Final Report
Work Period: September 1, 2021 – November 30, 2023

For Texas On-Site Sewage Facility (OSSF) Research Contract #582-21-10767

Wastewater Treatment Challenges at RV Parks

Report submitted to:
Donna Cosper, P.E., Project Manager
Program Support and Texas OSSF Research Grant Program
Texas Commission on Environmental Quality
P.O. Box 13087, MC - 235
Austin, Texas 78711-3087
Donna.Cosper@tceq.texas.gov

Report Submitted by:
June Wolfe III, Research Scientist
Texas A&M AgriLife Research
720 E Blackland Road
Temple, TX 76502
(254) 774-6016
jwolfe@brc.tamus.edu

May 10, 2024

TEXAS A&M AGRILIFE RESEARCH | EXTENSION

Table of Contents

Executive summary 1

Introduction and background 3

Wastewater treatment challenges at Recreational Vehicle parks 6

Park Selection 7

Water quality determination 8

Flow volume determination 11

Individual park descriptions and measurements 12

Additional measurements 49

Summary statistics and observations 51

References 55

Acknowledgements 55

APPENDIX 1 – Commercial laboratory results 56

APPENDIX II – Flow Meter Readings 86

List of Figures

Figure 1. Texas RV park serviced by an On Site Sewage Facility. 3
Figure 2. TCEQ language describing Recreational Vehicle park research 4
Figure 3. ISCO Avalanche refrigerated, programmable water sampler 9
Figure 4. Vinyl sampler intake lines installed in trash tank..... 10
Figure 5. Collecting composite wastewater sample for laboratory BOD_5 and TSS analysis. 11
Figure 6. Flow meters types utilized, mechanical and electronic register. 12
Figure 7. RV-1 Overall system, automated samplers, trash tank intake line, and water meter. ... 13
Figure 8. RV-2 System overview and installing sampler intake line in influent trash tank. 16
Figure 9. RV-3 Bath house, 5-machine laundry, samplers, and electronic water meter. 19
Figure 10. RV-4 Park view, installing samples, pumping trash tank, and water meter..... 22
Figure 11. RV-5 Park overview, samplers, intake strainer, and electronic flow meter. 25
Figure 12. RV-6 Trash tank inflow line, water meter, ATU pumps, ISCO samplers..... 28
Figure 13. RV-7 Bathhouse and mechanical water meter with failed register. 31
Figure 14. RV-8 Lodge, RVs and cabins, sampler installation, and electronic water meter. 34
Figure 15. RV-9 Bath house, influent line, effluent pump tank, system inflow water meter. 37
Figure 16. RV-10 Clubhouse, ATU system, mechanical flow meter, and influent intake. 40
Figure 17. RV-11 Bath house, samplers, flow meter, and trash tank sampler intake line. 43
Figure 18. RV-12 Bverview, samplers, flow meter, and pump tank. 46

List of Tables

Table 1. RV park ID number, dates monitored, stay type, OSSF type, and RV with amenity configuration. 8
Table 2. RV-1 influent wastewater characterization: flow, BOD_5, and TSS (concentration and load) for system and individual RVs. 14
Table 3. RV-1 BOD_5 and TSS influent, effluent, difference, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 15
Table 4. RV2- Influent wastewater flow, BOD_5, and TSS (concentration and load) for system, individual RVs, and bathroom/laundry facilities. 17
Table 5. RV-2 BOD_5 and TSS influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 18
Table 6. RV3 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system servicing laundry room only 20
Table 7. RV-3 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 21
Table 8. RV-4 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 23
Table 9. RV-4 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 24
Table 10. RV-5 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 26
Table 11. RV-5 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 27
Table 12. RV-6 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 29
Table 13. RV-6 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20, yes or no below threshold). 30

Table 14. RV-7 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 32
Table 15. RV-7 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20 mg/l, yes or no below threshold). 33
Table 16. RV-8 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 35
Table 17. RV-8 BOD_5 and TSS influent and effluent percent reduction, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 36
Table 18. RV- 9 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 38
Table 19. RV-9 BOD_5 and TSS influent and effluent percent reduction, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 39
Table 20. RV-10 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 41
Table 21. RV-10 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20, yes or no below threshold). 42
Table 22. RV-11 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 44
Table 23. RV-11 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 45
Table 24. RV-12 - Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs. 47
Table 25. RV-12 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L). 48
Table 26. Additional data collected for RV park systems 6-12 including effluent five-day carbonaceous BOD and influent and effluent nitrogen forms. 50

Executive summary

In November of 2021, the Texas Commission on Environmental Quality (TCEQ) funded Texas A&M AgriLife Research (AgriLife) to carry out an On-Site Sewage Facility (OSSF) research project under the Texas OSSF Research Grant Program's (TOGP) solicitation No. 582-21-10767. Eligible topic 2.3.1 addressed "Wastewater Challenges at Recreational Vehicle (RV) Parks" with the goals of characterizing waste streams generated in RV parks and determining if observed systems met TAC 285 rules for effluent treatment. AgriLife, under the guidance of the TOGP Advisory Committee, developed the specific monitoring objectives and procedures employed for the research. Over a 14-month period, AgriLife collected flow measurements, influent measurements, and effluent measurements from 12 RV park On-Site Sewage Facility (OSSF) systems. The parks were selected based on general patronage stay length, amenities present, cooperating management, and logistical compatibility. RV OSSF systems representing short-term (<4 months) and long-term (>4 months) stays for RV parks only, RV parks with bath houses, RV parks with kitchen facilities, and RV parks with laundry facilities were identified. Each OSSF system was monitored for a 4-week period during which influent composite water samples were collected 4 times per week and effluent composite water samples were collected 1 time per week. All composite water samples were analyzed in a certified laboratory for 5-day biochemical oxygen demand (BOD_5) and total suspended solids (TSS) concentration. It should be noted that the influent values reported here are not raw wastewater values. They represent wastewater entering the first component of the treatment train (i.e., primary, trash, septic, etc.). Literature suggests that settled wastewater BOD_5 values range from 25 to 40% lower than raw wastewater values and settled TSS values range from 50 to 75% lower than raw wastewater values. Some additional water quality constituents were measured for interest. Flow meter data were used to estimate RV water usage and, where possible, separate RV water usage from amenity (i.e., bath, laundry, kitchen, cabin, etc.) usage. In general, water use at short-stay parks was about half that at long-stay parks. Short-stay Park water use ranged from 3 gallons per day (gpd) to 40 gpd with an average of 17 gpd and median of 14 gpd. Long-stay parks ranged from a minimum of 20 gpd to a maximum of 63 gpd with an average of 36 gpd and median of 33 gpd. The BOD_5 concentration for short-stay parks ranged from a minimum of 114 mg/L to a maximum 1160 mg/L with an average of 465 mg/L and a median of 395 mg/L. The BOD_5

concentration for long-stay parks ranged from a minimum of 78 mg/L to a maximum of 1890 mg/L with an average of 479 mg/L and a median of 411 mg/L. Average and median BOD_5 values for both long and short-stay parks were higher than the TCEQ defined residential wastewater BOD_5 concentration of 300 mg/L. Comparisons of park configurations were not possible in most cases because flow attributed to the different sources could not be separated with certainty. Additionally, two RV parks hosted several Tiny Homes which may have influenced water use and organic loading but cannot be separated with certainty. The information presented in this report may prove useful for additional analysis, future designs guidance, and operational management improvement as it may be interpreted and applied in many different ways.

Introduction and background

According to the Texas Commission on Environmental Quality's (TCEQ) Texas On-Site Sewage Facility Research Grant Program (TOGP), in 2021 the number of known Recreational Vehicle (RV) parks (Figure 1) in Texas utilizing an On-Site Sewage Facility (OSSF) was just over 1,900 and growing rapidly. Modern RV parks no longer cater only to the traditional camper but service distinct groups with diverse needs. As a result, RV parks now commonly offer amenities beyond a simple parking space with water and electricity. Almost all include bathrooms with toilets and showers. Even more have laundry facilities and clubhouses with group kitchens and other features. Numerous amenity combinations and configurations exist throughout the state. Each added amenity and associated patron usage routine has the potential to increase the wastewater treatment burden on the OSSF in terms of increased flow volume and/or organic load. In Texas, RV OSSFs are designed and regulated under residential specifications; OSSFs must treat <5,000 gpd and assume at least between 40-50 gpd per RV and residential strength wastewater defined as a 5-Day Biochemical Oxygen Demand (BOD_5) <300 mg/L (TCEQ, 2017).

Figure 1. Texas RV park serviced by an On-Site Sewage Facility.

On April 29, 2021, the TCEQ invited applications for eligible OSSF research projects under TOGP grant solicitation No. 582-21-10767. Texas A&M AgriLife Research's (AgriLife) Water Science Laboratory at the Blackland Research and Extension Center in Temple prepared and submitted a proposal addressing research topic 2.3.1 Wastewater Treatment Challenges at RV Parks (Figure 2).

2.3.1 Wastewater Treatment Challenges at RV Parks

The number of RV Parks, both Seasonal (stays of less than 4 months) and Full Time (extended stays of more than 4 months), has been increasing each year. As of October 2020, the recorded number of RV Parks and Campgrounds in Texas was 1,895, with the variety of amenities ranging from: bathrooms (984 RV Parks), showers (911 RV Parks), laundry facilities (730 RV Parks), group kitchen (226 RV Parks), and combinations of: bathrooms/laundry (649 RV Parks), bathrooms/showers/ laundry (615 RV Parks), bathrooms/laundry/ showers/group kitchen (192 RV Parks).

Some Parks offer even more amenities. The number of RV Parks that offer a public dump station for the RVs is unknown. The numbers of RV Parks that rely on on-site sewage facilities (OSSFs) to handle wastewater is unknown; however, both the regulated community and the regulators have been presented with an increasing number of design challenges, compliance/operational issues, and system malfunctions. The lack of real data on which to base new designs and to understand malfunctions of existing designs has become clear. The research should focus on the gallons per day (GPD), 5-day biochemical oxygen demand (BOD_5), and total suspended solids (TSS) of wastewater from RV Parks that are Seasonal vs Full Time. Comparisons between the two types of RV Parks should have:

- similar types of amenities, and
- similar types of OSSFs.

The project must include at least the following three configurations of amenities:

- One comparison with public bathrooms;
- One comparison that includes group kitchen facilities (can include restrooms and showers); and
- One comparison that includes laundry facilities (can include bathrooms and showers).

The research should consider whether the systems meet the requirements of Title 30 Texas Administrative Code (TAC) Chapter 285. The report should consider new regulations to specifically address any compliance and design issues that are found in the study.

Figure 2. TCEQ grant solicitation #582-21-10767 language describing Recreational Vehicle park research

Following award of the contract to AgriLife Research in August 2021, a TOGP Advisory Committee Meeting was organized and held at the Texas A&M RELLIS Campus on September 12, 2021. Twenty-four people representing academia, the onsite wastewater industry, and TCEQ-OSSF officials met to discuss funded TOGP projects. Based on the ensuing discussion and input from meeting participants, one guidance recommendation was made regarding the RV project; focus on characterizing the RV park influent waste stream. Of particular interest was assessing the BOD_5 strength or concentration.

A comprehensive Quality Assurance Project Plan (QAPP) was developed by AgriLife and approved by TCEQ in order to maintain project conformity and analytical quality ensuring data quality. While the QAPP was being prepared, reviewed, and approved by all parties, AgriLife worked with the Williamson County OSSF Team to scout numerous RV parks and identify those appropriate for the planned research. The Williamson County Team facilitated park selection, introductions and park access, monitoring instrumentation installation, and water sample collection and handling. The first OSSF systems were instrumented with water quality samplers in July and August of 2022 and monitoring officially began in October 2022 following QAPP approval by TCEQ. Monitoring of 12 RV OSSF was completed in September of 2023.

This project was possible through the efforts, trust, and confidentiality maintained among the many researchers (i.e., AgriLife personnel), state and county regulators, and RV park owners who collaborated to gather this information. Understanding the regulatory nature of the subject, the goal was not to assess the operation of any particular RV park or performance of any particular OSSF system for non-conformance enforcement or punitive purposes but rather to gather information that would allow regulators to understand the waste streams generated in currently operating, real-world RV parks and to facilitate the design, operation, and management of future systems.

The RV park OSSF systems monitored under this project were all located in Central Texas. Specific locations and names of the parks monitored are not presented in order to preserve the privacy of the cooperating owners. Each RV park OSSF system was given a sequential identification number from 1 to 12.

Wastewater treatment challenges at Recreational Vehicle parks

According to TCEQ, both the regulated community and regulators in recent years have experienced an increasing number of design challenges, compliance/operational issues, and system malfunctions. Modern RV parks no longer cater only to the traditional camper but service several distinct groups with diverse needs including those needing long-term housing and even permanent residence. As a result, they may offer amenities that affect wastewater production.

Two, very broad, RV park stay-length categories were defined by TCEQ; short-term camping, generally <4 months, and long-term camping, generally >4 months. In actuality, stay-lengths may range from traditional camping stays of a few days to seasonal stays of a few months, to permanent year-round residential stays. The trend toward longer stay-lengths, due to numerous social issues, is increasing and affecting how RV parks are being built, managed, and used. Park patronage can loosely be described as short-term campers and vacationers or long-term seasonal and permanent residents.

Today RV parks very often provide amenities beyond a simple parking space with water and electricity. Almost all include restrooms with toilets and sinks. Many have full bathrooms with toilets, sinks, and showers. Laundry facilities are also common and clubhouses with kitchens have become popular. Numerous combinations and configurations of bath/laundry/kitchen amenities exist throughout the state. At first glance, this may not seem problematic however, each added amenity and associated patron usage routine has the potential to increase the wastewater treatment burden on the OSSF in terms of increased flow volume and organic load.

The primary project goal of this project was to determine the influent flow volume, 5-day Biochemical Oxygen Demand (BOD_5) concentration, and Total Suspended Solids (TSS) concentration of RV parks catering to different patronage stay lengths and offering bath, laundry, and kitchen amenity configurations for comparison. A minor goal was to determine if the monitored OSSF effluent met TAC 285 disposal rules. The following tasks were identified.

1. Identify RV parks willing to participate and meeting research requirements
2. Temporarily install automated water sampling equipment at influent and effluent points
3. Monitor each system over a 4-week period
4. Collect 24-hour composite influent and effluent wastewater samples 4 days per week
5. Record concurrent water usage and park occupancy levels
6. Analyze influent and effluent wastewater samples for BOD_5 and TSS concentration
7. Prepare progress reports and a final summary report describing all results and findings

Park Selection

RV park selection was limited by project-specific requirements. AgriLife relied heavily upon the Williamson County OSSF Regulatory Team of engineers and sanitarians to identify RV parks that were receptive to monitoring and met project requirements regarding patronage stay-length and water usage determination (i.e., presence of existing flow meters). Park selections were limited to those with management willing to allow project personnel to access OSSFs, allow the installation of monitoring equipment, and provide power for the instrumentation. Park management cooperation was necessary to provide occupancy, and laundry, and other amenity usage records during the monitoring period (Note: park owners were not compensated for their cooperation; all OSSF access, AgriLife instrumentation power usage, and sharing of records was voluntary). In order to determine RV water usage, selected parks were required to have an existing water meter in an appropriate location. Finally, selected parks needed logistical compatibility for wastewater sample pickup and delivery (i.e., physically close enough to analytical laboratory for travel time to meet sample holding requirements).

TCEQ specified that AgriLife monitor two (2) patronage stay lengths (short and long), and three (3) amenity configurations (bath, kitchen, and laundry), yielding a total of (6) RV park configurations, for comparison. Similar OSSF types for each long vs short term stay park/amenity configuration were desired as well. AgriLife monitored a total of 12 RV OSSF Park systems over the study period. The park ID, dates monitored, stay type, OSSF type, and amenity configurations are shown in Table 1.

Table 1. RV park ID number, dates monitored, stay type, OSSF type, and RV with amenity configuration.

ID	Dates Monitored	Stay Type	OSSF Type	RV and Amenity Configuration
RV-1	24 Oct to 18 Nov 2022	Long	Aerobic Drip	16 RVs only
RV-2	14 Nov to 20 Dec 2022	Long	Aerobic Drip	16 RVs and office with 2 bathrooms and 5-machine laundry
RV-3	24 Oct to 18 Nov 2022	Short	Anaerobic LPD	0 RVs, 5-machine laundry only
RV-4	13 Feb to 10 Mar 2023	Long	Aerobic Drip	16 RVs only
RV-5	06 Feb to 03 Mar 2023	Short	Anaerobic LPD	16 to 17 RVs and office with 1 restroom
RV-6	06 Feb to 03 Mar 2023	Long	Aerobic Spray	76 RVs, 9 tiny homes, and office with 2 restrooms
RV-7	05 Jun to 30 Jun 2023	Long	Aerobic Spray	61 RVs and bath house with 2 bathrooms and 5-machine laundry
RV-8	05 Jun to 30 Jun 2023	Short	Anaerobic Leaching Chamber	4 to 13 RVs, 0 to 15 cabins and clubhouse with 2 restrooms and 1 kitchen
RV-9	05 Jun to 30 Jun 2023	Short	Anaerobic Mound	8 to 18 RVs and bath house with 2 bathrooms
RV-10	21 Aug to 15 Sep 2023	Long	Aerobic Spray	22 RVs, 12 tiny homes and clubhouse with 4 bathrooms, 5-machine laundry and 1 kitchen
RV-11	21 Aug to 15 Sep 2023	Long	Anaerobic Conventional	26 to 30 RVs and bath house with 2 bathrooms and 3 machine laundry
RV-12	04 Sep to 29 Sep 2023	Short	Anaerobic LPD	19 to 22 RVs only

N.B. Cabin and tiny home considered equivalent. Restroom refers to facilities with toilet and sink. Bathroom refers to facilities with toilet, sink, and shower.

Water quality determination

The AgriLife Water Science Laboratory used automated water samplers (Model: Avalanche, Teledyne ISCO, Lincoln, NE) to collect OSSF composite influent and effluent wastewater samples at the selected RV parks . The Avalanche portable water sampler is a refrigerated, programmable sampler that accepts user-specified instructions to develop sampling routines that meet project requirements. Samplers were configured for 120 VAC operation and the parks provided power drawn from the nearest line source. Programming controlled scheduling and a peristaltic pump that delivered desired volume samples from a collection point through a vinyl-intake line to a holding container inside the refrigerated compartment at desired intervals (Figure 3).

Figure 3. ISCO Avalanche refrigerated, programmable water sampler. Controller and pump (left), inside (right).

AgriLife employed six automated samplers to monitor up to three RV park OSSFs at a time. Roughly 4 rounds of sampling were completed between October 2022 and September 2023. Each park was assigned two samplers, one for influent and one for effluent. Samplers were housed in an equipment shelter and powered by 120 VAC line power supplied by the park. Samplers were programmed to a 24-hour composite sampling routine delivering 100 mL per hour to the refrigerated holding tank. Composite samples were used to integrate system conditions over the entire sampling period and average short-term organic loading spikes. This was intended to provide a more representative view of OSSF system conditions than a single "snapshot" grab sample. The Avalanche's refrigeration capability maintained composite samples in the field so project personnel could collect and deliver samples meeting project analytical preservation and holding time requirements.

Each RV park OSSF system was monitored over a ~1 month period (i.e., 4 weeks). Two locations in OSSF treatment train were sampled: 1) influent at the trash tank, and 2) effluent at the pump tank (Figure 4). Influent samples were pumped from the trash tank through a strainer and 3/8" vinyl intake tube and delivered to the composite collection bottle. It should be noted

that designing and installing a raw influent sampling port for each RV park OSSF was impractical, if not impossible for this project. The automated sampler intake was located in the trash tank directly under the main sewer line inlet below any scum layer and above any sludge layer (Figure 4). The influent, sampled as described, does not represent raw influent and may more closely represent settled influent due to tank operational status condition (i.e., accumulated solids and free settling zone) at the time of sampling. Literature suggests that settled BOD_5 values range from 25 to 40% lower than raw wastewater BOD_5 values and settled TSS values range from 50 to 75% lower than raw wastewater TSS values (Tchobanoglous et. al, 2003). The strainer placement was determined visually during sampler calibration during which successive pumped samples were compared to determine strainer position in the vertical water column that delivered the clearest sample. The same procedure was utilized for locating the intake strainer within the effluent pump tank. Effluent samples were collected from the pump tank near the pump inlet but below the lowest float level to ensure water level did not fall below the sampler intake line point (Figure 4).

Figure 4. Vinyl sampler intake lines installed in trash tank (left) and pump tank (right).

The hourly sub-samples were composited in a 19 L container inside the refrigerated portion of the sampler. AgriLife and Williamson County OSSF personnel removed the composite water samples 4 times per week (Figure 5).

Composite wastewater samples were delivered to a National Environmental Laboratory Accreditation Program certified commercial laboratory (i.e., AquaTech, Austin, TX) where they were analyzed for BOD_5 and TSS concentrations. A certified laboratory was utilized to provide and ensure quality assurance documentation levels specified by the QAPP.

Figure 5. Collecting composite wastewater sample for laboratory BOD_5 and TSS analysis.

Flow volume determination

RV parks with existing water meters were required in order to determine RV flow volumes (i.e., water usage) and calculate organic loading (i.e., flow x concentration). All existing meters in this study used paddle-wheel type sensors in conjunction with two register types, mechanical and electronic (Figure 6). In most cases, flow meters were located near the effluent pump tank

and measured water that was discharged to the surface or sub-surface disposal system. This arrangement assumes that the water volume flowing through the OSSF to disposal reflects water received from the RV's and park amenities (restrooms, laundries, etc.). In one park, an inflow water meter was used. This arrangement assumes no outside watering. Park personnel informed AgriLife that metered inflow supplied only the RVs and a bath house and was not utilized for other purposes such as outside watering. When possible, meters were read at the same time as lab sample collection, typically 2 times per week.

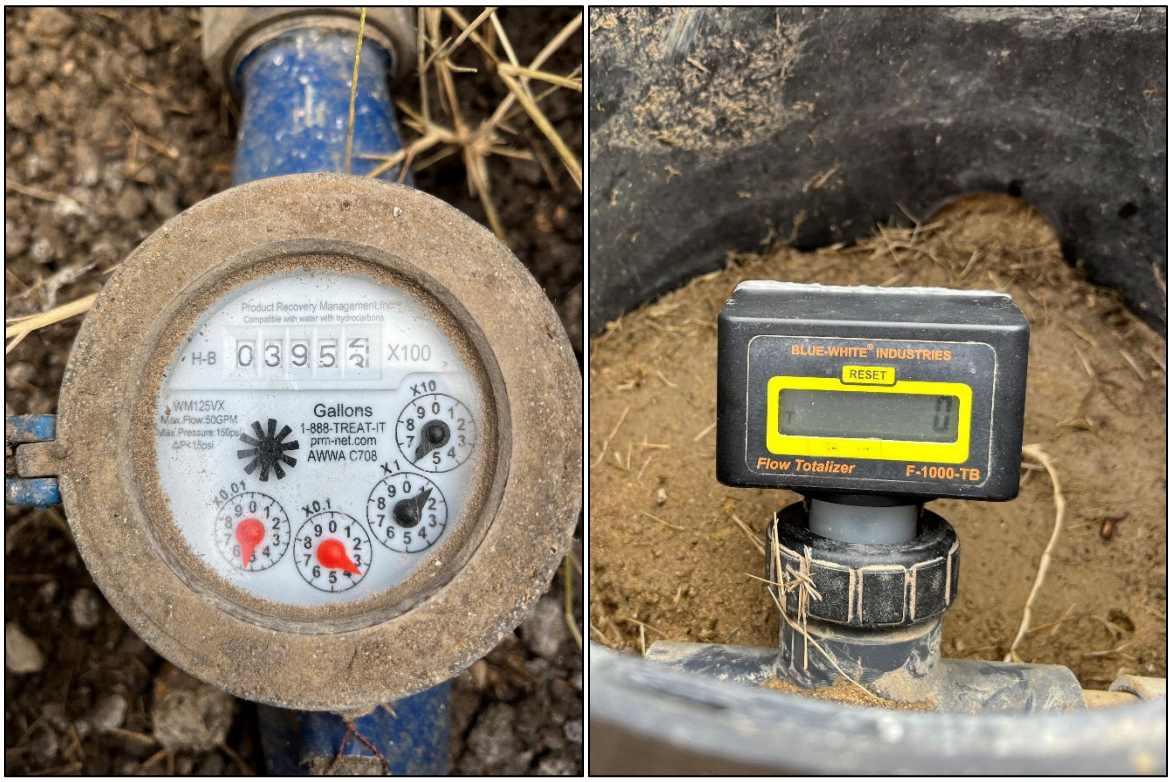

Figure 6. Flow meter types utilized: mechanical (left) and electronic register (right).

Individual park descriptions and measurements

Individual RV park OSSF descriptions, photographs, and measurements are presented in this section in the chronological order in which they were collected. Descriptions include park type, OSSF specifications, sampling procedures, and observations unique to the system and monitoring activity.

RV-1

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	16 RVs
Design flow	800 gal./day
Primary	Septic/Trash tank – 1500 gal. concrete
Secondary	Aqua Aire AA 1500
Pump Tank	1750 gal. concrete
Disposal	Sub-surface, drip irrigation
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Trash tank pumped just prior to start of monitoring period. Flow readings taken an average of 2 times per week.

Figure 7. RV-1 clockwise from top left: Overall system, automated samplers, intake line at trash tank, and water meter.

Table 2. RV-1 Influent wastewater characterization: flow, BOD_5, and TSS (concentration and load) for system and individual RVs.

Date (d-m-y)	System Influent					Individual RV Influent			
	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
24-Oct-22	332	397	1.10	104	0.29	16	21	0.07	0.02
25-Oct-22	332	381	1.05	84	0.23	16	21	0.07	0.01
27-Oct-22	332	354	0.98	78	0.22	16	21	0.06	0.01
28-Oct-22	332	719	1.99	50	0.14	16	21	0.12	0.01
31-Oct-22	327	301	0.82	37	0.10	16	20	0.05	0.01
1-Nov-22	327	332	0.91	68	0.19	16	20	0.06	0.01
3-Nov-22	327	447	1.22	83	0.23	16	20	0.08	0.01
4-Nov-22	327	406	1.11	68	0.19	16	20	0.07	0.01
7-Nov-22	535	276	1.23	80	0.36	16	33	0.08	0.02
8-Nov-22	535	542	2.42	94	0.42	16	33	0.15	0.03
10-Nov-22	535	362	1.62	64	0.29	16	33	0.10	0.02
11-Nov-22	535	366	1.63	56	0.25	16	33	0.10	0.02
14-Nov-22	471	246	0.97	49	0.19	16	29	0.06	0.01
15-Nov-22	471	296	1.16	40	0.16	16	29	0.07	0.01
17-Nov-22	471	717	2.82	150	0.59	16	29	0.18	0.04
18-Nov-22	471	800	3.14	68	0.27	16	29	0.20	0.02
Average	416	434	1.51	73	0.26	16	26	0.10	0.02
Max	535	800	3.14	150	0.59	16	33	0.20	0.04
Min	327	246	0.82	37	0.10	16	20	0.05	0.01
Median	402	374	1.19	68	0.23	16	25	0.08	0.01

Table 3. RV-1 BOD_5 and TSS influent, effluent, difference, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
24-Oct-22	397	16	96	Yes	104	7	93	Yes
25-Oct-22	381	29	92	Yes	84	12	86	Yes
27-Oct-22	354	8	98	Yes	78	6	92	Yes
28-Oct-22	719	7	99	Yes	50	5	90	Yes
31-Oct-22	301	10	97	Yes	37	5	86	Yes
1-Nov-22	332	12	96	Yes	68	5	93	Yes
3-Nov-22	447	16	96	Yes	83	5	94	Yes
4-Nov-22	406	18	96	Yes	68	6	91	Yes
7-Nov-22	276	34	88	Yes	80	9	89	Yes
8-Nov-22	542	28	95	Yes	94	18	81	Yes
10-Nov-22	362	21	94	Yes	64	10	84	Yes
11-Nov-22	366	6	98	Yes	56	7	88	Yes
14-Nov-22	246	18	93	Yes	49	8	84	Yes
15-Nov-22	296	20	93	Yes	40	6	85	Yes
17-Nov-22	717	21	97	Yes	150	6	96	Yes
18-Nov-22	800	22	97	Yes	68	5	93	Yes
Average	434	18	95		73	8	89	
Max	800	34	99		150	18	96	
Min	246	6	88		37	5	81	
Median	374	18	96		68	6	89	

RV-2

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	11 RVs, 1 employee, 25-person bathhouse, and 3 washers
Design flow	1358 gal./day
Primary	Septic/Trash tank – 1500 gal. concrete
Secondary	Aqua Aire AA 1500
Pump Tank	1750 gal. concrete
Disposal	Sub-surface, drip irrigation
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Initial influent concentrations judged excessively high (intake line in sludge layer). Raised intake above sludge layer and continued sampling an additional 2.5 weeks. Last two scheduled sampling dates (Dec. 22, 23) curtailed due to AgriLife and AquaTech Lab holiday schedules.

Figure 8. RV-2 System overview (left), installing sampler intake line in influent trash tank (right).

Table 4. RV-2 Influent wastewater flow, BOD_5, and TSS (concentration and load) for system, individual RVs, and bathroom/laundry facilities.

	System Influent					Individual RV Influent				Bath/Laundry Influent		
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs/day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
14-Nov-2022	684	411	2.34	98	0.56	11	30	0.10	0.03	354	1.21	0.29
15-Nov-2022	684	356	2.03	65	0.37	11	30	0.09	0.02	354	1.05	0.19
17-Nov-2022	684	451	2.57	93	0.53	11	30	0.11	0.02	354	1.33	0.27
18-Nov-2022	684	458	2.61	100	0.57	11	30	0.11	0.03	354	1.35	0.30
5-Dec-2022	604	491	2.47	118	0.59	11	27	0.11	0.03	312	1.28	0.31
6-Dec-2022	604	407	2.05	98	0.49	11	27	0.09	0.02	312	1.06	0.26
8-Dec-2022	604	356	1.79	152	0.77	11	27	0.08	0.04	312	0.93	0.40
9-Dec-2022	604	NA	NA	19	0.10	11	27	NA	0.00	312	NA	0.05
12-Dec-2022	558	669	3.11	388	1.81	11	24	0.14	0.08	289	1.61	0.93
13-Dec-2022	558	787	3.66	15	0.07	11	24	0.16	0.00	289	1.89	0.04
15-Dec-2022	558	557	2.59	308	1.43	11	24	0.11	0.07	289	1.34	0.74
16-Dec-2022	558	540	2.51	348	1.62	11	24	0.11	0.08	289	1.30	0.84
19-Dec-2022	525	465	2.04	380	1.66	11	23	0.09	0.08	272	1.05	0.86
20-Dec-2022	525	352	1.54	312	1.37	11	23	0.07	0.06	272	0.80	0.71
Average	602	485	2.41	178	0.85	11	26	0.11	0.04	312	1.25	0.44
Max	684	787	3.66	388	1.81	11	30	0.16	0.08	354	1.89	0.93
Min	525	352	1.54	15	0.07	11	23	0.07	0.00	272	0.80	0.04
Median	604	458	2.47	109	0.58	11	27	0.11	0.03	312	1.28	0.30

N.B. Bath/Laundry flow calculated as System Flow – (# RVs x 26 gal/day). Average RV flow of 26 gal/day based on results from RV-1 (See Table 1). Bathroom and laundry flow indistinguishable. The monitoring period was curtailed for 2 days due to AgriLife holiday schedule. NA indicates "Not Available" due to BOD analysis failure to meet residual dissolved oxygen of at least 1 mg/L.

Table 5. RV-2 BOD_5 and TSS influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
14-Nov-2022	411	13	97	Yes	98	6	94	Yes
15-Nov-2022	356	14	96	Yes	65	10	85	Yes
17-Nov-2022	451	43	90	Yes	93	13	86	Yes
18-Nov-2022	458	19	96	Yes	100	5	95	Yes
5-Dec-2022	491	55	89	Yes	118	82	31	Yes
6-Dec-2022	407	21	95	Yes	98	22	78	Yes
8-Dec-2022	356	33	91	Yes	152	52	66	Yes
9-Dec-2022	NA	NA	NA	NA	19	52	-63	Yes
12-Dec-2022	669	16	98	Yes	388	30	92	Yes
13-Dec-2022	787	746	05	No	15	32	-53	Yes
15-Dec-2022	557	22	96	Yes	308	13	96	Yes
16-Dec-2022	540	23	96	Yes	348	8	98	Yes
19-Dec-2022	465	16	97	Yes	380	11	97	Yes
20-Dec-2022	352	12	97	Yes	312	3	99	Yes
Average	485	79	88		178	24	81	
Max	787	746	98		388	82	99	
Min	352	12	05		15	3	31	
Median	458	21	96		109	13	0.89	

N.B. NA indicates “Not Available” due to BOD analysis failure to meet residual dissolved oxygen of at least 1 mg/L.

RV-3

Park Type	Short term (<4 months)
Patron Type	Vacationing and seasonal visitors
Design capacity	5-machine laundry
Design flow	800 gal./day
Primary	Septic/Trash tank – 1500 gal. concrete
Secondary	None
Pump Tank	1250 gal. concrete
Disposal	Sub-surface, low pressure dose
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Very new park. Monitoring began the first week of park opening. Problems with electronic flow meter at this location, electronic register flooded during heavy rains and shorted out (installed below ground). Unable to determine laundry facility usage. Documented number of RVs present in the park each time samples were picked up for analysis.

Figure 9. RV-3 Clockwise from top left; bath house, 5-machine laundry, samplers, and electronic water meter.

Table 6. RV-3 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system servicing laundry room only

Date (d-m-y)	flow (gpd)	BOD_5 (mg/L)	BOD_5 Load (lbs/day)	TSS (mg/L)	TSS Load (lbs/day)	RVs in park (#)
24-Oct-2022	44	120	0.04	19	0.01	21
25-Oct-2022	44	131	0.05	20	0.01	21
27-Oct-2022	44	152	0.06	ND	-	23
28-Oct-2022	44	139	0.05	25	0.01	23
31-Oct-2022	80	204	0.14	24	0.02	23
1-Nov-2022	80	193	0.13	77	0.05	24
3-Nov-2022	80	204	0.14	20	0.01	24
4-Nov-2022	80	210	0.14	26	0.02	24
7-Nov-2022	77	228	0.15	34	0.02	24
8-Nov-2022	77	243	0.16	41	0.03	23
10-Nov-2022	77	240	0.15	34	0.02	25
11-Nov-2022	77	260	0.17	36	0.02	25
14-Nov-2022	106	252	0.22	30	0.03	25
15-Nov-2022	106	163	0.14	26	0.02	28
17-Nov-2022	106	295	0.26	27	0.02	28
18-Nov-2022	106	259	0.23	25	0.02	23
Average	77	206	0.14	31	0.02	24
Max	106	295	0.26	77	0.05	28
Min	44	120	0.04	19	0.01	21
Median	79	207	0.14	26	0.02	24

N.B. RV-3 represents laundry room only effluent. No accurate machine usage records were available. Washing estimated from water flow alone assuming 10 gal/wash load. ND indicates “Non-Detect”.

Table 7. RV-3 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
24-Oct-2022	120	16	87	Yes	19	7	63	Yes
25-Oct-2022	131	29	78	Yes	20	12	40	Yes
27-Oct-2022	152	8	95	Yes	ND	6	-	Yes
28-Oct-2022	139	7	95	Yes	25	5	80	Yes
31-Oct-2022	204	10	95	Yes	24	5	79	Yes
1-Nov-2022	193	12	94	Yes	77	5	94	Yes
3-Nov-2022	204	16	92	Yes	20	5	75	Yes
4-Nov-2022	210	18	91	Yes	26	6	77	Yes
7-Nov-2022	228	34	85	Yes	34	9	74	Yes
8-Nov-2022	243	28	88	Yes	41	18	56	Yes
10-Nov-2022	240	21	91	Yes	34	10	71	Yes
11-Nov-2022	260	6	98	Yes	36	7	81	Yes
14-Nov-2022	252	18	93	Yes	30	8	73	Yes
15-Nov-2022	163	20	88	Yes	26	6	77	Yes
17-Nov-2022	295	21	93	Yes	27	6	78	Yes
18-Nov-2022	259	22	92	Yes	25	5	80	Yes
Average	206	18	91		31	8	0.73	
Max	295	34	98		77	18	0.94	
Min	120	6	78		19	5	0.40	
Median	207	18	92		26	6	0.77	

N.B. ND indicates “Non-Detect”.

RV-4

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	16 RVs
Design flow	800 gal./day
Primary	Septic/Trash tank – 1500 gal. concrete
Secondary	Aqua Aire AA 1500
Pump Tank	1750 gal. concrete
Disposal	Sub-surface, drip irrigation
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Trash tank pumped 3 weeks prior to monitoring start. Ice storm on 30 Jan delayed start. Effluent sampling reduced from 4 to 1 sample per week. Intake lines switched at install, extended sampling by 1 week. Influent concentration high over entire sampling period, unexplained.

Figure 10. RV-4 Clockwise from top left; park view, installing samples, pumping trash tank, and water meter.

Table 8. RV-4 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV Influent			
Date (d-m-y)	**Flow (gal/day)**	**BOD_5 Conc. (mg/L)**	**BOD_5 Load (lbs./day)**	**TSS Conc. (mg/L)**	**TSS Load (lbs./day)**	**RVs on System (#)**	**Flow (gal/day)**	**BOD_5 Load (lbs./day)**	**TSS Load (lbs./day)**
13-Feb-2023	429	1580	5.65	1470	5.26	16	27	0.35	0.33
14-Feb-2023	429	3110	11.13	800	2.86	16	27	0.70	0.18
16-Feb-2023	429	1600	5.72	80	0.29	16	27	0.36	0.02
17-Feb-2023	429	1610	5.76	98	0.35	16	27	0.36	0.02
20-Feb-2023	359	1480	4.44	92	0.28	16	22	0.28	0.02
21-Feb-2023	359	1660	4.97	111	0.33	16	22	0.31	0.02
23-Feb-2023	359	1580	4.73	70	0.21	16	22	0.30	0.01
24-Feb-2023	359	1420	4.25	164	0.49	16	22	0.27	0.03
27-Feb-2023	462	1840	7.09	142	0.55	16	29	0.44	0.03
28-Feb-2023	462	1870	7.21	79	0.30	16	29	0.45	0.02
2-Mar-2023	462	2350	9.05	2260	8.71	16	29	0.57	0.54
3-Mar-2023	462	591	2.28	1180	4.55	16	29	0.14	0.28
6-Mar-2023	424	1820	6.43	1790	6.33	16	26	0.40	0.40
7-Mar-2023	424	2080	7.36	430	1.52	16	27	0.46	0.10
9-Mar-2023	424	2040	7.21	540	1.91	16	27	0.45	0.12
10-Mar-2023	424	1860	6.58	1970	6.97	16	27	0.41	0.44
Average	419	1781	6.24	705	2.56	16	26	0.39	0.16
Max	462	3110	11.13	2260	8.71	16	29	0.70	0.54
Min	359	591	2.28	70	0.21	16	22	0.14	0.01
Median	427	1740	6.10	297	1.03	16	27	0.38	0.06

Table 9. RV-4 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
14-Feb-2023	3110	14	100	Yes	800	29	96	Yes
21-Feb-2023	1660	122	93	Yes	111	27	76	Yes
28-Feb-2023	1870	48	97	Yes	79	24	70	Yes
7-Mar-2023	2080	57	97	Yes	430	17	96	Yes
Average	2180	60	97		355	24	84	
Max	3110	122	100		800	29	96	
Min	1660	14	93		79	17	70	
Median	1975	53	97		271	26	86	

RV-5

Park Type	Short term (<4 months)
Patron Type	Vacationing and seasonal visitors
Design capacity	25 RVs, office with single restroom
Design flow	1202 gal./day
Primary	Trash and septic tank – 1500 gal concrete (each)
Secondary	None
Pump Tank	1500 gal. concrete
Disposal	Sub-surface, low pressure dose
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	New park with low occupancy (~60% of capacity). Park manager resides in one of the RV on this system so office with restroom can assume equivalent to an RV (little to no public use of restroom). Electronic flow meter flooded out first week of sampling. Able to repair and obtain 3 weeks of flow data. First week's flow is average of last 3 weeks.

Figure 11. RV-5 Clockwise from top left; park overview, installing samplers, sampler intake strainer, and electronic flow meter.

Table 10. RV-5 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV Influent			
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
6-Feb-2023	583	275	1.34	44	0.21	16	36	0.08	0.01
7-Feb-2023	583	256	1.24	66	0.32	16	36	0.08	0.02
9-Feb-2023	583	178	0.87	26	0.13	16	36	0.05	0.01
10-Feb-2023	583	229	1.11	36	0.18	16	36	0.07	0.01
13-Feb-2023	680	268	1.52	35	0.20	17	40	0.09	0.01
14-Feb-2023	680	565	3.20	94	0.53	17	40	0.19	0.03
16-Feb-2023	680	726	4.12	132	0.75	17	40	0.24	0.04
17-Feb-2023	680	594	3.37	140	0.79	17	40	0.20	0.05
20-Feb-2023	537	353	1.58	53	0.24	17	32	0.09	0.01
21-Feb-2023	537	529	2.37	46	0.21	17	32	0.14	0.01
23-Feb-2023	537	639	2.86	101	0.45	17	32	0.17	0.03
24-Feb-2023	537	620	2.78	96	0.43	17	32	0.16	0.03
27-Feb-2023	504	855	3.59	70	0.29	16	31	0.22	0.02
28-Feb-2023	504	960	4.04	63	0.26	16	32	0.25	0.02
2-Mar-2023	504	849	3.57	32	0.13	16	32	0.22	0.01
3-Mar-2023	504	864	3.63	72	0.30	16	32	0.23	0.02
Average	576	588	2.57	69	0.34	17	35	0.16	0.02
Max	680	960	4.12	140	0.79	17	40	0.25	0.05
Min	504	178	0.87	26	0.13	16	31	0.05	0.01
Median	560	580	2.82	65	0.28	17	34	0.17	0.02

N.B. Flow attributable to office restroom is indistinguishable from RV flows; Park manager occupied one of the RVs on system and reported minimal public use of office restroom

Table 11. RV-5 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
7-Feb-2023	256	57	78	Yes	66	20	70	Yes
14-Feb-2023	565	64	89	Yes	94	14	85	Yes
21-Feb-2023	529	391	26	No	46	29	37	Yes
28-Feb-2023	960	500	48	No	63	46	27	Yes
Average	578	253	60		67	27	55	
Max	960	500	89		94	46	85	
Min	256	57	26		46	14	27	
Median	547	228	63		65	25	53	

RV-6

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	92 RV spaces, 9 Tiny Home spaces and office with 2 restrooms
Design flow	4070 gal./day
Primary	Trash/pretreat tank – 6000 gal concrete
Secondary	Aqua Aire AA 1500 (6 units)
Pump Tank	9000 gal. concrete
Disposal	Surface spray
Disinfection	Norweco Bio-Dynamic LF1500, liquid bleach
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Scum layer in trash tank was 2-3" thick at install. Punched hole to install influent line strainer. Tank was pumped on 24 Feb during the middle of monitoring period. No sample available for this date. Sampler pump problem on 3 march, insufficient sample volume for lab analysis.

Figure 12. RV-6 Clockwise from top left; trash tank inflow line, water meter, ATU pumps, ISCO samplers.

Table 12. RV-6 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

Date (d-m-y)	OSSF System Influent					Individual RV/Tiny Home Influent (Includes 2 office restrooms)			
	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs/Tiny Homes on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
6-Feb-2023	5088	304	12.90	74	3.14	84	61	0.15	0.04
7-Feb-2023	5088	458	19.43	244	10.35	84	61	0.23	0.12
9-Feb-2023	5088	519	22.02	80	3.39	84	61	0.26	0.04
10-Feb-2023	5088	545	23.13	147	6.24	84	61	0.28	0.07
13-Feb-2023	5498	596	27.33	63	2.89	87	63	0.31	0.03
14-Feb-2023	5498	78	3.58	160	7.34	87	63	0.04	0.08
16-Feb-2023	5498	702	32.19	114	5.23	87	63	0.37	0.06
17-Feb-2023	5498	924	42.37	55	2.52	87	63	0.49	0.03
20-Feb-2023	3509	526	15.39	148	4.33	86	41	0.18	0.05
21-Feb-2023	3509	535	15.66	122	3.57	86	41	0.18	0.04
23-Feb-2023	3509	654	19.14	92	2.69	86	41	0.22	0.03
24-Feb-2023	3509	NA	-	NA	-	86	41	-	-
27-Feb-2023	3395	693	19.62	444	12.57	84	40	0.23	0.15
28-Feb-2023	3395	1000	28.31	297	8.41	84	40	0.34	0.10
2-Mar-2023	3395	1510	42.75	358	10.14	84	40	0.51	0.12
3-Mar-2023	3395	<15	-	325	9.20	84	40	-	0.11
Average	4372	646	23.13	182	6.13	85	50	0.27	0.07
Max	5498	1510	42.75	444	12.57	87	63	0.51	0.15
Min	3395	78	3.58	55	2.52	84	40	0.04	0.03
Median	4298	571	20.82	147	5.23	85	51	0.25	0.06

N.B. NA indicates sample "Not Available" as primary tank was pumped out. BOD <15 omitted from summary statistics, judged non-representative, lab noted sample added to analytical run already in progress.

Table 13. RV-6 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20, yes or no below threshold).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	BOD_5 Single <65 (mg/L)	BOD_5 Week <30 (mg/L)	BOD_5 Month <20 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	TSS Single <65 (mg/L)	TSS Week <30 (mg/L)	TSS Month <20 (mg/L)
7-Feb-2023	458	65	86	No	No	No	244	64	74	Yes	No	No
14-Feb-2023	78	79	-1	No	No		160	43	73	Yes	No	
21-Feb-2023	535	138	74	No	No		122	128	-5	No	No	
28-Feb-2023	1000	161	84	No	No		297	117	61	No	No	
Average	518	111	61				206	88	51			
Max	1000	161	86				297	128	74			
Min	78	65	-1				122	43	-5			
Median	497	109	79				202	91	67			

RV-7

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	85 RVs and “comfort station” with 2 bath/showers and 3-machine laundry
Design flow	4600 gal./day
Primary	Trash/pretreat tank – 6,000 gal. concrete
Secondary	Aqua Aire AA 1500 (6 units)
Pump Tank	9000 gal. concrete
Disposal	Surface, spray
Disinfection	EZ-Tank Commercial
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Flow meter mechanical register was not working during first 3 weeks of monitoring (not recognized/reported by field personnel). Estimated average daily flow based on last week of monitoring, flow readings between Tuesday and Friday (~72 hours). Missed Influent sample due to sampler error on 6 June, made up on 28 June to achieve 16 samples total. Conducted extra sample analyses for NH3, NO2/NO3, and TKN for influent and effluent, CBOD on effluent.

Figure 13. RV-7 Bathhouse and mechanical water meter with failed register.

Table 14. RV-7 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV Influent (Includes 2 communal bathrooms)			
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
5-Jun-2023	2234	623	11.61	280	5.22	61	31	0.19	0.09
8-Jun-2023	2234	936	17.44	318	5.92	61	31	0.29	0.10
9-Jun-2023	2234	849	15.82	306	5.70	61	31	0.26	0.09
12-Jun-2023	2234	573	10.68	260	4.84	61	31	0.18	0.08
13-Jun-2023	2234	587	10.94	276	5.14	61	31	0.18	0.08
15-Jun-2023	2234	765	14.25	404	7.53	61	31	0.23	0.12
16-Jun-2023	2234	622	11.59	288	5.37	61	31	0.19	0.09
19-Jun-2023	2234	568	10.58	264	4.92	61	31	0.17	0.08
20-Jun-2023	2234	510	9.50	200	3.73	61	31	0.16	0.06
22-Jun-2023	2234	574	10.69	244	4.55	61	31	0.18	0.07
23-Jun-2023	2234	606	11.29	208	3.88	61	31	0.19	0.06
26-Jun-2023	2234	747	13.92	416	7.75	61	31	0.23	0.13
27-Jun-2023	2234	635	11.83	188	3.50	61	31	0.19	0.06
28-Jun-2023	1977	611	10.07	282	4.65	61	27	0.17	0.08
29-Jun-2023	2129	608	10.80	214	3.80	61	29	0.18	0.06
30-Jun-2023	2188	522	9.53	234	4.27	61	30	0.16	0.07
Average	2209	646	11.91	274	5.05	61	31	0.20	0.08
Max	2234	936	17.44	416	7.75	61	31	0.29	0.13
Min	1977	510	9.50	188	3.50	61	27	0.16	0.06
Median	2234	607	10.94	264	4.84	61	31	0.18	0.08

N.B. Management reported 4080 gal for washers (408 loads x 10 gal each) for June 1 to June 30. Average water usage for washers estimated at 136 gpd (4080gal/30d). This amount was subtracted from the system flow values. No flow data was available from 5 June to 27 June due to meter failure; average daily value from the last week of monitoring was applied to days with no meter reading. Bathroom flow was indistinguishable from RV flow.

Table 15. RV-7 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20, yes or no below threshold).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	BOD_5 Single <65 (mg/L)	BOD_5 Week <30 (mg/L)	BOD_5 Month <20 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	TSS Single <65 (mg/L)	TSS Week <30 (mg/L)	TSS Month <20 (mg/L)
6-Jun-2023	623	209	66	No	No	No	280	90	68	No	No	No
13-Jun-2023	587	236	60	No	No		276	108	61	No	No	
20-Jun-2023	510	243	52	No	No		200	120	40	No	No	
27-Jun-2023	635	215	66	No	No		188	104	45	No	No	
Average	589	226	61				236	106	53			
Max	635	243	66				280	120	68			
Min	510	209	52				188	90	40			
Median	605	226	63				238	106	53			

RV-8

Park Type	Short term (<4 months)
Patron Type	Vacationing and weekly visitors
Design capacity	20 RVs, 16 park models, store with 2 washrooms
Design flow	5000 gal./day
Primary	Trash and septic tank – 2 x 3,000 gal. concrete
Secondary	None
Pump Tank	2 x 3,000 gal. concrete
Disposal	Sub-surface, leaching chambers
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Avalanche sampler power supply failure third week of monitoring period - influent sample missed on 19 Jun. Collected a grab sample in lieu of no sample. Moved effluent sampling from Tuesdays to Fridays to accommodate remainder of sampling schedule.

Figure 14. RV-8 clockwise from top left; lodge, RVs and cabins, sampler installation, and electronic water meter.

Table 16. RV-8 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV/Cabin Influent (includes 2 lodge restrooms and 1 kitchen)			
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs/Cabins on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
5-Jun-2023	60	460	0.23	252	0.13	6	10	0.04	0.02
6-Jun-2023	60	118	0.06	69	0.03	7	9	0.01	0.00
8-Jun-2023	60	360	0.18	60	0.03	15	4	0.01	0.00
9-Jun-2023	60	429	0.21	92	0.05	17	4	0.01	0.00
12-Jun-2023	53	393	0.17	292	0.13	7	8	0.02	0.02
13-Jun-2023	53	389	0.17	208	0.09	8	7	0.02	0.01
15-Jun-2023	53	114	0.05	166	0.07	15	4	0.00	0.00
16-Jun-2023	53	396	0.18	280	0.12	23	2	0.01	0.01
19-Jun-2023	117	*347*	0.34	*280*	0.27	11	11	0.03	0.02
20-Jun-2023	117	371	0.36	400	0.39	12	10	0.03	0.03
22-Jun-2023	117	366	0.36	280	0.27	6	20	0.06	0.05
23-Jun-2023	117	397	0.39	316	0.31	25	5	0.02	0.01
26-Jun-2023	211	298	0.52	240	0.42	7	30	0.08	0.06
27-Jun-2023	211	292	0.51	124	0.22	8	26	0.07	0.03
29-Jun-2023	211	387	0.68	78	0.14	10	21	0.07	0.01
30-Jun-2023	211	1160	2.04	112	0.20	17	12	0.13	0.01
Average	110	392	0.40	203	0.18	12	11	0.04	0.02
Max	211	1160	2.04	400	0.42	25	30	0.12	0.06
Min	53	114	0.05	60	0.03	6	2	0.00	0.00
Median	88	379	0.28	224	0.13	11	9	0.03	0.01

N.B. RV and cabin (i.e., park model) flow indistinguishable from lodge restroom and kitchen flow. Italicized value on 19 June represents grab sample in lieu of composite (sampler failure).

Table 17. RV-8 BOD_5 and TSS influent and effluent percent reduction, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
6-Jun-2023	118	217	-84	No	69	43	38	Yes
13-Jun-2023	389	164	0.58	No	208	27	87	Yes
20-Jun-2023	371	728	-96	No	400	20	95	Yes
27-Jun-2023	292	133	0.54	Yes	124	28	77	Yes
Average	293	311	-17		200	30	74	
Max	389	728	0.58		400	43	95	
Min	118	133	-96		69	20	38	
Median	332	191	-15		166	28	82	

RV-9

Park Type	Short term (<4 months)
Patron Type	Camping visitors, limited to 2-week maximum stay length
Design capacity	20 RVs and bath house with men's and women's showers
Design flow	3500 gal./day
Primary	Septic/Trash tank – unknown volume, concrete
Secondary	None
Pump Tank	Unknown volume, concrete
Disposal	Sub-surface, anerobic mound
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	State park facility. Flow determined from park inflow meter. Septic tank lid (steel) was temporarily propped open to allow sampler intake line installation. Sealed with plastic sheet for duration of sampling. Bath house water usage cannot be distinguished from RVs.

Figure 15. RV-9 clockwise from top left; bath house, influent line, effluent pump tank, system inflow water meter.

Table 18. RV-9 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV Influent (Includes 2 communal bathrooms)			
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
5-Jun-2023	107	626	0.56	45	0.04	12	9	0.05	0.00
6-Jun-2023	75	598	0.37	65	0.04	12	6	0.03	0.00
8-Jun-2023	44	698	0.26	72	0.03	17	3	0.02	0.00
9-Jun-2023	75	728	0.46	76	0.05	18	4	0.03	0.00
12-Jun-2023	98	818	0.67	75	0.06	18	5	0.04	0.00
13-Jun-2023	73	619	0.38	75	0.05	16	5	0.02	0.00
15-Jun-2023	103	690	0.59	78	0.07	11	9	0.05	0.01
16-Jun-2023	179	649	0.97	78	0.12	18	10	0.05	0.01
19-Jun-2023	141	398	0.47	51	0.06	14	10	0.03	0.00
20-Jun-2023	69	498	0.29	76	0.04	9	8	0.03	0.00
22-Jun-2023	57	441	0.21	60	0.03	12	5	0.02	0.00
23-Jun-2023	238	325	0.65	50	0.10	18	13	0.04	0.01
26-Jun-2023	121	291	0.29	51	0.05	11	11	0.03	0.00
27-Jun-2023	98	277	0.23	56	0.05	11	9	0.02	0.00
29-Jun-2023	172	151	0.22	50	0.07	8	22	0.03	0.01
30-Jun-2023	143	130	0.16	54	0.06	18	8	0.01	0.00
Average	112	496	0.42	63	0.06	14	9	0.03	0.00
Max	238	818	0.97	78	0.12	18	22	0.05	0.01
Min	44	130	0.16	45	0.03	8	3	0.01	0.00
Median	101	548	0.38	63	0.05	13	8	0.03	0.00

N.B. Flow determined from park inflow meter. RV flow was indistinguishable from bathroom flow.

Table 19. RV-9 BOD_5 and TSS influent and effluent percent reduction, and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
6-Jun-2023	626	260	58	No	45	59	-31	Yes
13-Jun-2023	818	551	33	No	75	74	1	Yes
20-Jun-2023	398	298	25	No	51	50	2	Yes
27-Jun-2023	291	105	64	Yes	51	73	-43	Yes
Average	533	304	45		56	64	-18	
Max	818	551	64		75	74	2	
Min	291	105	25		45	50	-43	
Median	512	279	46		51	66	-15	

RV-10

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	39 RVs, 12 tiny homes, Clubhouse w/ 8 washers, 4 baths, and kitchen
Design flow	4359 gal./day
Primary	Trash/pretreat tank – 6,000 gal. concrete
Secondary	Aqua Aire AA 1500 (6 units)
Pump Tank	9000 gal. concrete
Disposal	Surface, spray
Disinfection	EZ Tank Commercial
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Manager reported 315 laundry loads for the monitoring period allowing separation of laundry from bathrooms and kitchen.

Figure 16. RV-10 clockwise from top left; clubhouse, ATU system, mechanical flow meter, and influent intake.

Table 20. RV-10 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

Date (d-m-y)	OSSF System Influent					Individual RV Influent (Includes 4 clubhouse bathrooms and 1 kitchen)			
	Flow - Laundry (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
21-Aug-2023	2297	258	4.94	104	1.99	34	56	0.15	0.06
22-Aug-2023	2297	301	5.77	171	3.28	34	56	0.17	0.10
24-Aug-2023	2297	186	3.56	157	3.01	34	56	0.10	0.09
25-Aug-2023	2297	235	4.50	91	1.74	34	56	0.13	0.05
28-Aug-2023	1652	220	3.03	198	2.73	34	37	0.09	0.08
29-Aug-2023	1652	201	2.77	156	2.15	34	37	0.08	0.06
31-Aug-2023	1652	326	4.49	93	1.28	34	37	0.13	0.04
1-Sep-2023	1652	191	2.63	96	1.32	34	37	0.08	0.04
4-Sep-2023	2509	190	3.97	175	3.66	34	62	0.12	0.11
5-Sep-2023	2509	182	3.81	124	2.59	34	62	0.11	0.08
7-Sep-2023	2509	193	4.04	150	3.14	34	62	0.12	0.09
8-Sep-2023	2509	373	7.81	138	2.89	34	62	0.23	0.08
11-Sep-2023	1675	213	2.98	85	1.19	34	37	0.09	0.03
12-Sep-2023	1675	230	3.21	77	1.08	34	37	0.09	0.03
14-Sep-2023	1675	140	1.96	89	1.24	34	37	0.06	0.04
15-Sep-2023	1675	81	1.13	85	1.19	34	37	0.03	0.03
Average	2033	220	3.79	124	2.15	34	48	0.11	0.06
Max	2509	373	7.81	198	3.66	34	62	0.23	0.11
Min	1652	81	1.13	77	1.08	34	37	0.03	0.03
Median	1986	207	3.69	114	2.07	34	47	0.11	0.06

N.B. Management reported 3150 gal for washers (315 loads x 10 gal each) for Aug 21 to Sep 22. Laundry flow estimated at 95 gpd (3150gal/33d) and subtracted from system flow. RV and tiny home flow indistinguishable from clubhouse bathrooms and kitchen.

Table 21. RV-10 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for surface disposal (single <65 mg/L, weekly <30 mg/L, monthly <20, yes or no below threshold).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	BOD_5 Single <65 (mg/L)	BOD_5 Week <30 (mg/L)	BOD_5 Month <20 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	TSS Single <65 (mg/L)	TSS Week <30 (mg/L)	TSS Month <20 (mg/L)
22-Aug-2023	301	30	90	Yes	No	No	171	25	85	Yes	Yes	No
29-Aug-2023	201	32	84	Yes	No		156	27	83	Yes	Yes	
5-Sep-2023	182	29	84	Yes	Yes		124	24	81	Yes	Yes	
12-Sep-2023	230	41	82	Yes	No		77	25	68	Yes	Yes	
Average	229	33	85				132	25	79			
Max	301	41	90				171	27	85			
Min	182	29	82				77	24	68			
Median	216	31	84				140	25	82			

RV-11

Park Type	Long term (>4 months)
Patron Type	Seasonal and Permanent Residents
Design capacity	55 RVs, comfort station with 2 restrooms and 5-machine laundry
Design flow	3550 gal./day
Primary	Trash and septic tank – 2,250 gal. x 2 concrete
Secondary	None
Pump Tank	2 x 2,250 gal. concrete
Disposal	Sub-surface, standard adsorption
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	New park operating at ~ 55% occupancy during the monitoring period. Wash load records were not available.

Figure 17. RV-11 clockwise from top left; bath house, samplers, flow meter, and trash tank sampler intake line.

Table 22. RV-11 Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

	OSSF System Influent					Individual RV Influent (Includes 2 bathrooms and 5-machine laundry)			
Date (d-m-y)	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
21-Aug-2023	942	376	2.95	60	0.47	26	36	0.11	0.02
22-Aug-2023	942	366	2.88	31	0.24	26	36	0.11	0.01
24-Aug-2023	942	308	2.42	36	0.28	26	36	0.09	0.01
25-Aug-2023	942	341	2.68	40	0.31	26	36	0.10	0.01
28-Aug-2023	807	295	1.99	67	0.45	28	29	0.07	0.02
29-Aug-2023	807	378	2.54	108	0.73	28	29	0.09	0.03
31-Aug-2023	807	332	2.23	33	0.22	28	29	0.08	0.01
1-Sep-2023	807	313	2.11	46	0.31	28	29	0.07	0.01
4-Sep-2023	715	325	1.94	32	0.19	29	25	0.07	0.01
5-Sep-2023	715	273	1.63	30	0.18	29	25	0.06	0.01
7-Sep-2023	715	306	1.82	45	0.27	29	25	0.06	0.01
8-Sep-2023	715	583	3.48	50	0.30	29	25	0.12	0.01
11-Sep-2023	913	511	3.89	117	0.89	30	31	0.13	-
12-Sep-2023	913	592	4.51	36	0.27	30	31	0.15	0.01
14-Sep-2023	913	291	2.22	80	0.61	30	31	0.07	0.02
15-Sep-2023	913	1890	14.39	34	0.26	30	31	0.48	0.01
Average	844	468	3.35	53	0.37	28	30	0.12	0.01
Max	942	1890	14.39	117	0.89	30	36	0.48	0.03
Min	715	273	1.63	30	0.18	26	25	0.06	0.01
Median	860	337	2.48	43	0.29	29	30	0.09	0.01

N.B. Laundry usage records were unavailable. Flow attributable to bath house bathrooms and laundry indistinguishable from RV flow.

Table 23. RV-11 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
22-Aug-2023	366	196	46	No	31	56	-81	Yes
29-Aug-2023	378	203	46	No	108	41	62	Yes
5-Sep-2023	273	231	15	No	30	36	-20	Yes
12-Sep-2023	592	256	57	No	36	33	8	Yes
Average	402	222	41		51	42	-8	
Max	592	256	57		108	56	62	
Min	273	196	15		30	33	-81	
Median	372	217	46		34	39	-6	

RV-12

Park Type	Short term (<4 months)
Patron Type	Vacationing and seasonal visitors
Design capacity	24 RVs
Design flow	1080 gal./day
Primary	Trash and septic tank – 1000 gal concrete each
Secondary	None
Pump Tank	1500 gal. concrete
Disposal	Sub-surface, low pressure dose
Disinfection	None
Sample	24-hour composite, 2.4L collected @ 200 mL/hour
Influent	Trash tank just below inflow between scum and sludge layer
Effluent	Pump tank near pump inflow below lowest float
Notes:	Park operating at ~70% capacity during monitoring period. Water meter failure. Available readings from week 1 and week 2 were averaged for the rest of the period.

Figure 18. RV-12 clockwise from top left; overview, samplers, flow meter, and pump tank.

Table 24. RV-12 - Influent wastewater flow, BOD_5, and TSS (concentration and load) for the entire system and individual RVs.

Date (d-m-y)	OSSF System Influent					Individual RV Influent			
	Flow (gal/day)	BOD_5 Conc. (mg/L)	BOD_5 Load (lbs./day)	TSS Conc. (mg/L)	TSS Load (lbs./day)	RVs on System (#)	Flow (gal/day)	BOD_5 Load (lbs./day)	TSS Load (lbs./day)
4-Sep-2023	289	447	1.08	93	0.22	19	15	0.06	0.01
5-Sep-2023	289	651	1.57	68	0.16	19	15	0.08	0.01
7-Sep-2023	289	611	1.47	129	0.31	19	15	0.08	0.02
8-Sep-2023	289	582	1.40	194	0.47	19	15	0.07	0.02
11-Sep-2023	288	322	0.77	38	0.09	21	14	0.04	0.00
12-Sep-2023	288	616	1.48	73	0.18	21	14	0.07	0.01
14-Sep-2023	288	281	0.67	304	0.73	21	14	0.03	0.03
15-Sep-2023	288	241	0.58	172	0.41	21	14	0.03	0.02
18-Sep-2023	288	957	2.30	136	0.33	22	13	0.10	0.01
19-Sep-2023	288	316	0.76	188	0.45	22	13	0.03	0.02
21-Sep-2023	288	248	0.60	52	0.13	22	13	0.03	0.01
22-Sep-2023	288	290	0.70	41	0.10	22	13	0.03	0.00
25-Sep-2023	288	321	0.77	176	0.42	21	14	0.04	0.02
26-Sep-2023	288	270	0.65	89	0.21	21	14	0.03	0.01
28-Sep-2023	288	328	0.79	332	0.80	21	14	0.04	0.04
29-Sep-2023	288	302	0.73	280	0.67	21	14	0.03	0.03
Average	288	424	1.02	148	0.36	21	14	0.05	0.02
Max	289	957	2.30	332	0.80	22	15	0.10	0.04
Min	288	241	0.58	38	0.09	19	13	0.03	0.00
Median	288	322	0.77	133	0.32	21	14	0.04	0.02

N.B. Limited flow data available due to meter failure. Average of most reliable readings applied to entire monitoring period.

Table 25. RV-12 BOD_5 and TSS, influent and effluent, percent reduction and comparison to TAC 285.34(e) for sub-surface disposal (<140 mg/L).

Date (d-m-y)	Influent BOD_5 (mg/L)	Effluent BOD_5 (mg/L)	Difference BOD_5 (%)	Effluent BOD_5 <140 (mg/L)	Influent TSS (mg/L)	Effluent TSS (mg/L)	Difference TSS (%)	Effluent BOD_5 <140 (mg/L)
5-Sep-2023	651	329	49	No	68	41	40	Yes
12-Sep-2023	616	299	51	No	73	44	40	Yes
19-Sep-2023	316	173	45	No	188	28	85	Yes
26-Sep-2023	270	111	59	Yes	89	29	67	Yes
Average	463	228	51		105	36	58	
Max	651	329	59		188	44	85	
Min	270	111	45		68	28	40	
Median	466	236	50		81	35	54	

Additional measurements

Additional constituents were measured for RV systems 7 through 12. Both influent and effluent for RV systems 7, 8 and 9 were analyzed for nitrogen forms once per week over the 4-week monitoring period. Effluent for RV systems 7-12 were analyzed for carbonaceous biochemical oxygen demand ($cBOD_5$) weekly over the 4-week monitoring period (See Table 26). These results are reported for interest and were not the main focus of the study.

Table 26. Additional data collected for RV park systems 6-12 including effluent carbonaceous BOD_5 and influent and effluent nitrogen species.

System # And OSSF Type	Date Sampled (d-m-y)	Effluent BOD_5 (mg/L)	Effluent $_cBOD_5$ (mg/L)	Influent NH_3-N (mg/L)	Influent NO_2/NO_3-N (mg/L)	Influent TKN (mg/L)	Effluent NH_3-N (mg/L)	Effluent NO_2/NO_3-N (mg/L)	Effluent TKN (mg/L)
7 - Aerobic	6-Jun-2023	209	204	-	-	-	115	0.07	146
7 - Aerobic	13-Jun-2023	236	260	149	0.06	176	143	0.07	168
7 - Aerobic	20-Jun-2023	243	249	142	0.08	168	134	0.09	152
7 - Aerobic	27-Jun-2023	215	237	152	0.10	181	131	0.03	163
	Average	226	238	148	0.08	175	131	0.06	157
8 - Anaerobic	6-Jun-2023	217	211	174	0.08	200	179	0.06	209
8 - Anaerobic	13-Jun-2023	164	169	189	0.04	225	185	0.07	207
8 - Anaerobic	20-Jun-2023	728	709	175	0.10	211	177	0.03	195
8 - Anaerobic	27-Jun-2023	133	140	152	0.07	184	163	0.07	169
	Average	311	307	173	0.07	205	176	0.06	195
9 - Anaerobic	6-Jun-2023	260	245	166	0.06	196	154	0.07	187
9 - Anaerobic	13-Jun-2023	551	419	184	0.06	212	147	0.04	176
9 - Anaerobic	20-Jun-2023	298	317	129	0.08	151	120	0.07	136
9 - Anaerobic	27-Jun-2023	105	125	92	0.11	111	82	0.06	99
	Average	304	277	143	0.08	168	126	0.06	150
10 - Aerobic	22-Aug-2023	30	27						
10 - Aerobic	29-Aug-2023	32	25						
10 - Aerobic	5-Sep-2023	29	26						
10 - Aerobic	12-Sep-2023	41	36						
	Average	33	29						
11 - Anaerobic	22-Aug-2023	196	232						
11 - Anaerobic	29-Aug-2023	203	217						
11 - Anaerobic	5-Sep-2023	231	262						
11 - Anaerobic	12-Sep-2023	256	247						
	Average	222	240						
12 - Anaerobic	5-Sep-2023	329	325						
12 - Anaerobic	12-Sep-2023	299	334						
12 - Anaerobic	19-Sep-2023	173	202						
12 - Anaerobic	26-Sep-2023	111	142						
	Average	228	251						

Summary statistics and observations

The combined average, maximum, minimum, and median influent values for flow, BOD_5, BOD_5 load, TSS, and TSS load for Short-Stay (<4 months) and Long-Stay (>4 months) parks are presented in Table 27. Note that RV-3 and RV-4 were excluded from this summary because RV-3 represents a laundry-only facility (i.e., no RVs present on the system) and the BOD_5 and TSS concentration values for RV-4 were four to five times higher than other long stay parks due to sampling issues (i.e., intake line in sludge layer rather than clarified layer of water column).

The average BOD_5 concentration at short stay parks was 3% lower than long stay parks at 465 and 479 mg/L, respectively while median values were 395 and 411 mg/L, respectively. Note that the median may better represent the central tendency of these measurements (and others in this report) as it is not skewed by exceptionally high or low values. The median BOD_5 concentration of long-stay parks (411 mg/L) is 27% greater than the TAC 285 defined residential wastewater BOD_5 concentration of 300 mg/L.

The average RV park TSS concentration for short-stay parks was 17% lower than long-stay parks at 121 and 146 mg/L, respectively. Median values were 77 and 100 mg/L, respectively. TCEQ does not define a residential wastewater concentration for TSS.

RV park configurations for short-stay and long-stay park flow, BOD_5, BOD_5 load, TSS, and TSS load are presented in Table 28 for simple comparisons of RVs only, RVs with bathroom facilities, RVs with kitchen facilities, and RVs with laundry facilities. As with the combined average summary, caution should be used when considering comparisons using RV-3 and RV-4 data.

A complete comparative analysis of the different park configurations is beyond the scope of this report however a few notable patterns are evident. Average water use, in general, for short-stay parks is about half that of long-stay parks, at 17 gpd and 36 gpd respectively (median values were 14 and 33 gpd, respectively). Average BOD_5 concentrations were within 3% of each other, however average BOD_5 loads at short-stay parks are half those of long-stay parks because load determination is based on concentration *and* flow. TSS was slightly higher for long-stay parks than short-stay parks and TSS load was about double, again due to the higher flows seen in long-stay parks.

Obtaining good quality flow data (Appendix II) proved to be the most challenging and problematic component of this study. Flow meters failed during monitoring at 3 of the 12 parks studied, two due to flooding and one due to mechanical issues. Mechanical register meters frequently had heavy condensation under the glass making them difficult to read accurately. It was also apparent from studying written field notes that personnel occasionally misread meters or made transcription errors. Meter location (i.e., before or after the OSSF) affects observed flows due to lag time. Meter reading time combined with OSSF pump activation, based on demand or timer, all contribute to the variation and uncertainty in flow measurements. Averaging flow by week, when possible, appeared to yield the most reasonable results.

Table 28 summarizes the percent of BOD_5 and TSS effluent values that met the TAC 285 rule thresholds for surface and sub-surface disposal. Half of the systems using sub-surface disposal (4 of 8) met the rule for BOD_5 (single grab sample <140 mg/L) 100 % of the time. Three ranged between 25 and 50% and one did not meet the rule. Seven of the 8 systems met the sub-surface rule for TSS (single grab sample <140 mg/L) 100% of the time while one did not meet the rule.

Two of the three systems using surface disposal did not meet the TAC 285 rule for BOD_5 (single grab sample < 65 mg/L, weekly grab sample < 30 mg/L, monthly grab sample <20 mg/L). One system met the single grab sample threshold 100% of the time and the weekly threshold 25 % of the time. One system met all three rules for TSS 100% of the time while the other met the rule 0% of the time except for one which met the single grab sample rule 50 % of the time.

The additional data shown in Table 29 was collected at the request of the Williamson County OSSF department and is included for interest. No comment is made regarding the nitrogen data. However, several five-day carbonaceous biochemical oxygen demand ($cBOD_5$) concentrations reported were unexpectantly found to be higher than BOD_5 taken from and compared to the same wastewater sample. Discussion with the commercial laboratory Quality Assurance Officer indicated that this was due to variation in the analytical procedure and the results are not statistically different.

Table 27. Combined average, maximum, minimum, and median flow, BOD_5, BOD_5 load, TSS and TSS load for short stay (<4 months) and long stay (>4 months) RV parks.

	Short stay parks (<4 months)					Long stay parks (>4 months)				
	Flow (gpd)	BOD_5 (mg/L)	BOD_5 Load (lbs/day)	TSS (mg/L)	TSS Load (lbs/day)	Flow (gpd)	BOD_5 (mg/L)	BOD_5 Load (lbs/day)	TSS (mg/L)	TSS Load (lbs/day)
n	4	4	4	4	4	6	6	6	6	6
Average	17	465	0.07	121	0.02	36	479	0.15	146	0.05
Max	40	1160	0.25	400	0.06	63	1890	0.51	444	0.15
Min	3	114	0.00	26	0.00	20	78	0.03	15	0.00
Median	14	395	0.04	77	0.01	33	411	0.12	100	0.04

N.B. RV-3 was excluded from this summary as it reflects a laundry only facility with no RVs. RV-4 was excluded because influent concentrations may not be representative due to sampler intake placement.

Table 28. Average flow, BOD_5, BOD_5 load, TSS, and TSS load for RV park configurations of RV parks with RV's only, with bathroom facilities, with kitchen facilities, and with laundry facilities for short stays (< 4 months) and long stays (> 4 months).

	Short stay parks (<4 months)						Long stay parks (>4 months)					
Configuration	Park ID	Flow (gpd)	BOD_5 (mg/L)	BOD_5 Load (lbs/day)	TSS (mg/L)	TSS Load (lbs/day)	Park ID	Flow (gpd)	BOD_5 (mg/L)	BOD_5 Load (lbs/day)	TSS (mg/L)	TSS Load (lbs/day)
RVs Only	RV-5 RV-12	35 14	548 424	0.16 0.05	69 148	0.02 0.02	RV-1 RV-4	26 26	434 *1781*	0.90 *0.39*	73 *705*	0.02 *0.16*
RVs with Bath	RV-9	9	496	0.03	63	0.00	RV2 RV6	26 51	485 646	0.11 0.27	178 182	0.04 0.07
RVs with Kitchen	RV-8	12	392	0.01	203	0.02	RV-10	48	220	0.11	124	0.06
RVs with Laundry	RV-3	*3*	206	0.01	31	0.00	RV-7 RV-11	32 30	646 468	0.20 0.12	274 53	0.08 0.01

N.B. RV-3 represents a laundry only facility with no RVs present on the OSSF system. RV-4 concentrations may not be representative of influent conditions due to sampler intake placement.

Table 29. Percent of time RV park OSSF meeting TAC 285 rule for sub-surface and surface effluent disposal.

Park ID	Sub-Surface Disposal		Surface Disposal					
	Effluent BOD_5<140	Effluent TSS<140	Single BOD_5<65	Weekly BOD_5<30	Monthly BOD_5<20	Single TSS<65	Weekly TSS<30	Monthly TSS<20
1	100%	100%	-	-	-	-	-	-
2	100%	100%	-	-	-	-	-	-
3	100%	100%	-	-	-	-	-	-
4	100%	100%	-	-	-	-	-	-
5	50%	100%	-	-	-	-	-	-
6	-	-	0%	0%	0%	50%	0%	0%
7	-	-	0%	0%	0%	0%	0%	0%
8	25%	100%	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-
10	-	-	100%	25%	0%	100%	100%	100%
11	0%	0%	-	-	-	-	-	-
12	25%	100%	-	-	-	-	-	-

References

TCEQ (Texas Commission on Environmental Quality). (2017). RG-472. On-Site Sewage Facility Rules Compilation. Austin, TX. 156 pg.

Acknowledgements

Texas A&M AgriLife Research gratefully acknowledges the financial support of the Texas Commission on Environmental Quality's Texas Onsite Sewage Program. Thanks are extended to the Texas Onsite Grant Program Advisory Committee for their suggestions and guidance on the research. Acknowledgements and thanks are given to members of the Texas A&M OSSF Team including Dr. Anish Jantrania, Dr. Gabriele Bonaiti, Mr. Ryan Gerlich and Mr. Josh Segura for their support and assistance with evaluating RV research topics. Special thanks and acknowledgements are extended to the Williamson County OSSF Team including Mr. Roger Hickman, Mr. Paul Walter, Mr. Chad Winkler, Mr. Casey Rodenbaugh, Mr. James Lancaster, Mr. Christopher Moreno, Mr. Doug McPeters, and Mr. Austin Nelson for their time and help identifying cooperative RV parks and ATUs of appropriate configuration, conducting flow meter readings, and collecting wastewater samples for laboratory analysis. Finally, thanks go to the many RV park owners and staff for allowing and helping AgriLife to collect this data set on behalf of the Citizens of Texas.

APPENDIX 1 – Commercial laboratory results

Notes

General Definitions:

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MDL	The Method Detection Limit is the lowest theoretical value that is statistically different from zero for a specific method, taking into account all preparation steps and instrument settings.
QC	Quality Control
RPD	Relative Percent Difference.

Lab analysis codes:

A-01	RM is optional; run accepted based on passing blanks, duplicates and sample histories.
A-02	TSS rerun past EPA hold time due to lab error.
BOD-02	The RPD between the highest and lowest value used for result calculation in the sample dilution series is greater than the method-specified 30%.
BOD-03	Review of the data indicates that the sample exhibits a toxic effect. Results are potentially biased low.
BOD-07	Optional second BOD/CBOD GG was outside expected range. Results accepted on one required passing GG.
C-02	Result confirmed by re-analysis.
G-01	Sample added to an analytical run already in progress.
G-02	
Hold-01	This result was analyzed outside of the EPA recommended holding time.
J	Analyte detected below the SQL but above the MDL.
MS-01	The MS and/or MSD recovery was outside acceptance limits. Investigation concludes it is a sample-specific matrix effect and the batch was accepted based on acceptable LCS and /or LCSD recovery.
Ratio	The ratio results are outside normal parameters. The results fall within the established acceptable laboratory variance.
RPD-01	Duplicate RPD is outside acceptable range. Acceptance of run is not based on matrix QC.
RPD-02	RPD was not calculated in LIMS due to one or both of the sample/duplicate pair being less than MRL
RPD-04	Visual evaluation of the Duplicate sample indicates the RPD is above the control limit due to a non-homogenous sample matrix. Acceptance of run is not based on matrix QC.
SL-01	The dried residue did not yield between 2.5 and 200 mg as specified in the method. Due to holding time constraints insufficient sample volume, the sample cannot be reanalyzed.
Visual	Visual inspection done to confirm analytical results.

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F034550	M152007	RV 1 - A (Influent)	24-Oct-2022	BOD (5 day)	397	mg/L	
F034571	M152009	RV 1 - A (Influent)	25-Oct-2022	BOD (5 day)	381	mg/L	
F034572	M152131	RV 1 - A (Influent)	27-Oct-2022	BOD (5 day)	354	mg/L	G-01
F034573	M152131	RV 1 - A (Influent)	28-Oct-2022	BOD (5 day)	719	mg/L	G-01
F035055	M152309	RV 1 - A (Influent)	31-Oct-2022	BOD (5 day)	301	mg/L	
F035056	M152308	RV 1 - A (Influent)	1-Nov-2022	BOD (5 day)	332	mg/L	
F035057	M152436	RV 1 - A (Influent)	3-Nov-2022	BOD (5 day)	447	mg/L	G-01
F035058	M152437	RV 1 - A (Influent)	4-Nov-2022	BOD (5 day)	406	mg/L	G-01
F036078	M152621	RV 1 - A (Influent)	7-Nov-2022	BOD (5 day)	276	mg/L	
F036079	M152622	RV 1 - A (Influent)	8-Nov-2022	BOD (5 day)	542	mg/L	
F036080	M152770	RV 1 - A (Influent)	10-Nov-2022	BOD (5 day)	362	mg/L	G-01
F036081	M152770	RV 1 - A (Influent)	11-Nov-2022	BOD (5 day)	366	mg/L	G-01
F037098	M152929	RV 1 - A (Influent)	14-Nov-2022	BOD (5 day)	246	mg/L	
F037099	M152935	RV 1 - A (Influent)	15-Nov-2022	BOD (5 day)	296	mg/L	
F037100	M153074	RV 1 - A (Influent)	17-Nov-2022	BOD (5 day)	717	mg/L	G-01
F037102	M153074	RV 1 - A (Influent)	18-Nov-2022	BOD (5 day)	800	mg/L	G-01
F034550	M152006	RV 1 - B (Effluent)	24-Oct-2022	BOD (5 day)	16	mg/L	RPD-01
F034571	M152005	RV 1 - B (Effluent)	25-Oct-2022	BOD (5 day)	29	mg/L	
F034572	M152131	RV 1 - B (Effluent)	27-Oct-2022	BOD (5 day)	8	mg/L	G-01
F034573	M152131	RV 1 - B (Effluent)	28-Oct-2022	BOD (5 day)	7	mg/L	G-01
F035055	M152306	RV 1 - B (Effluent)	31-Oct-2022	BOD (5 day)	10	mg/L	BOD-02, BOD-03
F035056	M152304	RV 1 - B (Effluent)	1-Nov-2022	BOD (5 day)	12	mg/L	
F035057	M152436	RV 1 - B (Effluent)	3-Nov-2022	BOD (5 day)	16	mg/L	G-01
F035058	M152437	RV 1 - B (Effluent)	4-Nov-2022	BOD (5 day)	18	mg/L	G-01
F036078	M152620	RV 1 - B (Effluent)	7-Nov-2022	BOD (5 day)	34	mg/L	
F036079	M152620	RV 1 - B (Effluent)	8-Nov-2022	BOD (5 day)	28	mg/L	
F036080	M152770	RV 1 - B (Effluent)	10-Nov-2022	BOD (5 day)	21	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F036081	M152770	RV 1 - B (Effluent)	11-Nov-2022	BOD (5 day)	6	mg/L	G-01
F037098	M152938	RV 1 - B (Effluent)	14-Nov-2022	BOD (5 day)	18	mg/L	BOD-02, BOD-03
F037099	M152937	RV 1 - B (Effluent)	15-Nov-2022	BOD (5 day)	20	mg/L	
F037100	M153074	RV 1 - B (Effluent)	17-Nov-2022	BOD (5 day)	21	mg/L	G-01
F037102	M153074	RV 1 - B (Effluent)	18-Nov-2022	BOD (5 day)	22	mg/L	G-01
F034550	M152016	RV 1 - A (Influent)	24-Oct-2022	Total Suspended Solids	104	mg/L	
F034571	M152071	RV 1 - A (Influent)	25-Oct-2022	Total Suspended Solids	84	mg/L	
F034572	M152199	RV 1 - A (Influent)	27-Oct-2022	Total Suspended Solids	78	mg/L	
F034573	M152214	RV 1 - A (Influent)	28-Oct-2022	Total Suspended Solids	50	mg/L	
F035055	M152367	RV 1 - A (Influent)	31-Oct-2022	Total Suspended Solids	37	mg/L	
F035056	M152367	RV 1 - A (Influent)	1-Nov-2022	Total Suspended Solids	68	mg/L	
F035057	M152563	RV 1 - A (Influent)	3-Nov-2022	Total Suspended Solids	83	mg/L	SL-01
F035058	M152563	RV 1 - A (Influent)	4-Nov-2022	Total Suspended Solids	68	mg/L	
F036078	M152655	RV 1 - A (Influent)	7-Nov-2022	Total Suspended Solids	80	mg/L	
F036079	M152655	RV 1 - A (Influent)	8-Nov-2022	Total Suspended Solids	94	mg/L	
F036080	M152819	RV 1 - A (Influent)	10-Nov-2022	Total Suspended Solids	64	mg/L	
F036081	M152819	RV 1 - A (Influent)	11-Nov-2022	Total Suspended Solids	56	mg/L	
F037098	M152983	RV 1 - A (Influent)	14-Nov-2022	Total Suspended Solids	49	mg/L	
F037099	M152983	RV 1 - A (Influent)	15-Nov-2022	Total Suspended Solids	40	mg/L	
F037100	M153134	RV 1 - A (Influent)	17-Nov-2022	Total Suspended Solids	150	mg/L	
F037102	M153135	RV 1 - A (Influent)	18-Nov-2022	Total Suspended Solids	68	mg/L	
F034550	M152074	RV 1 - B (Effluent)	24-Oct-2022	Total Suspended Solids	7	mg/L	
F034571	M152074	RV 1 - B (Effluent)	25-Oct-2022	Total Suspended Solids	12	mg/L	
F034572	M152200	RV 1 - B (Effluent)	27-Oct-2022	Total Suspended Solids	6	mg/L	
F034573	M152323	RV 1 - B (Effluent)	28-Oct-2022	Total Suspended Solids	5	mg/L	
F035055	M152372	RV 1 - B (Effluent)	31-Oct-2022	Total Suspended Solids	5	mg/L	
F035056	M152372	RV 1 - B (Effluent)	1-Nov-2022	Total Suspended Solids	5	mg/L	
F035057	M152657	RV 1 - B (Effluent)	3-Nov-2022	Total Suspended Solids	5	mg/L	
F035058	M152657	RV 1 - B (Effluent)	4-Nov-2022	Total Suspended Solids	6	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F036078	M152658	RV 1 - B (Effluent)	7-Nov-2022	Total Suspended Solids	9	mg/L	
F036079	M152706	RV 1 - B (Effluent)	8-Nov-2022	Total Suspended Solids	18	mg/L	
F036080	M152859	RV 1 - B (Effluent)	10-Nov-2022	Total Suspended Solids	10	mg/L	
F036081	M152859	RV 1 - B (Effluent)	11-Nov-2022	Total Suspended Solids	7	mg/L	
F037098	M153081	RV 1 - B (Effluent)	14-Nov-2022	Total Suspended Solids	8	mg/L	
F037099	M153057	RV 1 - B (Effluent)	15-Nov-2022	Total Suspended Solids	6	mg/L	
F037100	M153157	RV 1 - B (Effluent)	17-Nov-2022	Total Suspended Solids	6	mg/L	
F037102	M153135	RV 1 - B (Effluent)	18-Nov-2022	Total Suspended Solids	5	mg/L	
F036081	M152770	RV 2 - A (Influent)	11-Nov-2022	BOD (5 day)	4010	mg/L	G-01
F034550	M152006	RV 2 - A (Influent)	24-Oct-2022	BOD (5 day)	4550	mg/L	RPD-01
F034571	M152008	RV 2 - A (Influent)	25-Oct-2022	BOD (5 day)	5470	mg/L	
F034572	M152132	RV 2 - A (Influent)	27-Oct-2022	BOD (5 day)	5890	mg/L	G-01
F034573	M152131	RV 2 - A (Influent)	28-Oct-2022	BOD (5 day)	5650	mg/L	BOD-02, BOD-03, G-01
F035055	M152307	RV 2 - A (Influent)	31-Oct-2022	BOD (5 day)	2700	mg/L	
F035056	M152307	RV 2 - A (Influent)	1-Nov-2022	BOD (5 day)	2570	mg/L	
F035057	M152436	RV 2 - A (Influent)	3-Nov-2022	BOD (5 day)	2920	mg/L	G-01
F035058	M152437	RV 2 - A (Influent)	4-Nov-2022	BOD (5 day)	3760	mg/L	G-01
F036078	M152621	RV 2 - A (Influent)	7-Nov-2022	BOD (5 day)	2700	mg/L	
F036079	M152621	RV 2 - A (Influent)	8-Nov-2022	BOD (5 day)	2890	mg/L	
F036080	M152770	RV 2 - A (Influent)	10-Nov-2022	BOD (5 day)	990	mg/L	G-01
F037098	M152929	RV 2 - A (Influent)	14-Nov-2022	BOD (5 day)	411	mg/L	
F037099	M152936	RV 2 - A (Influent)	15-Nov-2022	BOD (5 day)	356	mg/L	
F037100	M153074	RV 2 - A (Influent)	17-Nov-2022	BOD (5 day)	451	mg/L	G-01
F037102	M153074	RV 2 - A (Influent)	18-Nov-2022	BOD (5 day)	458	mg/L	G-01
F039275	M153799	RV 2 - A (Influent)	5-Dec-2022	BOD (5 day)	491	mg/L	
F039276	M153798	RV 2 - A (Influent)	6-Dec-2022	BOD (5 day)	407	mg/L	
F039277	M153931	RV 2 - A (Influent)	8-Dec-2022	BOD (5 day)	356	mg/L	G-01
F039278	M153932	RV 2 - A (Influent)	9-Dec-2022	BOD (5 day)	<38	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F039934	M154103	RV 2 - A (Influent)	12-Dec-2022	BOD (5 day)	669	mg/L	
F039935	M154103	RV 2 - A (Influent)	13-Dec-2022	BOD (5 day)	787	mg/L	
F039936	M154251	RV 2 - A (Influent)	15-Dec-2022	BOD (5 day)	557	mg/L	G-01
F039937	M154251	RV 2 - A (Influent)	16-Dec-2022	BOD (5 day)	540	mg/L	G-01
F040816	M154437	RV 2 - A (Influent)	19-Dec-2022	BOD (5 day)	465	mg/L	
F040817	M154433	RV 2 - A (Influent)	20-Dec-2022	BOD (5 day)	352	mg/L	
F034550	M152005	RV 2 - B (Effluent)	24-Oct-2022	BOD (5 day)	34	mg/L	
F034571	M152006	RV 2 - B (Effluent)	25-Oct-2022	BOD (5 day)	14	mg/L	RPD-01
F034572	M152132	RV 2 - B (Effluent)	27-Oct-2022	BOD (5 day)	19	mg/L	G-01
F034573	M152131	RV 2 - B (Effluent)	28-Oct-2022	BOD (5 day)	16	mg/L	G-01
F035055	M152306	RV 2 - B (Effluent)	31-Oct-2022	BOD (5 day)	5	mg/L	
F035056	M152306	RV 2 - B (Effluent)	1-Nov-2022	BOD (5 day)	5	mg/L	
F035057	M152436	RV 2 - B (Effluent)	3-Nov-2022	BOD (5 day)	14	mg/L	G-01
F035058	M152437	RV 2 - B (Effluent)	4-Nov-2022	BOD (5 day)	12	mg/L	G-01
F036078	M152618	RV 2 - B (Effluent)	7-Nov-2022	BOD (5 day)	18	mg/L	
F036079	M152619	RV 2 - B (Effluent)	8-Nov-2022	BOD (5 day)	16	mg/L	
F036080	M152770	RV 2 - B (Effluent)	10-Nov-2022	BOD (5 day)	16	mg/L	G-01
F036081	M152770	RV 2 - B (Effluent)	11-Nov-2022	BOD (5 day)	18	mg/L	G-01
F037098	M152937	RV 2 - B (Effluent)	14-Nov-2022	BOD (5 day)	13	mg/L	
F037099	M152937	RV 2 - B (Effluent)	15-Nov-2022	BOD (5 day)	14	mg/L	
F037100	M153073	RV 2 - B (Effluent)	17-Nov-2022	BOD (5 day)	43	mg/L	
F037102	M153074	RV 2 - B (Effluent)	18-Nov-2022	BOD (5 day)	19	mg/L	G-01
F039275	M153794	RV 2 - B (Effluent)	5-Dec-2022	BOD (5 day)	55	mg/L	
F039276	M153795	RV 2 - B (Effluent)	6-Dec-2022	BOD (5 day)	21	mg/L	
F039277	M153931	RV 2 - B (Effluent)	8-Dec-2022	BOD (5 day)	33	mg/L	BOD-02, G-01
F039278	M153932	RV 2 - B (Effluent)	9-Dec-2022	BOD (5 day)	<30	mg/L	BOD-05, G-01
F039934	M154101	RV 2 - B (Effluent)	12-Dec-2022	BOD (5 day)	16	mg/L	RPD-01
F039935	M154102	RV 2 - B (Effluent)	13-Dec-2022	BOD (5 day)	746	mg/L	
F039936	M154251	RV 2 - B (Effluent)	15-Dec-2022	BOD (5 day)	22	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F039937	M154251	RV 2 - B (Effluent)	16-Dec-2022	BOD (5 day)	23	mg/L	G-01
F040816	M154435	RV 2 - B (Effluent)	19-Dec-2022	BOD (5 day)	16	mg/L	
F040817	M154434	RV 2 - B (Effluent)	20-Dec-2022	BOD (5 day)	12	mg/L	
F034550	M152018	RV 2 - A (Influent)	24-Oct-2022	Total Suspended Solids	9200	mg/L	
F034571	M152018	RV 2 - A (Influent)	25-Oct-2022	Total Suspended Solids	13100	mg/L	
F034572	M152214	RV 2 - A (Influent)	27-Oct-2022	Total Suspended Solids	18700	mg/L	
F034573	M152214	RV 2 - A (Influent)	28-Oct-2022	Total Suspended Solids	10300	mg/L	
F035055	M152367	RV 2 - A (Influent)	31-Oct-2022	Total Suspended Solids	5900	mg/L	
F035056	M152367	RV 2 - A (Influent)	1-Nov-2022	Total Suspended Solids	4660	mg/L	
F035057	M152588	RV 2 - A (Influent)	3-Nov-2022	Total Suspended Solids	770	mg/L	
F035058	M152588	RV 2 - A (Influent)	4-Nov-2022	Total Suspended Solids	7100	mg/L	
F036078	M152655	RV 2 - A (Influent)	7-Nov-2022	Total Suspended Solids	4000	mg/L	
F036079	M152655	RV 2 - A (Influent)	8-Nov-2022	Total Suspended Solids	5100	mg/L	
F036080	M152819	RV 2 - A (Influent)	10-Nov-2022	Total Suspended Solids	1970	mg/L	
F036081	M152819	RV 2 - A (Influent)	11-Nov-2022	Total Suspended Solids	144	mg/L	
F037098	M152983	RV 2 - A (Influent)	14-Nov-2022	Total Suspended Solids	98	mg/L	
F037099	M152983	RV 2 - A (Influent)	15-Nov-2022	Total Suspended Solids	65	mg/L	
F037100	M153135	RV 2 - A (Influent)	17-Nov-2022	Total Suspended Solids	93	mg/L	
F037102	M153125	RV 2 - A (Influent)	18-Nov-2022	Total Suspended Solids	100	mg/L	RPD-04
F039275	M153830	RV 2 - A (Influent)	5-Dec-2022	Total Suspended Solids	118	mg/L	
F039276	M153877	RV 2 - A (Influent)	6-Dec-2022	Total Suspended Solids	98	mg/L	
F039277	M153986	RV 2 - A (Influent)	8-Dec-2022	Total Suspended Solids	152	mg/L	
F039278	M153986	RV 2 - A (Influent)	9-Dec-2022	Total Suspended Solids	19	mg/L	
F039934	M154146	RV 2 - A (Influent)	12-Dec-2022	Total Suspended Solids	388	mg/L	
F039935	M154365	RV 2 - A (Influent)	13-Dec-2022	Total Suspended Solids	15	mg/L	
F039936	M154316	RV 2 - A (Influent)	15-Dec-2022	Total Suspended Solids	308	mg/L	
F039937	M154316	RV 2 - A (Influent)	16-Dec-2022	Total Suspended Solids	348	mg/L	
F040816	M154453	RV 2 - A (Influent)	19-Dec-2022	Total Suspended Solids	380	mg/L	
F040817	M154453	RV 2 - A (Influent)	20-Dec-2022	Total Suspended Solids	312	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F034550	M152199	RV 2 - B (Effluent)	24-Oct-2022	Total Suspended Solids	165	mg/L	C-02
F034571	M152074	RV 2 - B (Effluent)	25-Oct-2022	Total Suspended Solids	6	mg/L	SL-01
F034572	M152323	RV 2 - B (Effluent)	27-Oct-2022	Total Suspended Solids	19	mg/L	
F034573	M152323	RV 2 - B (Effluent)	28-Oct-2022	Total Suspended Solids	16	mg/L	
F035055	M152372	RV 2 - B (Effluent)	31-Oct-2022	Total Suspended Solids	ND	mg/L	SL-02
F035056	M152441	RV 2 - B (Effluent)	1-Nov-2022	Total Suspended Solids	8	mg/L	
F035057	M152588	RV 2 - B (Effluent)	3-Nov-2022	Total Suspended Solids	8	mg/L	
F035058	M152657	RV 2 - B (Effluent)	4-Nov-2022	Total Suspended Solids	7	mg/L	
F036078	M152658	RV 2 - B (Effluent)	7-Nov-2022	Total Suspended Solids	25	mg/L	
F036079	M152706	RV 2 - B (Effluent)	8-Nov-2022	Total Suspended Solids	17	mg/L	
F036080	M152859	RV 2 - B (Effluent)	10-Nov-2022	Total Suspended Solids	11	mg/L	
F036081	M152859	RV 2 - B (Effluent)	11-Nov-2022	Total Suspended Solids	9	mg/L	
F037098	M153057	RV 2 - B (Effluent)	14-Nov-2022	Total Suspended Solids	6	mg/L	
F037099	M153057	RV 2 - B (Effluent)	15-Nov-2022	Total Suspended Solids	10	mg/L	
F037100	M153135	RV 2 - B (Effluent)	17-Nov-2022	Total Suspended Solids	13	mg/L	
F037102	M153157	RV 2 - B (Effluent)	18-Nov-2022	Total Suspended Solids	5	mg/L	
F039275	M153934	RV 2 - B (Effluent)	5-Dec-2022	Total Suspended Solids	82	mg/L	
F039276	M153876	RV 2 - B (Effluent)	6-Dec-2022	Total Suspended Solids	22	mg/L	
F039277	M154041	RV 2 - B (Effluent)	8-Dec-2022	Total Suspended Solids	52	mg/L	
F039278	M154041	RV 2 - B (Effluent)	9-Dec-2022	Total Suspended Solids	52	mg/L	
F039934	M154146	RV 2 - B (Effluent)	12-Dec-2022	Total Suspended Solids	30	mg/L	
F039935	M154146	RV 2 - B (Effluent)	13-Dec-2022	Total Suspended Solids	32	mg/L	
F039936	M154317	RV 2 - B (Effluent)	15-Dec-2022	Total Suspended Solids	13	mg/L	
F039937	M154318	RV 2 - B (Effluent)	16-Dec-2022	Total Suspended Solids	8	mg/L	SL-01
F040816	M154423	RV 2 - B (Effluent)	19-Dec-2022	Total Suspended Solids	11	mg/L	SL-01
F040817	M154544	RV 2 - B (Effluent)	20-Dec-2022	Total Suspended Solids	3	mg/L	RPD-01
F034550	M152008	RV 3 - A (Influent)	24-Oct-2022	BOD (5 day)	120	mg/L	
F034571	M152008	RV 3 - A (Influent)	25-Oct-2022	BOD (5 day)	131	mg/L	
F034572	M152132	RV 3 - A (Influent)	27-Oct-2022	BOD (5 day)	152	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F034573	M152131	RV 3 - A (Influent)	28-Oct-2022	BOD (5 day)	139	mg/L	G-01
F035055	M152307	RV 3 - A (Influent)	31-Oct-2022	BOD (5 day)	204	mg/L	BOD-02
F035056	M152307	RV 3 - A (Influent)	1-Nov-2022	BOD (5 day)	193	mg/L	
F035057	M152436	RV 3 - A (Influent)	3-Nov-2022	BOD (5 day)	204	mg/L	G-01
F035058	M152437	RV 3 - A (Influent)	4-Nov-2022	BOD (5 day)	210	mg/L	G-01
F036078	M152621	RV 3 - A (Influent)	7-Nov-2022	BOD (5 day)	228	mg/L	
F036079	M152622	RV 3 - A (Influent)	8-Nov-2022	BOD (5 day)	243	mg/L	
F036080	M152769	RV 3 - A (Influent)	10-Nov-2022	BOD (5 day)	240	mg/L	
F036081	M152770	RV 3 - A (Influent)	11-Nov-2022	BOD (5 day)	260	mg/L	G-01
F037098	M152935	RV 3 - A (Influent)	14-Nov-2022	BOD (5 day)	252	mg/L	
F037099	M152936	RV 3 - A (Influent)	15-Nov-2022	BOD (5 day)	163	mg/L	BOD-02, BOD-03
F037100	M153073	RV 3 - A (Influent)	17-Nov-2022	BOD (5 day)	295	mg/L	
F037102	M153074	RV 3 - A (Influent)	18-Nov-2022	BOD (5 day)	259	mg/L	G-01
F034550	M152007	RV 3 - B (Effluent)	24-Oct-2022	BOD (5 day)	55	mg/L	
F034571	M152007	RV 3 - B (Effluent)	25-Oct-2022	BOD (5 day)	52	mg/L	BOD-02
F034572	M152132	RV 3 - B (Effluent)	27-Oct-2022	BOD (5 day)	41	mg/L	G-01
F034573	M152131	RV 3 - B (Effluent)	28-Oct-2022	BOD (5 day)	42	mg/L	G-01
F035055	M152305	RV 3 - B (Effluent)	31-Oct-2022	BOD (5 day)	45	mg/L	RPD-01
F035056	M152305	RV 3 - B (Effluent)	1-Nov-2022	BOD (5 day)	66	mg/L	RPD-01
F035057	M152436	RV 3 - B (Effluent)	3-Nov-2022	BOD (5 day)	107	mg/L	G-01
F035058	M152436	RV 3 - B (Effluent)	4-Nov-2022	BOD (5 day)	119	mg/L	G-01
F036078	M152620	RV 3 - B (Effluent)	7-Nov-2022	BOD (5 day)	96	mg/L	
F036079	M152688	RV 3 - B (Effluent)	8-Nov-2022	BOD (5 day)	88	mg/L	
F036080	M152769	RV 3 - B (Effluent)	10-Nov-2022	BOD (5 day)	115	mg/L	
F036081	M152770	RV 3 - B (Effluent)	11-Nov-2022	BOD (5 day)	162	mg/L	G-01
F037098	M152937	RV 3 - B (Effluent)	14-Nov-2022	BOD (5 day)	188	mg/L	
F037099	M152938	RV 3 - B (Effluent)	15-Nov-2022	BOD (5 day)	179	mg/L	
F037100	M153073	RV 3 - B (Effluent)	17-Nov-2022	BOD (5 day)	154	mg/L	
F037102	M153074	RV 3 - B (Effluent)	18-Nov-2022	BOD (5 day)	169	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F034550	M152071	RV 3 - A (Influent)	24-Oct-2022	Total Suspended Solids	19	mg/L	SL-01
F034571	M152071	RV 3 - A (Influent)	25-Oct-2022	Total Suspended Solids	20	mg/L	SL-01
F034572	M152214	RV 3 - A (Influent)	27-Oct-2022	Total Suspended Solids	ND	mg/L	SL-01
F034573	M152323	RV 3 - A (Influent)	28-Oct-2022	Total Suspended Solids	25	mg/L	
F035055	M152367	RV 3 - A (Influent)	31-Oct-2022	Total Suspended Solids	24	mg/L	
F035056	M152368	RV 3 - A (Influent)	1-Nov-2022	Total Suspended Solids	77	mg/L	
F035057	M152563	RV 3 - A (Influent)	3-Nov-2022	Total Suspended Solids	20	mg/L	
F035058	M152563	RV 3 - A (Influent)	4-Nov-2022	Total Suspended Solids	26	mg/L	
F036078	M152655	RV 3 - A (Influent)	7-Nov-2022	Total Suspended Solids	34	mg/L	
F036079	M152710	RV 3 - A (Influent)	8-Nov-2022	Total Suspended Solids	41	mg/L	
F036080	M152819	RV 3 - A (Influent)	10-Nov-2022	Total Suspended Solids	34	mg/L	SL-01
F036081	M152819	RV 3 - A (Influent)	11-Nov-2022	Total Suspended Solids	36	mg/L	SL-01
F037098	M152983	RV 3 - A (Influent)	14-Nov-2022	Total Suspended Solids	30	mg/L	
F037099	M152983	RV 3 - A (Influent)	15-Nov-2022	Total Suspended Solids	26	mg/L	
F037100	M153135	RV 3 - A (Influent)	17-Nov-2022	Total Suspended Solids	27	mg/L	
F037102	M153135	RV 3 - A (Influent)	18-Nov-2022	Total Suspended Solids	25	mg/L	
F034550	M152074	RV 3 - B (Effluent)	24-Oct-2022	Total Suspended Solids	16	mg/L	
F034571	M152074	RV 3 - B (Effluent)	25-Oct-2022	Total Suspended Solids	32	mg/L	
F034572	M152226	RV 3 - B (Effluent)	27-Oct-2022	Total Suspended Solids	19	mg/L	
F034573	M152226	RV 3 - B (Effluent)	28-Oct-2022	Total Suspended Solids	23	mg/L	
F035055	M152372	RV 3 - B (Effluent)	31-Oct-2022	Total Suspended Solids	29	mg/L	
F035056	M152372	RV 3 - B (Effluent)	1-Nov-2022	Total Suspended Solids	24	mg/L	
F035057	M152657	RV 3 - B (Effluent)	3-Nov-2022	Total Suspended Solids	23	mg/L	
F035058	M152657	RV 3 - B (Effluent)	4-Nov-2022	Total Suspended Solids	29	mg/L	
F036078	M152658	RV 3 - B (Effluent)	7-Nov-2022	Total Suspended Solids	33	mg/L	
F036079	M152706	RV 3 - B (Effluent)	8-Nov-2022	Total Suspended Solids	39	mg/L	
F036080	M152859	RV 3 - B (Effluent)	10-Nov-2022	Total Suspended Solids	33	mg/L	
F036081	M152859	RV 3 - B (Effluent)	11-Nov-2022	Total Suspended Solids	38	mg/L	
F037098	M153081	RV 3 - B (Effluent)	14-Nov-2022	Total Suspended Solids	39	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
F037099	M153057	RV 3 - B (Effluent)	15-Nov-2022	Total Suspended Solids	42	mg/L	
F037100	M153157	RV 3 - B (Effluent)	17-Nov-2022	Total Suspended Solids	48	mg/L	
F037102	M153157	RV 3 - B (Effluent)	18-Nov-2022	Total Suspended Solids	37	mg/L	
G004058	M156571	RV 4 - A (Influent)	10-Feb-2023	BOD (5 day)	14	mg/L	G-01
G004057	M156436	RV 4 - A (Influent)	6-Feb-2023	BOD (5 day)	10	mg/L	RPD-01
G004056	M156436	RV 4 - A (Influent)	7-Feb-2023	BOD (5 day)	19	mg/L	RPD-01
G004055	M156571	RV 4 - A (Influent)	9-Feb-2023	BOD (5 day)	13	mg/L	G-01
G004909	M156757	RV 4 - A (Influent)	13-Feb-2023	BOD (5 day)	18	mg/L	
G004910	M156759	RV 4 - A (Influent)	14-Feb-2023	BOD (5 day)	3110	mg/L	
G004911	M156912	RV 4 - A (Influent)	16-Feb-2023	BOD (5 day)	1600	mg/L	G-01
G004912	M156913	RV 4 - A (Influent)	17-Feb-2023	BOD (5 day)	1610	mg/L	G-01
G005881	M157075	RV 4 - A (Influent)	20-Feb-2023	BOD (5 day)	1480	mg/L	RPD-01
G005882	M157077	RV 4 - A (Influent)	21-Feb-2023	BOD (5 day)	1660	mg/L	
G005883	M157233	RV 4 - A (Influent)	23-Feb-2023	BOD (5 day)	1580	mg/L	G-01
G005884	M157233	RV 4 - A (Influent)	24-Feb-2023	BOD (5 day)	1420	mg/L	G-01
G006621	M157400	RV 4 - A (Influent)	27-Feb-2023	BOD (5 day)	1840	mg/L	
G006622	M157396	RV 4 - A (Influent)	28-Feb-2023	BOD (5 day)	1870	mg/L	
G006623	M157537	RV 4 - A (Influent)	2-Mar-2023	BOD (5 day)	>2070	mg/L	G-01
G006624	M157550	RV 4 - A (Influent)	3-Mar-2023	BOD (5 day)	591	mg/L	G-01
G007828	M157735	RV 4 - A (Influent)	6-Mar-2023	BOD (5 day)	1820	mg/L	
G007829	M157734	RV 4 - A (Influent)	7-Mar-2023	BOD (5 day)	2080	mg/L	
G007830	M157907	RV 4 - A (Influent)	9-Mar-2023	BOD (5 day)	2040	mg/L	G-01
G007831	M157907	RV 4 - A (Influent)	10-Mar-2023	BOD (5 day)	1860	mg/L	G-01
G004058	M156580	RV 4 - B (Effluent)	10-Feb-2023	BOD (5 day)	1580	mg/L	
G004910	M156757	RV 4 - B (Effluent)	14-Feb-2023	BOD (5 day)	612	mg/L	
G005882	M157077	RV 4 - B (Effluent)	21-Feb-2023	BOD (5 day)	122	mg/L	
G006622	M157399	RV 4 - B (Effluent)	28-Feb-2023	BOD (5 day)	48	mg/L	
G007829	M157734	RV 4 - B (Effluent)	7-Mar-2023	BOD (5 day)	57	mg/L	
G004058	M156566	RV 4 - B (Effluent)	10-Feb-2023	Carbonaceous BOD (5 day)	1560	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G004910	M156753	RV 4 - B (Effluent)	14-Feb-2023	Carbonaceous BOD (5 day)	26	mg/L	BOD-02
G005882	M157073	RV 4 - B (Effluent)	21-Feb-2023	Carbonaceous BOD (5 day)	32	mg/L	
G006622	M157394	RV 4 - B (Effluent)	28-Feb-2023	Carbonaceous BOD (5 day)	49	mg/L	
G007829	M157729	RV 4 - B (Effluent)	7-Mar-2023	Carbonaceous BOD (5 day)	60	mg/L	
G004057	M156626	RV 4 - A (Influent)	6-Feb-2023	Total Suspended Solids	8	mg/L	SL-01
G004056	M156626	RV 4 - A (Influent)	7-Feb-2023	Total Suspended Solids	12	mg/L	SL-01, SL-02
G004055	M156802	RV 4 - A (Influent)	9-Feb-2023	Total Suspended Solids	17	mg/L	
G004058	M156802	RV 4 - A (Influent)	10-Feb-2023	Total Suspended Solids	16	mg/L	
G004909	M156808	RV 4 - A (Influent)	13-Feb-2023	Total Suspended Solids	27	mg/L	
G004910	M156803	RV 4 - A (Influent)	14-Feb-2023	Total Suspended Solids	800	mg/L	Visual
G004911	M157038	RV 4 - A (Influent)	16-Feb-2023	Total Suspended Solids	80	mg/L	
G004912	M157038	RV 4 - A (Influent)	17-Feb-2023	Total Suspended Solids	98	mg/L	
G005881	M157106	RV 4 - A (Influent)	20-Feb-2023	Total Suspended Solids	92	mg/L	
G005882	M157106	RV 4 - A (Influent)	21-Feb-2023	Total Suspended Solids	111	mg/L	
G005883	M157288	RV 4 - A (Influent)	23-Feb-2023	Total Suspended Solids	70	mg/L	
G005884	M157288	RV 4 - A (Influent)	24-Feb-2023	Total Suspended Solids	164	mg/L	
G006621	M157491	RV 4 - A (Influent)	27-Feb-2023	Total Suspended Solids	142	mg/L	
G006622	M157491	RV 4 - A (Influent)	28-Feb-2023	Total Suspended Solids	79	mg/L	C-02
G006623	M157785	RV 4 - A (Influent)	2-Mar-2023	Total Suspended Solids	1710	mg/L	A-02
G006624	M157784	RV 4 - A (Influent)	3-Mar-2023	Total Suspended Solids	1470	mg/L	
G007828	M157782	RV 4 - A (Influent)	6-Mar-2023	Total Suspended Solids	1790	mg/L	
G007829	M157782	RV 4 - A (Influent)	7-Mar-2023	Total Suspended Solids	430	mg/L	
G007830	M157963	RV 4 - A (Influent)	9-Mar-2023	Total Suspended Solids	540	mg/L	
G007831	M157963	RV 4 - A (Influent)	10-Mar-2023	Total Suspended Solids	1970	mg/L	
G004056	M156632	RV 4 - B (Effluent)	7-Feb-2023	Total Suspended Solids	436	mg/L	
G004058	M156632	RV 4 - B (Effluent)	10-Feb-2023	Total Suspended Solids	436	mg/L	
G004910	M156868	RV 4 - B (Effluent)	14-Feb-2023	Total Suspended Solids	29	mg/L	
G005882	M157178	RV 4 - B (Effluent)	21-Feb-2023	Total Suspended Solids	27	mg/L	
G006622	M157491	RV 4 - B (Effluent)	28-Feb-2023	Total Suspended Solids	24	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G007829	M157785	RV 4 - B (Effluent)	7-Mar-2023	Total Suspended Solids	17	mg/L	
G005771	M156987	RV 4 - A (Influent)	16-Feb-2023	Total Kjeldahl Nitrogen as N	491	mg/L	
G007807	M157845	RV 4 - A (Influent)	2-Mar-2023	Total Kjeldahl Nitrogen as N	688	mg/L	
G007796	M157845	RV 4 - A (Influent)	3-Mar-2023	Total Kjeldahl Nitrogen as N	522	mg/L	
G005771	M157314	RV 4 - A (Influent)	16-Feb-2023	Ammonia as N	451	mg/L	
G007807	M157996	RV 4 - A (Influent)	2-Mar-2023	Ammonia as N	527	mg/L	
G007796	M157996	RV 4 - A (Influent)	3-Mar-2023	Ammonia as N	424	mg/L	
G007807	[CALC]	RV 4 - A (Influent)	2-Mar-2023	Nitrate as N	8	mg/L	
G007796	[CALC]	RV 4 - A (Influent)	3-Mar-2023	Nitrate as N	0.11	mg/L	
G007807	M158076	RV 4 - A (Influent)	2-Mar-2023	Nitrate/Nitrite as N	8	mg/L	C-02
G007796	M158076	RV 4 - A (Influent)	3-Mar-2023	Nitrate/Nitrite as N	0.11	mg/L	
G007807	M157601	RV 4 - A (Influent)	2-Mar-2023	Nitrite as N	ND	mg/L	
G007796	M157601	RV 4 - A (Influent)	3-Mar-2023	Nitrite as N	ND	mg/L	
G004057	M156436	RV 5 - A (Influent)	6-Feb-2023	BOD (5 day)	275	mg/L	RPD-01
G004056	M156440	RV 5 - A (Influent)	7-Feb-2023	BOD (5 day)	256	mg/L	
G004055	M156571	RV 5 - A (Influent)	9-Feb-2023	BOD (5 day)	178	mg/L	G-01
G004058	M156580	RV 5 - A (Influent)	10-Feb-2023	BOD (5 day)	229	mg/L	G-01
G004909	M156758	RV 5 - A (Influent)	13-Feb-2023	BOD (5 day)	268	mg/L	
G004910	M156758	RV 5 - A (Influent)	14-Feb-2023	BOD (5 day)	565	mg/L	
G004911	M156912	RV 5 - A (Influent)	16-Feb-2023	BOD (5 day)	726	mg/L	G-01
G004912	M156912	RV 5 - A (Influent)	17-Feb-2023	BOD (5 day)	594	mg/L	G-01
G005881	M157075	RV 5 - A (Influent)	20-Feb-2023	BOD (5 day)	353	mg/L	RPD-01
G005882	M157075	RV 5 - A (Influent)	21-Feb-2023	BOD (5 day)	529	mg/L	RPD-01
G005883	M157233	RV 5 - A (Influent)	23-Feb-2023	BOD (5 day)	639	mg/L	G-01
G005884	M157233	RV 5 - A (Influent)	24-Feb-2023	BOD (5 day)	620	mg/L	G-01
G006621	M157400	RV 5 - A (Influent)	27-Feb-2023	BOD (5 day)	855	mg/L	
G006622	M157400	RV 5 - A (Influent)	28-Feb-2023	BOD (5 day)	960	mg/L	
G006623	M157537	RV 5 - A (Influent)	2-Mar-2023	BOD (5 day)	849	mg/L	
G006624	M157537	RV 5 - A (Influent)	3-Mar-2023	BOD (5 day)	864	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G004056	M156439	RV 5 - B (Effluent)	7-Feb-2023	BOD (5 day)	57	mg/L	
G004910	M156757	RV 5 - B (Effluent)	14-Feb-2023	BOD (5 day)	64	mg/L	
G005882	M157077	RV 5 - B (Effluent)	21-Feb-2023	BOD (5 day)	391	mg/L	
G006622	M157399	RV 5 - B (Effluent)	28-Feb-2023	BOD (5 day)	500	mg/L	
G004056	M156434	RV 5 - B (Effluent)	7-Feb-2023	Carbonaceous BOD (5 day)	50	mg/L	
G004910	M156753	RV 5 - B (Effluent)	14-Feb-2023	Carbonaceous BOD (5 day)	77	mg/L	
G005882	M157072	RV 5 - B (Effluent)	21-Feb-2023	Carbonaceous BOD (5 day)	299	mg/L	
G006622	M157394	RV 5 - B (Effluent)	28-Feb-2023	Carbonaceous BOD (5 day)	595	mg/L	
G004057	M156511	RV 5 - A (Influent)	6-Feb-2023	Total Suspended Solids	44	mg/L	SL-01
G004056	M156626	RV 5 - A (Influent)	7-Feb-2023	Total Suspended Solids	66	mg/L	
G004055	M156802	RV 5 - A (Influent)	9-Feb-2023	Total Suspended Solids	26	mg/L	
G004058	M156802	RV 5 - A (Influent)	10-Feb-2023	Total Suspended Solids	36	mg/L	
G004909	M156808	RV 5 - A (Influent)	13-Feb-2023	Total Suspended Solids	35	mg/L	
G004910	M156808	RV 5 - A (Influent)	14-Feb-2023	Total Suspended Solids	94	mg/L	
G004911	M157038	RV 5 - A (Influent)	16-Feb-2023	Total Suspended Solids	132	mg/L	
G004912	M157031	RV 5 - A (Influent)	17-Feb-2023	Total Suspended Solids	140	mg/L	
G005881	M157106	RV 5 - A (Influent)	20-Feb-2023	Total Suspended Solids	53	mg/L	
G005882	M157123	RV 5 - A (Influent)	21-Feb-2023	Total Suspended Solids	46	mg/L	
G005883	M157288	RV 5 - A (Influent)	23-Feb-2023	Total Suspended Solids	101	mg/L	
G005884	M157289	RV 5 - A (Influent)	24-Feb-2023	Total Suspended Solids	96	mg/L	
G006621	M157491	RV 5 - A (Influent)	27-Feb-2023	Total Suspended Solids	70	mg/L	
G006622	M157491	RV 5 - A (Influent)	28-Feb-2023	Total Suspended Solids	63	mg/L	
G006623	M157784	RV 5 - A (Influent)	2-Mar-2023	Total Suspended Solids	72	mg/L	A-02
G006624	M157664	RV 5 - A (Influent)	3-Mar-2023	Total Suspended Solids	72	mg/L	
G004056	M156430	RV 5 - B (Effluent)	7-Feb-2023	Total Suspended Solids	20	mg/L	
G004910	M156866	RV 5 - B (Effluent)	14-Feb-2023	Total Suspended Solids	14	mg/L	
G005882	M157178	RV 5 - B (Effluent)	21-Feb-2023	Total Suspended Solids	29	mg/L	
G006622	M157503	RV 5 - B (Effluent)	28-Feb-2023	Total Suspended Solids	46	mg/L	C-02
G005771	M157314	RV 5 - A (Influent)	16-Feb-2023	Ammonia as N	147	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G007807	M157996	RV 5 - A (Influent)	2-Mar-2023	Ammonia as N	215	mg/L	
G007796	M157996	RV 5 - A (Influent)	3-Mar-2023	Ammonia as N	208	mg/L	
G007807	[CALC]	RV 5 - A (Influent)	2-Mar-2023	Nitrate as N	0.07	mg/L	
G007796	[CALC]	RV 5 - A (Influent)	3-Mar-2023	Nitrate as N	0.08	mg/L	
G007807	M158076	RV 5 - A (Influent)	2-Mar-2023	Nitrate/Nitrite as N	0.07	mg/L	
G007796	M158076	RV 5 - A (Influent)	3-Mar-2023	Nitrate/Nitrite as N	0.08	mg/L	
G007807	M157601	RV 5 - A (Influent)	2-Mar-2023	Nitrite as N	ND	mg/L	
G007796	M157601	RV 5 - A (Influent)	3-Mar-2023	Nitrite as N	ND	mg/L	
G005771	M156987	RV 5 - A (Influent)	16-Feb-2023	Total Kjeldahl Nitrogen as N	175	mg/L	
G007807	M157845	RV 5 - A (Influent)	2-Mar-2023	Total Kjeldahl Nitrogen as N	255	mg/L	
G007796	M157845	RV 5 - A (Influent)	3-Mar-2023	Total Kjeldahl Nitrogen as N	257	mg/L	
G004057	M156441	RV 6 - A (Influent)	6-Feb-2023	BOD (5 day)	304	mg/L	BOD-02
G004056	M156439	RV 6 - A (Influent)	7-Feb-2023	BOD (5 day)	458	mg/L	
G004055	M156571	RV 6 - A (Influent)	9-Feb-2023	BOD (5 day)	519	mg/L	G-01
G004058	M156580	RV 6 - A (Influent)	10-Feb-2023	BOD (5 day)	545	mg/L	G-01
G004227	M156580	RV 6 - A (Influent)	10-Feb-2023	BOD (5 day)	1580	mg/L	G-01,Ratio
G004909	M156759	RV 6 - A (Influent)	13-Feb-2023	BOD (5 day)	596	mg/L	
G004910	M156757	RV 6 - A (Influent)	14-Feb-2023	BOD (5 day)	78	mg/L	
G004911	M156912	RV 6 - A (Influent)	16-Feb-2023	BOD (5 day)	702	mg/L	G-01
G004912	M156912	RV 6 - A (Influent)	17-Feb-2023	BOD (5 day)	924	mg/L	G-01
G005881	M157078	RV 6 - A (Influent)	20-Feb-2023	BOD (5 day)	526	mg/L	
G005882	M157075	RV 6 - A (Influent)	21-Feb-2023	BOD (5 day)	535	mg/L	RPD-01
G005883	M157234	RV 6 - A (Influent)	23-Feb-2023	BOD (5 day)	654	mg/L	G-01, RPD-01
G006621	M157400	RV 6 - A (Influent)	27-Feb-2023	BOD (5 day)	693	mg/L	BOD-02, BOD-03
G006622	M157396	RV 6 - A (Influent)	28-Feb-2023	BOD (5 day)	1000	mg/L	
G006623	M157537	RV 6 - A (Influent)	2-Mar-2023	BOD (5 day)	1510	mg/L	G-01
G006624	M157537	RV 6 - A (Influent)	3-Mar-2023	BOD (5 day)	ND	mg/L	G-01
G004056	M156438	RV 6 - B (Effluent)	7-Feb-2023	BOD (5 day)	65	mg/L	
G004910	M156757	RV 6 - B (Effluent)	14-Feb-2023	BOD (5 day)	79	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G005882	M157077	RV 6 - B (Effluent)	21-Feb-2023	BOD (5 day)	138	mg/L	
G006622	M157397	RV 6 - B (Effluent)	28-Feb-2023	BOD (5 day)	161	mg/L	
G004227	M156566	RV 6 - A (Influent)	10-Feb-2023	Carbonaceous BOD (5 day)	1565	mg/L	G-01,Ratio
G004056	M156434	RV 6 - B (Effluent)	7-Feb-2023	Carbonaceous BOD (5 day)	48	mg/L	
G004910	M156754	RV 6 - B (Effluent)	14-Feb-2023	Carbonaceous BOD (5 day)	71	mg/L	
G005882	M157073	RV 6 - B (Effluent)	21-Feb-2023	Carbonaceous BOD (5 day)	148	mg/L	
G006622	M157394	RV 6 - B (Effluent)	28-Feb-2023	Carbonaceous BOD (5 day)	55	mg/L	
G004057	M156627	RV 6 - A (Influent)	6-Feb-2023	Total Suspended Solids	74	mg/L	RPD-04, SL-02
G004056	M156626	RV 6 - A (Influent)	7-Feb-2023	Total Suspended Solids	244	mg/L	
G004055	M156802	RV 6 - A (Influent)	9-Feb-2023	Total Suspended Solids	80	mg/L	
G004058	M156802	RV 6 - A (Influent)	10-Feb-2023	Total Suspended Solids	147	mg/L	
G004909	M156808	RV 6 - A (Influent)	13-Feb-2023	Total Suspended Solids	63	mg/L	
G004910	M156808	RV 6 - A (Influent)	14-Feb-2023	Total Suspended Solids	160	mg/L	
G004911	M157038	RV 6 - A (Influent)	16-Feb-2023	Total Suspended Solids	114	mg/L	
G004912	M157032	RV 6 - A (Influent)	17-Feb-2023	Total Suspended Solids	55	mg/L	
G005881	M157106	RV 6 - A (Influent)	20-Feb-2023	Total Suspended Solids	148	mg/L	
G005882	M157123	RV 6 - A (Influent)	21-Feb-2023	Total Suspended Solids	122	mg/L	
G005883	M157329	RV 6 - A (Influent)	23-Feb-2023	Total Suspended Solids	92	mg/L	
G006621	M157491	RV 6 - A (Influent)	27-Feb-2023	Total Suspended Solids	444	mg/L	
G006622	M157491	RV 6 - A (Influent)	28-Feb-2023	Total Suspended Solids	297	mg/L	
G006623	M157664	RV 6 - A (Influent)	2-Mar-2023	Total Suspended Solids	358	mg/L	
G006624	M157664	RV 6 - A (Influent)	3-Mar-2023	Total Suspended Solids	325	mg/L	
G004056	M156523	RV 6 - B (Effluent)	7-Feb-2023	Total Suspended Solids	64	mg/L	
G004910	M156866	RV 6 - B (Effluent)	14-Feb-2023	Total Suspended Solids	43	mg/L	
G005882	M157242	RV 6 - B (Effluent)	21-Feb-2023	Total Suspended Solids	128	mg/L	
G006622	M157491	RV 6 - B (Effluent)	28-Feb-2023	Total Suspended Solids	117	mg/L	Visual
G005771	M157314	RV 6 - A (Influent)	16-Feb-2023	Ammonia as N	126	mg/L	
G005771	M156987	RV 6 - A (Influent)	16-Feb-2023	Total Kjeldahl Nitrogen as N	150	mg/L	
G018735	M161948	RV 7 - A (Influent)	5-Jun-2023	BOD (5 day)	623	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G018739	M162127	RV 7 - A (Influent)	8-Jun-2023	BOD (5 day)	936	mg/L	G-01
G018741	M162127	RV 7 - A (Influent)	9-Jun-2023	BOD (5 day)	849	mg/L	G-01
G019325	M162345	RV 7 - A (Influent)	12-Jun-2023	BOD (5 day)	573	mg/L	
G019329	M162345	RV 7 - A (Influent)	13-Jun-2023	BOD (5 day)	587	mg/L	
G019331	M162512	RV 7 - A (Influent)	15-Jun-2023	BOD (5 day)	765	mg/L	G-01
G019333	M162513	RV 7 - A (Influent)	16-Jun-2023	BOD (5 day)	622	mg/L	G-01
G020306	M162690	RV 7 - A (Influent)	19-Jun-2023	BOD (5 day)	568	mg/L	
G020310	M162691	RV 7 - A (Influent)	20-Jun-2023	BOD (5 day)	510	mg/L	
G020314	M162835	RV 7 - A (Influent)	22-Jun-2023	BOD (5 day)	574	mg/L	G-01, RPD-01
G020312	M162835	RV 7 - A (Influent)	23-Jun-2023	BOD (5 day)	606	mg/L	G-01, RPD-01
G021067	M163013	RV 7 - A (Influent)	26-Jun-2023	BOD (5 day)	747	mg/L	BOD-02, BOD-03
G021071	M163014	RV 7 - A (Influent)	27-Jun-2023	BOD (5 day)	635	mg/L	
G021972	M163162	RV 7 - A (Influent)	28-Jun-2023	BOD (5 day)	611	mg/L	G-01
G021973	M163162	RV 7 - A (Influent)	29-Jun-2023	BOD (5 day)	173	mg/L	G-01
G021073	M163162	RV 7 - A (Influent)	29-Jun-2023	BOD (5 day)	608	mg/L	BOD-02, BOD-03, G-01
G021075	M163162	RV 7 - A (Influent)	30-Jun-2023	BOD (5 day)	522	mg/L	G-01
G018737	M161948	RV 7 - B (Effluent)	6-Jun-2023	BOD (5 day)	209	mg/L	
G019329	M162343	RV 7 - B (Effluent)	13-Jun-2023	BOD (5 day)	236	mg/L	Ratio
G020310	M162688	RV 7 - B (Effluent)	20-Jun-2023	BOD (5 day)	243	mg/L	Ratio
G021071	M163012	RV 7 - B (Effluent)	27-Jun-2023	BOD (5 day)	215	mg/L	Ratio
G018735	M161957	RV 7 - A (Influent)	5-Jun-2023	Total Suspended Solids	280	mg/L	
G018739	M162256	RV 7 - A (Influent)	8-Jun-2023	Total Suspended Solids	318	mg/L	
G018741	M162257	RV 7 - A (Influent)	9-Jun-2023	Total Suspended Solids	306	mg/L	
G019325	M162334	RV 7 - A (Influent)	12-Jun-2023	Total Suspended Solids	260	mg/L	
G019329	M162334	RV 7 - A (Influent)	13-Jun-2023	Total Suspended Solids	276	mg/L	
G019331	M162626	RV 7 - A (Influent)	15-Jun-2023	Total Suspended Solids	404	mg/L	
G019333	M162626	RV 7 - A (Influent)	16-Jun-2023	Total Suspended Solids	288	mg/L	
G020306	M162694	RV 7 - A (Influent)	19-Jun-2023	Total Suspended Solids	264	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G020310	M162694	RV 7 - A (Influent)	20-Jun-2023	Total Suspended Solids	200	mg/L	
G020314	M162926	RV 7 - A (Influent)	22-Jun-2023	Total Suspended Solids	244	mg/L	
G020312	M162925	RV 7 - A (Influent)	23-Jun-2023	Total Suspended Solids	208	mg/L	
G021067	M163007	RV 7 - A (Influent)	26-Jun-2023	Total Suspended Solids	416	mg/L	
G021071	M163048	RV 7 - A (Influent)	27-Jun-2023	Total Suspended Solids	188	mg/L	
G021972	M163229	RV 7 - A (Influent)	28-Jun-2023	Total Suspended Solids	282	mg/L	
G021073	M163228	RV 7 - A (Influent)	29-Jun-2023	Total Suspended Solids	214	mg/L	RPD-01
G021075	M163228	RV 7 - A (Influent)	30-Jun-2023	Total Suspended Solids	234	mg/L	RPD-01
G018737	M162256	RV 7 - B (Effluent)	6-Jun-2023	Total Suspended Solids	90	mg/L	
G019329	M162334	RV 7 - B (Effluent)	13-Jun-2023	Total Suspended Solids	108	mg/L	
G020310	M162704	RV 7 - B (Effluent)	20-Jun-2023	Total Suspended Solids	120	mg/L	
G021071	M163023	RV 7 - B (Effluent)	27-Jun-2023	Total Suspended Solids	104	mg/L	
G018737	M161943	RV 7 - B (Effluent)	6-Jun-2023	Carbonaceous BOD (5 day)	204	mg/L	
G019329	M162340	RV 7 - B (Effluent)	13-Jun-2023	Carbonaceous BOD (5 day)	260	mg/L	Ratio
G020310	M162685	RV 7 - B (Effluent)	20-Jun-2023	Carbonaceous BOD (5 day)	249	mg/L	Ratio
G021071	M163009	RV 7 - B (Effluent)	27-Jun-2023	Carbonaceous BOD (5 day)	237	mg/L	Ratio
G019328	M162584	RV 7 - A (Influent)	13-Jun-2023	Ammonia as N	149	mg/L	
G020309	M162967	RV 7 - A (Influent)	20-Jun-2023	Ammonia as N	142	mg/L	
G021070	M163273	RV 7 - A (Influent)	27-Jun-2023	Ammonia as N	152	mg/L	
G018884	M162287	RV 7 - A (Influent)	6-Jun-2023	Ammonia as N	115	mg/L	
G019328	M162584	RV 7 - A (Influent)	13-Jun-2023	Ammonia as N	143	mg/L	
G020309	M162967	RV 7 - A (Influent)	20-Jun-2023	Ammonia as N	134	mg/L	
G021070	M163273	RV 7 - A (Influent)	27-Jun-2023	Ammonia as N	131	mg/L	
G019328	[CALC]	RV 7 - A (Influent)	13-Jun-2023	Nitrate as N	0.063	mg/L	
G020309	[CALC]	RV 7 - A (Influent)	20-Jun-2023	Nitrate as N	0.077	mg/L	
G021070	[CALC]	RV 7 - A (Influent)	27-Jun-2023	Nitrate as N	0.099	mg/L	
G018884	[CALC]	RV 7 - B (Effluent)	6-Jun-2023	Nitrate as N	0.069	mg/L	
G018884	[CALC]	RV 7 - B (Effluent)	6-Jun-2023	Nitrate as N	0.13	mg/L	
G019328	[CALC]	RV 7 - B (Effluent)	13-Jun-2023	Nitrate as N	0.073	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G019328	[CALC]	RV 7 - B (Effluent)	13-Jun-2023	Nitrate as N	0.12	mg/L	
G020309	[CALC]	RV 7 - B (Effluent)	20-Jun-2023	Nitrate as N	0.088	mg/L	
G021070	[CALC]	RV 7 - B (Effluent)	27-Jun-2023	Nitrate as N	0.027	mg/L	
G019328	M162715	RV 7 - A (Influent)	13-Jun-2023	Nitrate/Nitrite as N	0.08	mg/L	
G020309	M163032	RV 7 - A (Influent)	20-Jun-2023	Nitrate/Nitrite as N	0.12	mg/L	
G021070	M163034	RV 7 - A (Influent)	27-Jun-2023	Nitrate/Nitrite as N	0.13	mg/L	
G018884	M162715	RV 7 - B (Effluent)	6-Jun-2023	Nitrate/Nitrite as N	0.13	mg/L	
G019328	M162715	RV 7 - B (Effluent)	13-Jun-2023	Nitrate/Nitrite as N	0.12	mg/L	
G020309	M163032	RV 7 - B (Effluent)	20-Jun-2023	Nitrate/Nitrite as N	0.12	mg/L	
G021070	M163333	RV 7 - B (Effluent)	27-Jun-2023	Nitrate/Nitrite as N	0.07	mg/L	
G019328	M162327	RV 7 - A (Influent)	13-Jun-2023	Nitrite as N	0.01	mg/L	
G020309	M162702	RV 7 - A (Influent)	20-Jun-2023	Nitrite as N	0.04	mg/L	
G021070	M163024	RV 7 - A (Influent)	27-Jun-2023	Nitrite as N	0.03	mg/L	
G018884	M161989	RV 7 - B (Effluent)	6-Jun-2023	Nitrite as N	0.03	mg/L	
G019328	M162327	RV 7 - B (Effluent)	13-Jun-2023	Nitrite as N	0.02	mg/L	
G020309	M162702	RV 7 - B (Effluent)	20-Jun-2023	Nitrite as N	0.03	mg/L	
G021070	M163024	RV 7 - B (Effluent)	27-Jun-2023	Nitrite as N	0.05	mg/L	
G019328	M162440	RV 7 - A (Influent)	13-Jun-2023	Total Kjeldahl Nitrogen as N	176	mg/L	
G020309	M162950	RV 7 - A (Influent)	20-Jun-2023	Total Kjeldahl Nitrogen as N	168	mg/L	
G021070	M163264	RV 7 - A (Influent)	27-Jun-2023	Total Kjeldahl Nitrogen as N	181	mg/L	
G018884	M162440	RV 7 - B (Effluent)	6-Jun-2023	Total Kjeldahl Nitrogen as N	146	mg/L	
G019328	M162440	RV 7 - B (Effluent)	13-Jun-2023	Total Kjeldahl Nitrogen as N	168	mg/L	
G020309	M162950	RV 7 - B (Effluent)	20-Jun-2023	Total Kjeldahl Nitrogen as N	152	mg/L	
G021070	M163265	RV 7 - B (Effluent)	27-Jun-2023	Total Kjeldahl Nitrogen as N	163	mg/L	
G018735	M161948	RV 8 - A (Influent)	5-Jun-2023	BOD (5 day)	460	mg/L	
G018737	M161948	RV 8 - A (Influent)	6-Jun-2023	BOD (5 day)	118	mg/L	
G018739	M162127	RV 8 - A (Influent)	8-Jun-2023	BOD (5 day)	360	mg/L	G-01
G018741	M162127	RV 8 - A (Influent)	9-Jun-2023	BOD (5 day)	429	mg/L	G-01
G019325	M162342	RV 8 - A (Influent)	12-Jun-2023	BOD (5 day)	393	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G019329	M162345	RV 8 - A (Influent)	13-Jun-2023	BOD (5 day)	389	mg/L	
G019331	M162512	RV 8 - A (Influent)	15-Jun-2023	BOD (5 day)	114	mg/L	G-01
G019333	M162513	RV 8 - A (Influent)	16-Jun-2023	BOD (5 day)	396	mg/L	G-01
G020306	M162690	RV 8 - A (Influent)	19-Jun-2023	BOD (5 day)	347	mg/L	
G020310	M162691	RV 8 - A (Influent)	20-Jun-2023	BOD (5 day)	371	mg/L	
G020314	M162835	RV 8 - A (Influent)	22-Jun-2023	BOD (5 day)	366	mg/L	G-01, RPD-01
G020312	M162835	RV 8 - A (Influent)	23-Jun-2023	BOD (5 day)	397	mg/L	G-01, RPD-01
G021067	M163014	RV 8 - A (Influent)	26-Jun-2023	BOD (5 day)	298	mg/L	
G021071	M163014	RV 8 - A (Influent)	27-Jun-2023	BOD (5 day)	292	mg/L	
G021073	M163162	RV 8 - A (Influent)	29-Jun-2023	BOD (5 day)	387	mg/L	G-01
G021993	M163162	RV 8 - A (Influent)	30-Jun-2023	BOD (5 day)	1160	mg/L	G-01
G018737	M161948	RV 8 - B (Effluent)	6-Jun-2023	BOD (5 day)	217	mg/L	
G019329	M162343	RV 8 - B (Effluent)	13-Jun-2023	BOD (5 day)	164	mg/L	Ratio
G021816	M162836	RV 8 - B (Effluent)	23-Jun-2023	BOD (5 day)	>728	mg/L	G-01
G021993	M163162	RV 8 - B (Effluent)	30-Jun-2023	BOD (5 day)	133	mg/L	G-01, Ratio
G018737	M161943	RV 8 - B (Effluent)	6-Jun-2023	Carbonaceous BOD (5 day)	211	mg/L	
G019329	M162340	RV 8 - B (Effluent)	13-Jun-2023	Carbonaceous BOD (5 day)	169	mg/L	Ratio
G021816	M162830	RV 8 - B (Effluent)	23-Jun-2023	Carbonaceous BOD (5 day)	>709	mg/L	
G021993	M163164	RV 8 - B (Effluent)	30-Jun-2023	Carbonaceous BOD (5 day)	140	mg/L	G-01, Ratio
G018735	M161957	RV 8 - A (Influent)	5-Jun-2023	Total Suspended Solids	252	mg/L	
G018737	M161957	RV 8 - A (Influent)	6-Jun-2023	Total Suspended Solids	69	mg/L	
G018739	M162257	RV 8 - A (Influent)	8-Jun-2023	Total Suspended Solids	60	mg/L	
G018741	M162257	RV 8 - A (Influent)	9-Jun-2023	Total Suspended Solids	92	mg/L	
G019325	M162334	RV 8 - A (Influent)	12-Jun-2023	Total Suspended Solids	292	mg/L	C-02
G019329	M162334	RV 8 - A (Influent)	13-Jun-2023	Total Suspended Solids	208	mg/L	
G019331	M162626	RV 8 - A (Influent)	15-Jun-2023	Total Suspended Solids	166	mg/L	
G019333	M162627	RV 8 - A (Influent)	16-Jun-2023	Total Suspended Solids	280	mg/L	
G020306	M162694	RV 8 - A (Influent)	19-Jun-2023	Total Suspended Solids	280	mg/L	
G020310	M162694	RV 8 - A (Influent)	20-Jun-2023	Total Suspended Solids	400	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G020314	M162926	RV 8 - A (Influent)	22-Jun-2023	Total Suspended Solids	280	mg/L	
G020312	M162925	RV 8 - A (Influent)	23-Jun-2023	Total Suspended Solids	316	mg/L	
G021067	M163007	RV 8 - A (Influent)	26-Jun-2023	Total Suspended Solids	240	mg/L	
G021071	M163048	RV 8 - A (Influent)	27-Jun-2023	Total Suspended Solids	124	mg/L	
G021073	M163228	RV 8 - A (Influent)	29-Jun-2023	Total Suspended Solids	78	mg/L	RPD-01
G021993	M163229	RV 8 - A (Influent)	30-Jun-2023	Total Suspended Solids	112	mg/L	
G018737	M161955	RV 8 - B (Effluent)	6-Jun-2023	Total Suspended Solids	43	mg/L	
G019329	M162334	RV 8 - B (Effluent)	13-Jun-2023	Total Suspended Solids	27	mg/L	
G021816	M162954	RV 8 - B (Effluent)	23-Jun-2023	Total Suspended Solids	20	mg/L	
G021993	M163227	RV 8 - B (Effluent)	30-Jun-2023	Total Suspended Solids	28	mg/L	
G018884	M162287	RV 8 - A (Influent)	5-Jun-2023	Ammonia as N	174	mg/L	
G019328	M162918	RV 8 - A (Influent)	13-Jun-2023	Ammonia as N	189	mg/L	
G020309	M162967	RV 8 - A (Influent)	20-Jun-2023	Ammonia as N	175	mg/L	
G021070	M163273	RV 8 - A (Influent)	27-Jun-2023	Ammonia as N	152	mg/L	
G018884	M162287	RV 8 - B (Effluent)	6-Jun-2023	Ammonia as N	179	mg/L	
G019328	M162918	RV 8 - B (Effluent)	13-Jun-2023	Ammonia as N	185	mg/L	
G021817	M163271	RV 8 - B (Effluent)	23-Jun-2023	Ammonia as N	177	mg/L	
G021992	M163413	RV 8 - B (Effluent)	30-Jun-2023	Ammonia as N	163	mg/L	
G018884	[CALC]	RV 8 - A (Influent)	5-Jun-2023	Nitrate as N	ND	mg/L	
G018884	[CALC]	RV 8 - A (Influent)	5-Jun-2023	Nitrate as N	0.084	mg/L	
G019328	[CALC]	RV 8 - A (Influent)	13-Jun-2023	Nitrate as N	ND	mg/L	
G019328	[CALC]	RV 8 - A (Influent)	13-Jun-2023	Nitrate as N	0.041	mg/L	
G020309	[CALC]	RV 8 - A (Influent)	20-Jun-2023	Nitrate as N	0.097	mg/L	
G021070	[CALC]	RV 8 - A (Influent)	27-Jun-2023	Nitrate as N	0.73	mg/L	
G018884	[CALC]	RV 8 - B (Effluent)	6-Jun-2023	Nitrate as N	0.041	mg/L	
G018884	[CALC]	RV 8 - B (Effluent)	6-Jun-2023	Nitrate as N	0.072	mg/L	
G019328	[CALC]	RV 8 - B (Effluent)	13-Jun-2023	Nitrate as N	ND	mg/L	
G019328	[CALC]	RV 8 - B (Effluent)	13-Jun-2023	Nitrate as N	0.066	mg/L	
G021817	[CALC]	RV 8 - B (Effluent)	23-Jun-2023	Nitrate as N	0.033	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G021992	[CALC]	RV 8 - B (Effluent)	30-Jun-2023	Nitrate as N	0.067	mg/L	
G018884	M162714	RV 8 - A (Influent)	5-Jun-2023	Nitrate/Nitrite as N	0.08	mg/L	
G019328	M162715	RV 8 - A (Influent)	13-Jun-2023	Nitrate/Nitrite as N	0.04	mg/L	
G020309	M163032	RV 8 - A (Influent)	20-Jun-2023	Nitrate/Nitrite as N	0.1	mg/L	
G021070	M163333	RV 8 - A (Influent)	27-Jun-2023	Nitrate/Nitrite as N	0.88	mg/L	
G018884	M162715	RV 8 - B (Effluent)	6-Jun-2023	Nitrate/Nitrite as N	0.07	mg/L	
G019328	M162714	RV 8 - B (Effluent)	13-Jun-2023	Nitrate/Nitrite as N	0.07	mg/L	
G021817	M163033	RV 8 - B (Effluent)	23-Jun-2023	Nitrate/Nitrite as N	0.04	mg/L	
G021992	M163333	RV 8 - B (Effluent)	30-Jun-2023	Nitrate/Nitrite as N	0.07	mg/L	
G018884	M161990	RV 8 - A (Influent)	5-Jun-2023	Nitrite as N	ND	mg/L	
G019328	M162327	RV 8 - A (Influent)	13-Jun-2023	Nitrite as N	0.007	mg/L	J
G020309	M162702	RV 8 - A (Influent)	20-Jun-2023	Nitrite as N	0.004	mg/L	J
G021070	M163024	RV 8 - A (Influent)	27-Jun-2023	Nitrite as N	0.14	mg/L	
G018884	M161989	RV 8 - B (Effluent)	6-Jun-2023	Nitrite as N	ND	mg/L	
G019328	M162327	RV 8 - B (Effluent)	13-Jun-2023	Nitrite as N	0.008	mg/L	J
G021817	M162858	RV 8 - B (Effluent)	23-Jun-2023	Nitrite as N	0.007	mg/L	G-01, J
G021992	M163198	RV 8 - B (Effluent)	30-Jun-2023	Nitrite as N	0.002	mg/L	J
G018884	M162440	RV 8 - A (Influent)	5-Jun-2023	Total Kjeldahl Nitrogen as N	200	mg/L	
G019328	M162600	RV 8 - A (Influent)	13-Jun-2023	Total Kjeldahl Nitrogen as N	225	mg/L	MS-01, RPD-01
G020309	M162950	RV 8 - A (Influent)	20-Jun-2023	Total Kjeldahl Nitrogen as N	211	mg/L	
G021070	M163264	RV 8 - A (Influent)	27-Jun-2023	Total Kjeldahl Nitrogen as N	184	mg/L	
G018884	M162440	RV 8 - B (Effluent)	6-Jun-2023	Total Kjeldahl Nitrogen as N	209	mg/L	
G019328	M162600	RV 8 - B (Effluent)	13-Jun-2023	Total Kjeldahl Nitrogen as N	207	mg/L	MS-01, RPD-01
G021817	M163213	RV 8 - B (Effluent)	23-Jun-2023	Total Kjeldahl Nitrogen as N	195	mg/L	MS-01
G021992	M163392	RV 8 - B (Effluent)	30-Jun-2023	Total Kjeldahl Nitrogen as N	169	mg/L	
G018734	M161948	RV 9 - A (Influent)	6-Jun-2023	BOD (5 day)	626	mg/L	
G018736	M161948	RV 9 - A (Influent)	6-Jun-2023	BOD (5 day)	598	mg/L	BOD-02, BOD-03
G018738	M162127	RV 9 - A (Influent)	8-Jun-2023	BOD (5 day)	698	mg/L	BOD-02, BOD-03, G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G018740	M162127	RV 9 - A (Influent)	9-Jun-2023	BOD (5 day)	728	mg/L	G-01
G019324	M162346	RV 9 - A (Influent)	12-Jun-2023	BOD (5 day)	818	mg/L	BOD-02, BOD-03
G019327	M162345	RV 9 - A (Influent)	13-Jun-2023	BOD (5 day)	619	mg/L	
G019330	M162512	RV 9 - A (Influent)	15-Jun-2023	BOD (5 day)	690	mg/L	G-01
G019332	M162513	RV 9 - A (Influent)	16-Jun-2023	BOD (5 day)	649	mg/L	G-01
G020305	M162690	RV 9 - A (Influent)	19-Jun-2023	BOD (5 day)	398	mg/L	
G020308	M162691	RV 9 - A (Influent)	20-Jun-2023	BOD (5 day)	498	mg/L	
G020311	M162835	RV 9 - A (Influent)	22-Jun-2023	BOD (5 day)	441	mg/L	G-01, RPD-01
G020313	M162835	RV 9 - A (Influent)	23-Jun-2023	BOD (5 day)	325	mg/L	G-01, RPD-01
G021066	M163011	RV 9 - A (Influent)	26-Jun-2023	BOD (5 day)	291	mg/L	
G021069	M163014	RV 9 - A (Influent)	27-Jun-2023	BOD (5 day)	277	mg/L	
G021072	M163165	RV 9 - A (Influent)	29-Jun-2023	BOD (5 day)	151	mg/L	G-01
G021074	M163165	RV 9 - A (Influent)	30-Jun-2023	BOD (5 day)	130	mg/L	G-01
G018736	M161948	RV 9 - B (Effluent)	6-Jun-2023	BOD (5 day)	260	mg/L	
G019327	M162344	RV 9 - B (Effluent)	13-Jun-2023	BOD (5 day)	551	mg/L	
G020308	M162688	RV 9 - B (Effluent)	20-Jun-2023	BOD (5 day)	298	mg/L	Ratio
G021069	M163013	RV 9 - B (Effluent)	27-Jun-2023	BOD (5 day)	105	mg/L	Ratio
G018736	M161943	RV 9 - B (Effluent)	6-Jun-2023	Carbonaceous BOD (5 day)	245	mg/L	
G019327	M162341	RV 9 - B (Effluent)	13-Jun-2023	Carbonaceous BOD (5 day)	419	mg/L	
G020308	M162685	RV 9 - B (Effluent)	20-Jun-2023	Carbonaceous BOD (5 day)	317	mg/L	Ratio
G021069	M163009	RV 9 - B (Effluent)	27-Jun-2023	Carbonaceous BOD (5 day)	125	mg/L	Ratio
G018734	M162059	RV 9 - A (Influent)	6-Jun-2023	Total Suspended Solids	45	mg/L	
G018736	M161957	RV 9 - A (Influent)	6-Jun-2023	Total Suspended Solids	65	mg/L	
G018738	M162256	RV 9 - A (Influent)	8-Jun-2023	Total Suspended Solids	72	mg/L	
G018740	M162257	RV 9 - A (Influent)	9-Jun-2023	Total Suspended Solids	76	mg/L	
G019324	M162334	RV 9 - A (Influent)	12-Jun-2023	Total Suspended Solids	75	mg/L	
G019327	M162334	RV 9 - A (Influent)	13-Jun-2023	Total Suspended Solids	75	mg/L	
G019330	M162626	RV 9 - A (Influent)	15-Jun-2023	Total Suspended Solids	78	mg/L	
G019332	M162626	RV 9 - A (Influent)	16-Jun-2023	Total Suspended Solids	78	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G020305	M162694	RV 9 - A (Influent)	19-Jun-2023	Total Suspended Solids	51	mg/L	
G020308	M162694	RV 9 - A (Influent)	20-Jun-2023	Total Suspended Solids	76	mg/L	
G020311	M162925	RV 9 - A (Influent)	22-Jun-2023	Total Suspended Solids	60	mg/L	
G020313	M162925	RV 9 - A (Influent)	23-Jun-2023	Total Suspended Solids	50	mg/L	
G021066	M163007	RV 9 - A (Influent)	26-Jun-2023	Total Suspended Solids	51	mg/L	
G021069	M163007	RV 9 - A (Influent)	27-Jun-2023	Total Suspended Solids	56	mg/L	
G021072	M163474	RV 9 - A (Influent)	29-Jun-2023	Total Suspended Solids	50	mg/L	Hold-01
G021074	M163228	RV 9 - A (Influent)	30-Jun-2023	Total Suspended Solids	54	mg/L	RPD-01
G018736	M161956	RV 9 - B (Effluent)	6-Jun-2023	Total Suspended Solids	59	mg/L	
G019327	M162334	RV 9 - B (Effluent)	13-Jun-2023	Total Suspended Solids	74	mg/L	
G020308	M162704	RV 9 - B (Effluent)	20-Jun-2023	Total Suspended Solids	50	mg/L	
G021069	M163023	RV 9 - B (Effluent)	27-Jun-2023	Total Suspended Solids	73	mg/L	
G019326	M162584	RV 9 - A (Influent)	12-Jun-2023	Ammonia as N	184	mg/L	
G020307	M162920	RV 9 - A (Influent)	19-Jun-2023	Ammonia as N	129	mg/L	
G021068	M163272	RV 9 - A (Influent)	26-Jun-2023	Ammonia as N	92.1	mg/L	
G018883	M162288	RV 9 - B (Effluent)	5-Jun-2023	Ammonia as N	154	mg/L	
G019326	M162584	RV 9 - B (Effluent)	12-Jun-2023	Ammonia as N	147	mg/L	
G020307	M162920	RV 9 - B (Effluent)	19-Jun-2023	Ammonia as N	120	mg/L	
G021068	M163272	RV 9 - B (Effluent)	26-Jun-2023	Ammonia as N	82.3	mg/L	
G018883	[CALC]	RV 9 - A (Influent)	5-Jun-2023	Nitrate as N	0.057	mg/L	
G018883	[CALC]	RV 9 - A (Influent)	5-Jun-2023	Nitrate as N	0.12	mg/L	
G019326	[CALC]	RV 9 - A (Influent)	12-Jun-2023	Nitrate as N	0.063	mg/L	
G019326	[CALC]	RV 9 - A (Influent)	12-Jun-2023	Nitrate as N	0.13	mg/L	
G020307	[CALC]	RV 9 - A (Influent)	19-Jun-2023	Nitrate as N	0.078	mg/L	
G021068	[CALC]	RV 9 - A (Influent)	26-Jun-2023	Nitrate as N	0.11	mg/L	
G018883	[CALC]	RV 9 - B (Effluent)	5-Jun-2023	Nitrate as N	0.067	mg/L	
G018883	[CALC]	RV 9 - B (Effluent)	5-Jun-2023	Nitrate as N	0.14	mg/L	
G019326	[CALC]	RV 9 - B (Effluent)	12-Jun-2023	Nitrate as N	0.042	mg/L	
G019326	[CALC]	RV 9 - B (Effluent)	12-Jun-2023	Nitrate as N	0.08	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G020307	[CALC]	RV 9 - B (Effluent)	19-Jun-2023	Nitrate as N	0.066	mg/L	
G021068	[CALC]	RV 9 - B (Effluent)	26-Jun-2023	Nitrate as N	0.055	mg/L	
G018883	M162714	RV 9 - A (Influent)	5-Jun-2023	Nitrate/Nitrite as N	0.12	mg/L	
G019326	M162715	RV 9 - A (Influent)	12-Jun-2023	Nitrate/Nitrite as N	0.13	mg/L	
G020307	M163032	RV 9 - A (Influent)	19-Jun-2023	Nitrate/Nitrite as N	0.09	mg/L	
G021068	M163033	RV 9 - A (Influent)	26-Jun-2023	Nitrate/Nitrite as N	0.11	mg/L	
G018883	M162715	RV 9 - B (Effluent)	5-Jun-2023	Nitrate/Nitrite as N	0.14	mg/L	
G019326	M162714	RV 9 - B (Effluent)	12-Jun-2023	Nitrate/Nitrite as N	0.08	mg/L	
G020307	M163032	RV 9 - B (Effluent)	19-Jun-2023	Nitrate/Nitrite as N	0.07	mg/L	
G021068	M163034	RV 9 - B (Effluent)	26-Jun-2023	Nitrate/Nitrite as N	0.06	mg/L	
G018883	M161989	RV 9 - A (Influent)	5-Jun-2023	Nitrite as N	0.002	mg/L	J
G019326	M162327	RV 9 - A (Influent)	12-Jun-2023	Nitrite as N	0.03	mg/L	
G020307	M162702	RV 9 - A (Influent)	19-Jun-2023	Nitrite as N	0.01	mg/L	
G021068	M163024	RV 9 - A (Influent)	26-Jun-2023	Nitrite as N	ND	mg/L	
G018883	M161989	RV 9 - B (Effluent)	5-Jun-2023	Nitrite as N	0.002	mg/L	J
G019326	M162327	RV 9 - B (Effluent)	12-Jun-2023	Nitrite as N	0.01	mg/L	
G020307	M162702	RV 9 - B (Effluent)	19-Jun-2023	Nitrite as N	0.006	mg/L	J
G021068	M163024	RV 9 - B (Effluent)	26-Jun-2023	Nitrite as N	0.002	mg/L	J
G018883	M162440	RV 9 - A (Influent)	5-Jun-2023	Total Kjeldahl Nitrogen as N	196	mg/L	
G019326	M162440	RV 9 - A (Influent)	12-Jun-2023	Total Kjeldahl Nitrogen as N	212	mg/L	
G020307	M162950	RV 9 - A (Influent)	19-Jun-2023	Total Kjeldahl Nitrogen as N	151	mg/L	
G021068	M163213	RV 9 - A (Influent)	26-Jun-2023	Total Kjeldahl Nitrogen as N	111	mg/L	MS-01
G018883	M162440	RV 9 - B (Effluent)	5-Jun-2023	Total Kjeldahl Nitrogen as N	187	mg/L	
G019326	M162440	RV 9 - B (Effluent)	12-Jun-2023	Total Kjeldahl Nitrogen as N	176	mg/L	
G020307	M162950	RV 9 - B (Effluent)	19-Jun-2023	Total Kjeldahl Nitrogen as N	136	mg/L	
G021068	M163264	RV 9 - B (Effluent)	26-Jun-2023	Total Kjeldahl Nitrogen as N	98.6	mg/L	
G028031	M165584	RV 10 - A (Influent)	21-Aug-2023	BOD (5 day)	258	mg/L	
G028032	M165581	RV 10 - A (Influent)	22-Aug-2023	BOD (5 day)	301	mg/L	
G028033	M165732	RV 10 - A (Influent)	24-Aug-2023	BOD (5 day)	186	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G028034	M165732	RV 10 - A (Influent)	25-Aug-2023	BOD (5 day)	235	mg/L	G-01
G028524	M165902	RV 10 - A (Influent)	28-Aug-2023	BOD (5 day)	220	mg/L	
G028525	M165902	RV 10 - A (Influent)	29-Aug-2023	BOD (5 day)	201	mg/L	
G028526	M166048	RV 10 - A (Influent)	31-Aug-2023	BOD (5 day)	326	mg/L	BOD-02, BOD-03, G-01
G028527	M166060	RV 10 - A (Influent)	1-Sep-2023	BOD (5 day)	191	mg/L	G-01
G029306	M166207	RV 10 - A (Influent)	4-Sep-2023	BOD (5 day)	190	mg/L	
G029305	M166206	RV 10 - A (Influent)	5-Sep-2023	BOD (5 day)	182	mg/L	
G029307	M166364	RV 10 - A (Influent)	7-Sep-2023	BOD (5 day)	193	mg/L	
G029308	M166364	RV 10 - A (Influent)	8-Sep-2023	BOD (5 day)	373	mg/L	
G030247	M166547	RV 10 - A (Influent)	11-Sep-2023	BOD (5 day)	213	mg/L	
G030248	M166543	RV 10 - A (Influent)	12-Sep-2023	BOD (5 day)	230	mg/L	
G030249	M166773	RV 10 - A (Influent)	14-Sep-2023	BOD (5 day)	140	mg/L	
G030250	M166774	RV 10 - A (Influent)	15-Sep-2023	BOD (5 day)	81	mg/L	
G031075	M166929	RV 10 - A (Influent)	18-Sep-2023	BOD (5 day)	363	mg/L	
G031076	M166929	RV 10 - A (Influent)	19-Sep-2023	BOD (5 day)	525	mg/L	
G032231	M167052	RV 10 - A (Influent)	21-Sep-2023	BOD (5 day)	241	mg/L	BOD-02, BOD-03, G-01
G032232	M167053	RV 10 - A (Influent)	22-Sep-2023	BOD (5 day)	167	mg/L	G-01
G028032	M165583	RV 10 - B (Effluent)	22-Aug-2023	BOD (5 day)	30	mg/L	
G028525	M165900	RV 10 - B (Effluent)	29-Aug-2023	BOD (5 day)	32	mg/L	
G029306	M166204	RV 10 - B (Effluent)	4-Sep-2023	BOD (5 day)	29	mg/L	
G030248	M166544	RV 10 - B (Effluent)	12-Sep-2023	BOD (5 day)	41	mg/L	
G031076	M166929	RV 10 - B (Effluent)	19-Sep-2023	BOD (5 day)	61	mg/L	
G028032	M165579	RV 10 - B (Effluent)	22-Aug-2023	Carbonaceous BOD (5 day)	27	mg/L	
G028525	M165897	RV 10 - B (Effluent)	29-Aug-2023	Carbonaceous BOD (5 day)	25	mg/L	
G029306	M166201	RV 10 - B (Effluent)	4-Sep-2023	Carbonaceous BOD (5 day)	26	mg/L	
G030248	M166541	RV 10 - B (Effluent)	12-Sep-2023	Carbonaceous BOD (5 day)	36	mg/L	
G031076	M166976	RV 10 - B (Effluent)	19-Sep-2023	Carbonaceous BOD (5 day)	30	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G028031	M165649	RV 10 - A (Influent)	21-Aug-2023	Total Suspended Solids	104	mg/L	
G028032	M165650	RV 10 - A (Influent)	22-Aug-2023	Total Suspended Solids	171	mg/L	
G028033	M165781	RV 10 - A (Influent)	24-Aug-2023	Total Suspended Solids	157	mg/L	
G028034	M165782	RV 10 - A (Influent)	25-Aug-2023	Total Suspended Solids	91	mg/L	
G028524	M165949	RV 10 - A (Influent)	28-Aug-2023	Total Suspended Solids	198	mg/L	
G028525	M165949	RV 10 - A (Influent)	29-Aug-2023	Total Suspended Solids	156	mg/L	
G028526	M166116	RV 10 - A (Influent)	31-Aug-2023	Total Suspended Solids	93	mg/L	
G028527	M166117	RV 10 - A (Influent)	1-Sep-2023	Total Suspended Solids	96	mg/L	
G029306	M166251	RV 10 - A (Influent)	4-Sep-2023	Total Suspended Solids	175	mg/L	
G029305	M166251	RV 10 - A (Influent)	5-Sep-2023	Total Suspended Solids	124	mg/L	
G029307	M166474	RV 10 - A (Influent)	7-Sep-2023	Total Suspended Solids	150	mg/L	
G029308	M166474	RV 10 - A (Influent)	8-Sep-2023	Total Suspended Solids	138	mg/L	
G030247	M166575	RV 10 - A (Influent)	11-Sep-2023	Total Suspended Solids	85	mg/L	
G030248	M166575	RV 10 - A (Influent)	12-Sep-2023	Total Suspended Solids	77	mg/L	
G030249	M166868	RV 10 - A (Influent)	14-Sep-2023	Total Suspended Solids	89	mg/L	
G030250	M166847	RV 10 - A (Influent)	15-Sep-2023	Total Suspended Solids	85	mg/L	
G031075	M167022	RV 10 - A (Influent)	18-Sep-2023	Total Suspended Solids	188	mg/L	
G031076	M167023	RV 10 - A (Influent)	19-Sep-2023	Total Suspended Solids	168	mg/L	
G032231	M167170	RV 10 - A (Influent)	21-Sep-2023	Total Suspended Solids	130	mg/L	
G032232	M167170	RV 10 - A (Influent)	22-Sep-2023	Total Suspended Solids	225	mg/L	
G028032	M165690	RV 10 - B (Effluent)	22-Aug-2023	Total Suspended Solids	25	mg/L	
G028525	M166013	RV 10 - B (Effluent)	29-Aug-2023	Total Suspended Solids	27	mg/L	
G029306	M166343	RV 10 - B (Effluent)	4-Sep-2023	Total Suspended Solids	24	mg/L	
G030248	M166577	RV 10 - B (Effluent)	12-Sep-2023	Total Suspended Solids	25	mg/L	
G031076	M166995	RV 10 - B (Effluent)	19-Sep-2023	Total Suspended Solids	24	mg/L	
G028031	M165584	RV 11 - A (Influent)	21-Aug-2023	BOD (5 day)	376	mg/L	
G028032	M165584	RV 11 - A (Influent)	22-Aug-2023	BOD (5 day)	366	mg/L	
G028033	M165732	RV 11 - A (Influent)	24-Aug-2023	BOD (5 day)	308	mg/L	G-01
G028034	M165732	RV 11 - A (Influent)	25-Aug-2023	BOD (5 day)	341	mg/L	G-01

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G028524	M165902	RV 11 - A (Influent)	28-Aug-2023	BOD (5 day)	295	mg/L	
G028525	M165902	RV 11 - A (Influent)	29-Aug-2023	BOD (5 day)	378	mg/L	
G028526	M166048	RV 11 - A (Influent)	31-Aug-2023	BOD (5 day)	332	mg/L	G-01
G028527	M166060	RV 11 - A (Influent)	1-Sep-2023	BOD (5 day)	313	mg/L	G-01
G029306	M166207	RV 11 - A (Influent)	4-Sep-2023	BOD (5 day)	325	mg/L	
G029305	M166206	RV 11 - A (Influent)	5-Sep-2023	BOD (5 day)	273	mg/L	
G029307	M166364	RV 11 - A (Influent)	7-Sep-2023	BOD (5 day)	306	mg/L	
G029308	M166364	RV 11 - A (Influent)	8-Sep-2023	BOD (5 day)	583	mg/L	
G030247	M166547	RV 11 - A (Influent)	11-Sep-2023	BOD (5 day)	511	mg/L	BOD-02, BOD-03
G030248	M166548	RV 11 - A (Influent)	12-Sep-2023	BOD (5 day)	592	mg/L	
G030249	M166773	RV 11 - A (Influent)	14-Sep-2023	BOD (5 day)	291	mg/L	
G030250	M166774	RV 11 - A (Influent)	15-Sep-2023	BOD (5 day)	1890	mg/L	
G031075	M166929	RV 11 - A (Influent)	18-Sep-2023	BOD (5 day)	1190	mg/L	
G031076	M166929	RV 11 - A (Influent)	19-Sep-2023	BOD (5 day)	1250	mg/L	
G032231	M167052	RV 11 - A (Influent)	21-Sep-2023	BOD (5 day)	521	mg/L	BOD-02, BOD-03, G-01
G032232	M167053	RV 11 - A (Influent)	22-Sep-2023	BOD (5 day)	294	mg/L	G-01
G028032	M165582	RV 11 - B (Effluent)	22-Aug-2023	BOD (5 day)	196	mg/L	Ratio
G028525	M165901	RV 11 - B (Effluent)	29-Aug-2023	BOD (5 day)	203	mg/L	Ratio
G029306	M166204	RV 11 - B (Effluent)	4-Sep-2023	BOD (5 day)	231	mg/L	Ratio
G030248	M166543	RV 11 - B (Effluent)	12-Sep-2023	BOD (5 day)	256	mg/L	
G031076	M166981	RV 11 - B (Effluent)	19-Sep-2023	BOD (5 day)	183	mg/L	Ratio
G028032	M165579	RV 11 - B (Effluent)	22-Aug-2023	Carbonaceous BOD (5 day)	232	mg/L	Ratio
G028525	M165897	RV 11 - B (Effluent)	29-Aug-2023	Carbonaceous BOD (5 day)	217	mg/L	Ratio
G029306	M166201	RV 11 - B (Effluent)	4-Sep-2023	Carbonaceous BOD (5 day)	262	mg/L	Ratio
G030248	M166541	RV 11 - B (Effluent)	12-Sep-2023	Carbonaceous BOD (5 day)	247	mg/L	
G031076	M166974	RV 11 - B (Effluent)	19-Sep-2023	Carbonaceous BOD (5 day)	297	mg/L	Ratio
G028031	M165650	RV 11 - A (Influent)	21-Aug-2023	Total Suspended Solids	60	mg/L	
G028032	M165650	RV 11 - A (Influent)	22-Aug-2023	Total Suspended Solids	31	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G028033	M165782	RV 11 - A (Influent)	24-Aug-2023	Total Suspended Solids	36	mg/L	
G028034	M165782	RV 11 - A (Influent)	25-Aug-2023	Total Suspended Solids	40	mg/L	
G028524	M165949	RV 11 - A (Influent)	28-Aug-2023	Total Suspended Solids	67	mg/L	
G028525	M165949	RV 11 - A (Influent)	29-Aug-2023	Total Suspended Solids	108	mg/L	
G028526	M166116	RV 11 - A (Influent)	31-Aug-2023	Total Suspended Solids	33	mg/L	
G028527	M166117	RV 11 - A (Influent)	1-Sep-2023	Total Suspended Solids	46	mg/L	
G029306	M166251	RV 11 - A (Influent)	4-Sep-2023	Total Suspended Solids	32	mg/L	
G029305	M166251	RV 11 - A (Influent)	5-Sep-2023	Total Suspended Solids	30	mg/L	
G029307	M166490	RV 11 - A (Influent)	7-Sep-2023	Total Suspended Solids	45	mg/L	
G029308	M166490	RV 11 - A (Influent)	8-Sep-2023	Total Suspended Solids	50	mg/L	
G030247	M166575	RV 11 - A (Influent)	11-Sep-2023	Total Suspended Solids	117	mg/L	
G030248	M166575	RV 11 - A (Influent)	12-Sep-2023	Total Suspended Solids	36	mg/L	
G030249	M166868	RV 11 - A (Influent)	14-Sep-2023	Total Suspended Solids	80	mg/L	
G030250	M166868	RV 11 - A (Influent)	15-Sep-2023	Total Suspended Solids	34	mg/L	
G031075	M166995	RV 11 - A (Influent)	18-Sep-2023	Total Suspended Solids	52	mg/L	
G031076	M166995	RV 11 - A (Influent)	19-Sep-2023	Total Suspended Solids	138	mg/L	C-02
G032231	M167170	RV 11 - A (Influent)	21-Sep-2023	Total Suspended Solids	40	mg/L	
G032232	M167170	RV 11 - A (Influent)	22-Sep-2023	Total Suspended Solids	42	mg/L	
G028032	M165690	RV 11 - B (Effluent)	22-Aug-2023	Total Suspended Solids	56	mg/L	
G028525	M166013	RV 11 - B (Effluent)	29-Aug-2023	Total Suspended Solids	41	mg/L	
G029306	M166343	RV 11 - B (Effluent)	4-Sep-2023	Total Suspended Solids	36	mg/L	
G030248	M166577	RV 11 - B (Effluent)	12-Sep-2023	Total Suspended Solids	33	mg/L	
G031076	M167023	RV 11 - B (Effluent)	19-Sep-2023	Total Suspended Solids	44	mg/L	
G029306	M166207	RV 12 - A (Influent)	4-Sep-2023	BOD (5 day)	447	mg/L	
G029305	M166207	RV 12 - A (Influent)	5-Sep-2023	BOD (5 day)	651	mg/L	BOD-02, BOD-03
G029307	M166367	RV 12 - A (Influent)	7-Sep-2023	BOD (5 day)	611	mg/L	
G029308	M166367	RV 12 - A (Influent)	8-Sep-2023	BOD (5 day)	582	mg/L	
G030247	M166547	RV 12 - A (Influent)	11-Sep-2023	BOD (5 day)	322	mg/L	
G030248	M166548	RV 12 - A (Influent)	12-Sep-2023	BOD (5 day)	616	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G030249	M166773	RV 12 - A (Influent)	14-Sep-2023	BOD (5 day)	281	mg/L	
G030250	M166773	RV 12 - A (Influent)	15-Sep-2023	BOD (5 day)	241	mg/L	
G031075	M166929	RV 12 - A (Influent)	18-Sep-2023	BOD (5 day)	957	mg/L	
G031076	M166981	RV 12 - A (Influent)	19-Sep-2023	BOD (5 day)	316	mg/L	
G032231	M167052	RV 12 - A (Influent)	21-Sep-2023	BOD (5 day)	248	mg/L	BOD-02, BOD-03, G-01
G032232	M167051	RV 12 - A (Influent)	22-Sep-2023	BOD (5 day)	290	mg/L	G-01
G031978	M167237	RV 12 - A (Influent)	25-Sep-2023	BOD (5 day)	321	mg/L	
G031979	M167237	RV 12 - A (Influent)	26-Sep-2023	BOD (5 day)	270	mg/L	
G031980	M167387	RV 12 - A (Influent)	28-Sep-2023	BOD (5 day)	328	mg/L	G-01
G031981	M167387	RV 12 - A (Influent)	29-Sep-2023	BOD (5 day)	302	mg/L	G-01
G029306	M166204	RV 12 - B (Effluent)	4-Sep-2023	BOD (5 day)	329	mg/L	
G030248	M166543	RV 12 - B (Effluent)	12-Sep-2023	BOD (5 day)	299	mg/L	
G031076	M166981	RV 12 - B (Effluent)	19-Sep-2023	BOD (5 day)	173	mg/L	Ratio
G031979	M167235	RV 12 - B (Effluent)	26-Sep-2023	BOD (5 day)	111	mg/L	Ratio
G029306	M166201	RV 12 - B (Effluent)	4-Sep-2023	Carbonaceous BOD (5 day)	325	mg/L	
G030248	M166541	RV 12 - B (Effluent)	12-Sep-2023	Carbonaceous BOD (5 day)	334	mg/L	
G031076	M166974	RV 12 - B (Effluent)	19-Sep-2023	Carbonaceous BOD (5 day)	202	mg/L	Ratio
G031979	M167232	RV 12 - B (Effluent)	26-Sep-2023	Carbonaceous BOD (5 day)	142	mg/L	Ratio
G029306	M166252	RV 12 - A (Influent)	4-Sep-2023	Total Suspended Solids	93	mg/L	
G029305	M166251	RV 12 - A (Influent)	5-Sep-2023	Total Suspended Solids	68	mg/L	
G029307	M166490	RV 12 - A (Influent)	7-Sep-2023	Total Suspended Solids	129	mg/L	
G029308	M166474	RV 12 - A (Influent)	8-Sep-2023	Total Suspended Solids	194	mg/L	
G030247	M166575	RV 12 - A (Influent)	11-Sep-2023	Total Suspended Solids	38	mg/L	
G030248	M166575	RV 12 - A (Influent)	12-Sep-2023	Total Suspended Solids	73	mg/L	
G030249	M166847	RV 12 - A (Influent)	14-Sep-2023	Total Suspended Solids	304	mg/L	
G030250	M166847	RV 12 - A (Influent)	15-Sep-2023	Total Suspended Solids	172	mg/L	
G031075	M166996	RV 12 - A (Influent)	18-Sep-2023	Total Suspended Solids	136	mg/L	
G031076	M167023	RV 12 - A (Influent)	19-Sep-2023	Total Suspended Solids	188	mg/L	

Report	Batch	Sample Name	Sampled	Analyte	Result	Units	Analysis Notes
G032231	M167170	RV 12 - A (Influent)	21-Sep-2023	Total Suspended Solids	52	mg/L	
G032232	M167170	RV 12 - A (Influent)	22-Sep-2023	Total Suspended Solids	41	mg/L	
G031978	M167328	RV 12 - A (Influent)	25-Sep-2023	Total Suspended Solids	176	mg/L	
G031979	M167328	RV 12 - A (Influent)	26-Sep-2023	Total Suspended Solids	89	mg/L	
G031980	M167502	RV 12 - A (Influent)	28-Sep-2023	Total Suspended Solids	332	mg/L	
G031981	M167503	RV 12 - A (Influent)	29-Sep-2023	Total Suspended Solids	280	mg/L	
G029306	M166344	RV 12 - B (Effluent)	4-Sep-2023	Total Suspended Solids	41	mg/L	
G030248	M166577	RV 12 - B (Effluent)	12-Sep-2023	Total Suspended Solids	44	mg/L	
G031076	M166995	RV 12 - B (Effluent)	19-Sep-2023	Total Suspended Solids	28	mg/L	
G031979	M167328	RV 12 - B (Effluent)	26-Sep-2023	Total Suspended Solids	29	mg/L	

APPENDIX II – Flow Meter Readings

ID	Date	Meter (gal)
RV1	25-Oct-2022	717712
RV1	28-Oct-2022	718708
RV1	4-Nov-2022	720995
RV1	11-Nov-2022	724743
RV1	17-Nov-2022	727569
RV2	24-Oct-2022	1422885
RV2	28-Oct-2022	1425365
RV2	4-Nov-2022	1429711
RV2	11-Nov-2022	1434333
RV2	18-Nov-2022	1439118
RV3	24-Oct-2022	518
RV3	28-Oct-2022	825
RV3	3-Nov-2022	1302
RV3	11-Nov-2022	0
RV3	17-Nov-2022	638
RV4	13-Feb-2023	410095
RV4	14-Feb-2023	410599
RV4	16-Feb-2023	411462
RV4	17-Feb-2023	411814
RV4	20-Feb-2023	413102
RV4	21-Feb-2023	413564
RV4	23-Feb-2023	413988
RV4	24-Feb-2023	414322
RV4	27-Feb-2023	414731
RV4	28-Feb-2023	415155
RV4	2-Mar-2023	416182
RV4	3-Mar-2023	416957
RV4	6-Mar-2023	418554
RV4	7-Mar-2023	419099
RV4	9-Mar-2023	419635
RV4	10-Mar-2023	419985
RV5	13-Feb-2023	19717
RV5	14-Feb-2023	20478
RV5	16-Feb-2023	22026
RV5	17-Feb-2023	22530
RV5	20-Feb-2023	24339
RV5	21-Feb-2023	24855
RV5	23-Feb-2023	26424
RV5	24-Feb-2023	26669
RV5	27-Feb-2023	28190
RV5	28-Feb-2023	28449
RV5	2-Mar-2023	29457

ID	Date	Meter (gal)
RV5	3-Mar-2023	30202
RV6	2-Feb-2023	2879370
RV6	6-Feb-2023	2901310
RV6	7-Feb-2023	2905200
RV6	9-Feb-2023	2914810
RV6	10-Feb-2023	2920980
RV6	13-Feb-2023	2934100
RV6	14-Feb-2023	2938970
RV6	16-Feb-2023	2955052
RV6	17-Feb-2023	2959760
RV6	20-Feb-2023	2976137
RV6	21-Feb-2023	2980720
RV6	23-Feb-2023	2987340
RV6	24-Feb-2023	2988022
RV6	27-Feb-2023	2996513
RV6	28-Feb-2023	3000018
RV6	2-Mar-2023	3008058
RV6	3-Mar-2023	3011283
RV7	5-Jun-2023	3371
RV7	6-Jun-2023	3374
RV7	8-Jun-2023	3382
RV7	9-Jun-2023	3385
RV7	12-Jun-2023	3395
RV7	13-Jun-2023	3400
RV7	15-Jun-2023	3407
RV7	16-Jun-2023	3408
RV7	20-Jun-2023	3426
RV7	22-Jun-2023	3432
RV7	23-Jun-2023	3435
RV7	26-Jun-2023	8290
RV7	27-Jun-2023	10652
RV7	28-Jun-2023	12765
RV7	29-Jun-2023	15030
RV7	30-Jun-2023	17354
RV8	2-Jun-2023	82168
RV8	5-Jun-2023	82571
RV8	6-Jun-2023	82571
RV8	8-Jun-2023	82628
RV8	9-Jun-2023	82704
RV8	12-Jun-2023	82967
RV8	13-Jun-2023	82967
RV8	15-Jun-2023	83098

ID	Date	Meter (gal)
RV8	16-Jun-2023	83156
RV8	20-Jun-2023	83741
RV8	22-Jun-2023	83859
RV8	23-Jun-2023	83916
RV8	26-Jun-2023	84531
RV8	27-Jun-2023	84662
RV8	29-Jun-2023	84745
RV8	30-Jun-2023	84801
RV9	2-Jun-2023	280855
RV9	5-Jun-2023	281177
RV9	6-Jun-2023	281252
RV9	8-Jun-2023	281340
RV9	9-Jun-2023	281415
RV9	12-Jun-2023	281709
RV9	13-Jun-2023	281782
RV9	15-Jun-2023	281988
RV9	16-Jun-2023	282167
RV9	19-Jun-2023	282589
RV9	20-Jun-2023	282658
RV9	22-Jun-2023	282771
RV9	23-Jun-2023	283009
RV9	26-Jun-2023	283373
RV9	27-Jun-2023	283471
RV9	29-Jun-2023	283815
RV9	30-Jun-2023	283958
RV10	22-Aug-2023	123910
RV10	25-Aug-2023	130800
RV10	29-Aug-2023	136411
RV10	1-Sep-2023	142112
RV10	5-Sep-2023	152660
RV10	8-Sep-2023	159800
RV10	12-Sep-2023	168870
RV10	15-Sep-2023	172116
RV11	22-Aug-2023	85575
RV11	25-Aug-2023	88400
RV11	29-Aug-2023	92104
RV11	1-Sep-2023	94169
RV11	5-Sep-2023	98052
RV11	8-Sep-2023	99428
RV11	12-Sep-2023	102650
RV11	15-Sep-2023	105712
RV12	28-Aug-23	0

ID	Date	Meter (gal)
RV12	1-Sep-2023	1182
RV12	5-Sep-2023	2315
RV12	7-Sep-2023	0
RV12	12-Sep-2023	1434
RV12	14-Sep-2023	2014