

A
REPORT
ON
**DEVELOPMENT OF MACHINE LEARNING MODELS FOR PREDICTION OF
QUALITY OF TREATED WATER IN SEWAGE TREATMENT PLANT**
SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD
OF THE DEGREE
OF
MASTER OF TECHNOLOGY
IN ENVIRONMENTAL ENGINEERING
BY
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Candidate's Declaration

I, Ankit, Roll No. - 2K19/ENE/08 student of M.Tech. Environmental Engineering, hereby declare that the Project Report titled “**DEVELOPMENT OF MACHINE LEARNING MODELS FOR PREDICTION OF QUALITY OF TREATED WATER IN SEWAGE TREATMENT PLANT**” which is submitted by me to the Department of Environmental Engineering, Delhi Technological University, Delhi in partial fulfillment of the requirement for the award of the degree of Master of Technology, is original and not copied from any source without proper citation. This work has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title or recognition.

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I hereby certify that the project report entitled “**DEVELOPMENT OF MACHINE LEARNING MODELS FOR PREDICTION OF QUALITY OF TREATED WATER IN SEWAGE TREATMENT PLANT**” which is being submitted in the partial fulfillment of the requirement for the award of degree of Master of Technology in Environmental Engineering at Delhi Technological University, New Delhi is a record of the project work carried out under my guidance.

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LIST OF ABBREVIATION

1	ANN	Artificial Neural Network
2	BOD	Biological Oxygen Demand
3	BCM	Billion Cubic Meters
4	COD	Chemical Oxygen Demand
5	DO	Dissolved Oxygen
6	EGSB	Extended Granular Sludge Bed Systems
7	FB	Fluidized Bed
8	FNR	False Negative Rate
9	GA	Genetic Algorithm
10	K-NN	K-Nearest Neighbour
11	MB	Methylene Blue
12	PCA	Principal Component Analysis
13	STP	Sewage Treatment Plants
14	SVM	Support Vector Machine
15	TSS	Total suspended solids
16	TPR	True Positive Rate
17	UNEP	United Nations Environment Programme

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Abstract

The proposed research is being conducted to determine the possibility of reusing water from a sewage treatment plants for use in certain domestic firm's different industrial applications. In this study, the water quality after the treatment of sewage in sewage treatment plants has been classify using different machines learning models like Support Vector Machine(SVM), Artificial Neural Network (ANN) and K-Nearest Neighbour (K-NN). Firstly, the data base of the sewage treatment plants at different stages have been collected at different stages. Secondly, a feature extraction and selection process has been implemented for the further process using Principal Component Analysis (PCA). Finally, different machine learning model are trained for the classification of the treated water. The proposed methodology is the perfect solution to make an automatic classification of treated water which can be father used for different industrial purpose.

Chapter-1

INTRODUCTION

The increasing trend of using recovered municipal wastewater for landscaping, semi industrial applications, agricultural products irrigation, groundwater levels recharging, and sporting impoundment frequently necessitates tertiary or advanced rainwater harvesting. Because this wastewater treatment application exposes recovered wastewater to the public, ensuring microbiological but, in particularly protection is critical. Chemical coagulation, sedimentation, filtration, and disinfection are common treatment methods and activities for reuse in these scenarios, which are comparable to surface water treatment for potable water supply. A correctly functioning treatment system achieves a high level of pathogen elimination, ensuring the safety of the recovered wastewater. Two key operational requirements must be satisfied in tertiary wastewater treatment to enable effective virus elimination or inactivation. To decrease viral shielding, the effluent must be low in suspended solids and turbidity prior to disinfection, and adequate disinfection dosage and contact time must be supplied for wastewater. Buildings demolition components should be recycled because of rising trash generation and public awareness of environmental issues.

1.1 Fundamental of Sewage Water Treatment

The fundamental purpose for waste water treatment and management is to ensure that the environment is protected and managed in such a manner that it is sustainable and suitable for human habitation, as well as to ensure that the public's health is not jeopardized by the threat represented by waste water. Treatment guarantees that the treated effluent may be discharged into water bodies without producing pollution, harming aquatic life, or harming the environment in general. The treatment plant's purpose is to speed up the natural process of water purification. The utilization of a sewage system and water treatment facilities are the most frequent methods of water pollution management. Sewers collect municipal waste water from homes, businesses, and industries and transport it to a treatment facility with sophisticated machinery that treat the waste water stage by stage based on its composition.

Waste water may be characterized as drinkable water that has been polluted by natural or manufactured microbial chemicals as a result of human, commercial, or industrial activity, depending on the situation. The features of wastewater discharges would differ considerably depending on the populations of the municipality, the lot of industries present, the degree of segregation between rainfall and hygienic fluids, as well as the level of groundwater sources. Domestic waste water includes wastewater from the laundry, bathroom, and kitchen, as well as other waste water that individuals may pour down the drain accidentally or purposefully. Domestic wastewater, as well as wastewater discharged from business institutions and other sources, are included in sanitary fluids or water. The schematic representation of the sewage treatment plant is shown in the image below.

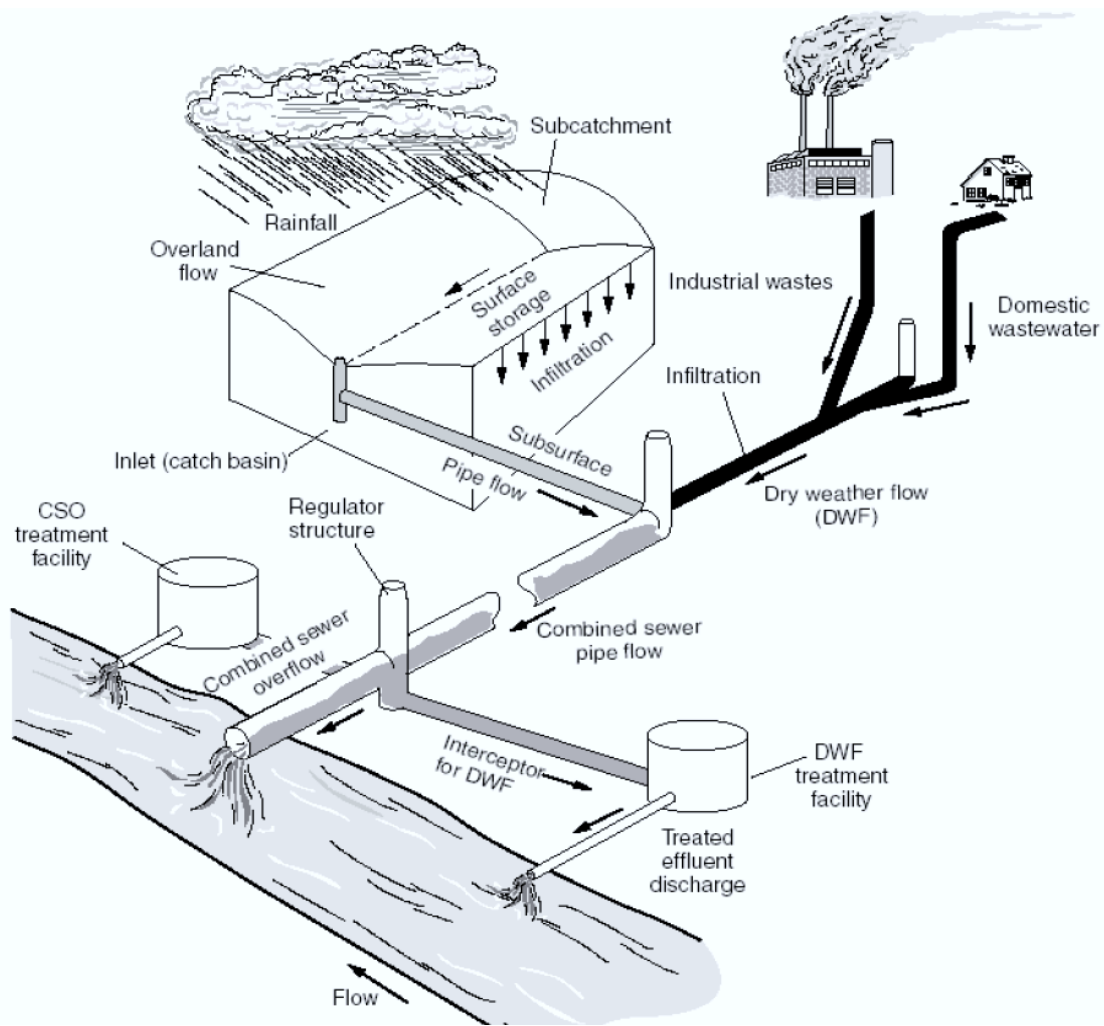


Fig. 1.1 The schematic representation of the sewage treatment plant

Waste water is mostly derived from residential, commercial, and industrial water consumption, as well as ground water, surface water, and storm water. Residential sources and non-residential or industrial sources are the two primary categories of wastewater sources. The majority of it comes from our regular activities, such as doing laundry, flushing the toilet, dishwashing, watering our yard, and even taking a shower, for domestic sources. We have industrial customers, commercial or institutional customers, and a variety of additional liquid waste services, according to business sources. Waste water from industries, businesses, and institutions produces a one-of-a-kind need for treatment. Industrial, commercial, and institutional waste water has a considerably different need for treatment facilities than residential wastewater since it contains more complex pollutants. As a result, treatment costs are often greater. In comparison to ancient sewage systems, which collected sanitary and storm water in a single system, most current sewage systems are autonomous in nature.

1.2 Concept of Reuse of Sewage Water

The most common methods for reusing water Irrigation, industrial usage, surface water replenishment, and ground water recharge are all factors to consider. Watershed features, climatic and geohydrology parameters, the degree of water use for various purposes, and the degree of direct and indirect water reuse all influence the amount of water moved through each channel. Patient safety, construction, economy, aesthetic, and, most significantly, public acceptance should all be considered while designing a water reuse loop. Given the complexities of sewage reuse projects, the essential considerations must be made for a successful execution of a sewage treatment plant.

1.3 Need of Reuse of Sewage Water

Water is an extremely valuable resource and a necessary essential for human life. As a result, it is vital to fulfill the need for water availability as the population grows. 'RECYCLE and REUSE' of wastewater would be a suitable 'BALANCING ACT.' This will allow water to be reused rather than being discarded as "waste."

The trying to follow are some of the explanations why sewage reuse is a feasible alternative:

1. Sewage is a widely obtainable resource.

2. Water is a problem — accessibility is a problem, and there is a lot of competition from all sectors — the only accessible supply is sewage.
3. Due to rapid urbanization and rising water consumption, cities are having difficulty obtaining the needed amount of water.
4. A shortage of natural water bodies inside the city

Given these facts, water recycling and reuse should be made mandatory, and the necessary efforts should be emphasized. Before establishing a wastewater treatment plant, examine factors such as the availability of essential technology and its price, environmentally friendly technology, funding patterns, compliance with guidelines and legislation, and so on.

1.4 Reuse of Treated Sewage Water

In India, the practice of reusing treated sewage after sufficient treatment to suit industrial water needs has been in place for quite some time. For civic officials and planners, sewage disposal in India's fast developing cities has become a problem. Metropolitan sewage mismanagement, a lack of treatment facilities, a lack of proper data, inadequate and highly expensive treatment, inadequate cost recovery, and centralized functioning are all prevalent concerns in urban areas. Sewage is a steady and reliable supply of water that cannot be overlooked while meeting a region's water needs.

The method of water saving is reuse. The reuse of cleaned sewage is common in India because of two benefits:

1. Pollution in receiving waters is being reduced.
2. Reduction in the amount of fresh water required for various purposes

1.5 Water Treatment Levels and Processes

Based on the activity that is performed in each of the phases, wastewater treatment levels may be categorized or classed into three categories. Preliminary, primary, secondary, and tertiary or advanced therapy are among the criteria.

1.5.1 Preliminary treatment

When wastewater enters a treatment plant, it initially goes through a process known as preliminary treatment. The goal of this step of therapy is to remove untreatable material that can be removed by physical means. Screens are used in the first step to remove bigger inorganic objects such as paper, plastics, rags, cans, bottles, wood, clogs, and other physical debris that may be present. This operation is required because the influent wastewater must be prepared for more treatment in the plant by lowering or totally removing unfavorable influent features that might block the operation process or increase operation and processing expenses unnecessarily. Typically, the shields are formed of identical steel and metal bars with holes. Physical unit operations are included in the preliminary therapy. Flow equalization and smell control are two further preliminary treatment activities. The material that has been removed is then collected and disposed of in landfills. Before the effluent is delivered to the main treatment section, mechanically mixed basins are employed to remove any grit or sand-like material that may be present.

Primary treatment is the process of removing suspended particles and organic contaminants from wastewater to a certain extent using physical processes such as screens and sedimentation. Such treatment plan takes place in primary activated sludge or primary clarifiers, depending on the situation. A mechanically driven big rotating arm or blade is located inside the clarifier and separates the settled solids from the bottom of the clarifier while separating the grease, oil, and other floatables from the top of the clarifier. The major sedimentation tanks or clarifiers are covered and kept under vacuum at all times, and an odour reduction and control facility aids in the management of odour, which is mostly hydrogen sulphide gas emitted by the wastewater. To help with primary treatment, pre-aeration or mechanical flocculation with the help of some particular chemicals can be utilized.

Primary therapy is required before subsequent therapy may begin. Its purpose is to create or facilitate the creation of a liquid effluent appropriate for downstream biological treatment, as well as to separate solid waste materials into sludge that may be readily treated before final disposal. The effluent generated after first treatment still contains a significant quantity of organic materials, accounting for around 30% of the original suspended particles in the plant's influent stream, as well as a high Biological Oxygen Demand (BOD), accounting for about 70% of the original BOD level, but it is noticeably cleaner than the original influent.

1.5.2 Secondary treatment

The major goal of secondary treatment is to break down dissolved and suspended organic solids constituents in the influent wastewater that were not degraded by bacterial breakdown during primary treatment. This is accomplished by the employment of naturally existing microbes in biological processes such as activated sludge, fixed-film reactors, and lagoon systems.

Essentially, primary treatment effluent goes into secondary sedimentation tanks, where bacteria develops and organically treats the waste water. After the bacteria have finished their work, the effluent is transported to secondary clarifiers. The effluent is subsequently separated using mechanical rakes and gravity, much like in the main clarifiers. In this situation, the microorganisms form a floc, and additional sediments and particles fall at the bioreactor's base for collection. The majority of the floc is returned to the bioreactors, while a tiny percentage is pumped out and broken down as sludge with the rest of the solid waste.

1.5.3 Tertiary treatment

Tertiary treatment, as the name implies, removes inorganic components such as nitrogen and phosphorus from the water. The amount of treatment required before release to water bodies is determined by the receiving water body's water quality as well as the kind of reuse planned for the treated effluent. Typically, numerous environmental monitoring authorities in various regions give criteria and rules for the quality of treated effluent wastewater to be released to water bodies or reused for other uses.

Tertiary treatment removes a large percentage of nitrogenous compounds, phosphorus, heavy metals, bacteria, viruses, and other biodegradable components from the effluent, going beyond ordinary secondary treatment. At addition to biological nutrient removal processes, flocculation, chemical coagulation, and thickening are commonly utilized in this stage for this purpose. Filtration and activated carbon are used in the process as well. Ion exchange and reverse osmosis, which are used to remove particular ions or reduce dissolved particles, aren't used as much at this stage of treatment.

Waste water is routinely disinfected after the tertiary treatment process to remove any germs that may have remained after the whole cleaning cycle. At regulated amounts, a chemical such as sodium hypochlorite is added into the effluent. There is a control system in place that monitors

and balances the amount of chemical to be introduced in relation to the degree of cleanliness to be achieved, ensuring that everything is proportionate.

The wastewater might potentially be disinfected by exposing it to high-intensity UV light and radiation. After primary, secondary, and tertiary treatment, these UV disinfection units are meant to kill 99 percent of all organisms remaining in the effluent stream. In most cases, electromagnetic radiation is delivered through the effluent stream and is allowed to pass through organisms' outer membranes. This procedure sickens the DNA, eradicating any microbial remnants that may be present. Ultraviolet disinfection has various benefits over chlorine disinfection in that it avoids the need for hazardous chemicals to be transported while dechlorinating the waste stream and performing complicated processes. In such cases, the plant normally constructs a UV facility.

1.5.4 Typical system components

The organic treatment of wastewater is carried out by microorganisms, the majority of which are bacteria, which decompose the organic materials under aerobic or anaerobic conditions. After that, the degraded matter is bonded into flock particles and separated into sludge. Because biological deterioration occurs in the absence of oxygen under anaerobic circumstances, bacteria employ nitrate as an oxidizing agent. Some of the organic stuff is degraded into methane gas, while some of it is oxidized into carbon dioxide and water. To sustain the biological activities in an aerobic environment, which is the most often utilized strategy for wastewater treatment, oxygen must be given. The organic material is oxidized once more, primarily into carbon dioxide and water, with some of the organic material being utilized to support bacterial growth. The most common method of anaerobic digestion therapy is a fixed-film procedure.

CHAPTER - 2

Literature Review

2.1 Introduction

Water covers two-thirds of the earth's surface and makes up 75 percent of the human body, so it's apparent that it's one of the most important components for life on the planet. Water flows through the soil in the same manner that it does in the human body, delivering, dissolving, and renewing nutrients and organic materials while also conveying waste [1]. The loss in marine and riparian life populations, the growth of green algae in rivers, and the stink and slime that results from putrefaction in the water are all apparent indicators of the depth and breadth of the ecosystem's disturbance. By filtering wastewater effluent, sewage treatment plants can assist to prevent pollution from entering waterways [2]. By filtering wastewater effluent before it enters a water body, sewage treatment facilities can assist to prevent pollution from entering rivers. As a result, research into sewage treatment plants is a vital first step in identifying solutions for decreasing river pollution and, as a result, environmental contamination. The chapter will examine and expose crucial information about sewage treatment plant assessment, water contamination concerns, system importance, and other topics.

2.2 Water Pollution

Harmful compounds introduced into surface or ground water, whether directly or indirectly, are referred to as water pollution. Changes in surface (streams and rivers) and groundwater flows are known as hydrologic effects. Some of the early impetus for the environmental movement in the 1970s came from the sight and smell of severely polluted rivers [3]. The perils of contaminated water to human health prompted what became known as the "sanitary revolution" in Europe and the United States about a century before that, prioritizing clean water supplies and sewer systems

in cities. Water pollution is still a severe global problem today, despite significant progress in cleaning up rivers. It has an influence on the health of freshwater ecosystems and the human societies who rely on them for water supply [4].

Many sectors, including metallurgy, mining, chemical manufacture, chemical production, and nuclear power stations, produce waste that contains a number of poisonous colors, toxic substances, and even radioisotopes, posing a global environmental threat. Uranium is a major pollution from the energy industry, and Methylene Blue (MB) is a common synthetic dye used in the textile mills [5].

The volume and complexity of data have expanded dramatically over the previous decade as a result of improvements in data creation and storage, which are linked to lower costs and the availability of greater processing power [6]. As a result, all of this data currently available can provide useful knowledge that can lead to a better understanding of phenomena, modeling, and reproduction, which can lead to some benefits and improvements in industrial operations [7]. They incorporated microcontrollers, data collecting, and system maintenance technologies in treatment plants at the turn of the century. Sewage treatment plants can handle residential, commercial, and agricultural, each having its own set of features [8]. To clean the wastewater, many technologies have been devised like reverse osmosis [10], adsorption [9], ion exchange [12], and precipitation [11]. Adsorption seems to be the most popular of these approaches due to its low cost, ease of use, and great efficiency. Adsorbents of many varieties have been created to combat water pollution like composite materials [17], organic polymers [14], carbon-based materials [16], biomasses [15], and inorganic minerals [13].

Wastewater treatment plants, in addition to playing a good function in environmental preservation, represent a risk to employees and residents in the surrounding area [18-19]. Bioaerosol contains active microorganisms that can cause major inflammatory, infectious, and allergy disorders when released into the air. Employees at sewage treatment plants are often exposed to biological agents, which can cause illnesses such as alveolitis [20], rhinitis, meningitis, conjunctiva, and intestinal parasites [21]. Fungi in high quantities, in particular, can cause a wide range of disorders, from minor allergies to severe infections [22]. Malaise, coughing, and breathing problems are among the most common problems reported by treatment plant personnel [23-24]. Controlling the disease transmission of air in the wastewater treatment plant and its

surrounding area is required due to the hazard to health and environment posed by bio-aerosol emissions [25].

Many scholars concentrated on single-objective combinatorial optimization in which the objective function was resource, money, or carbon emissions. Some studies use more optimization problem to analyze the system's optimum position from several perspectives. A framework for modeling and optimizing a CHP system that includes a fuel cell, diesel generator, and organic Rankine cycle. They looked at the effects of important design and operational characteristics such fuel flow rate, fuel cell cooling capacity, static pressure, and flowing split proportion. The results showed that now the CHP system's electricity and total efficiency were both 66.2% and 88.43%, respectively [26]. A thermodynamics model of a based scheme system that includes a fuel cell and a gas turbine that is intercooled and recovered. Then they used entropy reduction to improve performance of the system. The results showed that at a turbine intake temperature of 1800 K and an engine compression ratio of 20 [27], optimum efficiency of 74.13 percent could be reached. A biofuel partial combustion CHP system with a geothermal heat pump (HP). They used a Genetic Algorithm (GA) to improve the system by using objective functions to evaluate constituent capacity and operational planning [28]. A distributed power system's micro GA to achieve optimal functioning in terms of energy effectiveness and convenience [29]. A made by mixing nonlinear optimization approach is based on a Rankine's production cycle fed by biomass to boost power generation in small-scale CHP facilities [30]. GA [31] designed a CHP system that is based on biogas production to reduce the yearly overall price. MILP was used to build and manage a CHP facility in an industrial city, taking into account capital and operational costs as well as CO₂ emissions [32].

2.3 History of Wastewater Reuse

As the worlds largest water supply grows more scarce, sewage sludge has become a more appealing option. Wastewater is a valuable resource that may help bridge the gap between water production and use. India's wastewater treatment business, notably sewage reuse, is receiving attention as a result of rising water concerns, particularly in water-scarce communities. Water scarcity and global climate change are the two most pressing issues, according to the United Nations Environment Programme (UNEP). Global water consumption has increased significantly of six in the previous century, and is progressively growing at a pace of roughly 1% each year.

The world's population is expected to expand by 40–50 percent over the next 50 years [33]. This, along with urbanization and industrialization, will result in a massive rise in water consumption. Water resource planners are looking for alternate sources to supplement the world's limited freshwater supplies by using recycled or reclaimed water, more frequently known as reuse of treated wastewater, to alleviate current and predicted water shortages. It is described as the use of wastewater-generated water that achieves a quality that is adequate (taking into consideration health and environmental hazards) for its intended purpose, such as irrigation, industrial, or civic (municipal) in general, following treatment as necessary. Reusing treated wastewater has shown to be an environmentally viable solution that has greatly aided many worldwide communities in supplementing their water sources.

Table 2.1 Availability of water across India [34]

Availability	Quantity
Resources of Ground Water	433
Resources of Surface Water	690
Water Resources utilization	1123
Annual Mean Precipitation	4000
Natural Surface and Ground Water	1869

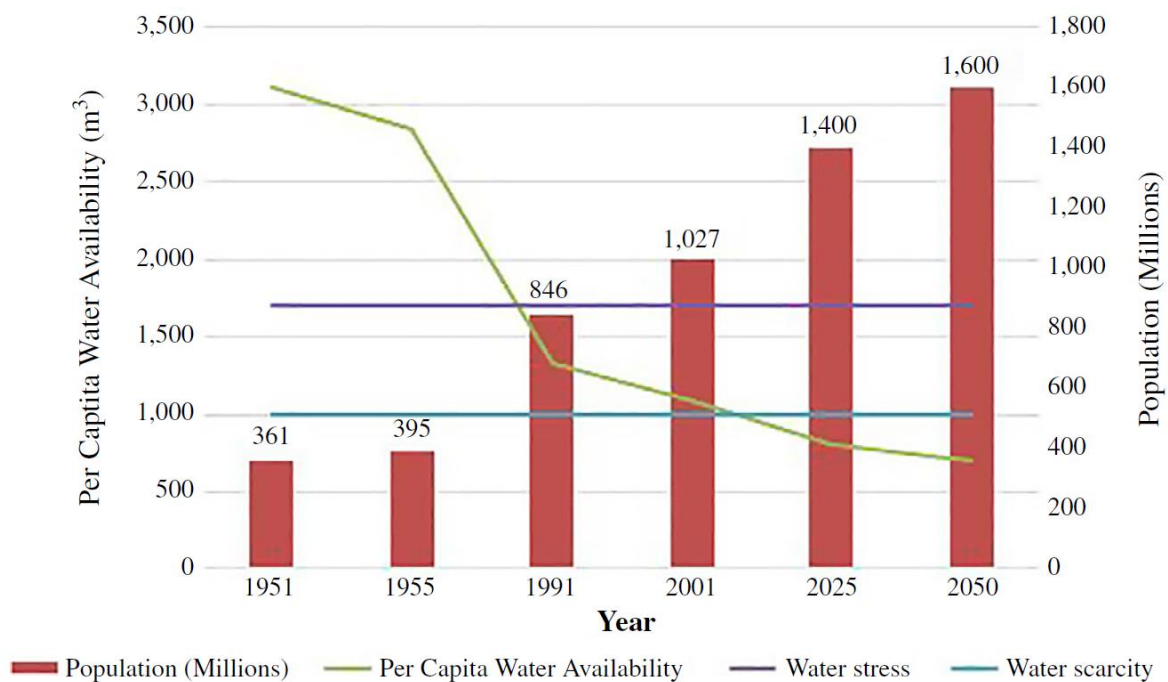


Fig. 2.1 Projected per capita water availability w.r.t Population growth.

India is on track to become the world's most populous country, resulting in increased water demands. India's geographical area is around 329 million hectares (2.45% of the earth's landmass), and it has 4% of the world's water resources [34]. Despite the fact that every single annual water management potential is 1869 billion cubic meters (BCM) (Table 2.1), the amount of water that could be used productively is far less because of boundation imposed by physiography, weather patterns, political matters, and the current entrepreneurial characteristics to optimise water supplies financially. India receives over 4000 BCM of yearly rainfall, which is more than adequate to meet the country's water needs. However, due to its fluctuation across time and space, only a tiny percentage of this rainfall could be exploited successfully, limiting water availability and accessible ground and surface water resources [35].

Water shortages in India are mostly caused by spatial and temporal variations in water resources, resulting in lower water present even for the current population, depletion of ground and surface water source, and highly contaminated water bodies. In the country, there are 351 contaminated river sections, 45 of which are seriously contaminated [36]. According to estimates, by 2030, the predicted water consumption would reach 1498 BCM, compared to a supply of 744 BCM, widening the disparity between supply and demand as seen in Fig. 2.1 [37]. With more than 54 percent of the covered area under severe to acute water stress, the country is on the verge of surpassing its water resource constraints. Because of more water consumption, current water supplies are under tremendous strain as discussed in Table 2.

Table 2.2 Demand of water in India

Water demand in BCM			
Sector	2010	2025	2050
Industry	12	23	62
Drinking water	56	73	102
Other	52	72	80
Irrigation	688	910	1072
Energy	5	15	130
Total	813	1093	1447

With an estimated water extraction of 68 BCM by 2040, India has surpassed China as the greatest source of energy-related water demand. Based on utilizable resources for a population of 1.2 billion people, according to the 2011 census, water availability in the country is just 1000m³/year/person as illustrated in Fig. 2.2, showing the beginnings of acute water shortages in many areas [38]. The existing water situation plainly demonstrates that there is a significant disparity between supply and demand, which is anticipated to widen as the population grows and other variables come into play. The Indian government has made several attempts at the state and national levels to address the water problem, including diversion of river flows to increase surface water supplies and water-conserving agriculture methods, among others. The reuse of purified wastewater is one such avenue to alternate water supply.

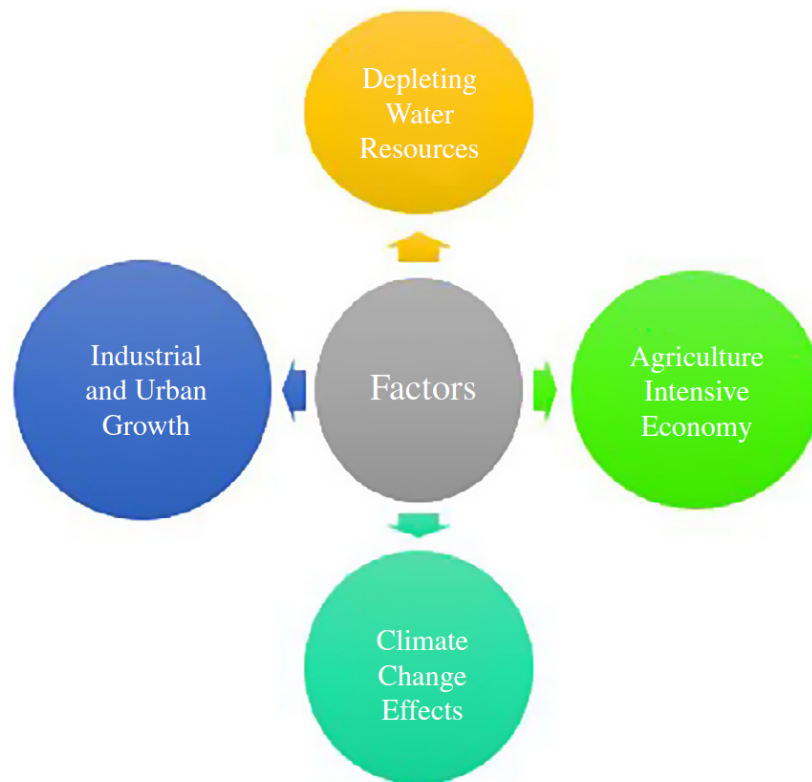


Fig. 2.2 Factors facilitate reuse of water

India is no stranger to the notion of reuse. In India, the first occurrence of wastewater reuse was in 1964–65 [39]. It was discovered that roughly 20% of the wastewater generated by the textile industry may be reused for specific applications such as blanket washing without any pre-treatment, lowering costs. Moreover, the firstly developed building for commercial used in India to handle black water created by reuse and toilets in centrally controlled air conditioning units, it

is used as cooling water was the Air India building in Mumbai [40]. In Chennai, wastewater has been used for irrigation since the 1970s. Many recycling and reuse programs are now functioning in places such as Chandigarh, Ahmedabad, Nagpur, Aurangabad, Tuticorin, Vadodara, Kolhapur, Kolkata, Vishakhapatnam, and among others [41]. Recently, due to a variety of causes that will be described later, India has become one of the most expanding markets for the reuse of treated wastewater, particularly for industrial propose.

2.4 Sewage Treatment Process

The idea of anaerobic treatment of urban wastewater was first explored in the early 1980s, when Lettinga and his colleagues investigated the possibility of anaerobic treatment using UASB at ambient temperatures [42]. Since then, a significant amount of research on municipal wastewater treatment employing various anaerobic reactor designs has been conducted. . It is widely acknowledged as a key component of a long-term, non-vulnerable environmental preservation strategy [43]. Anaerobic systems are more cost efficient in terms of investment and running costs, as well as dependability and durability, as compared to aerobic or physicochemical treatment systems. From a technological standpoint, short hydraulic retention durations should be used to achieve large system loading rates while retaining positive net biomass retention. Many reactor designs have been devised to keep biomass within the system [44]. Anaerobic lagoons, anaerobic contact processes, up flow anaerobic sludge blanket reactors, fixed film or anaerobic filter, fluidized bed (FB) system, hybrid systems, and extended granular sludge bed systems (EGSB) are just a few of the anaerobic systems that have been created. The most widely used UASB system, introduced by Lettinga, was one of the first to rely on the formation of granular biomass [45]. Because of the granular biomass's outstanding settling qualities, specifically built three-phase separators (gas, liquid, and solid separators) provide optimal sludge retention (GLSS). Companies such as Biothane, Biotim (Belgium), Grontmij, Haskoning, Kurita (Japan), and Paques [44] promote the technique, which originated in the Netherlands.

In the absence of oxygen, a complex microbial community [46] made up of many interacting microbial species degrades natural polymers such polysaccharides, proteins, nucleic acids, lipids, and others into methane and carbon dioxide [47].

The technique of anaerobic treatment by methane fermentation is unusual in that it does not require an electron acceptor such as oxygen or nitrate to function. Aerobic procedures, on the

other hand, which are frequently employed for wastewater treatment, have at least two drawbacks: a relatively high energy need and a large surplus sludge generation; treatment and disposal. Anaerobic wastewater treatment is often beneficial for eliminating organic debris from wastewater without using a lot of electricity. These benefits (Table 1), along with the favorable climatic circumstances in warm-climate countries, where high temperatures are present almost all year, have helped to put anaerobic systems, notably UASB reactors, in a strong position.

The anaerobic treatment system is a cost-effective method for removing organic waste and suspended particles. It has limited impact on macronutrient (nitrogen and phosphorus) concentrations, and pathogenic organisms are only partially eliminated [48]. As a result, high-rate anaerobic reactors, such as the UASB utilized for sewage treatment, may be considered a consolidated technology in several warm-climate nations, including Brazil, Colombia, and India, where numerous treatment plants are operational at full capacity.

CHAPTER - 3

DATA COLLECTION AND METHODOLOGY

3.1 Introduction

The aim of this study is to determine the suitability of reusing treating wastewater from sewage treatment plants, as well as some waste water from factories situated down - stream of the residential sewage treatment plant's final disposal point. There are factories in the city that are experiencing water shortages. They acquire clean water for the industrial setting every day. Since the residential sewage treatment plant has enough water to provide for commercial purposes, treatability tests were conducted on the plant's processed wastewater, as well as the results were presented with techno-economic strategies.

3.2 Details of Sewage Treatment Plant

Systematic information collection aids in the successful completion of research projects. The data is recorded to aid in the identification of the plant's characteristics. Out of the total available domestic effluent plants in Chandigarh, the 3BRD Sewage Treatment Plant (STP), which covers 50 MLD in Sector 47 as seen in Fig.3.1, is selected looking at the availability of the data of last three years. The technology provided by M/s. Ramky Infrastructure Ltd. Which is based on Cyclic Activated Sludge Technology component of the STP from SFC Environmental Technology Pvt. Ltd. The global wastewater treatment technology company. The detail description about the sewage treatment plant is given in Table 3.1.

Table 3.1 Detail description of the sewage treatment plants, Chandigarh

Capacity	50 MLD
Peak factor	2.25

Spread Area	48 acres
Technical	Sewage flow 43000 cum/day

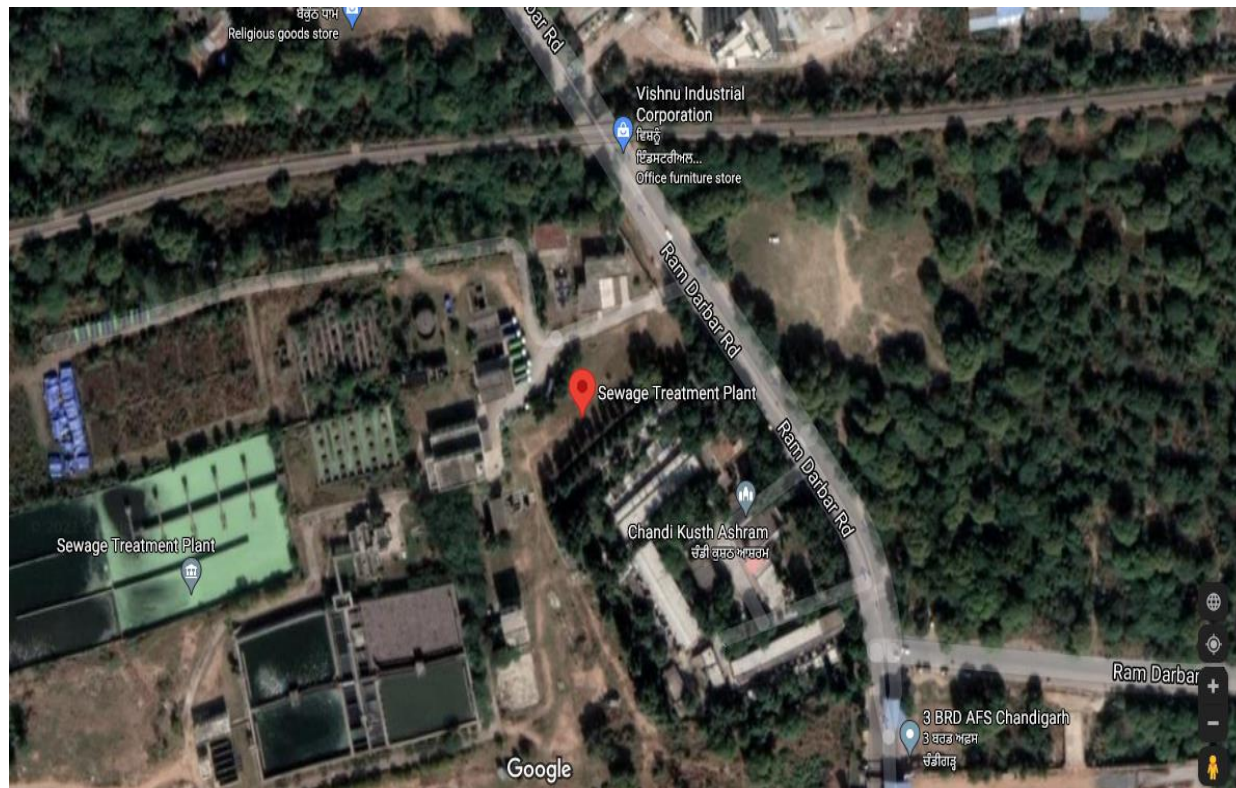


Fig. 3.1 The location of sewage treatment plant in Chandigarh

The Sewage Treatment Plant's current capacity is 50 MLD, despite the fact that it receives approximately 48 MLD of sewage. The water that arrives at STP is handled in three stages: primary, secondary, and tertiary. 35 mgd of the 48 mgd of water received at the Sewage Treatment Plant is treated to the secondary level, with the remaining 10 mgd being treated to the tertiary level. The tertiary treated sewage is returned to the city to be used to irrigate green fields and gardens. Increased waste flow has resulted from population growth and increased water consumption. The water treatment system had to be expanded as a result of this. The development of a 5 mgd wastewater treatment plant at Raipur Kalan has begun for the treatment of wastewater and the drainage of treated sewage into the free choe. Water treatment, subsidence, filtration, and decontamination are common management procedures and operations for reuse in these circumstances, as they are in surface water treatment for potable water source. A correctly

managed treatment facility achieves a high level of pathogen clearance, ensuring the protection of the treated water. The block diagram of the mention sewage treatment plant is shown in Fig.3.2.

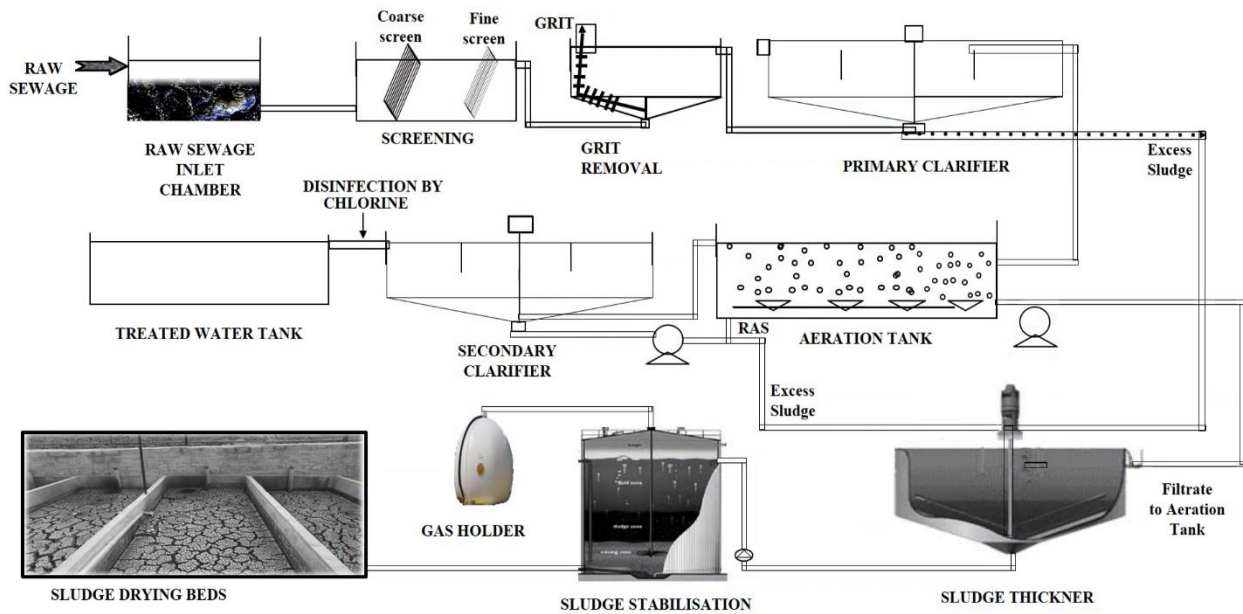


Fig. 3.2 Block Diagram of different process in sewage treatment plant

3.3 Data Collection

Industrial wastewaters may have a wide range of characteristics, both inside and between industries. The effect of industrial discharges is determined not only by their overall characteristics, including such dissolved oxygen and particulate content, but also by the particular pollutants in the atmosphere present. In terms of handling industrial drainage, there are three choices. Control can occur at the plant's source of origin; wastewater can indeed be which was before for disposal to public treatment sources; or wastewater can be entirely treated just at plant and then reclaimed or dumped directly into wastewater effluents.

The used data of raw sewage and treated sewage water are more than of three years from sewage treatment plants, which is 1st of October, 2016 to 31st December, 2019 from sewage treatment plants Chandigarh. In this study, five important parameters are obtained to extract the relevant information from the raw sewage and treated sewage water from sewage treatment plants. The

collected raw data sets of all the three conditions (S1-raw sewage water, S2-primary treated water, S3-outlet treated water) are used in implementation. The detailed description of the collected data is discussed in Table 3.2.

Table 3.2 Description of the collected data from the sewage treatment plants

Duration of collected data	October, 2016 to 31st December, 2019
Parameters collected	instant DO, pH value, TSS, COD, BOD
S1	Raw Sewage Water
S2	Primary Treated Water
S3	Outlet Treated Water

3.4 Characteristics of Sewage Treatment Plants

The water content of domestic sewage is approximately 99.9%. Natural and inorganic, suspended and dissolved solids, as well as microorganisms, make up the remainder. Water contamination occurs as a result of this 0.1 percent, and wastewater must be treated as a result.

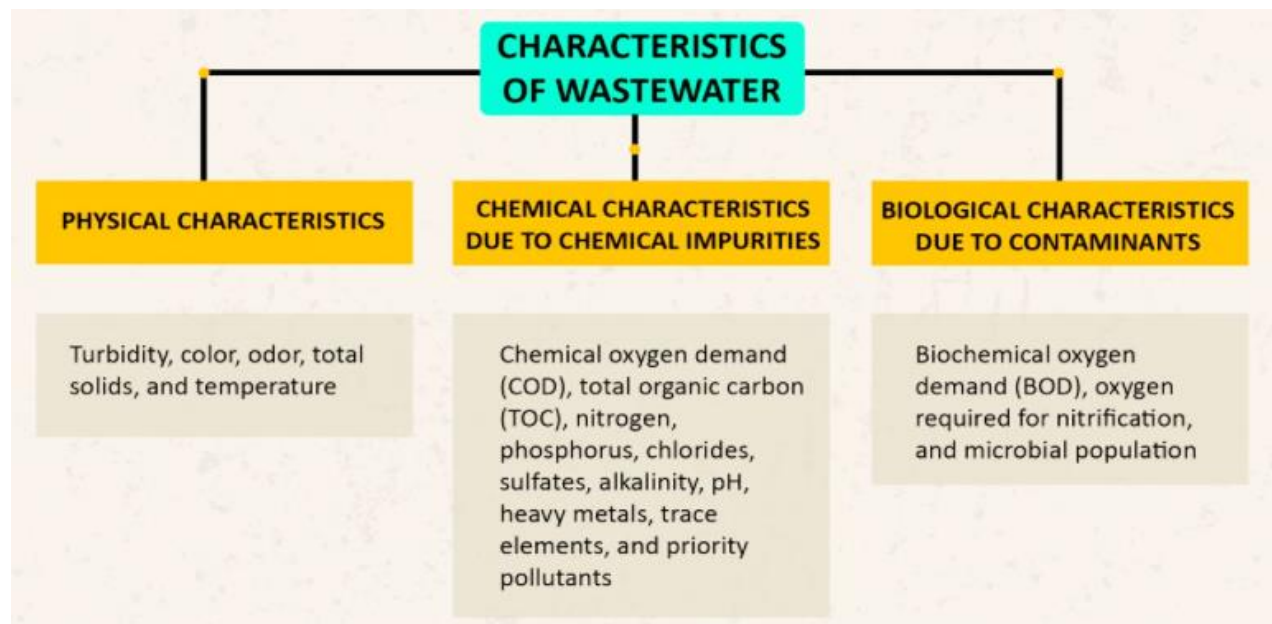


Fig.3.3 Basic characteristics of the sewage treatment plants

The wastewater's composition is determined by the uses whereby the wastewater was put. Weather, social and economic conditions, and population preferences all influence these uses and how they were carried out. There is usually little concern in identifying the different substances that make up wastewater in the construction of a sewage treatment plants. The classification of characteristics of sewage water is shown in Fig.3.3. This is due to the difficulties of performing the various experimental experiments, as well as the fact that the findings themselves cannot be used explicitly as design and process components. As a result, indirect criteria that reflect the character or polluting capacity of the wastewater in question are often preferred. These parameters define the quality of the sewage, some of parameters are described here,

a) Instant Dissolved Oxygen (DO)

The quantity of gaseous oxygen (O₂) absorbed in sewage water is referred to as dissolved oxygen. Direct penetration from the environment, accelerated change, or as a by result of plant photosynthesis are both ways oxygen reaches the water. It's usually measured in milligrams per litre (mg/L), which is the amount of oxygen absorbed divided by the concentration of the sample. Dissolved oxygen levels are affected by water temperature and the amount of flowing water.

b) pH value

The pH in water is a measurement as to how acidic or basic it is. The spectrum is 0 to 14, with 7 becoming the neutral value. Acidity is shown by a pH less than 7, even though a pH greater than 7 implies a base. The pH in water is an extremely significant indicator of the quality.

c) Total suspended solids (TSS)

Solids in sewage water that may be contained by a membrane are referred to as TSS. The sewage treatment sample is pumped into a pre-weighed filter to determine TSS. It's usually measured in milligrams per litre (mg/L), which is the amount of oxygen absorbed divided by the concentration of the sample. The substance left on the filter is placed in the oven at 103–105°C until it is no longer varies in weight.

d) Chemical Oxygen Demand (COD)

COD is a rough estimate of the amount of oxygen which can be absorbed by reactions in sewage water. It's usually measured in milligrams per litre (mg/L), which is the amount of oxygen absorbed divided by the concentration of the sample.

e) Biochemical Oxygen Demand (BOD)

The level of dissolved oxygen required (i.e., started demanding) by aerobic biological organisms to decompose the organic material contained in a wastewater sample at a specific temperature over a given time period is known as biochemical oxygen demand (BOD). It's usually measured in milligrams per litre (mg/L), which is the amount of oxygen absorbed divided by the concentration of the sample.

It is critical for those pursuing their FE credential to thoroughly comprehend how to control the biological characteristics of sewage using adequate methods of treatment. The different important threshold sewage characteristics in sewage treatment plants are discussed in Table 3.3. The raw sewage data used in training is presented in Appendix I

Table 3.3 Description of the threshold sewage characteristics in sewage treatment plants

Sr. No.	Parameters	Value of raw sewage	Value of treated sewage
1	pH value	6.5 to 8	6.5 to 8
2	TSS	Less than 330	Less than 10
3	BOD	Less than 350	Less than 20
4	COD	Less than 650	Less than 100

3.5 Proposed Methodology

In this section, the methodology of the proposed work is explained on the following section planed (i) Data collection (ii) Data handling (iii) Training of the machine learning models. The flow chart of the proposed methodology is shown in Fig. 3.4.

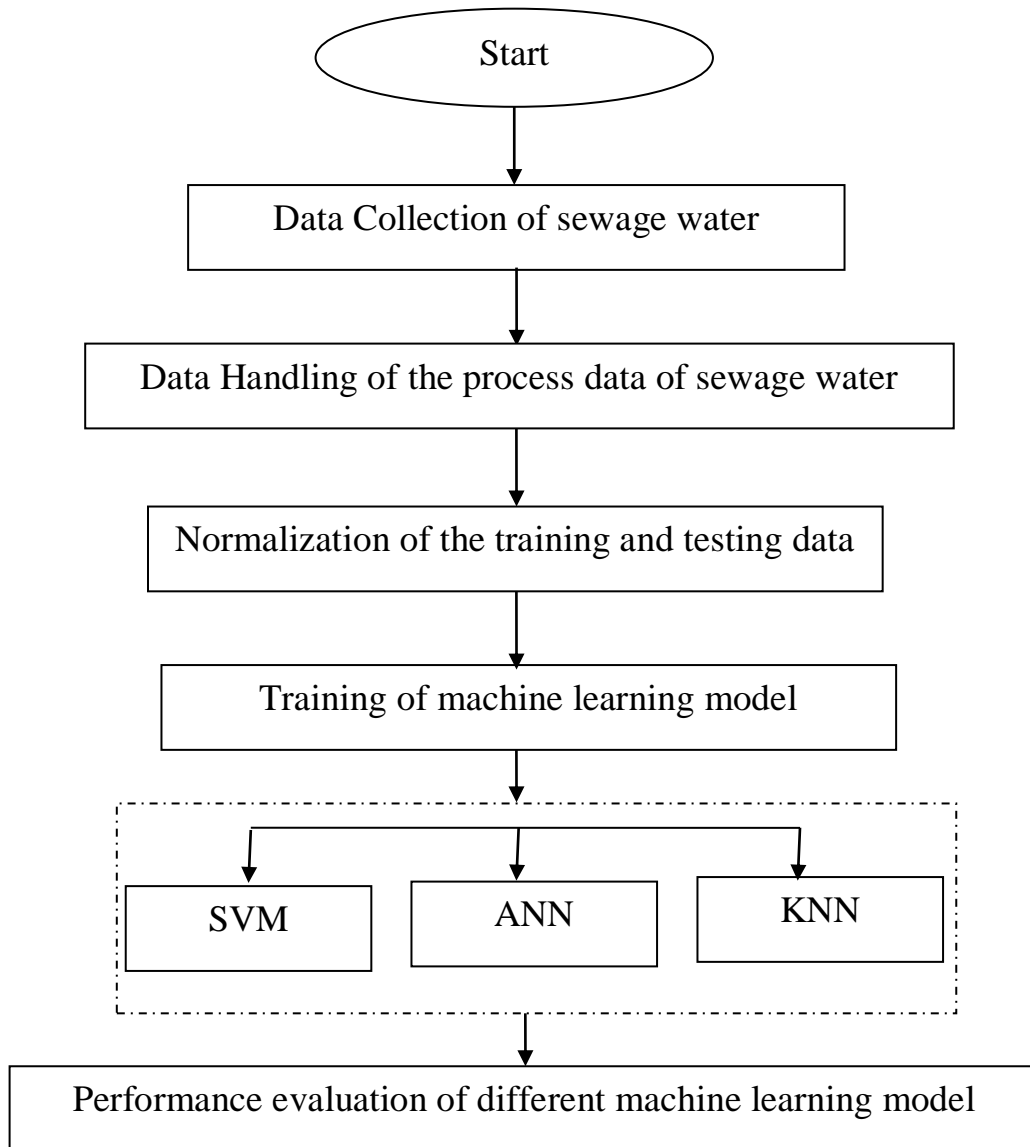


Fig.3.4 Flowchart of the proposed methodology

CHAPTER 4

RESULT AND DISCUSSION

4.1 Introduction

This section depicts the validation of the implemented work for the treated water quality classification in sewage treatment plants in which analyze the results of collated data from sewage treatment plants, Chandigarh, India, divide the treated water data into three different conditions (S1-raw sewage water, S2-primary treated water, S3-outlet treated water).The few standard features or parameters like instant do, pH value, TSS, COD, BOD have been used to as quality indicator of treated and raw sewage water. Finally, this huge data is used to trained the machine learning model such as SVM, ANN, and K-NN for father classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. In this research work, a comparative study among three classifiers (ANN, SVM and k-NN) has been done and observed that KNN has the highest classification accuracy.

4.2 Experimental Study

From the physical inspection of the sewage treatment plant, the industry's daily water use is estimated to be around 600 cu m. Storage tanks from the outside town bore wells are used to supply 90% of the available raw water consumption. The cost of purchasing water is Rs.150/- each tanker with a volume of 10 cu.m. As a result, the corporation spends a lot of money on buying raw water from outside town bore wells. As an alternate source of water demand, the potential of utilizing treated sewage water from a neighboring municipal facility was investigated. In the interests of the firm and the water conservation, a valuable natural resource, we attempted to discover a technically feasible and economically viable solution. The used data of raw sewage and treated sewage water are more than of three years from sewage treatment plants, which is 1st of October, 2016 to 31st December, 2019 from sewage treatment plants Chandigarh. In this study, five primary features are used to obtained the relevant information from the raw sewage and treated sewage water from sewage treatment plants. The collected raw data sets of all the three conditions (S1-raw sewage water, S2-primary treated water, S3-outlet treated water) is proper normalized before used in implementation. The normalized values of the instant do and pH values are represented by Fig. 4.1, and Fig.4.2. The normalized values of the TSS, COD and BOD are represented by the Fig.4.3, Fig.4.4, and Fig.4.5 respectively. Each features values are plots with respects to the no of days of the collected data of raw sewage and treated sewage water from sewage treatment plants.

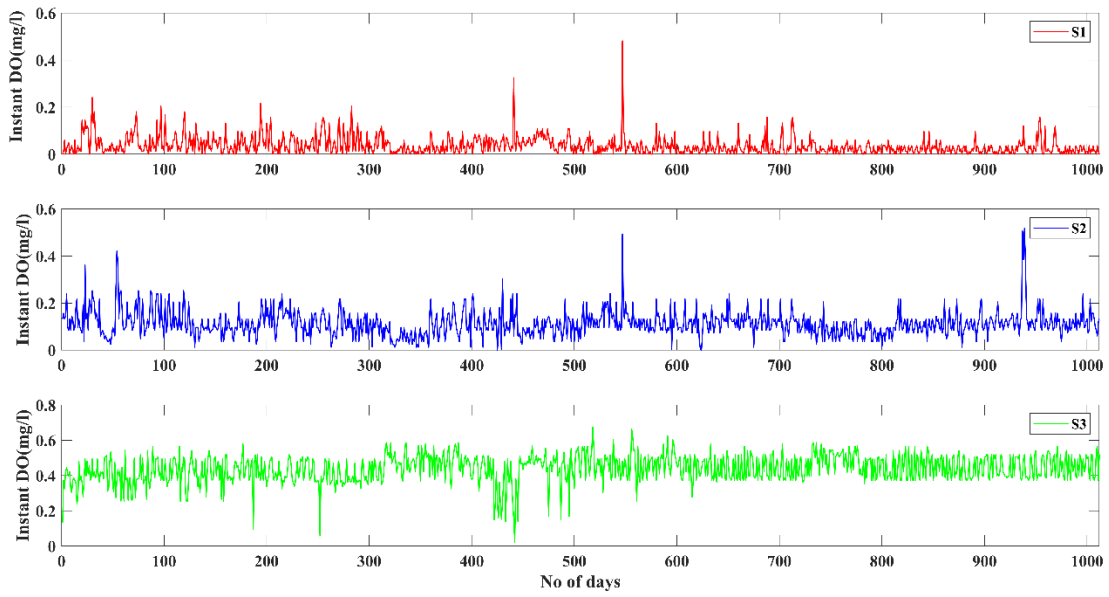


Fig.4.1 Instant do values varies with the no of days

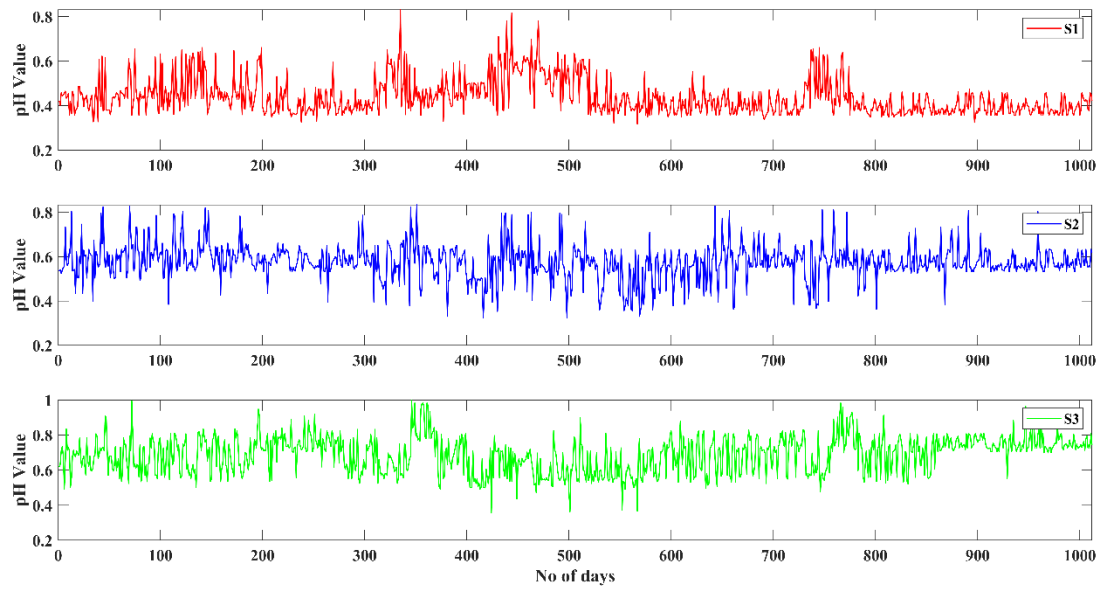


Fig.4.2 pH values varies with the no of days

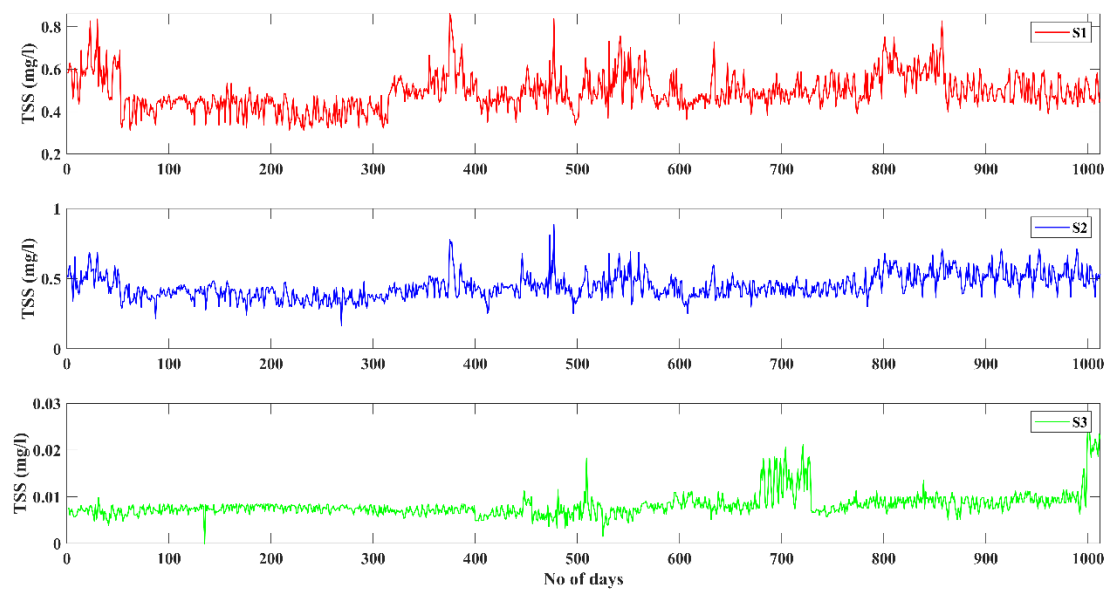


Fig.4.3 TSS values varies with the no of days

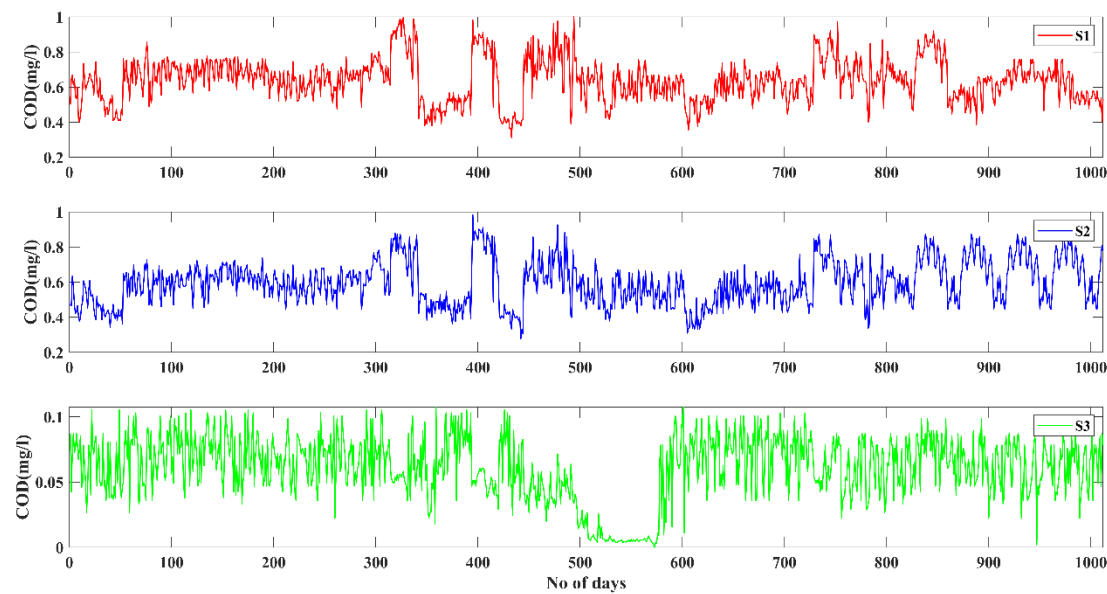


Fig.4.4 COD values varies with the no of days

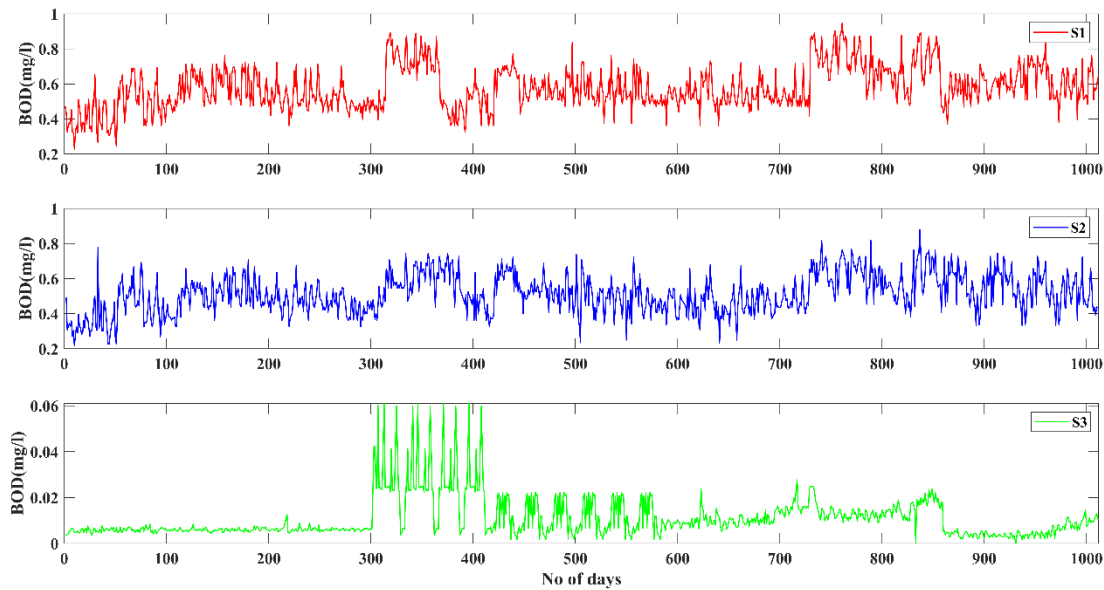


Fig.4.5 BOD values varies with the no of days

4.3 Classification Using Machine Learning Model

The machine learning algorithms have couple of application in sewage treatment plants. The sewage treatment process has different steps in which different stages and their failures are occurring like failures due to leaking pipelines, flow rate, unanticipated variations of organic loadings etc. This thesis work is focus on the classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. Firstly, few standard features or parameters like instant do, pH value, TSS, COD, BOD have been used to as quality indicator of treated and raw sewage water. Finally, this huge data is used to trained the machine learning model such as SVM, ANN, and K-NN for father classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. Two different validation method are adopted namely cross fold validation and holdout validation to check the performance of the machine learning model. The proposed machine learning approach is an effective classification of treated water in complex environmental systems.

4.3.1 Classification using SVM

SVM is a supervised classification technique that use categorization to solve problems with two or more classifications. Minor mistakes on restricted training datasets maintain the same small mistakes on independent test datasets, hence a large labeled training dataset is essential to train the SVM to increase the adaptive generation capacity of the learning machine as much as feasible. Through the complete implementation, five standard features or parameters like instant do, pH value, TSS, COD, BOD have been

used to as quality indicator of treated and raw sewage water. Finally, this huge data is used to trained the SVM model for father classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. The results of classification accuracy in the term of confusion matrix of the SVM classifier of is shown in Table 4.1. also the true positive rate (TPR) and false negative rate (FNR) are discussed in term of accuracy. It can be seen that the developed method is able to classify into three mention conditions of treated water accurately. As shown in Table 4.1, the classification of the S3 (outlet treated water) is classify 100% but model has a little bit confused between S2 (raw sewage water) and S2 (primary treated sewage water), which 88.9 % and 89.6 % respectively. Therefore, it can be stated that the proposed intelligent system based on SVM model for treated water quality inspection has able to classify with good classification accuracy on the collected dataset.

Table 4.1 Confusion matrix for three different treated water quality conditions using SVM

True Class	S1	88.9%	11.1%	0%	TPR	88.9%	11.1%
	S2	10.4%	89.6%	0%		89.6%	10.4%
	S3	0%	0%	100%		100%	0%
		S1	S2	S3		FNR	
		Predicted Class					

4.3.2 Classification using ANN

An ANN is made up of hundreds or thousands of artificial neurons called processing units that are connected via nodes. Input and output units make up these processing units. Based on an internal weighting mechanism, the input units receive diverse forms and structures of information, and the neural network strives to learn about the information supplied in order to create one output. Through the complete implementation, five standard features or parameters like instant do, pH value, TSS, COD, BOD have been used to as quality indicator of treated and raw sewage water. Finally, this huge data is used to trained the ANN model for

father classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. The results of classification accuracy in the term of confusion matrix of the ANN classifier of is shown in Table 4.2. also the true positive rate (TPR) and false negative rate (FNR) are discussed in term of accuracy. It can be seen that the developed method is able to classify into three mention conditions of treated water accurately. As shown in Table 4.2, the classification of the S3 (outlet treated water) is classify 100% but model has a little bit confused between S2 (raw sewage water) and S2 (primary treated sewage water), which 91.4 % and 90.1 % respectively. Therefore, it can be stated that the proposed intelligent system based on ANN model for treated water quality inspection has able to classify with good classification accuracy on the collected dataset.

Table 4.2 Confusion matrix for three different treated water quality conditions using ANN

True Class	S1	91.4%	8.6%	0%	TPR	91.4%	8.6%
	S2	9.9%	90.1%	0%		90.1%	9.9%
	S3	0%	0%	100%		100%	0%
		S1	S2	S3		FNR	
		Predicted Class					

4.3 Classification using KNN

The KNN is a non-parametric classification is employed in the categorization and regression of data. The input in both situations is the k closest training examples in the data set. Whether k-NN is used for classification or regression determines the outcome. Through the complete implementation, five standard features or parameters like instant do, pH value, TSS, COD, BOD have been used to as quality indicator of treated and raw sewage water. Finally, this huge data is used to trained the KNN model for father classification of the treated and raw sewage water in sewage treatment plants with higher classification accuracy. The results of classification accuracy in the term of confusion matrix of the KNN classifier of is

shown in Table 4.2. also the true positive rate (TPR) and false negative rate (FNR) are discussed in term of accuracy. It can be seen that the developed method is able to classify into three mention conditions of treated water accurately. As shown in Table 4.3, the classification of the S3 (outlet treated water) is classify 100% but model has a little bit confused between S2 (raw sewage water) and S2 (primary treated sewage water), which given 90.8 % accuracy in both the conditions. Therefore, it can be stated that the proposed intelligent system based on KNN model is outer perform the SVM and ANN in terms of overall classification accuracy for treated water quality inspection and has able to classify with good classification accuracy on the collected dataset.

Table 4.3 Confusion matrix for three different treated water quality conditions using K-NN

True Class	S1	90.8%	9.2%	0%	TPR	90.8%	9.2%
	S2	9.2%	90.8%	0%		90.8%	9.2%
	S3	0%	0%	100%		100%	0%
		S1	S2	S3		TPR	FNR
		Predicted Class					

The comparative study of the SVM, ANN and KNN classifiers based on classification accuracy of the treated and raw sewage water in sewage treatment plants. The result of the KNN is outer perform SVM and ANN for both cases at fold cross validation have been discussed in Table 4.4 and in therms of bar chats shown in Fig.4.6. The result of the KNN and ANN are outer perform SVM with highest classification accuracy of 93.8% holdout validation as given in Table 4.5 and also with bar charts in Fig.4.7, but in overall the KNN is outer perform ANN and SVM in at different cross fold and holdout validation. Promoting knowledge development and sharing decision-making experiences will help plant managers to maximize their system performance by using these sophisticated machine learning models for sewage treatment.

Table 4.4 Classification accuracy comparison for three different treated water quality conditions using SVM ANN and K-NN classifiers at different fold cross validation

Fold Cross Validation (%)	SVM (%)	ANN (%)	K-NN (%)
2	92.4	91.7	92.7
4	92.9	92.4	93.0
6	92.4	92.3	93.3
8	91.9	92.6	93.1
10	92.3	92.6	93.3

Table 4.5 Classification accuracy comparison for three different treated water quality conditions using SVM ANN and K-NN classifiers at different holdout validation

Holdout Validation (%)	SVM (%)	ANN (%)	K-NN (%)
15	90.5	93.8	93.8
20	92.8	91.6	92.8
25	92.6	92.2	92.5
30	91.6	92.4	91.9
35	92.4	92.0	92.3

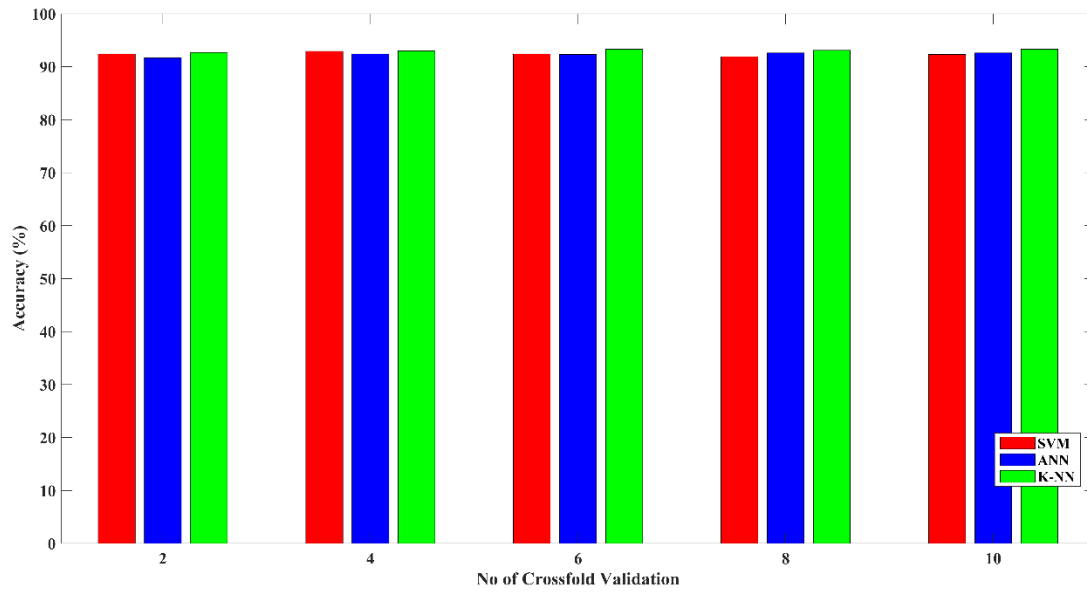


Fig. 4.6 Classification accuracy at different fold cross validation using SVM ANN and K-NN classifiers

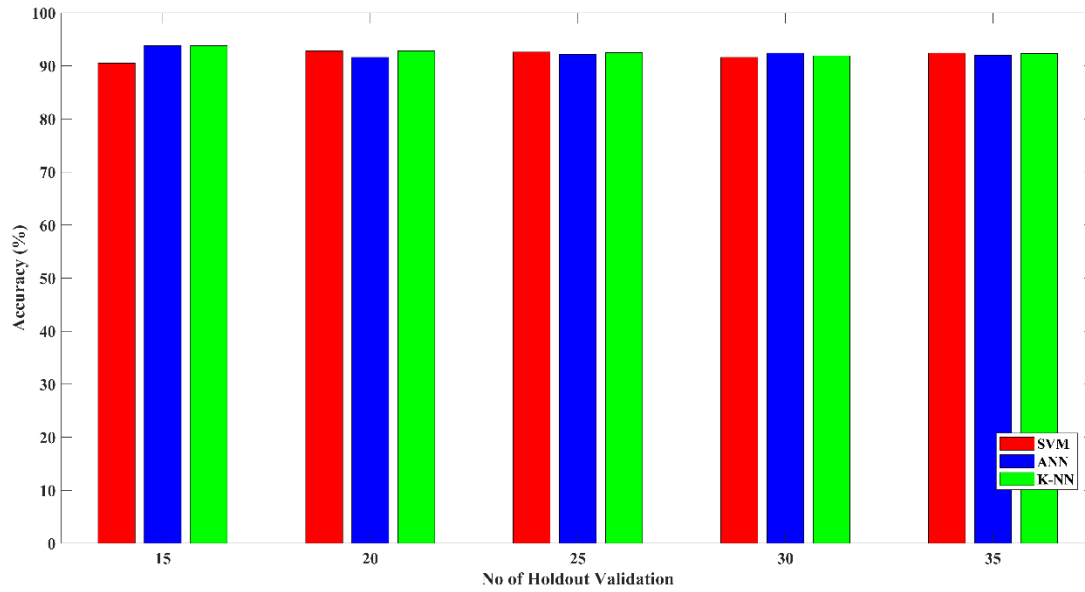


Fig. 4.7 Classification accuracy at different holdout validation using SVM ANN and K-NN classifiers

CHAPTER 5

CONCLUSION AND FUTURE SCOPE

In this research work, author developed a useful machine learning model for the classification of the treated water quality from the sewage treatment plants. The proposed technique is based on the machine learning model, allowing to sharing automate decision-making system which will help enhance the overall performance of sewage treatment plant. The authors analyzed the three conditions (S1-raw sewage water, S2-primary treated water, S3-outlet treated water) treated water quality from the sewage treatment plants. In furthermore, all six features are provided to three distinct classifiers: ANN, SVM, and K-NN. It was observed that the KNN outperformed the SVM and ANN in terms of classification accuracy for treated water quality classification. All the classifier are tested at different cross fold validation and holdout validation respectively. It is observed that, the KNN has highest classification accuracy and also compare with other classifiers namely SVM and k-NN in both cases at fold cross validation and holdout validation. The machine learning techniques are very useful for for the classification of the quality and also other harmful component present in the treated water from the sewage treatment plants.

Considering the increasing trend of today's industry and the wastewater created by its operations, it requires an effective treatment plant for such wastewater fluids in order to reduce the environmental effect of its discharges and meet the increasingly stringent environmental regulatory criteria. This necessitates innovation in the management and control data systems of the implementation of various with treating these residual fluids in order to ameliorate the situation. Given the current accelerating development of industry and the quantity of sewage that its methods produce, it is critical for it to have an optimal treatment framework for such effluents in order to reduce environmental influence of its leakage and meet the increasing environmental regulatory requirements.

This innovation and creativity in treatment methods, as well as control and systems integration technologies, in order to produce a more effective system, the benefits of which have been demonstrated in a number of industrialized nations. The suggested technique is an intelligent system that leverages data from either the bacterial phase of the design to forecast the behaviour of digesters in a way that aids judgment in wastewater treatment management and boosts productivity. Developing a continuous forecast of out-of-range readings allows for early intervention. As a consequence, water of a better quality than necessary and a reduction in bottlenecks due to microorganism adaptability are two of the benefits realized, both of which result in economic savings.

References

- [1]. Carballa, Marta, Francisco Omil, Juan M. Lema, María Llompart, Carmen García-Jares, Isaac Rodríguez, Mariano Gomez, and Thomas Ternes. "Behavior of pharmaceuticals, cosmetics and hormones in a sewage treatment plant." *Water research* 38, no. 12 (2004): 2918-2926.
- [2]. Stamatis, N., D. Hela, and I. Konstantinou. "Occurrence and removal of fungicides in municipal sewage treatment plant." *Journal of Hazardous Materials* 175, no. 1-3 (2010): 829-835.
- [3]. Gómez, M. José, MJ Martínez Bueno, S. Lacorte, Amadeo R. Fernández-Alba, and A. Agüera. "Pilot survey monitoring pharmaceuticals and related compounds in a sewage treatment plant located on the Mediterranean coast." *Chemosphere* 66, no. 6 (2007): 993-1002.
- [4]. Xu, Jian, Yan Xu, Hongmei Wang, Changsheng Guo, Huiyun Qiu, Yan He, Yuan Zhang, Xiaochen Li, and Wei Meng. "Occurrence of antibiotics and antibiotic resistance genes in a sewage treatment plant and its effluent-receiving river." *Chemosphere* 119 (2015): 1379-1385.
- [5]. Lu, Yonglong, Shuai Song, Ruoshi Wang, Zhaoyang Liu, Jing Meng, Andrew J. Sweetman, Alan Jenkins et al. "Impacts of soil and water pollution on food safety and health risks in China." *Environment international* 77 (2015): 5-15.
- [6]. Nourani, Vahid, Gozen Elkiran, and S. I. Abba. "Wastewater treatment plant performance analysis using artificial intelligence—an ensemble approach." *Water Science and Technology* 78, no. 10 (2018): 2064-2076.
- [7]. Pang, Jiwei, Shanshan Yang, Lei He, Yidi Chen, and Nanqi Ren. "Intelligent control/operational strategies in WWTPs through an integrated Q-learning algorithm with ASM2d-guided reward." *Water* 11, no. 5 (2019): 927.
- [8]. Feng, Ying, and Xiaoting Luo. "Performance evaluation of sewage treatment plant under sustainable development." *International Journal of Frontiers in Sociology* 1, no. 1 (2019): 1-11.

- [9]. Dai, Lichun, Wenkun Zhu, Li He, Furong Tan, Nengmin Zhu, Qin Zhou, Mingxiong He, and Guoquan Hu. "Calcium-rich biochar from crab shell: An unexpected super adsorbent for dye removal." *Bioresource technology* 267 (2018): 510-516.
- [10]. Kamali, Mohammadreza, D. P. Suhas, Maria Elisabete Costa, Isabel Capela, and Tejraj M. Aminabhavi. "Sustainability considerations in membrane-based technologies for industrial effluents treatment." *Chemical Engineering Journal* 368 (2019): 474-494.
- [11]. Tang, Chongjian, Zhigong Liu, Cong Peng, Li-Yuan Chai, Kensuke Kuroda, Masazumi Okido, and Yu-Xia Song. "New insights into the interaction between heavy metals and struvite: Struvite as platform for heterogeneous nucleation of heavy metal hydroxide." *Chemical Engineering Journal* 365 (2019): 60-69.
- [12]. Cheng, Yanxia, Ping He, Faqin Dong, Xiaoqin Nie, Congcong Ding, Shuai Wang, Ying Zhang, Huanhuan Liu, and Shiping Zhou. "Polyamine and amidoxime groups modified bifunctional polyacrylonitrile-based ion exchange fibers for highly efficient extraction of U (VI) from real uranium mine water." *Chemical Engineering Journal* 367 (2019): 198-207.
- [13]. Roberts, Hannah E., Katherine Morris, Gareth TW Law, J. Frederick W. Mosselms, Pieter Bots, Kristina Kvashnina, and Samuel Shaw. "Uranium (V) incorporation mechanisms and stability in Fe (II)/Fe (III)(oxyhydr) oxides." *Environmental Science & Technology Letters* 4, no. 10 (2017): 421-426.
- [14]. Alsaiee, Alaaeddin, Brian J. Smith, Leilei Xiao, Yuhan Ling, Damian E. Helbling, and William R. Dichtel. "Rapid removal of organic micropollutants from water by a porous β -cyclodextrin polymer." *nature* 529, no. 7585 (2016): 190-194.
- [15]. Ngo, Huu Hao, Wenshan Guo, Jian Zhang, Shuang Liang, Cuong Ton-That, and Xinbo Zhang. "Typical low cost biosorbents for adsorptive removal of specific organic pollutants from water." *Bioresource technology* 182 (2015): 353-363.
- [16]. Ahmed, Mohammad Boshir, John L. Zhou, Huu H. Ngo, Wenshan Guo, and Mengfang Chen. "Progress in the preparation and application of modified biochar for improved contaminant removal from water and wastewater." *Bioresource technology* 214 (2016): 836-851.

- [17]. Li, Yi, Luyan Li, Tao Chen, Tao Duan, Weitang Yao, Kui Zheng, Lichun Dai, and Wenkun Zhu. "Bioassembly of fungal hypha/graphene oxide aerogel as high performance adsorbents for U (VI) removal." *Chemical Engineering Journal* 347 (2018): 407-414.
- [18]. Nowojewski, A., and W. Mniszek. "Analysis of workers' occupational exposure to harmful biological agents in a typical municipal sewage treatment plant." *Zeszyty Naukowe Wyższej Szkoły Zarządzania Ochroną Pracy w Katowicach* 1, no. 2 (2006): 7-34.
- [19]. Sánchez-Monedero, M. A., M. I. Aguilar, R. Fenoll, and A. Roig. "Effect of the aeration system on the levels of airborne microorganisms generated at wastewater treatment plants." *Water Research* 42, no. 14 (2008): 3739-3744.
- [20]. Thorn, Jörgen, and Erika Kerekes. "Health effects among employees in sewage treatment plants: A literature survey." *American Journal of Industrial Medicine* 40, no. 2 (2001): 170-179.
- [21]. Ahire, K. D., and S. M. Bhalerao. "Assessment of occupational health hazards faced by sanitary workers in Kolhapur city." *International Journal of Scientific Research* 6, no. 8 (2017): 246-247.
- [22]. Krajewski, Jan A., Marcin Cyprowski, Wiesław Szymczak, and Jacek Gruchala. "Health complaints from workplace exposure to bioaerosols: a questionnaire study in sewage workers." *Annals of Agricultural and Environmental Medicine* 11, no. 2 (2004): 199-204.
- [23]. Patil, Priyanka V., and R. K. Kamble. "Occupational health hazards in municipal solid waste collecting workers of Chandrapur city, Central India." *International Journal of Environment* 6, no. 1 (2017): 46-57.
- [24]. Sánchez-Monedero, M. A., M. I. Aguilar, R. Fenoll, and A. Roig. "Effect of the aeration system on the levels of airborne microorganisms generated at wastewater treatment plants." *Water Research* 42, no. 14 (2008): 3739-3744.
- [25]. Korzeniewska, Ewa. "Emission of bacteria and fungi in the air from wastewater treatment plants-a review." *Front Biosci (Schol Ed)* 3 (2011): 393-407.
- [26]. Zhang, Shiqi, Haolun Liu, Meili Liu, Eiichi Sakaue, Ning Li, and Yingru Zhao. "An efficient integration strategy for a SOFC-GT-SORC combined system with performance simulation and parametric optimization." *Applied Thermal Engineering* 121 (2017): 314-324.

- [27]. Choudhary, Tushar. "Novel and optimal integration of SOFC-ICGT hybrid cycle: Energy analysis and entropy generation minimization." *International Journal of Hydrogen Energy* 42, no. 23 (2017): 15597-15612.
- [28]. Zhang, Xiaofeng, Hongqiang Li, Lifang Liu, Chengying Bai, Shuang Wang, Quanbin Song, Jing Zeng, Xiaobo Liu, and Guoqiang Zhang. "Optimization analysis of a novel combined heating and power system based on biomass partial gasification and ground source heat pump." *Energy conversion and management* 163 (2018): 355-370.
- [29]. Di Somma, Marialaura, Bing Yan, Nicola Bianco, Giorgio Graditi, Peter B. Luh, Luigi Mongibello, and Vincenzo Naso. "Operation optimization of a distributed energy system considering energy costs and exergy efficiency." *Energy Conversion and Management* 103 (2015): 739-751.
- [30]. Savola, Tuula, and Carl-Johan Fogelholm. "MINLP optimisation model for increased power production in small-scale CHP plants." *Applied Thermal Engineering* 27, no. 1 (2007): 89-99.
- [31]. Wang, Jiang-Jiang, Zi-Long Xu, Hong-Guang Jin, Guo-hua Shi, Chao Fu, and Kun Yang. "Design optimization and analysis of a biomass gasification based BCHP system: A case study in Harbin, China." *Renewable Energy* 71 (2014): 572-583.
- [32]. Bracco, Stefano, Gabriele Dentici, and Silvia Siri. "Economic and environmental optimization model for the design and the operation of a combined heat and power distributed generation system in an urban area." *Energy* 55 (2013): 1014-1024.
- [33]. Cohen-Shacham, Emmanuelle, Gretchen Walters, Christine Janzen, and Stewart Maginnis. "Nature-based solutions to address global societal challenges." IUCN: Gland, Switzerland 97 (2016).
- [34]. Pahl-Wostl, Claudia, Georg Holtz, Britta Kastens, and Christian Knieper. "Analyzing complex water governance regimes: the management and transition framework." *Environmental science & policy* 13, no. 7 (2010): 571-581.
- [35]. Central water commission. Annual report 2015–16. Government of India; 2016.
- [36]. Central pollution control board. Annual report 2014–15. Government of India; 2015.
- [37]. NITI Aayog. Composite water management index—a tool for water management. Government of India; 2018.
- [38]. McNabb DE. Global pathways to water sustainability. Springer; 2019.

- [39]. Arceivala SJ. Design construction and operation of waste stabilisation ponds in India. 1969.
- [40]. Arceivala SJ, Asolekar SR. Wastewater treatment for pollution control and reuse. Tata McGraw-Hill Education; 2015.
- [41]. Jhansi, Seetharam Chittoor, and Santosh Kumar Mishra. "Wastewater treatment and reuse: sustainability options." *Consilience* 10 (2013): 1-15.
- [42]. Lettinga, G., J. B. Van Lier, J. C. L. Van Buuren, and G. Zeeman. "Sustainable development in pollution control and the role of anaerobic treatment." *Water science and technology* 44, no. 6 (2001): 181-188.
- [43]. G. Lettinga, R. Roersma and P. Grin, Anaerobic treatment of raw domestic sewage at ambient temperatures using a granular bed UASB reactor, *Biotechnol. Bioeng.*, 25 (2015) 1701–1723.
- [44]. R.J. Frankin, Full-scale experiences with anaerobic treatment of industrial wastewater, *Wat. Sci. Technol.*, 44 (2009) 1–6.
- [45]. G. Lettinga, and L.W. Hulshoff Pol, UASB process design for various types of waste waters, *Wat Sci Technol.*, 24 (2015) 87–107.
- [46]. J.T.C. Grotenhuis, Structure and stability of methanogenic granular sludge' Ph.D. Thesis. Wageningen University, Wageningen. The Netherlands, 2008.
- [47]. M.J. McInerney, In: H.J. Rehm and G. Reed (Eds), *Anaerobic Metabolism and its Regulation*, second Ed. In: Winter, J. (Ed.), *Biotechnology*, vol. 11a Wiley-VCH, Weinheim, Germany, (2010) 455–478.
- [48]. C. Ghosh, J. Frijns and G. Lettinga, Performance of silver carp (*Hypophthalmichthys molitrix*) dominated integrated post treatment system for purification of municipal waste water in a temperate climate, *Biores. Technol.*, 69 (2015) 255–262.

APPENDIX I

Oct-16																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-10-2016	0.1	1.2	3.2	6.62	7.26	7.82	480	420	9.26	450	426	82	260	270	4.2	4.9	3.2	3.2
02-10-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-10-2016	0.2	1.4	2.8	6.5	7.3	8.26	490	470	9.2	580	420	42	240	270	4.1	4.4	3.2	4.6
04-10-2016	0.6	1.2	3.6	6.82	7.2	8.4	520	490	8.02	600	570	68	180	170	3.2	3.9	3.4	4
05-10-2016	0.1	1.3	3.8	6.74	7.28	8.08	500	420	8.92	550	520	82	200	180	6.2	4.6	3.4	4.2
06-10-2016	0.3	2.1	3.5	6.76	7.36	7.02	480	430	9.02	580	420	69	210	190	3.8	3.9	4.1	4.3
07-10-2016	0.4	0.9	3.4	6.82	7.38	7.96	380	280	8.2	490	380	72	205	180	4.2	4.8	4.2	4.5
08-10-2016	0.5	0.8	3.6	6.86	8.4	8.97	420	400	7.69	480	388	82	250	198	4.1	4.2	4.8	5.2
09-10-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-10-2016	0.1	1.2	2.8	6.68	7.56	8.28	500	540	7.72	540	420	74	180	150	4.2	4.6	4.9	3.6
11-10-2016	0.3	0.8	2.6	6.72	7.4	8.38	490	350	7.82	380	370	64	178	168	3.2	2.8	4.6	3.9
12-10-2016	0.4	1.3	3.2	6.8	7.46	8.26	480	400	8.08	360	340	72	126	120	4	3.8	3.8	3.8
13-10-2016	0.2	1.2	3.3	6.24	7.82	7.08	390	340	9.02	400	360	80	182	156	4.8	3.4	3.8	5.1
14-10-2016	0.1	0.8	3.2	6.6	7.72	7.38	360	320	9.01	450	420	45	198	180	4.9	4.2	3.9	5.2
15-10-2016	0.6	0.9	3.1	6.28	8.8	8.09	420	380	8.8	530	440	48	176	160	4.6	4.4	4.2	4.2
16-10-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-10-2016	0.1	1.6	2.1	6.86	7.26	8.28	568	460	9.66	660	546	74	282	218	4.1	3.9	3.8	4.5
18-10-2016	0.2	1.9	2.3	6.76	7.28	8.09	468	380	9.09	580	526	60	256	180	3.2	4.6	3.7	4.9
19-10-2016	0.4	0.9	4.1	6.24	7.3	8.08	480	410	8.82	526	506	48	230	176	4.1	4.4	4	3.4
20-10-2016	0.2	1.2	3.2	6.36	6.68	8.26	492	426	8.72	546	468	28	180	156	3.8	4.2	4.7	3.8
21-10-2016	0.3	0.9	3.4	6.4	7.76	8.18	468	408	8.62	560	408	46	208	160	3.6	4.6	4.8	4.4
22-10-2016	0.2	0.8	3.1	6.46	7.09	8.12	497	454	9.24	582	501	74	210	200	4.2	5.4	3.8	4.5
23-10-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-10-2016	1.3	0.7	2.4	6.99	7.08	8.68	497	406	9.09	608	547	68	180	176	4.6	4	4.4	3.8
25-10-2016	0.9	1.7	3.2	6.98	7.64	8.08	568	498	8.08	596	468	40	268	224	4.9	4.7	4.8	3.7
26-10-2016	0.8	0.4	4.2	6.76	7.46	7.72	600	567	9.2	566	469	98	204	201	3.8	4.2	3.7	4.7
27-10-2016	1.3	3.1	3.4	6.82	8.47	7.98	682	550	9.7	568	477	74	246	206	7.6	6.2	5.4	4.9
28-10-2016	1	1.2	4.1	6.74	6.68	8.09	506	456	9.6	498	408	68	282	180	2.8	4.8	4.5	3.9

29-10-2016	1.1	1.4	3.5	6.46	7.8	7.76	497	466	8.8	608	368	76	190	150	4.9	4.9	4.7	3.8
30-10-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31-10-2016	1	0.8	3.9	6.68	7.64	7.48	476	470	8.02	668	349	80	198	168	3.6	3.7	3.8	3.9
Nov-16																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-11-2016	0.1	1.9	3.2	6.68	7.68	8.68	492	358	6.96	550	468	46	180	168	4.2	4.2	3.2	4.4
02-11-2016	0.2	1.8	3.3	6.76	7.08	7.92	568	426	9.82	496	409	68	280	197	4.9	4.7	3.8	3.6
03-11-2016	1.2	1.4	4.2	6.46	7.46	7.76	542	497	7.2	487	426	74	260	261	4.4	4.8	4.9	3.8
04-11-2016	2.1	2.2	3.4	6.36	7.82	8.09	689	568	8.2	587	424	49	360	276	4.5	4.9	4.7	3.7
05-11-2016	1.2	1.9	3.6	6.48	7.72	7.62	429	400	11.1	469	408	46	280	180	4.6	4.7	3.9	3.8
06-11-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-11-2016	1.6	1.8	3.3	6.68	7.68	7.62	582	422	9.61	498	347	47	176	168	4.6	4.7	4.2	3.7
08-11-2016	0.8	1.2	3.4	6.76	7.66	7.68	468	454	8.26	476	426	82	146	428	4.7	3.8	4.1	3.7
09-11-2016	0.2	1.4	4.2	6.08	6.49	8.08	492	398	8.2	470	380	46	280	176	5.8	3.7	3.8	3.8
10-11-2016	0.4	1.2	3.4	6.09	8.06	8.09	408	397	9.09	389	361	50	210	186	3.2	4.9	4.7	4.1
11-11-2016	0.7	0.9	3.1	6.68	7.08	8.82	508	426	7.08	426	376	36	206	261	4.3	3.09	3.6	4.2
12-11-2016	0.3	1.9	3.6	6.96	7.76	8.74	436	400	8.6	437	387	48	187	167	6.7	3.07	5.4	4.7
13-11-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14-11-2016	0.7	0.6	3.51	6.66	7.68	8.02	476	421	8.26	400	397	76	260	167	5.2	4.5	4.8	3.6
15-11-2016	0.6	0.7	3.6	6.08	7.37	8.08	568	468	7.09	426	376	38	280	262	4.5	4	4.1	4
16-11-2016	0.2	0.8	3.26	7.68	7.38	8.36	426	428	7.08	482	308	76	266	252	4.8	4.5	4.6	5
17-11-2016	0.1	0.7	4.26	6.72	7.48	8.26	389	326	6.21	460	376	38	280	216	5	4	4.5	4.5
18-11-2016	0.2	0.5	4.3	6.47	8.76	8.36	376	368	8.26	497	382	40	176	170	5.9	4.2	4.8	4
19-11-2016	0.3	0.6	4.38	7.76	7.97	8.37	387	326	7.46	368	426	37	186	126	4.9	4.2	4.5	4
20-11-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21-11-2016	0.2	0.5	2.68	6.36	8.92	8.26	378	361	9.68	376	368	46	168	126	4.5	4.3	4.2	4.6
22-11-2016	0.3	0.4	2.82	6.38	7.82	9.4	498	368	9.76	387	354	38	176	157	4.6	4.5	4.5	5

23-11-2016	0.2	0.4	4.06	7.72	7.36	9.36	536	406	8.36	426	382	76	200	180	4	5	5.1	4.8
24-11-2016	0.4	0.5	4.53	6.38	7.38	8.3	549	490	8.3	387	346	48	210	202	4.9	4.5	4.5	5
25-11-2016	0.2	0.3	4.02	6.37	7.76	7.46	509	426	7.08	368	400	58	206	197	4.5	4.9	5.1	5.3
26-11-2016	0.5	0.6	2.92	6.38	7.39	8.07	496	360	8.1	376	368	98	282	258	5.3	4.5	4	4.8
27-11-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28-11-2016	0.4	0.9	2.66	6.38	7.68	8.09	526	468	9.01	368	368	44	164	146	4.6	4.2	4	4.6
29-11-2016	0.2	0.8	4.04	6.26	7.09	8.08	498	426	9.26	426	400	38	136	126	4.1	4.9	5	3.8
30-11-2016	0.3	0.6	2.38	6.39	7.3	7.68	568	368	8.06	396	326	46	236	208	4.5	4.5	3.8	3.9
Dec-16																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-12-2016	0.1	2.2	3.21	6.68	7.68	7.6	290	260	9.26	684	582	49	320	310	4.9	4.8	3.9	6.1
02-12-2016	0.4	3.6	3.7	6.72	7.26	7.8	270	240	8.22	568	546	74	280	276	4.7	4.6	4.2	5.2
03-12-2016	0.2	3.2	3.4	6.68	7.07	8.4	300	280	6.96	624	569	84	340	320	4.2	4.3	5.1	4.9
04-12-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-12-2016	0.2	1.2	3.62	6.72	7.09	7.62	300	280	7.62	676	589	74	340	320	4.6	4.6	3.9	4.6
06-12-2016	0.6	2.1	2.22	6.82	7.82	7.82	370	350	8.08	560	462	64	360	346	4.6	5.8	3.9	4.8
07-12-2016	0.4	2.2	3.8	6.8	7.54	8.01	380	368	8.06	584	582	94	280	262	4.8	5.2	4.8	3.2
08-12-2016	0.2	1.6	2.71	6.74	7.64	7.36	384	376	7.76	469	466	28	208	261	5.2	6.2	4.7	4.6
09-12-2016	0.3	0.9	2.21	6.46	7.68	8.38	376	302	8.24	589	562	76	240	216	4.9	6	4.4	5
10-12-2016	0.1	0.8	4.62	6.88	7.24	7.26	388	382	9.62	668	568	78	328	280	3.8	4.1	4.2	5.8
11-12-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-12-2016	0.3	0.9	3.22	6.82	7.82	7.54	260	262	9.01	558	489	74	280	268	3.6	5.2	4.9	4.2
13-12-2016	0.8	0.9	3.3	6.8	7.74	8.68	290	276	9.02	689	628	94	290	276	4.9	3.2	5.2	4.6
14-12-2016	0.9	1.8	2.26	6.78	7.76	8.46	286	278	9.72	668	560	74	320	306	4.8	3.6	5.1	4.8
15-12-2016	0.5	1.2	3.32	6.68	7.82	8.48	368	280	9.8	549	468	96	323	280	4.7	4.7	5	4.2
16-12-2016	0.4	1.2	3.3	6.94	7.92	7.94	396	326	8.09	578	480	80	380	340	5.6	4.4	4.2	4.6
17-12-2016	0.7	1.4	2.3	6.96	7.08	7.68	326	300	7.97	676	560	74	368	300	4.6	4.3	4.6	4.4

18-12-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-12-2016	1	1.2	2.26	6.68	7.26	7.2	280	268	8.09	645	590	34	380	368	24.8	5.2	4.5	4.5
20-12-2016	0.5	0.8	3.08	7.69	7.82	8.74	390	350	8.24	628	568	36	376	250	4.6	4.9	3.8	4
21-12-2016	0.8	0.9	4.24	7.46	8.94	8.26	382	368	7.36	596	468	74	286	240	4.9	3.2	4.2	3.8
22-12-2016	0.9	1.1	2.36	7.38	8.26	9.9	374	346	8.24	546	490	68	268	245	4.6	3.3	4.5	4.2
23-12-2016	1.2	1.8	3.2	6.24	7.84	8.82	368	308	9.46	489	481	46	295	261	3.8	4.2	4	4.5
24-12-2016	1.6	1.9	3.26	6.46	7.94	7.74	296	246	9.38	564	553	48	264	246	4.4	4.7	4.5	4.8
25-12-2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-12-2016	0.9	1.2	3.26	6.68	7.26	7.84	384	346	9.02	668	632	46	326	300	4.6	4.9	3.8	3.9
27-12-2016	0.4	2.2	3.38	7.94	7.36	7.69	376	368	9.84	698	598	36	380	381	4.2	4.2	4.9	4.2
28-12-2016	0.3	1.9	4.4	6.98	8.4	7.82	330	320	8.24	768	652	84	360	372	4	4.4	4.8	4.5
29-12-2016	0.4	0.5	3.24	6.68	8.4	7.8	380	350	8.04	684	564	86	320	304	4.2	4.6	5.2	3.8
30-12-2016	0.2	0.9	4.26	6.69	7.8	7.42	360	340	8.92	439	422	74	200	180	4.4	3.9	4.1	2.9
31-12-2016	0.2	1.9	3.04	6.25	7.75	8.46	320	300	9.42	568	498	64	220	194	4.3	3.8	4.8	3.2

Jan-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-01-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-01-2017	0.2	1.2	3.2	6.84	7.02	7.26	320	292	9.02	460	426	84	200	192	4.2	3.6	5.7	5.2
03-01-2017	0.4	0.6	3.4	6.74	7.08	7.34	315	300	9.92	480	420	36	220	200	4.3	3.9	4.8	3.8
04-01-2017	0.6	0.8	2.3	6.68	7.76	8.36	360	280	8.8	650	600	46	310	246	4.4	4.8	4.4	4.9
05-01-2017	0.3	0.9	4.6	6.74	7.46	8.4	340	316	8.24	668	524	74	302	294	3.4	2.9	4.9	4.8
06-01-2017	0.2	1.2	3.2	6.68	8.34	7.46	346	308	8.28	568	546	68	280	240	4.3	3.4	5.8	4.5
07-01-2017	0.1	0.9	2.8	6.96	7.4	7.8	330	302	9.36	594	560	58	284	200	4.6	3.2	3.9	4.4
08-01-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-01-2017	0.8	1.4	3.2	6.24	7.24	7.26	300	292	9.02	560	524	50	200	180	4.6	3.2	4.4	3.9
10-01-2017	0.2	2.2	3.6	6.68	7.36	7.82	280	180	8.82	654	568	64	210	194	4.8	3.8	3.4	5.1
11-01-2017	0.4	2.1	4.8	6.74	8.38	7.84	360	314	8.74	664	624	74	280	240	4.2	4.4	4.2	3.9

12-01-2017	0.7	1.2	3.7	7.26	8.4	8.68	368	320	8.76	568	465	94	336	260	3.2	4.2	4.5	4.6
13-01-2017	0.3	0.9	3.3	6.92	7.36	8.36	374	315	8.34	498	415	68	326	300	3.9	4.8	3.5	4.9
14-01-2017	0.4	0.8	4.2	6.84	7.74	8.82	366	304	9.92	676	600	74	382	350	4.8	4.2	3.9	4.4
15-01-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-01-2017	0.2	1.8	4.2	6.68	7.68	8.6	380	360	8.09	664	546	76	240	220	3.9	4.6	4.2	4.5
17-01-2017	1.3	2.1	4.3	6.94	7.54	8.5	340	320	8.26	682	468	54	260	240	3.7	3.6	4.5	4.6
18-01-2017	0.4	2.1	3.4	6.68	7.84	7.46	360	340	9.36	594	469	50	240	148	4.6	4.8	4.7	4.7
19-01-2017	0.8	1.2	3.6	7.74	7.8	7.48	390	350	9.92	568	562	60	200	182	4.8	4.4	5.1	4.7
20-01-2017	0.7	0.9	3.2	6.96	8.7	7.36	374	320	8.8	692	524	84	280	240	4.2	4.7	4.9	4.5
21-01-2017	1.8	2.1	4.2	6.76	7.68	8.3	372	310	9.2	672	549	74	268	271	4.3	4.8	4.9	4.7
22-01-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-01-2017	0.3	1.2	3.2	6.29	7.5	8.66	360	315	9.02	569	569	84	250	186	4.9	4.3	4.5	4.2
24-01-2017	0.4	0.9	3.2	6.3	7.68	8.68	382	350	9.92	568	469	94	210	200	4.6	4.4	4.9	4.2
25-01-2017	0.2	0.5	4.2	7.82	7.74	7.46	396	360	9.84	656	584	54	260	220	4.5	4.5	4.2	4.9
26-01-2017	1.5	1.9	3.4	6.46	7.68	7.97	376	326	8.26	668	569	66	282	250	3.9	3.8	4.3	4.4
27-01-2017	0.4	0.7	2.9	7.58	7.98	8.36	340	300	8.82	642	422	48	268	215	5.1	4.2	4.4	4.5
28-01-2017	0.5	0.9	3.1	6.38	7.07	7.4	347	320	9.8	670	520	92	297	210	4.8	4.7	4.5	4.9
29-01-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-01-2017	0.2	1.8	3.2	6.68	7.09	7.54	368	350	8.2	626	549	84	270	210	4.2	4.9	4.2	4.5
31-01-2017	0.4	2.1	4.2	6.98	7.76	8.24	378	320	9.1	650	590	86	260	200	4.3	4.4	4.5	4.5

Feb-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-02-2017	0.2	1.2	3.2	6.74	7.82	8.6	360	340	9.2	640	602	68	240	208	4.2	5.2	4.2	4.5
02-02-2017	0.4	0.8	3.4	6.36	7.8	7.8	380	321	9.26	596	520	94	260	206	4.6	4.5	4.6	4.5
03-02-2017	0.3	0.9	4.2	6.82	6.4	7.32	376	362	8.08	526	510	68	246	210	4.8	4.4	4.8	4.7
04-02-2017	0.6	1.8	4.3	6.46	7.46	8.82	382	352	9.02	660	560	74	282	180	3.2	3.9	4.4	4.9
05-02-2017																		

06-02-2017	0.6	0.9	4.2	6.68	7.68	8.26	390	372	8.8	620	580	84	260	180	4.6	4.4	4.2	4.6
07-02-2017	0.9	1.3	3.8	6.96	7.09	7.82	376	342	8.72	558	529	68	284	261	4.6	3.9	4.1	4.01
08-02-2017	0.8	1.2	3.2	7.68	7.82	7.92	389	376	9.82	526	516	46	320	280	4.4	4.3	4.5	4.8
09-02-2017	0.2	0.8	3.6	6.26	8.74	8.84	376	350	9.62	538	518	38	360	260	4.5	4.2	5.1	4
10-02-2017	0.4	0.9	4.8	6.82	8.68	8.76	382	362	8.8	569	520	96	282	209	5.3	4.6	4.6	4.1
11-02-2017	0.3	1.8	2.2	7.74	7.72	8.58	398	378	9.09	629	568	74	326	301	4.2	4.9	4.5	4.2
12-02-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-02-2017	0.2	0.9	3.8	6.68	7.26	8.28	368	362	9.39	660	589	84	366	300	4.8	4.4	4	4
14-02-2017	0.4	0.8	3.6	6.8	7.3	8.46	392	346	9.86	590	550	68	269	282	3.9	4.9	4.1	4.8
15-02-2017	0.6	1.2	4.3	6.74	7.84	7.54	340	326	9.09	652	626	46	287	268	3.4	4.8	4.2	4.7
16-02-2017	1.2	2.2	4.2	6.36	7.38	7.38	360	350	8.06	626	598	98	392	362	4.5	5.7	4.3	4.6
17-02-2017	1.6	1.9	2.6	6.82	8.24	7.46	372	320	9.26	582	508	74	368	300	4.8	4.6	4.4	4.7
18-02-2017	0.7	0.9	2.2	7.92	8.4	8.5	360	320	8.82	509	406	56	306	300	4.6	4.2	4.1	4.2
19-02-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-02-2017	0.1	0.7	2.2	6.6	8.8	8.4	320	280	9.2	606	506	66	300	280	4.6	4.6	4	4.01
21-02-2017	0.2	0.9	3.4	6.82	7.46	8.5	339	308	9.08	681	626	84	280	231	4.2	4.2	4.5	4.2
22-02-2017	0.4	1.8	3.9	6.46	7.82	8.82	346	306	9.09	569	582	74	368	309	4.8	4.8	4.6	4.8
23-02-2017	0.9	1.2	4.2	7.82	7.74	7.66	280	250	9.4	680	648	64	392	326	4.7	4.6	4.9	4.7
24-02-2017	0.4	0.6	4.6	7.46	7.26	7.82	369	352	8.6	642	620	46	350	300	4.6	4.7	5.8	4.2
25-02-2017	0.6	0.7	3.9	6.5	7.36	7.46	360	336	9.36	592	560	50	380	320	4.8	4.8	4.7	4.4
26-02-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-02-2017	0.2	1.2	3.6	7.56	7.46	7.54	376	346	9.09	628	600	80	368	280	4	4.2	4.4	4.4
28-02-2017	0.8	0.9	3.4	7.76	7.48	7.36	382	350	8.8	590	546	48	328	300	4.9	4.2	4.3	4.5

Mar-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-03-2017	0.1	0.2	4.2	6.68	7.4	7.66	368	326	9.26	680	460	76	360	320	4.4	4.5	4.6	4.1
02-03-2017	1.2	0.9	3.4	7.72	7.82	7.82	392	368	9.92	660	546	80	340	300	4.3	4.4	4.3	4.2

03-03-2017	0.8	0.9	2.9	7.84	7.36	7.54	374	350	9.09	540	409	60	320	300	4.2	4.5	4.5	4.8
04-03-2017	0.6	0.9	3.4	7.68	7.38	7.66	382	320	9.82	656	469	76	380	318	4.4	4.2	4.6	4.7
05-03-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-03-2017	0.2	0.4	2.6	6.68	7.26	7.08	360	320	9.36	668	602	84	328	282	4.6	4.7	4.3	4.7
07-03-2017	0.3	0.6	3.2	6.86	7.36	7.92	380	368	3.02	697	627	96	368	308	4.2	4.9	4.1	4.2
08-03-2017	0.7	0.9	4.1	6.92	7.38	8.87	280	230	9.82	592	429	94	280	248	4.8	4.5	4.8	4
09-03-2017	0.1	1.2	3.3	7.87	7.94	8.88	326	286	8.72	520	510	74	260	240	4.9	5.1	4.5	4.9
10-03-2017	0.5	0.9	3.4	7.36	8.32	8.72	370	360	9.66	680	580	68	320	304	5	5.1	5	4.7
11-03-2017	0.6	0.8	4.23	7.88	7.62	8.26	336	378	9.02	676	568	78	310	300	5.1	4.5	5.1	4.5
12-03-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-03-2017	0.1	0.9	2.4	6.68	7.82	8.66	320	380	9.02	668	580	64	300	250	5.3	5.1	4.1	4.4
14-03-2017	0.6	0.9	3.4	7.98	7.8	8.98	340	360	9.08	596	562	82	280	232	5	5	4.3	4
15-03-2017	0.4	0.8	4.3	6.67	7.74	8.74	346	384	8.92	568	540	94	274	246	5.2	4.7	3.9	3.8
16-03-2017	0.9	1.2	4.6	7.64	8.36	8.54	398	399	8.88	676	600	74	268	242	5.3	4.5	3.8	3.8
17-03-2017	0.3	0.8	4.26	7.46	8.89	8.64	392	400	9.87	682	580	57	297	260	5.4	4.4	3.6	4.2
18-03-2017	0.4	0.7	3.3	7.38	7.96	7.92	376	380	8.06	660	560	64	392	350	5.1	4.2	4.2	4.8
19-03-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-03-2017	0.2	0.8	3.2	6.26	8.08	8.26	362	340	8.68	568	500	74	302	289	4.2	4.9	4	3.9
21-03-2017	0.4	0.8	3.3	6.38	8.82	8.38	342	320	8.54	628	600	64	280	200	4.5	4.7	4.5	3.8
22-03-2017	0.9	0.9	4.2	6.48	7.92	7.26	372	326	8.62	680	620	94	268	240	4.3	4.4	4.2	4
23-03-2017	0.6	1.2	4.3	6.74	7.8	7.34	280	250	8.74	582	540	58	392	298	4.5	4.6	4.3	4.7
24-03-2017	0.5	0.9	3.4	6.98	7.66	8.64	360	320	8.92	660	640	48	376	284	4.6	5	4.2	4.8
25-03-2017	0.6	0.9	4.02	6.74	7.54	8.66	392	368	8.84	680	628	38	337	290	4.2	5.1	4.5	4.2
26-03-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-03-2017	0.3	0.8	4.1	6.66	7.26	8.98	342	300	9.68	674	624	74	376	320	5	3.6	4.8	5
28-03-2017	0.4	0.9	3.2	6.82	7.36	8.84	364	320	9.97	682	628	98	326	300	5.2	3.9	4.5	4.7
29-03-2017	0.7	1.2	3.9	7.84	7.89	7.74	380	342	8.26	687	640	88	360	292	4.8	4.8	4.9	4.8
30-03-2017	0.7	1.4	2.3	6.92	7.66	8.68	290	280	8.68	592	550	80	320	260	4.2	4.9	3.8	4.1

31-03-2017	0.1	0.4	4.2	6.98	7.87	8.74	382	360	9.08	568	560	74	328	280	4.5	5.1	3.8	3.2
Apr-17																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-04-2017	0.1	0.9	2.2	6.64	7.42	7.98	442	400	9.89	684	628	66	420	350	4.4	4.2	4.5	4.6
02-04-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-04-2017	0.2	0.4	3.2	6.94	7.74	7.26	382	372	9.68	669	624	74	360	326	5.1	4.9	4.8	3.9
04-04-2017	0.4	0.6	4.4	6.66	6.64	7.66	380	360	8.72	582	542	94	384	364	4.2	4.3	4.8	4.7
05-04-2017	1.2	1.4	4.4	6.84	7.92	7.82	280	250	9.69	560	520	64	324	300	4	4.1	4.2	4.6
06-04-2017	0.5	0.8	3.2	6.7	7.8	8.42	440	350	9.88	680	640	42	280	250	3.9	4.4	4.5	4.9
07-04-2017	0.3	0.9	3.3	6.6	7.24	8.62	362	352	8.72	692	650	80	362	342	4.2	4	4.1	4.2
08-04-2017	0.1	1.2	3.4	6.84	7.38	7.82	398	342	9.82	570	540	40	264	240	4.1	4	4.2	4.6
09-04-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-04-2017	0.2	0.9	3.2	6.64	7.24	7.72	372	350	9.26	526	468	60	360	300	5.2	5.1	4.9	4.4
11-04-2017	0.4	0.8	3.3	6.82	7.72	7.26	360	340	9.32	692	624	42	380	368	3.9	4.4	4.6	4.5
12-04-2017	0.3	0.9	3	6.74	7.98	8.48	392	302	9.96	598	540	46	384	342	3.8	4.7	4.2	4.2
13-04-2017	0.2	0.5	3.4	6.66	7.66	8.26	292	246	8.24	621	560	82	372	350	4.2	4.9	4.7	4.9
14-04-2017	0.1	0.4	4.1	6.46	7.82	7.98	286	268	8.62	662	620	74	284	272	4.6	4.1	4.2	5.1
15-04-2017	0.6	0.9	4.1	6.39	7.09	7.72	368	320	9.98	620	580	34	294	280	4	4.2	4.3	3.9
16-04-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-04-2017	0.1	0.9	3.8	6.66	7.46	7.6	372	352	9.26	580	542	48	320	301	4.2	4.6	4.7	4
18-04-2017	0.2	0.8	3.9	6.82	7.82	7.42	384	342	9.8	592	542	54	300	280	4	4.1	5.1	4.9
19-04-2017	0.9	1.2	3.6	7.9	7.68	8.98	324	300	9.74	620	600	96	280	250	4.6	4.9	4.5	4.2
20-04-2017	0.4	1.8	3.2	6.9	7.68	8.68	280	274	9.6	640	610	58	264	242	4.9	4.7	4.2	4.1
21-04-2017	0.2	0.9	3.9	6.82	7.46	8.92	326	300	9.42	682	628	74	392	304	4.5	4.4	4.3	4
22-04-2017	0.8	0.9	4.2	6.66	7.54	8.64	398	282	8.5	582	550	98	372	362	4.6	4.2	4.1	4.2
23-04-2017																		

24-04-2017	0.9	1.2	4.9	6.84	7.66	7.78	268	200	9.64	562	526	60	366	350	4.1	5.1	3.9	4.4
25-04-2017	0.4	0.8	3.3	6.66	7.97	7.84	368	320	9.92	660	600	54	398	360	4.9	3.9	4.9	4.7
26-04-2017	0.5	0.6	3.4	6.94	8.68	7.54	372	324	8.8	624	580	64	286	250	4.6	4.4	4.5	4.1
27-04-2017	0.7	0.9	4	7.54	7.74	7.36	426	350	8.09	602	560	82	292	262	4.9	4.5	4.1	5
28-04-2017	0.1	1.2	4.1	6.26	8.36	7.46	398	250	9.8	526	500	96	392	390	4.1	4.2	4.4	4.5
29-04-2017	0.4	0.8	4.2	6.98	7.5	7.68	340	300	8.92	610	580	46	320	280	4.4	4	3.8	3.9
30-04-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

May-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-05-2017	0.1	1.2	3.2	6.42	7.62	8.2	320	305	9.82	615	568	64	260	244	4.4	3.9	4.2	4.9
02-05-2017	0.2	0.4	3.4	6.4	7.84	8.18	340	300	8.72	580	550	74	340	302	4.2	5.2	4.3	4.2
03-05-2017	0.4	0.8	4.01	7.32	7.96	7.94	368	324	9.62	630	500	84	286	292	4.5	4	4.4	4.8
04-05-2017	0.6	0.9	4.2	7.64	7.8	7.64	320	300	9.82	665	584	82	262	236	5.1	4.2	4.4	4.9
05-05-2017	0.9	1.2	0.9	6.94	7.94	7.92	384	360	9.94	626	560	64	398	369	3.9	4.4	5.5	4.2
06-05-2017	0.4	0.9	4.02	6.86	7.62	8.68	397	350	9.57	580	520	68	374	326	4.2	4.4	4.5	4
07-05-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-05-2017	0.2	0.7	4.4	6.46	7.68	8.01	302	280	9.8	620	580	54	580	280	4.2	5.1	5.2	5.1
09-05-2017	0.9	0.9	3.3	6.84	7.64	7.92	332	302	9.46	684	662	74	624	260	4.4	4.5	5.2	4.9
10-05-2017	0.1	0.3	4.4	6.36	7.42	7.82	340	300	9.92	589	520	46	320	284	4.5	4.3	4.9	6.1
11-05-2017	0.3	0.5	3.3	6.48	7.4	8.64	380	360	9.82	546	460	50	368	340	4.9	4.1	4.2	4.1
12-05-2017	0.5	1.2	3.6	6.62	7.39	8.54	374	362	9.06	680	568	68	280	254	4.9	4.2	4.3	4.2
13-05-2017	0.4	0.9	3.2	6.82	7.26	8.36	280	240	9.92	620	582	46	260	240	4.2	4.3	4.9	4.5
14-05-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-05-2017	1.9	1.2	4.3	6.98	7.34	8.94	386	280	8.68	640	540	78	269	260	4.1	4	5.1	4.7
16-05-2017	1.2	1.9	3.4	7.66	7.68	9.62	362	350	9.92	580	546	48	287	246	4.6	4.6	4.9	3.8
17-05-2017	0.9	1.6	3.2	7.68	7.72	9.4	401	364	9.66	480	462	46	266	252	4.9	4.2	4.8	3.9
18-05-2017	0.4	1.2	4.1	7.77	7.46	8.46	390	362	9.98	550	515	50	329	280	4.5	4.4	5.2	4.2

19-05-2017	0.5	0.9	3.4	7.46	7.5	8.3	360	326	8.76	620	520	66	350	306	4.6	4.7	4.4	4.1
20-05-2017	0.3	1.9	2.9	7.98	7.44	8.36	389	350	9.92	546	460	82	286	266	4.5	4.9	4.5	4.2
21-05-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22-05-2017	1.2	1.3	3.2	6.46	7.66	8.26	360	351	9.6	580	568	74	260	240	4.2	4.5	4.4	4.9
23-05-2017	0.9	1.6	3.4	6.36	7.24	8.3	386	366	9.82	620	600	68	280	261	4.4	4.2	4.1	4.1
24-05-2017	0.2	1.2	4.1	6.24	7.68	8.26	372	354	9.68	589	550	66	232	224	4.5	4.3	4.4	4.7
25-05-2017	0.8	0.9	4.2	6.3	7.54	8.66	350	326	8.62	576	562	58	320	280	5.2	4.5	4.6	4.8
26-05-2017	1.4	1.9	4.3	6.36	7.46	8.82	360	340	9.74	580	526	68	300	260	4.9	4.4	4.7	4.7
27-05-2017	0.5	0.9	3.6	6.78	6.68	7.8	289	262	9.98	468	442	54	268	248	3.9	3.8	4.6	4.9
28-05-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-05-2017	0.1	1.2	3.2	6.6	7.5	7.26	280	262	9.6	620	528	66	281	262	3.4	4.1	4.3	4.5
30-05-2017	0.2	1.9	3.4	6.82	7.46	8.6	360	300	9.2	546	520	68	326	300	4.6	4.9	4.6	4.4
31-05-2017	0.4	0.6	3.6	6.46	7.4	7.3	320	250	9.26	536	500	46	398	350	4.5	4.4	4.9	4.7

Jun-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-06-2017	0.2	0.4	3.2	6.2	7.6	8.6	360	260	9.09	562	520	42	300	260	4.2	4.4	4	4.2
02-06-2017	0.3	0.9	3.4	6.26	7.62	8.82	320	300	9.82	624	600	64	326	300	4.6	4.9	4.1	4.9
03-06-2017	0.1	1.2	4.1	6.32	7.72	8.46	280	246	9.69	500	456	60	280	240	4.9	4.4	4.2	4.7
04-06-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-06-2017	0.6	1.6	3.4	6.3	7.66	8.92	350	300	8.26	469	400	72	260	246	4.4	4.5	4.7	4.5
06-06-2017	0.1	1.8	3.6	6.46	7.52	7.89	402	386	9.08	528	500	82	240	200	4.5	4.2	4.7	4.2
07-06-2017	0.5	1.5	2.8	7.24	7.46	8.72	400	392	9.6	621	580	92	246	210	4	4.9	4.9	4.4
08-06-2017	0.4	2.1	3.2	6.36	7.98	8.66	380	356	8.62	600	566	74	282	260	3.9	3.8	5.2	4.5
09-06-2017	0.9	1.2	3.1	6.28	7.72	8.72	360	320	9.24	520	480	56	292	246	5.1	3.9	6.1	4.6
10-06-2017	0.7	1.3	3.4	6.64	7.6	8.64	326	300	9.46	480	468	40	326	300	6.2	3.7	7.2	4.9
11-06-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-06-2017	0.2	1.4	3.3	6.98	7.82	9.01	260	252	9.69	562	500	46	300	280	4.9	4.8	8.2	4.2

13-06-2017	0.4	1.6	3.4	6.72	7.74	8.26	289	261	8.72	669	626	68	286	262	4.2	4.7	3.8	5.1
14-06-2017	0.3	1.4	4.1	6.36	7.96	8.81	300	250	9.81	568	502	56	200	181	4.1	4.8	3.7	3.8
15-06-2017	0.2	1.5	4.4	6.82	7.72	8.82	360	346	9.7	592	506	40	260	206	4.5	4.4	3.9	4.9
16-06-2017	0.1	1.2	4.3	6.92	7.7	8.42	382	350	9.74	580	560	36	224	216	5.1	4.2	4.2	4.5
17-06-2017	0.6	1.9	3.9	6.72	7.82	8.4	280	262	9.62	469	420	82	246	221	4.3	4.3	4.7	4.6
18-06-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-06-2017	0.9	1.2	3.2	7.46	7.8	8.46	290	280	9.56	470	436	80	292	269	4.6	4.2	4.3	4.9
20-06-2017	0.7	0.9	3.1	6.4	7.76	8.36	350	320	8.36	480	462	78	372	312	4.9	4.1	4.2	4.8
21-06-2017	0.8	1.2	2.9	6.36	7.6	8.4	315	300	8.4	600	529	74	321	302	4.7	4.4	4.5	4.2
22-06-2017	0.7	1.6	3.1	6.4	7.26	9.28	305	292	9.62	520	501	68	392	372	4.2	4	4.6	4.1
23-06-2017	0.2	0.9	3.6	6.2	7.36	8.26	306	280	9.92	510	468	72	280	271	4	4.2	4.1	4.4
24-06-2017	0.1	0.4	4.1	6.26	7.24	8.2	280	260	9.46	602	580	70	260	242	4.6	4.9	4.2	4.5
25-06-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-06-2017	0.7	1.2	3.3	6.3	7.36	8.36	268	260	8.66	540	502	66	270	271	5.1	4.7	5.0	4.7
27-06-2017	0.4	1.6	3.4	6.28	7.3	8.39	320	302	9.01	490	470	72	262	252	4.9	4.8	5.1	4.2
28-06-2017	0.1	1.3	4.2	6.27	7.26	7.38	260	240	9.62	498	426	62	282	269	4.9	4.7	4.7	4.9
29-06-2017	0.2	1.2	4.1	6.26	7.4	8.4	280	262	9.66	542	509	52	284	276	4.7	4.6	4.1	4.7
30-06-2017	0.6	0.9	4.3	6.3	7.48	8.54	320	300	9.09	560	520	46	274	228	4.6	4.5	4.2	4

Jul-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-07-2017	0.2	0.9	3.2	6.69	7.66	8.62	360	320	9.29	540	526	74	320	288	4	5.4	4.6	4.9
02-07-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-07-2017	0.1	0.4	3.4	6.47	7.92	8.42	340	304	8.36	626	600	76	380	320	4.6	4.5	4.7	4.6
04-07-2017	0.2	1.2	4.2	6.66	7.8	8.3	320	280	9.82	568	529	46	260	248	4.9	4.6	4.3	4.9
05-07-2017	0.6	0.9	4.1	6.07	7.74	8.32	280	260	9.92	498	456	50	248	226	4.5	5.1	4.2	4.1
06-07-2017	0.4	0.6	4.3	6.47	7.26	8.42	294	262	9.72	466	426	56	246	200	3.9	4.5	5	4
07-07-2017	0.3	0.7	4.2	6.36	7.38	9.4	268	252	8.8	568	512	78	289	268	5.1	4.4	6.1	4.9

08-07-2017	0.4	0.6	3.2	6.94	7.72	8.36	302	300	8.46	620	606	66	382	308	6.2	4.2	4.6	4.8
09-07-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-07-2017	0.2	1.2	3.3	6.24	7.68	8.24	392	368	9.49	650	598	46	320	312	5.3	4.6	4.2	4.1
11-07-2017	0.5	0.3	3.4	6.3	7.72	8.28	347	324	8.57	560	551	36	286	268	4.9	3.9	4.9	4
12-07-2017	0.6	1.4	4.2	6.36	7.64	9.26	300	282	9.61	569	501	84	298	245	4.7	4.9	4.7	4.2
13-07-2017	0.7	0.9	4.1	6.42	7.54	8.92	392	360	9.62	589	509	48	290	240	4.4	4.9	5.1	4.7
14-07-2017	0.3	1.2	3.1	6.46	7.46	8.82	372	342	8.8	492	472	96	268	265	4.6	5.2	4.7	4.5
15-07-2017	0.2	1.4	3.2	6.36	7.48	8.66	289	236	9.92	648	608	74	302	286	5	4.1	4.4	4.2
16-07-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-07-2017	1.2	1.4	3.1	6.4	7.42	8.24	297	259	9.09	660	609	78	392	329	5.2	4.4	4.2	4.7
18-07-2017	0.2	0.9	3.2	6.36	7.4	8.36	309	286	8.24	629	612	66	358	324	5.1	4.9	5.6	4.9
19-07-2017	0.1	0.9	3	6.24	7.36	9.46	300	292	8.38	542	525	72	288	270	4.9	4.5	3.9	4.1
20-07-2017	0.6	0.8	0.6	6.46	7.32	8.62	298	260	9.42	579	490	70	274	262	4.7	4.9	4.3	4.4
21-07-2017	0.4	0.7	3.4	6.96	7.4	8.53	376	329	9.3	592	426	48	289	261	4.2	4.7	4.5	4.7
22-07-2017	0.9	1.3	3.1	6.09	7.36	8.36	350	305	9.4	629	568	68	240	232	4.1	4.6	4	4.2
23-07-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-07-2017	1.2	1.4	3.2	6.68	7.4	8.62	340	320	9.02	560	549	74	262	242	4.2	4.1	4.4	4
25-07-2017	1.4	1.6	3.4	6.92	7.36	8.42	280	248	9.92	620	529	68	269	232	4.4	4	4.5	4.2
26-07-2017	1.3	1.4	4.2	6.42	7.56	8.98	268	252	9.87	542	568	82	280	240	4.5	4.4	4.6	4.7
27-07-2017	0.9	1.2	4.1	6.92	6.94	7.74	342	320	8.26	482	462	48	300	289	5.2	4.9	4.7	4.1
28-07-2017	0.2	0.8	3	6.54	7.82	8.66	302	280	8.01	460	440	56	240	224	4.9	4.7	4.3	5.1
29-07-2017	0.6	0.9	4	6.6	7.78	8.54	292	242	9.09	544	502	94	260	246	4.6	4.4	4.2	4.9
30-07-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31-07-2017	0.2	0.8	4.2	6.42	7.26	8.29	284	272	9.26	520	480	24	262	249	4.2	4.9	4.6	4.1

Aug-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-08-2017	1.2	1.4	3	6.46	7.24	8.24	320	280	9.62	540	501	54	280	262	4.1	4.6	4.2	4.2

02-08-2017	0.6	0.9	3.1	6.92	7.36	8.92	362	349	9.08	428	402	92	246	241	4	4.7	5.1	4.6
03-08-2017	0.1	0.2	3.2	6.8	7.92	8.8	280	268	8.82	620	580	82	320	301	5.2	4.9	4.7	4.9
04-08-2017	0.2	0.4	4	6.24	6.46	8.72	394	360	9.02	590	562	74	300	262	4.8	4.4	4.5	4.7
05-08-2017	0.4	0.7	3.2	6.36	7.72	8.56	292	262	9.28	526	492	56	294	252	4.7	4.5	4.6	4.1
06-08-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-08-2017	0.6	0.8	2.6	6.42	7.24	8.4	320	300	9.29	640	621	58	300	286	4.9	4.1	4.9	4
08-08-2017	0.4	0.6	3.2	6.92	7.32	8.92	340	301	8.82	624	598	94	280	249	4.7	4.2	4.7	4.2
09-08-2017	0.1	0.5	3	6.72	7.48	8.8	286	262	9.62	484	476	82	242	202	4.4	4.9	4.5	4.1
10-08-2017	0.2	0.9	4.1	7.6	7.52	7.72	269	138	9.72	562	497	74	309	269	4.3	4.9	4.4	5
11-08-2017	1.2	1.4	3.9	6.56	7.56	8.62	382	361	9.8	568	508	66	302	292	4.5	5.1	4.2	4.9
12-08-2017	1.4	1.9	3.1	6.58	7.62	8.5	376	350	9.68	692	562	48	387	280	4.6	4	4.7	5.2
13-08-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14-08-2017	0.2	1.9	3.2	6.24	7.62	8.6	350	302	9.26	610	580	46	320	302	4.1	4.2	4.6	4.8
15-08-2017	0.4	0.9	2.9	6.29	7.42	8.72	286	260	9.39	580	562	56	340	301	4.2	4.6	4.9	4.9
16-08-2017	0.1	0.6	3.1	6.3	7.98	7.86	294	287	9.82	568	592	70	280	262	5.1	5.6	4.4	4.5
17-08-2017	1.2	1.6	3	6.46	7.7	8.92	362	302	9.09	620	597	68	290	260	4.9	4.6	4.2	4.1
18-08-2017	0.6	1.4	3.1	6.49	7.6	8.24	382	289	9.06	580	518	78	260	215	4.6	4.5	4.6	4.8
19-08-2017	0.4	0.9	4.2	6.87	7.42	8.38	360	340	9.16	568	520	60	246	204	4.2	4	4.4	4.6
20-08-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21-08-2017	0.1	0.8	3.1	6.24	7.36	8.62	320	301	9.26	626	601	74	240	200	4.6	4	4.4	4.4
22-08-2017	0.9	1.2	3.4	6.36	7.82	7.82	389	350	8.98	581	560	46	226	210	4.9	4.1	4.2	4.4
23-08-2017	0.2	0.9	3.2	6.3	7.8	7.66	384	268	8.62	580	564	56	268	202	2.4	4.5	4.6	4.1
24-08-2017	0.4	1.4	3.1	6.46	7.46	7.84	340	260	8.08	620	580	48	280	276	****	4.6	4.9	4.2
25-08-2017	1.2	0.9	3.2	6.38	7.58	7.76	368	280	9.09	624	526	58	274	246	3.8	5.1	4.7	4
26-08-2017	1.8	1.2	3.4	6.54	7.47	7.36	370	240	9.26	568	542	60	262	201	5.1	5.6	4.8	4.2
27-08-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28-08-2017	0.2	0.4	3.1	6.64	7.4	7.6	380	268	9.26	600	592	68	260	270	5.1	4.1	4	4.2
29-08-2017	0.9	0.9	4	6.36	7.68	8.64	320	280	9.3	626	587	76	246	260	4.6	4.5	4.4	4.2

30-08-2017	0.4	0.9	3	6.48	7.46	7.36	268	250	9.08	436	400	74	260	210	4.4	4.2	4.5	4.6
31-08-2017	0.2	0.4	3.2	6.26	7.68	7.38	382	350	9.9	580	436	36	246	200	4.6	4.8	4.7	4.8
Sep-17																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-09-2017	0.9	0.9	3.1	6.36	7.68	8.69	380	340	8.68	650	528	48	260	246	5.1	4.2	4.7	4.8
02-09-2017	1.2	1.4	3.2	6.4	7.36	7.87	320	260	9.09	620	520	78	270	260	4.1	4.6	4.4	4.9
03-09-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04-09-2017	0.2	0.4	3.2	6.46	7.32	7.62	340	302	9.02	640	520	46	240	180	4.2	4.3	4.1	4.6
05-09-2017	0.6	0.9	2.8	6.92	7.4	7.84	320	396	9.42	620	600	98	260	210	4.6	4.9	4.2	4.2
06-09-2017	0.9	1.2	4.1	6.36	7.36	8.96	316	290	9.66	649	602	74	218	200	4.9	4.5	4.6	4.4
07-09-2017	0.2	0.6	4.2	6.48	7.46	7.4	300	260	8.4	598	540	66	280	246	4.7	4.4	4.4	4.5
08-09-2017	0.4	0.9	3.4	6.64	8.54	7.2	280	240	9.23	569	560	54	268	220	4.4	4.6	4.9	4.3
09-09-2017	0.3	1.2	3.2	6.36	7.6	7.46	360	320	8.09	610	550	92	246	226	4.5	5.1	4.6	4.2
10-09-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-09-2017	0.1	1.4	3.4	6.64	7.66	7.6	362	320	8.92	710	608	46	264	220	4.1	4	4.9	4.2
12-09-2017	0.4	0.7	3.1	6.48	7.72	7.46	392	302	9.81	640	624	92	289	261	4.2	5.1	4.7	4.9
13-09-2017	0.9	1.4	3	6.36	8.7	7.98	346	310	9.8	680	689	36	268	242	4.4	4.6	4.6	4.5
14-09-2017	0.2	0.5	4.1	6.4	7.84	7.74	348	320	9.04	702	656	80	240	234	4.9	4.2	4.4	4.4
15-09-2017	0.6	0.9	4	6.46	7.46	7.66	340	300	8.08	692	660	72	280	260	4.6	4.3	4.9	4.3
16-09-2017	0.3	1.2	3.1	6.62	7.4	8.46	320	280	9.72	680	640	64	260	232	4.4	4.5	4.7	4.2
17-09-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-09-2017	0.4	0.9	4.1	6.26	7.8	8.26	340	290	9.01	664	691	68	280	264	4.2	14.6	14.5	14.7
19-09-2017	0.2	0.21	3.2	6.54	7.62	8.38	360	320	8.46	720	701	74	260	240	4.2	24.9	24.4	34.9
20-09-2017	0.1	1.2	4.2	6.64	7.48	8.42	320	300	7.92	690	654	46	248	202	4.9	14.4	24.5	24.2
21-09-2017	0.3	0.9	4.1	6.42	7.46	8.8	368	301	7.74	620	600	92	264	220	4.7	14.6	14.3	14.5
22-09-2017	0.6	0.9	3.4	6.46	7.36	8.54	320	296	9.66	649	600	98	260	200	4.6	34.2	14.6	14.6
23-09-2017	0.9	1.4	3.2	6.36	7.68	8.13	300	320	8.4	620	602	74	218	246	4.4	24.1	34.2	14.2

24-09-2017	0.3	1.2	3.2	6.58	7.72	7.46	394	324	9.34	560	608	68	312	306	4.1	25.1	14.4	14.2
25-09-2017	0.4	0.9	4	6.56	6.46	8.96	280	286	8.26	568	472	48	268	268	4.9	14.6	14.6	14.3
26-09-2017	0.9	0.6	4.1	7.6	7.92	7.87	268	294	8.08	648	501	70	245	245	4.6	34.4	14.2	14.5
27-09-2017	0.9	1.2	3	6.72	7.36	8.69	294	268	9.81	568	551	66	265	240	4.1	14.5	14.1	14.4
28-09-2017	1.1	0.9	3.1	6.92	7.24	7.2	324	300	8.48	640	598	72	240	265	4.4	14.9	24.4	14.2
29-09-2017	0.3	0.4	3.4	6.42	7.92	7.98	300	324	9.22	579	472	78	290	302	4.5	24.3	34.7	24.6
30-09-2017	0.9	0.9	4.1	6.24	7.34	7.66	286	292	9.66	549	490	64	278	258	4.9	24.3	14.7	14.3
Oct-17																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-10-2017	0.2	0.5	4.85	7.1	7.03	7.46	390	320	8.59	806	759	52	430	360	5.8	15.6	14.5	14.9
02-10-2017	0.6	1	4.97	7.06	7	7.52	400	370	8.47	783	695	50	470	350	5.9	15.9	14.8	14.8
03-10-2017	0.4	0.9	4.37	7.03	6.93	7.49	410	350	9.16	826	759	48	460	300	6	25.5	14.7	24
04-10-2017	0.6	0.8	4.51	6.98	6.79	7.36	420	330	8.56	811	752	48	480	390	5.8	15.5	14.8	13.8
05-10-2017	0.5	0.7	4.25	6.87	6.88	7.52	440	360	9	827	789	52	490	370	5.9	15.8	13.5	13.8
06-10-2017	0.5	1.1	4.97	7.06	7	7.52	430	360	8.55	783	695	50	450	300	6	15.8	23.8	14.5
07-10-2017	0.1	0.3	3.97	6.42	6.39	7.46	470	390	8.91	846	782	54	470	360	6.1	15.5	13.9	14.3
08-10-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-10-2017	0.2	0.5	4.16	7.92	8.06	8.19	390	310	7.99	844	682	50	390	310	6.2	15.9	14	24.3
10-10-2017	0.1	0.3	4.26	7.58	8	8.03	430	360	8.94	874	756	54	400	320	6.3	16	13.8	13.9
11-10-2017	0.2	0.3	4.55	7.57	7.93	8.11	440	350	8.59	886	781	54	430	310	6.3	16.2	24	24.2
12-10-2017	0.1	0.2	3.99	7.54	7.86	8.03	460	350	8.71	795	713	52	440	320	6	16.1	34	14.1
13-10-2017	0.2	0.3	3.54	7.69	7.77	7.94	450	360	8.5	879	711	54	450	300	6.1	26	23.9	14.5
14-10-2017	0.1	0.5	3.96	7.43	6.94	7.84	470	350	8.57	893	682	56	430	310	6.2	16	14	14.2
15-10-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-10-2017	0.3	0.5	4.06	6.95	6.99	7.59	450	320	8.96	816	736	50	410	300	6	16.1	13.5	24.3
17-10-2017	0.2	0.4	3.91	7.62	7.56	7.61	430	290	8.47	789	699	48	390	320	5.9	26	3.2	24.5
18-10-2017	0.3	0.5	4.01	6.93	7.21	7.73	420	300	7.47	717	618	46	370	300	6	15.9	3.7	34.8

19-10-2017	0.4	0.9	3.26	6.68	7.4	7.2	370	280	7.52	682	568	36	360	304	5.2	16.2	4.6	15.2
20-10-2017	0.3	0.7	3.14	6.76	7.36	7.36	410	380	8.47	726	626	82	380	300	5.4	15.4	4.9	6.6
21-10-2017	0.1	0.4	4.02	7.82	7.42	8.48	440	300	9.38	801	768	46	370	310	4.6	16	4.6	8.8
22-10-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-10-2017	0.6	0.9	4.85	7.69	6.87	7.46	380	310	8.58	770	687	36	470	410	-	-	-	-
24-10-2017	0.2	0.6	4.97	8.95	7.92	7.52	420	380	8.47	640	549	82	480	370	-	-	-	-
25-10-2017	0.1	0.4	3.68	6.46	7.98	7.48	390	350	9.56	580	467	94	380	260	-	-	-	-
26-10-2017	0.3	0.7	4.26	6.92	7.87	7.38	400	340	9	886	689	57	370	270	-	-	-	-
27-10-2017	0.4	0.5	3.62	7.06	8.06	8.5	410	300	8.55	846	720	68	360	300	-	-	-	-
28-10-2017	0.2	0.3	3.58	7.87	6.92	8.46	440	390	7.92	760	700	46	410	320	-	-	-	-
29-10-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-10-2017	0.1	0.6	4.01	6.26	8.28	7.66	420	320	8.28	820	780	54	380	280	-	-	-	-
31-10-2017	0.2	0.8	4.1	7.82	8.26	7.62	380	300	8.66	740	674	64	390	294	-	-	-	-

Nov-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-11-2017	0.2	0.3	4.21	6.62	7.6	7.82	420	380	9.01	378	380	64	380	375	30.2	30.2	-	43.4
02-11-2017	0.4	0.5	4.12	6.42	7.54	8.01	380	320	9.62	440	438	52	470	369	3.4	3.4	-	6.2
03-11-2017	0.1	0.4	3.61	7.54	6.36	8.08	400	350	8.82	482	485	74	489	386	2.6	2.6	-	1.6
04-11-2017	0.2	0.9	4.21	6.36	8.92	9.92	410	370	7.87	496	480	43	340	382	3.4	3.4	-	6.2
05-11-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-11-2017	0.1	0.2	4.36	6.6	8.2	9.01	420	360	7.68	480	475	84	400	350	4.2	4.2	-	4.7
07-11-2017	0.2	0.3	4.82	6.48	8.36	9.07	400	374	7.92	472	475	64	390	290	2.8	2.8	-	5
08-11-2017	0.1	0.2	4.4	6.62	7.82	9.82	380	360	9.82	344	450	90	420	350	2.6	2.6	-	4.1
09-11-2017	0.4	0.7	3.16	7.46	7.46	8.76	390	350	9.01	376	480	50	480	382	5.1	4.2	-	5
10-11-2017	0.3	0.9	4.82	6.72	7.92	8.84	420	390	8.87	352	346	61	440	350	4.5	5.1	-	4
11-11-2017	0.1	0.4	4.46	6.98	8.97	8.62	410	370	7.98	400	420	30	410	360	3.1	4.5	-	3.2
12-11-2017																	-	

13-11-2017	0.2	0.6	3.6	6.62	7.68	8.66	420	370	7.6	380	390	24	400	360	3.7	3.1	-	2.8
14-11-2017	0.1	0.4	4.48	6.84	7.92	8.57	410	300	9.48	360	380	28	460	320	5.3	3.7	-	5.8
15-11-2017	0.3	0.7	4.92	6.74	6.82	9.62	400	380	9.92	428	450	28	420	380	4.8	5.3	-	4.9
16-11-2017	0.2	0.7	4.247	6.24	6.62	9.8	550	428	8.8	344	360	48	360	370	4.7	4.8	-	4.7
17-11-2017	0.4	0.8	4.36	6.68	6.8	9.82	480	426	8.46	464	440	44	450	410	9.2	4.7	-	2.9
18-11-2017	0.2	0.4	4.46	6.92	7.84	9.72	420	392	8.92	408	435	64	450	390	4.2	2.5	-	2.4
19-11-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-11-2017	0.4	0.2	3.36	6.42	7.92	8.74	460	420	9.02	360	380	20	430	310	6.3	****	-	3
21-11-2017	0.1	1.4	4.39	6.64	7.8	8.66	468	408	9.08	420	440	100	370	380	2.1	4.5	-	3.6
22-11-2017	0.9	1.9	4.26	6.92	7.46	9.82	398	302	8.24	432	439	56	390	380	5.1	2.5	-	3
23-11-2017	0.8	1.2	3.46	6.8	7.92	9.74	492	416	8.26	426	440	54	387	390	4.2	4.8	-	4
24-11-2017	0.2	0.9	4.82	6.42	7.84	8.68	468	402	9.92	412	400	64	366	320	4.5	4.8	-	3.8
25-11-2017	0.4	0.5	3.24	6.46	7.69	9.54	500	420	9.66	464	475	59	370	240	2.9	4.1	-	2.6
26-11-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-11-2017	0.1	0.9	4.26	6.96	7.8	8.66	380	362	8.24	352	380	60	480	324	3.7	5.1	-	5
28-11-2017	0.2	1.2	4.39	6.8	7.46	8.82	368	300	8.98	410	440	72	410	350	2.6	1.8	-	3
29-11-2017	0.4	1.4	3.38	6.46	7.58	8.9	374	350	8.8	413	400	50	400	330	5.1	4	-	3.6
30-11-2017	0.3	0.4	4.24	6.56	7.46	9.02	420	392	8.46	417	450	54	370	400	4.5	2.6	-	3.8

Dec-17

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-12-2017	0.2	0.4	4.26	6.68	7.02	8.08	470	402	9.26	391	390	94	270	-	5.2	6.1	-	4.5
02-12-2017	0.1	0.9	3.62	6.72	7.08	8.92	510	410	9.82	430	492	96	280	-	4.2	5	-	5.1
03-12-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04-12-2017	0.4	0.9	4.02	6.84	7.21	8.82	420	380	9.02	480	426	54	250	-	4.9	5.1	-	3.8
05-12-2017	0.2	1.2	4.42	6.62	7.24	7.46	400	310	8.09	464	396	64	280	-	6.2	5.2	-	4.6
06-12-2017	0.6	1.6	4.66	7.02	6.92	7.09	480	332	8.8	510	426	82	270	-	5.1	4.8	-	5.2
07-12-2017	0.1	0.9	3.06	6.82	7.84	7.02	468	302	8.24	468	396	80	268	-	4.2	3.4	-	4.6
08-12-2017	0.2	0.4	3.82	6.94	7.46	8.8	468	398	9.36	480	368	96	261	-	7.8	3.6	-	3.8

09-12-2017	0.4	0.7	4.07	6.76	7.5	8.4	710	642	9.4	460	326	82	248	-	2.4	2.8	-	3.2
10-12-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-12-2017	0.2	1.2	4.62	7.42	7.62	7.36	700	620	8.59	510	380	94	220	-	7.2	4.8	-	4.6
12-12-2017	0.9	1.4	4.84	6.09	7.92	7.42	650	628	9.66	420	450	68	230	-	4.2	3.2	-	2.4
13-12-2017	0.8	1.4	3.26	6.82	7.8	8.24	620	526	8.24	480	340	94	200	-	7.6	3.6	-	4.4
14-12-2017	0.4	0.8	2.8	6.94	7.74	8.36	560	490	8.36	468	400	36	205	-	2.8	2.6	-	5.1
15-12-2017	0.2	0.9	3.92	7.36	7.26	7.82	568	402	9.4	420	380	82	260	-	2.9	5.2	-	4.5
16-12-2017	0.7	1.2	4.26	6.92	6.09	8.66	400	320	9.26	500	450	94	220	-	4.2	4.2	-	4.1
17-12-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-12-2017	0.4	1.8	4.66	6.84	7.02	7.92	470	300	9.36	462	390	62	200	-	6.4	1.6	-	8.4
19-12-2017	0.1	1.7	4.92	6.66	7.01	7.87	482	310	8.82	482	400	84	280	-	7.6	3.4	-	7.6
20-12-2017	0.2	1.2	4.68	6.54	7.82	7.66	470	320	8.3	400	426	96	206	-	7.4	3.6	-	4.6
21-12-2017	0.4	0.9	4.26	6.46	7.82	8.02	520	470	8.26	390	350	80	200	-	2.6	2.8	-	4.3
22-12-2017	0.3	0.7	4.97	6.49	7.84	8.09	546	502	9.38	426	402	72	228	-	3.9	3.6	-	5.2
23-12-2017	0.2	0.6	3.68	7.58	7.72	8.26	592	402	9.92	498	466	84	282	-	4.2	3.9	-	8.2
24-12-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-12-2017	0.1	0.4	3.62	6.68	7.62	8.42	420	392	9.02	468	420	74	276	-	4.9	3.6	-	5.1
26-12-2017	0.6	0.8	4.4	6.72	7.87	8.62	480	398	9.92	480	462	98	261	-	5.1	4.1	-	3.6
27-12-2017	0.2	0.9	3.36	6.82	7.92	7.8	390	362	9.8	492	456	76	250	-	5.2	5.1	-	4.2
28-12-2017	0.9	1.4	3.8	6.62	7.24	7.92	374	324	8.42	520	492	82	220	-	4.9	5.2	-	5.2
29-12-2017	0.3	1.6	4.24	6.8	7.54	8.74	426	400	8.42	490	450	68	180	-	3.2	4.8	-	4.2
30-12-2017	0.4	1.9	4.36	7.64	7.6	8.46	398	362	9.4	396	352	96	200	-	4.2	3.9	-	5.1
31-12-2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Jan-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-01-2018	0.1	1.9	3.92	6.68	7.4	8.8	420	394	9.26	684	608	46	320	300	4.2	3.5	-	5.1
02-01-2018	0.2	0.8	4.26	6.82	7.54	8.68	390	340	9.09	880	880	50	310	290	3.9	5.9	-	5.6
03-01-2018	0.6	0.9	4.1	6.74	7.68	7.46	480	420	9.02	754	752	48	280	280	4.1	4.8	-	6.1

04-01-2018	0.4	0.7	4.02	6.26	7.72	8.74	484	300	9.51	800	800	50	300	270	3.6	4.7	-	5.2
05-01-2018	0.3	1.4	3.4	7.54	7.8	8.82	397	342	8.54	784	784	46	290	260	5.2	4.4	-	4.8
06-01-2018	0.4	0.2	3.24	6.64	7.26	8.02	426	398	9.62	768	768	52	280	250	3.6	3.8	-	4.7
07-01-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-01-2018	0.5	1.6	3.26	7.02	7.08	7.26	450	340	7.08	751	751	54	300	280	4.7	5.6	-	5.7
09-01-2018	0.1	2.1	3.82	7.04	6.66	8.08	460	350	7.02	808	808	56	320	200	3.2	4.7	-	4.2
10-01-2018	0.6	1.8	4.26	7.06	7.02	7.07	370	350	7.09	800	800	58	380	350	3.7	5.7	-	4.6
11-01-2018	0.8	0.9	4.13	7.06	7.04	7.06	390	370	7.02	789	789	56	310	200	4.4	5.1	-	4.9
12-01-2018	0.7	0.9	4.36	6.82	7.06	7.09	380	360	7.66	792	792	58	320	280	3.6	6.6	-	4.7
13-01-2018	0.5	0.8	3.82	7.08	6.82	8.26	370	350	8.26	816	816	58	310	220	5.2	6.1	-	5.1
14-01-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-01-2018	0.6	1.2	2.68	6.68	7.62	7.26	320	300	7.08	700	700	58	280	250	5.6	6.6	-	5.2
16-01-2018	0.8	1.3	3.08	7.07	7.08	7.36	340	320	7.09	720	720	50	250	280	4.8	7.9	-	3.9
17-01-2018	0.7	0.8	3.72	7.06	7.07	7.2	380	310	7.09	680	680	46	200	280	4.7	4.7	-	4.7
18-01-2018	0.5	0.9	4.02	7.02	6.68	7.36	370	350	8.08	790	790	38	290	270	5.1	5.2	-	5.2
19-01-2018	0.2	0.7	4.36	6.67	7.07	7.09	360	270	8.01	768	768	40	320	300	5.3	4.9	-	4.9
20-01-2018	0.1	0.2	4.26	7.08	7.02	7.2	390	280	8.04	752	752	44	300	240	3.9	3.8	-	4.8
21-01-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22-01-2018	0.7	1.6	3.74	6.68	7.06	7.02	290	210	7.26	740	740	46	280	230	4.7	3.8	-	5.1
23-01-2018	0.2	1.2	3.26	6.78	7.01	7.08	336	228	7.82	682	682	52	240	200	5.1	4.2	-	4.9
24-01-2018	0.8	0.8	3.26	7.09	7.08	8.01	416	350	8.06	776	776	50	300	250	4.6	4.8	-	4.9
25-01-2018	0.6	0.9	4.36	7.07	7.07	7.07	360	320	8.09	438	438	42	200	204	4.9	5.9	-	5.1
26-01-2018	0.2	0.8	3.36	7.06	6.06	7.07	350	300	8.72	768	768	40	210	180	4.6	6.8	-	5.6
27-01-2018	0.7	1.2	4.26	7.08	6.56	7.06	380	320	9.2	682	682	50	240	210	4.2	5.4	-	4.2
28-01-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-01-2018	0.2	1.6	3.2	6.68	7.09	7.66	370	362	7.82	668	668	40	235	205	5.1	5.6	-	5.1
30-01-2018	0.7	1.2	3.4	6.82	6.68	7.4	380	371	7.72	587	587	40	200	215	5.1	5.2	-	5.6
31-01-2018	0.6	0.8	4.2	6.72	6.74	7.2	376	365	7.84	569	569	30	-	-	-	-	-	-

Feb-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-02-2018	0.6	0.8	1.32	7.46	8.2	7.52	328	305	9.52	386	376	78	368	306	9.4	5.6	5.2	-
02-02-2018	0.2	1.2	2.1	7.82	7.64	8.36	426	387	8.26	376	352	76	375	350	14.2	7.6	3.6	-
03-02-2018	0.5	1	3.61	6.6	6.82	6.24	358	326	7.82	358	368	88	288	278	6.2	6.8	4.2	-
04-02-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-02-2018	0.6	1.2	2.1	7.82	7.64	8.26	368	328	7.82	352	365	48	380	376	5	2.8	5.2	-
06-02-2018	0.4	0.1	1.42	7.54	6.46	7.38	387	327	9.29	361	356	78	368	325	6.2	3.2	6.2	-
07-02-2018	0.3	0.6	3.1	6.5	7.66	8.76	429	387	9.72	388	426	98	365	354	5.2	8.2	4.2	-
08-02-2018	0.2	1.6	2.16	7.46	7.54	8.26	382	376	8.72	368	389	74	354	339	6.6	2.6	8.4	-
09-02-2018	0.4	1.2	1.36	7.48	7.64	8.24	368	356	8.6	356	375	84	368	392	2.4	8.2	12.6	-
10-02-2018	0.6	0.12	2.18	6.44	6.82	8.26	429	368	7.46	376	389	96	387	342	3.2	6.9	13.2	-
11-02-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-02-2018	0.6	2.6	3.1	6.24	6.22	8.36	428	362	7.26	376	376	46	370	326	6.4	6.9	4.8	-
13-02-2018	0.8	1.12	4.1	8.26	7.64	7.38	382	366	8.32	328	389	94	388	354	4.2	8.2	12.6	-
14-02-2018	0.2	0.6	1.24	7.66	7.54	8.26	326	355	9.82	329	325	52	376	352	3.8	4.8	8.1	-
15-02-2018	0.4	0.8	2.61	7.81	7.26	8.24	389	365	7.72	280	300	44	389	376	4.2	12.6	13.4	-
16-02-2018	0.7	1.1	4.21	7.36	8.76	8.26	376	365	9.26	390	400	26	369	358	8.2	8.1	12.6	-
17-02-2018	0.6	0.8	3.1	6.38	6.76	7.66	389	379	8.29	380	380	84	361	352	4.9	4.6	12.9	-
18-02-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-02-2018	0.4	0.9	3.14	6.36	7.54	7.43	386	378	8.24	412	360	48	354	368	2.6	8.1	7	-
20-02-2018	0.3	0.7	4.1	7.84	8.68	8.46	376	352	9.67	368	356	52	369	352	3.2	7.2	2.2	-
21-02-2018	0.2	1.9	3.1	7.42	8.76	7.36	378	342	9.24	352	366	61	389	365	2.8	8	7.8	-
22-02-2018	0.4	1.1	2.1	8.66	7.54	7.37	328	302	8.36	368	359	54	426	398	4.1	7.2	7.8	-
23-02-2018	0.3	2.1	1.36	7.56	8.36	8.38	289	381	7.42	352	342	74	376	289	3.6	6.2	4.2	-
24-02-2018	2.8	0.6	0.26	6.42	8.28	7.26	377	356	8.56	362	359	36	382	372	11.9	7.7	3.2	-
25-02-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-02-2018	0.6	1.36	3.28	7.66	7.54	8.36	387	342	8.26	342	252	48	371	304	8.2	8.6	3	-
27-02-2018	0.2	1.26	2.61	7.79	7.26	7.26	376	298	8.18	372	298	76	352	352	8.9	4.2	2.1	-

28-02-2018	0.9	2.1	1.26	8.87	8.72	8.24	329	303	9.2	374	276	78	346	289	6.7	2.8	4.2	
Mar-18																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-03-2018	0.7	0.6	3.67	7.31	7.43	7.75	430	460	8.3	704	608	44	360	320	5.2	4.4	-	5.2
02-03-2018	0.4	0.6	4.35	7.4	7.8	8.18	390	560	7.75	624	528	38	235	285	4	5.5	-	6
03-03-2018	0.5	0.7	3.97	7.59	6.78	7.89	437	415	10.5	731	649	33	257	293	4.2	5	-	5.6
04-03-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-03-2018	0.2	0.4	4.02	7.52	7.69	6.69	426	410	12.25	612	592	40	265	287	5.5	4	-	6
06-03-2018	0.5	0.3	3.7	7.62	7.72	7.87	397	378	10.5	768	544	38	280	220	5	5	-	6.5
07-03-2018	0.7	0.9	4	7.42	7.54	8	470	410	9.75	688	576	28	360	290	5.5	4.5	-	4
08-03-2018	0.5	0.8	4	7.38	7.92	7.85	510	460	10.5	680	615	48	310	270	6	3.5	-	4
09-03-2018	0.4	0.7	3.9	7.37	7.42	7.75	480	390	10.9	789	606	42	290	265	5.6	4	-	3.9
10-03-2018	0.4	0.6	4.1	7.25	7.39	8.02	430	370	10.25	480	640	62	290	270	7.5	4	-	5.5
11-03-2018	-	-	-	-	-	-	-	-	-	656	582	56	310	290	6	4.5	-	5
12-03-2018	0.6	0.9	4	7.36	7.79	7.93	390	450	9.67	800	768	54	275	295	5.5	4	-	5.5
13-03-2018	0.5	0.7	4.35	7.63	7.6	7.89	420	340	11.23	592	544	44	289	280	5	4.5	-	5.2
14-03-2018	0.7	0.9	3.98	7.77	7.73	7.96	410	380	6.5	656	580	46	315	290	4.5	5	-	4
15-03-2018	0.6	0.5	4.3	7.61	7.79	8	380	350	7.53	592	512	34	360	320	5	4.5	-	5
16-03-2018	0.4	0.7	4.83	7.63	7.51	8.22	460	410	8.6	573	480	31	320	295	5.5	4	-	4
17-03-2018	0.4	0.8	4.05	7.73	6.72	8.01	370	350	8.75	784	640	56	310	280	4.5	4.2	-	5.7
18-03-2018	-	-	-	-	-	-	-	-	-	625	592	40	330	290	4	4.1	-	5
19-03-2018	0.6	0.5	3.93	7.67	8.72	8.2	340	310	7.25	736	704	36	350	330	5	4.8	-	4.5
20-03-2018	0.8	1.2	4.17	7.59	7.34	8.32	480	390	7	625	592	40	330	290	4	4.1	-	5
21-03-2018	0.5	0.9	4.37	6.79	7.73	8	410	370	8.99	656	582	56	310	290	6.7	7.5	-	5
22-03-2018	0.7	1	4.02	8.2	8.77	7.77	390	350	7.75	752	692	48	280	310	5.5	5	-	6
23-03-2018	1	1.3	4.25	7.69	6.51	7.52	460	380	7.2	672	544	46	320	300	4.5	4.2	-	5.5
24-03-2018	0.7	0.7	4.15	7.18	7.79	7.15	430	390	8.25	650	528	40	290	270	5.2	4.8	-	4.5
25-03-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

26-03-2018	0.8	0.8	4.2	6.42	7.2	7.2	440	380	7.2	638	563	32	310	290	5	4.5	-	5.2
27-03-2018	0.9	0.5	4	7.66	7.35	6.89	400	350	8.23	624	576	22	320	290	4.8	4.4	-	4.4
28-03-2018	0.7	0.9	3.77	7.42	7.38	8.19	380	320	7.12	576	528	37.3	345	320	4	4.8	-	5
29-03-2018	1	1.2	3.93	8.1	7.16	7.17	450	400	8	656	592	30	310	380	5.2	4.8	-	4.4
30-03-2018	0.6	0.5	4.23	8.66	7.41	7.16	360	420	7.25	752	720	40	360	320	5.2	5.6	-	4.8
31-03-2018	0.8	1.2	4.71	7.67	8.2	8.02	320	300	9.75	709	549	56	280	310	5	5.6	-	5

Apr-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-04-2018	0.6	0.9	3.6	7.37	7.35	7.31	410	390	6	586	509	37.4	280	270	5.3	4.4	-	4.5
02-04-2018	0.6	1.1	3.8	7.47	7.43	7.34	530	670	8.4	628	703	37.9	290	300	5.2	3.4	-	4.2
03-04-2018	1	1.2	1.5	4.2	7.41	7.32	380	350	8.2	863	608	34.1	365	225	6.6	4.6	-	5.3
04-04-2018	0.7	1.3	3.8	7.39	7.36	7.34	480	520	7.4	602	678	37.4	290	295	3.9	4.1	-	4.2
05-04-2018	0.6	1.2	4.1	7.44	7.34	7.31	480	450	6.8	818	705	31.36	315	325	5.3	4.4	-	4
06-04-2018	0.3	0.9	3.6	7.03	7.25	7.39	690	730	7.6	740	700	42.1	280	290	4	4.7	-	4.6
07-04-2018	0.5	0.9	3.9	7.04	7.23	7.31	470	450	7.6	874	830	68	285	263	4.8	4.1	-	3.5
08-04-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-04-2018	0.7	1	4.37	7.18	7.25	7.3	410	370	8.9	688	640	60	310	255	9.6	7.2	-	6.8
10-04-2018	0.3	0.4	4	7.17	7.29	7.59	360	320	5.75	672	544	46	320	300	4.5	5	-	5.5
11-04-2018	0.2	0.4	4.02	7.52	7.76	7.88	426	410	12.5	756	692	34	340	300	4.8	5.2	-	4.8
12-04-2018	0.3	0.9	4.63	6.85	6.5	7.12	400	320	8.1	756	623	50	340	290	5.6	4.2	-	4.1
13-04-2018	0.2	1.2	3.4	6.82	7.64	7.09	420	380	8.26	510	480	46	280	250	4.6	7.2	-	5.6
14-04-2018	0.1	0.9	3.62	6.72	7.08	8.92	510	410	9.82	510	492	46	280	310	5.3	6.7	-	5.5
15-04-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-04-2018	0.5	0.8	3.82	7.08	6.82	8.26	370	350	8.26	816	792	58	310	220	5.2	6.1	-	5.1
17-04-2018	0.4	1.2	1.36	7.48	7.64	8.24	368	356	8.66	789	606	42	290	265	5.6	4	-	3.9
18-04-2018	0.6	0.9	4	7.36	7.79	7.93	390	450	9.67	800	768	54	275	295	5.6	4	-	5.5
19-04-2018	0.3	0.4	4	7.17	7.29	7.59	360	320	5.75	675	544	46	320	300	4.5	5	-	6
20-04-2018	0.5	0.6	4.52	7.86	7.15	7.35	470	360	8.5	789	606	42	290	265	5.6	4	-	3.9

21-04-2018	0.6	0.9	3.6	7.36	7.34	7.3	410	340	6.2	576	500	37	260	260	5.3	4.5	-	4.5
22-04-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-04-2018	0.2	1.9	3.1	7.42	8.76	3.36	378	342	9.24	352	366	61	389	365	2.8	8	-	7
24-04-2018	0.4	0.9	3.14	6.36	7.54	7.43	386	378	8.24	412	360	48	354	368	2.6	8	-	7.1
25-04-2018	0.6	0.5	3.93	7.67	8.72	8.2	340	310	7.25	736	704	36	350	330	5	4.8	-	4
26-04-2018	1	1.29	1.5	4.3	7.43	7.33	370	360	8	896	608	34.1	365	225	6.6	4.6	-	5.3
27-04-2018	1	1.2	4.25	7.2	7.38	7.16	340	310	8.5	672	615	40.5	320	300	5	4.5	-	4.5
28-04-2018	0.7	1.1	4.7	7.8	7.17	7.37	320	210	6.98	689	612	38	330	280	4.5	4.9	-	5.3
29-04-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-04-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

May-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-05-2018	0.2	0.4	3.4	7.06	6.72	7.8	316	301	9.81	562	490	30.1	460	309	4.6	4.9	-	4.4
02-05-2018	0.4	1.2	3.6	7.26	6.06	7.72	280	268	9.26	592	526	16.8	260	209	4.4	4.6	-	5.1
03-05-2018	0.1	1.2	2.8	7.53	7.08	6.93	300	272	8.82	568	502	18.2	280	240	4.9	4.4	-	5.6
04-05-2018	0.2	0.4	4.2	7.24	7.26	6.28	302	298	9.97	602	568	20.1	320	246	5.1	9.2	-	5.9
05-05-2018	0.4	0.9	4.6	6.68	7.18	7.66	308	300	9.62	469	440	22.6	304	406	8.6	4.7	-	4.9
06-05-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-05-2018	0.1	0.8	4.6	6.62	6.62	7.62	400	360	7.2	642	561	29.6	360	296	4.6	4.1	-	4.9
08-05-2018	0.4	1.2	4.8	6.54	6.8	7.89	401	304	10.4	601	580	18.8	292	204	4.5	4.4	-	5.8
09-05-2018	0.3	0.4	3.7	6.66	7.76	8.72	376	365	7.11	542	510	17.1	261	180	5.4	4.6	-	5.7
10-05-2018	0.7	0.9	3.3	7.84	7.98	8.68	398	368	8.02	469	450	26.2	268	130	5.2	4.7	-	9.6
11-05-2018	0.2	0.5	4.1	7.74	7.82	7.69	462	392	9.01	408	401	18.4	392	391	9.8	4.8	-	4.8
12-05-2018	0.4	0.9	4.8	7.36	7.62	7.26	420	400	12.2	589	466	27.6	401	366	4.7	5.6	-	3.7
13-05-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14-05-2018	0.2	1.4	4.6	7.28	7.62	7.36	540	490	10.1	640	561	10.6	398	345	4.1	4.1	-	8.1
15-05-2018	0.1	1.8	4.8	7.58	7.84	7.24	480	460	18.02	546	459	9.8	304	300	6.6	5.4	-	4
16-05-2018	0.4	0.6	3.2	6.56	7.8	9.34	490	450	10.8	568	445	8.7	289	246	7.4	6.2	-	5.1

17-05-2018	0.5	0.9	4.6	7.66	7.74	8.48	382	304	9.21	598	461	10.6	309	310	9.2	4.8	-	6.2
18-05-2018	0.6	1.8	4.8	7.24	7.26	8.42	492	324	8.26	604	509	11.2	360	340	4.8	4.7	-	5.1
19-05-2018	0.7	1.2	3.9	7.68	7.58	7.62	404	301	7.04	561	426	12.8	280	246	4.6	5.6	-	4.4
20-05-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21-05-2018	0.2	0.9	3.4	7.68	6.7	7.6	361	304	11.2	580	460	10.6	350	341	4.1	5.1	-	4.9
22-05-2018	0.9	1.4	4.2	7.42	7.66	7.4	378	342	10.41	681	660	9.8	368	309	4.8	6.4	-	5.8
23-05-2018	0.4	0.9	4.6	7.49	8.54	7.24	426	401	9.26	624	598	8.9	304	300	5.1	4.2	-	4.4
24-05-2018	0.5	1.4	5.7	7.38	7.48	8.26	400	398	8.8	598	598	7.4	280	266	4.4	6.8	-	6.1
25-05-2018	0.6	1.2	4.8	7.24	7.68	7.3	392	340	7.01	466	402	27.2	292	201	6.6	5.9	-	5.6
26-05-2018	0.1	0.9	3.2	6.26	7.62	7.4	380	356	7.02	498	401	18.1	261	240	4.5	4.4	-	4.4
27-05-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28-05-2018	0.1	1.2	3.4	7.68	7.4	8.26	401	397	10.26	598	510	10.6	268	200	6.1	4.5	-	4.9
29-05-2018	0.2	0.9	3.9	6.24	7.38	7.2	481	400	9.8	661	561	18.4	280	240	6.4	4.6	-	5.9
30-05-2018	0.1	1.2	4.2	6.49	7.62	7.48	439	398	10.1	550	482	10.1	320	286	6.2	4.9	-	5.6
31-05-2018	0.4	0.9	8.4	6.56	7.46	7.26	444	376	9.18	468	400	9.8	260	246	7.2	5.6	-	6.6

Jun-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-06-2018	0.1	0.9	4.2	6.46	7.62	7.62	382	286	9.26	480	446	9.2	320	300	4.2	5.2	-	5.5
02-06-2018	0.4	1.2	3.4	6.82	7.54	7.42	496	426	4.26	382	350	8.18	380	292	6.8	8.6	-	6.2
03-06-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04-06-2018	0.1	1.2	4.2	6.32	7.3	8.2	491	456	6.26	420	394	9.61	320	286	6.2	7.2	-	4.4
05-06-2018	0.4	1.4	2.6	7.4	7.44	7.36	386	352	6.8	418	401	8.42	302	300	7.6	6.8	-	5.5
06-06-2018	0.2	1.8	3.8	6.46	7.36	7.24	349	326	8.28	381	368	9.06	208	189	6.8	5.6	-	6.8
07-06-2018	0.3	0.9	4.4	6.54	6.58	7.6	426	400	6.3	374	342	12.21	269	206	5.4	4.2	-	7.9
08-06-2018	0.2	1.8	4.1	6.44	6.26	7.64	306	300	6.24	448	426	10.26	292	272	5.9	8.9	-	6.4
09-06-2018	0.4	1.6	4.3	6.34	6.42	7.42	604	560	7.36	426	402	9.41	289	268	4.4	7.2	-	5.2
10-06-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-06-2018	0.2	1.8	4.1	6.24	6.66	7.3	389	376	7.56	568	562	8.08	301	289	6.7	6.1	-	5.4

12-06-2018	0.4	1.8	3.6	6.48	6.84	7.36	436	400	9.42	624	508	9.92	346	301	7.8	7.2	-	6.2
13-06-2018	0.6	0.9	4.4	6.54	6.72	7.4	387	302	8.74	436	404	8.01	280	250	8.4	7.4	-	5.6
14-06-2018	0.4	2.1	3.2	6.36	7.82	8.84	498	404	9.26	568	587	7.81	420	342	6.2	5.2	-	6.1
15-06-2018	0.3	1.4	3.4	6.82	7.74	8.24	426	398	8.8	589	568	7.42	340	304	4.8	4.1	-	4.4
16-06-2018	0.7	1.2	5.1	7.42	7.56	7.36	536	468	7.26	660	602	8.28	302	280	4.6	5.4	-	4.9
17-06-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-06-2018	0.1	1.4	4.4	6.26	7.24	7.28	442	401	7.18	568	508	8.62	208	186	5.2	4.9	-	5.1
19-06-2018	0.8	1.2	3.3	6.4	7.18	7.34	482	426	9.47	624	602	8.42	308	242	4.4	4.1	-	5.6
20-06-2018	0.4	0.9	4.2	6.28	7.26	8.38	526	501	9.26	512	492	9.09	289	281	5.4	6.6	-	6.4
21-06-2018	0.2	1.8	4.1	7.34	7.74	7.42	589	560	8.4	480	408	9.08	342	304	6.8	7.2	-	****
22-06-2018	0.3	0.8	3.4	6.36	7.82	7.24	624	420	9.36	490	404	7.24	381	302	7.2	4.8	-	6.1
23-06-2018	0.2	0.8	4.2	6.42	7.26	7.36	566	460	7.82	560	500	8.18	298	286	6.2	5.4	-	8.2
24-06-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-06-2018	0.4	1.1	3.2	6.04	7.24	7.36	360	350	7.46	526	506	8.22	360	261	7.6	6.4	-	4.4
26-06-2018	0.2	0.8	3.4	6.62	7.68	8.24	369	308	9.36	468	426	7.61	280	240	6.8	6.5	-	3.4
27-06-2018	0.3	0.9	4.1	6.81	7.28	7.36	562	487	9.44	480	456	8.8	268	205	5.2	4.1	-	4.5
28-06-2018	4.1	4.2	3.4	6.46	7.36	7.82	446	401	8.42	520	492	8.41	304	286	4.4	6.4	-	5.2
29-06-2018	0.9	1.4	4.2	6.28	7.48	7.42	486	426	8.82	626	589	9.09	320	314	6.2	4.2	-	6.1
30-06-2018	0.8	1.2	4.1	6.36	6.74	7.82	469	401	7.01	498	446	8.08	368	304	5.6	5.4	-	4.6

Jul-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-07-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-07-2018	0.1	1.8	3.4	6.56	6.62	8.36	561	504	6.62	530	462	9.61	280	138	4.6	5.4	-	2.6
03-07-2018	0.2	1.4	3.2	6.46	7.82	6.34	460	426	9.08	620	582	8.24	292	261	7.8	4.2	-	8.2
04-07-2018	0.4	1.4	4.4	6.74	7.4	7.26	580	570	8.24	480	466	9.09	291	261	6.7	4.6	-	4.9
05-07-2018	0.3	1.1	3.2	6.81	6.66	7.24	340	261	7.82	489	476	9.08	296	204	6.6	5.2	-	5.4
06-07-2018	0.6	1.2	4.1	6.82	6.24	7.01	368	280	6.94	569	508	8.26	308	296	5.8	6.8	-	5.2
07-07-2018	0.5	0.9	5.6	6.24	6.36	7.62	460	401	9.26	498	426	9.36	206	189	4.7	7.2	-	6.8

08-07-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-07-2018	0.4	0.9	5.2	6.62	6.56	7.6	498	426	9.01	460	382	9.7	301	300	4.4	5.4	-	6.2
10-07-2018	0.2	1.8	4.6	6.82	6.48	7.82	426	401	9.21	680	600	8.48	408	398	7.2	6.2	-	6.8
11-07-2018	0.4	1.2	4.6	6.72	6.36	7.72	420	400	8.18	660	582	8.4	366	342	4.6	7.1	-	2.4
12-07-2018	0.2	0.9	3.4	6.6	7.46	7.47	460	408	9.26	580	468	9.42	280	272	4.7	8.8	-	9.1
13-07-2018	0.1	1.2	2.2	6.46	7.3	7.36	540	568	8.38	468	421	9.39	392	300	7.6	6.9	-	4.4
14-07-2018	0.5	0.9	4.8	6.36	6.26	7.42	550	408	8.42	560	498	9.24	360	306	5.1	5.2	-	4.5
15-07-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-07-2018	0.4	0.9	3.4	6.42	6.24	7.08	468	398	9.02	601	568	9.21	281	242	4.2	4.2	-	4.2
17-07-2018	0.2	1.2	3.1	6.4	7.34	7.08	366	308	9.96	665	468	10.2	384	346	4.6	6.2	-	5.4
18-07-2018	0.1	0.8	4.4	6.36	6.74	7.29	398	304	10.01	677	596	9.36	362	301	4.4	7.4	-	6.2
19-07-2018	0.6	1.2	3.3	6.46	7.8	7.36	466	408	10.12	542	498	8.06	294	254	9.4	6.8	-	6.4
20-07-2018	0.5	0.9	3.2	6.54	6.62	6.29	568	498	10.2	596	466	10.21	266	216	4.5	5.2	-	5.1
21-07-2018	0.1	1.2	4.2	6.02	6.84	8.18	524	476	10.42	564	498	12.01	280	204	4.7	7.2	-	6.2
22-07-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-07-2018	0.2	1.2	4.3	6.84	7.68	8.66	480	469	10.06	560	492	10.21	260	234	4.2	11.2	-	12.1
24-07-2018	0.1	0.8	3.6	6.32	6.09	7.42	468	442	9.24	480	468	9.12	284	242	7.6	8.32	-	6.8
25-07-2018	0.4	0.9	3.2	6.34	6.24	7.3	470	349	9.21	600	592	8	315	300	7.8	12.4	-	7.9
26-07-2018	0.3	1.2	4.4	6.5	6.38	7.24	430	398	9.48	560	542	7.1	368	302	8.2	7.7	-	8.7
27-07-2018	0.2	0.8	3.6	6.42	7.36	8.18	418	400	10.01	182	408	6	280	250	7.8	4.6	-	5.4
28-07-2018	0.1	0.7	4.1	6.63	6.4	7.48	390	350	9.26	468	402	4.2	268	246	7.1	6.7	-	4.1
29-07-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-07-2018	0.2	1.2	4.2	7.36	6.66	7.68	398	370	9.86	560	504	7.8	281	200	6.8	8.4	-	5.9
31-07-2018	0.1	0.8	4.3	6.24	7.42	7.54	376	350	8.32	481	450	7.2	300	282	12	7.6	-	4.9

Aug-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-08-2018	0.1	0.9	3.4	6.42	7.66	8.24	368	302	10	560	504	14	280	253	4.7	7.8	-	12.1
02-08-2018	0.4	0.9	4.1	6.2	7.64	8.3	348	304	9.24	602	549	12.2	268	261	7.2	8.4	-	10.2

03-08-2018	0.2	0.7	4.2	6.94	7.26	8.28	394	350	9.1	502	404	64	280	268	8.2	7.2	-	5.9
04-08-2018	0.4	0.9	3.2	6.24	8.26	7.62	340	302	10.2	509	449	74	260	224	7.9	7.2	-	6.6
05-08-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-08-2018	1.2	1.9	4.2	6.64	7.28	8.26	368	286	9.26	498	426	24	280	224	5.9	4.8	-	7.1
07-08-2018	0.2	1.3	4.3	6.26	7.44	8.38	360	330	9.2	564	496	74	268	260	5.7	6.2	-	6.4
08-08-2018	0.4	1.4	3.5	6.82	6.26	7.42	382	320	9.82	481	450	12.8	268	230	7.2	6.8	-	5.9
09-08-2018	0.9	1.2	4.2	6.74	6.82	7.52	380	328	10.01	592	489	38	274	268	5.5	5.4	-	6.3
10-08-2018	0.3	0.8	4.4	6.68	6.54	7.84	378	326	9.2	566	448	21.2	298	261	6.1	6.2	-	7.2
11-08-2018	0.4	0.9	4.2	6.94	7.62	7.26	400	350	8.24	468	389	70	262	220	4.9	8.2	-	8.1
12-08-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-08-2018	0.1	0.8	4.9	6.62	7.6	7.28	392	364	9.21	568	550	54	280	240	5.9	6.2	-	6.4
14-08-2018	0.2	1.2	3.3	6.84	7.74	7.36	380	304	8.24	600	592	36	264	252	7.2	7.8	-	5.9
15-08-2018	0.8	1.4	4.2	6.26	6.82	7.8	362	349	10.1	550	492	80	294	260	5.2	4.9	-	7.1
16-08-2018	0.4	0.9	4.3	6.74	6.68	8.24	350	320	10.2	486	402	74	200	186	4.6	7.1	-	6.6
17-08-2018	0.3	0.7	5.3	6.54	7.34	8.24	400	382	10.36	468	408	18.24	280	230	4.9	5.9	-	7.2
18-08-2018	0.5	0.9	3.9	6.36	7.36	8.3	460	384	10.2	568	409	72	310	282	5.2	4.9	-	5.9
19-08-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-08-2018	0.3	0.8	3.7	6.62	7.42	8.54	480	440	9.2	560	401	84	328	301	7.1	7.2	-	6.6
21-08-2018	0.4	0.9	3.4	6.82	7.56	8.46	390	359	9.1	498	408	94	310	280	5.9	6.1	-	5.9
22-08-2018	0.1	1.9	4.2	6.42	7.82	7.36	490	408	10.01	601	590	92	289	274	5.2	6.4	7.1	4.9
23-08-2018	0.7	0.12	5.1	6.54	6.74	8.46	389	308	12.02	586	542	64	280	268	4.9	6.9	5.9	5.2
24-08-2018	0.4	1.2	4.9	6.36	7.36	8.36	426	421	12	566	502	60	310	300	4.6	8.2	5.9	9.1
25-08-2018	0.3	0.9	4.4	6.2	7.42	8.4	498	406	11.21	499	462	58	320	298	5.2	6.9	4.2	7.1
26-08-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-08-2018	0.9	1.8	4.2	6.28	7.4	8.8	360	301	11.2	589	546	62	310	220	6.2	5.5	5.9	5.9
28-08-2018	0.1	1.2	3.9	6.32	7.36	8.92	380	368	10.1	608	600	84	280	201	6.4	4.2	6.2	5.2
29-08-2018	0.2	1.2	3.8	6.64	7.8	8.54	338	302	10.2	564	501	92	268	208	5.1	5.2	6.9	4.4
30-08-2018	0.4	0.8	4.1	6.6	7.24	7.64	420	398	9.92	580	550	100	242	201	5.9	6.1	6.4	5.1
31-08-2018	0.2	0.9	4.3	6.72	6.36	8.36	438	401	9.02	490	462	13.9	280	242	4.6	6.2	6.1	5.2

Sep-18																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-09-2018	0.1	0.9	3.4	6.24	6.94	7.82	340	280	10.2	420	380	74	320	280	774	5.2	4.6	5.9
02-09-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-09-2018	0.2	0.9	3.2	6.3	7.28	7.74	342	268	12.1	401	392	72	280	262	6.8	4.9	5.2	4.1
04-09-2018	0.1	0.7	3.2	6.24	7.24	8.2	382	252	9.2	380	280	64	298	260	6.1	5.9	6.2	6.1
05-09-2018	0.2	0.8	4.2	6.34	7.54	7.24	362	281	10.01	320	301	42	284	254	5.1	5.9	6.2	7.2
06-09-2018	0.1	1.2	4.4	6.42	7.66	8.2	301	267	10.4	360	309	64	268	250	6.2	4.2	5.9	6.1
07-09-2018	0.4	1.9	3.6	6.64	7.82	9.24	350	209	11.2	491	402	82	300	242	5.2	8.4	6.1	5.4
08-09-2018	0.3	0.8	4.2	6.84	7.42	8.44	368	301	12.01	480	382	74	340	208	4.2	7.1	6.1	4.6
09-09-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-09-2018	0.2	0.8	4.2	6.2	6.84	7.82	350	320	11.2	468	304	80	320	300	51	6.2	5.9	4.9
11-09-2018	0.4	0.9	3.2	6.64	7.24	8.74	368	300	12.01	480	324	64	286	201	6.1	5.5	6.2	8.2
12-09-2018	0.3	1.2	4.4	6.52	7.36	8.34	366	324	12.2	402	301	74	382	362	4.9	5.4	4.9	7.2
13-09-2018	0.1	1.1	3.3	6.42	6.4	8.4	340	308	10.2	470	324	84	280	260	7.2	7.1	6.1	6.2
14-09-2018	0.2	1.2	2.4	6.66	7.68	7.36	380	362	10.2	500	460	92	286	254	4.6	6.1	7.2	6.8
15-09-2018	0.1	0.7	3.2	6.24	7.72	7.5	360	302	9.24	340	300	48	302	208	5.9	5.4	4.9	5.5
16-09-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-09-2018	0.4	1.1	4.4	6.24	7.64	8.66	386	324	10.24	380	349	54	284	204	6.1	7.2	5.5	4.9
18-09-2018	0.2	1.2	4.3	6.36	6.54	7.98	372	309	11.01	361	301	68	340	301	8.2	5.2	7.2	5.9
19-09-2018	0.4	0.9	3.2	6.94	7.38	7.24	366	308	9.92	468	324	72	320	208	7.1	5.4	6.2	5.7
20-09-2018	0.2	1.9	4.2	6.24	7.37	8.64	397	304	11.1	450	402	92	280	240	6.4	5.9	7.4	6.1
21-09-2018	0.4	0.7	4.1	6.38	7.38	8.54	376	354	10.01	460	430	54	268	242	7.2	4.9	6.4	6.1
22-09-2018	0.3	1.2	3.4	7.36	7.42	7.34	398	324	9.26	482	350	74	280	180	7.1	4.7	4.6	6.4
23-09-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-09-2018	0.1	0.4	3.4	6.62	7.4	7.42	400	350	10.2	500	401	78	200	170	6.2	9.2	8.2	8
25-09-2018	0.2	0.12	3.7	6.84	7.62	7.4	380	362	9.21	480	458	74	370	280	7.1	12.4	14.4	9.6
26-09-2018	0.3	0.1	4.1	6.42	7.8	8.46	392	341	10.01	426	412	36	360	270	6.1	11.2	10.1	6.9

27-09-2018	0.2	0.7	4.1	6.54	6.84	8.82	342	302	11.2	494	404	44	320	260	6.2	10.4	9.2	6.4
28-09-2018	0.9	1.4	4.2	6.5	7.62	8.92	401	400	10.1	400	380	94	340	284	6.2	6.8	6.7	5.8
29-09-2018	0.4	1.2	3.4	6.62	6.82	7.74	366	301	9.26	450	406	84	342	231	7.4	8.6	7.2	6.7
30-09-2018	0.2	1.4	4.2	6.34	6.82	7.66	380	304	9.1	480	401	74	380	342	7.2	4.9	8.4	6.1
Oct-18																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-10-2018	0.1	1.2	3.4	6.3	7.6	7.62	360	340	10.9	402	374	70.2	320	314	-	5.4	5.4	4.9
02-10-2018	0.4	0.9	4.1	6.42	7.48	8.8	380	370	9.8	480	424	78.9	280	264	-	7.2	5.4	7.1
03-10-2018	0.2	0.7	4.2	6.84	7.5	8.92	440	398	7.2	456	428	74	360	301	-	6.6	6.2	6.2
04-10-2018	0.9	1.1	4.9	7.26	6.62	7.74	480	452	9.2	562	502	42	402	374	-	5.2	7.8	6.1
05-10-2018	0.3	0.8	3.2	6.54	7.82	7.04	520	492	8.9	580	481	84	392	304	-	8.4	6.2	5.4
06-10-2018	0.2	1.7	3.4	6.66	6.74	7.52	601	487	9.8	490	380	94	304	282	-	7.5	5.7	5.2
07-10-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-10-2018	0.4	1.1	3.2	6.24	6.82	7.14	382	284	9.2	550	498	72	280	262	-	5.4	6.2	5.9
09-10-2018	0.2	0.7	4.4	6.62	7.92	7.2	360	301	8.12	610	542	84	268	241	-	6.9	6.8	5.8
10-10-2018	0.1	0.9	3.3	6.6	7.84	8.34	394	362	9.14	582	558	46	242	204	-	6.8	5.7	6.7
11-10-2018	0.3	1.3	3.1	6.82	7.01	8.4	374	359	12.1	492	409	54	272	260	-	6.7	9.6	6.2
12-10-2018	0.4	1.2	4.2	6.74	6.62	8.48	346	304	10.2	662	542	46	289	201	-	4.6	8.2	7.8
13-10-2018	0.9	1.2	3.4	6.36	7.54	8.54	360	320	9.18	482	380	60	200	242	-	5.2	7.8	5.2
14-10-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-10-2018	0.1	1.2	3.4	6.64	7.62	8.92	420	346	10.2	618	598	44	260	128	-	6.6	7.4	5.2
16-10-2018	0.4	0.7	4.2	6.68	7.84	8.01	410	398	11.9	528	505	68	282	214	-	6.7	5.2	7.1
17-10-2018	0.3	0.9	3.3	6.38	8.94	7.42	398	302	10.6	466	452	92	264	204	-	6.2	4.1	6.4
18-10-2018	0.2	1.4	4.4	6.24	7.26	7.09	366	322	8.7	592	582	66	292	248	-	5.4	4.4	6.2
19-10-2018	0.2	1.3	4.2	6.6	7.3	8.26	359	304	9.8	498	401	74	328	201	-	5.2	6.2	5.6
20-10-2018	0.5	1.1	3.3	6.74	6.46	8.38	426	328	9.2	520	424	86	284	246	-	6.1	6.6	4.4
21-10-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22-10-2018	0.4	1.2	3.2	6.24	7.4	8.26	520	410	9.2	580	524	74	268	240	-	7.2	6.2	7.4

23-10-2018	0.2	1.1	4.6	6.36	7.46	7.44	360	302	9.8	668	592	72	264	230	-	6.3	4.6	7.2
24-10-2018	0.1	1.9	4.2	6.48	7.54	7.52	428	384	8.6	568	502	68	304	218	-	6.2	5.1	6.6
25-10-2018	0.3	0.9	3.4	6.72	8.62	8.68	382	342	9.9	498	442	70	288	220	-	5.1	6.4	6.8
26-10-2018	0.3	2.1	3.3	6.8	7.8	8.74	424	401	8.2	662	588	86	264	180	-	5.8	7.3	5.7
27-10-2018	0.1	1.2	3.2	6.92	7.92	8.82	468	446	10.01	592	504	92	284	260	-	6.4	7.2	4.3
28-10-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-10-2018	0.2	1.2	3.4	6.46	7.62	8.6	486	380	10.21	560	469	47	320	260	-	6.2	6.8	8.2
30-10-2018	0.4	1.1	4.2	6.5	6.82	7.46	492	368	9.42	610	600	64	360	280	-	4.9	7.2	7.6
31-10-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Nov-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-11-2018	0.2	1.1	3.2	6.68	7.68	8.84	380	362	10.01	520	500	47	320	314	-	6.2	5.9	5.8
02-11-2018	0.1	1.2	4.4	6.94	7.92	7.46	420	380	9.02	482	408	64	286	242	-	7.4	6.4	9.4
03-11-2018	0.4	0.9	3.3	6.32	8.82	7.42	448	402	11.08	568	524	94	268	208	-	5.9	5.2	5.9
04-11-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-11-2018	0.1	1.2	3.2	6.24	7.62	7.24	428	364	10.2	558	468	74	260	138	-	6.2	5.1	6.2
06-11-2018	0.4	0.9	4.4	6.36	7.8	8.36	394	374	9.06	480	424	68	286	246	-	8.6	5.2	6.8
07-11-2018	1.2	1.4	3.3	6.58	7.74	8.82	366	304	8.08	526	498	94	320	284	-	4.4	6.3	5.2
08-11-2018	0.4	0.8	3.2	6.26	6.28	8.68	402	306	9.02	680	628	84	368	304	-	5.8	8.1	5.6
09-11-2018	0.3	0.9	4.4	6.3	6.34	7.24	426	402	9.01	628	504	36	398	372	-	6.2	7.8	6.8
10-11-2018	0.2	1.4	3.3	6.46	7.54	8.3	494	387	10.2	594	468	48	282	242	-	7.5	8.2	7.7
11-11-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-11-2018	0.2	1.2	3.2	6.24	7.3	8.24	386	374	10.2	574	528	82	260	228	-	6.2	6.4	5.9
13-11-2018	0.1	0.9	4.8	6.36	7.26	8.36	394	362	9.8	580	482	74	268	220	-	6.2	6.2	7.2
14-11-2018	0.3	1.4	3.2	6.84	7.68	7.4	402	324	9.07	628	528	68	280	240	-	6.9	5.6	5.8
15-11-2018	0.4	1.1	3.4	6.46	7.68	7.42	382	320	10.26	540	512	74	310	246	-	4.4	5.8	6.6
16-11-2018	0.6	1.2	4.6	6.84	7.92	7.54	394	340	8.1	484	420	36	320	294	-	4.4	6.2	6.7
17-11-2018	0.5	1.9	3.4	6.38	8.4	8.36	414	400	9.26	430	400	82	288	260	-	5.2	7.4	7.2

18-11-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-11-2018	0.1	1.2	3.4	6.36	7.68	8.3	320	248	10.6	520	482	74	240	218	-	5.6	5.2	6.6
20-11-2018	0.8	1.3	4.6	6.54	7.92	8.48	348	302	9.08	488	382	94	268	244	-	6.8	6.5	6.2
21-11-2018	0.2	0.9	4.4	6.68	7.8	8.36	420	404	9.12	600	592	36	244	214	-	5.4	6.4	5.3
22-11-2018	0.4	1.1	4.3	6.5	7.74	7.5	418	400	10.18	584	568	38	320	300	-	5.8	7.2	6.4
23-11-2018	0.3	1.2	3.4	6.38	6.64	8.62	382	318	11.9	498	476	94	280	268	-	6.2	6.1	5.2
24-11-2018	0.2	0.2	3.3	6.4	7.34	8.94	394	320	9.12	466	418	74	284	202	-	4.4	7.4	6.4
25-11-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-11-2018	0.4	0.9	3.4	6.68	7.68	8.6	410	300	10.01	550	504	84	280	246	-	6.6	6.2	5.9
27-11-2018	0.2	1.2	4.3	6.24	7.36	8.74	380	362	9.18	618	562	92	290	264	-	7.2	7.1	6.9
28-11-2018	0.3	0.8	3.2	6.36	7.48	7.94	392	350	9.22	582	518	76	324	300	-	6.4	8.4	7.2
29-11-2018	0.1	0.9	4.2	6.36	7.36	7.44	380	328	12.4	550	528	46	248	224	-	7.6	6.2	7.4
30-11-2018	0.2	1.2	3.4	6.84	7.4	7.56	410	368	16	510	480	38	386	301	-	7.6	5.6	6.5

Dec-18

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-12-2018	0.2	1.2	3.4	6.24	8.26	7.84	380	360	14.1	580	510	74	360	318	-	6.6	7.2	8.4
02-12-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-12-2018	0.1	1.9	3.2	6.64	7.64	8.64	420	364	18	620	568	84	320	280	-	7.4	6.2	5.5
04-12-2018	0.4	0.8	4.4	6.54	7.36	8.8	402	380	16	580	428	78	360	314	-	7.6	6.6	6.2
05-12-2018	0.6	1.2	3.6	6.36	7.4	8.74	362	341	10.2	564	529	94	304	286	-	6.2	7.6	6.9
06-12-2018	0.2	1.4	4.4	6.4	7.94	7.36	384	304	9.24	624	592	36	286	218	-	5.8	5.8	6.8
07-12-2018	1.1	1.3	4.3	6.84	8.3	8.32	318	346	10	588	486	48	294	254	-	9.2	9.2	7.2
08-12-2018	0.2	0.8	3.4	6.36	7.46	8.4	410	380	14	582	520	78	288	268	-	8.5	5.9	6.8
09-12-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-12-2018	1.4	0.9	3.4	6.84	7.4	8.26	420	402	18	568	504	48	328	302	-	7.2	8.2	6.7
11-12-2018	0.2	1.9	3.2	6.36	7.54	8.3	386	824	16	620	598	72	310	268	-	8.4	7.8	6.7
12-12-2018	0.1	0.8	4.4	6.24	7.36	8.28	360	320	12.2	480	402	82	280	264	-	6.6	5.7	6.8
13-12-2018	0.2	0.8	3.2	6.14	8.24	8.18	418	366	9.24	592	492	80	294	246	-	6.6	6.2	7.6

14-12-2018	0.4	0.9	4.4	6.18	7.36	7.2	440	360	10.2	609	562	72	266	204	-	-	6.6	8.4
15-12-2018	0.6	1.2	4.6	6.26	7.82	8.36	380	320	18.2	664	558	82	287	210	-	-	5.9	9.2
16-12-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-12-2018	0.1	1.2	3.4	6.3	7.24	8.3	420	380	16	588	482	74	270	218	-	-	6.2	5.3
18-12-2018	0.3	1.1	3.4	6.34	7.68	8.4	480	404	18	628	542	80	286	220	-	-	8.8	7.2
19-12-2018	0.2	1.2	4.1	6.89	7.35	8.68	398	374	12.2	580	486	96	380	286	-	-	9.2	10.1
20-12-2018	0.1	0.9	4.2	6.64	7.4	7.74	428	394	10.01	560	420	76	280	240	-	-	9.4	13
21-12-2018	0.2	1.1	3.4	6.48	7.62	7.66	440	360	16.1	480	386	64	268	246	-	-	10.2	12.1
22-12-2018	0.2	1.2	3.2	6.44	7.6	8.24	360	320	18	520	486	84	286	240	-	-	9.3	11.2
23-12-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-12-2018	0.1	1.1	3.4	6.24	7.62	8.4	420	386	12.1	540	494	74	260	240	-	-	8.2	13.1
25-12-2018	0.4	1.9	4.2	6.3	7.84	8.2	410	320	11.02	568	504	66	268	244	-	-	9.1	11.4
26-12-2018	0.9	0.9	4.9	6.34	7.36	8.28	380	368	16	468	426	46	280	260	-	-	9.4	12
27-12-2018	1.2	1.1	3.2	6.68	7.34	7.36	368	350	18.2	400	386	84	294	268	-	-	8.4	12.1
28-12-2018	0.3	0.4	3.3	6.8	7.4	8.4	418	300	20	440	400	36	320	310	-	-	7.9	9.4
29-12-2018	0.1	0.4	3.2	6.92	7.94	8.5	406	389	12.4	486	420	48	310	286	-	-	7.4	10.2
30-12-2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31-12-2018	0.1	0.9	4.2	6.24	8.24	8.84	380	360	14	560	524	74	286	262	-	-	10	12.1

Jan-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-01-2019	0.1	1.2	3.4	6.24	7.68	8.68	360	320	16	560	546	74	280	268	-	-	10	12.1
02-01-2019	0.4	0.9	4.1	6.36	7.74	8.92	380	368	14.1	580	520	68	260	240	-	-	9	14.8
03-01-2019	0.2	0.6	3.4	6.64	7.36	8.46	410	310	12.4	468	440	80	300	238	-	-	8	14.1
04-01-2019	0.4	1.1	3.2	6.68	7.4	8.4	394	360	15.4	480	469	94	268	242	-	-	9	12.4
05-01-2019	0.3	1.2	4.2	6.6	7.48	8.86	400	386	12.1	498	466	56	288	260	-	-	10.1	11.2
06-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
07-01-2019	1.3	1.9	3.2	6.4	7.68	7.4	420	310	10.1	568	506	76	260	240	-	-	9.2	14
08-01-2019	1.4	1.4	3.4	6.68	7.6	7.34	386	362	9.14	480	460	84	310	300	-	-	10.9	12

09-01-2019	0.9	1.2	4.4	6.24	7.4	8.36	440	410	11.1	582	504	36	286	268	-	-	12.2	16
10-01-2019	0.8	1.1	3.2	6.3	7.62	8.68	460	428	14	14	680	500	394	342	-	-	11.1	15.1
11-01-2019	0.1	1.2	4.2	6.24	7.36	8.92	486	368	16.1	580	460	86	286	286	-	-	14.2	18.2
12-01-2019	0.2	1.1	3.4	6.36	7.4	8.42	386	358	12.4	560	486	64	260	240	-	-	16.4	16.8
13-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14-01-2019	0.4	0.7	3.4	6.24	7.56	8.64	420	360	14.1	560	542	74	1280	220	-	-	10.1	14.6
15-01-2019	0.2	1.2	4.2	6.38	7.48	8.92	486	349	15.2	540	528	64	260	242	-	-	9.2	20.1
16-01-2019	0.3	0.7	4.3	6.4	6.4	8.68	384	362	18.6	600	587	96	294	256	-	-	9.14	19.2
17-01-2019	0.1	0.8	3.4	6.56	7.86	7.4	394	356	20.4	584	504	84	260	246	-	-	8.2	18.7
18-01-2019	0.6	0.9	3.1	6.86	7.94	8.56	410	300	12.2	486	456	60	-	-	-	-	-	-
19-01-2019	0.3	1.2	3.2	6.24	7.5	8.46	428	336	16.1	490	436	56	-	-	-	-	-	-
20-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21-01-2019	0.4	1.4	3.6	6.4	7.8	8.24	420	410	16.2	420	380	78			-	-		
22-01-2019	0.2	0.7	4.2	6.24	7.72	8.36	386	320	12.4	440	430	76	286	262	8.2		10.1	17.6
23-01-2019	0.3	1.2	3.4	6.36	7.68	8.48	398	304	18.1	538	430	84	292	250	8.4		9.6	15.4
24-01-2019	0.2	0.8	4.2	6.42	7.64	8.4	360	320	18.2	480	428	74	-	-	-	-	-	-
25-01-2019	0.4	1.2	3.4	6.5	7.5	8.94	386	304	16.4	450	412	68	-	-	-	-	-	-
26-01-2019	0.4	0.7	4.2	6.4	7.68	8.94	-	-	-	-	-	-	-	-	-	-	-	-
27-01-2019	0.9	1.3	3.4	6.68	7.92	8.64	-	-	-	-	-	-	-	-	-	-	-	-
28-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31-01-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Feb-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-02-2019	0.2	0.5	4.85	7.1	7.03	7.46	390	320	8.89	806	759	52	730	360	5.8	15.6	14.5	14.9
02-02-2019	0.6	1	4.97	7.06	7	7.52	400	370	8.47	783	695	50	470	350	5.9	15.9	14.8	14.8
03-02-2019											759	48	400	300	6	25.6	14.7	24

04-02-2019	0.6	0.8	4.51	6.98	6.79	7.36	420	330	8.56	760	752	48	480	390	5.8	15.5	14.8	13.8
05-02-2019	0.5	0.7	4.25	6.87	6.88	7.52	440	360	9	782	782	52	490	370	5.9	15.8	13.5	13.8
06-02-2019	0.5	1.1	4.97	7.42	6.39	7.46	470	390	8.91	662	682	42	430	310	4.6	-	11.4	10.2
07-02-2019	0.1	0.3	3.97	6.42	6.38	7.46	470	390	8.91	659	672	50	440	380	5.9	-	10.7	9.4
08-02-2019	0.2	0.5	4.26	7.92	8.06	8.19	390	310	7.99	698	680	44	420	320	5.2	-	9.7	11.4
09-02-2019	0.2	0.9	3.42	7.64	8.02	7.66	340	304	8.82	602	594	54	380	350	5.7	-	8.6	9.2
10-02-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-02-2019	0.1	0.9	4.64	7.94	6.64	7.46	382	350	8.56	580	624	64	400	360	5.2	-	7.2	9.4
12-02-2019	0.4	1.2	4.92	7.44	6.5	7.82	350	320	8.82	660	682	74	420	400	6.1	-	6.8	10.2
13-02-2019	0.2	1.1	3.82	6.68	7.62	7.54	410	380	8.74	682	604	42	480	450	6.2	-	9.7	7.2
14-02-2019	0.3	0.4	4.72	7.74	6.3	7.66	428	394	9.66	702	674	54	382	356	5.5	-	9.2	8.8
15-02-2019	0.3	1.8	4.66	6.92	6.42	8.92	470	392	8.54	789	682	60	396	366	6.5	-	8.7	7.2
16-02-2019	0.2	0.4	3.94	6.68	6.38	7.84	398	310	7.66	786	660	50	400	386	4.5	-	6.6	7.2
17-02-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-02-2019	0.2	0.8	4.42	7.98	7.66	6.92	380	310	7.82	826	780	52	420	400	5.3	-	7.4	9.8
19-02-2019	0.1	1.01	3.56	6.64	7.52	7.46	392	354	8.42	719	702	62	440	380	5.1	-	7.9	8.1
20-02-2019	0.1	0.9	3.46	6.92	7.64	7.54	420	410	8.36	782	680	74	382	326	4.6	-	6.8	8.2
21-02-2019	0.4	0.5	4.64	6.82	8.84	7.34	482	382	8.4	692	650	80	340	306	4.9	-	8.2	7.4
22-02-2019	0.2	0.6	4.52	7.8	7.8	7.3	494	360	9.54	680	610	70	342	324	5.5	-	8.1	7.1
23-02-2019	0.3	0.7	4.62	7.74	7.62	7.62	480	350	9.62	674	530	62	380	330	5.2	-	10.2	9.4
24-02-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-02-2019	0.6	0.9	4.62	6.64	7.66	7.62	410	350	9.62	582	526	82	410	328	6.2	-	9.7	9.1
26-02-2019	0.2	0.4	4.32	6.82	7.52	7.82	480	380	8.52	870	650	72	430	310	6.1	-	9.6	9.4
27-02-2019	0.1	1.1	3.48	7.8	7.4	8.42	350	304	8.8	680	650	80	480	280	4.9	-	8.6	9.2
28-02-2019	0.4	0.6	4.32	6.62	6.48	7.54	382	310	8.92	650	610	74	496	260	5.6	-	7.2	9.8

Mar-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-03-2019	0.1	0.4	4.42	6.84	7.4	8.24	410	392	8.92	480	430	74	420	380	5.6	-	7.4	9.4

02-03-2019	0.4	1.1	450	7.24	7.35	8.5	480	380	8.52	590	424	24	480	350	5.9	-	7.9	10.1
03-03-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
04-03-2019	0.2	0.8	4.32	6.8	7.64	8.24	396	350	9.56	596	562	36	360	280	6.1	-	8.2	9.2
05-03-2019	0.1	0.5	340	6.36	7.62	9.3	386	360	10.36	560	506	38	420	360	6.8	-	9.1	9.5
06-03-2019	0.1	0.4	4.46	6.24	8.84	8.42	410	380	8.84	668	652	40	482	392	7.2	-	9.4	9.5
07-03-2019	0.3	0.9	4.52	6.68	8.36	8.54	420	410	9.36	672	642	52	492	400	5.9	-	8.4	7.8
08-03-2019	0.4	0.6	4.66	6.5	7.54	8.68	380	324	9.88	698	610	50	520	420	5.6	-	7.2	7.9
09-03-2019	0.3	1.1	3.82	7.42	7.36	9.36	460	320	8.24	640	582	64	480	410	4.7	-	6.2	8.4
10-03-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11-03-2019	0.1	1.1	4.36	6.8	7.6	8.4	380	360	9.92	580	508	72	462	400	4.9	-	8.4	8.2
12-03-2019	0.4	0.6	4.5	6.66	7.36	9.46	480	428	8.66	620	580	48	480	382	5.1	-	8.2	9.8
13-03-2019	0.4	1.1	3.56	6.46	7.82	9.82	458	426	9.82	560	482	30	474	360	5.6	-	7.1	10.4
14-03-2019	0.6	0.9	3.82	7.36	7.8	8.74	420	400	10.8	480	450	36	382	300	4.8	-	7.4	9.2
15-03-2019	0.2	0.6	4.8	7.8	7.66	9.68	410	396	9.94	496	424	48	374	382	4.1	-	6.6	10.1
16-03-2019	0.3	0.5	4.38	7.86	7.34	8.2	396	350	9.68	672	582	50	392	280	6.1	-	7.6	9.1
17-03-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18-03-2019	0.4	1.1	3.56	6.82	7.84	8.46	388	324	10.26	620	500	66	360	286	5.4	-	6.9	9.2
19-03-2019	0.2	0.9	4.42	6.62	7.66	8.42	462	424	9.86	720	680	48	410	422	5.6	-	7.8	7.6
20-03-2019	0.4	0.5	3.68	6.82	7.38	9.36	480	450	11.24	680	626	42	428	410	5.5	-	9.2	7.4
21-03-2019	0.2	0.4	4.56	6.64	8.78	8.82	420	380	10.2	588	566	62	420	380	4.9	-	9.4	8.9
22-03-2019	0.1	1.1	4.8	6.56	7.54	8.74	340	320	12.34	566	598	80	480	366	4.6	-	8.2	8.6
23-03-2019	0.6	1.2	4.36	7.5	7.6	9.36	324	300	9.32	682	600	74	368	372	4.5	-	8.7	9.4
24-03-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-03-2019	0.1	1.2	4.82	6.24	7.4	9.4	360	320	9.8	697	602	36	420	346	5.2	-	7.6	9.2
26-03-2019	0.2	0.4	4.36	6.82	7.5	9.52	380	350	9.36	609	666	82	430	368	5.5	-	6.6	10.1
27-03-2019	0.3	0.7	3.48	6.82	7.42	9.24	394	368	10.2	582	520	80	440	392	5.9	-	9.6	8.4
28-03-2019	0.4	0.6	3.74	6.74	7.3	8.34	372	350	9.36	569	530	72	480	400	5.4	-	9.2	9.2
29-03-2019	0.4	0.6	3.44	6.36	7.8	8.3	382	350	9.3	569	350	82	460	382	6.6	-	7.6	9.7
30-03-2019	0.2	0.9	3.42	6.4	7.4	8.34	3.4	320	9.24	560	360	30	380	350	5.5	-	8.4	8.6

31-03-2019	0.1	0.4	4.1	6.54	7.62	9.3	380	342	10.3	486	450	-	-	-	-	-	-	-
Apr-19																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-04-2019	0.1	0.6	3.04	6.62	7.8	7.62	492	480	9.62	360	304	34	360	320	5.4	-	7.2	9.8
02-04-2019	0.2	0.4	4.24	6.4	6.62	8.84	382	352	10.8	380	320	38	380	362	4.6	-	6.8	8.2
03-04-2019	0.1	1.1	3.3	6.54	6.82	8.72	480	248	9.2	760	684	62	420	400	6.8	-	9.2	9.7
04-04-2019	0.4	0.8	4.15	6.36	7.36	8.34	360	320	9.18	624	580	80	280	250	6.2	-	8.7	8.9
05-04-2019	0.5	0.9	4.16	6.4	7.34	8.36	382	362	10.66	520	400	74	304	300	6.6	-	7.7	9.8
06-04-2019	0.6	1.2	4.18	6.66	7.84	7.4	400	350	11.24	480	450	72	320	302	5.9	-	6.2	10.2
07-04-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-04-2019	0.4	0.8	4.26	6.82	7.8	7.24	480	430	10.24	568	480	56	360	302	6.6	-	6.9	9.6
09-04-2019	0.2	1.1	3.18	6.4	6.74	7.8	420	380	10.36	560	460	44	480	450	5.6	-	8.2	11.4
10-04-2019	0.1	0.4	4.2	6.48	6.82	8.26	460	430	11.26	540	480	74	382	350	5.6	-	8.6	10.4
11-04-2019	0.2	0.4	3.2	6.4	7.6	7.8	520	480	10.4	620	580	74	420	360	6.2	-	9.2	8.6
12-04-2019	0.4	0.8	4.18	6.3	7.28	7.4	488	420	9.26	588	550	64	280	250	9.2	-	7.8	9.8
13-04-2019	0.1	0.9	3.2	6.28	7.66	8.3	468	450	12.3	560	460	36	368	364	5.6	-	7.2	10.2
14-04-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-04-2019	0.2	0.6	3.26	6.24	7.4	7.4	486	468	10.3	610	520	40	380	342	5.4	-	8.6	16.6
16-04-2019	0.1	0.4	4.28	6.2	7.68	8.36	540	528	9.26	660	610	56	360	304	6.2	-	7.8	10.2
17-04-2019	0.4	0.7	4.3	6.4	7.76	8.6	440	410	10.2	780	680	72	340	310	6.8	-	6.2	7.8
18-04-2019	0.2	0.4	3.38	6.36	7.8	8.3	468	428	11.28	430	400	68	410	370	4.2	-	6.4	8.2
19-04-2019	0.4	0.8	4.18	6.48	7.6	8.8	380	328	10.3	560	480	28	402	368	5.8	-	8.3	9.1
20-04-2019	0.2	0.9	4.14	6.66	7.36	7.82	560	430	9.36	580	520	30	309	280	5.6	-	7.2	10.1
21-04-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22-04-2019	0.1	0.2	4.2	6.6	7.48	7.26	580	498	10.4	628	560	48	402	360	6.2	-	9.2	10.2
23-04-2019	0.4	0.6	3.4	6.4	6.28	8.3	620	560	11.2	720	600	62	386	280	5.4	-	8.6	9.4
24-04-2019	0.4	0.7	3.2	6.36	7.4	8.4	568	506	9.18	680	568	60	368	304	6.8	-	7.8	8.2
25-04-2019	0.4	0.4	4.4	6.48	7.66	8.84	560	502	8.16	620	566	70	380	342	6.6	-	7.4	9.8

26-04-2019	0.3	0.8	3.2	6.5	7.32	7.32	528	480	9.18	662	602	82	370	298	5.2	-	9.2	11.4
27-04-2019	0.2	0.9	3.4	6.62	7.4	8.4	480	420	10.2	590	560	74	382	302	6.4	-	8.8	11.2
28-04-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-04-2019	0.6	0.9	3.4	6.2	7.62	8.62	560	520	9.2	660	620	74	360	304	6.2	-	9.2	9.4
30-04-2019	0.4	0.5	3.6	6.48	7.8	9.42	480	440	11.18	580	560	36	380	320	6.4	-	9.4	10.2
May-19																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-05-2019	0.1	0.9	3.2	6.24	7.6	8.62	530	486	9.2	620	560	72	380	320	6.4	-	9.2	8.4
02-05-2019	0.4	0.7	3.4	6.36	7.8	7.22	480	468	10.18	580	432	62	360	304	5.2	-	8.4	10.2
03-05-2019	0.2	0.4	4.6	6.4	7.2	8.24	620	520	9.19	560	486	80	320	300	6.8	-	7.2	9.4
04-05-2019	0.3	0.9	3.2	6.62	7.38	7.3	540	500	11.18	600	550	46	314	280	6.2	-	10.6	11.2
05-05-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-05-2019	0.1	0.9	4.2	6.26	7.28	8.4	560	520	9.26	568	480	53	368	260	7.2	-	10.2	11.2
07-05-2019	0.2	0.8	3.2	6.2	7.82	8.46	540	482	10.01	625	580	46	360	280	6.2	-	9.4	9.8
08-05-2019	0.1	1.1	3.4	6.68	7.7	7.46	486	450	11.2	600	520	58	286	250	6.6	-	8.6	8.6
09-05-2019	0.4	1.2	4.2	6.82	7.24	7.6	480	420	10.24	550	480	72	268	250	7.7	-	10.5	9.7
10-05-2019	0.2	1.9	4.6	6.24	7.46	8.24	468	428	11.14	600	546	34	360	282	6.2	-	11.6	10.6
11-05-2019	0.4	0.8	3.2	6.3	7.3	8.26	520	480	10.12	524	462	46	372	320	7.4	-	9.7	11.2
12-05-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-05-2019	0.1	1.9	3.2	6.2	7.3	8.3	480	368	10.11	600	518	40	360	320	5.4	-	9.2	10.4
14-05-2019	0.4	1.1	4.4	6.24	7.24	8.46	470	324	11.12	620	562	80	482	380	6.6	-	8.4	11.2
15-05-2019	0.2	0.8	3.6	6.26	7.26	7.4	486	328	9.14	548	492	72	362	320	7.8	-	7.6	10.8
16-05-2019	0.3	0.9	4.2	6.28	7.28	8.46	388	352	10.6	560	572	62	386	284	5.2	-	6.7	11.2
17-05-2019	0.4	1.2	4.8	6.32	7.3	8.72	420	380	10.18	520	428	82	280	260	6.4	-	8.2	11.1
18-05-2019	0.2	1.1	3.2	6.3	7.36	8.8	510	480	11.21	480	450	72	294	220	6.5	-	6.8	12.8
19-05-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-05-2019	0.2	0.7	3.2	6.4	7.4	8.62	486	402	10.11	580	482	40	300	286	6.2	-	7.4	10.24
21-05-2019	0.1	1.2	4.8	6.22	7.48	8.4	510	504	11.12	428	410	46	320	280	5.8	-	6.6	9.2

22-05-2019	0.4	0.7	3.6	6.84	7.66	7.24	504	428	11.21	420	400	54	280	240	6.8		7.2	10.1
23-05-2019	0.2	0.9	3.2	6.66	7.24	7.3	484	368	10.24	520	486	62	262	260	-	-	Common	-
24-05-2019	0.3	1.1	4.4	6.22	7.3	8.24	420	380	9.2	600	580	44	274	210	-	-	10.6	-
25-05-2019	0.4	1.2	3.2	6.26	7.38	8.2	480	360	10.16	680	600	80	380	280	-	-	10.8	-
26-05-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-05-2019	0.2	0.8	3.2	6.28	7.4	7.26	540	501	11.18	700	689	82	420	324	-	-	-	-
28-05-2019	0.1	0.7	4.8	6.3	7.36	7.18	486	402	10.2	780	724	74	440	420	-	-	-	-
29-05-2019	0.2	0.9	3.2	6.36	7.8	8.2	400	380	9.26	740	702	66	380	242	-	-	-	-
30-05-2019	0.3	1.2	4.4	6.38	8.26	8.82	510	490	12.12	689	624	42	392	350	-	-	-	-
31-05-2019	0.4	1.1	4.3	6.4	7.4	8.26	550	480	11.14	710	600	92	410	380	-	-	-	-

Jun-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-06-2019	0.2	0.7	3.4	6.24	7.2	8.2	480	450	10.2	686	650	74	480	404	-	-	10.1	-
02-06-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-06-2019	0.1	0.9	3.2	6.26	7.48	8.4	450	402	11.16	714	680	78	460	408	-	-	-	-
04-06-2019	0.2	1.1	4.6	6.82	7.66	8.62	482	380	10.18	740	701	68	488	484	-	-	-	-
05-06-2019	0.4	0.8	4.4	6.36	7.24	7.4	480	304	11.1	810	782	82	490	402	-	-	-	-
06-06-2019	0.2	0.7	3.3	6.4	8.36	8.36	498	442	14.11	801	762	66	38	304	-	-	-	-
07-06-2019	0.4	0.9	4.2	6.54	7.82	8.8	510	404	9.12	748	684	92	360	280	-	-	-	-
08-06-2019	0.9	1.1	3.8	6.3	7.2	8.24	520	438	12.18	742	624	84	324	300	-	-	11	-
09-06-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-06-2019	0.2	0.9	3.2	6.6	7.3	8.42	450	420	10.9	770	708	82	360	340	-	-	13.2	-
11-06-2019	0.1	1.2	4.8	6.8	7.4	7.772	480	440	11.12	782	762	70	420	402	-	-	11.6	-
12-06-2019	0.4	0.4	4.7	6.3	7.68	7.8	460	426	10.12	764	726	84	440	410	-	-	10.18	-
13-06-2019	0.3	0.9	4.2	6.4	7.44	8.36	520	500	11.14	768	724	66	462	408	-	-	11.2	-
14-06-2019	0.9	1.2	3.4	6.2	7.36	8.28	560	504	11.2	824	768	84	480	420	-	-	14.1	-
15-06-2019	0.2	0.9	4.2	6.42	7.38	7.46	480	420	10.14	762	624	74	362	342	-	-	12.12	-
16-06-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

17-06-2019	0.1	0.8	4.4	6.4	7.4	8.46	592	550	11.2	682	608	46	380	350	-	-	13	-
18-06-2019	0.4	1.2	3.2	6.66	7.68	8.72	560	420	9.4	660	640	84	424	400	-	-	14.2	-
19-06-2019	0.3	1.1	3.6	6.82	7.24	7.4	468	424	9.2	768	724	80	428	392	-	-	12.4	-
20-06-2019	0.4	0.7	4.2	6.8	7.3	7.36	436	304	11.8	782	704	74	440	350	-	-	10.9	-
21-06-2019	0.3	0.9	3.4	6.6	7.4	7.4	568	468	12.2	761	624	42	550	420	-	-	13.4	-
22-06-2019	0.6	1.3	4.2	6.46	7.82	7.46	468	398	11.12	680	520	62	480	350	-	-	12.2	-
23-06-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24-06-2019	0.2	1.1	4.2	6.36	7.48	8.26	468	424	10.2	560	540	82	460	320	-	-	11.1	-
25-06-2019	0.1	1.2	3.6	6.24	7.52	8.62	560	480	11.18	680	620	64	410	304	-	-	12	-
26-06-2019	0.4	0.9	4.2	6.34	7.5	8.84	580	510	11.21	710	650	74	450	310	-	-	10.2	-
27-06-2019	0.6	0.8	4.4	6.64	7.64	7.66	682	586	9.1	782	680	66	340	314	-	-	9.4	-
28-06-2019	0.1	1.2	3.4	6.24	7.59	8.54	584	560	10.18	662	620	92	260	224	-	-	11.1	-
29-06-2019	0.3	0.7	4.3	6.36	7.36	8.82	438	410	11.22	680	550	62	-	-	-	-	-	-
30-06-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Jul-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-07-2019	0.2	0.9	3.4	6.26	7.66	8.24	480	410	11.24	436	402	58	240	240	2.8	-	4.1	2.4
02-07-2019	0.1	1.9	3.3	6.3	7.68	8.66	380	-	9.92	446	441	60	250	234	2.6	-	4.2	2.5
03-07-2019	0.3	0.7	4.4	6.4	7.24	8.28	360	-	8.62	492	462	64	300	226	3.2	-	3.3	2.8
04-07-2019	0.4	0.5	3.2	6.26	7.3	8.26	330	-	7.18	462	442	72	242	268	3.8	-	3.7	4.1
05-07-2019	0.2	0.6	3.6	6.38	8.4	8.36	420	-	10.26	402	-	80	205	-	2.9	-	3.9	3.2
06-07-2019	0.2	1.2	4.2	6.42	7.46	8.38	480	-	10.15	468	-	64	268	-	3.6	-	3.8	3.1
07-07-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
08-07-2019	0.4	1.6	3.4	6.4	7.36	8.74	410	-	11.1	520	-	54	320	-	3.2	-	2.8	2.9
09-07-2019	0.1	0.9	3.2	6.26	7.46	8.38	386	-	12.02	510	-	68	368	-	3.8	-	2.9	2.8
10-07-2019	0.2	0.8	4.3	6.38	6.4	8.46	392	-	10.8	480	-	40	350	-	2.9	-	3.9	3.9
11-07-2019	0.4	1.2	4.4	6.28	7.54	8.82	442	-	11.28	492	-	60	282	-	3.8	-	3.7	4.6
12-07-2019	0.3	0.8	3.3	6.52	7.66	8.74	468	-	9.28	462	-	82	294	-	2.6	-	3.5	4.2

13-07-2019	0.2	1.1	3.6	6.36	7.82	8.36	440	-	8.32	526	-	46	310	-	3.2		4.2	3.2
14-07-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15-07-2019	0.1	1.2	3.5	6.24	7.8	8.62	392	-	7.18	498	-	48	362	-	3.8		4.1	2.9
16-07-2019	0.2	1.9	4.3	6.3	7.74	8.68	376	-	9.26	554	-	80	340	-	3.9		3.9	3.6
17-07-2019	0.4	0.8	4.6	6.26	8.26	8.38	382	-	8.3	498	-	62	292	-	2.8		4.9	2.5
18-07-2019	0.4	0.6	3.2	6.42	8.34	8.26	344	-	7.28	522	-	72	324	-	3.2		2.8	2.7
19-07-2019	0.2	1.1	3.8	6.36	7.36	8.3	450	-	11.26	540	-	70	362	-	3.4		2.8	3.3
20-07-2019	0.3	1.4	3.2	6.3	7.4	8.38	442	-	10.1	408	-	62	298	-	4.4		2.4	3.4
21-07-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22-07-2019	0.1	0.2	4.3	6.42	7.48	8.62	428	-	10.11	428	-	48	310	-	3.9		2.5	3.2
23-07-2019	0.3	0.6	4.4	6.5	7.32	8.68	382	-	10.03	520	-	52	342	-	2.8		2.4	3.4
24-07-2019	0.4	0.8	3.6	6.62	7.36	8.74	394	-	11.08	436	-	64	258	-	2.4		3.2	4.2
25-07-2019	0.2	0.9	3.2	6.84	8.42	8.36	372	-	11.26	538	-	60	362	-	2.3		3.7	2.5
26-07-2019	0.4	1.1	3.2	6.36	7.4	8.46	480	-	11.28	404	-	46	298	-	2.2		4.1	2.8
27-07-2019	0.1	1.2	3.3	6.4	7.36	8.52	450	-	10.26	482	-	52	280	-	3.2		3.9	3.9
28-07-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-07-2019	0.1	0.9	4.2	6.24	7.34	8.38	442	-	9.4	488	-	62	360	-	3.4		3.4	2.4
30-07-2019	0.2	0.8	3.3	6.36	7.36	8.46	420	-	8.18	542	-	84	320	-	3.2		2.8	2.7
31-07-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Aug-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-08-2019	0.1	1.1	3.2	6.4	7.46	8.46	410	-	10.2	446	-	46	280	-	2.4	-	2.8	2.9
02-08-2019	0.2	1.2	3.3	6.24	7.58	8.3	420	-	11.42	482	-	48	260	-	3.4	-	3.6	3.4
03-08-2019	0.3	0.9	3.4	6.8	7.66	8.82	480	-	10.2	348	-	50	350	-	3.4	-	3.2	3.6
04-08-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
05-08-2019	0.2	0.8	4.3	6.82	7.24	8.36	368	-	9.04	562	-	52	320	-	2.8	-	2.6	3.9
06-08-2019	0.4	1.2	3.4	6.46	7.66	8.82	386	-	10.02	592	-	60	330	-	3.4	-	3.6	2.8
07-08-2019	0.9	0.9	4.3	6.4	8.82	8.8	398	-	11.2	584	-	82	304	-	3.9	-	3.6	2.8

08-08-2019	0.2	0.4	4.3	6.92	7.36	8.74	349	-	9.26	550	-	74	344	-	3.4	-	3.6	2.8
09-08-2019	0.4	0.8	3.2	6.46	7.38	8.36	402	-	8.18	424	-	92	298	-	2.8	-	2.4	2.6
10-08-2019	0.3	1.1	3.8	6.8	7.24	8.42	498	-	9.28	406	-	46	268	-	3.2	-	2.4	2.4
11-08-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12-08-2019	0.1	1.2	4.2	6.82	7.3	8.46	476	-	10.78	582	-	74	304	-	2.8	-	2.6	3.3
13-08-2019	0.2	1.8	4.2	6.72	7.24	8.8	398	-	11.02	566	-	80	392	-	2.9	-	3.6	3.2
14-08-2019	0.1	1.9	3.4	6.06	7.36	8.82	372	-	11.08	586	-	56	374	-	3.2	-	4.2	3.6
15-08-2019	0.2	0.9	3.4	6.24	7.36	8.66	426	-	11.02	546	-	58	350	-	3.8	-	4.1	3.4
16-08-2019	0.3	0.8	4.3	6.36	7.48	8.54	440	-	9.26	594	-	66	368	-	2.9	-	3.2	2.6
17-08-2019	0.4	0.9	4.3	6.3	7.52	8.62	436	-	10.08	580	-	24	342	-	3.6	-	2.4	2.8
18-08-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19-08-2019	0.2	1.1	4.4	6.42	7.54	8.6	398	-	10.26	568	-	38	340	-	2.9	-	4.1	4.2
20-08-2019	0.1	1.2	4.4	6.36	7.66	8.82	370	-	10.82	594	-	46	343	-	2.6	-	4.2	3.9
21-08-2019	0.2	0.4	3.3	6.82	8.24	8.8	380	-	9.08	580	-	48	289	-	2.9	-	3.4	3.2
22-08-2019	0.4	0.9	3.2	6.84	7.36	8.62	420	-	9.26	492	-	68	276	-	3.2	-	3.2	3.5
23-08-2019	0.2	1.1	4.1	6.72	7.4	8.84	418	-	10.26	462	-	36	298	-	3.9	-	2.6	2.8
24-08-2019	0.4	1.3	4.4	6.62	7.36	8.66	440	-	11.2	446	-	40	282	-	2.2	-	2.9	3.5
25-08-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26-08-2019	0.4	1.2	3.3	6.36	7.8	8.46	392	-	9.08	558	-	72	310	-	2.7	-	3.2	3.4
27-08-2019	0.2	1.1	4.4	6.38	7.86	8.36	372	-	9.21	568	-	74	324	-	2.8	-	2.8	2.6
28-08-2019	0.1	0.9	4.2	6.24	7.74	8.34	370	-	9.18	544	-	66	336	-	3.2	-	3.6	3.5
29-08-2019	0.2	0.8	4.4	6.36	7.36	8.34	380	-	10.18	506	-	54	342	-	3.4	-	3.5	3.4
30-08-2019	0.1	1.2	3.4	6.88	7.82	8.36	410	-	10.2	489	-	50	350	-	3.6	-	2.8	2.8
31-08-2019	0.2	1.4	3.5	6.62	7.8	8.24	420	-	9.26	568	-	42	340	-	4.2	-	2.9	3.6

Sep-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-09-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-09-2019	0.1	1.8	3.4	6.24	7.24	8.24	418	-	10.02	568	-	74	320	-	2.4	-	2.9	4.1

03-09-2019	0.2	1.1	3.6	6.36	7.36	8.52	420	-	11.04	582	-	34	348	-	2.6	-	3.2	3.9
04-09-2019	0.4	0.9	4.4	6.42	7.4	8.46	414	-	11.24	546	-	38	284	-	3.1	-	3.4	3.2
05-09-2019	0.3	1.1	4.3	6.66	7.26	8.4	386	-	8.26	592	-	72	368	-	3.2	-	3.1	3.2
06-09-2019	0.1	1.2	3.6	6.24	7.3	8.36	392	-	9.27	554	-	80	342	-	3.1	-	2.9	3.9
07-09-2019	0.2	0.8	3.5	6.3	7.4	8.24	366	-	10.08	626	-	68	354	-	3.2	-	2.8	2.8
08-09-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-09-2019	0.1	0.9	3.4	6.24	7.28	8.36	428	-	11.11	628	-	66	328	-	2.8	-	2.7	3.4
10-09-2019	0.2	1.1	3.4	6.36	7.42	8.24	436	-	11.2	592	-	82	364	-	3.2	-	3.7	4.2
11-09-2019	0.4	1.2	3.3	6.34	7.36	8.66	440	-	9.26	624	-	72	354	-	4.1	-	3.2	3.2
12-09-2019	0.2	1.1	3.4	6.46	7.42	8.72	450	-	8.82	520	-	46	304	-	2.8	-	2.7	3.2
13-09-2019	0.4	0.9	3.4	6.36	7.46	8.8	498	-	9.1	540	-	45	324	-	3.1	-	2.8	3.1
14-09-2019	0.1	1.1	4.4	6.82	7.3	8.36	368	-	10.12	620	-	74	320	-	4.1	-	2.4	3.2
15-09-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-09-2019	0.2	1.2	3.4	6.26	7.28	8.62	368	-	11.22	680	-	80	310	-	4.2	-	2.5	3.6
17-09-2019	0.1	1.2	3.3	6.72	7.26	8.66	380	-	10.16	598	-	72	380	-	3.3	-	3.8	2.2
18-09-2019	0.4	1.4	4.4	6.8	7.38	8.4	360	-	11.18	568	-	64	320	-	3.4	-	3.6	4.8
19-09-2019	0.2	1.3	3.4	6.62	7.36	7.36	420	-	11.24	628	-	80	318	-	3.4	-	2.4	4.2
20-09-2019	0.1	0.8	4.3	6.82	7.4	8.24	480	-	12.22	662	-	82	286	-	4.3	-	3.1	4.7
21-09-2019	0.2	0.9	4.3	6.46	7.56	8.66	492	-	10.2	680	-	68	320	-	4.5	-	2.2	3.2
22-09-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-09-2019	0.4	1.2	4.3	6.28	7.24	8.8	482	-	11.28	650	-	66	340	-	6.1	-	1.2	2.4
24-09-2019	0.2	1.4	4.2	6.3	7.4	8.24	460	-	10.2	680	-	24	360	-	4.6	-	3.3	3.3
25-09-2019	0.4	0.9	4.4	6.64	7.46	8.3	468	-	11.22	568	-	48	376	-	3.2	-	4.4	3.4
26-09-2019	0.6	0.6	3.3	6.34	7.82	9.26	424	-	12.02	560	-	36	420	-	4.4	-	4.2	2.2
27-09-2019	0.4	1.2	3.2	6.34	7.74	8.46	384	-	11.04	620	-	74	400	-	4.2	-	3.2	3.4
28-09-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29-09-2019	0.4	1.2	3.4	6.24	7.34	8.44	480	-	10.26	580	-	64	320	-	4.1	-	3.1	4.2

Oct-19

DATE	INSTANT DO	pH VALUE	T.S.S	C.O.D	B.O.D
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	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-10-2019	0.4	4.3	4.2	6.24	7.68	8.24	480	-	10.26	560	-	46	320	310	4.2	-	2.1	4.6
02-10-2019	1.1	3.3	4.4	6.36	7.24	8.36	368	-	11.21	618	-	36	330	312	4.4	-	3.2	4.2
03-10-2019	0.4	4.4	3.3	6.4	7.36	8.4	382	-	12.2	620	-	38	410	400	3.2	-	2.3	3.4
04-10-2019	0.2	3.2	3.4	6.56	7.4	8.56	462	-	11.14	580	-	40	280	244	4.6	-	3.3	2.2
05-10-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
06-10-2019	0.2	1.2	3.3	6.24	7.36	8.24	368	-	12.2	680	-	46	360	340	4.4	-	3.2	4.4
07-10-2019	0.1	1.1	3.2	6.38	7.34	8.3	458	-	11.6	658	-	50	280	258	4.2	-	3.4	3.2
08-10-2019	0.4	0.8	3.3	6.4	7.46	8.46	420	-	12.18	680	-	62	420	384	5.6	-	2.3	3.3
09-10-2019	0.3	1.1	4.4	6.48	7.38	8.36	360	-	10.2	660	-	72	382	342	4.4	-	3.2	2.4
10-10-2019	0.4	0.9	4.2	6.56	7.36	8.8	368	-	11.18	566	-	80	394	350	4.5	-	3.4	4.4
11-10-2019	0.2	1.2	3.4	6.4	7.3	9.72	480	-	10.21	582	-	76	420	410	5.5	-	3.3	4.4
12-10-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13-10-2019	0.1	1.1	3.2	6.68	7.6	8.24	480	-	10.2	584	-	5.8	410	350	5.4	-	4.3	4.3
14-10-2019	0.4	0.9	4.4	6.56	7.24	8.36	388	-	11.6	620	-	46	382	348	5.6	-	3.2	5.2
15-10-2019	0.3	0.8	4.6	6.48	7.3	8.4	360	-	11.82	610	-	40	394	342	4.2	-	2.4	5.2
16-10-2019	0.2	1.2	3.2	6.46	7.48	8.8	382	-	10.12	600	-	48	388	350	4.4	-	3.3	4.4
17-10-2019	0.9	1.1	3.4	6.3	7.3	8.94	400	-	9.16	582	-	52	288	248	6.5	-	4.2	4.5
18-10-2019	0.4	1.9	3.5	6.24	7.54	8.26	420	-	11.18	568	-	50	420	400	4.9	-	3.4	5.5
19-10-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20-10-2019	1.2	1.4	3.4	6.3	7.44	9.4	336	-	10.21	620	-	62	400	388	5.4	-	3.6	5.4
21-10-2019	1.4	1.9	3.4	6.42	7.56	9.48	426	-	11.24	420	-	84	384	320	5.5	-	3.2	4.2
22-10-2019	0.9	0.9	4.3	6.36	7.4	8.36	480	-	11.3	560	-	72	392	340	4.6	-	2.4	4.4
23-10-2019	0.2	0.8	4.4	6.4	7.48	8.46	468	-	10.12	588	-	70	360	310	4.2	-	4.3	4.5
24-10-2019	0.1	1.9	4.3	6.54	7.24	8.36	492	-	10.11	562	-	66	380	320	3.4	-	3.3	4.6
25-10-2019	0.1	1.1	3.4	6.62	7.3	8.8	400	-	9.1	620	-	58	410	340	4.5	-	3.3	5.4
26-10-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27-10-2019	1.1	0.9	3.3	6.48	8.8	8.94	394	-	11.15	640	-	62	404	350	5.6	-	2.4	3.2
28-10-2019	0.2	1.2	4.4	6.28	7.82	8.36	364	-	10.16	620	-	60	482	384	5.6	-	3.6	4.3

29-10-2019	0.2	1.1	4.6	6.48	7.74	9.34	324	-	11.1	584	-	74	344	274	6.7	-	3.8	4.4
30-10-2019	0.3	0.8	4.5	6.24	7.36	8.38	348	-	9.3	568	-	48	392	284	4.2	-	2.4	3.5
31-10-2019	0.2	0.9	4.4	6.36	7.4	8.82	410	-	9.82	620	-	46	374	280	4.8	-	4.5	3.6
Nov-19																		
DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-11-2019	0.2	1.1	3.4	6.24	7.24	8.2	450	-	10.21	582	-	74	280	240	3.4	-	3.4	2.8
02-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
03-11-2019	0.1	1.4	3.6	6.44	7.24	8.4	388	-	11.24	682	-	36	282	280	4.6	-	2.8	4.4
04-11-2019	0.2	1.1	4.2	6.8	7.36	8.36	392	-	10.22	566	-	42	360	324	4.4	-	4.2	5.2
05-11-2019	0.4	0.8	4.4	6.82	7.82	8.3	380	-	11.12	680	-	40	320	304	4.4	-	5.6	4.4
06-11-2019	0.9	0.9	3.3	6.66	7.74	8.2	394	-	11.1	584	-	48	280	262	4.6	-	5.2	3.2
07-11-2019	1.1	1.4	4.2	6.34	7.36	8.36	380	-	10.11	436	-	54	286	240	3.8	-	2.4	4.8
08-11-2019	0.4	0.9	4.8	6.24	7.82	8.38	340	-	11.12	530	-	72	284	184	3.2	-	4.4	4.4
09-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10-11-2019	0.4	1.4	3.3	6.34	7.82	8.2	482	-	11.11	668	-	64	310	284	4.4	-	4.4	4.2
11-11-2019	0.2	1.1	3.4	6.4	7.8	8.36	462	-	10.1	680	-	66	280	250	4.8	-	5.6	6.6
12-11-2019	0.3	1.2	4.4	6.38	7.72	8.4	474	-	10.11	580	-	82	210	186	3.4	-	5.6	5.2
13-11-2019	0.1	0.7	3.6	6.36	7.54	8.48	394	-	10.29	548	-	74	284	208	3.3	-	4.2	4.8
14-11-2019	0.2	0.4	4.1	6.24	7.4	8.52	374	-	11.31	498	-	36	310	280	3.2	-	4.4	4.4
15-11-2019	0.1	0.9	3.4	6.38	7.36	8.5	368	-	12.48	580	-	48	362	300	4.6	-	4.6	5.2
16-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17-11-2019	0.2	1.2	3.2	6.3	7.4	9.34	380	-	10.2	584	-	72	380	340	4.2	-	5.2	4.6
18-11-2019	0.1	1.1	4.4	6.36	7.36	8.6	360	-	10.1	620	-	48	360	324	4.2	-	5.2	6.2
19-11-2019	0.4	0.8	4.6	6.24	7.48	8.66	410	-	12.48	618	-	70	286	240	4.6	-	4.4	4.4
20-11-2019	0.1	1.1	3.2	6.24	7.28	8.8	440	-	11.28	428	-	46	294	238	3.2	-	6.2	5.3
21-11-2019	0.3	0.7	4.4	6.36	7.38	8.82	420	-	10.36	569	-	82	382	362	4.4	-	7.4	6.4
22-11-2019	0.1	0.8	3.6	6.82	7.46	8.36	386	-	11.82	604	-	66	374	350	5.5	-	7.6	5.2
23-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

24-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25-11-2019	0.4	1.2	3.2	6.24	7.36	8.3	410	-	10.28	480	-	72	320	304	4.2	-	6.4	5.4
26-11-2019	0.2	0.8	4.4	6.36	7.42	8.46	380	-	11.11	460	-	62	310	282	3.7	-	6.6	6.2
27-11-2019	0.1	0.9	3.6	6.8	7.82	8.48	360	-	12.12	456	-	84	280	250	4.2	-	4.7	6.4
28-11-2019	0.3	1.2	3.7	6.68	7.8	8.5	378	-	11.18	510	-	66	314	280	4.6	-	5.8	5.6
29-11-2019	0.2	1.1	4.2	6.24	7.24	8.36	420	-	11.16	514	-	54	360	320	5.7	-	5.2	4.4
30-11-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Dec-19

DATE	INSTANT DO			pH VALUE			T.S.S			C.O.D			B.O.D					
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	B1	B2	B3	B4
01-12-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
02-12-2019	0.1	0.9	3.4	6.24	7.68	8.4	440	-	10.2	480	-	74	320	310	4.6	-	4.6	5.2
03-12-2019	0.4	1.4	3.3	6.36	7.4	8.62	386	-	11.36	450	-	24	360	340	4.8	-	6.2	4.6
04-12-2019	0.3	0.8	4.2	6.58	7.36	8.46	350	-	12.14	468	-	38	380	350	5.2	-	6.4	6.6
05-12-2019	0.2	1.2	3.4	6.4	7.48	8.4	460	-	9.6	520	-	46	218	200	5.4	-	4.3	6.4
06-12-2019	0.1	1.1	4.4	6.56	7.4	8.36	368	-	8.18	480	-	50	318	304	6.2	-	5.6	7.2
07-12-2019	0.4	0.9	4.2	6.3	7.56	8.8	420	-	10.42	500	-	66	280	250	6.4	-	4.4	4.6
08-12-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
09-12-2019	0.4	1.4	3.4	6.24	7.36	8.6	410	-	12.6	450	-	72	310	300	6.6	-	5.6	6.5
10-12-2019	0.2	1.1	4.2	6.36	7.24	8.3	382	-	14.8	468	-	74	320	310	5.4	-	6.2	6.6
11-12-2019	0.3	2.1	3.6	6.4	7.58	8.48	366	-	16.18	520	-	50	410	398	6.4	-	6.8	6.4
12-12-2019	0.4	0.9	3.6	6.48	7.4	8.36	436	-	10.24	510	-	40	280	250	6.4	-	7.2	6.2
13-12-2019	0.1	0.9	4.4	6.52	7.82	8.36	468	-	9.36	430	-	36	285	268	7.4	-	8.2	6.2
14-12-2019	0.2	1.1	4.2	6.60	7.6	8.4	450	-	18.36	480	-	64	294	250	6.4	-	9.2	5.2
15-12-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16-12-2019	0.2	1.2	4.3	6.24	7.46	8.46	440	-	26.2	480	-	66	296	250	6.2	-	5.2	6.4
17-12-2019	0.1	0.7	3.4	6.36	7.36	8.38	420	-	24.4	488	-	82	266	240	6.4	-	5.4	6.2
18-12-2019	0.4	0.8	3.2	6.82	7.8	8.46	380	-	21.2	520	-	36	382	268	4.6	-	6.5	6.1

19-12-2019	0.1	1.9	4.4	6.74	7.68	8.58	394	-	18.18	514	-	74	368	280	5.2	-	7.4	5.2
20-12-2019	0.3	1.1	4.4	6.64	7.4	8.28	368	-	20.2	492	-	68	368	864	6.2	-	6.2	5.2
21-12-2019	0.2	1.4	3.3	6.6	7.42	8.66	380	-	19.22	468	-	74	420	328	6.6	-	6.6	6.4
22-12-2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23-12-2019	0.4	1.4	3.2	6.64	7.82	8.74	360	-	20.24	520	-	62	380	246	6.2	-	6.4	6.6
24-12-2019	0.2	1.2	3.4	6.62	7.48	8.36	382	-	21.36	480	-	48	280	228	5.4	-	6.4	5.8
25-12-2019	0.2	0.9	4.6	6.4	7.36	8.46	460	-	20.66	468	-	72	320	240	5.6	-	7.2	5.2
26-12-2019	0.1	0.8	4.8	6.36	7.4	8.36	480	-	19.24	436	-	80	310	216	5.7	-	7.6	6.4
27-12-2019	0.4	0.6	3.2	6.82	7.36	8.82	420	-	18.36	486	-	46	320	242	5.6	-	8.4	6.2
28-12-2019	0.2	1.1	4.4	6.8	7.82	8.46	368	-	22.24	360	-	82	350	240	5.2	-	7.2	5.4

