<0.40	<0.10	3.2	<1.8	-	-	<0.50	
MW-5R	3/7/2017	CLS	7.7	470	77	34	1.7	<0.10	0.058	2.0	<0.40	0.24	2.4	920	-	-	<0.50	
MW-5R	6/27/2017	CLS	7.1	290	21	4.0	0.3	<0.10	<0.02	<0.40	<0.40	0.12	0.81	170			<0.50	
MW-5R	8/23/2017	CLS	7.7	400	64	41	1.5	<0.10	<0.02	1.5	<0.40	0.31	1.9	33	-	-	<0.50	
MW-5R	11/14/2017	CLS	7.7	410	77	51	1.8	<0.10	<0.02	<0.40	<0.40	<0.10	<0.20	<1.8	-	-	<0.50	
MW-5R	2/21/2018	CLS	7.8	400	83	48	1.9	<0.10	<0.02	2.3	<0.40	<0.10	2.6	4.5	-	-	0.61	
MW-5R	5/24/2018	CLS	7.8	470	81	44	2.0	<0.10	<0.02	2.2	<0.40	<0.10	2.5	<1.8	-	-	0.68	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	Coliform Bacteria *(fecal)* (MPN/100 mL)	Coliform Bacteria *(E. coli)* (MPN/100 mL)	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-6	6/15/2004	STL	7.6	865	143	87.7	5.6	<0.10	-	12.2	<0.05	<0.10	12.2	16.1	<1.1	<1.1	<0.5	
MW-6	3/29/2005	BSK	7.8	870	180	110	6.6	<0.05	<0.01	11	<0.15	<1	11	5.1	<1.1	-	<0.5	
MW-6	6/16/2005	BSK	7.7	910	150	130	5.4	<0.05	<0.01	12	<0.15	<1	12	<1.1	<1.1	-	<0.5	
MW-6	9/29/2005	BSK	7.8	870	150	100	5.2	<0.05	<0.01	11	<0.15	<1	11	<1.1	<1.1	-	<0.5	
MW-6	12/6/2005	BSK	8.1	900	160	110	5.6	<0.05	<0.01	12	<0.10	<1	12	<1.1	<1.1	<1.1	<0.5	
MW-6	2/16/2006	BSK	7.9	900	140	130	4.9	<0.05	<0.01	12	<0.10	<1	12	<1.1	<1.1	-	<0.5	
MW-6	5/16/2006	BSK	8.0	1,000	160	150	5.5	<0.05	<0.01	13.0	<0.10	<1	13	<1.1	<1.1	-	<0.5	
MW-6	8/21/2006	BSK	7.9	860	140	160	4.7	<0.05	<0.01	13.0	<0.05	<0.10	-	<1.1	<1.1	-	<0.5	
MW-6	11/20/2006	BSK	-	-	-	-	-	-	-	-	-	-	-	>23.0	<1.1	-	-	
MW-6	2/16/2007								No sample retrieved									
MW-6	5/7/2007	BSK	7.9	900	160	120	5.5	<0.05	<0.01	11.0	<0.05	<1.0	11	16.1	<1.1	-	<0.5	
MW-6	8/29/2007	BSK	7.8	880	130	100	4.5	<0.05	<0.01	9.7	*	<1.0	9.7	<1.1	<1.1	-	<0.5	
MW-6	11/28/2007	BSK	7.8	850	150	96	5.1	<0.05	<0.01	8.7	*	<1.0	8.7	<1.1	<1.1	-	<0.5	
MW-6	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-6	5/27/2008	CLS	7.1	900	150	130	4.8	<0.10	<0.02	9.0	<0.10	<0.10	9.1	<1.8	-	-	<0.50	
MW-6	8/27/2008	CLS	7.2	820	150	97	4.6	<0.10	<0.02	8.5	<0.10	0.12	8.6	<1.8	-	-	<0.50	
MW-6	11/24/2008	CLS	7.2	810	140	92	4.3	<0.10	<0.02	8.0	<0.10	<0.10	8.1	<1.8	-	-	<0.50	
MW-6	2/18/2009	CLS	-	820(5)	140	100	4.3	<0.10	<0.02	7.7	<0.10	<0.10	8.0	<1.8	-	-	<0.50	
MW-6	5/21/2009	CLS	7.2	880	140	97	4.3	<0.10	<0.02	7.9	<0.10	<0.10	7.9	<1.8	-	-	<0.50	
MW-6	8/4/2009	CLS	7.1	860	120	95	3.9	<0.10	<0.02	7.8	<0.10	<0.10	7.8	<1.8	-	-	<0.50	
MW-6	11/5/2009	CLS	-	750(5)	150	89	4.4	<0.10	<0.02	7.0	<0.10	<0.10	7.2	4.5	-	-	<0.50	
MW-6	2/8/2010	CLS	7.2	850	170	96	5.0	<0.10	<0.02	7.1	<0.10	<0.10	7.4	<1.8	-	-	<0.50	
MW-6	5/7/2010	CLS	7.1	910	160	120	4.6	<0.10	<0.02	7.5	<0.10	<0.10	7.7	<1.8	-	-	<0.50	
MW-6	8/18/2010	CLS	7.0	930	180	120	4.9	<0.10	<0.02	8.0	<0.10	<0.10	8.3	<1.8	-	-	<0.50	
MW-6	11/2/2010	CLS	7.2	930	180	110	4.8	<0.10	<0.02	7.7	<0.10	<0.10	7.9	1.8	-	-	<0.50	
MW-6	2/23/2011	CLS	7.2	920	160	120	4.8	<0.10	<0.02	7.5	<0.10	<0.10	8.0	2.0	-	-	<0.50	
MW-6	5/5/2011	CLS	7.1	990	150	200	4.1	<0.10	<0.02	4.3	<0.10	<0.10	4.5	<1.8	-	-	<0.50	
MW-6	8/16/2011	CLS	7.2	1,100	160	200	4.5	<0.10	<0.02	9.9	<0.10	<0.10	9.9	<1.8	-	-	<0.50	
MW-6	11/8/2011	CLS	7.0	990	160	140	4.6	<0.10	<0.02	8.0	<0.10	<0.10	8.2	<1.8	-	-	<0.50	
MW-6	2/27/2012	CLS	7.1	880	180	120	5.4	<0.10	<0.02	8.5	<0.10	0.13	8.5	<1.8	-	-	<0.50	
MW-6	5/21/2012	CLS	7.2	870	160	120	5.8	0.11	<0.02	8.6	<0.10	0.18	8.8	<1.8	-	-	<0.50	
MW-6	8/9/2012	CLS	7.5	970	130	110	3.9	<0.10	<0.02	8.5	<0.10	0.11	8.8	<1.8	-	-	<0.50	
MW-6	11/19/2012	CLS	7.1	950	170	100	5.1	<0.10	<0.02	8.1	<0.10	<0.10	8.3	<1.8	-	-	<0.50	
MW-6	2/21/2013	CLS	6.9	900	160	110	5.3	<0.10	<0.02	7.9	<0.10	0.11	7.9	<1.8	-	-	<0.50	
MW-6	5/15/2013	CLS	7.0	890	160	120	5.1	<0.10	<0.02	8.9	<0.10	0.18	9.0	<1.8	-	-	<0.50	
MW-6	8/15/2013	CLS	7.1	890	150	110	5.0	<0.10	<0.02	8.9	<0.10	<0.10	9.3	<1.8	-	-	<0.50	
MW-6	11/7/2013	CLS	7.0	850	180	110	3.6	<0.10	<0.02	8.8	<0.10	0.18	9.0	<1.8	-	-	<0.50	
MW-6	2/25/2014	CLS	7.2	910	140	100	5.4	<0.10	<0.02	8.4	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-6	5/22/2014	CLS	7.1	880	150	93	5.3	<0.10	<0.02	8.5	<0.10	<0.10	8.8	<1.8	-	-	<0.50	
MW-6	8/27/2014								No sample retrieved									
MW-6	11/12/2014								No sample retrieved									
MW-6	2/26/2015	CLS	7.1	850	140	94	5.2	1.0	0.04	8.3	<0.10	<0.10	8.4	<1.8	-	-	<0.50	
MW-6	5/13/2015	CLS	7.2	860	130	87	4.8	<0.10	<0.02	8.5	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-6	8/4/2015	CLS	7.3	810	140	90	4.6	<0.10	<0.02	7.7	<0.10	<0.10	7.9	<1.8	-	-	<0.50	
MW-6	11/5/2015	CLS	7.2	830	160	81	5.0	<0.10	<0.02	8.5	<0.10	<0.10	8.6	<1.8	-	-	<0.50	
MW-6	2/4/2016	CLS	7.2	810	140	82	4.7	<0.10	<0.02	8.9	<0.40	<0.10	9.0	<1.8	-	-	<0.50	
MW-6	6/30/2016	CLS	7.1	780	120	87	4.3	<0.10	<0.02	8.5	<0.40	<0.10	8.5	<1.8	-	-	0.80	
MW-6	8/25/2016	CLS	7.1	730	150	86	4.3	<0.10	<0.02	8.5	<0.40	<0.10	8.5	<1.8	-	-	3.3	
MW-6	11/17/2016	CLS	7.3	760	140	86	4.2	<0.10	<0.02	9.0	<0.40	0.11	9.2	<1.8	-	-	<0.50	
MW-6	3/7/2017	CLS	7.1	1,000	150	260	3.8	<0.10	<0.02	11.0	<0.40	0.11	11.0	<1.8	-	-	<0.50	
MW-6	6/27/2017	CLS	6.9	910	150	190	3.8	<0.10	<0.02	9.9	<0.40	0.18	10.0	14	-	-	<0.50	
MW-6	8/23/2017	CLS	7.2	920	150	160	4.2	<0.10	<0.02	11	<0.40	0.16	11.0	<1.8	-	-	<0.50	
MW-6	11/14/2017	CLS	7.0	880	150	130	4.3	<0.10	<0.02	12	<0.40	<0.10	12	<1.8	-	-	<0.50	
MW-6	2/21/2018	CLS	7.1	920	150	120	4.6	<0.10	<0.02	14	<0.40	<0.10	14	4.5	-	-	<0.50	
MW-6	5/24/2018	CLS	7.1	950	140	120	4.8	<0.10	<0.02	14	<0.40	<0.10	14	<1.8	-	-	0.80	

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	pH Std. Unit	TDS mg/L	Na (d) mg/L	Cl mg/L	B (d) mg/L	Fe (d) mg/L	Mn (d) mg/L	NO3-N mg/L	NO2-N mg/L	NH3-N mg/L	Total Nitrogen mg/L	Coliform Bacteria (total) (MPN/100 mL)	Coliform Bacteria *(fecal)* (MPN/100 mL)	Coliform Bacteria *(E. coli)* (MPN/100 mL)	TTHM(1) (EPA 601) (µg/L) -	Lab Notes
Recommended Interim Limitation [2]	**WQ Objective**		6.5-8.5	450	69	106	0.6	0.3	0.05	10	1	0.5	10	nd	nd	nd	100	-
	Background		7.6	1100	155	138	-	<0.1	0.64	18	-	0.5	-	<2.0	<2.0	-	-	-
MW-7	6/15/2004	STL	7.6	615	61.7	113	1.8	0.12	-	11.7	<0.05	<0.10	12.4	1.1	<1.1	<1.1	<0.5	
MW-7	3/29/2005	BSK	7.9	540	79	88	2.2	<0.05	<0.01	7.2	<0.10	<1	7.2	1.1	<1.1	-	<0.5	
MW-7	6/16/2005	BSK	8.1	540	69	85	1.8	<0.05	<0.01	7.9	<0.10	<1	7.9	<1.1	<1.1	-	0.74	3
MW-7	9/29/2005								No sample retrieved.									
MW-7	12/6/2005								No sample retrieved.									
MW-7	2/16/2006	BSK	8.0	590	69	100	1.9	<0.05	<0.01	8.8	0.27	<1	9.1	<1.1	<1.1	-	1.7	3
MW-7	5/16/2006	BSK	8.0	610	74	92	2.0	<0.05	<0.01	8.6	<0.10	<1	8.6	<1.1	<1.1	-	<0.5	
MW-7	8/21/2006	BSK	8.0	530	60	81	1.6	<0.05	<0.01	6.8	<0.05	<0.10		<1.1	<1.1		<0.5	
MW-7	11/20/2006								No sample retrieved.									
MW-7	2/16/2007								No sample retrieved.									
MW-7	5/7/2007								No sample retrieved.									
MW-7	8/29/2007								No sample retrieved.									
MW-7	11/28/2007								No sample retrieved.									
MW-7	2/21/2008	BSK	-	-	-	-	-	-	-	-	-	-	-	<1.1	<1.1	-	-	
MW-7	5/27/2008								No sample retrieved.									
MW-7	8/27/2008								No sample retrieved.									
MW-7	11/24/2008								No sample retrieved.									
MW-7	2/18/2009								No sample retrieved.									
MW-7	5/21/2009								No sample retrieved.									
MW-7	8/4/2009								No sample retrieved									
MW-7	11/5/2009								No Sample retrieved									
MW-7	2/8/2010								No Sample retrieved									
MW-7	5/7/2010								No Sample retrieved									
MW-7	8/18/2010								No Sample retrieved									
MW-7	11/2/2010								No Sample retrieved									
MW-7	2/23/2011								No Sample retrieved									
MW-7	5/6/2011	CLS	7.1	660	87	100	1.8	<0.10	<0.02	7.2	<0.10	<0.10	7.4	<1.8	-	-	<0.50	
MW-7	8/16/2011	CLS	7.4	680	95	100	1.9	<0.10	<0.02	6.6	<0.10	<0.10	6.9	<1.8	-	-	<0.50	
MW-7	11/8/2011								No Sample retrieved									
MW-7	2/27/2012								No Sample retrieved									
MW-7	5/21/2012								No Sample retrieved									
MW-7	8/9/2012								No Sample retrieved									
MW-7	11/19/2012								No Sample retrieved									
MW-7	2/21/2013								No Sample retrieved									
MW-7	5/15/2013								No Sample retrieved									
MW-7	8/15/2013								No Sample retrieved									
MW-7	11/7/2013								No Sample retrieved									
MW-7	2/25/2014								No Sample retrieved									
MW-7	5/22/2014								No Sample retrieved									
MW-7	8/27/2014								No sample retrieved									
MW-7	11/12/2014								No sample retrieved									
MW-7	2/26/2015								No sample retrieved									
MW-7	5/13/2015								No sample retrieved									
MW-7	8/4/2015								No sample retrieved									
MW-7	11/5/2015								No sample retrieved									
MW-7	2/4/2016								No sample retrieved									
MW-7	6/30/2016								No sample retrieved									
MW-7	8/25/2016								No sample retrieved									
MW-7	11/17/2016								No sample retrieved									
MW-7	3/7/2017	CLS	7.3	670	100	120	2	<0.10	<0.02	7.5	<0.40	0.16	7.8	<1.8	-	-	1.2	
MW-7	6/27/2017	CLS	7.0	590	93	89	1.7	<0.10	<0.02	4.6	<.0.40	0.19	4.9	<1.8			<0.50	
MW-7	8/23/2017	CLS	7.3	620	99	56	2	<0.10	<0.02	4.3	<.0.40	<0.10	4.4	2	-	-	<0.50	
MW-7	11/14/2017								No Sample retrieved									
MW-7	2/21/18								No Sample retrieved									
MW-7	5/24/18								No Sample retrieved									

Table 4
Groundwater Quality Monitoring Results
Wild Wings Water Recycling Facility, Yolo County, CA

Laboratory Notes:

STL = Severn Trent Laboratory of West Sacramento, CA; BSK = BSK Laboratories of Fresno, CA; TDS = total dissolved solids; NO3-N = nitrate as nitrogen; NO2-N = nitrite as nitrogen;
NH3-N = ammonia as nitrogen; (d) = dissolved fraction; TTHM = total trihalomethanes; nd = nondetect
italic font style = Analysis for magnesium, total Kjeldahl nitrogen, fecal coliform and E. coli organisms is not required by RWQCB Order R5-2002-0077.

1 = Total trihalomethanes consist of the sum of bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

2 = See WDRs Item E. 1. Ground Water Limitations; WQ Objective = a variety of applicable regional water quality goals compiled by RWQCB staff; Background = Tolerance Limit (calculated from August 2001 borings and monitoring wells MW-1 and MW-5R)

3 (in Lab Notes column) = Chloroform detection; this compound was also detected in the laboratory method blank; this compound is a common laboratory contaminant.

4 = Nitrate (as nitrogen) laboratory result for 5/7/2007 at MW-4 is reported as shown on the laboratory report although the concentration is about four times higher than historic results. It is probable that the concentration was reported for nitrate (as nitrate). Due to the age of the sample, laboratory validation of the result could not be performed.

5 = Sample was extracted/analyzed outside the EPA recommended holding time

6 = Measured in the field

7 = Calculated using field Electrical Conductivity measurement

* = Nitrate as nitrogen and Nitrite as Nitrogen results were combined as one

- = Sample not collected or not measured for this constituent

Notes on Laboratory Data depicted on Figures.

1. MW-7 – Data for NO3, and TN for 5/7/2007 is not graphed due to concerns with data.
2. MW-5R – Data for Chloride for 6/27/2017 is suspect (dilution factor?) but is shown on graph.
3. Data reported as less than the laboratory reporting limit is shown on figures as “zero”

Table 5
Quality Assurance/Quality Control Samples
Wild Wings Water Recycling Facility, Yolo County, CA

Sampling Point	Sample Date	Lab	TTHM[1] (ug/L)	Lab Notes
EB-1	11/17/2017	CLS	1.1	-
	3/7/2017	CLS	2.0	-
Trip Blanks	11/17/2017	CLS	<0.50	-
	3/7/2017	CLS	<0.50	-
	6/28/2017	CLS	<0.50	
	8/23/2017	CLS	<0.50	
	2/21/2018	CLS	<0.50	
	5/24/2018	CLS	<0.50	Mislabeled 3

TTHM = total trihalomethanes; nd = nondetect

[1] = Total trihalomethanes consist of the sum of bromodichloromethane, bromoform, chloroform, and dibromocholoromethane

Wild Wings Water Recycling Facility – Second Quarter 2018 Groundwater Monitoring Report WDR Order No. R5-2002-0077

FIGURES

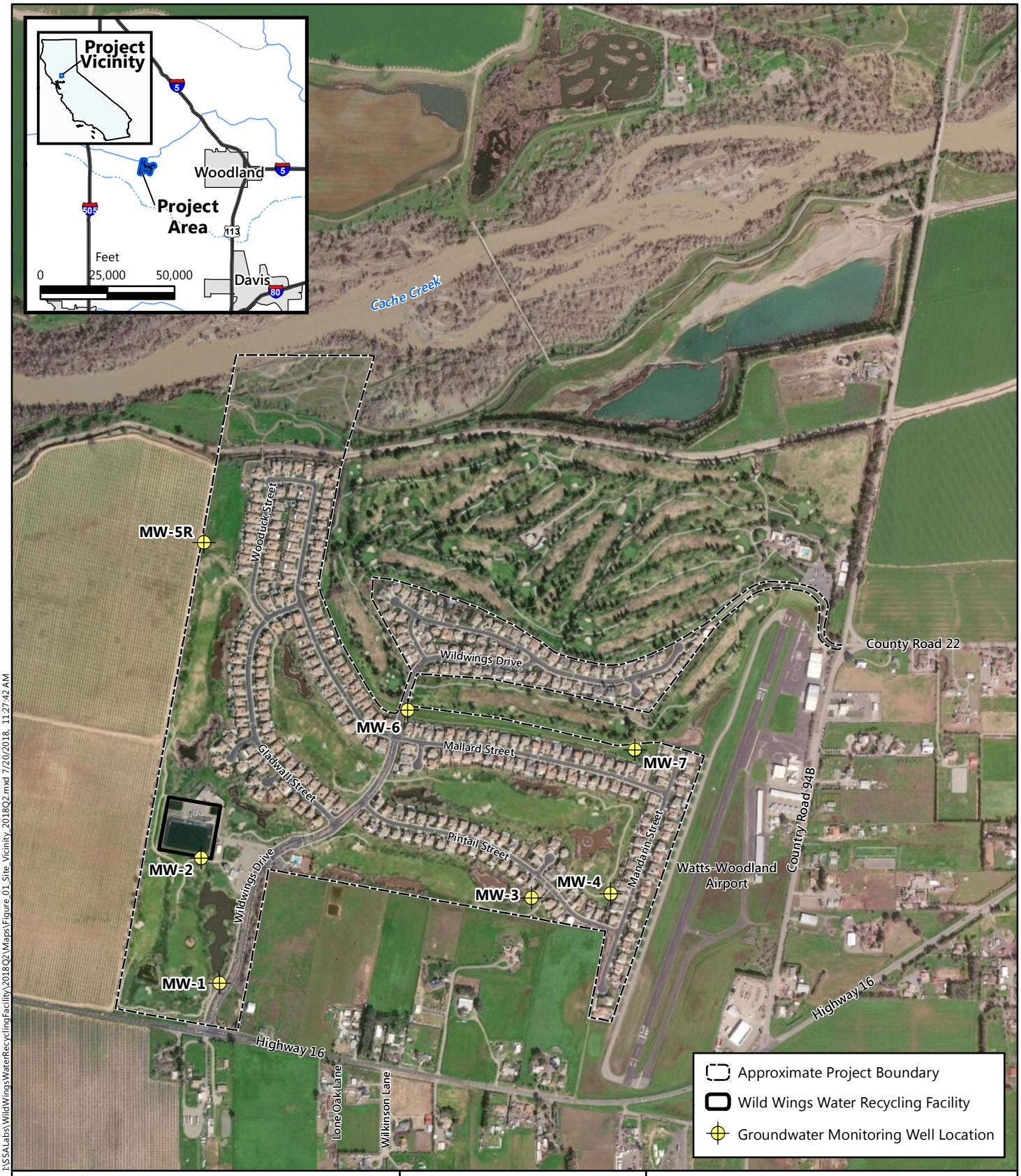

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Figure 1
Site and Vicinity

Notes:
All locations are approximate.
Aerial Source: *USDA, National Agriculture Imagery Program,* 26 February 2017.

SilverState Analytical Laboratories

Second Quarter 2018 Monitoring Report
Wild Wings Water Recycling Facility
18530 Wildwings Drive
Woodland, Yolo County, California

FIGURE 2
HISTORICAL STATIC WATER LEVEL TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

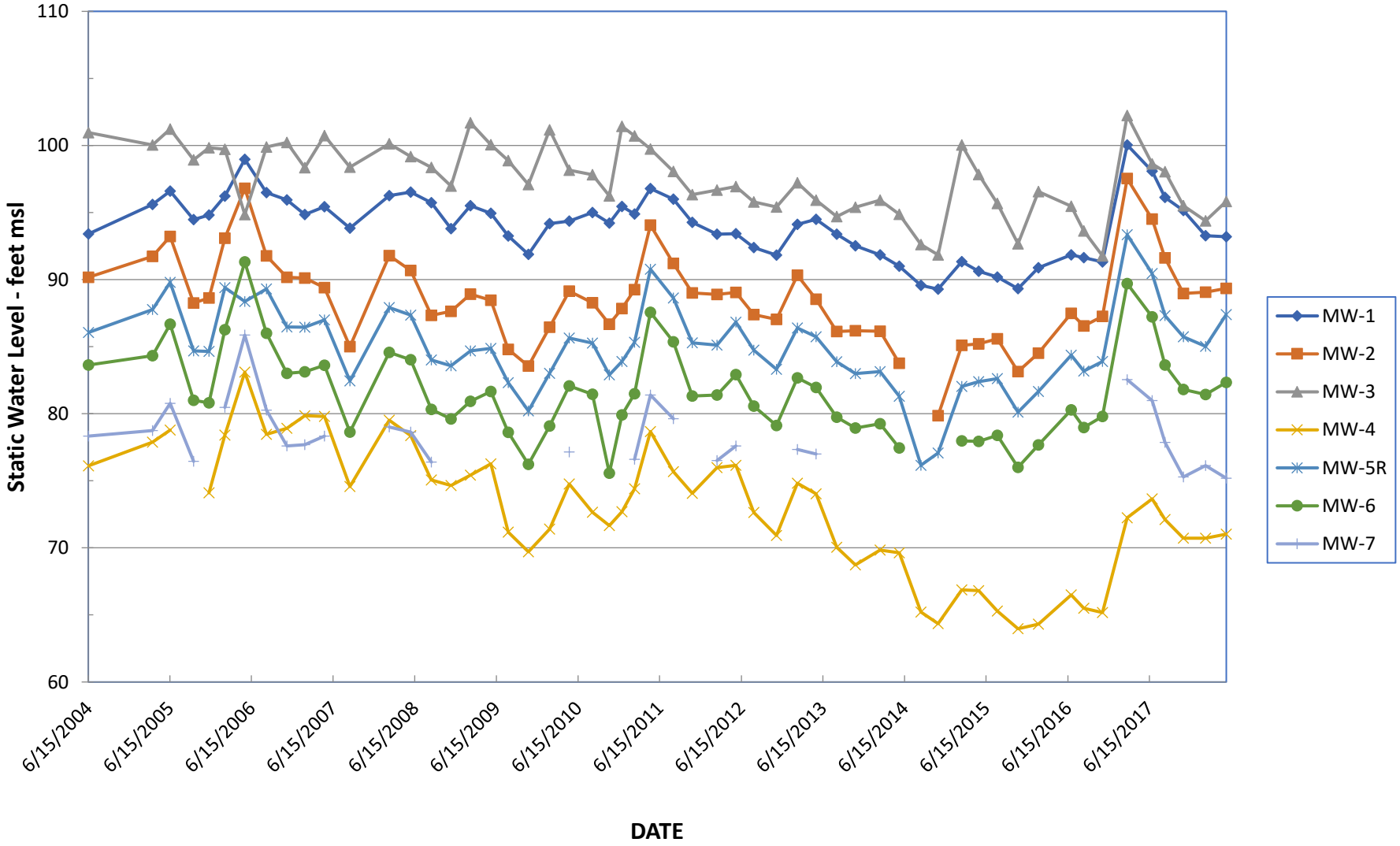


FIGURE 3
HISTORICAL pH TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

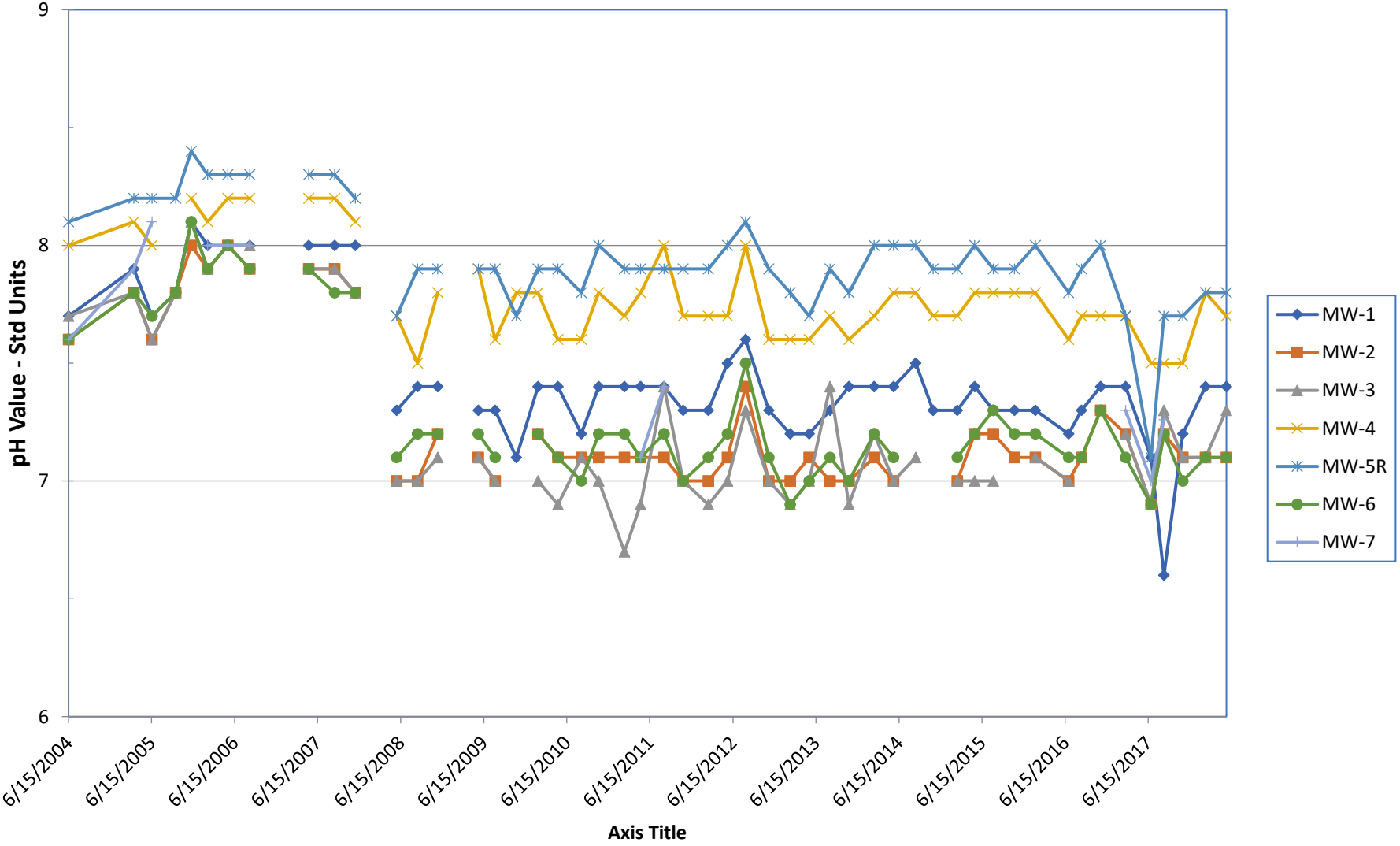


FIGURE 4
HISTORICAL TOTAL DISSOLVED SOLIDS TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

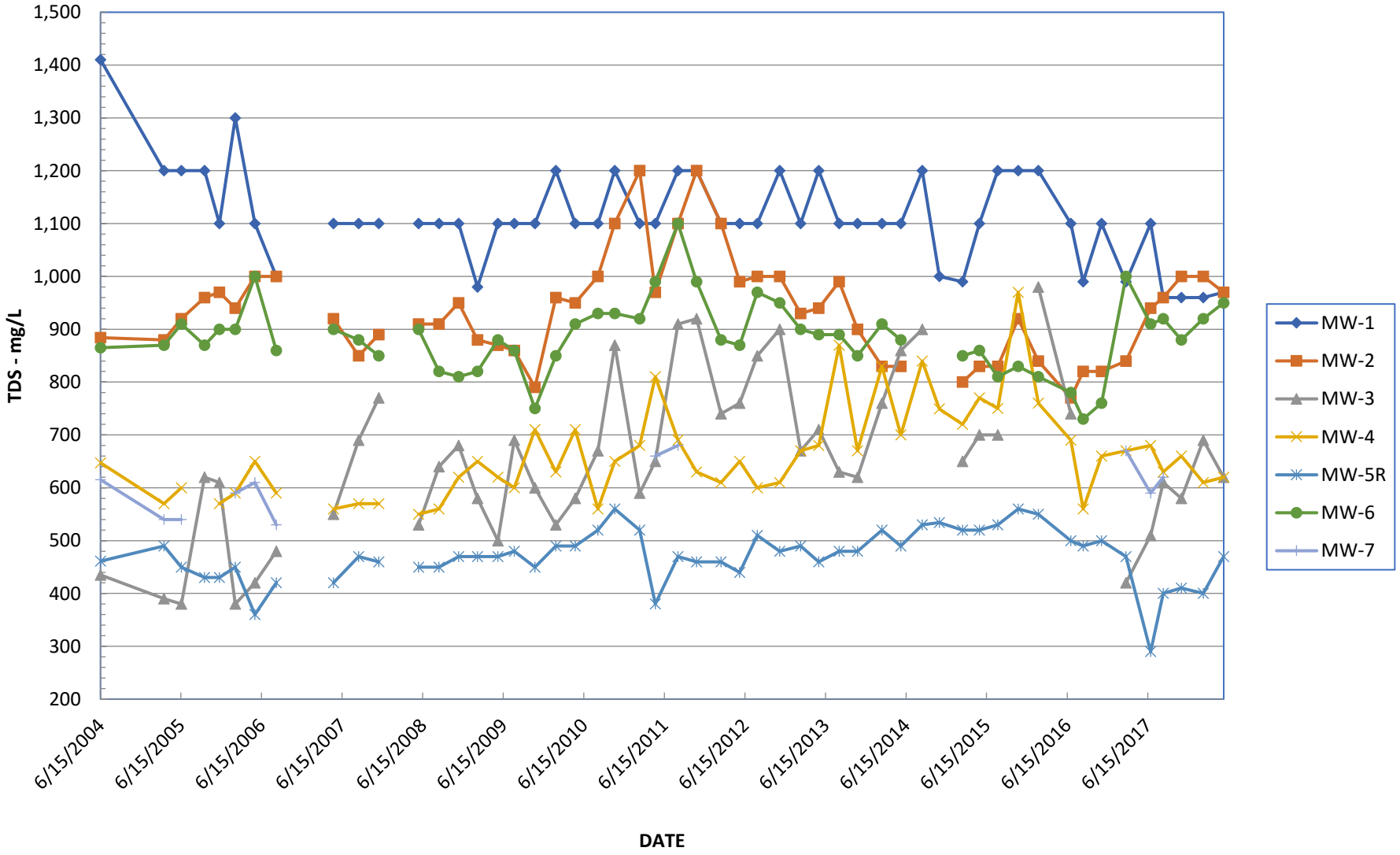


FIGURE 5
HISTORICAL SODIUM TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

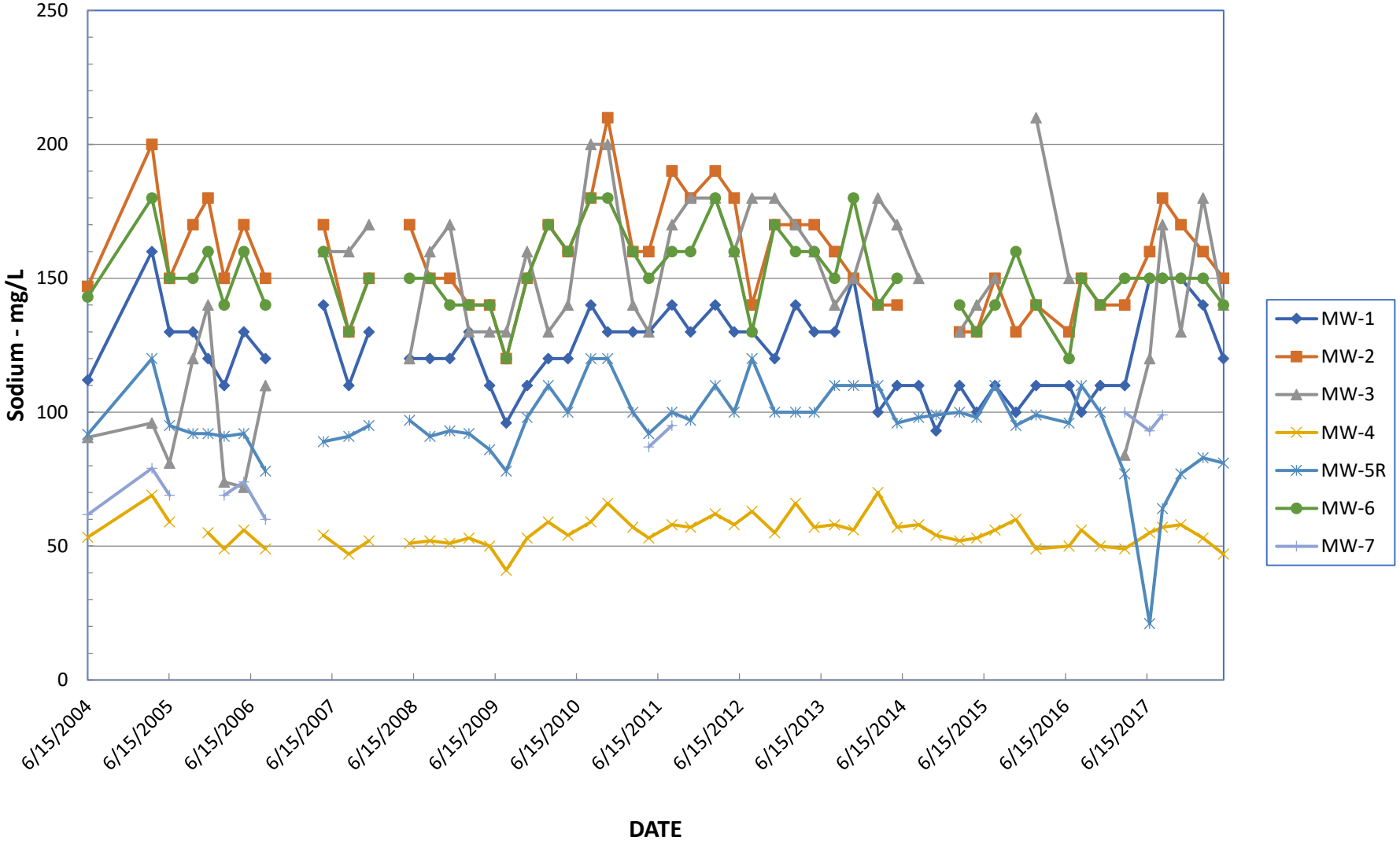


FIGURE 6
HISTORICAL CHLORIDE TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

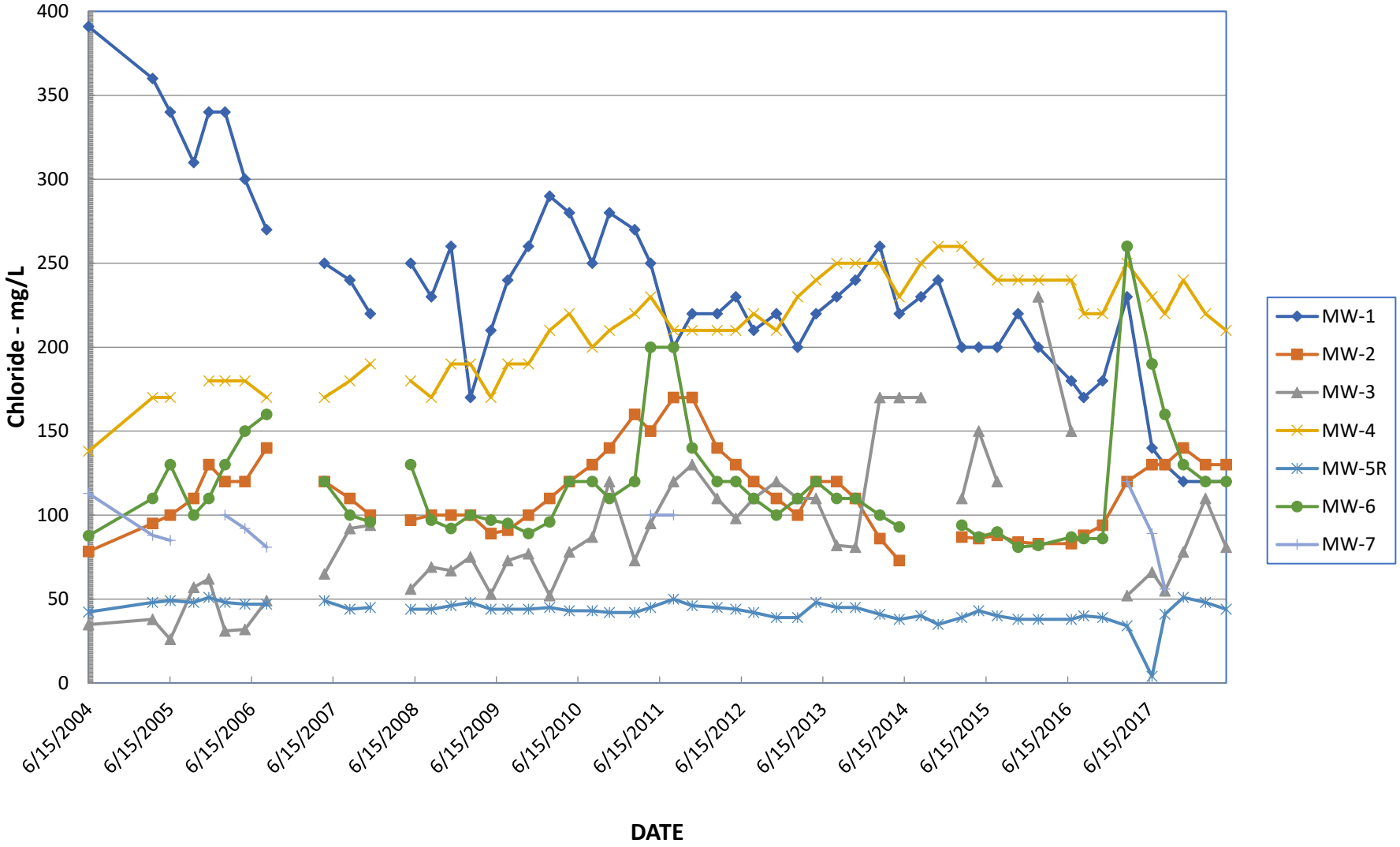


FIGURE 7
HISTORICAL BORON TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

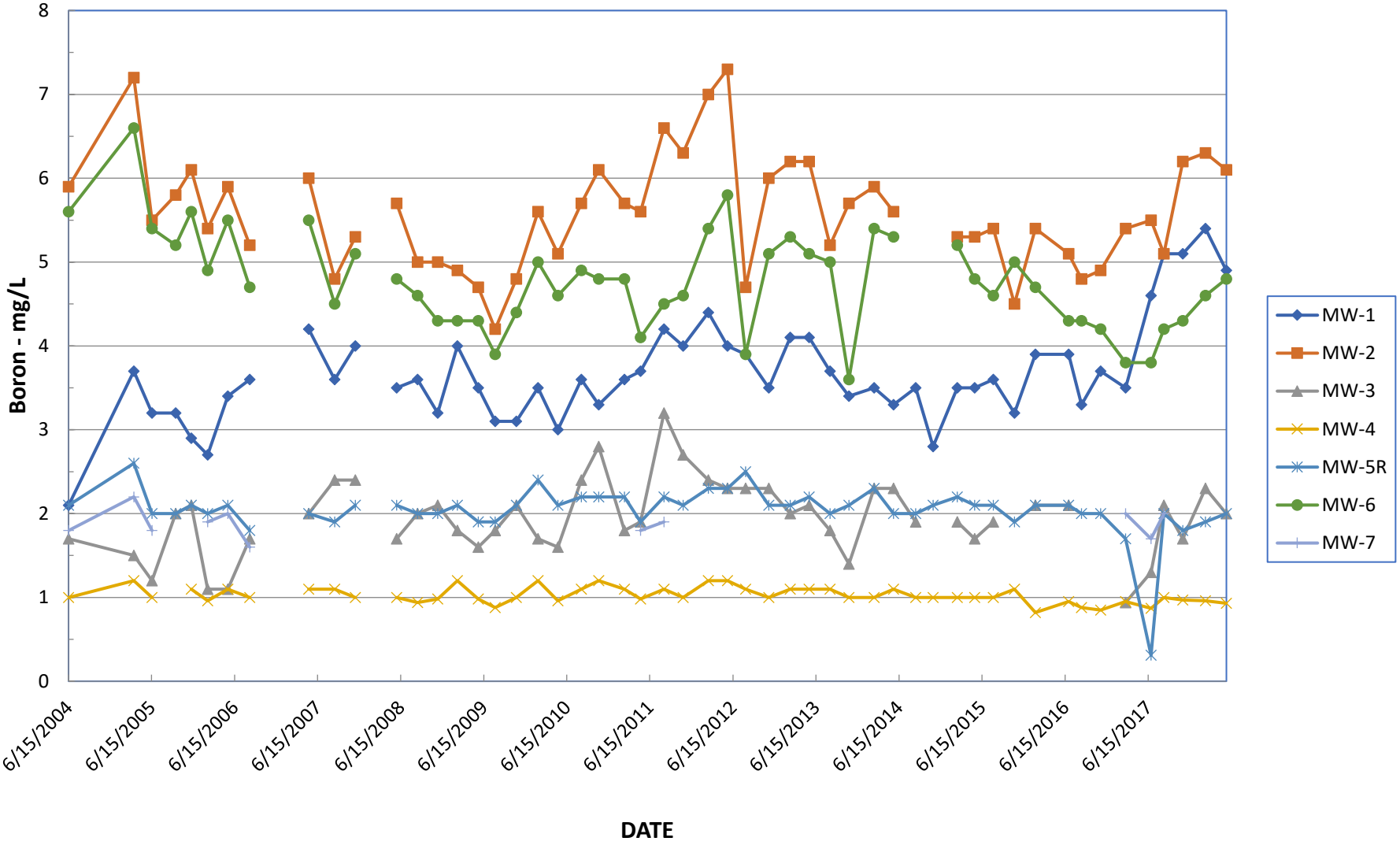


FIGURE 8
HISTORICAL NITRATE (AS NITROGEN) TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA

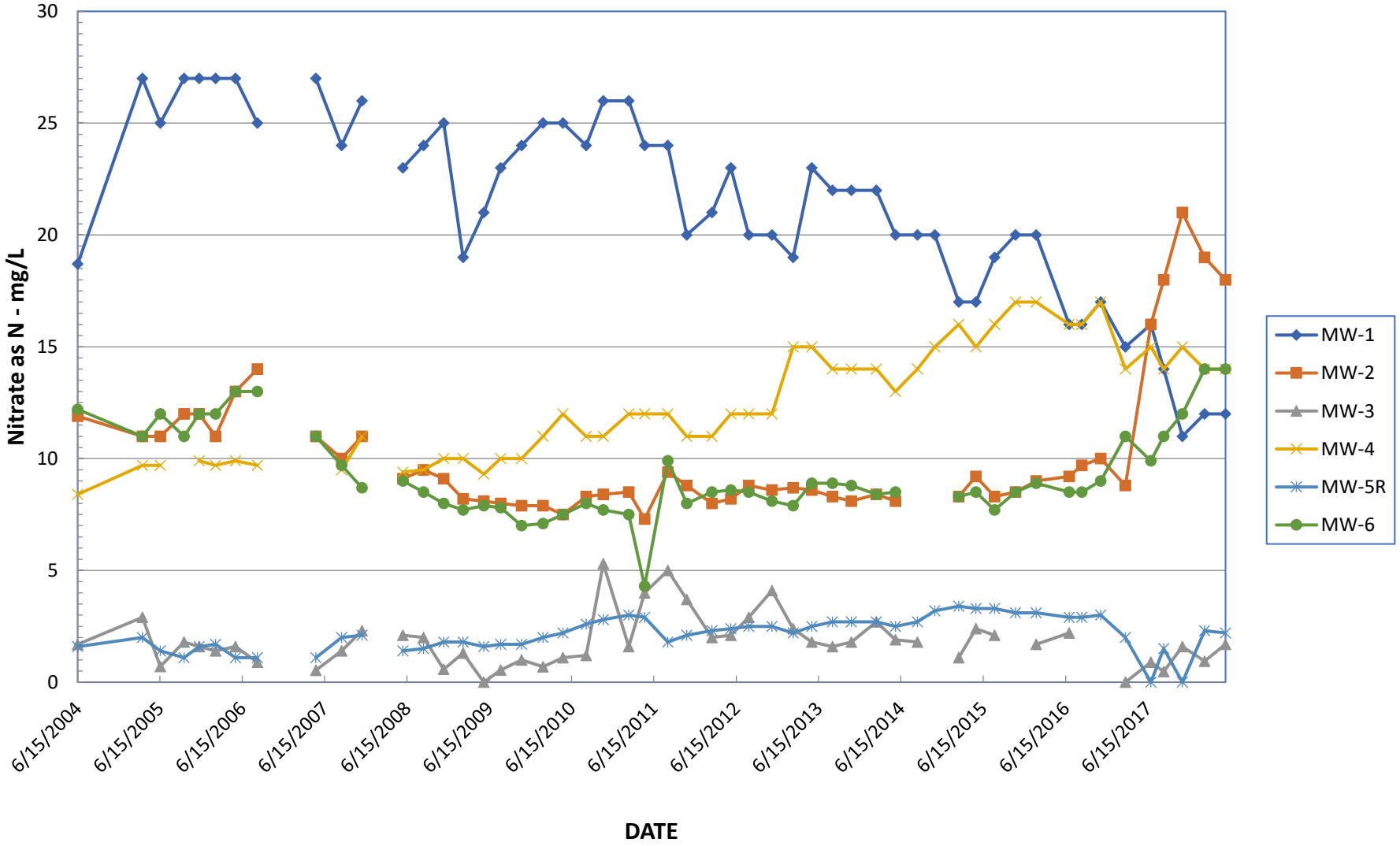
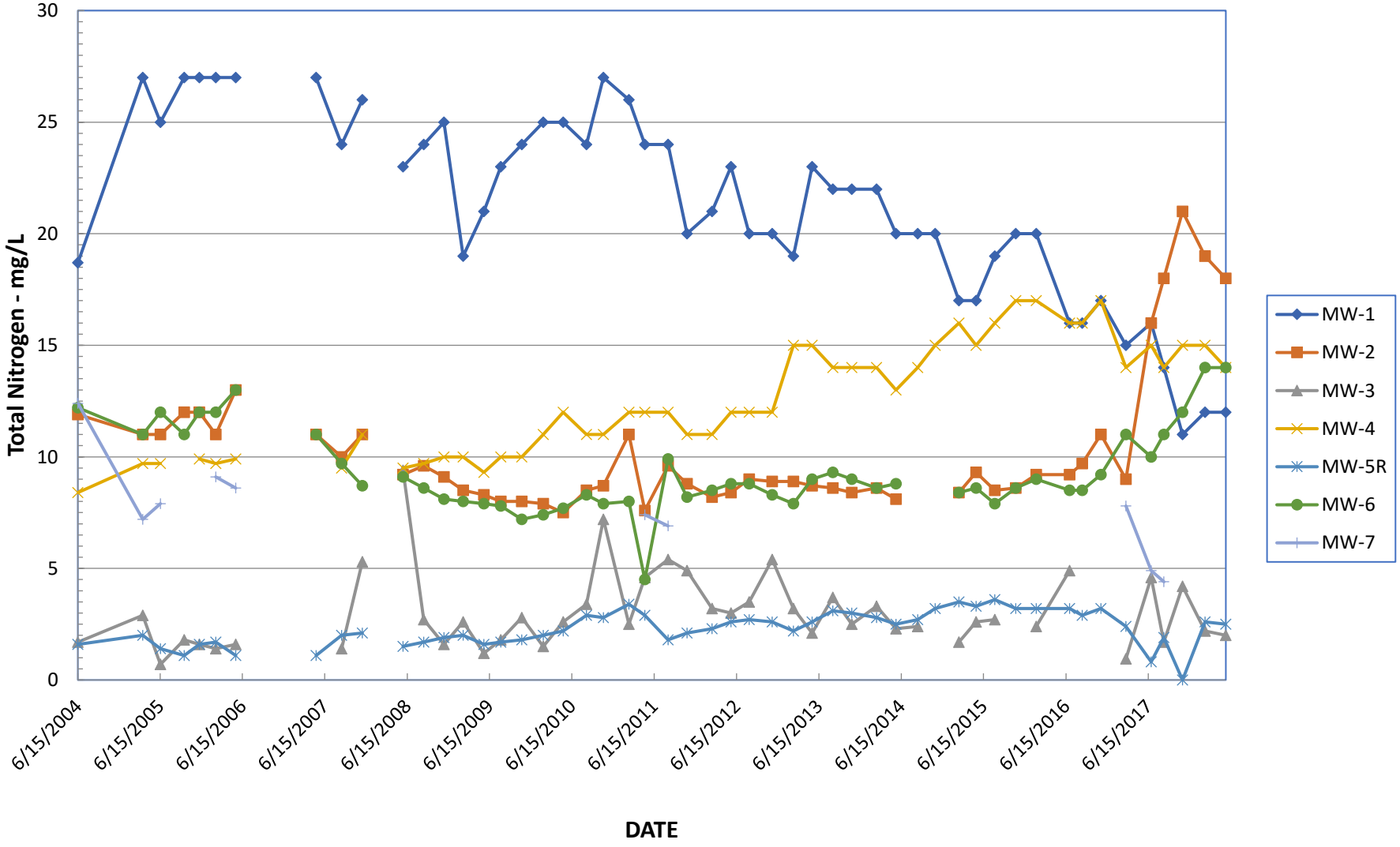


FIGURE 9
HISTORICAL TOTAL NITROGEN TRENDS
WILD WINGS WATER RECYCLING FACILITY, YOLO COUNTY, CA



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N

Feet
0 500 1,000

Notes:
All locations are approximate.
ft msl = feet above mean sea level
*Groundwater monitoring well MW-3 is screened at a shallower depth therefore, it is not included in groundwater elevation contouring.

Aerial Source: *USDA, National Agriculture Imagery Program*, 26 February 2017.

SilverState Analytical Laboratories

Figure 10
Groundwater Elevation Contours

Second Quarter 2018 Monitoring Report
Wild Wings Water Recycling Facility
18530 Wildwings Drive
Woodland, Yolo County, California

Wild Wings Water Recycling Facility – Second Quarter 2018
Groundwater Monitoring Report
WDR Order No. R5-2002-0077

APPENDIX A

FIELD SAMPLING – PURGE LOGS

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 62°

DTW: 33.03

Total Depth:

Well ID: MW-1

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
0803	0.5 gallon			16.1	7.29	1944
0807	1.0 gallon			16.1	7.27	1865
0811	1.5 gallon			17.0	7.18	1818
0814	2.0 gallon			16.9	7.13	1799
0818	2.5 gallon			17.0	7.14	1777
0822	3.0 gallon			17.1	7.08	1770

Comments:

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydrolift 2

Water Quality Meter: Hanna 991300, .45 Micron Filter

Misc: Sample Collected @ 0830

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 74°

DTW: 35.59

Total Depth:

Well ID: MW-2

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
1214	0.5 gallon			17.9	7.37	1882
1217	1.0 gallon			18.1	7.30	1846
1220	1.5 gallon			18.0	7.30	1809
1224	2.0 gallon			~~18~~ 18.2	7.22	1781
1227	2.5 gallon			18.2	7.18	1774
1230	3.0 gallon			18.2	7.07	1763

Comments: Water in Well Box upon arrival. Cleared out water in well Box. Casing Cap/lock were secure & tight

Sampled By: J. Trupasso

Equipment used:

Pump: Waterra Hydrolift 2

Water Quality Meter: Hanna 991300, .45 micron Filter

Misc: Sample Collected @ 1236

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 70°

DTW: 25.54

Total Depth:

Well ID: MW-3

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
1137	0.5 gallon			17.1	7.21	1690
1140	1.0 gallon			17.6	7.16	1504
1143	1.5 gallon			17.5	7.19	1452
1146	2.0 gallon			17.7	7.17	1430
1150	2.5 gallon			17.7	7.11	1409
1154	3.0 gallon			17.8	7.08	1398

Comments: Replaced foot valve - SS10
Very High turbidity in well. Produced enough volume for Parameters and Sample Collection

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydro lift 2

Water Quality Meter: Hanna 991300, .45 Micron Filters

Misc: Sample Collected @ 1157

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 70°

DTW: 49.69

Total Depth:

Well ID: MW-4

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
1103	0.5 gallon			18.0	7.42	2297
1107	1.0 gallon			18.0	7.27	2183
1111	1.5 gallon			18.1	7.15	2169
1114	2.0 gallon			18.2	7.10	2087
1118	2.5 gallon			18.1	7.09	2094
1121	3.0 gallon			18.3	7.07	2059

Comments:

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydrolift 2

Water Quality Meter: Hanna 991300, .45 micron filter

Misc: Sample Collected @ 1125

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 65°

DTW: 38.03

Total Depth:

Well ID: MW-5R

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
0854	0.5 gallon			17.9	7.87	1229
0857	1.0 gallon			17.7	7.57	1156
0900	1.5 gallon			17.7	7.62	1109
0904	2.0 gallon			17.7	7.51	1079
0908	2.5 gallon			17.4	7.49	1055
0912	3.0 gallon			17.5	7.46	1037

Comments:

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydrolift 2

Water Quality Meter: Hama 991300, .45 micron Filter

Misc: Sample Collected @ 0915

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 67°

DTW: 39.25

Total Depth:

Well ID: MW-6

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm
0944	0.5 gallon			17.0	7.17	1941
0947	1.0 gallon			17.4	7.15	1870
0951	1.5 gallon			17.5	7.08	1803
0954	2.0 gallon			17.5	7.10	1766
0957	2.5 gallon			17.5	7.06	1722
1000	3.0 gallon			17.5	7.04	1716

Comments: Replaced FootValve - SS10.

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydrolift 2

Water Quality Meter: Hanna 991300, .45 micron filter

Misc: Sample Collected @ 1005

SilverState
Analytical Laboratories

Purge Log

Project Name/#: Wild Wings - Q2 2018

Date: 5/24/18

Weather: Clear, 68°

DTW: 39.35

Total Depth:

Well ID: MW-7

Time	Purge Vol.	Flow Rate	DTW-Feet	Temp C	PH	Conductivity mS/cm

DRY

Comments: Unable to Collect Sample. Only 1/2 Bailer would Fill. Well would not recharge to provide Adequate Volume for Parameters and Samples

Sampled By: J. Trapasso

Equipment used:

Pump: Waterra Hydrolift

Water Quality Meter: Hanna 991300, .45 micron Filter

Misc:

Wild Wings Water Recycling Facility – Second Quarter 2018
Groundwater Monitoring Report
WDR Order No. R5-2002-0077

APPENDIX B

LABORATORY ANALYTICAL RESULTS
AND CHAIN OF CUSTODY FORMS

CALIFORNIA LABORATORY SERVICES
Committed. Responsive. Flexible.

July 03, 2018

CLS Work Order #: 18E1355
COC #: 188364

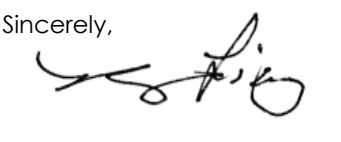
Joe Trapasso
Silver State Analytical Laboratories
1135 Financial Blvd.
Reno, NV 89502

Project Name: Wild Wings Water Recycling Facility

Enclosed are the results of analyses for samples received by the laboratory on 05/24/18 14:30. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA SWRCB ELAP Accreditation/Registration number 1233

CLS - Labs

CHAIN OF CUSTODY

CLS ID No.: 18E1355 LOG № 188364

REPORT TO:

NAME AND ADDRESS: Yolo County ATTN, Beth Gabor
625 Court St. Rm. 202
Woodland CA 95695

PROJECT MANAGER: Joe Trapasso / Carly Wood PHONE#: 916-975-7492

PROJECT NAME: Wild Wings Recycling Facility

SAMPLED BY: J. Trapasso

JOB DESCRIPTION: 2018 Quarterly Sampling - Q2

Jtrapasso@SSalabs.com

SITE LOCATION: 18530 Wild Wings Dr., Woodland CA

CLIENT JOB NUMBER:

DESTINATION LABORATORY:

[X] CLS (916) 638-7301
3249 FITZGERALD RD.
RANCHO CORDOVA, CA
95742

[ ] OTHER

PRESERVATIVES

ANALYSIS REQUESTED

- Total Coliform Organisms - 1ST
- Ammonia as N
- THMS
- PHTDS, Total Nitrogen
- Nitrate as N/Nitrite as N, Cl
- B, FE, Mn, Na-dissolved

GEOTRACKER:
EDF REPORT [ ] YES [ ] NO
GLOBAL ID: _____

COMPOSITE:

FIELD CONDITIONS:

TURN AROUND TIME: 1 DAY | 2 DAY | 3 DAY | 5 DAY

SPECIAL INSTRUCTIONS

OR

ALT. ID:

DATE	TIME	SAMPLE IDENTIFICATION	MATRIX	CONTAINER NO.	CONTAINER TYPE
5/24/18	1230	MW-2		7	
5/24/18	0830	MW-1		7	
5/24/18	0915	MW-5R		7	
5/24/18	1005	MW-6		7	
5/24/18	1125	MW-4		7	
5/24/18	1157	MW-3		7	
5/24/18		Trip Blank			
5/24/18	—	—	—	—	—

INVOICE TO:

PO. #

QUOTE #

SUSPECTED CONSTITUENTS

PRESERVATIVES: (1) HCL (2) HNO_3 (3) = COLD (4) = NaOH (5) = H_2SO_4 (6) = $Na_2S_2O_3$ (7) =

RELINQUISHED BY (SIGN)	PRINT NAME / COMPANY	DATE / TIME	RECEIVED BY (SIGN)	PRINT NAME / COMPANY
	Joe Trapasso/SSALC	5.24.18 1430		

RECD AT LAB BY: DATE / TIME: 5.24.18 1430

CONDITIONS / COMMENTS: 4.6°

SHIPPED BY: [ ] FED X [ ] UPS [ ] OTHER _____ AIR BILL #

Gold-Project Mgr./Field Sampler/Terms and conditions
Pink - Origin/Terms and Conditions
Yellow - Lab file copy/Terms and Conditions
White-Lab/Terms and conditions

CLS LABS

SAMPLE RECEIVING EXCEPTION REPORTS

CLS Labs Job # 9E1356.

Problem discovered by: QC. **Date:** 5/24/12

Nature of problem

Sulfite **Chlorine, Total** **Chlorine, Residual** **Ph** **Dissolved O2**

(Circle analysis above) **Received out of HOLD time.**

Client contacted? Yes _____ **No** _____ **Spoke With:** _____

By whom: _____ **Date:** ___/___/___ **Time:** _____ **HRS**

Client instructions:

Resolution of problem:

Logged in regardless and will be ran for analysis requested.

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
1135 Financial Blvd.	Project Number:	[none]	**CLS Work Order #: 18E1355**
Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (18E1355-01) Water Sampled: 05/24/18 12:30 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**130**	5.0	"	10	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**18**	4.0	"	"	"	"	05/24/18	"	
Nitrite as N	ND	0.40	"	1	"	"	"	"	
pH	**7.10**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	
Total Dissolved Solids	**970**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	**0.23**	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**18**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	
MW-1 (18E1355-02) Water Sampled: 05/24/18 08:30 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**120**	5.0	"	10	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**12**	4.0	"	"	"	"	05/24/18	"	
Nitrite as N	ND	0.40	"	1	"	"	"	"	
pH	**7.35**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	HT-F
Total Dissolved Solids	**970**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	**0.36**	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**12**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	
MW-5R (18E1355-03) Water Sampled: 05/24/18 09:15 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**44**	2.5	"	5	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**2.2**	2.0	"	"	"	"	05/24/18	"	
Nitrite as N	ND	0.40	"	1	"	"	"	"	
pH	**7.79**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	HT-F
Total Dissolved Solids	**470**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	**0.29**	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**2.5**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
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Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Conventional Chemistry Parameters by APHA/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (18E1355-04) Water Sampled: 05/24/18 10:05 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**120**	5.0	"	10	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**14**	4.0	"	"	"	"	05/24/18	"	
Nitrite as N	ND	0.40	"	1	"	"	"	"	
pH	**7.10**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	HT-F
Total Dissolved Solids	**950**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	ND	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**14**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	
MW-4 (18E1355-05) Water Sampled: 05/24/18 11:25 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**210**	2.5	"	5	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**14**	2.0	"	"	"	"	"	"	
Nitrite as N	ND	0.40	"	1	"	"	"	"	
pH	**7.72**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	HT-F
Total Dissolved Solids	**620**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	**0.23**	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**14**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	
MW-3 (18E1355-06) Water Sampled: 05/24/18 11:57 Received: 05/24/18 14:30									
Ammonia as N	ND	0.10	mg/L	1	1804342	05/25/18	05/25/18	SM4500-NH3F-1997	
Chloride	**81**	2.5	"	5	1804315	05/24/18	05/24/18	EPA 300.0	
Nitrate as N	**1.7**	0.40	"	1	"	"	05/24/18	"	
Nitrite as N	ND	0.40	"	"	"	"	"	"	
pH	**7.30**	0.01	pH Units	"	1804310	05/24/18	05/24/18	SM4500-H B	HT-F
Total Dissolved Solids	**620**	10	mg/L	"	1804324	05/25/18	05/29/18	SM2540C	
Total Kjeldahl Nitrogen	**0.31**	0.20	"	"	1804389	05/29/18	05/29/18	SM4500-NH3F-1997	
Total Nitrogen	**2.0**	0.40	"	"	1804390	05/29/18	05/29/18	EPA 351.3/300	

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
1135 Financial Blvd.	Project Number:	[none]	**CLS Work Order #: 18E1355**
Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (18E1355-01) Water Sampled: 05/24/18 12:30 Received: 05/24/18 14:30									
Boron	**6100**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**150000**	1000	"	"	"	"	"	"	
MW-1 (18E1355-02) Water Sampled: 05/24/18 08:30 Received: 05/24/18 14:30									
Boron	**4900**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**120000**	1000	"	"	"	"	"	"	
MW-5R (18E1355-03) Water Sampled: 05/24/18 09:15 Received: 05/24/18 14:30									
Boron	**2000**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**81000**	1000	"	"	"	"	"	"	
MW-6 (18E1355-04) Water Sampled: 05/24/18 10:05 Received: 05/24/18 14:30									
Boron	**4800**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**140000**	1000	"	"	"	"	"	"	
MW-4 (18E1355-05) Water Sampled: 05/24/18 11:25 Received: 05/24/18 14:30									
Boron	**930**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**47000**	1000	"	"	"	"	"	"	

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1135 Financial Blvd.	Project Number:	[none]	**CLS Work Order #: 18E1355**
Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (18E1355-06) Water Sampled: 05/24/18 11:57 Received: 05/24/18 14:30									
Boron	**2000**	50	µg/L	1	1804417	05/30/18	05/30/18	EPA 200.7	
Iron	ND	100	"	"	"	"	05/31/18	"	
Manganese	ND	20	"	"	"	"	05/30/18	"	
Sodium	**140000**	1000	"	"	"	"	"	"	

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
1135 Financial Blvd.	Project Number:	[none]	**CLS Work Order #: 18E1355**
Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Microbiological Parameters by APHA Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (18E1355-01) Water Sampled: 05/24/18 12:30 Received: 05/24/18 14:30									
Total Coliforms	<1.8	1.8	MPN/100 mL	1	1804317	05/24/18	05/28/18	SM 9221	
MW-1 (18E1355-02) Water Sampled: 05/24/18 08:30 Received: 05/24/18 14:30									
Total Coliforms	<1.8	1.8	MPN/100 mL	1	1804317	05/24/18	05/26/18	SM 9221	
MW-5R (18E1355-03) Water Sampled: 05/24/18 09:15 Received: 05/24/18 14:30									
Total Coliforms	<1.8	1.8	MPN/100 mL	1	1804317	05/24/18	05/26/18	SM 9221	
MW-6 (18E1355-04) Water Sampled: 05/24/18 10:05 Received: 05/24/18 14:30									
Total Coliforms	<1.8	1.8	MPN/100 mL	1	1804317	05/24/18	05/26/18	SM 9221	
MW-4 (18E1355-05) Water Sampled: 05/24/18 11:25 Received: 05/24/18 14:30									
Total Coliforms	**2.0**	1.8	MPN/100 mL	1	1804317	05/24/18	05/28/18	SM 9221	
MW-3 (18E1355-06) Water Sampled: 05/24/18 11:57 Received: 05/24/18 14:30									
Total Coliforms	**13**	1.8	MPN/100 mL	1	1804317	05/24/18	05/28/18	SM 9221	

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Trihalomethanes by EPA Method 524.2

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-2 (18E1355-01) Water Sampled: 05/24/18 12:30 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	ND	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*121 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*102 %*		*70-130*		"	"	"	"
MW-1 (18E1355-02) Water Sampled: 05/24/18 08:30 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	ND	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*121 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*100 %*		*70-130*		"	"	"	"
MW-5R (18E1355-03) Water Sampled: 05/24/18 09:15 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	**0.68**	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	**0.68**	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*115 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*101 %*		*70-130*		"	"	"	"

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1135 Financial Blvd.	Project Number:	[none]	**CLS Work Order #: 18E1355**
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Trihalomethanes by EPA Method 524.2

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-6 (18E1355-04) Water Sampled: 05/24/18 10:05 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	**0.80**	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	**0.80**	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*128 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*101 %*		*70-130*		"	"	"	"
MW-4 (18E1355-05) Water Sampled: 05/24/18 11:25 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	ND	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*124 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*101 %*		*70-130*		"	"	"	"
MW-3 (18E1355-06) Water Sampled: 05/24/18 11:57 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	ND	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*127 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*101 %*		*70-130*		"	"	"	"

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
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Trihalomethanes by EPA Method 524.2

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
MW-3 (18E1355-07) Water Sampled: 05/24/18 11:57 Received: 05/24/18 14:30									
Bromodichloromethane	ND	0.50	µg/L	1	1804388	05/25/18	05/25/18	EPA 524.2	
Bromoform	ND	0.50	"	"	"	"	"	"	
Chloroform	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
Total Trihalomethanes (THM)	ND	0.50	"	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4		*121 %*		*70-130*		"	"	"	"
Surrogate: Toluene-d8		*103 %*		*70-130*		"	"	"	"

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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804315 - General Prep										
Blank (1804315-BLK1)				Prepared & Analyzed: 05/24/18						
Chloride	ND	0.50	mg/L							
Nitrite as N	ND	0.40	"							
Nitrate as N	ND	0.40	"							
LCS (1804315-BS1)				Prepared & Analyzed: 05/24/18						
Chloride	4.89	0.50	mg/L	5.00		98	80-120			
Nitrate as N	2.00	0.40	"	2.00		100	80-120			
Nitrite as N	1.85	0.40	"	2.00		93	80-120			
LCS Dup (1804315-BSD1)				Prepared & Analyzed: 05/24/18						
Chloride	4.84	0.50	mg/L	5.00		97	80-120	0.9	20	
Nitrite as N	1.91	0.40	"	2.00		95	80-120	3	20	
Nitrate as N	2.01	0.40	"	2.00		100	80-120	0.3	20	
Matrix Spike (1804315-MS1)		**Source: 18E1356-01**		Prepared & Analyzed: 05/24/18						
Chloride	6.60	0.50	mg/L	5.00	1.70	98	80-120			
Nitrate as N	2.01	0.40	"	2.00	0.0639	97	80-120			
Nitrite as N	1.94	0.40	"	2.00	ND	97	80-120			
Matrix Spike Dup (1804315-MSD1)		**Source: 18E1356-01**		Prepared & Analyzed: 05/24/18						
Chloride	6.67	0.50	mg/L	5.00	1.70	99	80-120	0.9	20	
Nitrite as N	1.97	0.40	"	2.00	ND	98	80-120	2	20	
Nitrate as N	2.04	0.40	"	2.00	0.0639	99	80-120	1	20	
Batch 1804324 - General Preparation										
Blank (1804324-BLK1)				Prepared: 05/25/18 Analyzed: 05/29/18						
Total Dissolved Solids	ND	10	mg/L							

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Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804324 - General Preparation										
Duplicate (1804324-DUP1)		**Source: 18E1272-03**		Prepared: 05/25/18 Analyzed: 05/29/18						
Total Dissolved Solids	467	10	mg/L		508			8	20	
Batch 1804342 - General Preparation										
Blank (1804342-BLK1)				Prepared & Analyzed: 05/25/18						
Ammonia as N	ND	0.10	mg/L							
LCS (1804342-BS1)				Prepared & Analyzed: 05/25/18						
Ammonia as N	0.427	0.10	mg/L	0.500		85	80-120			
LCS Dup (1804342-BSD1)				Prepared & Analyzed: 05/25/18						
Ammonia as N	0.426	0.10	mg/L	0.500		85	80-120	0.2	25	
Matrix Spike (1804342-MS1)		**Source: 18E1355-01**		Prepared & Analyzed: 05/25/18						
Ammonia as N	0.444	0.10	mg/L	0.500	0.0400	81	75-125			
Matrix Spike Dup (1804342-MSD1)		**Source: 18E1355-01**		Prepared & Analyzed: 05/25/18						
Ammonia as N	0.465	0.10	mg/L	0.500	0.0400	85	75-125	5	25	
Batch 1804389 - General Preparation										
Blank (1804389-BLK1)				Prepared & Analyzed: 05/29/18						
Total Kjeldahl Nitrogen	ND	0.20	mg/L							
LCS (1804389-BS1)				Prepared & Analyzed: 05/29/18						
Total Kjeldahl Nitrogen	0.406	0.20	mg/L	0.500		81	80-120			

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Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Conventional Chemistry Parameters by APHA/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804389 - General Preparation										
LCS Dup (1804389-BSD1)				Prepared & Analyzed: 05/29/18						
Total Kjeldahl Nitrogen	0.404	0.20	mg/L	0.500		81	80-120	0.5	20	
Matrix Spike (1804389-MS1)		**Source: 18E1355-01**		Prepared & Analyzed: 05/29/18						
Total Kjeldahl Nitrogen	0.396	0.20	mg/L	0.500	0.226	34	75-125			QM-7
Matrix Spike Dup (1804389-MSD1)		**Source: 18E1355-01**		Prepared & Analyzed: 05/29/18						
Total Kjeldahl Nitrogen	0.384	0.20	mg/L	0.500	0.226	32	75-125	3	25	QM-7

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
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Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804417 - 6010A/No Digestion										
Blank (1804417-BLK1)				Prepared & Analyzed: 05/30/18						
Boron	ND	50	µg/L							
Iron	ND	100	"							
Manganese	ND	20	"							
Sodium	ND	1000	"							
LCS (1804417-BS1)				Prepared & Analyzed: 05/30/18						
Boron	993	50	µg/L	1000		99	85-115			
Iron	1040	100	"	1000		104	85-115			
Manganese	1020	20	"	1000		102	85-115			
Sodium	4530	1000	"	5000		91	85-115			
Matrix Spike (1804417-MS1)	**Source: 18E1355-01**			Prepared & Analyzed: 05/30/18						
Boron	6950	50	µg/L	1000	6110	84	70-130			
Iron	79.1	100	"	1000	ND	8	70-130			QM-7
Manganese	918	20	"	1000	ND	92	70-130			
Sodium	147000	1000	"	5000	149000	NR	70-130			QM-4X

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Trihalomethanes by EPA Method 524.2 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804388 - EPA 5030 Water MS										
Blank (1804388-BLK1)				Prepared & Analyzed: 05/25/18						
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	0.50	"							
Chloroform	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
Total Trihalomethanes (THM)	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	*12.6*		"	*10.0*		*126*	*70-130*			
Surrogate: Toluene-d8	*10.3*		"	*10.0*		*103*	*70-130*			
LCS (1804388-BS1)				Prepared & Analyzed: 05/25/18						
Bromodichloromethane	25.5	0.50	µg/L	20.0		128	70-130			
Bromoform	19.0	0.50	"	20.0		95	70-130			
Chloroform	19.9	0.50	"	20.0		99	70-130			
Dibromochloromethane	18.2	0.50	"	20.0		91	70-130			
Surrogate: 1,2-Dichloroethane-d4	*10.8*		"	*10.0*		*108*	*70-130*			
Surrogate: Toluene-d8	*9.57*		"	*10.0*		*96*	*70-130*			
LCS Dup (1804388-BSD1)				Prepared & Analyzed: 05/25/18						
Bromodichloromethane	23.8	0.50	µg/L	20.0		119	70-130	7	30	
Bromoform	19.6	0.50	"	20.0		98	70-130	3	30	
Chloroform	19.8	0.50	"	20.0		99	70-130	0.5	30	
Dibromochloromethane	19.8	0.50	"	20.0		99	70-130	8	30	
Surrogate: 1,2-Dichloroethane-d4	*10.4*		"	*10.0*		*104*	*70-130*			
Surrogate: Toluene-d8	*9.73*		"	*10.0*		*97*	*70-130*			
Matrix Spike (1804388-MS1)	**Source: 18E1334-01**			Prepared & Analyzed: 05/25/18						
Bromodichloromethane	33.3	0.50	µg/L	20.0	2.58	153	60-140			QM-5
Bromoform	17.9	0.50	"	20.0	ND	90	60-140			
Chloroform	22.4	0.50	"	20.0	5.56	84	60-140			
Dibromochloromethane	22.0	0.50	"	20.0	0.590	107	60-140			
Surrogate: 1,2-Dichloroethane-d4	*9.47*		"	*10.0*		*95*	*70-130*			
Surrogate: Toluene-d8	*10.3*		"	*10.0*		*103*	*70-130*			

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
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Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Trihalomethanes by EPA Method 524.2 - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1804388 - EPA 5030 Water MS										
Matrix Spike Dup (1804388-MSD1)	**Source: 18E1334-01**			Prepared & Analyzed: 05/25/18						
Bromodichloromethane	33.1	0.50	µg/L	20.0	2.58	153	60-140	0.5	30	QM-5
Bromoform	24.5	0.50	"	20.0	ND	123	60-140	31	30	QR-1
Chloroform	21.1	0.50	"	20.0	5.56	78	60-140	6	30	
Dibromochloromethane	23.3	0.50	"	20.0	0.590	114	60-140	6	30	
Surrogate: 1,2-Dichloroethane-d4	*12.1*		*"*	*10.0*		*121*	*70-130*			
Surrogate: Toluene-d8	*10.2*		*"*	*10.0*		*102*	*70-130*			

Silver State Analytical Laboratories	Project:	Wild Wings Water Recycling Facility	
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Reno, NV 89502	Project Manager:	Joe Trapasso	COC #: 188364

Notes and Definitions

QR-1	The RPD value for the sample duplicate or MS/MSD was outside of the QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery.
QM-7	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
QM-5	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QM-4X	The spike recovery was outside of QC acceptance limits for the MS and/or MSD due to analyte concentration at 4 times or greater the spike concentration. The QC batch was accepted based on LCS and/or LCSD recoveries within the acceptance limits.
HT-F	This is a field test method and it is performed in the lab outside holding time.
BT-4	<1.8
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference