

Final Report

For Texas On-Site Sewage Facility (OSSF) Research Contract #582-19-96831

Evaluation of Equalized Dosing and High-Strength Wastewater
on the Performance of Aerobic Treatment Units

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Executive summary

The Texas Commission on Environmental Quality funded Texas A&M AgriLife Research to carry out an On-Site Sewage Facility (OSSF) research project under the Texas OSSF Grant Program (TOGP) solicitation No.: 582-19-93772. Research topics questioned the performance adequacy of National Sanitation Foundation - Standard 40 (SD40) approved Aerobic Treatment Unit (ATU) designs under increasing organic strength and the effect of dosing on SD40 ATU designs. AgriLife, under the guidance of the TOGP Advisory Committee, designed experimental procedures and carried out the research. ATU performance was evaluated based on effluent 5-day biochemical oxygen demand (BOD₅) and total suspended solids (TSS). Adequate performance thresholds were specified as 30 mg/L BOD₅ and 45 mg/L TSS. High strength conditions were defined as influent BOD₅ and TSS concentrations >300 mg/L.

Two identical fiberglass ATUs were installed at the Texas A&M University OSSF Research Center and operated in parallel, each emulating a 1500 ft² single-family dwelling using 225 gallons per day. Hydraulic flow was controlled through pump regulation and timing while organic strength was manipulated through organic substrate amendment additions. A SD40 demand schedule was imposed on one ATU and an equalized time schedule was imposed on the other. Ten 30-day experiments were carried out during which hydraulic flows were reduced by 20, 30, and 50% while organic concentrations were raised from <300 to >2900 mg/L BOD₅. Eight influent and effluent composite samples were collected for each experiment and analyzed in a commercial laboratory for BOD₅ and TSS using standard methods.

The results suggest that the experimental ATUs receiving the lower influent flows and higher organic concentrations imposed were generally able to achieve BOD₅ concentrations meeting minimum treatment requirements, however additional information is necessary to statistically verify this conclusion. The results also suggest that differences between demand and time dosed ATUs were minimal for both BOD₅ and TSS effluent concentrations. However further research is recommended to examine additional flow rates and experimental time-dose conditions, including changes in daily flows, to verify this conclusion.

The experimental ATUs installed at the Texas A&M OSSF Research Center will be maintained for future education, professional training, and research, dependent upon available funding.

Introduction and background

In January of 2019, the Texas Commission on Environmental Quality (TCEQ) invited applications for eligible On-Site Sewage Facility (OSSF) research projects under the Texas OSSF Grant Program's (TOGP) grant solicitation No.: 582-19-93772. 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 two of four eligible research topics of interest; RT-2.3.1 questioning the performance adequacy of National Sanitation Foundation - Standard 40 (SD40) approved Aerobic Treatment Unit (ATU) designs under increasing organic strength, and RT-2.3.2 questioning the effect of dosing on SD40 ATU designs (Figure 1).

2.3.1 - Adequacy of Current Designs with Higher Strength Wastewater

With increasing water conservation and graywater reuse, the organic strength of typical household wastewater is expected to increase. Research is needed to determine how this trend could affect treatment devices currently used in Texas. The research should focus on how either Standard 40 approved units or other emerging technologies perform with higher strength wastewater. The research should be appropriate to the type of treatment technologies commonly used in Texas and should include a demonstration. The demonstration should evaluate a range of wastewater strength for a period that is adequate to reflect normal operations.

2.3.2 - Dosing vs. Non-Dosing

Equalized dosing over time is commonly used for treatment systems in OSSFs receiving high-strength wastewater. The assumption is that the uniform loading will improve the performance of the treatment units. Research is needed to determine how effective equalized dosing is to the performance of the treatment unit. The research should be appropriate to the type of treatment technologies commonly used in Texas and should include a demonstration. The demonstration should include two identical units: one loaded by equalized dosing and one loaded in accordance with the National Sanitation Foundation (NSF) Standard 40 design loading schedule. The test should evaluate a range of wastewater strength for a period that is adequate to reflect normal operations. Equalized dosing should incorporate as small doses as are reasonably practical and be equally spaced throughout the day. Consideration should be given to whether the test should use higher strength influent to accentuate the potential improvement provided by equalized dosing.

Figure 1 - TCEQ grant solicitation #582-19-93772 language describing eligible ATU research topics.

AgriLife proposed addressing both topics simultaneously due to the inherent relationships among wastewater concentration, flow, and dosing methods. The proposal was selected for funding and a contract was established between TCEQ and AGRILIFE beginning 1 September 2019.

An initial TOGP Committee Meeting was organized and held at the Texas A&M RELIS Campus on September 12, 2021. Twenty-four people representing academia, the onsite wastewater industry, and TCEQ-OSSF officials met to discuss funded projects. The ATU project intent and proposed experimental approach were presented. Based on the ensuing discussion and input from meeting participants (i.e., the TOGP Advisory Committee), three decisions were made regarding this project; 1) the use of ATUs manufactured by Clearstream, and 2) the adoption of proposed experimental test scenarios (i.e., organic strengths and dosing schedules) based on Texas administrative Code Chapter 285 rules, and 3) evaluation methods based on modified NSF/ANSI Standard 40 specifications.

Specific project goals were to 1) determine influent concentration at which an approved ATU is unable to attain effluent quality criteria specified in SD40 when demand loaded with increasing strength wastewater under normal and reduced flow; and 2) determine if influent equalized time dosing of a SD40 approved ATU, when loaded with increasing strength wastewater, at standard and reduced flows, improves ability to meet effluent quality criteria specified by SD40. The following project objectives were defined.

1. Identify the most commonly used ATU in Texas based on permits and expert opinion
2. Select experimental scenarios to be tested based on feedback from TOGP leadership
3. Install two identical ATUs at the AgriLife OSSF research center in Bryan, TX
4. Install two constant-rate, timer-controlled pump systems for manipulating influent flow
5. Install a mixing tank upstream of ATUs for manipulating influent organic concentration
6. Define hypothesis and null hypothesis for each flow, concentration, and dosing method
7. Use adaptive data analysis to refine target loading values for planned experiments
8. Assess ATU performance adequacy and differences by BOD₅ and TSS response
9. Prepare progress reports and a final summary report describing all results and findings

Materials and methods

Experimental aerobic treatment unit selection

AgriLife noted that many of the systems listed on the TCEQ approved products website contained multiple components within one large tank (i.e., trash, aeration & clarifier or trash, aeration, clarifier & pump tank, etc.). An approved aerobic treatment product containing only the aeration and clarifier within one tank was required due to the existing RELLIS OSSF experimental plumbing configuration. The Texas A&M AgriLife Extension OSSF database was used to develop a list of the top-5 Texas counties containing the greatest numbers of installed ATUs. These included: Montgomery, Comal, Harris, Collin, and Brazoria counties. The TCEQ septic permitting website was consulted to identify Designated Authorities (DA) for each county. Phone interviews with DA's indicated that the most common (i.e., numerous) ATU's of the required configuration were manufactured by ClearStream, ProFlow, and EnviroFlo. Further discussion with and consideration by the TOGP Advisory Committee led to the decision to utilize ATUs manufactured by ClearStream. The ClearStream 500N aerobic wastewater system was deemed best suited for experimental goals and RELLIS OSSF conditions (Figure 2).



Figure 2- ClearStream 500N ATUs delivered to the TAMU OSSF research facility in Bryan, TX.

Experimental design

General approach

AgriLife proposed addressing two research topics simultaneously in order to minimize influent condition variation and to reduce experimental costs. Feeding both ATUs with the same influent stream insured that both treatments (i.e., demand vs time dosing) received the same input. The single influent stream also reduced both plumbing and sample analysis costs. Figure 3 shows the “Topic Matrix” presented to the Advisory Committee for consideration and development of experimental methods. Increasing organic strength due to water conservation and reuse was addressed as Topic 1 while demand vs time dosing method was addressed as Topic 2. Eight experiments were proposed during which the hydraulic flow rate would be reduced through pump regulation while organic strength (i.e., concentration) would be increased by adding organic materials to the raw wastewater influent stream.

		Topic 2 - Dosing Method	
		Demand	Time
Topic 1 – Organic strength (BOD ₅ , TSS)	Design	ATU Baseline (adequate based on NSF/ANSI)	Does ATU performance improve ?
	Increasing	Is ATU design adequate* for use?	Does ATU performance improve ?

*Adequate = meets NSF/ANSI 40 effluent requirements

Figure 3- Experimental topic matrix of the research

Rules and specifications found in the Texas Administrative Code Chapter 285 (TAC 285) and the NSF/ANSI 40 – 2018 Residential Wastewater Treatment System standard (SD40) were used to choose experimental flows and concentrations and define system performance evaluation methods (TCEQ, 2017; NSF/ANSI, 2018). TAC 285 was used to define normal ATU flow, determine expected hydraulic flow reductions, and determine expected organic concentration increases due to water conservation and reuse. SD40 was used to define the initial ATU hydraulic flow as well as the demand dosing schedule and minimum effluent requirements.

Hydraulic flow determination

TAC 285.91(3) was used to define the experimental ATU wastewater usage rate emulating a single-family dwelling of less than 1500 square feet, with and without, water savings (Table 1). These values were used to define the “normal” ATU daily flow rate of 225 gallons per day (gpd) and experimental flow rate reductions (i.e., rates <225 gpd). Further experimental flow reductions due to greywater reuse or combined reuse systems were defined by values found in TAC 285.81(I), shown in Table 2.

Table 1- TAC 285 wastewater usage rates

Type Of Facility	Usage Rate Gallons/Day (Without Water Saving Devices)	Usage Rate Gallons/Day (With Water Saving Devices)
Single family dwelling (one or two bedrooms)- less than 1,500 square feet.	225	180

Table 2- TAC 285 potential percent flow reductions

Sewage sources entering the graywater reuse system or combined reuse system	Potential percent reduction to the effluent disposal system required in §285.33 of this title
Clothes-washing machine only	20
Showers, bathtubs, hand- washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	30
Clothes-washing machines, showers, bathtubs, hand- washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	50

Hydraulic dosing determination

The SD40 was used to define the hydraulic demand dosing schedule which is shown in Table 3. The experimental equalized time dosing was defined as 1/24 of the daily hydraulic flow per hour. Additionally, the SD40 specified that no individual dose could be greater than 10 gallons.

Table 3- ANSI/NSF 40 hydraulic schedule requirements

Time Frame	% rated daily hydraulic capacity
6:00 am to 9:00 am	Approximately 35
11:00 am to 2:00 pm	Approximately 25
5:00 pm to 8:00 pm	Approximately 40

Organic strength determination

Texas Administrative Code Chapter 285.81(d) adjusted organic strength values resulting from the use of water conserving devices and greywater reuse (Table 4) were used to define experimental organic strength targets. Experiments were planned to examine four flow rates at eight organic strengths under the two dosing schemes. Based on these inputs, proposed flow vs concentration experiments were presented to and approved by the TOGP Advisory Committee (Table 5).

Table 4- TAC 285 Adjusted organic strengths associated with greywater and reuse

Sewage sources entering a graywater reuse system or a combined reuse system	Five-day Biochemical Oxygen Demand (BOD) design strength for sewage entering on-site sewage facilities milligrams per liter (mg/l)
Clothes-washing machine only	375
Showers, bathtubs, hand- washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	430
Showers, bathtubs, hand- washing lavatories, and sinks that are not used for the disposal of hazardous or toxic ingredients	600

Table 5- Planned experimental design – flow reductions and concentration increases required to produce theoretical loads with the same flow and concentration applied to ATU's receiving different dosing schedules (i.e., demand vs time). Note bolded load values exceed the experimental ATUs design rating.

Proposed experimental scenarios for research Topics 1 (reduced flow) and 2 (dosing method)					
Experiment	Unit A (Demand dose)		Unit B (Time dose)		Load
	[gal/day]	[mg/L]	[gal/day]	[mg/L]	[lb/day]
1	225.0	300	225.0	300	0.56
2	180.0	375	180.0	375	0.56
3	157.5	430	157.5	430	0.56
4	112.5	600	112.5	600	0.56
5	112.5	800	112.5	800	0.75
6	112.5	900	157.5	900	1.18
7	112.5	1000	180.0	1000	1.50
8	112.5	1000	225.0	1000	1.88

Performance adequacy determination

Experimental ATU performance adequacy was defined by SD40 specifications. The wastewater treatment effluent requirements, based on 24-hour composite samples, include a 30-day average of CBOD₅ concentration not exceeding 25 mg/L and a 30-day average of TSS concentration not exceeding 45 mg/L. Note that the influent requirements specified by the SD40 are for BOD₅ while those specified for the effluent are for CBOD₅. As BOD₅ measures both carbonaceous biochemical oxygen demand (CBOD) and nitrogenous biochemical oxygen demand (NBOD), the decision to measure BOD₅ for both influent and effluent was made by the research team and approved by the Advisory Committee. As CBOD₅ is typically 15-20% lower than BOD₅, a threshold of 30 mg/L BOD₅ was considered a conservative value for indicating sufficient treatment.

Each 30-day planned experiment was made up of a 1-week equilibration period, a 2-week sampling period, and a 1-week evaluation period to allow for changes in hydraulic flow, organic strength adjustments, sample analysis, and data examination. A total of eight samples were collected during each experiment and analyzed for BOD₅ and TSS in an accredited laboratory (i.e., AquaTech in Bryan, TX) using Standard Methods.

Plumbing and operation of experimental ATU treatment trains

General description

The research was carried out at the TAMU OSSF Research Center on the RELLIS Campus in Bryan, Texas. Figure 4 depicts the general layout of experimental treatment trains present. The Center's experimental plumbing configuration dictated need for an ATU design with aeration and clarifier in the same tank. The Clearstream N series met this requirement. Two identical fiberglass ATUs (Model 500N, ClearStream, Lumberton, TX – Figure 5) were installed and operated in parallel. The 500-gallon size was selected based on available space and existing influent flow metering configuration, Trash Tank configuration, and influent Pump Tank configuration which are described later in this report. Additionally, the 500-gallon size met operational limitations of the available waste stream and cost budget of organic amendment materials while simultaneously providing realistic simulation of conditions present in a single bedroom home of less than 1500 square feet. The units used different dosing schedules (i.e., demand and time) but received the same influent volumes delivered from the common Pump Tank supplying both units.



Figure 4- Aerial view of the TAMU OSSF Research Center with treatment train layouts

DESIGN DRAWINGS

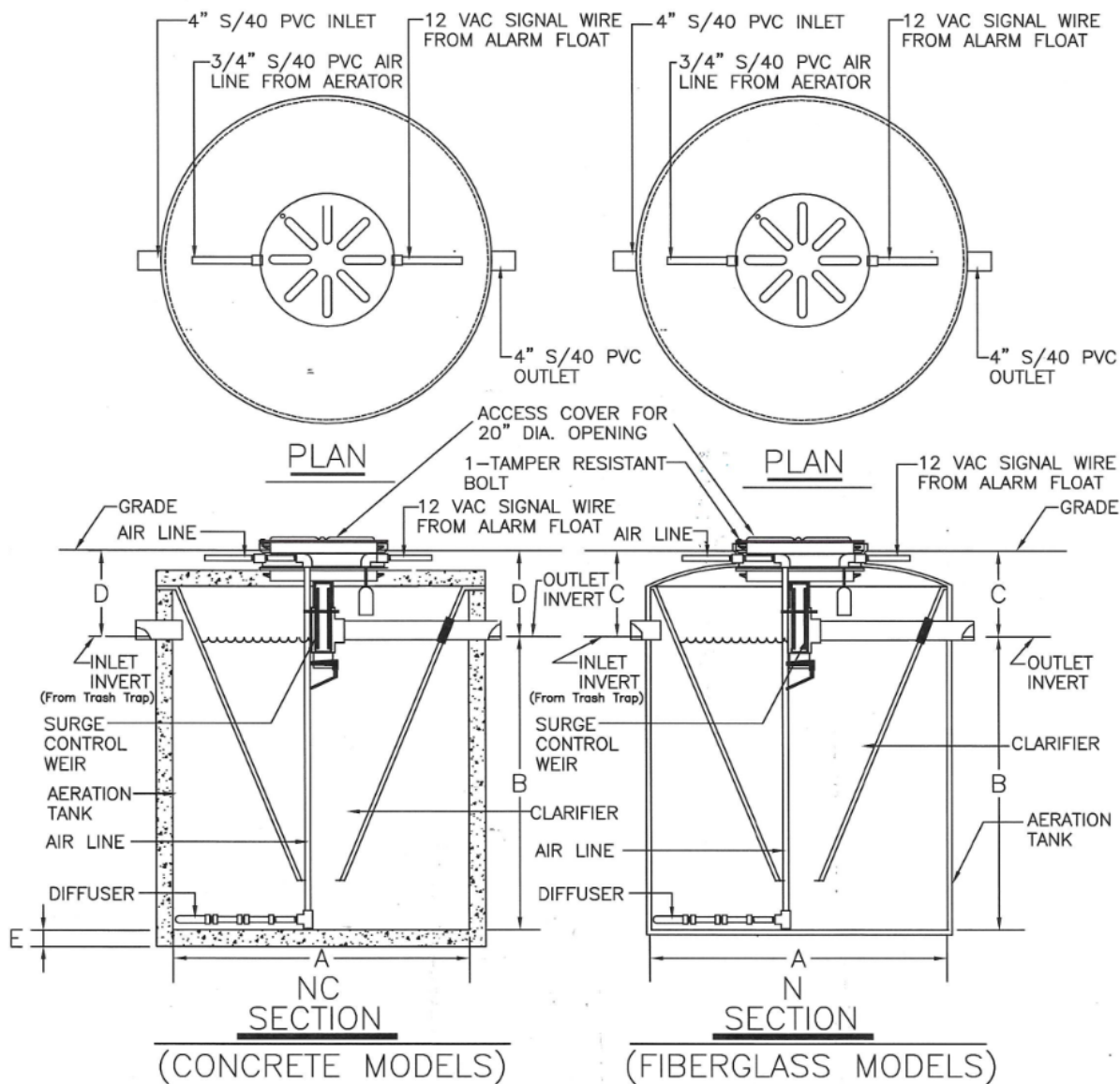


Figure 5- Aerobic wastewater treatment system used for research (Model 500N, ClearStream, Lumberton, TX)

Raw wastewater source

Raw wastewater from the TAMU RELLIS Campus was used to supply the TAMU OSSF Research Center. A main sewer line running near the Center was tapped and routed to a “Lift Station” (Figure 6-a) which then provided influent for several experimental treatment trains operating on the OSSF. Raw sewage was pumped on demand from the Lift Station to a “Feed Tank” (Figure 6-b) where it was routed to different experimental treatment trains (Figure 4). During experimental periods, grab samples were collected at the Lift Station and Feed Tank.



Figure 6- a) RELLIS sewer line and Lift Station, b) OSSF Feed Tank

ATU influent metering

Flow to the ATU treatment train required volumetric metering in order to calculate the organic amendment dose amounts required to raise BOD₅ concentrations to experimental target values. Influent metering was accomplished by the use of a pump/reservoir/siphon/valve arrangement. The Feed Tank pump was activated hourly by a timer to overfill a reservoir (Figure 7-a). Overflow returned to the Feed Tank. When the pump cycled off, a siphon was created removing water from the reservoir to a calibrated volume. Finally, a second timer opened an automated valve (Figure 7-b) and delivered the dose to the ATU treatment train. After draining the reservoir, the valve was closed in preparation for the next cycle. Influent volumes (i.e., gpd), determined by individual experiment requirements, were sufficient to supply both ATU daily requirements plus a small amount of overflow which was returned to the RELLIS waste stream.



Figure 7- a) ATU influent metering reservoir, b) automated valve.

ATU plumbing and dose metering

The ATU treatment train, supplied by the Feed Tank, consisted of a 1000-gallon septic tank, configured as a 750-gallon “Trash Tank” followed by a 250-gallon “Pump Tank”, supplying both ATU’s (Figure 8 and Figure 9-b) . Separate pumps operated by programmable logic controllers (PLC - Figure 9 - a), with 1 second time resolution, delivered the required daily flow volume as a function of time on/off at a constant pump rate.

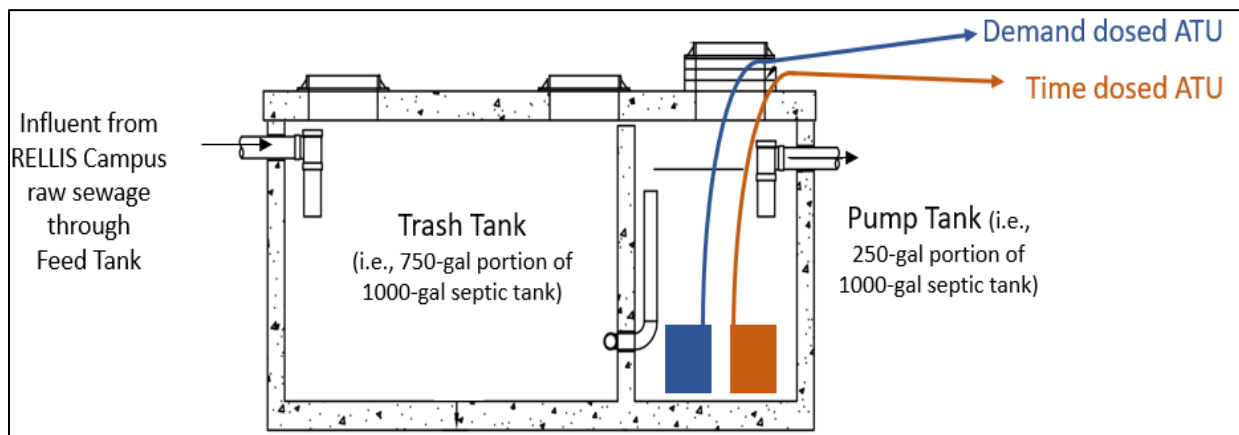


Figure 8- Diagram of 1000 gallon septic tank configured as the ATU influent trash tank and pump tank.

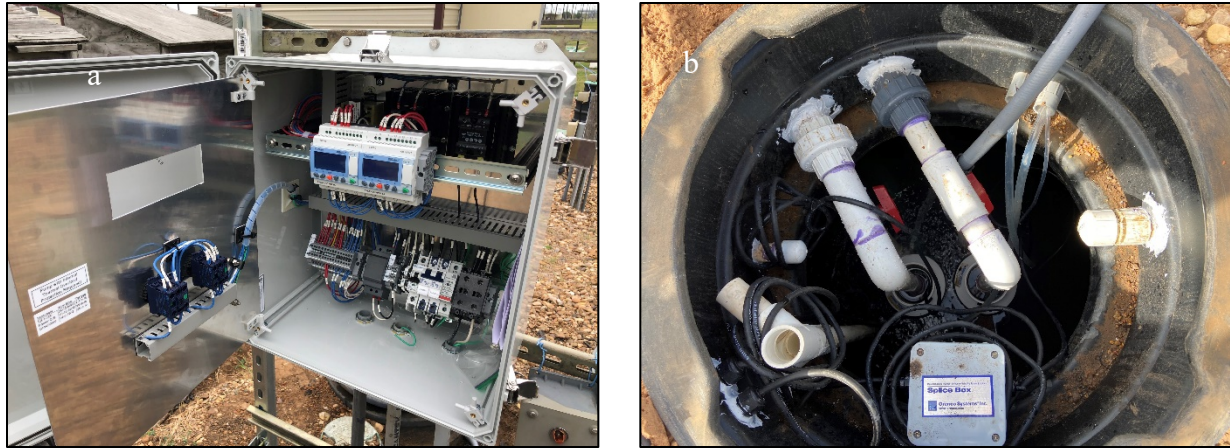


Figure 9- a) Programmable logic controllers b) view inside ATU common pump tank

ATU pump rates were calibrated to ~5 gallons per minute using a pressure regulator/restricted orifice flow regulator arrangement (Figure 10-a). Flow meters were installed to measure influent volumes delivered to each ATU required for calculating organic loading (Figure 10-b). Daily influent volumes were logged by the PLCs. An overall ATU plumbing diagram is presented in Figure 11 which depicts the general flow, sampling points, and amendment points.



Figure 10- a) Restricted orifice flow regulators, b) electronic flow meters

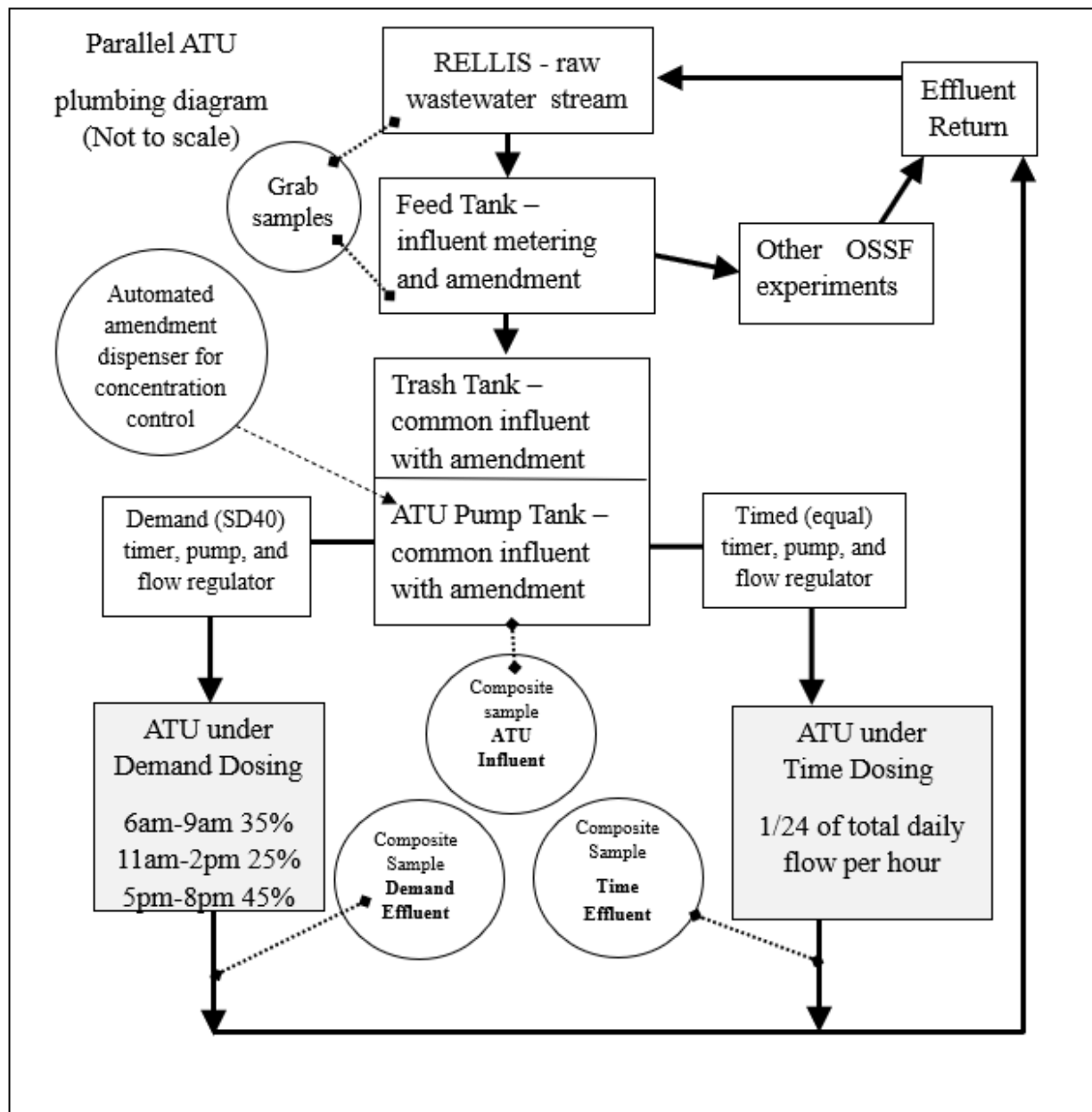


Figure 11- Aerobic treatment train plumbing, amendment, and sampling configuration.

Synthetic high strength wastewater formulation

Several materials were considered for producing synthetic high strength wastewater (SHSW) needed to raise ATU influent organic concentrations. BOD₅ was used as the response variable. Food industry literature was searched for potential amendment materials and published BOD₅ ranges. Animal processing waste (i.e., blood) and dairy products (i.e., milk) were considered first due to reported high BOD₅ demands associated with industry wastewaters (Carawan et al., 1979; Bistillo and Mehrvar, 2017). Waste blood was found to be problematic from both a supply and a handling perspective. Local producers that could regularly provide similar blood products (i.e., same animal type) were unavailable. Handling was also complicated due to timing (i.e., slaughter and experimental schedules), physical (i.e., collection, transport, storage), and measurement (i.e., volumetric and BOD₅ determination) issues. For these reasons, the use of waste blood products was abandoned.

Various milk products (i.e., whole milk, skim milk, fresh, powdered, etc.) were also considered. Fresh milk products were ruled out due to cost and handling issues. Dried milk products however offered an ideal material from multiple reasons: availability, relatively low-cost, convenient storage, ease of handling, and high BOD₅ and TSS. A low temperature, low-fat dehydrated milk (MMPA Grade-A Low Heat Nonfat Dry Milk: Food Services Direct, Inc.) was selected to provide a combined complex sugar (i.e., lactose), protein, fat, and mineral source.

Dextrose (i.e., glucose derived from corn) has been used in synthetic wastewater formulations (O' Flaherty and Gray, 2013) and was found to be acceptable as a simple organic substrate for raising ATU BOD₅. Like the powdered skim milk, dextrose offered an ideal material due to its availability, low cost, easy storage, and handling requirements, and similar high BOD₅.

A grain-based animal feed (GBF) was selected to provide additional BOD₅ to the experimental systems. A modified GBF (PP Lay Crumble – Producers Cooperative, Bryan, Texas) specially designed for amending the Texas A&M Wastewater facility wastewater stream between semesters, when the student population is low, and the treatment plant requires BOD supplementation to keep microbial populations alive (Table 6). This material also provided some oils, fats, vitamins, and minerals necessary for healthy microbial growth. No amendment materials specific to fats, oil,

and grease were included in the SHSW due to the small amounts already supplied by the milk and GBF materials.

Table 6- Ingredient list and percent composition of grain-based animal feed amendment

PP LAY CRUMBLE – Producer’s Cooperative, Bryan, TX	
Ingredient	% by wt.
Corn	55.00
Soybean meal - 48%	22.00
Calcium carbonate	8.00
Rice bran	7.50
Liquid molasses binder	2.50
Dehydrated alfalfa, 17%	2.00
Corn gluten meal	1.60
Monocalcium phosphate, 21%	0.70
Salt mix	0.45
Poultry vitamin mix	0.15
D-L-Methionine 98%	0.05
Choline chloride	0.05
Total	100.00

Relationships between concentration and BOD₅ were determined in the laboratory for dextrose, skim milk, and GBF. A concentrated stock solution was prepared by mixing a measured mass of each material in deionized water. Standard curves were prepared from serially diluted stock and analyzed for BOD₅. The resulting relationships between amendment concentration and BOD₅ were used to calculate the amount of each amendment required to produce a desired BOD₅ in the ATU influent stream. Appendix 2 contains laboratory results collected for SHSW development.

Experimental procedures

Scheduling

A series of 10 experiments were conducted between December 2020 and August 2021. Each experiment planned for a 30-day period which included an equilibration period, a sampling period with 8 sampling days, and an evaluation period. Experiment 1 encompassed the ATU “startup” period during which influent metering (both from the Feed Tank and Pump Tank) operation,

amendment dosing, and sample collection methods were under development. Additionally, during this time, bacterial populations were being established in the ATUs. For these reasons, Experiment 1 is not considered representative of actual ATU performance. Experiments 2-5 were also considered developmental as they represent baseline conditions (Experiment 2), atypical weather conditions (Experiment 3), and organic strength conditions <300 mg/L BOD₅. Experiments 6-10 represent low flow and high strength conditions. Experiments 9 and 10 were conducted back-to-back near the end of the contracting period to gather additional high-strength dosing data. As a result, they had <30 -day evaluation periods.

Dosing

One ATU received a “Demand” dose according to SD40 testing schedule (i.e., 3 doses within a 24-hour period, 35% of total daily flow between 6am and 9am, 25% between 11am and 2pm, and 40% between 5pm and 8pm). The other ATU received an equalized “Time” dose (i.e., 1/24 of total daily flow per hour). All individual sub-doses for both systems were held to less than 10 gallons and an inflow rate less than 5 gallons per minute.

Organic amendments

The RELIS Campus raw waste stream was found to be generally low in organic concentration (<100 mg/L BOD₅). In order to raise this to a level required for the various research projects underway at the OSSF Research Center (i.e., between 200 and 300 mg/L), a grain-based animal feed was added, by hand, to the Feed Tank (Figure 12) supplying all RELIS OSSF projects.



Figure 12- Adding grain-based animal feed to Feed Tank to raise BOD₅ concentration.

The ATU project required higher influent organic concentrations than the other OSSF projects being supplied by the Feed Tank. In order to accomplish this, dextrose and milk amendments were added to deionized water to prepare a concentrated solution for dispensing directly into the ATU Pump Tank. A ratio of 70% dextrose to 30% milk was found to be effective from both cost and volumetric management perspectives. Amendment amounts required to produce stock solutions at desired concentrations for each experiment were determined by considering multiple variables including incoming Feed Tank BOD₅ concentration, ATU flow rate, ATU experimental BOD₅ target concentration, and the amendment dosing schedule.

An automated refrigerated water sampler (Avalanche, Teledyne-ISCO, Lincoln, NE) was configured to deliver a specific volume of the concentrated stock to the ATU Pump Tank (i.e., ATU influent) each hour (Figure 13). The sampler was plumbed backward so as to *deliver* a sample rather than *collect* a sample. Amendment doses were synchronized with the raw wastewater influent stream metered doses. As amendment solution was increased in concentration with each experiment, the change in solution density required ISCO automated dispenser volume adjustments.



Figure 13- ISCO refrigerated sampler configured to deliver liquid amendments to ATU Pump Tank.

Sample collection

The ATU treatment train was sampled at 5 locations including the Lift Station, Feed Tank, ATU common influent, ATU demand dose effluent, and ATU time dose effluent (Figure 14). On sampling days, grab samples were collected from the RELLIS campus wastewater stream at the Lift Station and the Feed Tank while composite samples (100 mL/hour x 24 hours) were collected from the ATU common influent and separate effluents using automated, refrigerated water samplers (Avalanche: Teledyne ISCO, Lincoln, NE). The influent sample represented the inflow to both ATU treatment trains (i.e., demand and time dosed) and was collected through a vinyl intake tube located near the center of the ATU Pump Tank (Figure 15-a). Effluent samples were collected at the exit point in each separate ATU (Figure 15-b). All collected samples were analyzed by a commercial laboratory (i.e., AquaTech, Bryan, TX) for BOD₅ and TSS concentration (APPENDIX 1 – Commercial laboratory results).

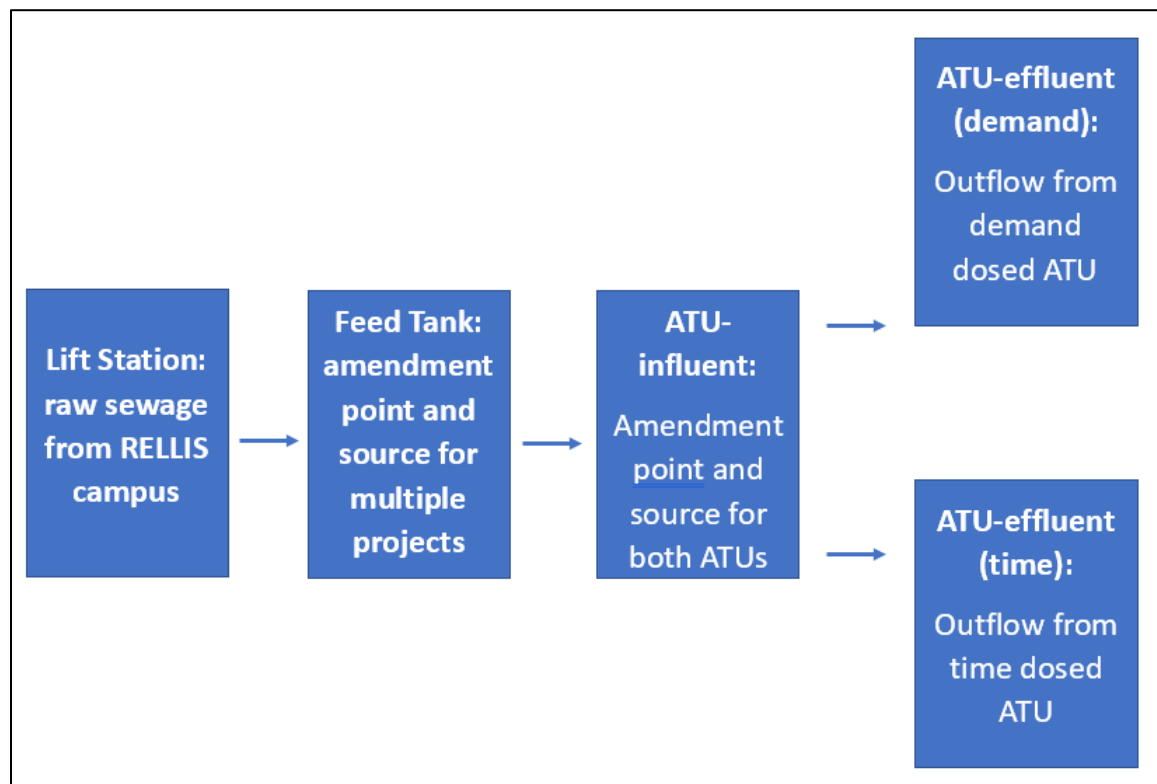


Figure 14- ATU treatment train sampling points



Figure 15- ATU effluent sampling point, technicians collecting the composite sample.

Statistical methods

Two questions were asked by the research. 1) does effluent from demand and time dosed ATUs meet SD40 minimum treatment requirements (i.e., 30-day average $BOD_5 < 30 \text{ mg/L}$ and 30-day average $TSS < 45 \text{ mg/L}$) under lowered hydraulic flow and increasing organic strength conditions?, and 2) are the effluent BOD_5 and TSS concentrations discharged from demand and time dosed treatments the same?

For question 1, one sample *t*-tests for a mean of less than 30 mg/L , at the 5% significance level ($p < 0.05$), were conducted for BOD_5 . One sample *t*-tests for a mean of less than 45 mg/L , at the 5% significance level ($p < 0.05$), were conducted for TSS.

For question 2. Two sample paired *t*-tests were conducted for BOD_5 and TSS measurements, at the 5% significance level ($p < 0.05$), between demand and time dosed ATUs. All statistical tests were carried out using R statistical software.

Results

Unplanned events and experimental adjustments

In March of 2020, just as the project was beginning, the COVID-19 pandemic began. TAMU imposed a mandatory shutdown of all university activities including field and laboratory research. This delayed installation and operational procedure development of the planned ATU research by nearly 8 months. However, AgriLife continued to work from home to plan experimental procedures, order and procure supplies, and evaluate synthetic wastewater amendment materials. As a result, all planned experiment schedules were adjusted to meet allotted project contract time requirements and two unplanned experiments (9 and 10) were conducted with compressed schedules (i.e., <30-day evaluation period).

In February of 2020, Texas experienced a significant freezing event which affected the state's power grid and caused major disruptions. During this time the OSSF Research Center suffered a 7-day power loss. All ATU research was curtailed due to the power issue and inability of personnel to visit the facility. As a result, only 6 sampling days were available for Experiment 3.

One automated sample was missed during Experiment 6 when the automated sampler failed to collect the composite sample for the Time Dosed ATU. This did not affect the overall analysis.

RELLIS raw waste stream amendment

Prior to the research, TAMU RELLIS Campus raw wastewater BOD₅ concentrations, measured at the TAMU OSSF Lift Station were found to be low. Typical monthly averages ranged between 80 and 100 mg/L. The OSSS Research Team required the incoming influent concentration to be between 200 and 300 mg/L BOD₅ for the intended research so the decision was made to add an organic amendment (i.e., grain-based animal feed) at the Feed Tank. Initially, large additions (~50 pounds) were made weekly. A significant response lag time was apparent, so smaller additions were made at more frequent intervals. After several months of experimentation, a daily addition of 10 pounds was found to be sufficient to raise the Feed Tank effluent organic concentration to near desired conditions. During the experimental period between December 2020 and August 2021

BOD₅ concentrations of the RELLIS raw waste stream remained highly variable ranging between 8 and 1260 mg/L and averaging 185 mg/L. Daily grain additions to the Feed Tank raised the average BOD₅ concentration to 364 mg/L.

ATU influent organic strength conditions

Over the 10 ATU experiments performed, influent organic concentrations, measured as BOD₅, were raised between 56% and 1493% above incoming RELLIS Campus raw sewage concentrations measured at the Lift Station (Table 7). This was accomplished through the addition of organic amendments (i.e., grain-based animal feed, skim milk, and dextrose) at the Feed Tank, Trash Tank, and Pump Tank. Liquid amendment amounts were determined by examining the BOD₅ concentration of each previous experiment, differences between RELLIS raw sewage influent at the Life Station and amended ATU Pump Tank concentrations, and laboratory-derived standard curves for amendment materials. Attaining specific BOD₅ target values was elusive.

Table 7- Experiment, number of samples (n), RELLIS Campus raw sewage 5-day Biochemical Oxygen Demand (BOD₅) concentration, SHSW amended influent BOD₅ concentration, and amended influent percentage increase.

Experiment	n	Average Raw Sewage Influent BOD ₅ [mg/L]	Average Amended Influent BOD ₅ [mg/L]	Amended Influent Percentage increase
1	8	56	230	311%
2	8	82	163	99%
3	6	123	403	228%
4	8	120	201	68%
5	8	122	190	56%
6	8	210	548	161%
7	8	261	461	77%
8	8	344	2943	756%
9	8	136	650	378%
10	8	60	956	1493%

ATU hydraulic flow reductions

ATU flows were reduced stepwise from the normal operational rate of 225 gpd to 80% (180 gpd), 70% (158 gpd) and 50% (112 gpd) by the plumbing configurations described earlier. The average flow values and percent reductions from normal operating flow for each experiment are shown in Table 8. Flow values for experiments 1-3 are theoretical and not actual measurements. Operational procedure and plumbing improvements allowed direct measurement of flows for experiments 4-10. The slightly higher than planned flow reductions seen in experiment 10 were due to power outages which temporarily reduced the daily flow on two separate days.

Table 8- Target and measured average hydraulic flows for demand and time dosed ATUs for all experiments.

Experiment	Target flow (gpd)	Target flow reduction (%)	Demand flow (gpd)	Demand flow reduction (%)	Time flow (gpd)	Time flow reduction (%)
1	225	0%	225	0%	225	0%
2	225	0%	225	0%	225	0%
3	180	20%	180	20%	180	20%
4	158	30%	156	31%	161	28%
5	158	30%	157	30%	157	30%
6	112	50%	110	51%	111	51%
7	112	50%	113	50%	111	51%
8	112	50%	115	49%	113	50%
9	112	50%	113	50%	113	50%
10	112	50%	104	54%	106	53%

ATU performance determined by BOD₅

Average BOD₅ concentrations and their standard errors for the ATU common influent, demand dosed effluent, and time dosed effluent, for all experiments, are shown in Table 9 and plotted in Figure 16. Experiment 1 sampling occurred during the ATU “startup” period and should not be considered representative. Experiments 2, 4 and 5 were considered to be representative of “normal residential strength” (i.e., <300 mg/L BOD₅) conditions. Experiments 3 and 6 through 10 were considered to be representative of “high strength” conditions (i.e., >300 mg/L BOD₅).

Mean BOD₅ concentrations for high strength demand dosed ATU effluents were all below 30 mg/L except for experiment 8. However, due to the small sample size and high variation, the mean concentrations of experiments 6, and 9 are not certain and may actually exceed 30 mg/L (note standard error bars in Figure 16 exceed the 30 mg/L threshold). Mean BOD₅ effluent concentrations for experiments 3, 7, and 10 met the <30 mg/L requirement.

Mean BOD₅ concentrations for high strength time dosed ATUs were all below 30 mg/L except for experiments 6 and 8. Mean BOD₅ effluent concentrations for experiments 3, 7, 9, and 10 met the <30 mg/L requirement. See Figure 16.

ATU performance determined by TSS

Average TSS concentrations and their standard errors for the ATU common influent, demand dosed effluent, and time dosed effluent, for all experiments, are shown in Table 10 and plotted in Figure 17. Experiment 1 sampling occurred during the ATU “startup” period and should not be considered representative. Experiments 1 through 4 were considered to be representative of “normal residential strength” (i.e., <300 mg/L TSS) conditions while experiments 5 through 10 were considered to be representative of “high strength” conditions (i.e., >300 mg/L TSS).

Mean TSS concentrations for both high strength demand dosed and time dosed ATUs were all below the minimum treatment requirement of 45 mg/L. See Figure 16.

Table 9- BOD₅ concentrations of ATU common influent, demand dosed effluent, and time dosed effluent for all experiments. Experiment, number of measurements (n), mean, and mean standard error shown for all experiments. Experiment 1 not representative. Bolded values indicate defined minimum treatment threshold (<30 mg/L) exceeded.

Experiment	n	Common influent BOD ₅ concentration (mg/L)		Demand effluent BOD ₅ concentration (mg/L)		Time effluent BOD ₅ concentration (mg/L)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
1	8	230.38	96.72	42.38	10.58	42.00	10.03
2	8	163.25	20.13	21.00	3.43	17.63	2.46
3	6	402.67	54.22	20.83	3.13	20.83	4.53
4	8	200.50	7.80	20.00	3.70	22.13	3.98
5	8	189.88	13.49	28.63	9.39	25.88	8.35
6	7	547.75	221.32	27.43	6.44	31.14	5.54
7	8	461.17	30.37	22.63	6.32	11.75	4.25
8	8	2942.50	288.38	33.63	12.49	31.25	10.25
9	8	649.50	268.86	25.25	10.60	18.75	7.51
10	8	956.13	245.03	15.25	6.72	11.75	3.24

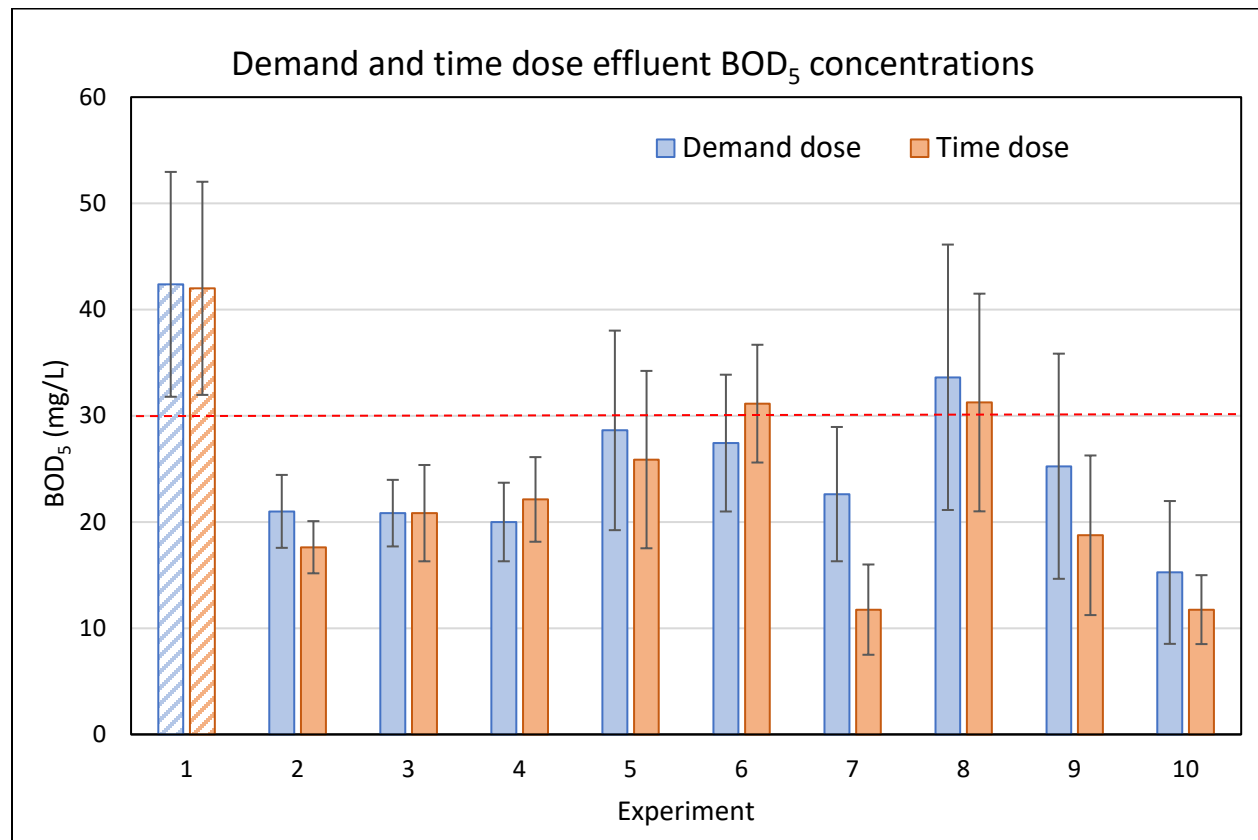


Figure 16- Demand and time dose effluent BOD₅ concentrations by experiment. Dashed red line indicates the required minimum treatment standard of 30 mg/L. Experiment 1 not considered representative.

Table 10- TSS concentrations of ATU common influent, demand dosed effluent, and time dosed effluent for all experiments. Experiment, number of measurements (n), mean, and mean standard error shown for all experiments. Experiment 1 not representative. Bolded values indicate defined minimum treatment threshold (<45 mg/L) exceeded.

Experiment	n	Common influent TSS concentration (mg/L)		Demand effluent TSS concentration (mg/L)		Time effluent TSS concentration (mg/L)	
		Mean	Standard Error	Mean	Standard Error	Mean	Standard Error
1	8	52.88	7.22	39.88	12.92	51.63	15.12
2	8	73.75	8.37	20.75	4.27	12.25	1.15
3	6	138.00	10.18	18.00	2.31	17.83	3.06
4	8	130.63	13.35	9.00	1.27	19.63	1.86
5	8	354.86	20.03	26.13	3.20	23.88	2.42
6	7	1885.75	1652.88	17.57	1.70	19.43	2.97
7	8	468.25	33.63	11.63	1.29	10.50	1.09
8	8	17530.00	1088.97	23.88	2.78	28.25	3.67
9	8	3933.75	2351.96	9.00	1.80	14.88	1.78
10	8	4115.25	1680.14	7.88	1.08	25.13	4.94

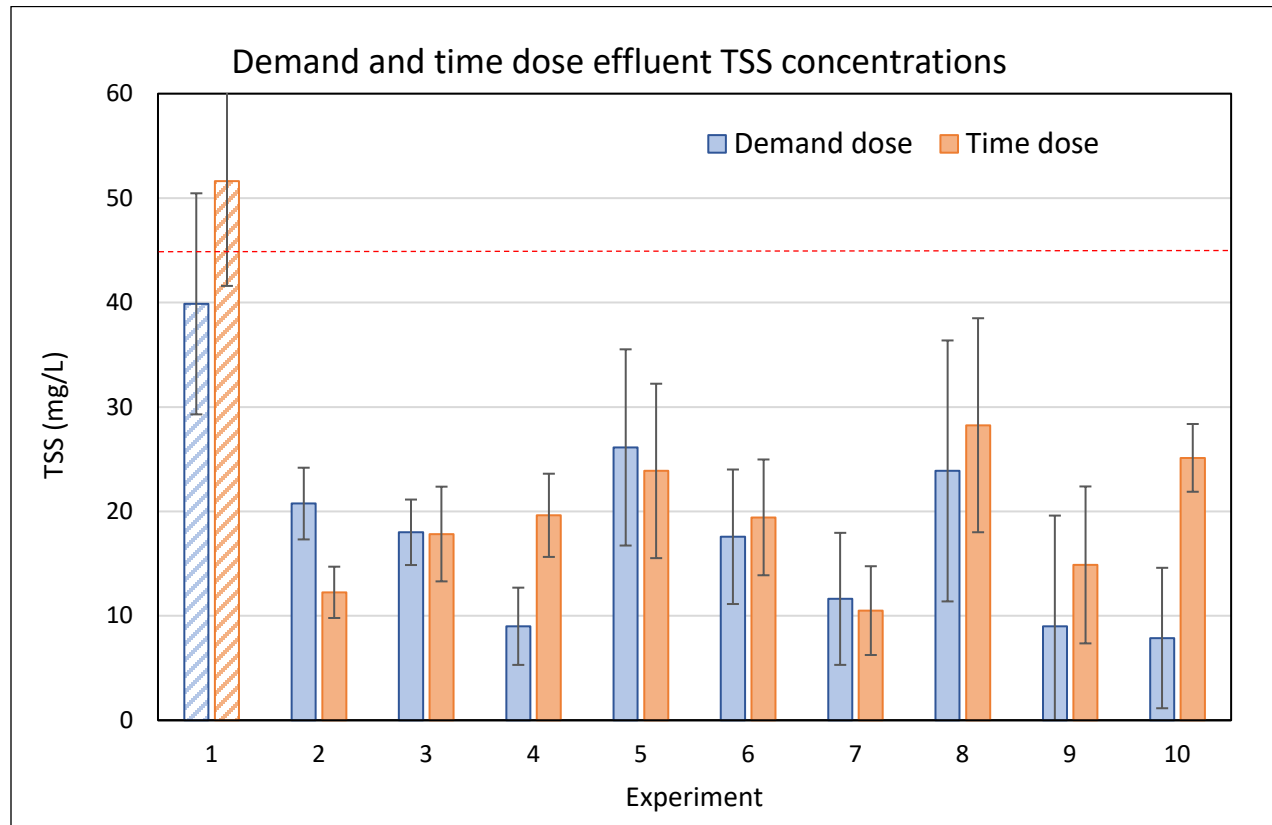


Figure 17- Demand and time dose effluent TSS concentrations by experiment. Dashed red line indicates the required minimum treatment standard of 45 mg/L. Experiment 1 not considered representative.

Statistical evaluation

One sample t-tests for means less than treatment threshold

One sample *t*-tests for the mean BOD₅ concentration being less than 30 mg/L (i.e., $\mu < 30$) were done for demand dosed and time dosed effluent concentrations at the 95% confidence level. Results are shown in Table 11. Results from Experiment 1 were not included in the analyses as sampling occurred during the ATU “startup” period and were not considered representative. Significant *p*-values (i.e., $p < 0.05$) were observed in demand dosed effluents for experiments 2, 3, 4, and 10 indicating that the mean effluent BOD₅ concentrations were statistically, significantly below 30 mg/L. Time dosed experiments followed the same pattern as demand dosing with the exception of experiment 8 which was also found to be statistically, significantly below 30 mg/L. Experiments results 5, 6, 7, 8 and 9 for the demand dosing and 5, 6, 8, and 9 for the time dosing were not statistically significantly below 30 mg/L. This may be because the mean was not actually below 30, or it could just be an artifact of the limited sample size (i.e., only 7 or 8 measurements). Compare these results with Figure 16.

Table 11- P-values for one sample *t*-tests of mean BOD₅ concentrations for demand and time dosing by experiment. Bolded values are statistically significant at the 95% confidence level (Note: $p < 0.05$ = significant, $p < 0.005$ = highly significant, $p < 0.0005$ = very highly significant).

Experiment	n	One sample <i>t</i> -test, $\mu < 30$ p-value DEMAND dose	One sample <i>t</i> -test, $\mu < 30$ p-value TIME dose
2	8	0.01717	0.00075
3	6	0.01643	0.04959
4	8	0.01524	0.04431
5	8	0.44388	0.31822
6	7	0.35175	0.57825
7	8	0.14078	0.00180
8	8	0.60994	0.54683
9	8	0.33380	0.08899
10	8	0.03216	0.00040

One sample *t*-tests for the mean TSS concentration being less than 45 mg/L (i.e., $\mu < 45$) were done for demand dosed and time dosed effluent concentrations at the 95% confidence level. Results are shown in Table 12. Results from Experiment 1 were not included in the analyses as sampling occurred during the ATU “startup” period and were not considered representative. Significant *p*-values (i.e., $p < 0.05$) were observed for all experiments for both demand and time dosing indicating that the mean effluent TSS concentrations were statistically, significantly below 45 mg/L. Compare these results with Figure 17.

Table 12- *P*-values for one sample *t*-tests of mean TSS concentrations for demand and time dosing by experiment. Bolded values are statistically significant at the 95% confidence level (Note: $p < 0.05$ = significant, $p < 0.005$ = highly significant, $p < 0.0005$ = very highly significant).

Experiment	n	One sample t-test, $\mu < 45$ p-value DEMAND dose	One sample t-test, $\mu < 45$ p-value TIME dose
2	8	0.0003762	0.000000008243
3	6	0.00004023	0.0001507
4	8	0.000000008633	0.000001342
5	8	0.0003025	0.00002624
6	7	0.0000005288	0.00006714
7	8	0.0000000169	0.000000003948
8	8	0.00006324	0.001302
9	8	0.00000009879	0.0000003047
10	8	0.0000003047	0.002511

Two sample paired t-tests comparing demand and time dosed systems

Two sample paired *t*-tests were used to compare the BOD₅ concentrations (mg/L) between demand and timed dosed systems. Samples were paired by date and tested at the 95% confidence level. Results are shown in Table 13. Results from Experiment 1 were not included in the analyses as sampling occurred during the ATU “startup” period and were not considered representative. A statistically significant difference (i.e., *p*-value < 0.05) was observed for experiment 7 which

exhibited an average difference of 10.88 mg/L more in the demand dosed system. However, the p-value is just under the confidence level at 0.02 and the differences between demand and time paired values fluctuate between negatives and positives, indicating that there is relatively poor evidence of any real difference between demand and time dosing for this experiment.

Table 13- P-values for two sample paired t-tests of mean BOD₅ concentrations between demand and time dosing by experiment. Bolded values are statistically significant at the 95% confidence level (Note: p<0.05 = significant, p<0.005 = highly significant, p<0.0005 = very highly significant).

Experiment	n	Average Difference	Paired t-Test p-value, DEMAND vs TIME
2	8	3.38	0.182
3	6	0.00	1.000
4	8	-2.13	0.464
5	8	2.75	0.311
6	7	-3.71	0.387
7	8	10.88	0.022
8	8	2.38	0.389
9	8	6.50	0.079
10	8	3.50	0.356

Two sample paired *t*-tests were used to compare the TSS concentrations (mg/L) between demand and timed dosed systems. Samples were paired by date and tested at the 95% confidence level. Results are shown in Table 14. Results from Experiment 1 were not included in the analyses as sampling occurred during the ATU “startup” period and were not considered representative. Statistically significant differences (i.e., p-value <0.05) were observed for experiments 4, 9, and 10. The average differences are negative indicating that the demand dosed systems had lower mean TSS concentrations than time dosed systems.

Table 14- P-values for two sample paired *t*-tests of mean TSS concentrations between demand and time dosing by experiment. Bolded values are statistically significant at the 95% confidence level (Note: $p < 0.05$ = significant, $p < 0.005$ = highly significant, $p < 0.0005$ = very highly significant).

Experiment	n	Average Difference	Paired <i>t</i> -Test p-value, DEMAND vs TIME
2	8	8.5	0.1013
3	6	0.17	0.9011
4	8	-10.62	0.0002
5	8	2.25	0.5928
6	7	-1.86	0.3043
7	8	1.13	0.3569
8	8	-4.38	0.1617
9	8	-5.88	0.0029
10	8	-17.25	0.0032

Conclusions and Recommendations

All but three mean BOD₅ concentrations for demand-dosed and time-dosed ATU effluents appeared to be below the 30 mg/L minimum treatment requirement. However, due to high sample variation, the mean concentrations were not certain and could have exceeded 30 mg/L. One sample *t*-tests support this conclusion. Six demand-dosed experiments and five time-dosed experiments were not statistically significantly lower than 30 mg/L. This may be because the mean was not actually below 30 mg/L, or it could be an artifact of the limited sample size (i.e., 7 to 8 samples). Mean TSS concentrations for both high strength demand-dosed and time-dosed ATUs were all statistically significantly below the minimum treatment requirement of 45 mg/L.

Two sample paired *t*-tests were used to compare the BOD₅ and TSS concentrations (mg/L) between demand-dosed and timed-dosed systems. All but one experiment showed no significant differences between demand-dosed and time-dosed BOD₅ effluent concentrations. As the p-value for the one exception was very close to the confidence level and the paired difference values fluctuated between negative and positive, there is relatively poor evidence of any real difference between demand and time dosing for this experiment. Statistically significant differences were

observed between demand-dosed and time-dosed TSS concentrations for three of the nine experiments analyzed. The average paired differences for these three experiments were negative indicating that the demand-dosed systems had somewhat lower mean TSS concentrations than time-dosed systems. However, the results should be considered with caution as these three experiments may have been influenced by weather conditions (i.e., Experiment 3 occurred during the February freeze and had a reduced number of measurements) and shortened experimental periods (i.e., Experiments 9 and 10 were conducted back-to-back without equilibration periods).

Although these results suggest that ATUs receiving lower influent flows and higher organic concentrations were generally able to achieve BOD₅ concentrations meeting minimum treatment requirements, additional information is necessary to statistically verify this conclusion. These results also suggest that differences between demand and time dosed ATUs were minimal for both BOD₅ and TSS effluent concentrations. However further research is recommended to examine additional flow rates and experimental time-dose conditions, including changes in daily flows, to verify this conclusion.

The experimental ATUs installed at the TAMU RELIS OSSF Research Center will be maintained for future education, professional training, and research, dependent upon available funding.

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APPENDIX 1 – Commercial laboratory results, BOD₅ and TSS

Sample. Wrk	Analysis. Batch	Sample. SampleName	Sample.Sample Comments	Sample. Sampled	Analyte. Analyte	Analyte. tResult	Analyte. RptUnits	Analyte. AnalyteNotes	Analyt e.CLP Flags
D039397	M122261	Lift Station	RELLIS Influent	12/9/2020 9:32	BOD (5 day)	46	mg/L		D
D039544	M122325	Lift Station	RELLIS Influent	12/10/2020 8:55	BOD (5 day)	35	mg/L		D
D039814	M122482	Lift Station	RELLIS Influent	12/14/2020 9:55	BOD (5 day)	86	mg/L		D
D040112	M122483	Lift Station	RELLIS Influent	12/15/2020 9:00	BOD (5 day)	33	mg/L		D
D040113	M122554	Lift Station	RELLIS Influent	12/16/2020 9:34	BOD (5 day)	65	mg/L		D
D040114	M122617	Lift Station	RELLIS Influent	12/17/2020 8:57	BOD (5 day)	131	mg/L	RPD-01	D
D040115	M122758	Lift Station	RELLIS Influent	12/21/2020 9:47	BOD (5 day)	32	mg/L		D
D040116	M122851	Lift Station	RELLIS Influent	12/22/2020 8:54	BOD (5 day)	23	mg/L		D
E001759	M123610	Lift Station	RELLIS Influent	1/13/2021 9:41	BOD (5 day)	82	mg/L		D
E001760	M123698	Lift Station	RELLIS Influent	1/14/2021 9:40	BOD (5 day)	86	mg/L		D
E002499	M123739	Lift Station	RELLIS Influent	1/15/2021 11:15	BOD (5 day)	146	mg/L		D
E001761	M123866	Lift Station	RELLIS Influent	1/18/2021 9:53	BOD (5 day)	19	mg/L		D
E001762	M123866	Lift Station	RELLIS Influent	1/19/2021 9:59	BOD (5 day)	108	mg/L	BOD-02	D
E001763	M123938	Lift Station	RELLIS Influent	1/20/2021 8:48	BOD (5 day)	9	mg/L		D
E001764	M123982	Lift Station	RELLIS Influent	1/21/2021 8:51	BOD (5 day)	16	mg/L	G-01	D
E003225	M124084	Lift Station	RELLIS Influent	1/22/2021 11:05	BOD (5 day)	98	mg/L		D
E001765	M124176	Lift Station	RELLIS Influent	1/25/2021 8:44	BOD (5 day)	163	mg/L		D
E001766	M124176	Lift Station	RELLIS Influent	1/26/2021 9:57	BOD (5 day)	171	mg/L		D
E003615	M124258	Lift Station	RELLIS Influent	1/27/2021 13:15	BOD (5 day)	190	mg/L		D
E003769	M124322	Lift Station	RELLIS Influent	1/28/2021 14:45	BOD (5 day)	213	mg/L		D
E003785	M124375	Lift Station	RELLIS Influent	1/29/2021 9:40	BOD (5 day)	53	mg/L		D
E004648	M124670	Lift Station	RELLIS Influent	2/4/2021 10:15	BOD (5 day)	114	mg/L		D
E004649	M124730	Lift Station	RELLIS Influent	2/5/2021 10:30	BOD (5 day)	71	mg/L		D
E004650	M124851	Lift Station	RELLIS Influent	2/8/2021 11:15	BOD (5 day)	535	mg/L	BOD-02	D
E004651	M124927	Lift Station	RELLIS Influent	2/9/2021 9:30	BOD (5 day)	229	mg/L	RPD-01	D
E005411	M124927	Lift Station	RELLIS Influent	2/10/2021 9:43	BOD (5 day)	78	mg/L	RPD-01	D
E005422	M125014	Lift Station	RELLIS Influent	2/11/2021 8:45	BOD (5 day)	47	mg/L		D

E004652	M125015	Lift Station	RELLIS Influent	2/12/2021 9:30	BOD (5 day)	216	mg/L	G-01	D
E006145	M125292	Lift Station	RELLIS Influent	2/22/2021 10:32	BOD (5 day)	123	mg/L		D
E006147	M125292	Lift Station	RELLIS Influent	2/23/2021 9:57	BOD (5 day)	117	mg/L		D
E006273	M125388	Lift Station	RELLIS Influent	2/24/2021 8:55	BOD (5 day)	68	mg/L		D
E006316	M125389	Lift Station	RELLIS Influent	2/25/2021 8:59	BOD (5 day)	304	mg/L	G-01	D
E004656	M125496	Lift Station	RELLIS Influent	2/26/2021 10:30	BOD (5 day)	2221	mg/L		
E007502	M125589	Lift Station	RELLIS Influent	3/1/2021 10:20	BOD (5 day)	1140	mg/L		D
E007503	M125589	Lift Station	RELLIS Influent	3/2/2021 10:10	BOD (5 day)	580	mg/L		D
E007504	M125695	Lift Station	RELLIS Influent	3/3/2021 10:34	BOD (5 day)	207	mg/L		D
E007505	M125696	Lift Station	RELLIS Influent	3/4/2021 10:41	BOD (5 day)	259	mg/L	G-01	D
E007506	M125792	Lift Station	RELLIS Influent	3/5/2021 9:59	BOD (5 day)	141	mg/L		D
E007507	M125926	Lift Station	RELLIS Influent	3/8/2021 10:23	BOD (5 day)	357	mg/L		D
E007508	M125926	Lift Station	RELLIS Influent	3/9/2021 9:56	BOD (5 day)	869	mg/L	BOD-02	D
E007509	M126034	Lift Station	RELLIS Influent	3/10/2021 9:55	BOD (5 day)	622	mg/L	BOD-02	D
E007510	M126035	Lift Station	RELLIS Influent	3/11/2021 9:45	BOD (5 day)	112	mg/L	G-01	D
E007511	M126165	Lift Station	RELLIS Influent	3/12/2021 10:45	BOD (5 day)	122	mg/L		D
E007512	M126248	Lift Station	RELLIS Influent	3/15/2021 9:55	BOD (5 day)	83	mg/L		D
E007513	M126248	Lift Station	RELLIS Influent	3/16/2021 9:51	BOD (5 day)	357	mg/L	BOD-02	D
E009577	M126476	Lift Station	RELLIS Influent	3/19/2021 10:30	BOD (5 day)	81	mg/L		D
E010029	M126570	Lift Station	RELLIS Influent	3/22/2021 10:59	BOD (5 day)	80	mg/L		D
E010030	M126570	Lift Station	RELLIS Influent	3/23/2021 10:34	BOD (5 day)	261	mg/L	BOD-02	D
E010031	M126665	Lift Station	RELLIS Influent	3/24/2021 10:50	BOD (5 day)	40	mg/L		D
E010032	M126666	Lift Station	RELLIS Influent	3/25/2021 10:25	BOD (5 day)	115	mg/L	G-01	D
E007514	M126815	Lift Station	RELLIS Influent	3/26/2021 10:09	BOD (5 day)	145	mg/L		D
E010599	M126881	Lift Station	RELLIS Influent	3/29/2021 10:39	BOD (5 day)	152	mg/L		D
E010600	M126881	Lift Station	RELLIS Influent	3/30/2021 11:00	BOD (5 day)	74	mg/L		D
E007515	M126981	Lift Station	RELLIS Influent	3/31/2021 10:01	BOD (5 day)	21	mg/L		D
E012369	M127592	Lift Station	RELLIS Influent	4/14/2021 10:57	BOD (5 day)	45	mg/L		D
E012370	M127593	Lift Station	RELLIS Influent	4/15/2021 10:48	BOD (5 day)	365	mg/L	G-01	D

E013116	M127788	Lift Station	RELLIS Influent	4/19/2021 10:56	BOD (5 day)	40	mg/L		D
E013117	M127788	Lift Station	RELLIS Influent	4/20/2021 10:51	BOD (5 day)	78	mg/L		D
E013118	M127907	Lift Station	RELLIS Influent	4/21/2021 10:55	BOD (5 day)	75	mg/L		D
E013119	M127909	Lift Station	RELLIS Influent	4/22/2021 10:13	BOD (5 day)	80	mg/L	G-01	D
E013923	M128130	Lift Station	RELLIS Influent	4/26/2021 10:34	BOD (5 day)	198	mg/L		D
E013924	M128131	Lift Station	RELLIS Influent	4/27/2021 10:55	BOD (5 day)	96	mg/L		D
E015641	M128887	Lift Station	RELLIS Influent	5/12/2021 9:50	BOD (5 day)	101	mg/L		
E015642	M128888	Lift Station	RELLIS Influent	5/13/2021 11:05	BOD (5 day)	571	mg/L	G-01	D
E016335	M129080	Lift Station	RELLIS Influent	5/17/2021 10:01	BOD (5 day)	158	mg/L		D
E016336	M129081	Lift Station	RELLIS Influent	5/18/2021 10:51	BOD (5 day)	100	mg/L	G-01	D
E016337	M129182	Lift Station	RELLIS Influent	5/19/2021 9:56	BOD (5 day)	50	mg/L		D
E016338	M129245	Lift Station	RELLIS Influent	5/20/2021 11:05	BOD (5 day)	42	mg/L		D
E017336	M129377	Lift Station	RELLIS Influent	5/25/2021 10:12	BOD (5 day)	450	mg/L		D
E019930	M130411	Lift Station	RELLIS Influent	6/16/2021 9:50	BOD (5 day)	56	mg/L		D
E019931	M130474	Lift Station	RELLIS Influent	6/17/2021 11:10	BOD (5 day)	163	mg/L		D
E020622	M130600	Lift Station	RELLIS Influent	6/21/2021 9:57	BOD (5 day)	169	mg/L		D
E020623	M130601	Lift Station	RELLIS Influent	6/22/2021 11:01	BOD (5 day)	162	mg/L	RPD-01	D
E020624	M130701	Lift Station	RELLIS Influent	6/23/2021 11:13	BOD (5 day)	1260	mg/L		D
E020625	M130754	Lift Station	RELLIS Influent	6/24/2021 9:44	BOD (5 day)	30	mg/L		D
E021518	M130904	Lift Station	RELLIS Influent	6/28/2021 11:20	BOD (5 day)	40	mg/L		
E021519	M130905	Lift Station	RELLIS Influent	6/29/2021 10:38	BOD (5 day)	204	mg/L		D
E022811	M131270	Lift Station	RELLIS Influent	7/7/2021 9:57	BOD (5 day)	159	mg/L		D
E022812	M131320	Lift Station	RELLIS Influent	7/8/2021 10:37	BOD (5 day)	125	mg/L		D
E022814	M131454	Lift Station	RELLIS Influent	7/13/2021 10:21	BOD (5 day)	78	mg/L		D
E022815	M131577	Lift Station	RELLIS Influent	7/14/2021 10:32	BOD (5 day)	693	mg/L		D
E022816	M131584	Lift Station	RELLIS Influent	7/15/2021 9:51	BOD (5 day)	1010	mg/L	BOD-02, G-01	D
E023944	M131767	Lift Station	RELLIS Influent	7/19/2021 10:33	BOD (5 day)	243	mg/L		D
E023945	M131767	Lift Station	RELLIS Influent	7/20/2021 10:30	BOD (5 day)	101	mg/L		D
E024556	M132194	Lift Station	RELLIS Influent	7/28/2021 10:55	BOD (5 day)	248	mg/L		D

E024557	M132254	Lift Station	RELLIS Influent	7/29/2021 11:01	BOD (5 day)	78	mg/L		D
E025655	M132411	Lift Station	RELLIS Influent	8/2/2021 9:43	BOD (5 day)	82	mg/L		D
E025656	M132412	Lift Station	RELLIS Influent	8/3/2021 9:50	BOD (5 day)	71	mg/L	G-01	D
E025657	M132600	Lift Station	RELLIS Influent	8/4/2021 11:08	BOD (5 day)	316	mg/L	BOD-02	D
E025658	M132601	Lift Station	RELLIS Influent	8/5/2021 11:13	BOD (5 day)	89	mg/L		D
E026482	M132759	Lift Station	RELLIS Influent	8/9/2021 9:50	BOD (5 day)	60	mg/L		D
E026483	M132760	Lift Station	RELLIS Influent	8/10/2021 9:56	BOD (5 day)	146	mg/L	G-01	D
E026769	M132870	Lift Station	RELLIS Influent	8/11/2021 9:58	BOD (5 day)	65	mg/L		D
E026770	M132871	Lift Station	RELLIS Influent	8/12/2021 9:53	BOD (5 day)	96	mg/L	G-01	D
E026771	M133062	Lift Station	RELLIS Influent	8/16/2021 9:51	BOD (5 day)	20	mg/L		D
E026772	M133062	Lift Station	RELLIS Influent	8/17/2021 10:08	BOD (5 day)	29	mg/L		D
E026773	M133170	Lift Station	RELLIS Influent	8/18/2021 10:46	BOD (5 day)	46	mg/L		D
E026774	M133171	Lift Station	RELLIS Influent	8/19/2021 10:09	BOD (5 day)	39	mg/L	G-01	D
E026775	M133355	Lift Station	RELLIS Influent	8/23/2021 10:06	BOD (5 day)	76	mg/L		D
E026776	M133356	Lift Station	RELLIS Influent	8/24/2021 10:14	BOD (5 day)	112	mg/L	G-01	D
D039397	M122261	Feed Tank	OSSF Main	12/9/2020 9:36	BOD (5 day)	287	mg/L		D
D039544	M122326	Feed Tank	OSSF Main	12/10/2020 8:50	BOD (5 day)	221	mg/L		D
D039814	M122482	Feed Tank	OSSF Main	12/14/2020 9:59	BOD (5 day)	244	mg/L		D
D040112	M122483	Feed Tank	OSSF Main	12/15/2020 9:00	BOD (5 day)	188	mg/L		D
D040113	M122554	Feed Tank	OSSF Main	12/16/2020 9:38	BOD (5 day)	243	mg/L		D
D040114	M122618	Feed Tank	OSSF Main	12/17/2020 9:01	BOD (5 day)	190	mg/L		D
D040115	M122758	Feed Tank	OSSF Main	12/21/2020 9:53	BOD (5 day)	133	mg/L		D
D040116	M122851	Feed Tank	OSSF Main	12/22/2020 8:58	BOD (5 day)	130	mg/L		D
E001759	M123610	Feed Tank	OSSF Main	1/13/2021 9:45	BOD (5 day)	140	mg/L		D
E001760	M123699	Feed Tank	OSSF Main	1/14/2021 9:44	BOD (5 day)	125	mg/L		D
E002499	M123739	Feed Tank	OSSF Main	1/15/2021 11:15	BOD (5 day)	210	mg/L		D
E001761	M123866	Feed Tank	OSSF Main	1/18/2021 9:47	BOD (5 day)	194	mg/L		D
E001762	M123866	Feed Tank	OSSF Main	1/19/2021 9:56	BOD (5 day)	215	mg/L		D
E001763	M123938	Feed Tank	OSSF Main	1/20/2021 8:51	BOD (5 day)	256	mg/L		D

E001764	M123982	Feed Tank	OSSF Main	1/21/2021 8:55	BOD (5 day)	272	mg/L	G-01	D
E003225	M124084	Feed Tank	OSSF Main	1/22/2021 11:00	BOD (5 day)	368	mg/L		D
E001765	M124176	Feed Tank	OSSF Main	1/25/2021 8:47	BOD (5 day)	311	mg/L		D
E001766	M124176	Feed Tank	OSSF Main	1/26/2021 9:54	BOD (5 day)	310	mg/L		D
E003615	M124258	Feed Tank	OSSF Main	1/27/2021 13:15	BOD (5 day)	362	mg/L		D
E003769	M124322	Feed Tank	OSSF Main	1/28/2021 14:45	BOD (5 day)	457	mg/L		D
E003785	M124375	Feed Tank	OSSF Main	1/29/2021 9:40	BOD (5 day)	482	mg/L		D
E004648	M124670	Feed Tank	OSSF Main	2/4/2021 10:15	BOD (5 day)	818	mg/L		D
E004649	M124730	Feed Tank	OSSF Main	2/5/2021 10:30	BOD (5 day)	718	mg/L		D
E004650	M124851	Feed Tank	OSSF Main	2/8/2021 11:15	BOD (5 day)	728	mg/L		D
E004651	M124927	Feed Tank	OSSF Main	2/9/2021 9:30	BOD (5 day)	575	mg/L	RPD-01	D
E005411	M124928	Feed Tank	OSSF Main	2/10/2021 9:48	BOD (5 day)	574	mg/L		D
E005422	M125014	Feed Tank	OSSF Main	2/11/2021 8:49	BOD (5 day)	592	mg/L		D
E004652	M125015	Feed Tank	OSSF Main	2/12/2021 9:30	BOD (5 day)	1190	mg/L	G-01	D
E006145	M125292	Feed Tank	OSSF Main	2/22/2021 10:30	BOD (5 day)	297	mg/L		D
E006147	M125293	Feed Tank	OSSF Main	2/23/2021 9:54	BOD (5 day)	285	mg/L		D
E006273	M125388	Feed Tank	OSSF Main	2/24/2021 8:57	BOD (5 day)	269	mg/L		D
E006316	M125390	Feed Tank	OSSF Main	2/25/2021 9:01	BOD (5 day)	316	mg/L	G-01	D
E004656	M125496	Feed Tank	OSSF Main	2/26/2021 10:30	BOD (5 day)	426	mg/L		D
E007502	M125589	Feed Tank	OSSF Main	3/1/2021 10:05	BOD (5 day)	452	mg/L		D
E007503	M125589	Feed Tank	OSSF Main	3/2/2021 9:55	BOD (5 day)	394	mg/L		D
E007504	M125695	Feed Tank	OSSF Main	3/3/2021 10:31	BOD (5 day)	223	mg/L		D
E007505	M125696	Feed Tank	OSSF Main	3/4/2021 10:49	BOD (5 day)	393	mg/L	G-01	D
E007506	M125792	Feed Tank	OSSF Main	3/5/2021 9:57	BOD (5 day)	451	mg/L		D
E007507	M125926	Feed Tank	OSSF Main	3/8/2021 10:21	BOD (5 day)	446	mg/L		D
E007508	M125926	Feed Tank	OSSF Main	3/9/2021 9:33	BOD (5 day)	439	mg/L		D
E007509	M126034	Feed Tank	OSSF Main	3/10/2021 9:51	BOD (5 day)	488	mg/L		D
E007510	M126035	Feed Tank	OSSF Main	3/11/2021 9:41	BOD (5 day)	418	mg/L	G-01	D
E007511	M126165	Feed Tank	OSSF Main	3/12/2021 10:41	BOD (5 day)	494	mg/L		D

E007512	M126248	Feed Tank	OSSF Main	3/15/2021 9:53	BOD (5 day)	474	mg/L		D
E007513	M126248	Feed Tank	OSSF Main	3/16/2021 9:42	BOD (5 day)	427	mg/L		D
E009161	M126355	Feed Tank	OSSF Main	3/17/2021 10:40	BOD (5 day)	370	mg/L		D
E009162	M126356	Feed Tank	OSSF Main	3/18/2021 10:46	BOD (5 day)	369	mg/L	G-01	D
E009577	M126476	Feed Tank	OSSF Main	3/19/2021 10:05	BOD (5 day)	306	mg/L		D
E010029	M126570	Feed Tank	OSSF Main	3/22/2021 10:57	BOD (5 day)	326	mg/L		D
E010030	M126571	Feed Tank	OSSF Main	3/23/2021 10:30	BOD (5 day)	310	mg/L		D
E010031	M126665	Feed Tank	OSSF Main	3/24/2021 10:56	BOD (5 day)	344	mg/L		D
E010032	M126666	Feed Tank	OSSF Main	3/25/2021 10:23	BOD (5 day)	375	mg/L	G-01	D
E007514	M126815	Feed Tank	OSSF Main	3/26/2021 10:07	BOD (5 day)	603	mg/L		D
E010599	M126881	Feed Tank	OSSF Main	3/29/2021 9:53	BOD (5 day)	402	mg/L		D
E010600	M126882	Feed Tank	OSSF Main	3/30/2021 10:58	BOD (5 day)	461	mg/L		D
E007515	M126981	Feed Tank	OSSF Main	3/31/2021 10:03	BOD (5 day)	581	mg/L		D
E012369	M127592	Feed Tank	OSSF Main	4/14/2021 10:27	BOD (5 day)	331	mg/L		D
E012370	M127593	Feed Tank	OSSF Main	4/15/2021 10:25	BOD (5 day)	431	mg/L	G-01	D
E013116	M127788	Feed Tank	OSSF Main	4/19/2021 10:51	BOD (5 day)	300	mg/L		D
E013117	M127789	Feed Tank	OSSF Main	4/20/2021 10:54	BOD (5 day)	296	mg/L		D
E013118	M127907	Feed Tank	OSSF Main	4/21/2021 10:57	BOD (5 day)	296	mg/L		D
E013119	M127909	Feed Tank	OSSF Main	4/22/2021 10:11	BOD (5 day)	367	mg/L	G-01	D
E013923	M128130	Feed Tank	OSSF Main	4/26/2021 10:31	BOD (5 day)	286	mg/L		D
E013924	M128131	Feed Tank	OSSF Main	4/27/2021 10:52	BOD (5 day)	253	mg/L		D
E014239	M128227	Feed Tank	OSSF Main	4/28/2021 10:38	BOD (5 day)	543	mg/L	BOD-02	D
E014240	M128227	Feed Tank	OSSF Main	4/29/2021 10:20	BOD (5 day)	438	mg/L	G-01	D
E014241	M128282	Feed Tank	OSSF Main	4/30/2021 10:51	BOD (5 day)	457	mg/L	G-01	D
E015840	M128771	Feed Tank	OSSF Main	5/10/2021 10:01	BOD (5 day)	1210	mg/L		D
E015841	M128771	Feed Tank	OSSF Main	5/11/2021 10:21	BOD (5 day)	937	mg/L	BOD-02	D
E015641	M128887	Feed Tank	OSSF Main	5/12/2021 9:47	BOD (5 day)	394	mg/L		D
E015642	M128888	Feed Tank	OSSF Main	5/13/2021 11:02	BOD (5 day)	363	mg/L	G-01	D
E015842	M128928	Feed Tank	OSSF Main	5/14/2021 10:01	BOD (5 day)	403	mg/L	G-01	D

E016335	M129080	Feed Tank	OSSF Main	5/17/2021 9:59	BOD (5 day)	250	mg/L		D
E016336	M129081	Feed Tank	OSSF Main	5/18/2021 10:48	BOD (5 day)	361	mg/L	G-01	D
E016337	M129182	Feed Tank	OSSF Main	5/19/2021 9:55	BOD (5 day)	376	mg/L		D
E016338	M129245	Feed Tank	OSSF Main	5/20/2021 11:00	BOD (5 day)	435	mg/L		D
E015843	M129246	Feed Tank	OSSF Main	5/21/2021 10:36	BOD (5 day)	620	mg/L	G-01	D
E017335	M129376	Feed Tank	OSSF Main	5/24/2021 10:58	BOD (5 day)	337	mg/L		D
E017336	M129377	Feed Tank	OSSF Main	5/25/2021 10:18	BOD (5 day)	529	mg/L		D
E015844	M129506	Feed Tank	OSSF Main	5/26/2021 10:07	BOD (5 day)	377	mg/L		D
E015845	M129562	Feed Tank	OSSF Main	5/27/2021 10:45	BOD (5 day)	495	mg/L		D
E015846	M129563	Feed Tank	OSSF Main	5/28/2021 10:26	BOD (5 day)	451	mg/L		D
E019517	M130090	Feed Tank	OSSF Main	6/9/2021 9:20	BOD (5 day)	325	mg/L		D
E019680	M130165	Feed Tank	OSSF Main	6/10/2021 10:30	BOD (5 day)	287	mg/L		D
E020136	M130300	Feed Tank	OSSF Main	6/14/2021 9:05	BOD (5 day)	262	mg/L		D
E020256	M130307	Feed Tank	OSSF Main	6/15/2021 8:40	BOD (5 day)	242	mg/L	G-01	D
E019930	M130411	Feed Tank	OSSF Main	6/16/2021 9:47	BOD (5 day)	239	mg/L		D
E019931	M130474	Feed Tank	OSSF Main	6/17/2021 11:05	BOD (5 day)	240	mg/L		D
E020622	M130600	Feed Tank	OSSF Main	6/21/2021 9:44	BOD (5 day)	456	mg/L		D
E020623	M130601	Feed Tank	OSSF Main	6/22/2021 9:47	BOD (5 day)	352	mg/L	RPD-01	D
E020624	M130701	Feed Tank	OSSF Main	6/23/2021 11:08	BOD (5 day)	307	mg/L		D
E020625	M130755	Feed Tank	OSSF Main	6/24/2021 9:39	BOD (5 day)	297	mg/L		D
E021518	M130904	Feed Tank	OSSF Main	6/28/2021 11:10	BOD (5 day)	271	mg/L		D
E021519	M130905	Feed Tank	OSSF Main	6/29/2021 9:57	BOD (5 day)	228	mg/L		D
E022811	M131270	Feed Tank	OSSF Main	7/7/2021 10:02	BOD (5 day)	249	mg/L		D
E022812	M131320	Feed Tank	OSSF Main	7/8/2021 10:04	BOD (5 day)	223	mg/L		D
E022813	M131454	Feed Tank	OSSF Main	7/12/2021 10:06	BOD (5 day)	223	mg/L		D
E022814	M131454	Feed Tank	OSSF Main	7/13/2021 10:00	BOD (5 day)	246	mg/L		D
E022815	M131577	Feed Tank	OSSF Main	7/14/2021 10:26	BOD (5 day)	249	mg/L		D
E022816	M131584	Feed Tank	OSSF Main	7/15/2021 10:04	BOD (5 day)	237	mg/L	G-01	D
E023944	M131767	Feed Tank	OSSF Main	7/19/2021 10:03	BOD (5 day)	245	mg/L		D

E023945	M131767	Feed Tank	OSSF Main	7/20/2021 9:56	BOD (5 day)	224	mg/L		D
E024556	M132194	Feed Tank	OSSF Main	7/28/2021 9:54	BOD (5 day)	227	mg/L		D
E024557	M132254	Feed Tank	OSSF Main	7/29/2021 10:54	BOD (5 day)	247	mg/L		D
E025655	M132411	Feed Tank	OSSF Main	8/2/2021 9:49	BOD (5 day)	257	mg/L		D
E025656	M132412	Feed Tank	OSSF Main	8/3/2021 9:59	BOD (5 day)	222	mg/L	G-01	D
E025657	M132601	Feed Tank	OSSF Main	8/4/2021 10:56	BOD (5 day)	254	mg/L		D
E025658	M132601	Feed Tank	OSSF Main	8/5/2021 10:59	BOD (5 day)	244	mg/L		D
E026482	M132759	Feed Tank	OSSF Main	8/9/2021 10:16	BOD (5 day)	277	mg/L		D
E026483	M132760	Feed Tank	OSSF Main	8/10/2021 10:05	BOD (5 day)	259	mg/L	G-01	D
E026769	M132870	Feed Tank	OSSF Main	8/11/2021 10:11	BOD (5 day)	197	mg/L		D
E026770	M132871	Feed Tank	OSSF Main	8/12/2021 9:58	BOD (5 day)	252	mg/L	G-01	D
E026771	M133062	Feed Tank	OSSF Main	8/16/2021 9:56	BOD (5 day)	297	mg/L		D
E026772	M133062	Feed Tank	OSSF Main	8/17/2021 10:14	BOD (5 day)	257	mg/L		D
E026773	M133170	Feed Tank	OSSF Main	8/18/2021 10:36	BOD (5 day)	633	mg/L		D
E026774	M133171	Feed Tank	OSSF Main	8/19/2021 10:17	BOD (5 day)	289	mg/L	G-01	D
E026775	M133355	Feed Tank	OSSF Main	8/23/2021 10:13	BOD (5 day)	212	mg/L		D
E026776	M133356	Feed Tank	OSSF Main	8/24/2021 10:45	BOD (5 day)	187	mg/L	G-01	D
D039397	M122261	Sampler 3-1	A+B-In	12/9/2020 9:00	BOD (5 day)	31	mg/L		D
D039544	M122325	Sampler 3-1	A+B-In	12/10/2020 9:00	BOD (5 day)	48	mg/L		D
D039814	M122482	Sampler 3-1	A+B-In	12/14/2020 9:00	BOD (5 day)	200	mg/L		D
D040112	M122483	Sampler 3-1	A+B-In	12/15/2020 9:00	BOD (5 day)	186	mg/L		D
D040113	M122554	Sampler 3-1	A+B-In	12/16/2020 9:00	BOD (5 day)	244	mg/L		D
D040114	M122618	Sampler 3-1	A+B-In	12/17/2020 9:00	BOD (5 day)	882	mg/L		D
D040115	M122758	Sampler 3-1	A+B-In	12/21/2020 9:00	BOD (5 day)	152	mg/L		D
D040116	M122851	Sampler 3-1	A+B-In	12/22/2020 9:00	BOD (5 day)	100	mg/L		D
E001759	M123610	Sampler 3-1	A+B-In	1/13/2021 9:00	BOD (5 day)	119	mg/L		D
E001760	M123699	Sampler 3-1	A+B-In	1/14/2021 9:00	BOD (5 day)	78	mg/L		D
E001761	M123866	Sampler 3-1	A+B-In	1/18/2021 9:00	BOD (5 day)	144	mg/L		D
E001762	M123866	Sampler 3-1	A+B-In	1/19/2021 9:00	BOD (5 day)	156	mg/L		D

E001763	M123938	Sampler 3-1	A+B-In	1/20/2021 9:00	BOD (5 day)	153	mg/L		D
E001764	M123982	Sampler 3-1	A+B-In	1/21/2021 9:00	BOD (5 day)	170	mg/L	G-01	D
E001765	M124176	Sampler 3-1	A+B-In	1/25/2021 9:00	BOD (5 day)	252	mg/L		D
E001766	M124176	Sampler 3-1	A+B-In	1/26/2021 9:00	BOD (5 day)	234	mg/L		D
E005411	M124928	Sampler 3-1	A+B-In	2/10/2021 9:00	BOD (5 day)	445	mg/L		D
E005422	M125015	Sampler 3-1	A+B-In	2/11/2021 9:00	BOD (5 day)	222	mg/L	BOD-02	D
E006145	M125292	Sampler 3-1	A+B-In	2/22/2021 9:00	BOD (5 day)	613	mg/L		D
E006147	M125293	Sampler 3-1	A+B-In	2/23/2021 9:00	BOD (5 day)	445	mg/L		D
E006273	M125389	Sampler 3-1	A+B-In	2/24/2021 9:00	BOD (5 day)	370	mg/L		D
E006316	M125389	Sampler 3-1	A+B-In	2/25/2021 9:00	BOD (5 day)	321	mg/L	G-01	D
E007502	M125589	Sampler 3-1	A+B-In	3/1/2021 10:10	BOD (5 day)	220	mg/L		D
E007503	M125589	Sampler 3-1	A+B-In	3/2/2021 10:05	BOD (5 day)	259	mg/L		D
E007504	M125695	Sampler 3-1	A+B-In	3/3/2021 10:25	BOD (5 day)	308	mg/L		D
E007505	M125696	Sampler 3-1	A+B-In	3/4/2021 10:31	BOD (5 day)	299	mg/L	G-01	D
E007506	M125792	Sampler 3-1	A+B-In	3/5/2021 10:05	BOD (5 day)	319	mg/L		D
E007507	M125926	Sampler 3-1	A+B-In	3/8/2021 9:59	BOD (5 day)	331	mg/L		D
E007508	M125926	Sampler 3-1	A+B-In	3/9/2021 9:39	BOD (5 day)	298	mg/L		D
E007509	M126034	Sampler 3-1	A+B-In	3/10/2021 9:45	BOD (5 day)	265	mg/L		D
E007510	M126035	Sampler 3-1	A+B-In	3/11/2021 9:39	BOD (5 day)	267	mg/L	G-01	D
E007511	M126165	Sampler 3-1	A+B-In	3/12/2021 10:39	BOD (5 day)	325	mg/L		D
E007512	M126248	Sampler 3-1	A+B-In	3/15/2021 9:51	BOD (5 day)	259	mg/L		D
E007513	M126249	Sampler 3-1	A+B-In	3/16/2021 9:42	BOD (5 day)	242	mg/L		D
E009161	M126355	Sampler 3-1	A+B-In	3/17/2021 10:00	BOD (5 day)	226	mg/L		D
E009162	M126357	Sampler 3-1	A+B-In	3/18/2021 10:00	BOD (5 day)	202	mg/L	G-01	D
E009577	M126476	Sampler 3-1	A+B-In	3/19/2021 10:11	BOD (5 day)	228	mg/L		D
E010029	M126570	Sampler 3-1	A+B-In	3/22/2021 10:00	BOD (5 day)	191	mg/L		D
E010030	M126571	Sampler 3-1	A+B-In	3/23/2021 10:00	BOD (5 day)	182	mg/L		D
E010031	M126665	Sampler 3-1	A+B-In	3/24/2021 10:00	BOD (5 day)	167	mg/L		D
E010032	M126667	Sampler 3-1	A+B-In	3/25/2021 10:00	BOD (5 day)	191	mg/L	G-01	D

E007514	M126815	Sampler 3-1	A+B-In	3/26/2021 10:05	BOD (5 day)	211	mg/L		D
E010599	M126881	Sampler 3-1	A+B-In	3/29/2021 10:00	BOD (5 day)	214	mg/L		D
E010600	M126882	Sampler 3-1	A+B-In	3/30/2021 10:00	BOD (5 day)	231	mg/L		D
E007515	M126981	Sampler 3-1	A+B-In	3/31/2021 10:09	BOD (5 day)	270	mg/L		D
E012369	M127592	Sampler 3-1	A+B-In	4/14/2021 10:00	BOD (5 day)	252	mg/L		D
E012370	M127593	Sampler 3-1	A+B-In	4/15/2021 10:00	BOD (5 day)	155	mg/L	G-01	D
E013116	M127788	Sampler 3-1	A+B-In	4/19/2021 10:00	BOD (5 day)	200	mg/L		D
E013117	M127789	Sampler 3-1	A+B-In	4/20/2021 10:00	BOD (5 day)	194	mg/L		D
E013118	M127908	Sampler 3-1	A+B-In	4/21/2021 10:00	BOD (5 day)	147	mg/L		D
E013119	M127909	Sampler 3-1	A+B-In	4/22/2021 10:00	BOD (5 day)	159	mg/L	G-01	D
E013923	M128130	Sampler 3-1	A+B-In	4/26/2021 10:00	BOD (5 day)	235	mg/L		D
E013924	M128131	Sampler 3-1	A+B-In	4/27/2021 10:00	BOD (5 day)	177	mg/L		D
E014239	M128227	Sampler 3-1	A+B-In	4/28/2021 10:41	BOD (5 day)	297	mg/L		D
E014240	M128227	Sampler 3-1	A+B-In	4/29/2021 10:15	BOD (5 day)	295	mg/L	G-01	D
E014241	M128282	Sampler 3-1	A+B-In	4/30/2021 10:55	BOD (5 day)	290	mg/L	G-01	D
E015840	M128771	Sampler 3-1	A+B-In	5/10/2021 10:03	BOD (5 day)	1710	mg/L		D
E015841	M128771	Sampler 3-1	A+B-In	5/11/2021 10:15	BOD (5 day)	1820	mg/L		D
E015641	M128888	Sampler 3-1	A+B-In	5/12/2021 10:00	BOD (5 day)	1990	mg/L		D
E015642	M128889	Sampler 3-1	A+B-In	5/13/2021 10:00	BOD (5 day)	274	mg/L	G-01	D
E015842	M128928	Sampler 3-1	A+B-In	5/14/2021 10:03	BOD (5 day)	255	mg/L	G-01	D
E016335	M129080	Sampler 3-1	A+B-In	5/17/2021 10:00	BOD (5 day)	278	mg/L		D
E016336	M129081	Sampler 3-1	A+B-In	5/18/2021 10:00	BOD (5 day)	295	mg/L	G-01	D
E016337	M129182	Sampler 3-1	A+B-In	5/19/2021 10:00	BOD (5 day)	348	mg/L		D
E016338	M129245	Sampler 3-1	A+B-In	5/20/2021 10:00	BOD (5 day)	421	mg/L		D
E015843	M129246	Sampler 3-1	A+B-In	5/21/2021 10:30	BOD (5 day)	414	mg/L	G-01	D
E017335	M129376	Sampler 3-1	A+B-In	5/24/2021 10:00	BOD (5 day)	360	mg/L		D
E017336	M129377	Sampler 3-1	A+B-In	5/25/2021 10:00	BOD (5 day)	416	mg/L		D
E015844	M129506	Sampler 3-1	A+B-In	5/26/2021 10:01	BOD (5 day)	374	mg/L		D
E015845	M129562	Sampler 3-1	A+B-In	5/27/2021 10:47	BOD (5 day)	408	mg/L		D

E015846	M129564	Sampler 3-1	A+B-In	5/28/2021 10:20	BOD (5 day)	456	mg/L		D
E019517	M130091	Sampler 3-1	A+B-In	6/9/2021 9:20	BOD (5 day)	548	mg/L		D
E019680	M130165	Sampler 3-1	A+B-In	6/10/2021 10:30	BOD (5 day)	550	mg/L		D
E020136	M130300	Sampler 3-1	A+B-In	6/14/2021 9:15	BOD (5 day)	514	mg/L		D
E020256	M130307	Sampler 3-1	A+B-In	6/15/2021 8:50	BOD (5 day)	322	mg/L	G-01	D
E019930	M130412	Sampler 3-1	A+B-In	6/16/2021 10:00	BOD (5 day)	506	mg/L		D
E019931	M130475	Sampler 3-1	A+B-In	6/17/2021 10:00	BOD (5 day)	491	mg/L		D
E020622	M130600	Sampler 3-1	A+B-In	6/21/2021 10:00	BOD (5 day)	415	mg/L		D
E020623	M130601	Sampler 3-1	A+B-In	6/22/2021 10:00	BOD (5 day)	460	mg/L	RPD-01	D
E020624	M130702	Sampler 3-1	A+B-In	6/23/2021 10:00	BOD (5 day)	448	mg/L		D
E020625	M130755	Sampler 3-1	A+B-In	6/24/2021 10:00	BOD (5 day)	582	mg/L		D
E021518	M130904	Sampler 3-1	A+B-In	6/28/2021 11:30	BOD (5 day)	411	mg/L		D
E021519	M130905	Sampler 3-1	A+B-In	6/29/2021 10:00	BOD (5 day)	287	mg/L		D
E022811	M131270	Sampler 3-1	A+B-In	7/7/2021 10:00	BOD (5 day)	1890	mg/L		D
E022812	M131320	Sampler 3-1	A+B-In	7/8/2021 10:00	BOD (5 day)	1900	mg/L		D
E022813	M131454	Sampler 3-1	A+B-In	7/12/2021 10:00	BOD (5 day)	3160	mg/L		D
E022814	M131454	Sampler 3-1	A+B-In	7/13/2021 10:00	BOD (5 day)	4130	mg/L		D
E022815	M131577	Sampler 3-1	A+B-In	7/14/2021 10:00	BOD (5 day)	2740	mg/L		D
E022816	M131584	Sampler 3-1	A+B-In	7/15/2021 10:00	BOD (5 day)	3530	mg/L	G-01	D
E023944	M131767	Sampler 3-1	A+B-In	7/19/2021 10:00	BOD (5 day)	3630	mg/L		D
E023945	M131767	Sampler 3-1	A+B-In	7/20/2021 10:00	BOD (5 day)	2560	mg/L		D
E024556	M132194	Sampler 3-1	A+B-In	7/28/2021 10:00	BOD (5 day)	1700	mg/L		D
E024557	M132254	Sampler 3-1	A+B-In	7/29/2021 10:00	BOD (5 day)	2040	mg/L		D
E025655	M132411	Sampler 3-1	A+B-In	8/2/2021 10:00	BOD (5 day)	282	mg/L		D
E025656	M132412	Sampler 3-1	A+B-In	8/3/2021 10:00	BOD (5 day)	307	mg/L	G-01	D
E025657	M132601	Sampler 3-1	A+B-In	8/4/2021 10:00	BOD (5 day)	268	mg/L		D
E025658	M132601	Sampler 3-1	A+B-In	8/5/2021 10:00	BOD (5 day)	262	mg/L		D
E026482	M132759	Sampler 3-1	A+B-In	8/9/2021 10:00	BOD (5 day)	163	mg/L		D
E026483	M132760	Sampler 3-1	A+B-In	8/10/2021 10:00	BOD (5 day)	174	mg/L	G-01	D

E026769	M132870	Sampler 3-1	A+B-In	8/11/2021 10:00	BOD (5 day)	278	mg/L		D
E026770	M132871	Sampler 3-1	A+B-In	8/12/2021 10:00	BOD (5 day)	358	mg/L	G-01	D
E026771	M133062	Sampler 3-1	A+B-In	8/16/2021 10:00	BOD (5 day)	1410	mg/L		D
E026772	M133062	Sampler 3-1	A+B-In	8/17/2021 10:00	BOD (5 day)	984	mg/L		D
E026773	M133170	Sampler 3-1	A+B-In	8/18/2021 10:00	BOD (5 day)	1390	mg/L		D
E026774	M133171	Sampler 3-1	A+B-In	8/19/2021 10:00	BOD (5 day)	2260	mg/L	G-01	D
E026775	M133355	Sampler 3-1	A+B-In	8/23/2021 10:00	BOD (5 day)	533	mg/L		D
E026776	M133356	Sampler 3-1	A+B-In	8/24/2021 10:00	BOD (5 day)	436	mg/L	G-01	D
D039397	M122261	Sampler 3-2	A-STD40-Out	12/9/2020 9:00	BOD (5 day)	4	mg/L		
D039544	M122325	Sampler 3-2	A-STD40-Out	12/10/2020 9:00	BOD (5 day)	9	mg/L		D
D039814	M122482	Sampler 3-2	A-STD40-Out	12/14/2020 9:00	BOD (5 day)	26	mg/L		D
D040112	M122483	Sampler 3-2	A-STD40-Out	12/15/2020 9:00	BOD (5 day)	40	mg/L		D
D040113	M122554	Sampler 3-2	A-STD40-Out	12/16/2020 9:00	BOD (5 day)	34	mg/L		D
D040114	M122618	Sampler 3-2	A-STD40-Out	12/17/2020 9:00	BOD (5 day)	75	mg/L	BOD-02	D
D040115	M122758	Sampler 3-2	A-STD40-Out	12/21/2020 9:00	BOD (5 day)	82	mg/L		D
D040116	M122851	Sampler 3-2	A-STD40-Out	12/22/2020 9:00	BOD (5 day)	69	mg/L		D
E001759	M123610	Sampler 3-2	A-STD40-Out	1/13/2021 9:00	BOD (5 day)	36	mg/L		D
E001760	M123699	Sampler 3-2	A-STD40-Out	1/14/2021 9:00	BOD (5 day)	15	mg/L	BOD-02	D
E001761	M123866	Sampler 3-2	A-STD40-Out	1/18/2021 9:00	BOD (5 day)	12	mg/L	BOD-02	D
E001762	M123867	Sampler 3-2	A-STD40-Out	1/19/2021 9:00	BOD (5 day)	12	mg/L	BOD-02	D
E001763	M123938	Sampler 3-2	A-STD40-Out	1/20/2021 9:00	BOD (5 day)	15	mg/L		D
E001764	M123982	Sampler 3-2	A-STD40-Out	1/21/2021 9:00	BOD (5 day)	17	mg/L	G-01	D
E001765	M124176	Sampler 3-2	A-STD40-Out	1/25/2021 9:00	BOD (5 day)	32	mg/L		D
E001766	M124177	Sampler 3-2	A-STD40-Out	1/26/2021 9:00	BOD (5 day)	29	mg/L	BOD-02	D
E005411	M124928	Sampler 3-2	A-STD40-Out	2/10/2021 9:00	BOD (5 day)	30	mg/L		D
E005422	M125015	Sampler 3-2	A-STD40-Out	2/11/2021 9:00	BOD (5 day)	20	mg/L		D
E006145	M125292	Sampler 3-2	A-STD40-Out	2/22/2021 9:00	BOD (5 day)	29	mg/L		D
E006147	M125293	Sampler 3-2	A-STD40-Out	2/23/2021 9:00	BOD (5 day)	21	mg/L		D
E006273	M125389	Sampler 3-2	A-STD40-Out	2/24/2021 9:00	BOD (5 day)	14	mg/L		D

E006316	M125389	Sampler 3-2	A-STD40-Out	2/25/2021 9:00	BOD (5 day)	11	mg/L	G-01	D
E009161	M126355	Sampler 3-2	A-STD40-Out	3/17/2021 10:00	BOD (5 day)	39	mg/L		D
E009162	M126357	Sampler 3-2	A-STD40-Out	3/18/2021 10:00	BOD (5 day)	11	mg/L	G-01	D
E010029	M126570	Sampler 3-2	A-STD40-Out	3/22/2021 10:00	BOD (5 day)	30	mg/L	BOD-02	D
E010030	M126571	Sampler 3-2	A-STD40-Out	3/23/2021 10:00	BOD (5 day)	19	mg/L		D
E010031	M126666	Sampler 3-2	A-STD40-Out	3/24/2021 10:00	BOD (5 day)	13	mg/L		D
E010032	M126667	Sampler 3-2	A-STD40-Out	3/25/2021 10:00	BOD (5 day)	10	mg/L	G-01	D
E010599	M126881	Sampler 3-2	A-STD40-Out	3/29/2021 10:00	BOD (5 day)	25	mg/L		D
E010600	M126882	Sampler 3-2	A-STD40-Out	3/30/2021 10:00	BOD (5 day)	13	mg/L		D
E012369	M127592	Sampler 3-2	A-STD40-Out	4/14/2021 10:00	BOD (5 day)	87	mg/L		D
E012370	M127603	Sampler 3-2	A-STD40-Out	4/15/2021 10:00	BOD (5 day)	23	mg/L	G-01	D
E013116	M127788	Sampler 3-2	A-STD40-Out	4/19/2021 10:00	BOD (5 day)	28	mg/L		D
E013117	M127789	Sampler 3-2	A-STD40-Out	4/20/2021 10:00	BOD (5 day)	14	mg/L		D
E013118	M127908	Sampler 3-2	A-STD40-Out	4/21/2021 10:00	BOD (5 day)	15	mg/L	BOD-02	D
E013119	M127909	Sampler 3-2	A-STD40-Out	4/22/2021 10:00	BOD (5 day)	12	mg/L	G-01	D
E013923	M128130	Sampler 3-2	A-STD40-Out	4/26/2021 10:00	BOD (5 day)	45	mg/L		D
E013924	M128131	Sampler 3-2	A-STD40-Out	4/27/2021 10:00	BOD (5 day)	5	mg/L		D
E015840	M128771	Sampler 3-2	A-STD40-Out	5/10/2021 10:05	BOD (5 day)	101	mg/L		D
E015841	M128771	Sampler 3-2	A-STD40-Out	5/11/2021 10:17	BOD (5 day)	21	mg/L		D
E015641	M128888	Sampler 3-2	A-STD40-Out	5/12/2021 10:00	BOD (5 day)	12	mg/L		D
E015642	M128889	Sampler 3-2	A-STD40-Out	5/13/2021 10:00	BOD (5 day)	6	mg/L	G-01	
E015842	M128928	Sampler 3-2	A-STD40-Out	5/14/2021 10:05	BOD (5 day)	8	mg/L	G-01	D
E016335	M129080	Sampler 3-2	A-STD40-Out	5/17/2021 10:00	BOD (5 day)	56	mg/L		D
E016336	M129081	Sampler 3-2	A-STD40-Out	5/18/2021 10:00	BOD (5 day)	15	mg/L	G-01	D
E016337	M129182	Sampler 3-2	A-STD40-Out	5/19/2021 10:00	BOD (5 day)	29	mg/L	BOD-02	D
E016338	M129245	Sampler 3-2	A-STD40-Out	5/20/2021 10:00	BOD (5 day)	14	mg/L		D
E015843	M129246	Sampler 3-2	A-STD40-Out	5/21/2021 10:32	BOD (5 day)	22	mg/L	G-01	D
E017335	M129376	Sampler 3-2	A-STD40-Out	5/24/2021 10:00	BOD (5 day)	45	mg/L		D
E017336	M129377	Sampler 3-2	A-STD40-Out	5/25/2021 10:00	BOD (5 day)	21	mg/L		D

E015844	M129506	Sampler 3-2	A-STD40-Out	5/26/2021 10:03	BOD (5 day)	13	mg/L		D
E015845	M129562	Sampler 3-2	A-STD40-Out	5/27/2021 10:49	BOD (5 day)	14	mg/L		D
E015846	M129564	Sampler 3-2	A-STD40-Out	5/28/2021 10:22	BOD (5 day)	18	mg/L		D
E019930	M130412	Sampler 3-2	A-STD40-Out	6/16/2021 10:00	BOD (5 day)	38	mg/L		D
E019931	M130475	Sampler 3-2	A-STD40-Out	6/17/2021 10:00	BOD (5 day)	24	mg/L		D
E020622	M130600	Sampler 3-2	A-STD40-Out	6/21/2021 10:00	BOD (5 day)	40	mg/L		D
E020623	M130601	Sampler 3-2	A-STD40-Out	6/22/2021 10:00	BOD (5 day)	8	mg/L	RPD-01	D
E020624	M130702	Sampler 3-2	A-STD40-Out	6/23/2021 10:00	BOD (5 day)	6	mg/L		D
E020625	M130755	Sampler 3-2	A-STD40-Out	6/24/2021 10:00	BOD (5 day)	8	mg/L		D
E021518	M130904	Sampler 3-2	A-STD40-Out	6/28/2021 10:00	BOD (5 day)	50	mg/L		D
E021519	M130906	Sampler 3-2	A-STD40-Out	6/29/2021 10:00	BOD (5 day)	7	mg/L		D
E022811	M131270	Sampler 3-2	A-STD40-Out	7/7/2021 10:00	BOD (5 day)	96	mg/L		D
E022812	M131320	Sampler 3-2	A-STD40-Out	7/8/2021 10:00	BOD (5 day)	11	mg/L		D
E022813	M131454	Sampler 3-2	A-STD40-Out	7/12/2021 10:00	BOD (5 day)	48	mg/L		D
E022814	M131454	Sampler 3-2	A-STD40-Out	7/13/2021 10:00	BOD (5 day)	11	mg/L		D
E022815	M131577	Sampler 3-2	A-STD40-Out	7/14/2021 10:00	BOD (5 day)	8	mg/L		D
E022816	M131584	Sampler 3-2	A-STD40-Out	7/15/2021 10:00	BOD (5 day)	11	mg/L	G-01	D
E023944	M131767	Sampler 3-2	A-STD40-Out	7/19/2021 10:00	BOD (5 day)	76	mg/L		D
E023945	M131767	Sampler 3-2	A-STD40-Out	7/20/2021 10:00	BOD (5 day)	8	mg/L		D
E024556	M132194	Sampler 3-2	A-STD40-Out	7/28/2021 10:00	BOD (5 day)	88	mg/L		D
E024557	M132255	Sampler 3-2	A-STD40-Out	7/29/2021 10:00	BOD (5 day)	12	mg/L		D
E025655	M132411	Sampler 3-2	A-STD40-Out	8/2/2021 10:00	BOD (5 day)	48	mg/L		D
E025656	M132412	Sampler 3-2	A-STD40-Out	8/3/2021 10:00	BOD (5 day)	6	mg/L	G-01	D
E025657	M132518	Sampler 3-2	A-STD40-Out	8/4/2021 10:00	BOD (5 day)	5	mg/L		D
E025658	M132601	Sampler 3-2	A-STD40-Out	8/5/2021 10:00	BOD (5 day)	5	mg/L		D
E026482	M132759	Sampler 3-2	A-STD40-Out	8/9/2021 10:00	BOD (5 day)	33	mg/L		D
E026483	M132760	Sampler 3-2	A-STD40-Out	8/10/2021 10:00	BOD (5 day)	5	mg/L	G-01	D
E026769	M132870	Sampler 3-2	A-STD40-Out	8/11/2021 10:00	BOD (5 day)	4	mg/L		D
E026770	M132871	Sampler 3-2	A-STD40-Out	8/12/2021 10:00	BOD (5 day)	4	mg/L	G-01	D

E026771	M133062	Sampler 3-2	A-STD40-Out	8/16/2021 10:00	BOD (5 day)	52	mg/L		D
E026772	M133062	Sampler 3-2	A-STD40-Out	8/17/2021 10:00	BOD (5 day)	7	mg/L		D
E026773	M133170	Sampler 3-2	A-STD40-Out	8/18/2021 10:00	BOD (5 day)	5	mg/L		D
E026774	M133171	Sampler 3-2	A-STD40-Out	8/19/2021 10:00	BOD (5 day)	5	mg/L	G-01	D
E026775	M133355	Sampler 3-2	A-STD40-Out	8/23/2021 10:00	BOD (5 day)	39	mg/L		D
E026776	M133356	Sampler 3-2	A-STD40-Out	8/24/2021 10:00	BOD (5 day)	6	mg/L	G-01	D
D039397	M122261	Sampler 3-3	B-Equal-Out	12/9/2020 9:00	BOD (5 day)	7	mg/L		D
D039544	M122326	Sampler 3-3	B-Equal-Out	12/10/2020 9:00	BOD (5 day)	12	mg/L		D
D039814	M122482	Sampler 3-3	B-Equal-Out	12/14/2020 9:00	BOD (5 day)	36	mg/L		D
D040112	M122483	Sampler 3-3	B-Equal-Out	12/15/2020 9:00	BOD (5 day)	24	mg/L		D
D040113	M122554	Sampler 3-3	B-Equal-Out	12/16/2020 9:00	BOD (5 day)	44	mg/L		D
D040114	M122618	Sampler 3-3	B-Equal-Out	12/17/2020 9:00	BOD (5 day)	87	mg/L		D
D040115	M122758	Sampler 3-3	B-Equal-Out	12/21/2020 9:00	BOD (5 day)	74	mg/L		D
D040116	M122851	Sampler 3-3	B-Equal-Out	12/22/2020 9:00	BOD (5 day)	52	mg/L		D
E001759	M123610	Sampler 3-3	B-Equal-Out	1/13/2021 9:00	BOD (5 day)	33	mg/L	BOD-02	D
E001760	M123699	Sampler 3-3	B-Equal-Out	1/14/2021 9:00	BOD (5 day)	20	mg/L	BOD-02	D
E001761	M123866	Sampler 3-3	B-Equal-Out	1/18/2021 9:00	BOD (5 day)	14	mg/L	BOD-02	D
E001762	M123867	Sampler 3-3	B-Equal-Out	1/19/2021 9:00	BOD (5 day)	13	mg/L	BOD-02	D
E001763	M123938	Sampler 3-3	B-Equal-Out	1/20/2021 9:00	BOD (5 day)	13	mg/L	BOD-02	D
E001764	M123982	Sampler 3-3	B-Equal-Out	1/21/2021 9:00	BOD (5 day)	12	mg/L	BOD-02, G-01	D
E001765	M124176	Sampler 3-3	B-Equal-Out	1/25/2021 9:00	BOD (5 day)	20	mg/L		D
E001766	M124177	Sampler 3-3	B-Equal-Out	1/26/2021 9:00	BOD (5 day)	16	mg/L		D
E005411	M124928	Sampler 3-3	B-Equal-Out	2/10/2021 9:00	BOD (5 day)	28	mg/L		D
E005422	M125015	Sampler 3-3	B-Equal-Out	2/11/2021 9:00	BOD (5 day)	15	mg/L		D
E006145	M125292	Sampler 3-3	B-Equal-Out	2/22/2021 9:00	BOD (5 day)	37	mg/L		D
E006147	M125293	Sampler 3-3	B-Equal-Out	2/23/2021 9:00	BOD (5 day)	25	mg/L		D
E006273	M125389	Sampler 3-3	B-Equal-Out	2/24/2021 9:00	BOD (5 day)	13	mg/L		D
E006316	M125390	Sampler 3-3	B-Equal-Out	2/25/2021 9:00	BOD (5 day)	7	mg/L	G-01	
E009161	M126356	Sampler 3-3	B-Equal-Out	3/17/2021 10:00	BOD (5 day)	48	mg/L		D

E009162	M126357	Sampler 3-3	B-Equal-Out	3/18/2021 10:00	BOD (5 day)	19	mg/L	G-01	D
E010029	M126570	Sampler 3-3	B-Equal-Out	3/22/2021 10:00	BOD (5 day)	17	mg/L		D
E010030	M126571	Sampler 3-3	B-Equal-Out	3/23/2021 10:00	BOD (5 day)	15	mg/L		D
E010031	M126666	Sampler 3-3	B-Equal-Out	3/24/2021 10:00	BOD (5 day)	14	mg/L		D
E010032	M126667	Sampler 3-3	B-Equal-Out	3/25/2021 10:00	BOD (5 day)	15	mg/L	G-01	D
E010599	M126881	Sampler 3-3	B-Equal-Out	3/29/2021 10:00	BOD (5 day)	26	mg/L		D
E010600	M126882	Sampler 3-3	B-Equal-Out	3/30/2021 10:00	BOD (5 day)	23	mg/L	BOD-02	D
E012369	M127592	Sampler 3-3	B-Equal-Out	4/14/2021 10:00	BOD (5 day)	82	mg/L		D
E012370	M127603	Sampler 3-3	B-Equal-Out	4/15/2021 10:00	BOD (5 day)	18	mg/L	G-01	D
E013116	M127788	Sampler 3-3	B-Equal-Out	4/19/2021 10:00	BOD (5 day)	16	mg/L		D
E013117	M127789	Sampler 3-3	B-Equal-Out	4/20/2021 10:00	BOD (5 day)	17	mg/L		D
E013118	M127908	Sampler 3-3	B-Equal-Out	4/21/2021 10:00	BOD (5 day)	17	mg/L		D
E013119	M127909	Sampler 3-3	B-Equal-Out	4/22/2021 10:00	BOD (5 day)	11	mg/L	BOD-02, G-01	D
E013923	M128130	Sampler 3-3	B-Equal-Out	4/26/2021 10:00	BOD (5 day)	33	mg/L		D
E013924	M128131	Sampler 3-3	B-Equal-Out	4/27/2021 10:00	BOD (5 day)	13	mg/L		D
E015840	M128771	Sampler 3-3	B-Equal-Out	5/10/2021 10:07	BOD (5 day)	74	mg/L		D
E015841	M128771	Sampler 3-3	B-Equal-Out	5/11/2021 10:19	BOD (5 day)	18	mg/L		D
E015641	M128888	Sampler 3-3	B-Equal-Out	5/12/2021 10:00	BOD (5 day)	7	mg/L		D
E015842	M128928	Sampler 3-3	B-Equal-Out	5/14/2021 10:07	BOD (5 day)	17	mg/L	G-01	D
E016335	M129080	Sampler 3-3	B-Equal-Out	5/17/2021 10:00	BOD (5 day)	45	mg/L		D
E016336	M129081	Sampler 3-3	B-Equal-Out	5/18/2021 10:00	BOD (5 day)	33	mg/L	G-01	D
E016337	M129183	Sampler 3-3	B-Equal-Out	5/19/2021 10:00	BOD (5 day)	40	mg/L	BOD-02	D
E016338	M129245	Sampler 3-3	B-Equal-Out	5/20/2021 10:00	BOD (5 day)	15	mg/L		D
E015843	M129246	Sampler 3-3	B-Equal-Out	5/21/2021 10:36	BOD (5 day)	18	mg/L	G-01	D
E017335	M129377	Sampler 3-3	B-Equal-Out	5/24/2021 10:00	BOD (5 day)	44	mg/L		D
E017336	M129377	Sampler 3-3	B-Equal-Out	5/25/2021 10:00	BOD (5 day)	34	mg/L	BOD-02	D
E015844	M129506	Sampler 3-3	B-Equal-Out	5/26/2021 10:05	BOD (5 day)	16	mg/L		D
E015845	M129562	Sampler 3-3	B-Equal-Out	5/27/2021 10:01	BOD (5 day)	22	mg/L		D
E015846	M129564	Sampler 3-3	B-Equal-Out	5/28/2021 10:24	BOD (5 day)	16	mg/L		D

E019930	M130412	Sampler 3-3	B-Equal-Out	6/16/2021 10:00	BOD (5 day)	6	mg/L		D
E019931	M130475	Sampler 3-3	B-Equal-Out	6/17/2021 10:00	BOD (5 day)	8	mg/L		D
E020622	M130600	Sampler 3-3	B-Equal-Out	6/21/2021 10:00	BOD (5 day)	29	mg/L		D
E020623	M130601	Sampler 3-3	B-Equal-Out	6/22/2021 10:00	BOD (5 day)	6	mg/L	RPD-01	D
E020624	M130702	Sampler 3-3	B-Equal-Out	6/23/2021 10:00	BOD (5 day)	4	mg/L		D
E020625	M130755	Sampler 3-3	B-Equal-Out	6/24/2021 10:00	BOD (5 day)	5	mg/L		D
E021518	M130904	Sampler 3-3	B-Equal-Out	6/28/2021 10:00	BOD (5 day)	33	mg/L		D
E021519	M130906	Sampler 3-3	B-Equal-Out	6/29/2021 10:00	BOD (5 day)	3	mg/L		
E022811	M131270	Sampler 3-3	B-Equal-Out	7/7/2021 10:00	BOD (5 day)	80	mg/L		D
E022812	M131320	Sampler 3-3	B-Equal-Out	7/8/2021 10:00	BOD (5 day)	10	mg/L		D
E022813	M131454	Sampler 3-3	B-Equal-Out	7/12/2021 10:00	BOD (5 day)	39	mg/L		D
E022814	M131454	Sampler 3-3	B-Equal-Out	7/13/2021 10:00	BOD (5 day)	13	mg/L		D
E022815	M131577	Sampler 3-3	B-Equal-Out	7/14/2021 10:00	BOD (5 day)	12	mg/L		D
E022816	M131584	Sampler 3-3	B-Equal-Out	7/15/2021 10:00	BOD (5 day)	11	mg/L	G-01	D
E023944	M131767	Sampler 3-3	B-Equal-Out	7/19/2021 10:00	BOD (5 day)	71	mg/L		D
E023945	M131768	Sampler 3-3	B-Equal-Out	7/20/2021 10:00	BOD (5 day)	14	mg/L	RPD-01	D
E024556	M132194	Sampler 3-3	B-Equal-Out	7/28/2021 10:00	BOD (5 day)	65	mg/L		D
E024557	M132255	Sampler 3-3	B-Equal-Out	7/29/2021 10:00	BOD (5 day)	9	mg/L		D
E025655	M132411	Sampler 3-3	B-Equal-Out	8/2/2021 10:00	BOD (5 day)	32	mg/L		D
E025656	M132412	Sampler 3-3	B-Equal-Out	8/3/2021 10:00	BOD (5 day)	7	mg/L	G-01	D
E025657	M132518	Sampler 3-3	B-Equal-Out	8/4/2021 10:00	BOD (5 day)	5	mg/L		D
E025658	M132601	Sampler 3-3	B-Equal-Out	8/5/2021 10:00	BOD (5 day)	5	mg/L		D
E026482	M132759	Sampler 3-3	B-Equal-Out	8/9/2021 10:00	BOD (5 day)	23	mg/L		D
E026483	M132760	Sampler 3-3	B-Equal-Out	8/10/2021 10:00	BOD (5 day)	4	mg/L	G-01	D
E026769	M132870	Sampler 3-3	B-Equal-Out	8/11/2021 10:00	BOD (5 day)	6	mg/L		D
E026770	M132871	Sampler 3-3	B-Equal-Out	8/12/2021 10:00	BOD (5 day)	7	mg/L	G-01	D
E026771	M133062	Sampler 3-3	B-Equal-Out	8/16/2021 10:00	BOD (5 day)	28	mg/L		D
E026772	M133062	Sampler 3-3	B-Equal-Out	8/17/2021 10:00	BOD (5 day)	6	mg/L		D
E026773	M133170	Sampler 3-3	B-Equal-Out	8/18/2021 10:00	BOD (5 day)	6	mg/L		D

E026774	M133171	Sampler 3-3	B-Equal-Out	8/19/2021 10:00	BOD (5 day)	8	mg/L	G-01	D
E026775	M133355	Sampler 3-3	B-Equal-Out	8/23/2021 10:00	BOD (5 day)	25	mg/L		D
E026776	M133356	Sampler 3-3	B-Equal-Out	8/24/2021 10:00	BOD (5 day)	8	mg/L	G-01	D
D039397	M122308	Feed Tank	OSSF Main	12/9/2020 9:36	Total Suspended Solids	157	mg/L		D
D039544	M122307	Feed Tank	OSSF Main	12/10/2020 8:50	Total Suspended Solids	153	mg/L		D
D039814	M122425	Feed Tank	OSSF Main	12/14/2020 9:59	Total Suspended Solids	162	mg/L		D
D040112	M122711	Feed Tank	OSSF Main	12/15/2020 9:00	Total Suspended Solids	116	mg/L	C-02	D
D040113	M122697	Feed Tank	OSSF Main	12/16/2020 9:38	Total Suspended Solids	256	mg/L		D
D040114	M122695	Feed Tank	OSSF Main	12/17/2020 9:01	Total Suspended Solids	184	mg/L		D
D040115	M122792	Feed Tank	OSSF Main	12/21/2020 9:53	Total Suspended Solids	146	mg/L		D
D040116	M122811	Feed Tank	OSSF Main	12/22/2020 8:58	Total Suspended Solids	110	mg/L		D
E001759	M123785	Feed Tank	OSSF Main	1/13/2021 9:45	Total Suspended Solids	110	mg/L		D
E001760	M123996	Feed Tank	OSSF Main	1/14/2021 9:44	Total Suspended Solids	142	mg/L		D
E001761	M124038	Feed Tank	OSSF Main	1/18/2021 9:47	Total Suspended Solids	136	mg/L		D
E001762	M123997	Feed Tank	OSSF Main	1/19/2021 9:56	Total Suspended Solids	126	mg/L		D
E001763	M124052	Feed Tank	OSSF Main	1/20/2021 8:51	Total Suspended Solids	124	mg/L		D
E001764	M123997	Feed Tank	OSSF Main	1/21/2021 8:55	Total Suspended Solids	146	mg/L		D
E001765	M124184	Feed Tank	OSSF Main	1/25/2021 8:47	Total Suspended Solids	157	mg/L		D
E001766	M124272	Feed Tank	OSSF Main	1/26/2021 9:54	Total Suspended Solids	155	mg/L		D
E005411	M124909	Feed Tank	OSSF Main	2/10/2021 9:48	Total Suspended Solids	312	mg/L		D
E005422	M125068	Feed Tank	OSSF Main	2/11/2021 8:49	Total Suspended Solids	260	mg/L		D
E006145	M125260	Feed Tank	OSSF Main	2/22/2021 10:30	Total Suspended Solids	276	mg/L		D
E006147	M125287	Feed Tank	OSSF Main	2/23/2021 9:54	Total Suspended Solids	208	mg/L		D
E006273	M125501	Feed Tank	OSSF Main	2/24/2021 8:57	Total Suspended Solids	208	mg/L		D
E006316	M125628	Feed Tank	OSSF Main	2/25/2021 9:01	Total Suspended Solids	224	mg/L		D
E009161	M126395	Feed Tank	OSSF Main	3/17/2021 10:40	Total Suspended Solids	270	mg/L		D
E009162	M126565	Feed Tank	OSSF Main	3/18/2021 10:46	Total Suspended Solids	286	mg/L		D
E010029	M126641	Feed Tank	OSSF Main	3/22/2021 10:57	Total Suspended Solids	262	mg/L		D
E010030	M126645	Feed Tank	OSSF Main	3/23/2021 10:30	Total Suspended Solids	300	mg/L		D

E010031	M126844	Feed Tank	OSSF Main	3/24/2021 10:56	Total Suspended Solids	244	mg/L		D
E010032	M126844	Feed Tank	OSSF Main	3/25/2021 10:23	Total Suspended Solids	284	mg/L		D
E010599	M126859	Feed Tank	OSSF Main	3/29/2021 9:53	Total Suspended Solids	280	mg/L		D
E010600	M126939	Feed Tank	OSSF Main	3/30/2021 10:58	Total Suspended Solids	370	mg/L	Visual	D
E012369	M127574	Feed Tank	OSSF Main	4/14/2021 10:27	Total Suspended Solids	210	mg/L		D
E012370	M127733	Feed Tank	OSSF Main	4/15/2021 10:25	Total Suspended Solids	240	mg/L		D
E013116	M127838	Feed Tank	OSSF Main	4/19/2021 10:51	Total Suspended Solids	100	mg/L		D
E013117	M127839	Feed Tank	OSSF Main	4/20/2021 10:54	Total Suspended Solids	172	mg/L		D
E013118	M127920	Feed Tank	OSSF Main	4/21/2021 10:57	Total Suspended Solids	126	mg/L		D
E013119	M127985	Feed Tank	OSSF Main	4/22/2021 10:11	Total Suspended Solids	204	mg/L		D
E013923	M128121	Feed Tank	OSSF Main	4/26/2021 10:31	Total Suspended Solids	194	mg/L		D
E013924	M128196	Feed Tank	OSSF Main	4/27/2021 10:52	Total Suspended Solids	124	mg/L		D
E015641	M128855	Feed Tank	OSSF Main	5/12/2021 9:47	Total Suspended Solids	368	mg/L		D
E015642	M128963	Feed Tank	OSSF Main	5/13/2021 11:02	Total Suspended Solids	412	mg/L		D
E016335	M129078	Feed Tank	OSSF Main	5/17/2021 9:59	Total Suspended Solids	240	mg/L		D
E016336	M129134	Feed Tank	OSSF Main	5/18/2021 10:48	Total Suspended Solids	292	mg/L		D
E016337	M129156	Feed Tank	OSSF Main	5/19/2021 9:55	Total Suspended Solids	292	mg/L		D
E016338	M129272	Feed Tank	OSSF Main	5/20/2021 11:00	Total Suspended Solids	276	mg/L		D
E017335	M129356	Feed Tank	OSSF Main	5/24/2021 10:58	Total Suspended Solids	368	mg/L		D
E017336	M129379	Feed Tank	OSSF Main	5/25/2021 10:18	Total Suspended Solids	340	mg/L		D
E019517	M130066	Feed Tank	OSSF Main	6/9/2021 9:20	Total Suspended Solids	332	mg/L		D
E019680	M130117	Feed Tank	OSSF Main	6/10/2021 10:30	Total Suspended Solids	324	mg/L		D
E020136	M130309	Feed Tank	OSSF Main	6/14/2021 9:05	Total Suspended Solids	224	mg/L		D
E020256	M130310	Feed Tank	OSSF Main	6/15/2021 8:40	Total Suspended Solids	196	mg/L		D
E019930	M130442	Feed Tank	OSSF Main	6/16/2021 9:47	Total Suspended Solids	196	mg/L		D
E019931	M130443	Feed Tank	OSSF Main	6/17/2021 11:05	Total Suspended Solids	192	mg/L		D
E020622	M130598	Feed Tank	OSSF Main	6/21/2021 9:44	Total Suspended Solids	148	mg/L	Visual	D
E020623	M130669	Feed Tank	OSSF Main	6/22/2021 9:47	Total Suspended Solids	220	mg/L		D
E020624	M130722	Feed Tank	OSSF Main	6/23/2021 11:08	Total Suspended Solids	410	mg/L	Visual	D

E020625	M130862	Feed Tank	OSSF Main	6/24/2021 9:39	Total Suspended Solids	324	mg/L		D
E021518	M130900	Feed Tank	OSSF Main	6/28/2021 11:10	Total Suspended Solids	360	mg/L		D
E021519	M130946	Feed Tank	OSSF Main	6/29/2021 9:57	Total Suspended Solids	220	mg/L		D
E022811	M131456	Feed Tank	OSSF Main	7/7/2021 10:02	Total Suspended Solids	264	mg/L		D
E022812	M131456	Feed Tank	OSSF Main	7/8/2021 10:04	Total Suspended Solids	296	mg/L		D
E022813	M131457	Feed Tank	OSSF Main	7/12/2021 10:06	Total Suspended Solids	316	mg/L		D
E022814	M131649	Feed Tank	OSSF Main	7/13/2021 10:00	Total Suspended Solids	224	mg/L		D
E022815	M131649	Feed Tank	OSSF Main	7/14/2021 10:26	Total Suspended Solids	644	mg/L		D
E022816	M131650	Feed Tank	OSSF Main	7/15/2021 10:04	Total Suspended Solids	352	mg/L		D
E023944	M131849	Feed Tank	OSSF Main	7/19/2021 10:03	Total Suspended Solids	524	mg/L		D
E023945	M131850	Feed Tank	OSSF Main	7/20/2021 9:56	Total Suspended Solids	424	mg/L		D
E024556	M132402	Feed Tank	OSSF Main	7/28/2021 9:54	Total Suspended Solids	168	mg/L		D
E024557	M132403	Feed Tank	OSSF Main	7/29/2021 10:54	Total Suspended Solids	131	mg/L		D
E025655	M132562	Feed Tank	OSSF Main	8/2/2021 9:49	Total Suspended Solids	182	mg/L		D
E025656	M132563	Feed Tank	OSSF Main	8/3/2021 9:59	Total Suspended Solids	164	mg/L		D
E025657	M132701	Feed Tank	OSSF Main	8/4/2021 10:56	Total Suspended Solids	185	mg/L		D
E025658	M132702	Feed Tank	OSSF Main	8/5/2021 10:59	Total Suspended Solids	236	mg/L		D
E026482	M132718	Feed Tank	OSSF Main	8/9/2021 10:16	Total Suspended Solids	302	mg/L		D
E026483	M132884	Feed Tank	OSSF Main	8/10/2021 10:05	Total Suspended Solids	228	mg/L		D
E026769	M132885	Feed Tank	OSSF Main	8/11/2021 10:11	Total Suspended Solids	228	mg/L	RPD-01	D
E026770	M132885	Feed Tank	OSSF Main	8/12/2021 9:58	Total Suspended Solids	280	mg/L	RPD-01	D
E026771	M133068	Feed Tank	OSSF Main	8/16/2021 9:56	Total Suspended Solids	336	mg/L		D
E026772	M133174	Feed Tank	OSSF Main	8/17/2021 10:14	Total Suspended Solids	200	mg/L	C-02	D
E026773	M133175	Feed Tank	OSSF Main	8/18/2021 10:36	Total Suspended Solids	1020	mg/L	Visual	D
E026774	M133259	Feed Tank	OSSF Main	8/19/2021 10:17	Total Suspended Solids	257	mg/L		D
E026775	M133364	Feed Tank	OSSF Main	8/23/2021 10:13	Total Suspended Solids	218	mg/L		D
E026776	M133443	Feed Tank	OSSF Main	8/24/2021 10:45	Total Suspended Solids	126	mg/L		D
D039397	M122265	Lift Station	RELLIS Influent	12/9/2020 9:32	Total Suspended Solids	23	mg/L		D
D039544	M122307	Lift Station	RELLIS Influent	12/10/2020 8:55	Total Suspended Solids	52	mg/L		D

D039814	M122425	Lift Station	RELLIS Influent	12/14/2020 9:55	Total Suspended Solids	106	mg/L		D
D040112	M122526	Lift Station	RELLIS Influent	12/15/2020 9:00	Total Suspended Solids	48	mg/L		D
D040113	M122526	Lift Station	RELLIS Influent	12/16/2020 9:34	Total Suspended Solids	168	mg/L		D
D040114	M122695	Lift Station	RELLIS Influent	12/17/2020 8:57	Total Suspended Solids	112	mg/L		D
D040115	M122792	Lift Station	RELLIS Influent	12/21/2020 9:47	Total Suspended Solids	15	mg/L		D
D040116	M122886	Lift Station	RELLIS Influent	12/22/2020 8:54	Total Suspended Solids	23	mg/L	Visual	D
E001759	M123652	Lift Station	RELLIS Influent	1/13/2021 9:41	Total Suspended Solids	523	mg/L	Visual	D
E001760	M123756	Lift Station	RELLIS Influent	1/14/2021 9:40	Total Suspended Solids	394	mg/L	Visual	D
E001761	M123838	Lift Station	RELLIS Influent	1/18/2021 9:53	Total Suspended Solids	8	mg/L		
E001762	M123836	Lift Station	RELLIS Influent	1/19/2021 9:59	Total Suspended Solids	352	mg/L	RPD-01	D
E001763	M124052	Lift Station	RELLIS Influent	1/20/2021 8:48	Total Suspended Solids	12	mg/L		D
E001764	M123997	Lift Station	RELLIS Influent	1/21/2021 8:51	Total Suspended Solids	32	mg/L		D
E001765	M124274	Lift Station	RELLIS Influent	1/25/2021 8:44	Total Suspended Solids	555	mg/L	Visual	D
E001766	M124182	Lift Station	RELLIS Influent	1/26/2021 9:57	Total Suspended Solids	434	mg/L	Visual	D
E005411	M124909	Lift Station	RELLIS Influent	2/10/2021 9:43	Total Suspended Solids	108	mg/L		D
E005422	M125068	Lift Station	RELLIS Influent	2/11/2021 8:45	Total Suspended Solids	102	mg/L		D
E006145	M125260	Lift Station	RELLIS Influent	2/22/2021 10:32	Total Suspended Solids	43	mg/L		D
E006147	M125287	Lift Station	RELLIS Influent	2/23/2021 9:57	Total Suspended Solids	178	mg/L		D
E006273	M125501	Lift Station	RELLIS Influent	2/24/2021 8:55	Total Suspended Solids	73	mg/L		D
E006316	M125558	Lift Station	RELLIS Influent	2/25/2021 8:59	Total Suspended Solids	684	mg/L	Visual	D
E009161	M126395	Lift Station	RELLIS Influent	3/17/2021 10:45	Total Suspended Solids	184	mg/L		D
E009162	M126565	Lift Station	RELLIS Influent	3/18/2021 10:50	Total Suspended Solids	153	mg/L		D
E010029	M126641	Lift Station	RELLIS Influent	3/22/2021 10:59	Total Suspended Solids	202	mg/L		D
E010030	M126840	Lift Station	RELLIS Influent	3/23/2021 10:34	Total Suspended Solids	555	mg/L		D
E010030	M126858	Lift Station	RELLIS Influent	3/23/2021 10:34	Total Suspended Solids	580	mg/L		D
E010030	M126858	Lift Station	RELLIS Influent	3/23/2021 10:34	Total Suspended Solids	850	mg/L		D
E010030	M126645	Lift Station	RELLIS Influent	3/23/2021 10:34	Total Suspended Solids	1120	mg/L	Visual	D
E010031	M126691	Lift Station	RELLIS Influent	3/24/2021 10:50	Total Suspended Solids	110	mg/L		D
E010032	M126844	Lift Station	RELLIS Influent	3/25/2021 10:25	Total Suspended Solids	185	mg/L		D

E010599	M126858	Lift Station	RELLIS Influent	3/29/2021 10:39	Total Suspended Solids	1020	mg/L		D
E010600	M126939	Lift Station	RELLIS Influent	3/30/2021 11:00	Total Suspended Solids	119	mg/L		D
E012369	M127574	Lift Station	RELLIS Influent	4/14/2021 10:57	Total Suspended Solids	175	mg/L		D
E012370	M127733	Lift Station	RELLIS Influent	4/15/2021 10:48	Total Suspended Solids	1110	mg/L	C-02	D
E013116	M127838	Lift Station	RELLIS Influent	4/19/2021 10:56	Total Suspended Solids	288	mg/L		D
E013117	M127839	Lift Station	RELLIS Influent	4/20/2021 10:51	Total Suspended Solids	43	mg/L		D
E013118	M127920	Lift Station	RELLIS Influent	4/21/2021 10:55	Total Suspended Solids	225	mg/L		D
E013119	M127985	Lift Station	RELLIS Influent	4/22/2021 10:13	Total Suspended Solids	261	mg/L		D
E013923	M128121	Lift Station	RELLIS Influent	4/26/2021 10:34	Total Suspended Solids	632	mg/L		D
E013924	M128196	Lift Station	RELLIS Influent	4/27/2021 10:55	Total Suspended Solids	592	mg/L		D
E015641	M128855	Lift Station	RELLIS Influent	5/12/2021 9:50	Total Suspended Solids	1590	mg/L	Visual	D
E015642	M128963	Lift Station	RELLIS Influent	5/13/2021 11:05	Total Suspended Solids	214	mg/L		D
E016335	M129078	Lift Station	RELLIS Influent	5/17/2021 10:01	Total Suspended Solids	752	mg/L		D
E016336	M129134	Lift Station	RELLIS Influent	5/18/2021 10:51	Total Suspended Solids	324	mg/L		D
E016337	M129156	Lift Station	RELLIS Influent	5/19/2021 9:56	Total Suspended Solids	700	mg/L		D
E016338	M129209	Lift Station	RELLIS Influent	5/20/2021 11:05	Total Suspended Solids	178	mg/L		D
E017336	M129379	Lift Station	RELLIS Influent	5/25/2021 10:12	Total Suspended Solids	855	mg/L		D
E019930	M130597	Lift Station	RELLIS Influent	6/16/2021 9:50	Total Suspended Solids	72	mg/L	C-02	D
E019931	M130597	Lift Station	RELLIS Influent	6/17/2021 11:10	Total Suspended Solids	138	mg/L	C-02	D
E020622	M130598	Lift Station	RELLIS Influent	6/21/2021 9:57	Total Suspended Solids	440	mg/L		D
E020623	M130668	Lift Station	RELLIS Influent	6/22/2021 11:01	Total Suspended Solids	1980	mg/L	Visual	D
E020624	M130722	Lift Station	RELLIS Influent	6/23/2021 11:13	Total Suspended Solids	1490	mg/L		D
E020625	M130862	Lift Station	RELLIS Influent	6/24/2021 9:44	Total Suspended Solids	500	mg/L		D
E021518	M130900	Lift Station	RELLIS Influent	6/28/2021 11:20	Total Suspended Solids	1060	mg/L		D
E021519	M130945	Lift Station	RELLIS Influent	6/29/2021 10:38	Total Suspended Solids	532	mg/L		D
E022811	M131456	Lift Station	RELLIS Influent	7/7/2021 9:57	Total Suspended Solids	1470	mg/L		D
E022812	M131456	Lift Station	RELLIS Influent	7/8/2021 10:37	Total Suspended Solids	206	mg/L		D
E022814	M131649	Lift Station	RELLIS Influent	7/13/2021 10:21	Total Suspended Solids	53	mg/L	Visual	D
E022815	M131649	Lift Station	RELLIS Influent	7/14/2021 10:32	Total Suspended Solids	5310	mg/L	Visual	D

E022816	M131650	Lift Station	RELLIS Influent	7/15/2021 9:51	Total Suspended Solids	11000	mg/L	Visual	D
E023944	M131849	Lift Station	RELLIS Influent	7/19/2021 10:33	Total Suspended Solids	2470	mg/L	Visual	D
E023945	M131850	Lift Station	RELLIS Influent	7/20/2021 10:30	Total Suspended Solids	2120	mg/L	Visual	D
E024556	M132402	Lift Station	RELLIS Influent	7/28/2021 10:55	Total Suspended Solids	1130	mg/L		D
E024557	M132403	Lift Station	RELLIS Influent	7/29/2021 11:01	Total Suspended Solids	252	mg/L	C-02	D
E025655	M132562	Lift Station	RELLIS Influent	8/2/2021 9:43	Total Suspended Solids	848	mg/L		D
E025656	M132563	Lift Station	RELLIS Influent	8/3/2021 9:50	Total Suspended Solids	388	mg/L		D
E025657	M132701	Lift Station	RELLIS Influent	8/4/2021 11:08	Total Suspended Solids	2110	mg/L		D
E025658	M132702	Lift Station	RELLIS Influent	8/5/2021 11:13	Total Suspended Solids	408	mg/L		D
E026482	M132718	Lift Station	RELLIS Influent	8/9/2021 9:50	Total Suspended Solids	636	mg/L		D
E026483	M132884	Lift Station	RELLIS Influent	8/10/2021 9:56	Total Suspended Solids	620	mg/L		D
E026769	M132885	Lift Station	RELLIS Influent	8/11/2021 9:58	Total Suspended Solids	398	mg/L	RPD-01	D
E026770	M132885	Lift Station	RELLIS Influent	8/12/2021 9:53	Total Suspended Solids	386	mg/L	RPD-01	D
E026771	M133020	Lift Station	RELLIS Influent	8/16/2021 9:51	Total Suspended Solids	123	mg/L	Visual	D
E026772	M133068	Lift Station	RELLIS Influent	8/17/2021 10:08	Total Suspended Solids	147	mg/L		D
E026773	M133175	Lift Station	RELLIS Influent	8/18/2021 10:46	Total Suspended Solids	256	mg/L		D
E026774	M133217	Lift Station	RELLIS Influent	8/19/2021 10:09	Total Suspended Solids	120	mg/L	Visual	D
E026775	M133364	Lift Station	RELLIS Influent	8/23/2021 10:06	Total Suspended Solids	148	mg/L		D
E026776	M133443	Lift Station	RELLIS Influent	8/24/2021 10:14	Total Suspended Solids	678	mg/L	Visual	D
D039397	M122265	Sampler 3-1	A+B-In	12/9/2020 9:00	Total Suspended Solids	33	mg/L		D
D039544	M122309	Sampler 3-1	A+B-In	12/10/2020 9:00	Total Suspended Solids	29	mg/L		D
D039814	M122425	Sampler 3-1	A+B-In	12/14/2020 9:00	Total Suspended Solids	34	mg/L		D
D040112	M122647	Sampler 3-1	A+B-In	12/15/2020 9:00	Total Suspended Solids	51	mg/L	Visual	D
D040113	M122711	Sampler 3-1	A+B-In	12/16/2020 9:00	Total Suspended Solids	53	mg/L		D
D040114	M122695	Sampler 3-1	A+B-In	12/17/2020 9:00	Total Suspended Solids	77	mg/L		D
D040115	M122746	Sampler 3-1	A+B-In	12/21/2020 9:00	Total Suspended Solids	83	mg/L	Visual	D
D040116	M122811	Sampler 3-1	A+B-In	12/22/2020 9:00	Total Suspended Solids	63	mg/L		D
E001759	M123758	Sampler 3-1	A+B-In	1/13/2021 9:00	Total Suspended Solids	83	mg/L		D
E001760	M123766	Sampler 3-1	A+B-In	1/14/2021 9:00	Total Suspended Solids	56	mg/L		D

E001761	M123839	Sampler 3-1	A+B-In	1/18/2021 9:00	Total Suspended Solids	44	mg/L		D
E001762	M123836	Sampler 3-1	A+B-In	1/19/2021 9:00	Total Suspended Solids	69	mg/L	RPD-01	D
E001763	M123979	Sampler 3-1	A+B-In	1/20/2021 9:00	Total Suspended Solids	66	mg/L		D
E001764	M123997	Sampler 3-1	A+B-In	1/21/2021 9:00	Total Suspended Solids	58	mg/L		D
E001765	M124182	Sampler 3-1	A+B-In	1/25/2021 9:00	Total Suspended Solids	100	mg/L		D
E001766	M124182	Sampler 3-1	A+B-In	1/26/2021 9:00	Total Suspended Solids	114	mg/L	Visual	D
E005411	M124962	Sampler 3-1	A+B-In	2/10/2021 9:00	Total Suspended Solids	120	mg/L		D
E005422	M125069	Sampler 3-1	A+B-In	2/11/2021 9:00	Total Suspended Solids	100	mg/L		D
E006145	M125286	Sampler 3-1	A+B-In	2/22/2021 9:00	Total Suspended Solids	138	mg/L		D
E006147	M125287	Sampler 3-1	A+B-In	2/23/2021 9:00	Total Suspended Solids	146	mg/L		D
E006273	M125420	Sampler 3-1	A+B-In	2/24/2021 9:00	Total Suspended Solids	170	mg/L	Visual	D
E006316	M125628	Sampler 3-1	A+B-In	2/25/2021 9:00	Total Suspended Solids	154	mg/L		D
E009161	M126396	Sampler 3-1	A+B-In	3/17/2021 10:00	Total Suspended Solids	108	mg/L		D
E009162	M126566	Sampler 3-1	A+B-In	3/18/2021 10:00	Total Suspended Solids	104	mg/L		D
E010029	M126642	Sampler 3-1	A+B-In	3/22/2021 10:00	Total Suspended Solids	176	mg/L		D
E010030	M126646	Sampler 3-1	A+B-In	3/23/2021 10:00	Total Suspended Solids	124	mg/L		D
E010031	M126692	Sampler 3-1	A+B-In	3/24/2021 10:00	Total Suspended Solids	111	mg/L		D
E010032	M126845	Sampler 3-1	A+B-In	3/25/2021 10:00	Total Suspended Solids	82	mg/L	Visual	D
E010599	M126859	Sampler 3-1	A+B-In	3/29/2021 10:00	Total Suspended Solids	150	mg/L		D
E010600	M126948	Sampler 3-1	A+B-In	3/30/2021 10:00	Total Suspended Solids	190	mg/L		D
E012369	M127575	Sampler 3-1	A+B-In	4/14/2021 10:00	Total Suspended Solids	295	mg/L	Visual	D
E012370	M127734	Sampler 3-1	A+B-In	4/15/2021 10:00	Total Suspended Solids	320	mg/L		D
E013116	M127838	Sampler 3-1	A+B-In	4/19/2021 10:00	Total Suspended Solids	396	mg/L	Visual	D
E013117	M127839	Sampler 3-1	A+B-In	4/20/2021 10:00	Total Suspended Solids	312	mg/L		D
E013118	M127921	Sampler 3-1	A+B-In	4/21/2021 10:00	Total Suspended Solids	264	mg/L	Visual	D
E013119	M127986	Sampler 3-1	A+B-In	4/22/2021 10:00	Total Suspended Solids	392	mg/L		D
E013923	M128122	Sampler 3-1	A+B-In	4/26/2021 10:00	Total Suspended Solids	380	mg/L		D
E013924	M128196	Sampler 3-1	A+B-In	4/27/2021 10:00	Total Suspended Solids	420	mg/L	Visual	D
E015641	M128856	Sampler 3-1	A+B-In	5/12/2021 10:00	Total Suspended Solids	12700	mg/L	C-02	D

E015642	M128964	Sampler 3-1	A+B-In	5/13/2021 10:00	Total Suspended Solids	748	mg/L		D
E016335	M129078	Sampler 3-1	A+B-In	5/17/2021 10:00	Total Suspended Solids	190	mg/L	C-02	D
E016336	M129135	Sampler 3-1	A+B-In	5/18/2021 10:00	Total Suspended Solids	292	mg/L		D
E016337	M129156	Sampler 3-1	A+B-In	5/19/2021 10:00	Total Suspended Solids	212	mg/L		D
E016338	M129273	Sampler 3-1	A+B-In	5/20/2021 10:00	Total Suspended Solids	262	mg/L		D
E017335	M129356	Sampler 3-1	A+B-In	5/24/2021 10:00	Total Suspended Solids	338	mg/L		D
E017336	M129469	Sampler 3-1	A+B-In	5/25/2021 10:00	Total Suspended Solids	344	mg/L		D
E019517	M130066	Sampler 3-1	A+B-In	6/9/2021 9:20	Total Suspended Solids	500	mg/L		D
E019680	M130207	Sampler 3-1	A+B-In	6/10/2021 10:30	Total Suspended Solids	376	mg/L		D
E020136	M130309	Sampler 3-1	A+B-In	6/14/2021 9:15	Total Suspended Solids	872	mg/L		D
E020256	M130310	Sampler 3-1	A+B-In	6/15/2021 8:50	Total Suspended Solids	576	mg/L		D
E019930	M130442	Sampler 3-1	A+B-In	6/16/2021 10:00	Total Suspended Solids	488	mg/L		D
E019931	M130443	Sampler 3-1	A+B-In	6/17/2021 10:00	Total Suspended Solids	504	mg/L		D
E020622	M130598	Sampler 3-1	A+B-In	6/21/2021 10:00	Total Suspended Solids	396	mg/L		D
E020623	M130669	Sampler 3-1	A+B-In	6/22/2021 10:00	Total Suspended Solids	640	mg/L		D
E020624	M130722	Sampler 3-1	A+B-In	6/23/2021 10:00	Total Suspended Solids	528	mg/L		D
E020625	M130862	Sampler 3-1	A+B-In	6/24/2021 10:00	Total Suspended Solids	448	mg/L		D
E021518	M130900	Sampler 3-1	A+B-In	6/28/2021 11:30	Total Suspended Solids	416	mg/L		D
E021519	M130946	Sampler 3-1	A+B-In	6/29/2021 10:00	Total Suspended Solids	326	mg/L	Visual	D
E022811	M131456	Sampler 3-1	A+B-In	7/7/2021 10:00	Total Suspended Solids	16300	mg/L		D
E022812	M131456	Sampler 3-1	A+B-In	7/8/2021 10:00	Total Suspended Solids	18900	mg/L		D
E022813	M131457	Sampler 3-1	A+B-In	7/12/2021 10:00	Total Suspended Solids	18300	mg/L		D
E022814	M131649	Sampler 3-1	A+B-In	7/13/2021 10:00	Total Suspended Solids	22800	mg/L	Visual	D
E022815	M131649	Sampler 3-1	A+B-In	7/14/2021 10:00	Total Suspended Solids	20400	mg/L		D
E022816	M131650	Sampler 3-1	A+B-In	7/15/2021 10:00	Total Suspended Solids	20200	mg/L		D
E023944	M131850	Sampler 3-1	A+B-In	7/19/2021 10:00	Total Suspended Solids	15800	mg/L		D
E023945	M131850	Sampler 3-1	A+B-In	7/20/2021 10:00	Total Suspended Solids	13200	mg/L	Visual	D
E024556	M132402	Sampler 3-1	A+B-In	7/28/2021 10:00	Total Suspended Solids	15200	mg/L		D
E024557	M132403	Sampler 3-1	A+B-In	7/29/2021 10:00	Total Suspended Solids	14200	mg/L		D

E025655	M132562	Sampler 3-1	A+B-In	8/2/2021 10:00	Total Suspended Solids	712	mg/L		D
E025656	M132563	Sampler 3-1	A+B-In	8/3/2021 10:00	Total Suspended Solids	288	mg/L		D
E025657	M132701	Sampler 3-1	A+B-In	8/4/2021 10:00	Total Suspended Solids	348	mg/L		D
E025658	M132702	Sampler 3-1	A+B-In	8/5/2021 10:00	Total Suspended Solids	308	mg/L		D
E026482	M132750	Sampler 3-1	A+B-In	8/9/2021 10:00	Total Suspended Solids	218	mg/L		D
E026483	M132884	Sampler 3-1	A+B-In	8/10/2021 10:00	Total Suspended Solids	196	mg/L		D
E026769	M132885	Sampler 3-1	A+B-In	8/11/2021 10:00	Total Suspended Solids	398	mg/L	RPD-01	D
E026770	M132885	Sampler 3-1	A+B-In	8/12/2021 10:00	Total Suspended Solids	440	mg/L	RPD-01	D
E026771	M133068	Sampler 3-1	A+B-In	8/16/2021 10:00	Total Suspended Solids	5080	mg/L		D
E026772	M133174	Sampler 3-1	A+B-In	8/17/2021 10:00	Total Suspended Solids	3800	mg/L		D
E026773	M133175	Sampler 3-1	A+B-In	8/18/2021 10:00	Total Suspended Solids	7640	mg/L		D
E026774	M133259	Sampler 3-1	A+B-In	8/19/2021 10:00	Total Suspended Solids	13900	mg/L	Visual	D
E026775	M133365	Sampler 3-1	A+B-In	8/23/2021 10:00	Total Suspended Solids	824	mg/L		D
E026776	M133443	Sampler 3-1	A+B-In	8/24/2021 10:00	Total Suspended Solids	840	mg/L		D
D039397	M122308	Sampler 3-2	A-STD40-Out	12/9/2020 9:00	Total Suspended Solids	9	mg/L		D
D039544	M122309	Sampler 3-2	A-STD40-Out	12/10/2020 9:00	Total Suspended Solids	17	mg/L		D
D039814	M122425	Sampler 3-2	A-STD40-Out	12/14/2020 9:00	Total Suspended Solids	16	mg/L		D
D040112	M122643	Sampler 3-2	A-STD40-Out	12/15/2020 9:00	Total Suspended Solids	38	mg/L	Visual	D
D040113	M122711	Sampler 3-2	A-STD40-Out	12/16/2020 9:00	Total Suspended Solids	13	mg/L		D
D040114	M122695	Sampler 3-2	A-STD40-Out	12/17/2020 9:00	Total Suspended Solids	34	mg/L		D
D040115	M122746	Sampler 3-2	A-STD40-Out	12/21/2020 9:00	Total Suspended Solids	107	mg/L	Visual	D
D040116	M122811	Sampler 3-2	A-STD40-Out	12/22/2020 9:00	Total Suspended Solids	85	mg/L		D
E001759	M123756	Sampler 3-2	A-STD40-Out	1/13/2021 9:00	Total Suspended Solids	20	mg/L		D
E001760	M123766	Sampler 3-2	A-STD40-Out	1/14/2021 9:00	Total Suspended Solids	13	mg/L		D
E001761	M123839	Sampler 3-2	A-STD40-Out	1/18/2021 9:00	Total Suspended Solids	8	mg/L		D
E001762	M123836	Sampler 3-2	A-STD40-Out	1/19/2021 9:00	Total Suspended Solids	10	mg/L	RPD-01	D
E001763	M123979	Sampler 3-2	A-STD40-Out	1/20/2021 9:00	Total Suspended Solids	17	mg/L		D
E001764	M123997	Sampler 3-2	A-STD40-Out	1/21/2021 9:00	Total Suspended Solids	20	mg/L		D
E001765	M124182	Sampler 3-2	A-STD40-Out	1/25/2021 9:00	Total Suspended Solids	38	mg/L	C-02	D

E001766	M124183	Sampler 3-2	A-STD40-Out	1/26/2021 9:00	Total Suspended Solids	40	mg/L		D
E005411	M124962	Sampler 3-2	A-STD40-Out	2/10/2021 9:00	Total Suspended Solids	26	mg/L		D
E005422	M125069	Sampler 3-2	A-STD40-Out	2/11/2021 9:00	Total Suspended Solids	18	mg/L		D
E006145	M125287	Sampler 3-2	A-STD40-Out	2/22/2021 9:00	Total Suspended Solids	22	mg/L	C-02	D
E006147	M125287	Sampler 3-2	A-STD40-Out	2/23/2021 9:00	Total Suspended Solids	18	mg/L		D
E006273	M125420	Sampler 3-2	A-STD40-Out	2/24/2021 9:00	Total Suspended Solids	14	mg/L	Visual	D
E006316	M125562	Sampler 3-2	A-STD40-Out	2/25/2021 9:00	Total Suspended Solids	10	mg/L		D
E009161	M126396	Sampler 3-2	A-STD40-Out	3/17/2021 10:00	Total Suspended Solids	16	mg/L		D
E009162	M126566	Sampler 3-2	A-STD40-Out	3/18/2021 10:00	Total Suspended Solids	8	mg/L		D
E010029	M126645	Sampler 3-2	A-STD40-Out	3/22/2021 10:00	Total Suspended Solids	12	mg/L		D
E010030	M126646	Sampler 3-2	A-STD40-Out	3/23/2021 10:00	Total Suspended Solids	8	mg/L		D
E010031	M126692	Sampler 3-2	A-STD40-Out	3/24/2021 10:00	Total Suspended Solids	6	mg/L		
E010032	M126845	Sampler 3-2	A-STD40-Out	3/25/2021 10:00	Total Suspended Solids	5	mg/L		D
E010599	M126859	Sampler 3-2	A-STD40-Out	3/29/2021 10:00	Total Suspended Solids	10	mg/L		D
E010600	M126948	Sampler 3-2	A-STD40-Out	3/30/2021 10:00	Total Suspended Solids	7	mg/L		D
E012369	M127575	Sampler 3-2	A-STD40-Out	4/14/2021 10:00	Total Suspended Solids	32	mg/L	Visual	D
E012370	M127734	Sampler 3-2	A-STD40-Out	4/15/2021 10:00	Total Suspended Solids	32	mg/L		D
E013116	M127838	Sampler 3-2	A-STD40-Out	4/19/2021 10:00	Total Suspended Solids	29	mg/L		D
E013117	M127839	Sampler 3-2	A-STD40-Out	4/20/2021 10:00	Total Suspended Solids	13	mg/L	Visual	D
E013118	M127921	Sampler 3-2	A-STD40-Out	4/21/2021 10:00	Total Suspended Solids	11	mg/L		D
E013119	M127986	Sampler 3-2	A-STD40-Out	4/22/2021 10:00	Total Suspended Solids	34	mg/L	C-02	D
E013923	M128122	Sampler 3-2	A-STD40-Out	4/26/2021 10:00	Total Suspended Solids	32	mg/L		D
E013924	M128196	Sampler 3-2	A-STD40-Out	4/27/2021 10:00	Total Suspended Solids	26	mg/L		D
E015641	M128856	Sampler 3-2	A-STD40-Out	5/12/2021 10:00	Total Suspended Solids	9	mg/L		D
E015642	M128964	Sampler 3-2	A-STD40-Out	5/13/2021 10:00	Total Suspended Solids	9	mg/L		D
E016335	M129078	Sampler 3-2	A-STD40-Out	5/17/2021 10:00	Total Suspended Solids	18	mg/L		D
E016336	M129135	Sampler 3-2	A-STD40-Out	5/18/2021 10:00	Total Suspended Solids	17	mg/L		D
E016337	M129156	Sampler 3-2	A-STD40-Out	5/19/2021 10:00	Total Suspended Solids	17	mg/L		D
E016338	M129273	Sampler 3-2	A-STD40-Out	5/20/2021 10:00	Total Suspended Solids	20	mg/L	Visual	D

E017335	M129356	Sampler 3-2	A-STD40-Out	5/24/2021 10:00	Total Suspended Solids	24	mg/L		D
E017336	M129469	Sampler 3-2	A-STD40-Out	5/25/2021 10:00	Total Suspended Solids	18	mg/L		D
E019930	M130442	Sampler 3-2	A-STD40-Out	6/16/2021 10:00	Total Suspended Solids	14	mg/L		D
E019931	M130443	Sampler 3-2	A-STD40-Out	6/17/2021 10:00	Total Suspended Solids	9	mg/L		D
E020622	M130598	Sampler 3-2	A-STD40-Out	6/21/2021 10:00	Total Suspended Solids	12	mg/L		D
E020623	M130669	Sampler 3-2	A-STD40-Out	6/22/2021 10:00	Total Suspended Solids	8	mg/L		
E020624	M130722	Sampler 3-2	A-STD40-Out	6/23/2021 10:00	Total Suspended Solids	8	mg/L		D
E020625	M130863	Sampler 3-2	A-STD40-Out	6/24/2021 10:00	Total Suspended Solids	11	mg/L		D
E021518	M130901	Sampler 3-2	A-STD40-Out	6/28/2021 10:00	Total Suspended Solids	19	mg/L	C-02	D
E021519	M130946	Sampler 3-2	A-STD40-Out	6/29/2021 10:00	Total Suspended Solids	12	mg/L		D
E022811	M131456	Sampler 3-2	A-STD40-Out	7/7/2021 10:00	Total Suspended Solids	17	mg/L		D
E022812	M131456	Sampler 3-2	A-STD40-Out	7/8/2021 10:00	Total Suspended Solids	14	mg/L		D
E022813	M131457	Sampler 3-2	A-STD40-Out	7/12/2021 10:00	Total Suspended Solids	26	mg/L	Visual	D
E022814	M131649	Sampler 3-2	A-STD40-Out	7/13/2021 10:00	Total Suspended Solids	31	mg/L		D
E022815	M131650	Sampler 3-2	A-STD40-Out	7/14/2021 10:00	Total Suspended Solids	25	mg/L		D
E022816	M131650	Sampler 3-2	A-STD40-Out	7/15/2021 10:00	Total Suspended Solids	21	mg/L		D
E023944	M131850	Sampler 3-2	A-STD40-Out	7/19/2021 10:00	Total Suspended Solids	38	mg/L	Visual	D
E023945	M131850	Sampler 3-2	A-STD40-Out	7/20/2021 10:00	Total Suspended Solids	19	mg/L		D
E024556	M132402	Sampler 3-2	A-STD40-Out	7/28/2021 10:00	Total Suspended Solids	20	mg/L		D
E024557	M132403	Sampler 3-2	A-STD40-Out	7/29/2021 10:00	Total Suspended Solids	10	mg/L		D
E025655	M132562	Sampler 3-2	A-STD40-Out	8/2/2021 10:00	Total Suspended Solids	12	mg/L		D
E025656	M132563	Sampler 3-2	A-STD40-Out	8/3/2021 10:00	Total Suspended Solids	6	mg/L		D
E025657	M132701	Sampler 3-2	A-STD40-Out	8/4/2021 10:00	Total Suspended Solids	4	mg/L	Visual	
E025658	M132702	Sampler 3-2	A-STD40-Out	8/5/2021 10:00	Total Suspended Solids	7	mg/L		D
E026482	M132750	Sampler 3-2	A-STD40-Out	8/9/2021 10:00	Total Suspended Solids	7	mg/L		D
E026483	M132884	Sampler 3-2	A-STD40-Out	8/10/2021 10:00	Total Suspended Solids	6	mg/L		
E026769	M132885	Sampler 3-2	A-STD40-Out	8/11/2021 10:00	Total Suspended Solids	7	mg/L	RPD-01	
E026770	M132885	Sampler 3-2	A-STD40-Out	8/12/2021 10:00	Total Suspended Solids	6	mg/L	RPD-01	
E026771	M133020	Sampler 3-2	A-STD40-Out	8/16/2021 10:00	Total Suspended Solids	8	mg/L		D

E026772	M133175	Sampler 3-2	A-STD40-Out	8/17/2021 10:00	Total Suspended Solids	5	mg/L		
E026773	M133175	Sampler 3-2	A-STD40-Out	8/18/2021 10:00	Total Suspended Solids	7	mg/L		D
E026774	M133259	Sampler 3-2	A-STD40-Out	8/19/2021 10:00	Total Suspended Solids	7	mg/L		D
E026775	M133365	Sampler 3-2	A-STD40-Out	8/23/2021 10:00	Total Suspended Solids	15	mg/L	Visual	D
E026776	M133443	Sampler 3-2	A-STD40-Out	8/24/2021 10:00	Total Suspended Solids	8	mg/L		
D039397	M122308	Sampler 3-3	B-Equal-Out	12/9/2020 9:00	Total Suspended Solids	18	mg/L		D
D039544	M122309	Sampler 3-3	B-Equal-Out	12/10/2020 9:00	Total Suspended Solids	21	mg/L		D
D039814	M122425	Sampler 3-3	B-Equal-Out	12/14/2020 9:00	Total Suspended Solids	26	mg/L		D
D040112	M122643	Sampler 3-3	B-Equal-Out	12/15/2020 9:00	Total Suspended Solids	12	mg/L	Visual	D
D040113	M122711	Sampler 3-3	B-Equal-Out	12/16/2020 9:00	Total Suspended Solids	45	mg/L		D
D040114	M122711	Sampler 3-3	B-Equal-Out	12/17/2020 9:00	Total Suspended Solids	75	mg/L		D
D040115	M122792	Sampler 3-3	B-Equal-Out	12/21/2020 9:00	Total Suspended Solids	136	mg/L		D
D040116	M122811	Sampler 3-3	B-Equal-Out	12/22/2020 9:00	Total Suspended Solids	80	mg/L		D
E001759	M123756	Sampler 3-3	B-Equal-Out	1/13/2021 9:00	Total Suspended Solids	20	mg/L		D
E001760	M123766	Sampler 3-3	B-Equal-Out	1/14/2021 9:00	Total Suspended Solids	13	mg/L		D
E001761	M123839	Sampler 3-3	B-Equal-Out	1/18/2021 9:00	Total Suspended Solids	11	mg/L		D
E001762	M123836	Sampler 3-3	B-Equal-Out	1/19/2021 9:00	Total Suspended Solids	11	mg/L	RPD-01	D
E001763	M123979	Sampler 3-3	B-Equal-Out	1/20/2021 9:00	Total Suspended Solids	11	mg/L		D
E001764	M123997	Sampler 3-3	B-Equal-Out	1/21/2021 9:00	Total Suspended Solids	10	mg/L		D
E001765	M124182	Sampler 3-3	B-Equal-Out	1/25/2021 9:00	Total Suspended Solids	11	mg/L		D
E001766	M124183	Sampler 3-3	B-Equal-Out	1/26/2021 9:00	Total Suspended Solids	11	mg/L		D
E005411	M124962	Sampler 3-3	B-Equal-Out	2/10/2021 9:00	Total Suspended Solids	26	mg/L		D
E005422	M125069	Sampler 3-3	B-Equal-Out	2/11/2021 9:00	Total Suspended Solids	16	mg/L		D
E006145	M125287	Sampler 3-3	B-Equal-Out	2/22/2021 9:00	Total Suspended Solids	26	mg/L		D
E006147	M125300	Sampler 3-3	B-Equal-Out	2/23/2021 9:00	Total Suspended Solids	16	mg/L		D
E006273	M125420	Sampler 3-3	B-Equal-Out	2/24/2021 9:00	Total Suspended Solids	17	mg/L		D
E006316	M125562	Sampler 3-3	B-Equal-Out	2/25/2021 9:00	Total Suspended Solids	6	mg/L		D
E009161	M126396	Sampler 3-3	B-Equal-Out	3/17/2021 10:00	Total Suspended Solids	26	mg/L		D
E009162	M126566	Sampler 3-3	B-Equal-Out	3/18/2021 10:00	Total Suspended Solids	18	mg/L		D

E010029	M126645	Sampler 3-3	B-Equal-Out	3/22/2021 10:00	Total Suspended Solids	18	mg/L		D
E010030	M126646	Sampler 3-3	B-Equal-Out	3/23/2021 10:00	Total Suspended Solids	13	mg/L		D
E010031	M126692	Sampler 3-3	B-Equal-Out	3/24/2021 10:00	Total Suspended Solids	15	mg/L		D
E010032	M126845	Sampler 3-3	B-Equal-Out	3/25/2021 10:00	Total Suspended Solids	17	mg/L		D
E010599	M126859	Sampler 3-3	B-Equal-Out	3/29/2021 10:00	Total Suspended Solids	28	mg/L		D
E010600	M126948	Sampler 3-3	B-Equal-Out	3/30/2021 10:00	Total Suspended Solids	22	mg/L		D
E012369	M127575	Sampler 3-3	B-Equal-Out	4/14/2021 10:00	Total Suspended Solids	38	mg/L	Visual	D
E012370	M127734	Sampler 3-3	B-Equal-Out	4/15/2021 10:00	Total Suspended Solids	22	mg/L		D
E013116	M127839	Sampler 3-3	B-Equal-Out	4/19/2021 10:00	Total Suspended Solids	22	mg/L		D
E013117	M127839	Sampler 3-3	B-Equal-Out	4/20/2021 10:00	Total Suspended Solids	21	mg/L		D
E013118	M127921	Sampler 3-3	B-Equal-Out	4/21/2021 10:00	Total Suspended Solids	29	mg/L		D
E013119	M127986	Sampler 3-3	B-Equal-Out	4/22/2021 10:00	Total Suspended Solids	21	mg/L		D
E013923	M128122	Sampler 3-3	B-Equal-Out	4/26/2021 10:00	Total Suspended Solids	23	mg/L		D
E013924	M128196	Sampler 3-3	B-Equal-Out	4/27/2021 10:00	Total Suspended Solids	15	mg/L	Visual	D
E015641	M128856	Sampler 3-3	B-Equal-Out	5/12/2021 10:00	Total Suspended Solids	6	mg/L	Visual	D
E016335	M129078	Sampler 3-3	B-Equal-Out	5/17/2021 10:00	Total Suspended Solids	17	mg/L		D
E016336	M129135	Sampler 3-3	B-Equal-Out	5/18/2021 10:00	Total Suspended Solids	17	mg/L		D
E016337	M129156	Sampler 3-3	B-Equal-Out	5/19/2021 10:00	Total Suspended Solids	17	mg/L		D
E016338	M129273	Sampler 3-3	B-Equal-Out	5/20/2021 10:00	Total Suspended Solids	22	mg/L	Visual	D
E017335	M129356	Sampler 3-3	B-Equal-Out	5/24/2021 10:00	Total Suspended Solids	29	mg/L		D
E017336	M129469	Sampler 3-3	B-Equal-Out	5/25/2021 10:00	Total Suspended Solids	28	mg/L		D
E019930	M130443	Sampler 3-3	B-Equal-Out	6/16/2021 10:00	Total Suspended Solids	9	mg/L	C-02	D
E019931	M130443	Sampler 3-3	B-Equal-Out	6/17/2021 10:00	Total Suspended Solids	11	mg/L		D
E020622	M130598	Sampler 3-3	B-Equal-Out	6/21/2021 10:00	Total Suspended Solids	6	mg/L		D
E020623	M130669	Sampler 3-3	B-Equal-Out	6/22/2021 10:00	Total Suspended Solids	10	mg/L		
E020624	M130722	Sampler 3-3	B-Equal-Out	6/23/2021 10:00	Total Suspended Solids	8	mg/L		
E020625	M130863	Sampler 3-3	B-Equal-Out	6/24/2021 10:00	Total Suspended Solids	13	mg/L	C-02	D
E021518	M130901	Sampler 3-3	B-Equal-Out	6/28/2021 10:00	Total Suspended Solids	16	mg/L		D
E021519	M130946	Sampler 3-3	B-Equal-Out	6/29/2021 10:00	Total Suspended Solids	11	mg/L		

E022811	M131456	Sampler 3-3	B-Equal-Out	7/7/2021 10:00	Total Suspended Solids	30	mg/L		D
E022812	M131457	Sampler 3-3	B-Equal-Out	7/8/2021 10:00	Total Suspended Solids	17	mg/L		D
E022813	M131457	Sampler 3-3	B-Equal-Out	7/12/2021 10:00	Total Suspended Solids	17	mg/L		D
E022814	M131649	Sampler 3-3	B-Equal-Out	7/13/2021 10:00	Total Suspended Solids	32	mg/L		D
E022815	M131650	Sampler 3-3	B-Equal-Out	7/14/2021 10:00	Total Suspended Solids	42	mg/L	Visual	D
E022816	M131650	Sampler 3-3	B-Equal-Out	7/15/2021 10:00	Total Suspended Solids	25	mg/L		D
E023944	M131850	Sampler 3-3	B-Equal-Out	7/19/2021 10:00	Total Suspended Solids	43	mg/L		D
E023945	M131850	Sampler 3-3	B-Equal-Out	7/20/2021 10:00	Total Suspended Solids	20	mg/L		D
E024556	M132402	Sampler 3-3	B-Equal-Out	7/28/2021 10:00	Total Suspended Solids	21	mg/L		D
E024557	M132403	Sampler 3-3	B-Equal-Out	7/29/2021 10:00	Total Suspended Solids	15	mg/L		D
E025655	M132562	Sampler 3-3	B-Equal-Out	8/2/2021 10:00	Total Suspended Solids	21	mg/L		D
E025656	M132563	Sampler 3-3	B-Equal-Out	8/3/2021 10:00	Total Suspended Solids	17	mg/L		D
E025657	M132701	Sampler 3-3	B-Equal-Out	8/4/2021 10:00	Total Suspended Solids	9	mg/L		
E025658	M132702	Sampler 3-3	B-Equal-Out	8/5/2021 10:00	Total Suspended Solids	9	mg/L		D
E026482	M132750	Sampler 3-3	B-Equal-Out	8/9/2021 10:00	Total Suspended Solids	17	mg/L		D
E026483	M132884	Sampler 3-3	B-Equal-Out	8/10/2021 10:00	Total Suspended Solids	10	mg/L		D
E026769	M132885	Sampler 3-3	B-Equal-Out	8/11/2021 10:00	Total Suspended Solids	17	mg/L	RPD-01	D
E026770	M132885	Sampler 3-3	B-Equal-Out	8/12/2021 10:00	Total Suspended Solids	22	mg/L	RPD-01	D
E026771	M133020	Sampler 3-3	B-Equal-Out	8/16/2021 10:00	Total Suspended Solids	22	mg/L		
E026772	M133175	Sampler 3-3	B-Equal-Out	8/17/2021 10:00	Total Suspended Solids	14	mg/L		
E026773	M133175	Sampler 3-3	B-Equal-Out	8/18/2021 10:00	Total Suspended Solids	14	mg/L		
E026774	M133259	Sampler 3-3	B-Equal-Out	8/19/2021 10:00	Total Suspended Solids	26	mg/L	Visual	D
E026775	M133365	Sampler 3-3	B-Equal-Out	8/23/2021 10:00	Total Suspended Solids	57	mg/L	Visual	D
E026776	M133443	Sampler 3-3	B-Equal-Out	8/24/2021 10:00	Total Suspended Solids	29	mg/L		

APPENDIX 2 – Commercial laboratory results, Organic amendments

Sample. Wrk	Analysis. Batch	Sample. SampleName	Sample. SampleComments	Sample. Sampled	Analyte. Analyte	Analyte. tResult	Analyte. RptUnits	Analyte. Analyte Notes	Analyt e.CLP FLags
D032261	M119586	A – Raw Sewage	Lift Station	10/7/2020 14:00	BOD (5 day)	256	mg/L		D
D032261	M119587	B-Raw Sewage +Feed	Lift Station + grain (FEED)	10/7/2020 14:00	BOD (5 day)	1650	mg/L		D
D032261	M119587	RawSewage+600	Lift Station + dex&milk,600	10/7/2020 14:00	BOD (5 day)	825	mg/L		D
D032261	M119587	DEX - 100	Expect based on literature	10/7/2020 14:00	BOD (5 day)	155	mg/L		D
D032261	M119587	DEX - 300	Expect based on literature	10/7/2020 14:00	BOD (5 day)	270	mg/L		D
D032261	M119587	DEX - 500	Expect based on literature	10/7/2020 14:00	BOD (5 day)	483	mg/L		D
D032261	M119587	MILK - 100	Expect based on literature	10/7/2020 14:00	BOD (5 day)	127	mg/L		D
D032261	M119587	MILK - 300	Expect based on literature	10/7/2020 14:00	BOD (5 day)	375	mg/L		D
D032261	M119587	MILK - 500	Expect based on literature	10/7/2020 14:00	BOD (5 day)	639	mg/L		D
D032261	M119587	FEED - 100	Expect based on literature	10/7/2020 14:00	BOD (5 day)	44	mg/L		D
D032261	M119587	FEED - 300	Expect based on literature	10/7/2020 14:00	BOD (5 day)	178	mg/L		D
D032261	M119588	FEED - 500	Expect based on literature	10/7/2020 14:00	BOD (5 day)	308	mg/L		D
D034516	M120484	Raw Sewage	Lift Station	10/27/2020 13:00	BOD (5 day)	31	mg/L	RPD-01	D
D034516	M120484	Raw Sewage + Feed	Lift Station + grain (FEED)	10/27/2020 13:00	BOD (5 day)	394	mg/L	RPD-01	D
D034516	M120484	DEX 100	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	97	mg/L	RPD-01	D
D034516	M120484	DEX 300	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	268	mg/L	RPD-01	D
D034516	M120484	DEX 500	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	491	mg/L	RPD-01	D
D034516	M120484	MILK 100	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	87	mg/L	RPD-01	D
D034516	M120485	MILK 300	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	274	mg/L		D
D034516	M120485	MILK 500	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	464	mg/L		D
D034516	M120485	FEED 100	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	113	mg/L		D
D034516	M120485	FEED 300	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	337	mg/L		D
D034516	M120485	FEED 500	Expect based on 7 Oct result	10/27/2020 13:00	BOD (5 day)	563	mg/L		D
E013598	M127789	WW1 (RFPS)	Lift Station - Rep1	4/20/2021 12:00	BOD (5 day)	109	mg/L	G-01	D
E013598	M127789	WW2 (RFPS)	Lift Station - Rep2	4/20/2021 12:00	BOD (5 day)	121	mg/L	G-01	D
E013598	M127798	WW3 (RFPS)	Lift Station - Rep3	4/20/2021 12:00	BOD (5 day)	105	mg/L	G-01	D

E013598	M127798	WW4 (RFPS)	Lift Station - Rep4	4/20/2021 12:00	BOD (5 day)	100	mg/L	G-01	D
E013598	M127798	WW5 (RFPS)	Lift Station - Rep5	4/20/2021 12:00	BOD (5 day)	100	mg/L	G-01	D
E013598	M127798	WDM1 (RFPS)	LftStn+7:3 Dex:Milk@300, R1	4/20/2021 12:00	BOD (5 day)	450	mg/L	G-01	D
E013598	M127798	WDM2 (RFPS)	LftStn+7:3Dex:Milk@300, R2	4/20/2021 12:00	BOD (5 day)	460	mg/L	G-01	D
E013598	M127798	WDM3 (RFPS)	LftStn+7:3Dex:Milk @300, R3	4/20/2021 12:00	BOD (5 day)	476	mg/L	G-01	D
E013598	M127798	WDM4 (RFPS)	LftStn+7:3Dex:Milk @300, R4	4/20/2021 12:00	BOD (5 day)	478	mg/L	G-01	D
E013598	M127798	WDM5 (RFPS)	LftStn+7:3Dex:Milk @300, R5	4/20/2021 12:00	BOD (5 day)	484	mg/L	G-01	D
E013598	M127798	WD1 (RFPS)	Lift Station + Dex@300, R1	4/20/2021 12:00	BOD (5 day)	438	mg/L	G-01	D
E013598	M127798	WD2 (RFPS)	Lift Station + Dex@300, R2	4/20/2021 12:00	BOD (5 day)	437	mg/L	G-01	D
E013598	M127799	WD3 (RFPS)	Lift Station + Dex@300, R3	4/20/2021 12:00	BOD (5 day)	438	mg/L	G-01	D
E013598	M127799	WD4 (RFPS)	Lift Station + Dex@300, R4	4/20/2021 12:00	BOD (5 day)	434	mg/L	G-01	D
E013598	M127799	WD5 (RFPS)	Lift Station + Dex@300, R5	4/20/2021 12:00	BOD (5 day)	436	mg/L	G-01	D
E013598	M127799	WM1 (RFPS)	Lift Station + Milk@300, R1	4/20/2021 12:00	BOD (5 day)	561	mg/L	G-01	D
E013598	M127799	WM2 (RFPS)	Lift Station + Milk@300, R2	4/20/2021 12:00	BOD (5 day)	572	mg/L	G-01	D
E013598	M127799	WM3 (RFPS)	Lift Station + Milk@300, R3	4/20/2021 12:00	BOD (5 day)	566	mg/L	G-01	D
E013598	M127799	WM4 (RFPS)	Lift Station + Milk@300, R4	4/20/2021 12:00	BOD (5 day)	543	mg/L	G-01	D
E013598	M127799	WM5 (RFPS)	Lift Station + Milk@300, R5	4/20/2021 12:00	BOD (5 day)	555	mg/L	G-01	D
E013598	M127799	FW1 (RFPS)	Feed Tank - Rep 1	4/20/2021 12:00	BOD (5 day)	287	mg/L	G-01	D
E013598	M127799	FW2 (RFPS)	Feed Tank - Rep 2	4/20/2021 12:00	BOD (5 day)	293	mg/L	G-01	D
E013598	M127800	FW3 (RFPS)	Feed Tank - Rep 3	4/20/2021 12:00	BOD (5 day)	308	mg/L	G-01	D
E013598	M127800	FW4 (RFPS)	Feed Tank - Rep 4	4/20/2021 12:00	BOD (5 day)	284	mg/L	G-01	D
E013598	M127800	FW5 (RFPS)	Feed Tank - Rep 5	4/20/2021 12:00	BOD (5 day)	295	mg/L	G-01	D
E013598	M127800	FWC1 (RFPS)	Feed Tank + grain, R1	4/20/2021 12:00	BOD (5 day)	805	mg/L	G-01	D
E013598	M127800	FWC2 (RFPS)	Feed Tank + grain, R2	4/20/2021 12:00	BOD (5 day)	773	mg/L	G-01	D
E013598	M127800	FWC3 (RFPS)	Feed Tank + grain, R3	4/20/2021 12:00	BOD (5 day)	756	mg/L	G-01	D
E013598	M127800	FWC4 (RFPS)	Feed Tank + grain, R4	4/20/2021 12:00	BOD (5 day)	737	mg/L	G-01	D
E013598	M127800	FWC5 (RFPS)	Feed Tank + grain, R5	4/20/2021 12:00	BOD (5 day)	748	mg/L	G-01	D
E013599	M128128	D100	Dex Std @ 100	4/20/2021 12:00	BOD (5 day)	83	mg/L	A-01	D
E013599	M128128	D300	Dex Std @ 300	4/20/2021 12:00	BOD (5 day)	267	mg/L	A-01	D

E013599	M128128	D500	Dex Std @ 500	4/20/2021 12:00	BOD (5 day)	425	mg/L	A-01	D
E013599	M128128	D700	Dex Std @ 700	4/20/2021 12:00	BOD (5 day)	631	mg/L	A-01	D
E013599	M128128	D900	Dex Std @ 900	4/20/2021 12:00	BOD (5 day)	789	mg/L	A-01	D
E013599	M128128	M100	Milk Std @ 100	4/20/2021 12:00	BOD (5 day)	92	mg/L	A-01	D
E013599	M128128	M300	Milk Std @ 300	4/20/2021 12:00	BOD (5 day)	324	mg/L	A-01	D
E013599	M128128	M500	Milk Std @ 500	4/20/2021 12:00	BOD (5 day)	526	mg/L	A-01	D
E013599	M128128	M700	Milk Std @ 700	4/20/2021 12:00	BOD (5 day)	714	mg/L	A-01	D
E013599	M128128	M900	Milk Std @ 900	4/20/2021 12:00	BOD (5 day)	1040	mg/L	A-01	D
E013599	M128129	C100	ChknGrain@100	4/20/2021 12:00	BOD (5 day)	124	mg/L	A-01	D
E013599	M128129	C300	ChknGrain@300	4/20/2021 12:00	BOD (5 day)	342	mg/L	A-01	D
E013599	M128129	C500	ChknGrain@500	4/20/2021 12:00	BOD (5 day)	547	mg/L	A-01	D
E013599	M128129	C700	ChknGrain@700	4/20/2021 12:00	BOD (5 day)	834	mg/L	A-01	D
E013599	M128129	C900	ChknGrain@900	4/20/2021 12:00	BOD (5 day)	1260	mg/L	A-01	D
E013599	M128129	DM1	70:30 Dex:Milk@300, R1	4/20/2021 12:00	BOD (5 day)	294	mg/L	A-01	D
E013599	M128129	DM2	70:30 Dex:Milk@300, R2	4/20/2021 12:00	BOD (5 day)	304	mg/L	A-01	D
E013599	M128129	DM3	70:30 Dex:Milk@300, R3	4/20/2021 12:00	BOD (5 day)	306	mg/L	A-01	D
E013599	M128129	DM4	70:30 Dex:Milk@300, R4	4/20/2021 12:00	BOD (5 day)	306	mg/L	A-01	D
E013599	M128129	DM5	70:30 Dex:Milk@300, R5	4/20/2021 12:00	BOD (5 day)	309	mg/L	A-01	D